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City of Sunnyvale

Notice and Agenda

City Council

Tuesday, November 9, 2021 **5:00 PM** **Telepresence Meeting: City Web Stream | Comcast Channel 15 | AT&T Channel 99**

Special Meeting: Closed Session - 5 PM | Special Meeting: Study Session - 5:30 PM | Regular Meeting - 7 PM

Meeting online link: https://sunnyvale-ca-gov.zoom.us/j/96111580540

Special Teleconference Notice

Because of the COVID-19 emergency and the "shelter in place" orders issued by Santa Clara County and the State of California, this meeting of the Sunnyvale City Council will take place by teleconference, as allowed by Government Code Subdivision 54953 (e) and Resolution No. 1089-21.

Public Participation

• Watch the City Council meeting on television over Comcast Channel 15, AT&T Channel 99, at http://youtube.com/SunnyvaleMeetings or https://sunnyvaleca.legistar.com/calendar.aspx

• Submit written comments to the City Council up to 4 hours prior to the meeting to council@sunnyvale.ca.gov or by mail to City Clerk, 603 All America Way, Sunnyvale, CA 94086.

*• Teleconference participation: You may provide audio public comment by connecting to the teleconference meeting online or by telephone. Use the Raise Hand feature to request to speak (*9 on a telephone):*

Meeting online link: https://sunnyvale-ca-gov.zoom.us/j/96111580540
Meeting call-in telephone number: 833-548-0276 | Meeting ID: 961 1158 0540

Accessibility/Americans with Disabilities Act (ADA) Notice

Pursuant to the Americans with Disabilities Act (ADA), if you need special assistance to provide public comment, or for other special assistance; please contact the City at least 48 hours prior to the meeting to enable the City to make reasonable arrangements to ensure accessibility to this meeting. The Office of the

City Clerk may be reached at (408) 730-7483 or cityclerk@sunnyvale.ca.gov (28 CFR 35.160 (b) (1)).

5 P.M. SPECIAL COUNCIL MEETING (Closed Session)

Call to Order

Call to Order via teleconference.

Roll Call

Public Comment

The public may provide comments regarding the Closed Session item(s). If you wish to address the Council, please refer to the notice at the beginning of this agenda. Closed Sessions are not open to the public.

Convene to Closed Session

A 21-1008 Closed Session Held Pursuant to California Government Code Section 54957.6: CONFERENCE WITH LABOR NEGOTIATORS, Agency designated representatives: Tina Murphy, Director of Human Resources

Employee organizations: Communications Officers Association (COA); Public Safety Managers Association (PSMA)

Adjourn Special Meeting

5:30 P.M. SPECIAL COUNCIL MEETING (Study Session)

Call to Order

Call to Order via teleconference.

Roll Call

Study Session

The public may provide comments regarding the Study Session item(s). If you wish to address the Council, please refer to the notice at the beginning of this agenda.

B 21-0801 Golf Subsidy Study Issue

Adjourn Special Meeting

7 P.M. COUNCIL MEETING

Pursuant to Council Policy, City Council will not begin consideration of any agenda item after 11:30 p.m. without a vote. Any item on the agenda which must be continued due to the late hour shall be continued to a date certain. Information provided herein is subject to change from date of printing of the agenda to the date of the meeting.

CALL TO ORDER

Call to Order via teleconference.

ROLL CALL

CLOSED SESSION REPORT

SPECIAL ORDER OF THE DAY

C 21-0359 Picture Book Month

D 21-0360 Small Business Saturday

ORAL COMMUNICATIONS

This category provides an opportunity for members of the public to address the City Council on items not listed on the agenda and is limited to 15 minutes (may be extended or continued after the public hearings/general business section of the agenda at the discretion of the Mayor) with a maximum of up to three minutes per speaker. Please note the Brown Act (Open Meeting Law) does not allow the Council to take action on an item not listed on the agenda. If you wish to address the Council, please refer to the notice at the beginning of this agenda. Individuals are limited to one appearance during this section.

CONSENT CALENDAR

All matters listed on the consent calendar are considered to be routine and will be acted upon by one motion. There will be no separate discussion of these items. If a member of the public would like a consent calendar item pulled and discussed separately, please refer to the notice at the beginning of this agenda.

1.A 21-0986 Approve City Council Meeting Minutes of October 26, 2021

Recommendation: Approve the City Council Meeting Minutes of October 26, 2021 as submitted.

1.B 21-0261 Approve the List(s) of Claims and Bills Approved for Payment by the City Manager

Recommendation: Approve the list(s) of claims and bills.

1.C 21-0783 Receive and File the FY 2021/22 First Quarter Budget Update

Recommendation: Receive and file the FY 2021/22 First Quarter Budget Update.

1.D 21-0902 Authorize the Issuance of a Contract Purchase Agreement to Reed & Graham, Inc. for Asphaltic Materials and Pavement Reinforcement Fabric (F22-030)

Recommendation: Take the following actions:
- Authorize the issuance of a contract purchase agreement to Reed & Graham, Inc. in a not-to-exceed contract amount of $1,300,000; and
- Authorize the City Manager to amend the not to exceed amount of this contract purchased agreement, subject to available budget and if pricing and service remain acceptable to the City.

1.E 21-0185 Adopt a Resolution Approving the City Council Regular Meeting Calendar for 2022 through February 2023

Recommendation: Adopt a Resolution Approving the City Council Regular Meeting Calendar for 2022 through February 2023 as submitted.

1.F 21-1012 Joining United Against Hate Week and Proclaiming November 14-20, 2021 as United Against Hate Week

Recommendation: Adopt a Resolution joining United Against Hate Week and proclaiming November 14-20, 2021 as United Against Hate Week.

PUBLIC HEARINGS/GENERAL BUSINESS

If you wish to speak to a public hearing/general business item, please refer to notice at the beginning of this agenda. Each speaker is limited to a maximum of three minutes. For land-use items, applicants are limited to a maximum of 10 minutes for opening comments and 5 minutes for closing comments.

2 21-0788 Award an Agreement for Operation of the Sunnyvale SMaRT® Station to Bay Counties Waste Services

Recommendation: Alternative 1: Award a seven and one-half (7.5) year agreement for operation of the SMaRT Station, in substantially the same form as Attachment 1 to the report, to Bay Counties Waste Services, Inc. and authorize the City Manager to execute the Agreement for the Operation of the Sunnyvale Materials Recovery and Transfer Station between the City of Sunnyvale and Bay Counties Waste Services, Inc. when all necessary conditions have been met.

3 21-0972 Approve an Allocation from the Public Art Acquisition Fund for up to $100,000 for Prefabricated Sculptures Modified by Artists

Recommendation: Alternative 1: Approve an allocation from the Public Art Acquisition Fund for up to $100,000 for prefabricated sculptures modified by artists.

4 21-0086 Introduce an Ordinance to Repeal and Re-Adopt Sunnyvale Municipal Code Chapter 8.16 (Solid Waste Management and Recycling) and add Sunnyvale Municipal Code Chapter 16.74 (Construction and Demolition Diversion); Introduce an Ordinance to Amend Sunnyvale Municipal Code Section 19.38.030 (Recycling and Solid Waste Facilities) and Section 19.37.060 (General Planting, Soil Management and Water Feature Design Requirements); Adopt a Resolution to Amend the Master Fee Schedule to add Fines and Penalties for Violations of Chapter 8.16 and 16.74; Find that the Action Is Exempt from California Environmental Quality Act (CEQA) Pursuant to CEQA Guidelines Sections 15061(b)(3) and 15308 of the CEQA Guidelines

Recommendation: Alternatives 1 through 4:
1. Introduce an Ordinance Repealing and Re-Adopting Sunnyvale Municipal Code Chapter 8.16 (Solid Waste Management and Recycling) and adopt Municipal Code Chapter 16.74 (Construction and Demolition Diversion);
2. Introduce an Ordinance to Amend Sunnyvale Municipal Code Sections 19.38.030 (Recycling and Solid Waste Facilities) and 19.37.060 (General Planting, Soil Management and Water Feature Design Requirements);
3. Adopt a Resolution to amend the Master Fee Schedule to add fines and penalties for violations of Sunnyvale Municipal Code Chapters 8.16 and 16.74; and
4. Find that the Action Is Exempt from the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines Sections 15308 and 15061(b)(3).

COUNCILMEMBERS REPORTS ON ACTIVITIES FROM INTERGOVERNMENTAL COMMITTEE ASSIGNMENTS

NON-AGENDA ITEMS & COMMENTS

-Council

-City Manager

INFORMATION ONLY REPORTS/ITEMS

Visit http://Sunnyvale.ca.gov/TCMAC to view the Tentative Council Meeting Agenda Calendar (TCMAC) online. The TCMAC is updated each Thursday afternoon.

21-0881	Tentative Council Meeting Agenda Calendar
21-0702	Board/Commission Meeting Minutes
21-0709	Information/Action Items

ADJOURNMENT

NOTICE TO THE PUBLIC

The agenda reports to council (RTCs) may be viewed on the City's website at

sunnyvale.ca.gov after 7 p.m. on Thursdays or in the Office of the City Clerk located at 603 All America Way, prior to Tuesday City Council meetings. Any agenda related writings or documents distributed to members of the City of Sunnyvale City Council regarding any open session item on this agenda will be made available for public inspection in the Office of the City Clerk located at 603 All America Way, during normal business hours and in the Council Chamber on the evening of the Council Meeting, pursuant to Government Code §54957.5. Please contact the Office of the City Clerk at (408) 730-7483 to access City Hall to view these materials and for specific questions regarding the agenda.

PLEASE TAKE NOTICE that if you file a lawsuit challenging any final decision on any public hearing item listed in this agenda, the issues in the lawsuit may be limited to the issues which were raised at the public hearing or presented in writing to the Office of the City Clerk at or before the public hearing. PLEASE TAKE FURTHER NOTICE that Code of Civil Procedure section 1094.6 imposes a 90-day deadline for the filing of any lawsuit challenging final action on an agenda item which is subject to Code of Civil Procedure 1094.5.

Planning a presentation for a City Council meeting?

To help you prepare and deliver your public comments, please review the "Making Public Comments During City Council or Planning Commission Meetings" available at http://Sunnyvale.ca.gov/PublicComments

Planning to provide materials to Council?

If you wish to provide the City Council with copies of your presentation materials, please provide 12 copies of the materials to the Office of the City Clerk. The City Clerk will distribute your items to the Council following the meeting..

Upcoming Meetings

Visit https://sunnyvaleca.legistar.com for upcoming Council, board and commission meeting information.

City of Sunnyvale

Agenda Item

21-1008 **Agenda Date:** 11/9/2021

Closed Session Held Pursuant to California Government Code Section 54957.6: CONFERENCE WITH LABOR NEGOTIATORS, Agency designated representatives: Tina Murphy, Director of Human Resources

Employee organizations: Communications Officers Association (COA); Public Safety Managers Association (PSMA)

City of Sunnyvale

Agenda Item

21-0801 **Agenda Date:** 11/9/2021

Golf Subsidy Study Issue

Golf Subsidy Analysis for City of Sunnyvale, CA

Prepared For:

City of Sunnyvale
456 W. Olive Avenue
Sunnyvale, CA 94086

Prepared By:

NGF CONSULTING
NATIONAL GOLF FOUNDATION

501 N. Highway A1a
Jupiter, FL 33477
(561) 744-6006

October 2021

Table of Contents

Introduction & Purpose

The City of Sunnyvale, California ("City") retained National Golf Foundation Consulting ("NGF") to perform a Golf Subsidy Analysis for the City's municipal golf system, comprising two facilities - 18-hole regulation-length Sunnyvale Golf Course ("Sunnyvale GG"), and 9-hole executive-length Sunken Gardens Golf Course ("Sunken Gardens GC"). The City seeks a comprehensive evaluation of the general fund subsidies that the City's Golf & Tennis Operations Enterprise Fund ("Golf Fund") has required in recent years to "address the structural deficit and keep the fund in balance".

NGF's undertaking included: analysis of recent financial results of the Golf Fund; benchmarking the Sunnyvale Golf Fund's operating results to those of similar northern California municipal golf systems; comparing golf's cost recovery to other City services and programs; and, surveying Sunnyvale golfers to gauge their opinions about the golf courses. ***The City's overriding goals of the consulting study are to provide the Council with applicable information to take the next step in determining the appropriate action as envisioned in the 20-Year Financial Plan, to determine the "appropriate" level of golf subsidy going forward, and to make recommendations to improve the financial performance of the golf courses and greatly reduce or eliminate the subsidies.***

Key questions to be answered by this study include:

- What is a reasonable expectation for the City to have regarding the level of operating subsidy going forward? Are the City's 20-Year Plan projections achievable?
- Beyond money already committed from the Park Dedication Fund, how will necessary capital improvements at the golf courses be funded?
- How does the Sunnyvale municipal golf system compare to other regional municipalities with similar golf course operations in terms of level of golf enterprise fund deficits?
- How does the level of subsidy / cost recovery percentage for golf in Sunnyvale compare to that of other City programs?
- Are there potentially viable and sustainable opportunities to increase revenues and/or reduce expenses to the point where the annual subsidy is greatly reduced or no longer required?
- What is an appropriate and realistic long-term vision for Sunnyvale Golf?

The study effort was managed by NGF Director of Consulting Services Ed Getherall, with assistance from: NGF Senior Director of Consulting, Richard Singer; NGF Director of Research, Clark Brown; and NGF Research and Consulting Administrator, Jodi Reilly. Golf Course architect Forrest Richardson, ASGCA, performed the physical golf course assessments of Sunnyvale and Sunken Gardens golf courses and worked with NGF to create potential facility capital improvement scenarios. Activities conducted in completion of this report included, but were not limited to:

- Videoconference and phone meetings with City and golf course staff
- Golfer surveys
- Market analysis: demographic; economic; golf supply-demand dynamics; competitive
- High-level review of Sunnyvale GC and Sunken Gardens GC operations
- Analysis of recent financial performance of the City golf courses
- Assessment of golf course current conditions and needs by ASGCA architect; preparation of improvement plan options (including potential new revenue sources)

Executive Summary

This section comprises NGF Consulting's summary of key findings related to the subsidy analysis of the City of Sunnyvale's Golf & Tennis Operations Enterprise Fund ("Golf Fund'). Findings and conclusions are based on the consulting team's analysis conducted in 2020. *Full detail, along with supporting narrative and exhibits, are found in the body of the report and appendices.*

PURPOSE

The City of Sunnyvale, California retained National Golf Foundation Consulting ("NGF") to perform a Golf Subsidy Analysis for the City's municipal golf system, comprising two facilities - 18-hole regulation-length Sunnyvale Golf Course and 9-hole executive-length Sunken Gardens Golf Course. The City seeks a comprehensive evaluation of the general fund subsidies that the City's Golf & Tennis Operations Enterprise Fund ("Golf Fund") has required in recent years to "address the structural deficit and keep the fund in balance".

Key questions to be answered by this study include:

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- Are there potentially viable and sustainable opportunities to increase revenues and/or reduce expenses to the point where the annual subsidy is greatly reduced or no longer required?

The results and conclusions of the NGF analysis will be used to help determine the appropriate course of action regarding the Sunnyvale golf system going forward.

SITUATION SUMMARY

The finances of the City's two golf courses, the Sunnyvale Golf Course and the Sunken Gardens Golf Course, and Sunnyvale Municipal Tennis Center, are accounted for in the City's Golf and Tennis Operations Fund ("Golf Fund"). Golf and tennis have been accounted for within the Enterprise Fund framework (more on this accounting method later in this section) since FY 2012/13, following the dissolution of the Community Recreation Fund.

Because golf and tennis are accounted for as an enterprise fund, operations activities are intended to be self-supporting. However, as a result of rounds played and revenues declining at the same time that operating expenses (esp. labor and irrigation water) have been rising, golf operations have required an increasingly-high subsidy from the General Fund each year, and approximately $4.0 million in transfers-in were made or approved from FY 2014/15 to FY 2018/19. The FY 2020/21 Adopted Budget includes General Fund contributions of between $1.5 and $2.0 million annually until FY 2023/24 when substantial contributions are planned to end, though this will be revisited pending the results of this report.

In the face of the continuing large-scale annual subsidies of the Golf Fund, the City hired NGF Consulting in the spring of 2020 to conduct a golf subsidy analysis of the municipal golf system. City leadership has tasked staff and the NGF with analyzing the level of subsidies that the golf courses have required, and benchmarking them to other City services, as well as to similar northern California facilities and systems. The goals of the analysis are to identify an "appropriate" and achievable level of annual subsidy, and to make recommendations that could potentially reduce the subsidies.

GOLF & TENNIS OPERATIONS ENTERPRISE FUND OVERVIEW

Following is a summary overview of the City's Golf & Tennis Operations Enterprise Fund, including general description of enterprise fund accounting for municipal golf, summaries of the FY 2020-21 Adopted Budget and capital improvement funding, and brief discussion of observed national trends with respect to accounting for municipal golf operations.

Golf & Tennis Operations Enterprise Fund

As an enterprise fund, all activities of the Golf Fund are intended to be self-supporting. However, as the City's FY2020/21 Adopted Budget notes, "*the golf operations of the Golf and Tennis Enterprise Fund has struggled to operate as a true enterprise fund due to a number of reasons including the overall decline in popularity in golf, the closure of the golf course restaurants while the City transitioned to new operators, and the quality of the golf buildings. This has affected the number of rounds played at the golf courses, which have been on a declining trend for the last decade*".

A community may account for a certain service in the general fund, special revenue fund or an enterprise fund. Among the advantages of using enterprise fund accounting are:

- **Transparency** – All the direct, indirect (e.g., interdepartmental charges for services provided) and capital costs of providing the service are in a consolidated fund, making the true cost of providing a service transparent to the public.
- **Provision of information for decision-making** – Stakeholders can readily analyze the level of cost recovery for the enterprise service and the extent of needed support, if any, in the form of tax dollars or other available revenues.
- **Retain net income** – Unlike services operating in the general fund or a special revenue fund, all operating surplus (and investment earnings, if any) are retained in the enterprise fund rather than closed to the general fund at year-end.

Though a significant percentage of municipal golf courses across the US and in California are operated as enterprise funds, it is not commonly used locally in the San Francisco Peninsula / South Bay area. With the spring 2020 closure of Santa Clara Golf and Tennis, Sunnyvale is now the only municipality in the Peninsula/South Bay area to use enterprise fund accounting for its golf operations. The City of San Mateo, prior to FY 2018-19, accounted for golf operations of its 18-hole Poplar Creek Golf Course as an enterprise fund. Beginning with FY 2019, "**in recognition of the annual subsidy of golf operations from the City's General Fund, the City moved its enterprise Golf Fund to the General Fund as a sub-fund"** (source: City of San Mateo FY 2020 Comprehensive Annual Financial Report).

The accounting for golf enterprise funds varies across municipalities. While only a small percentage of municipalities charge for rent of the golf course land, a majority of municipalities charges their golf fund 'indirect' costs for services provided, such as insurance, legal, human resources, finance, and IT. In addition to allocating indirect service costs, the municipality may also allocate a portion of salaries for positions involved in oversight and administration of the golf enterprise fund, such as the Parks and Recreation Director, Finance Director, City Manager, etc. Indirect charges are generally allocated based on a measure such as the number of employees, budget or some other basis.

With a majority of golf enterprise funds across the U.S. struggling to cover all operating and capital costs associated with their golf operations, NGF has observed a decided trend of public agencies converting from enterprise fund to general fund or special revenue fund accounting for their golf course assets. In the body of the report, we talk about trends (pre-pandemic) we are observing nationally with respect to municipal golf finances and the accounting thereof. We also discuss potential financial implications of Sunnyvale Golf converting to general fund accounting for the golf courses.

Sunnyvale FY 2020/21 Adopted Budget and 20-Year Financial Plan

The City's FY 2020/21 Adopted Budget assumes an increase in the required subsidy of the Golf Fund over the next four years of $890,000, due to expected lingering impacts of COVID-19. The budget notes that the fund will "*continue to face challenges over the twenty-year financial plan (increasing operational costs, deferred capital maintenance, seasonality due to its dependence on favorable weather conditions, the continued decline in the interest in golf nationally, etc.'). The FY 2020/21 Adopted Budget includes General Fund contributions of between $1.5 and $2.0 million annually until FY 2023/24 when substantial contributions are planned to end. In FY 2020/21, $1.7 million is programmed for transfer to the Golf and Tennis Fund and reflects cost-savings adopted by Council in Budget Supplement 2. Given the revenue uncertainty related to the impacts of COVID-19, however, subsidy amounts will be revisited during the next budget cycle*".

Capital Improvement Funding

Another financial issue with the Golf Fund – beyond the continued need to fund operational deficits with large-scale transfers-in, is that the golf courses, as NGF discusses in the body of the report, are in need of significant capital investment to address aging infrastructure and remain competitive. From the Adopted Budget: "An additional concern over the longer term is that capital improvement projects needed at the golf courses are significantly underfunded. Fiscal strategies are required beyond FY 2023/24 to maintain a positive financial position and to continue funding operations and deferred infrastructure maintenance".

When the Golf and Tennis Enterprise Fund was established, the City Council determined that no future additional Park Dedication Fund funding would be used for the golf courses and tennis center beyond those items that were already in the budget. At this time. Park Dedication Fund support is scheduled to decrease substantially after FY 2023/24, with only minor improvements thereafter, until funding is completely discontinued in FY 2034/35. *NGF concludes that, given the aforementioned large-scale operating deficits - and with no retained earnings in the Golf Fund - the golf courses will continue to require an external source of funding for ongoing capital investment needs, which are substantial due to the aged infrastructure of the golf courses*.

SUNNYVALE GOLF OPERATIONS

While a comprehensive review of operations was not a key part of the NGF study, in the body of the report we provide a high-level overview of the Sunnyvale Golf System, based on prior visits to the facilities, NGF interviews and virtual meetings with golf course and City staff, and review of project materials supplied by the City. The overview includes a general description of the two City golf facilities, a summary review of operations (e.g., fees, marketing, programming, clubhouse operations, staffing) and an analysis of recent operating performance for the Golf and Tennis Fund.

For purposes of brevity, below we present a summary discussion of the current operating structure of the Sunnyvale golf courses, as well as potential alternatives and their implications for the financial results of the Golf Fund. We also provide a summary of recent rounds played and financials of the golf courses.

Management / Operating Structure

The Parks, Golf and Street Trees Division oversees Golf Course and Tennis Center operations. The golf courses are fully self-operated with City employees, with the exception of the food & beverage concessionaire at Sunken Gardens. NGF has noted a decided trend over the last 10 to 15 years away from full municipal self-operation, with cities, counties, etc. turning to a variety of partial or full privatization structures, such as concession arrangements, operating leases, or fee-for-service management agreements.

The City of Sunnyvale has indicated to NGF that outsourcing or privatizing operations for its municipal golf courses is not a consideration at this time, and that the City gives strong priority to keeping services "in-house". (The contracting out of City services to outside vendors is addressed in the Council Policy Manual section 7.3.06).

Our experience has shown there is no ideal operating scenario that fits all situations, and each public agency must arrive at its own unique approach to operation and maintenance. In the body of the report, we provide a summary discussion of the most common management structures for municipal golf facilities. Following are NGF's summary conclusions regarding potential change in operating structure:

Even if the City were inclined to "contract out" the management of the golf courses, we do not believe the "privatization" alternatives available for the golf courses offer the likelihood of significantly reducing operating deficits for the Golf Fund. The City could attempt to **lease** Sunnyvale and Sunken Gardens golf courses to a third party, theoretically relieving the City of financial risk with the golf course operations. However, NGF's experience tells us that, given the condition and economics of the golf facilities, they likely would not draw any legitimate, financially stable suitors, especially if significant contribution toward capital improvements was required. And, if significant capital investment was not required, there would be risk that a lessee would come in, attempt to squeeze short-term profit out of the facilities, and then vacate the lease and leave further deteriorated assets with the City.

Entering into a **Fee-for-Service Management Agreement** for the golf Sunnyvale golf facilities may result in significant savings on labor/benefits costs, while also providing other benefits (e.g., marketing strategies, purchasing programs, customer service training) that come from having one of the established national operators run the golf courses. In our experience, the change in net financial position resulting from the change from self-operation to management contract will be positive even after cost of the annual management fee, which generally will fall within the effective range of 4% to 6% of total gross revenue (for Sunnyvale, this equates to the approximately $140,000 to $200,000 based on recent historical revenues). ***However, while we believe the change to outsourced management would improve the financial results of the Golf Fund (especially if indirect / allocated City charges were also reduced due to fewer required City resources), we do not think the change would prevent continued large-scale operating deficits and subsidies of the Golf Fund***.

Recent Operating Results Summary

Below we summarize the operating performance of the Sunnyvale Golf System over the last several years through FY 2018/19. (**Source**: official audited City CAFRs and Budgets, along with supplemental spreadsheets sent by City and golf course staff). More detail can be found in the body of the report.

Rounds Played

- For the 10-year period of FY2010 through FY2019, peak activity for the City's two golf facilities was achieved in 2012, when 136,121 total rounds were played. Since that year, rounds have been on a steady decline, falling by 28.1% to less than 98,000 rounds in FY19. Rounds have decreased by just under 20% in just the last five years.
- For **Sunken Gardens**, total rounds played averaged about 60,500 from FY11 to FY13, before declining to a three-year average of about 51,500 for the subsequent three-year period, and

41,800 in the FY17 through FY19 period. Overall, rounds played at Sunken Gardens GC fell by 34.5% between FY13 and FY19, when 39,523 rounds were played.

- For **Sunnyvale GC**, total rounds played averaged 72,344 from FY11 to FY15, before decreasing to a four-year average of 62,304 for the subsequent period - bottoming out at just 58,352 rounds in FY19 (decrease of 12.1% in FY19 alone).

Operating Revenues

NGF pulled Sunnyvale Golf operating results from City CAFRs and Adopted Budgets for the period of FY15 through FY19. Largely because of variations in availability – and structure - of food & beverage service at Sunnyvale GC, making apples to apples comparisons of results over various years is impractical. For context, we note that City documents provided to NGF indicate that total revenues for Sunnyvale Golf were as high as $4.5 million in 2003, with annual profits reportedly as high as ±$2 million. The system was reportedly profitable through 2010 (enterprise fund was created in 2011).

With that framework in mind, here are NGF observations regarding golf system revenues (**excluding transfers**) over the subject period:

- Four-year average **total system operating revenue** through FY18 (FY19 excluded because F&B revenues at Sunnyvale were gross that year, rather than net lease payments or no service at all in prior years) was $3.3 million. FY19 revenue rose to just under $3.6 million, due to nearly ten-fold increase in rents and concession revenue.
- Revenues related to **food & beverage service** have been highly variable due to the sporadic availability – and changing nature – of service at Sunnyvale GC. In FY15 and FY16, when service was confined to the concession at Sunken Gardens, rent revenues averaged about $6,500. For FY17 and FY18, when Barrel 19 was open at Sunnyvale GC, average concession rent was $63,000. In FY19, when the lease of Barrel 19 became a fee-for-service management agreement and then City self-operation, *gross* revenues rose to $431,000.
- **Total operating revenue per round**, including the tennis concession, fell within a tight range and averaged $29.24 from FY15 through FY18, rising to $30.67 in FY18 and $36.64 in FY19 (included ***gross*** F&B revenue that year).
- *Excluding* food & beverage revenue, **total revenue per round** averaged just under $29 from FY15 through FY18, increasing about 4% to $30.24 in FY18.

Operating Expenses

Golf courses are high fixed-cost businesses. In California, this is exacerbated by the high cost of labor and, typically, irrigation water, which is certainly the case for Sunnyvale. When City direct and indirect charges are added on to the true cost to operate the golf course, it becomes even more difficult to cover all costs through user fees. Compounding this situation in the case of Sunnyvale Golf is that the golf facilities are positioned as 'value' golf courses and cater to a generally price-sensitive clientele, meaning that fee increases cannot be expected to keep up with rising expenses (i.e., 'elastic' demand).

- As with revenues, yearly variations in the availability of **food & beverage service** at Sunnyvale GC have contributed to year-to-year variability in operating expenses. F&B has been a significant cost center at Sunnyvale GC in recent years as the City took back management of the operation from the former private operator. Expenses totaled about $603,000 in FY19 and $660,000 in FY20, resulting in net losses of about ($256,000) and ($354,000) in those two years, respectively.
- **Total operating expenses** (excluding depreciation), including ±$100,000 annual cost of goods sold, increased from $3.64 million in FY15 to $4.35 million in FY18, or by 19.4%.

- The **cost of producing a round** of golf for the Sunnyvale Golf system rose from $29.86 in FY15 to $39.61 in FY18, or by just under 33%. (The cost increased to $51.13 in FY19 with the extra food & beverage related expenses).
- Annual City plus Program **In-Lieu charges** increased by 19% over this time period, totaling more than $466,000 in FY18. In combination with Department-wide Allocations, City General Fund charges to the Golf Fund are $600,000+ annually, or about 15% of total operating expenses.
- The **cost to irrigate** the City golf courses has increased aggressively in recent years, more than doubling from about $272,000 in FY 15 to more than $568,000 in FY18. **Together, City general fund charges and irrigation water cost add up to nearly $1.2 million annually**. For context, the Net Operating Loss in FY18 was **$982,000**.
- **Total labor expense** increased by 13% in FY18, from $2.04 million in FY15 to $2.3 million. As a percentage of total expenses, labor actually decreased from about 56% to 53%, though this is misleading due to the run-up in other expenses, such as irrigation and In-Lieu charges.

GOLFER SURVEY RESULTS

NGF implemented an internet-based golfer survey in July/August 2020, distributed via email by the Golf Operations Manager, at both Sunnyvale courses to gauge customer opinions and overall satisfaction with the facilities. The NGF survey is used by hundreds of courses across the country, allowing us to compare results from Sunnyvale and Sunken Gardens with other courses nationwide. Summary findings follow, with much more detail provided in the report.

Sunnyvale GC

The robust survey response tells NGF that Sunnyvale GC customers are highly engaged in the golf course. Customers generally value the friendliness and helpfulness of golf course staff, the convenience of the location and the affordability of green fees. However, the facility received very poor ratings across many measures, especially when benchmarked against other public golf courses of similar type that NGF have surveyed over many years. The strongest negative ratings relate to food & beverage service, as well as the condition of the golf course overall and of individual course components, with greens, tees, bunkers, and fairways all being rated at 6 or below by respondents.

NGF believes that a key finding from the survey is that the long-term trend of declines in rounds and revenues at Sunnyvale GC may be due largely to playing conditions that have deteriorated over time due to aging infrastructure, deferred maintenance / capital improvements, and overstretched maintenance budgets. Aside from better course conditions, open-ended comments made about "what needed improvement at Sunnyvale GC" revealed several recurring themes, including adding food & beverage amenities, building a driving range, and improving pace of play. The custom question specific to the type of food & beverage service respondents would prefer revealed that more than half would like to see a full-service bar/grill or "19th hole" type venue, while just under half indicated they would be fine with more of a minimalist operation serving pre-made items, hot dogs, beverages, snacks, etc.

Finally, despite what customers perceive to be a product in need of significant improvement, about 3 out of 4 responding golfers surveyed would be willing to pay some level of fee increase in order to help with the viability of the golf course. About one-third said they will pay $2 to $3 more per round, 23% would pay $4 to $5, another 6% would pay $6 to $7 more, and 12% would pay "whatever the fees are". In short, it looks like demand for golf will be relatively inelastic with nominal fee increases aimed at keeping up with rising expenses.

Sunken Gardens GC

As NGF often observes with "alternative length" facilities, the level of survey response was muted for Sunken Gardens GC compared to Sunnyvale GC. Still, the response was enough to provide directional guidance on customer opinions and satisfaction. Sunken Gardens rated (scale of 1 to 10) generally well on course location, friendliness/helpfulness of staff (common theme in open-ended comments), tee time availability, food & beverage service, and affordability. Unfortunately, the facility received poor to very poor ratings across many measures, especially when benchmarked against other facilities of a similar type. While satisfaction measures were low for areas such as the pro shop and facility amenities, the stronger negative ratings related to golf course conditions - especially tees and greens.

As was the case with Sunnyvale GC, survey results indicate that improving the golf course physical product will be a key to increasing rounds and revenue. NGF believes that a key positive takeaway from the survey – despite what customers perceive to be a product in need of significant improvement – is that nearly 4 out of 5 golfers surveyed would be willing to pay some level of fee increase in order to help with the viability of the golf course.

PHYSICAL EVALUATION OF SUNNYVALE GOLF COURSES

In the body of the report, NGF and golf course architect Forrest Richardson, current president of the American Society of Golf Course Architects (ASGCA), provide a summary assessment of both Sunnyvale GC and Sunken Gardens GC. Specifically, for each course, we provided:

- Brief overview and history of the golf courses
- Assessment of current conditions
- Preliminary capital improvement recommendations
- Concepts that may generate incremental net revenues

Based on the evaluation, the consulting team concluded that - at both Sunnyvale and Sunken Gardens golf courses - extensive capital expenditure is necessary to bring the assets up to competitive standards, and to ensure their continued viability as recreation amenities. The concepts provided by the consulting team to the City take into account the reality that major improvement work is needed at both facilities, due to the age and the condition of nearly all infrastructure, and the lack of capital investment that has effectively constrains the golf courses to competing primarily on the basis of affordability. ***We believe that a major level of capital investment is required in the facilities regardless of any new amenities or reconfiguration that may be deemed beneficial to the City in terms of increasing revenue and reducing the annual subsidy from the General Fund***. In other words, major investment is needed simply to remain viable and to compete effectively beyond the short term.

GOLF MARKET OVERVIEW

To assess potential market opportunities for either Sunnyvale GC or Sunken Gardens GC to increase rounds played and revenues, the environment in which the facilities operate must be understood. In the body of the report, NGF Consulting provides a summary of key "external" factors that characterize the trade areas in which the Sunnyvale golf courses operate, including NGF's macro perspective of the U.S. golf industry. The overview includes an analysis of local demographic and economic factors, as well as golf supply / demand indicators, that have the potential to affect the demand for golf. Finally, we completed a Competitive Analysis for each Sunnyvale golf course.

In terms of the potential long-term impacts of the Covid-19 pandemic, it is way too soon to tell what, if any, lasting effects on golf participation and demand will be. With less competition from other sports and activities, the pandemic, at least in the short term, has had a very positive effect on golf demand, with

core golfers playing more rounds due to factors such as flexible work schedules, as well as a significant rise in new and returning golfers, manifesting in fuller tee sheets across the U.S. Another outcome has been higher average green/cart fees for those facilities that are able to practice dynamic pricing.

GOLF SUBSIDY ANALYSIS

For the subsidy analysis, NGF compared and analyzed the FY 2018-19 general fund subsidy of the Sunnyvale Golf Fund to the experience of other Bay Area / northern California municipal golf systems for that year. Because annual transfers-in from a public agency's general fund will often not match the actual operating loss for the enterprise fund from that year, ***we have used net operating income (loss) before depreciation as a basis for comparison between the City of Sunnyvale and other municipalities***.

In addition to comparing Sunnyvale Golf to other municipal golf systems, we compare the Golf Fund to other City programs in terms of cost recovery percentage achieved through user fees / other operating revenues. Finally, in the body of the report, we examine the cost of maintaining the golf facilities as open space, should the City decide it no longer desired to subsidize the golf operations.

Comparison to other Regional Municipal Golf Systems

NGF researched FY 2018/19 operating results for fourteen (14) northern California municipal golf systems for comparison to the City of Sunnyvale golf system on the measure of what we have defined as Net Operating Income before Transfers (excluding depreciation). *The comparison was reduced to five (5) other facilities, as explained below.* According to the FY 2018/19 Comprehensive Annual Financial Reports (CAFRs), the net operating loss before transfers for the Sunnyvale Golf Fund was $1,613,411, while the transfer-in / subsidy from the City's General Fund was $1,455,755.

Methodology

The information and data sources used for this analysis included public records such as CAFRs, facility operators, municipal administrators, and a regional Municipal Golf Survey NGF created and distributed for this project. Identifying direct apples-to-apples comparisons to Sunnyvale across multiple variables / system characteristics was impossible. However, we utilized a set of criteria to match Sunnyvale as closely as possible, including:

- Northern California location (greater Bay Area preference)
- Transparency of accounting - all but one golf system is enterprise or special revenue fund
- Similar golf inventory - preference one 18H regulation course plus one 9H short course
- City of similar mid-size population (exception to this rule among final list is San Jose)

Based on these criteria, NGF curated the original list of public agency golf systems down to five (5) other "comparables" for purposes of our analysis. These are listed in the table on page 65, along with information about golf course inventory, city population, accounting method, and management structure, as well as summary financial information for FY 2018-19.

Significant Findings

Following are NGF Consulting's key findings from the comparison of Sunnyvale Golf FY 2018-19 operating results to the five other systems:

- In terms of net operating loss (excl. depreciation), Sunnyvale had the second highest loss at more than $1.6 million, trailing only Hayward Area PRD, which lost $1.72 million on its 18H regulation Skywest Golf Course (now closed permanently) and 9H executive Mission Hills GC. San Jose also had a $1 MM+ loss for 18H regulation Los Lagos GC and 9H executive Rancho del

Pueblo GC. In addition to the $1.1 million operating loss on these two facilities, San Jose had a debt service payment of $1.9 million for construction of Los Lagos and other improvements.

- Four of the five systems that had either enterprise or special revenue fund accounting (Hayward Area RPD is general fund) for golf reported a 'Transfer In' from the general fund for FY19 operations, ranging from $466,000 for Santa Clara (golf course now permanently closed) to $2.7 million for San Jose. Sunnyvale had the second highest transfer in, at $1.445 million.
- In comparison to the other five systems in our comparable set, Sunnyvale has high utility (predominately irrigation water) costs, as well as high "indirect" fixed costs, such as In-Lieu charges and allocated departmental expenses. For Sunnyvale, these indirect charges plus utility costs totaled more than $1.1 million in FY19, or 21% of the total expenses listed for the Golf Fund in the City's CAFR. *In other words, the expenses for Sunnyvale Golf are "fully loaded in".*
    - For comparison, of the other four enterprise or special revenue fund golf systems, two (San Jose and Santa Clara) **did not** allocate general fund indirect charges to the golf fund, while for the other two (Modesto and Pleasanton), the charges – about $143,000 and $28,000, respectively - were much lower than Sunnyvale's total of ~ $408,000 in FY19. *We note that all four of these golf systems were operated via private management contract, an operating structure that NGF has observed generally results in a lower level of indirect charges from the general fund to the golf fund in comparison to systems operated with staff employed by the public agency*.
    - Likewise, in terms of utilities cost (again, mostly irrigation water), the average annual cost for the other 5 systems was $312,000, or 123% lower than Sunnyvale's cost of just under $700,000 in FY19.
    - The Golf Fund results have also been dragged down to significant losses from food & beverage operations at Sunnyvale GC in recent years as the City took back management of the operation from the former private operator. Expenses totaled about $603,000 in FY19 and $660,000 in FY20, resulting in net losses of about ($256,000) and ($354,000) in those two years, respectively
    - ***After subtracting out general fund charges and utility costs for Sunnyvale and the five comparative systems, Sunnyvale's net operating deficit would be just ($507,000) in FY19, compared to an average loss of ($332,000) for the other five systems***.
- Another contributing factor to **Sunnyvale's** continuing large annual operating losses are high labor costs. At nearly $2.5 million in FY19, the Golf Fund's labor expense, including benefits, was more than twice the average cost of labor for Santa Clara and Pleasanton, and about 23% higher than San Jose. Only Hayward Area RPD, with more than $2.8 million in personnel costs, was higher than Sunnyvale.

Per-Unit Metrics

NGF summary observations of where Sunnyvale ranks on the metrics of net operating loss per: 1) Resident; 2) Round of Golf; and 3) Golf Hole.

- For net *operating loss per resident*, **Sunnyvale** ranked as the second highest among the subset of 6 public agencies, at $10.36 per resident. HAPRD had the highest loss per resident at $10.74, while the other four cities ranged from a loss of $0.45 (Pleasanton) to $2.31 (Modesto) per resident.
- For net *operating loss per round of golf*, **Sunnyvale** ranked as the third highest among the subset of 6 public agencies, at $16.48 per resident. HAPRD had the highest loss per resident at $26.47

and San Jose was second at $16.60. The other three cities ranged from a loss of $0.77 (Pleasanton) to $2.31 (Modesto) net operating income (loss) per round.

- For net *operating loss per golf hole*, **Sunnyvale** ranked as the second highest among the comparable set, at $59,756 per golf hole. Once again, HAPRD had the worst metric, losing $63,720 per golf hole in FY19. San Jose was third highest at a loss of $30,623, while the other three cities had much lower losses per hole, ranging $2,004 (Pleasanton) to $11,302 (Modesto).

Summary Subsidy Metric Rankings

Public Agency	Net Operating Income before Transfers	Subsidy* Rankings (highest to lowest)	NOI per Resident	NOI per Resident Rank	NOI per Round	NOI per Round Rank	NOI per Golf Hole	NOI per Golf Hole Rank
Hayward Area RPD	-$1,720,453	1 of 6	-$10.74	1 of 6	-$26.47	1 of 6	-$63,720	1 of 6
City of Sunnyvale	-$1,613,411	2 of 6	-$10.36	2 of 6	-$16.48	3 of 6	-$59,756	2 of 6
City of San Jose	-$1,102,441	4 of 6	-$1.06	4 of 6	-$16.60	2 of 6	-$30,623	3 of 6
City of Modesto	-$508,587	3 of 6	-$2.31	3 of 6	-$6.78	4 of 6	-$11,302	4 of 6
City of Santa Clara	-$66,285	5 of 6	-$0.52	5 of 6	-$1.41	5 of 6	-$3,683	5 of 6
City of Pleasanton	-$36,067	6 of 6	-$0.45	6 of 6	-$0.77	6 of 6	-$2,004	6 of 6

*Defined as Net Operating Income before Transfers

Golf Cost Recovery Percentage vs. other City Programs

NGF Consulting was also asked to compare the cost of golf to other City of Sunnyvale programs. Our experience in working with hundreds of municipal golf systems has been that, even in cases where golf does not operate at breakeven or a profit, it typically has among the highest - and usually the highest - cost recovery percentages among a given municipality's recreational programs, services and amenities. The table below summarizes this comparison of "cost recovery" for the City of Sunnyvale. As we can see, the Golf Fund had a substantially higher cost recovery percentage compared to the other City programs referenced, despite the fact that Golf is "fully costed", including City "In-Lieu" and allocated overhead charges, while certain costs such as City overhead and facilities maintenance expenses are not included in the calculation for the other programs.

Comparative Cost Recovery Percentages: Golf vs. Other City of Sunnyvale Programs – FY 2019

Program	Cost Recovery Ratio*
Golf & Tennis Fund (excl. depreciation)	69%
Golf & Tennis Fund (including depreciation)	65.7%
Community Services Division (Prog. 527 & 626)	51.8%
527 Youth and Family Services	21.4%
626 Arts and Recreation Programs	56.2%

*City: Ratio Does Not Include Overhead, Capital, All Maintenance, or All Utility Costs

Subsidy Analysis - Conclusion

NGF believes the Sunnyvale Golf & Tennis Operations Fund's continued annual operating losses and general fund subsidies – totaling more than $3.7 million, cumulatively, for the FY 2016-17 through FY 2018-19 period – are on the high end of the range for a golf enterprise fund of this size, based on NGF experience. The results of our regional benchmarking analysis bear this out, as do the results of NGF's recent national municipal benchmarking survey (*results not released*). *However, Sunnyvale Golf's FY19 operational deficit compared more favorably to those of the other five municipal systems in our comparable set when equalized for irrigation water costs and City indirect charges to the Golf Fund.*

Of course, the magnitude of the subsidy is subjective, based on the public policy of how municipal golf is viewed within a community – i.e., self-sustaining business vs. public recreation amenity. Also, as we just saw, the Golf Fund's recent annual financial results *can be viewed within the context of cost recovery, with golf & tennis recovering about 69% of its operating costs in FY19, which compared favorably to the other City programs noted above.* Finally, in the context of potential alternate uses of the golf course land, we saw that the City estimates the current annual cost to maintain the golf courses as parkland to be about $4.24 million, or nearly three times the actual subsidy amount for the Golf Fund in FY 2018/19.

There are certainly mitigating factors causing these large-scale deficits for Sunnyvale Golf, such as: market competitive factors; aging infrastructure and deferred capital at each golf course; the lack of a driving range and food & beverage service at Sunnyvale GC; the golf system's high cost of public labor; and, the fact that the Golf Fund starts each year with well over $1 million dollars in fixed expenses related to irrigation water and various City charges and allocations. Also, we noted how large operating losses on food & beverage operations at Sunnyvale GC in recent years have contributed significantly to the poor performance of the Golf Fund.

Whatever the reasons for these continuing large-scale operating deficits and general fund subsidies, our experience has been that when losses and subsidies become recurring – and are even budgeted for as in the case of Sunnyvale – it generally portends a conversion to general fund accounting for golf. California cities that have recently made this change include Livermore, San Mateo, and Ventura. NGF believes this should be studied carefully by the City, especially in light of the large-scale capital investment needed to improve the golf courses and keep them competitive for the longer-term future.

POTENTIAL APPROACHES TO IMPROVING GOLF REVENUE MODEL

In the report, NGF presents potential revenue enhancement opportunities for Sunnyvale Golf, broken down by two components: (1) Physical Facility Improvements (potential approaches presented for both Sunnyvale GC and Sunken Gardens GC); and (2) Potential Operational Revenue Enhancement Opportunities.

The NGF team believes that if the City wants to continue to provide residents the golf and tennis recreation amenities, regardless of the likelihood of ongoing subsidies, the most likely path to meaningfully reducing annual operating deficits is to invest in the facilities. We have noted longstanding deferred capital needs resulting from infrastructure that is well past expected useful life, as well as deferred maintenance due to tight operating budgets.

Improving the facilities should allow the City to increase rounds played and the average golf fee revenue per round, and potentially create a new revenue center with the addition of a driving range at Sunnyvale GC. In short, extensive facility improvements will make the golf courses more competitive and economically viable, and help ensure their sustainability for the long term. The NGF team identified preliminary cost estimates for the potential facility improvement scenarios for Sunnyvale Golf Course that range from $3.2 million on the low end of these least intensive approach, to $12 million for the more intensive approaches. For Sunken Gardens GC, needed improvements are estimated to total $2.5 million or more. (All estimates in 2020 dollars).

Potential Operational Revenue Enhancement Opportunities

Aside from enhancing the golf course products through a capital improvement program, we do not believe there is any "low hanging fruit" in terms of additional revenue generation at the Sunnyvale golf courses that will significantly reduce the level of ongoing operational deficits requiring City subsidy.

On the expense side, we have previously noted the very high fixed costs associated with irrigation water and general fund charges to the Golf Fund. Additionally, the cost of labor is high and cannot realistically be trimmed, as staffing is already very lean and to reduce personnel or hours would likely make the golf courses less competitive. One way an increasing number of municipalities shave anywhere from 15% to 20% or more from their labor budget is to enter into a third-party management agreement; due to the California minimum wage legislation, most savings are attributable to replacing the public labor benefit structure with a private one.

In terms of potential operational revenue enhancement opportunities, NGF makes recommendations in the report centered on the following strategies, some or all of which may improve golf facility financials to some degree:

- **Raise Green Fees Modestly** – NGF's golfer surveys undertaken as part of this project indicated that most golfers would be willing to pay moderately higher green fees so that the City can help defray some of the rapidly rising costs necessary to operate the golf courses. Even a $2 increase in average green + cart fee revenue across all rounds – assuming no decline in demand – could add close to $200,000 in annual revenue, with very little associated variable cost.
- **Add Driving Range at Sunnyvale Golf Course** – As we discussed in our approaches to physical improvements to Sunnyvale GC, adding a 30 to 35-station driving range at Sunnyvale GC appears to be site-feasible. Based on a favorable location, the loss of the Santa Clara G&T driving range, and revenue figures attained for San Mateo's Poplar Creek, Palo Alto's Baylands Golf Links, and San Jose Muni, we have estimated year 1 gross revenue of $17,000 per tee station for a new driving range at Sunnyvale GC, in addition to potentially driving other revenues.
- **Themed Programming & Events** – Creative golf-themed events, on both the golf course and the driving range, are becoming popular with operators looking to make golf more fun for less committed golfers, including many young adults who want their recreation to be 'experiential'. The Sunnyvale/Mountain View/Silicon Valley area is rich in prospects for various types of events (examples provided in report).
- **Food & Beverage Service –**At public golf courses, having some level food & beverage offering is typically more about providing a service to golfers - and not giving them a reason to golf elsewhere - than it is about generating profits. Recognizing that the City has not budgeted any type of F&B at Sunnyvale GC going forward, NGF recommends the City consider at least the following:
    - Repurpose part of the pro shop area and equip it sufficiently so that the facility can offer **grab and go items**, such as fresh premade sandwiches, as well as hot dogs, beverages, snacks, etc. Also, make coffee, juice, Danish, etc. available for early morning golfers.
    - Run an outside **barbecue grill** during busier times, league play, etc., with items such as hamburgers, hot dogs, and grilled chicken at the ready.
    - Hire a part-time salesperson (base plus commission, if permitted) to market **rentals of the upper floor space at Sunnyvale GC** for events, corporate team-building events, etc. Perhaps invest in a golf simulator or two on this floor or in the pro shop area for rentals, leagues, contests, etc.

- For Sunken Gardens, the private vendor can create events such as Sunday Brunch, 50-cent Wing Night; Monday Night Football/college football Saturday/NFL Sunday events; Trivia Night (buffet menu); Pub Night, with light fare menu.
- See if the Sunken Gardens concessionaire would be interested in bringing a food truck to Sunnyvale as well, as least during busier times (this would have dual benefit of having a liquor license at Sunnyvale GC).

- **Enhanced Integration of Technology** - More comprehensive use of the POS system could help management better understand its customer profile segments, while also providing assistance in marketing, yield management and customer tracking. Technology is one of the most important tools available to a golf course management team to build a larger customer database, create customer loyalty and boost revenue.

GOLF FUND FINANCIAL PROJECTIONS AND SENSITIVITY ANALYSIS

Using actual FY 2018/19 rounds played and revenues as a baseline, and assuming some interim growth in revenues per round, NGF Consulting modeled a number of financial projection scenarios for the City of Sunnyvale **Golf and Tennis Operations Fund** ('Golf Fund') for the 10-year period of FY 2021/22 through FY 2030/31. All models use City projections for operating expenses, as presented in the FY 2020/21 Adopted Budget. All operating revenue and expense figures are expressed in 2020 dollars.

We assumed that facility improvements will be made as needed (repairs and replacement as needed to remain competitive - nothing 'transformative' in nature) over this time, but no debt service or cost of capital has been incorporated into the models. For purposes of this analysis, we have not assumed golf course closure for any improvements during the 10-year subject timeframe.

We note that a key consideration, which is not captured by the financial models, is the potential "cost of doing nothing" in addressing the deferred capital needs of the Sunnyvale golf courses. Due to a variety of factors, rounds and revenues has already been on a downward trajectory. Deferring the highest priority improvements will likely continue to result in rounds played attrition and worsening performance. There may also be a cost in terms of product quality when maintenance resources and staff time are frequently diverted to making emergency or stop-gap repairs.

Model Scenarios

The Baseline and Sensitivity scenarios are as follows (*model assumptions are presented in the body of the report, and attendant financial model spreadsheets can be found in Appendix F*):

1. **Baseline Scenario** - 'Steady State' operation and no major capital improvements; assumes annual rounds (both courses) played constant at 98,000 throughout period.
2. **Sensitivity Scenario 1** - Baseline inputs but assumes operation of a 35-station driving range at Sunnyvale GC beginning in FY2022/23.
3. **Sensitivity Scenario 2** - Baseline inputs but annual system *rounds increased* to 108,000 (approximate average total rounds played over FY17 and FY18).
4. **Sensitivity Scenario 3** - Baseline inputs but higher average green fee and cart fee revenue-per-round.
5. **Sensitivity Scenario 4** - Baseline inputs but higher rounds **and** higher average green fee and cart fee revenue-per-round. Assumes 90% margin – additional expenses for part-time staff time, supplies, repairs, etc.

6. **Sensitivity Scenario 5** – 'Best Case' scenario with higher rounds, higher rates, modest food & beverage/room rental revenue at Sunnyvale GC, **and** operation of a 35-station driving range at Sunnyvale GC beginning in FY2022/23

All of the NGF financial model scenarios assume continued self-operation of the golf facilities with City employees, with the exception of the Sunken Gardens GC food & beverage operation and contract teaching professionals. Based on direction from City staff, none of the scenarios include a private management structure, nor do any include a private food & beverage concession at Sunnyvale GC.

Pro Forma Models Summary

The table below summarizes key variables and operating measures for the Baseline financial model and the five sensitivity scenarios discussed in this section. Cumulative 10-year losses for the FY 2021/22 through FY 2030/31 period - utilizing City projected expenses from the Adopted FY 2020/21 Budget and NGF rounds played and revenue assumptions – range from about $11.7 million for the best-case scenario, to nearly $21.5 million for the base-case (expected) outcome.

NGF's main takeaway from this exercise is that without some 'game-changing' major investment in the Sunnyvale golf facilities (especially Sunnyvale GC), there is no reason to believe that annual operating losses will not continue to be as high as $1.5 million or more. There do not appear to be any significant upside revenue opportunities for these golf courses that can meaningfully change the overall dynamics of their financial situations, and golf course staffing is already very thin.

Sustainable green fee increases are constrained by the quality of the golf experiences offered relative to key competitors, while the lack of driving range and food & beverage amenities at Sunnyvale GC present additional revenue constraints. Even with the closures of key competitor Santa Clara Golf & Tennis, as well as other recent regional public golf course closures such as 36-hole Sunol Valley and 18-hole Skywest GC in Hayward, rounds have continued to decline in Sunnyvale (FY20 results not available).

On the expense side, the high and quickly rising cost of public labor, large-scale expense in irrigation water, and significant level of indirect expenses (i.e., City charges to the Golf Fund) make it very difficult, if not impossible, for these golf courses to operate anywhere close to breakeven. Even if rounds played were to return to the ~130,000 level last achieved in 2013, the Golf Fund would still be significantly in the red based on the current and projected expense structure. With the continued demand surge related to the pandemic over the 2020-21 period, the City may find that FY 2020-21 net losses may represent a de-facto best case scenario for the Golf Fund with the courses in their current condition.

Sunnyvale Golf & Tennis Operations Fund - 10-Year Pro Forma Scenarios Summary						
SENSITIVITY SCENARIO	**Base Model - 'Steady State'**	**Higher Rounds**	**Higher Rate**	**Higher Rounds + Higher Rate**	**Base Model + Driving Range at SGC**	**Best Case' = Higher Rds., Higher Rate + F&B + Driving Range at SGC**
Total Annual System Rounds Played	98,000	108,000	98,000	108,000	98,000	108,000
Ave. FY 2021/22 Green Fee Rev. per Round - SGC	$28.42	$28.42	$30.56	$30.56	$28.42	$30.56
Ave. FY 2021/22 Green Fee Rev. per Round - Sunken Gardens GC	$14.43	$14.43	$15.15	$15.15	$14.43	$15.15
Total Cart Fee Revenue through FY 2030/31	$4,142,600	$4,565,300	$4,349,700	$4,793,600	$4,142,600	$4,793,600
Total Driving Range Revenue through FY 2030/31	$3,348,300	$3,661,800	$3,348,300	$3,661,800	$9,393,100	$9,393,100
Total Adj. Gross Operating Rev. through FY 2030/31	$36,998,783	$40,561,175	$38,884,575	$42,643,575	$42,591,075	$48,731,655
Cost of Capital – Driving Range					$1,942,590	$1,942,590
Total Expenses through FY 2030/31	$58,463,511	$58,463,511	$58,463,511	$58,463,511	$60,406,101	$60,406,101
Cumulative Loss through FY 2030/31	**($21,464,728)**	**($17,902,336)**	**($19,578,936)**	**($15,819,936)**	**($15,872,436)**	**($9,731,856)**
Cumulative Loss after Debt Service (Range scenarios)					**($17,815,026)**	**($11,674,446)**

SUMMARY CONCLUSION

As NGF understands it, one of the City of Sunnyvale's key goals with respect to the Golf & Tennis Fund is to reduce the amount of the annual subsidy to as close to zero as possible over the coming several years. Based on our analysis of the golf courses and market in which they operate, as well as 5+ decades of experience with municipal golf consulting, NGF does not view this as a realistic goal, barring major, transformative investment in the golf courses (primarily Sunnyvale GC), potentially in conjunction with a change to the operating structure of the golf courses.

Put another way, we see no apparent "silver bullet" for the Golf Fund. Sunnyvale Golf faces a number of challenges and constraints that we believe will preclude significant improvement to the economics of the Golf Fund. These constraints include:

- The relative lack of investment in Sunnyvale GC and Sunken Gardens GC over the years means that all golf course infrastructure is essentially past its expected useful life, resulting in maintenance inefficiencies and inconsistent conditions, and forcing the courses to compete on the basis of value-priced golf, rather than quality of golf experience, in a highly competitive market.
- The lack of two key amenities and revenue centers at Sunnyvale GC that are expected services for a public golfer:
  - Driving range
  - Food & beverage service (i.e., "19th Hole"/grill or snack bar)
- The relatively high cost of In-Lieu and other City "indirect" charges, as well as high utility (i.e., irrigation water) costs, that total more than $1.1 million and continue to increase.
- The high and growing cost of public labor, as well as inflation in other expenses.

NGF's base-case or "steady state" pro forma prepared for this analysis represents what we think the most likely scenario is for the Golf Fund if no fundamental changes are made to the golf courses and/or the way they are operated. NGF projections, utilizing City-provided expenses, shows more than $21 million in net operating losses over the 10-year period through FY 2031. Further, the sensitivity scenarios (e.g., higher fees, higher rounds, etc.) are potentially achievable, though not expected, and even these show large annual deficits.

Only the driving range addition scenario represents carries a level of confidence, based on comparable historical performance of ranges at Baylands, Poplar Creek, and San Jose Muni, as well as recent closure of key competitor Santa Clara G&T. However, even NGF's "best case" scenario, which includes the new driving range at Sunnyvale, shows 10-year losses of just under $10 million, and losses of $11.7 million after the cost of debt for construction of the range. Further, though we show the driving range to be profitable from an operating standpoint, the associated capital cost will carry through the 10-year period.

In short, there are several obstacles and no apparent "low hanging fruit" strategies that NGF believes have realistic potential to meaningfully reduce the annual deficit for Sunnyvale Golf. If the City continues without major capital investment that could have a transformative effect on the Sunnyvale golf courses, we expect the annual operating deficits to continue to grow, any lifts due to the pandemic-related surge in golf demand notwithstanding.

And while facility renovation - particularly at Sunnyvale GC - has the potential to change the economic calculus of Sunnyvale Golf, break-even or profitability of the Golf Fund would not be certain and such investment would also have significant associated capital costs and potential risk, though this risk is significantly mitigated when golf facilities have reached the point at which they will soon have to replace aged out infrastructure, as is the case with the Sunnyvale golf courses. (In other words, there is a significant "cost of doing nothing", as maintenance inefficiencies will persist and increase, and, at some point, the deteriorating infrastructure will simply not support an enjoyable golf experience).

NGF sees little or no reason to expect substantial improvement in the financial results of the Golf Fund and, in fact, we project the deficits to deepen, absent major investment and perhaps structural changes regarding how the golf courses are operated and accounted for, such as outsourcing management and reducing indirect, allocated charges to the Golf Fund. The City enquires as to the "reasonableness" of the annual deficits and requisite subsidies from the general fund, or what an "appropriate" subsidy for the Sunnyvale Golf Fund would be. Through our analysis and financial projections, we can only answer what we believe should be realistic expectations regarding the level of the subsidy. *What the subsidy "should be" is subjective (i.e., public policy) and can be answered only by City staff and officials through the prism of factors such as the value placed on the golf courses as recreation amenities, cost recovery percentage vs. other services and programs, etc*.

In closing, it has been NGF's experience - as the industry organization most closely associated with municipal golf - that most public agencies faced with ongoing significant golf enterprise fund deficits (especially when transfers in are budgeted each year) will eventually consider a change of accounting for golf operations to general fund or special revenue fund, such as the City of San Mateo did in recent years.

City of Sunnyvale Golf System

In this section, NGF provides an overview of Sunnyvale Golf, based on our review in the spring and summer of 2020. This chapter is divided into the following sections: (1) Situation Summary; (2) Golf and Tennis Operations Fund (including discussion of recent fund performance and 20-Year Financial Plan); and, (3) Sunnyvale Golf Operations. NGF recommendations for operations and physical plant improvements follow later in the report.

SITUATION SUMMARY

The finances of the City's two golf courses, the Sunnyvale Golf Course and the Sunken Gardens Golf Course, and Sunnyvale Municipal Tennis Center, are accounted for in the City's Golf and Tennis Operations Fund ("Golf Fund"). Golf and tennis have been accounted for within the Enterprise Fund framework (more on this accounting method later in this section) since FY 2012/13, following the dissolution of the Community Recreation Fund.

Because golf and tennis are accounted for as an enterprise fund, operations activities are intended to be self-supporting. However, as a result of rounds played and revenues declining at the same time that operating expenses (esp. labor and irrigation water) have been rising, golf operations have required an increasingly-high subsidy from the General Fund each year, and approximately $4.0 million in transfers-in were made or approved from FY 2014/15 to FY 2018/19. The FY 2020/21 Adopted Budget includes General Fund contributions of between $1.5 and $2.0 million annually until FY 2023/24 when substantial contributions are planned to end, though this will be revisited pending the results of this report.

In the face of the continuing large-scale annual subsidies of the Golf Fund, the City hired NGF Consulting in the spring of 2020 to conduct a golf subsidy analysis of the municipal golf system. The City must also identify a way to fund longer-term capital/infrastructure projects at the golf courses ("current" planned capital projects are funded by Park Dedication Fees through FY 2037/38). City leadership has tasked staff and the NGF with analyzing the level of subsidies that the golf courses have required, and benchmarking them to other City services, as well as to similar northern California facilities and systems. As noted earlier, the goals of the analysis are to identify an "appropriate" and achievable level of annual subsidy, and to make recommendations that could hopefully "greatly reduce or eliminate the subsidies".

GOLF AND TENNIS OPERATIONS ENTERPRISE FUND

As an enterprise fund, all activities of the Golf Fund are intended to be self-supporting. However, as the City's FY2020/21 Adopted Budget notes, "*the golf operations of the Golf and Tennis Enterprise Fund has struggled to operate as a true enterprise fund due to a number of reasons including the overall decline in popularity in golf, the closure of the golf course restaurants while the City transitioned to new operators, and the quality of the golf buildings. This has affected the number of rounds played at the golf courses, which have been on a declining trend for the last decade*".

In this section, we discuss several key issues related to enterprise fund accounting for golf, in general, and Sunnyvale's Golf Fund, specifically. Our discussion includes the 20-Year Financial Plan as delineated in the Sunnyvale FY 2020/21 Adopted Budget, capital improvement funding, municipal golf trends that NGF has observed in the last 10 to 15 years with respect to golf enterprise funds, and potential implications of the City of Sunnyvale switching to General Fund accounting for its golf and tennis operations.

What is an Enterprise Fund?

An enterprise fund establishes a separate accounting and financial reporting mechanism for municipal services for which a fee is charged in exchange for goods or services. Under enterprise accounting, the revenues and expenditures of the service are segregated into a separate fund with its own financial statements, rather than commingled with the revenues and expenses of all other governmental activities. An enterprise fund is established by a municipality to account for operations of a business-like activity such as a water utility, airport, or recreation such as a golf course. Less commonly, a golf course may be operated as a "special revenue" fund, particularly in cases where full cost recovery is not anticipated.

Enterprise accounting ensures transparency, allowing a public agency to demonstrate to the public the portion of total costs of a service that is recovered through user fees and that which is supported by tax dollars and/or some other source of funds. At year-end, positive net income is retained in the fund (e.g., for purpose of funding future deficits, capital improvements, etc.). Conversely, if the enterprise fund incurs an operating loss and does not have sufficient fund balance to cover it, the general fund may have to execute a “transfer in” to cover the deficit.

What are the Advantages of Enterprise Fund Accounting?

A community may account for a certain service in the general fund, special revenue fund or an enterprise fund. Among the advantages of using enterprise fund accounting are:

- **Transparency** – All the direct, indirect (e.g., interdepartmental charges for services provided) and capital costs of providing the service are in a consolidated fund, making the true cost of providing a service transparent to the public.
- **Provision of information for decision-making** – Stakeholders can readily analyze the level of cost recovery for the enterprise service and the extent of needed support, if any, in the form of tax dollars or other available revenues.
- **Retain net income** – Unlike services operating in the general fund or a special revenue fund, all operating surplus (and investment earnings, if any) are retained in the enterprise fund rather than closed to the general fund at year-end.

Enterprise Fund Accounting for Golf Operations - Overview

Though a significant percentage of municipal golf courses across the US and in California are operated as enterprise funds, it is not commonly used locally in the San Francisco Peninsula / South Bay area. With the spring 2020 closure of Santa Clara Golf and Tennis, Sunnyvale is now the only municipality in the Peninsula/South Bay area to use enterprise fund accounting for its golf operations. (Though, as we’ll see in the Benchmarking section of this report, this structure is not uncommon in the overall Bay Area). The City of San Mateo, prior to FY 2018-19, accounted for golf operations of its 18-hole Poplar Creek Golf Course as an enterprise fund. Beginning with FY 2019, “in recognition of the annual subsidy of golf operations from the City’s General Fund, the City moved its enterprise Golf Fund to the General Fund as a sub-fund” (source: City of San Mateo FY 2020 Comprehensive Annual Financial Report).

The accounting for golf enterprise funds varies across municipalities. A minority levy an asset charge/rent for the use of the property; examples include the City of San Diego and the City of Ventura. While only a small percentage of municipalities charge for rent, a strong majority of municipalities charges their golf fund ‘indirect’ costs for services provided, such as insurance, legal, human resources, finance, and IT. In addition to allocating indirect service costs, the municipality may also allocate a portion of salaries for positions involved in oversight and administration of the golf enterprise fund, such as the Parks and Recreation Director, Finance Director, City Manager, etc. Indirect charges are generally allocated based on a measure such as the number of employees, budget or some other basis. While our observed range has varied widely, NGF Consulting’s vast body of work with public sector clients has shown that, for municipalities with a single18-hole golf course, the indirect cost allocation most commonly falls in the range of between $75,000 and $150,000 per year.

Sunnyvale FY 2020/21 Adopted Budget and 20-Year Financial Plan

Following are edited excerpts from the City's FY 2020/21 Adopted Budget, as it pertains to the 20-Year Financial Plan for the Golf & Tennis Operations Enterprise Fund. We note that, compared to the FY 2019/20 budget, the current Adopted Budget assumes an increase in the required subsidy over the next four years of $890,000, due to expected lingering impacts of COVID-19.

From FY 2020/21 Adopted Budget:

"While golf and tennis operations continue to face challenges over the twenty-year financial plan (increasing operational costs, deferred capital maintenance, seasonality due to its dependence on favorable weather conditions, the continued decline in the interest in golf nationally, etc.), revenues have been expected to grow modestly each year. With the COVID-19 shelter in place orders, however, revenue growth has been interrupted in FY 2019/20 and revenue projections for the current year were adjusted down. Projections for FY 2020/21 and FY 2021/22 have also been revised due to the continued uncertainty regarding the length of the impacts of the COVID-19 pandemic. The twenty-year financial plan assumes base levels of golf play return in FY 2022/23.

The FY 2020/21 Adopted Budget includes General Fund contributions of between $1.5 and $2.0 million annually until FY 2023/24 when substantial contributions are planned to end. In FY 2020/21, $1.7 million is programmed for transfer to the Golf and Tennis Fund and reflects cost-savings adopted by Council in Budget Supplement 2. Given the revenue uncertainty related to the impacts of COVID-19, however, subsidy amounts will be revisited during the next budget cycle".

Capital Improvement Funding

Another financial issue with the Golf Fund – beyond the continued need to fund operational deficits with large-scale transfers-in, is that the golf courses, as NGF discusses later in this report, are in need of significant capital investment to address aging infrastructure and remain competitive. From the Adopted Budget: "An additional concern over the longer term is that capital improvement projects needed at the golf courses are significantly underfunded. Fiscal strategies are required beyond FY 2023/24 to maintain a positive financial position and to continue funding operations and deferred infrastructure maintenance".

The City's **Golf & Tennis Sub-Fund** provides for projects related to golf and tennis infrastructure and is funded mainly with Park Dedication Fee revenue. Funds were budgeted in FY 2019/20 for golf courses' protective netting replacement, driving range lights replacement, minor renovation of golf buildings and tennis center court repairs, and replacement of the irrigation system at Sunnyvale GC (deferred). When the Golf and Tennis Enterprise Fund was established, the City Council determined that no future additional Park Dedication Fund funding would be used for the golf courses and tennis center beyond those items that were already in the budget. At this time. Park Dedication Fund support is scheduled to decrease substantially after FY 2023/24, with only minor improvements thereafter, until funding is completely discontinued in FY 2034/35. **NGF concludes that, given the aforementioned large-scale operating deficits - and with no retained earnings in the Golf Fund - the golf courses will continue to require an external source of funding for ongoing capital investment needs**.

NGF-Observed Trends with Respect to Enterprise Fund Accounting for Golf

Over the last two decades, NGF has observed some changing dynamics for municipal golf, especially as it relates to the public policy of taxpayer support for municipal golf assets that are supposed to be self-supporting through user fees and other operating income. Related issues of converting the accounting for golf from enterprise fund to special revenue fund or general fund, and writing off of accumulated golf fund deficits, have been particularly salient of late.

The primary reason these issues have come to the forefront is that it has become increasingly difficult for the majority of municipal golf courses - in the face of factors such as stagnant golf participation and increasing expenses - to cover all operating and non-operating expenses, as well as debt/capital related

costs, through user fees. An additional constraint to profitability –even for those systems that are set up as enterprise operations – is that some of the 'public accommodation' aspects of municipal golf courses (e.g., resident and/or senior discounts, 'below-market' fees, complimentary rounds for schools, etc.) are generally at odds with maximizing financial return.

Increasingly, NGF has seen municipalities that place high value on their golf assets and view them as recreational amenities for their residents - but which face continual operating deficits and/or a large accumulated fund deficit – are making the public policy decision to "forgive" accumulated golf fund "loans" from the general fund. In many cases, policymakers concurrently change golf from enterprise fund accounting to general fund (or special revenue fund) accounting.

In comparing municipal recreational amenities and other programs/services offered, NGF has found that in the vast majority of cases, golf courses have much higher 'cost recovery' than other municipal recreational offerings, even when the golf courses are losing money each year on an operating basis. So, perhaps the more important public policy question regarding the economics of municipal golf is the opportunity cost of potential alternative land use, such as residential or commercial development, rather than taxpayer support, which is generally very small on a per-capita basis and does not take into account the overall economic and non-economic benefits that accrue to a community as a result of the presence of the golf courses.

Implications of Sunnyvale Transitioning Golf & Tennis Operations to General Fund

NGF's experience has shown that municipal auditors may advise that golf courses should ***not*** be accounted for as an Enterprise Fund if they continually operate (and are even budgeted) at a loss and require General Fund subsidy each fiscal year. While we cannot speak specifically to whether this is the case in Sunnyvale, for purposes of thoroughness we will provide a brief discussion of the potential implications of transitioning golf and tennis operations to general fund accounting.

Using Budget FY 2020/21 as an example, if the Sunnyvale golf courses and Tennis Center were to be switched to General Fund accounting, the golf courses' annual operating costs could be reduced by approximately $497,500 for Program and Citywide In-Lieu charges. Transitioning from Enterprise Fund to General Fund accounting would eliminate the In-Lieu and overhead charges as golf course operating expenses but would not have a net impact—either positive or negative—on the General Fund. In subsequent years, the In-Lieu and allocated overhead charges from the Golf Fund would not be factored into General Fund projected revenues, but the golf course budget would be reduced by a like amount.

SUNNYVALE GOLF OPERATIONS

While a comprehensive review of operations was not a key part of the NGF study, below we provide a high-level overview of the Sunnyvale Golf System, based on prior visits to the facilities, NGF interviews and virtual meetings with golf course and City staff, and review of project materials supplied by the City. The section begins with a discussion of the management and accounting structure of Sunnyvale Golf, followed by general description of the two City golf facilities, a summary review of operations. and an analysis of recent operating performance for the Golf and Tennis Fund.

Operating / Management Structure

The Parks, Golf and Street Trees Division oversees Golf Course and Tennis Center operations. The golf courses are fully self-operated with City employees, with the exception of the food & beverage concessionaire. (The City's Tennis Center is a 16-court facility with a pro-shop, locker rooms, and cafe is operated under a private license agreement; it is not a focus of this study).

NGF Consulting has noted a decided trend over the last 10 to 15 years away from full municipal self-operation, with cities, counties, etc. turning to a variety of partial or full privatization structures, such as concession arrangements, operating leases, or fee-for-service management agreements. The City of Sunnyvale has indicated to NGF that outsourcing or privatizing operations for its municipal golf courses is not a consideration at this time, and that the City prefers to keep services "in-house". *For illustration purposes, following is a high-level summary of the most common municipal golf operating structures*.

In our experience, there is no ideal operating scenario that fits all situations, and each public agency must arrive at its own unique approach to operation and maintenance. The most common management options are shown below (these are not intended to be exhaustive, as there are hybrids and variations thereof), presented in order from most direct City involvement to the least direct City involvement:

1. **Self-Operation.** This essentially represents the status quo for the City of Sunnyvale, with all aspects of golf operations and maintenance done with City employees, with the exception of the food & beverage concession at Sunken Gardens and the Tennis concession. The key challenge in this structure is related to labor, both in the expense of staff and benefits and in finding and retaining qualified personnel, especially in today's tight labor market. The key advantage to this structure is direct control of the operation for maximum benefit to the local community, while the disadvantage is mostly economic, as the City must absorb the potential risks, such as uneven revenue performance and rising operating expenses.

2. **Full-Service Management Contract.** This option involves the City contracting with a single, independent third-party to manage all aspects of the golf facilities in exchange for a pre-determined fixed management fee (typically equivalent to about 4-6% of total gross revenue). Increasingly, fee-for-service management agreements comprise a lower fixed fee plus an additional incentive (usually gross or net revenue-based) that allows the operator and municipality to share in the risk of the operation. The City earns all revenues, is responsible for all expenses (salaries, maintenance, liabilities, capital) and pays a management fee to an operator, with key performance standards spelled out in the contract. Some advantages to this strategy are lower labor expense (especially with respect to benefits) under a private structure, and the benefit of professional management, including access to national purchasing and marketing programs. The potential disadvantages are some loss of control and the obligation of the fixed fee for service, regardless of variations in performance.

3. **Operating Lease.** Some municipalities lease their golf course(s) to a private operator in exchange for an annual (or monthly / quarterly) lease payment. Operating leases usually stipulate requirements such as minimum capital investment and maintenance standards, and/or restrictions on green fees. The advantage of this option is a total privatization of the golf operation and the shifting of economic risk away from the public agency and onto the

private operator. (This is not a realistic option for many municipalities that have money-losing golf operations as their will generally be no reputable interested companies responding to lease RFPs). The key disadvantage is loss of control on the operation, including policies, procedures, fee-setting, etc. This structure is quite common in California, especially southern California, where examples include the city of Long Beach and County of Los Angeles golf systems. In the greater Bay Area, examples include the City of Alameda (Corica Park GC) and City of San Jose (San Jose Muni). ***IRS regulations may preclude this operating model if tax-exempt debt was issued to acquire the golf course and/or construct the improvements.***

4. **Concession Agreements**: These are similar to lease agreements and can come in several types or combinations. Concessions may allow the City to shift some risk and payroll to a private entity. The key areas of operation include Pro Shop, Food and Beverage, and/or Maintenance, and involve the City contracting for one, some, or all of these services. One subset of this concept includes multiple concessions, a system in which the City creates separate contract agreements for each facet of the operation. The most common concession agreements for municipal golf include:

    a) **Contract for Pro Shop and Food / Beverage Services** involves direct City control of golf course maintenance while contracting merchandise and/or F&B operations (usually separate vendors).

    b) **Multiple Concessions** involves creating multiple agreements for separate entities to cover each facet of the golf operation (pro shop, F&B, maintenance), with contracts usually managed by a senior municipal employee. This structure, which can result in misaligned interests, is not common.

Even if the City were inclined to "contract out" the management of the golf courses, we do not believe the "privatization" alternatives available for the golf courses offer the likelihood of significantly reducing operating deficits for the Golf Fund. The City could attempt to **lease** Sunnyvale and Sunken Gardens golf courses (assuming there is no tax-exempt debt tied to the properties), theoretically relieving the City of financial risk with the golf course operations. However, NGF's experience tells us that, given the condition and economics of the golf facilities, they probably wouldn't draw any legitimate, financially stable suitors, especially if significant contribution toward capital improvements was required. And, if significant capital investment was not required, there would be risk that a lessee would come in, attempt to squeeze short-term profit out of the facilities, and then vacate the lease and leave further deteriorated assets with the City.

Entering into a **fee-for-service Management Agreement** may result in significant savings on labor/benefits costs, and provide other benefits (e.g., marketing strategies, purchasing programs, customer service training) that come from having one of the established national operators run the golf courses. In our experience, the change in net financial position resulting from the change from self-operation to management contract will be positive even after cost of the annual management fee, which generally will fall within the effective range of 4% to 6% of total gross revenue (for Sunnyvale, this would be approximately $140,000 to $200,000 based on recent historical revenues). However, we do not believe this change would prevent continued large-scale operating deficits and subsidies of the Golf Fund.

Facilities Overview

The City operates two golf courses, 18-hole regulation length Sunnyvale Golf Course and 9-hole executive length Sunken Gardens Golf Course. Sunnyvale GC is located about 4.5 miles north-northwest of Sunken Gardens via Central Expressway. Together, the golf courses comprise 175 acres of land. Later in the report, we provide some more detail on the history of each course, along with an analysis of current conditions.

Sunnyvale Golf Course

The Sunnyvale Golf Course, an 18-hole course built in 1968, is located at 605 Macara Avenue in Sunnyvale. Bordered on north by the 101 Freeway, and is bisected southwest to northeast by the 237 Freeway. Surrounding land uses are largely commercial, with some residential south of Macara. The golf course totals about 127 acres, 35.4 acres of which are owned by NASA and leased to Google/Planetary Ventures, which in turn leases the property to the City. Aside from the golf course, the facility includes:

- Clubhouse – the two-story clubhouse with a footprint of ~ 16,000 sf is original, with some upgrades over the years. It has a fully stocked Pro-Shop and a full-service bar/restaurant (now closed).
- "Snack Shack" near holes #3, #8, and #13 (now closed)
- Cart Barn
- Maintenance Yard

Sunken Gardens Golf Course

The Sunken Gardens Golf Course, a 9-hole, 1502-yard executive course with a driving range, is located at 1010 South Wolfe Road, just east and north of SR 82, E. El Camino Real. Immediate surrounding land uses are largely residential. Sunken Gardens is a friendly course for beginners, juniors, shorter hitters, and seniors; Footgolf is also accommodated. In addition to the golf course, the facility includes:

- An ~ 3,000 square foot clubhouse
- Practice Facilities: 27-bay lighted driving range (18 for public use and 9 for private lessons); dedicated lesson area; large practice putting green
- Driving range building
- Maintenance building

Summary Operations Review

Green Fees / Market Position

Golf playing fees are set annually in accordance with a "documented methodology that depicts a relationship to cost recovery, market forces, and adjustments based on such factors as perceived benefit to the community, resident status, and promotional and marketing considerations". Proposed fees must be included in the City's Annual Fee Schedule and adopted by Council resolution. Special pricing such as promotions must be approved by the Superintendent of Parks, and the only form of discounting off of published rack rates is through EZLinks and Golfnow trade times.

Green fees at both City golf courses have undergone little change in recent years, at least partly due to condition issues related to deferred maintenance and capital. Golf course playing fees are shown in the tables in Appendix A, with summary NGF observations below. (We will discuss playing fees in context of the competitive market later in the report).

Sunnyvale GC: Sunnyvale GC is positioned as low-to-mid-market public golf course, with non-discounted walking green fees of $37 weekdays / $49 weekends for residents (Sunnyvale and Santa Clara), and $41 / $55 for non-residents. Cart rental is an additional $16 per rider (shared cart). The facility also offers twilight and Super twilight rates (1 pm and 4 pm, respectively, in longer months), as well as other discount categories such as Junior and Back 9. Discounted fees are also available via Golfnow and EZLinks (barter times). While the golf course has a good location, is proximate to a high density of golfers, and benefitted from the recent closure of key competitor Santa Clara Golf & Tennis, we believe that the ability to command higher green fees is constrained by several factors, including the lack of driving range and food & beverage service, and golf course conditions that

reflect old infrastructure and deferred maintenance due to staffing and budget considerations. As a result of these dynamics, Sunnyvale GC is essentially forced to compete on value.

Sunken Gardens GC: Sunken Gardens GC, as would be expected of the majority of municipal 9-hole "short" courses, features very low fees, with resident 9-hole walking green fees of $18 weekdays / $21 weekends, and $20 / $24 for non-residents. Cart rental is an additional $12 per rider. The facility also offers Junior and Replay. Sunken Gardens GC has a generally price-sensitive customer base, including a lot of junior and senior play.

Monthly Play Cards: Sunnyvale Golf offers two types of monthly play cards (analysis of revenue per round vs. daily fee play provided later in this section):

- GDC (Golf Discount Card) - allows unlimited play, Monday - Friday, for 1 calendar month. Card is sold to seniors (60+), juniors (17 & under), & disabled. The Sunnyvale Card costs $175 and allows play at both courses, while Sunken Gardens Card is $110.
- SAC (Sunnyvale Advantage Card) - allows unlimited play, Monday - Friday, for 1 calendar month. Card is sold to Sunnyvale or Santa Clara Residents aged 18 to 59. The Sunnyvale Card costs $200 and allows play at both courses, while Sunken Gardens Card is $125. The Non-Resident Card allows play at both courses for $235 per month.

Player Development & Programming

Both private and semi-private lessons are offered at Sunken Gardens GC, by two PGA Class A professionals – the staff golf professional and Director of Instruction, as well as an LPGA Class B member. In addition, group lessons are offered, including Junior age 5-16 (Level 1 Beginner) over the course of five winter weekends, as well as several levels of Adult 5-week programs, including Level 1 Beginner, Level 1 Ladies Only, and Level 2 Intermediate. The City also offers Junior Camps and golf classes, and hosts children from Sunnyvale schools, which pay an approved fee for each season.

Building up the instruction program activity and revenues has been a pointe of emphasis, as evidenced by the 61% increase in revenue between FY17 and FY18. Revenues, at $53,000+ for FY19, have essentially tripled since FY15.

Marketing Plan & Current Activities

Following is NGF's summary of key components of a draft 2020/21 marketing plan for Sunnyvale Golf provided to NGF by the Golf Operations Manager.

- **Overall Vision**:
  - "Sunnyvale Golf Course is a par-70 regulation 18-hole course with numerous bunkers, dog legs and water holes. Sunnyvale is a well-manicured test of the player's skill stretching out to 6,255 yards".
  - "Sunken Gardens Golf Course is a 9-hole, 1,502-yard executive course. Sunken Gardens is ideal for the beginner golfer with ample practice facilities and shorter length holes. Residents of Sunnyvale are making it their course of choice because Sunnyvale courses will provide golfers with a warm and friendly golf experience unmatched in the Silicon Valley public course market".
- **Brand Positioning Statement** (will serve as an internal guidepost for Sunnyvale brand):
  - "To golfers in the Heart of Silicon Valley, Sunnyvale/Sunken Garden Golf Courses are the public golf course that offers an exceptional experience because of its location, well-manicured course conditions and design, friendly staff and accommodating program offerings".

- **SWOT Analysis**:
  - **Strengths** – included location in heart of Silicon Valley; accessibility; price/value relationship; walkability of the course, and friendly staff.
  - **Weaknesses** – staffing levels; lack of practice facility at Sunnyvale GC; buildings/fixtures at both courses need to be updated; aesthetics of both courses need updating
  - **Opportunities** - email marketing; cross-marketing between Sunnyvale and Sunken Gardens to promote daily play and tournaments; create partnerships with local hotels and large businesses (including Big Tech) to promote community involvement and cross marketing with both courses; open a teaching/fitting bay inside of Sunnyvale GC pro shop; take advantage of Santa Clara Golf Course closure.
  - **Threats** – these *focused mainly on uncontrollable, external factors* such as weather patterns; state of the local economy; increasing costs for fuel and equipment; high cost of living; less disposable time and money for golf consumers; and, the land lease for the Moffett Field land.
- **Plan Components and Strategies**:
  - **Website** – The marketing plan proposed an update of the sunnyvalegolfcourse.com website in 2020. The current website, part of the City's agreement with EZLinks, contains most of the essentials we recommend for public golf course sites, including tee time booking portal, rate information, E-Club signup, information about instruction, etc.
  - **Email marketing** – Management reported to NGF that the Sunnyvale golf courses have access to 11,000+ email addresses through EZLinks. However, management's goal for 2020 was to greatly increase the golf courses' proprietary email database to 5,000+, utilizing tactics such as creating an Email Club on the website, capturing addresses during reservations, capturing Golfnow addresses, and manning Expo booths at the Santa Clara Golf Show and Sunnyvale Business Expo. The bolstered database would help management take advantage of Golfnow web marketing services and allow targeted email campaigns, including to those customers who had not played at the Sunnyvale courses in the prior 6 months.
  - **Social Media** – Golf course management cites time constraints to NGF as the primary reason that the golf courses aren't more active on social media platforms. They do report posting regularly on Facebook (~400 likes/followers), and planned to reactivate a dormant Twitter account and update the Sunnyvale Golf listing on Yelp.
  - **Advertising** - including creation of a Rack Card to be distributed at Santa Clara Chamber/CVB Visitors Center, Bay Area Golf Show, hotel lobbies, etc. Newspaper - Trade options explored for newspaper inserts for an annual membership for the Sunnyvale Sun.
  - **Public Relations** – Stated goal for 2020 was to get Sunnyvale Golf Courses back to being "Top of Mind" and "Best Value Golf Courses in the Heart of Silicon Valley". Planned tactics included Sunnyvale GC hosting a NCGA Associate Club day in late Spring 2020 (canceled) to showcase course condition improvements, continued membership and active participation in the Santa Clara Chamber of Commerce, Santa Clara CVB, and Sunnyvale COC.

Clubhouse Operations

Sunnyvale Golf Course features a 2-story clubhouse building; the 1st floor comprises a large pro shop, old locker rooms, offices and restrooms; the 2nd floor features the (now closed) restaurant/bar, banquet area, commercial kitchen. **Sunken Gardens** has a much smaller clubhouse building that comprises the Old Greenwood BBQ restaurant, small pro shop/retail area, restrooms and office. Following is NGF's summary of clubhouse operations at the two facilities.

Pro Shop / Merchandising – Selling merchandise has not been a big focus for the Sunnyvale golf courses. At **Sunnyvale GC**, only about 20% to 25% of the ~6,500 square feet of pro shop space is utilized

for retail displays. **Sunken Gardens** has only a small space for apparel and impulse items. Over the last couple of fiscal years, total sales for both golf courses have averaged about $1.25 per round, mostly comprising "impulse" items such as balls, gloves, tees, etc.

NGF notes that it is not uncommon for golf course retail sales to be relatively limited, due to several factors, including the strong rotation to online, big box retail, and specialty golf retail channels. Being successful at the golf course level – especially with "hard goods" such as clubs, balls and bags - takes a strong commitment, a "personal touch", and employees with strong incentive to grow the business. Having a driving range and technology such as launch monitors also contributes to success in today's "green grass" retail environment, as an increasingly large percentage of clubs are custom-fit.

The 2020-21 Marketing Plan did outline strategies for increasing merchandise sales, including manufacturer Demo Days for clubs, balls, and shoes; bringing in demo clubs for golfer trial; periodic specials across merchandise segments; and, reaching out to local companies to market customized products for them. Additionally, actions planned for increasing merchandise sales to outings and tournaments include a program promoting logoed merchandise for events; up-selling each event on their merchandise credit to try to increase the prize fund spend.

Food & Beverage Service: F&B service at the Sunnyvale golf courses has had a very choppy history over the last decade, as evidenced by the following summary of events:

- Beginning in FY 2011/12, the operator of Sunnyvale and Sunken Gardens restaurants began missing monthly rent payments of $5,565. In August 2012 the City terminated the agreement and both restaurants closed.
- In June 2013, a new operator opened both restaurants; in May 2014, the operator stopped making monthly rent payments of $8,160 and the City closed the restaurants in December 2014.
- A new concession operator opened Barrel 19 at Sunnyvale GC in May 2017 (the restaurant had been vacant for 2 years, 5 months). When the operator could not make a profit, the concession agreement was changed from lease to fee-for service management for FY 2019, but the contract was terminated. The City self-operated the restaurant, reportedly at a large monthly loss of about $25,000, but closed it in April 2020.
- There has been no food service since at **Sunnyvale GC**, while the Gold Rush Eatery (now rebranded) reopened at **Sunken Gardens GC** in April 2016 after it was vacant for 1 year 4 months (more below).

The City is not seeking a new private operator for food & beverage at **Sunnyvale GC**, and the long-term financial plan assumes minimal service. The golf course offers no F&B service as of this writing, including no on-course beverage cart service; the 'Snack Shack' near holes #3, #8, and #13 was open on weekends under KemperSports management but was closed due to lack of profitability and hasn't been open since. NGF's discussions with management indicated that plans are to add some tables in the pro shop area and have grab-n-go items such as snacks available, supplemented by vending machines. Coolers will be allowed on the course, and the City does not currently plan to hold an alcohol license (cost $6,000).

Sunken Gardens GC features a small pro shop with minimal inventory – comprising primarily tees, balls, gloves, along with a handful of golf bags. The Old Greenwood BBQ at the Gold Rush Saloon, which seats about 40 people indoors and another 40 or so on the outdoor patio. The eatery is leased to a private operator, who uses the kitchen to prepare food for the food truck he parks at SG as part of the lease agreement. Old Greenwood receives favorable online reviews and was rated well by the respondents to the golfer survey. The eatery hosts a fairly strong non-golf lunch business.

While F&B service is often not a profit center at public golf courses (or at private clubs), it is a service that is expected level by golfers on at least some minimum. In a competitive public golf market like the South Bay, having adequate service can be the difference for some golfers in choosing a place to play, or at least in choosing their preferred golf course at which they play the most rounds. In the golfer survey

administered as part of this study (detailed findings later in the report), food & beverage service at Sunnyvale GC was among the most mentioned aspects of the facility that needed improvement. In response to a custom question about F&B service at Sunnyvale GC, only 1 in 5 respondents chose "Full food & beverage service at the golf course is not important to me as long as I can grab a snack and a beverage there". While the full-service restaurant venue has not been a success at Sunnyvale GC in the past, NGF will make some recommendations later in the report on what might work for F&B service that should meet the needs of most golfers while not being overly expensive for the City to offer.

Customer Service

NGF is unaware of formal customer service programs at either of the Sunnyvale golf courses, though the marketing plan did make note of conducting post-round surveys and plans to utilize NGF's GolfSAT online golfer survey program. (Please see separate section on golfer survey implemented for this study.)

Staffing

Several maintenance positions are effectively shared with Sunken Gardens. In total, there were thirteen (13) full-time equivalent (FTE) positions for the two golf courses in FY19, down from 24 the previous three years and 25 for FY13 through FY15.

- On the Operations side, there are three full-time, benefited positions – the Golf Operations Manager, Golf Professional (Sunken Gardens), and Assistant Golf Professional (Sunnyvale).
- Part-time, benefited operations staff comprises three (3) Golf Service Assistants (GSA) at Sunnyvale, two (2) GSAs at Sunken Gardens, and one Staff Office Assistant that is shared.
- Golf course Maintenance staff for both golf courses totals nine (9) full-time workers and one (1) part-time Mechanic who is shared with the City Facilities Department. Full-time staff breaks down as follows:
    - One (1) Senior Greenskeeper at Sunnyvale GC (helps out as needed at Sunken Gardens GC)
    - One (1) Senior Park Utility Worker plus five (5) Utility Workers at Sunnyvale GC
    - One (1) Greenskeeper at Sunken Gardens
    - One (1) Senior Park Utility Worker plus one (1) Utility Worker at Sunken Gardens GC
    - One (1) Equipment Mechanic for both courses (also works for City Fleet Department)
- Part-time "Casual Staff" totals 20; most work 2 or 3 days per week on average. (Parameters include fewer than 900 hours per year and 25 hours or less weekly).

Benchmark "standards" for maintenance staffing can be increasingly difficult to cite due to shifting trends towards more part-time and seasonal. In the Bay Area, with a full-year golf climate and often unionized workforces for municipal golf courses, full-time staffing is more often reduced through natural attrition. In the case of a golf course such as Sunnyvale GC, NGF would expect that maintenance staffing would be in the range of ±10 full-time equivalent (FTE) positions. Sunnyvale has only about 7.5 FTEs, including the Senior Greenskeeper who has some responsibilities at Sunken Gardens, and shared Mechanic. Compounding the relatively short staff is that personnel is costly - all full-time, unionized maintenance employees have reportedly been in their positions for 18+ years.

On the operations side, given that Sunken Gardens is a relatively simple operation with a private food & beverage concession, and that Sunnyvale GC has no food & beverage service and no driving range, staffing levels appear to be *adequate, though perhaps not sufficient to enact many of the aspirational marketing initiatives from the marketing plan.*

Recent Operating Results Summary

Below we summarize the operating performance of the Sunnyvale Golf System over the last several years through FY 2018/19. (**Source**: official audited City CAFRs and Budgets, along with supplemental spreadsheets sent by City and golf course staff. We note that expenses for the two golf courses are combined together (not segregated by the City).

Rounds Played

- For the 10-year period of FY2010 through FY2019, peak activity for the City's two golf facilities was achieved in 2012, when 136,121 total rounds were played. Since that year, rounds have been on a steady decline, falling by 28.1% to less than 98,000 rounds in FY19. Rounds have decreased by just under 20% in just the last five years.
    - **Sunken Gardens** accounted for an average of about 44% of total system rounds played between FY10 and FY16; that average fell to about 40% for the FY17 to FY 19 period.
- Looking at **systemwide** FY19 rounds played more closely, we note the following observations regarding rounds by category:
    - **Monthly play cards** accounted for just under 20,000 total rounds, or just over 20%, which was down slightly from FY18. (Play cards account for a modestly higher percentage of rounds at Sunken Gardens than at Sunnyvale GC).
    - There is a significant component of **complimentary rounds** (includes Golfnow and EZLinks trade rounds, donation rounds, employees and PGA rate), which totaled about 7,500, or 7.7% of total rounds, up from 6.9% in FY18.
    - Outings/tournaments accounted for fewer than 300 rounds.
    - Management reports that about 10% of paid daily fee rounds are discounted through the Golfnow platform, and that the goal is to move a lot of these bookings to the Sunnyvale GC website.
- For **Sunken Gardens**, total rounds played averaged about 60,500 from FY11 to FY13, before declining to a three-year average of about 51,500 for the subsequent three-year period, and 41,800 in the FY17 through FY19 period. Overall, rounds played at Sunken Gardens GC fell by 34.5% between FY13 and FY19, when 39,523 rounds were played (includes 224 Footgolf rounds).
- For **Sunnyvale GC**, total rounds played averaged 72,344 from FY11 to FY15, before decreasing to a four-year average of 62,304 for the subsequent period - bottoming out at just 58,352 rounds in FY19 (decrease of 12.1% in FY19 alone).

Operating Revenues

NGF pulled Sunnyvale Golf operating results from City CAFRs and Adopted Budgets for the period of FY15 through FY19. Largely because of variations in availability – and structure - of food & beverage service at Sunnyvale GC, making apples to apples comparisons of results over various years is impractical. For context, we note that City documents provided to NGF indicate that total revenues for Sunnyvale Golf were as high as $4.5 million in 2003, with annual profits reportedly as high as ±$2 million. The system was reportedly profitable through 2010 (enterprise fund was created in 2011).

With that framework in mind, here are NGF observations regarding golf system revenues (**excluding transfers**) over the subject period:

- The main sources of revenue for the Sunnyvale golf system are daily green & cart fees, monthly play card sales, driving range sales (Sunken Gardens only), merchandise sales, lessons, and concession payments (Sunken Gardens only).

- Four-year average **total system operating revenue** through FY18 (FY19 excluded because F&B revenues at Sunnyvale were gross that year, rather than net lease payments or no service at all in prior years) was $3.3 million. FY19 revenue rose to just under $3.6 million, due to nearly ten-fold increase in rents and concession revenue.
- For FY18, **golf playing fee revenues** (green & cart fees, monthly cards) accounted for 80% of total operating revenues for the system, while **driving range sales** accounted for 7% and **merchandise sales** 3.7%. Total **golf playing fees** declined by 16% from FY 15 to FY 19 (we will look at on a per-round basis later in this section).
- As noted, revenues related to **food & beverage service** have been highly variable due to the sporadic availability – and changing nature – of service at Sunnyvale GC. In FY15 and FY16, when service was confined to the concession at Sunken Gardens, rent revenues averaged about $6,500. For FY17 and FY18, when Barrel 19 was open at Sunnyvale GC, average concession rent was $63,000. In FY19, when the lease of Barrel 19 became a fee-for-service management agreement and then City self-operation, *gross* revenues rose to $431,000. The City reported losing about $256,000 on the F&B operation in FY19, and $354,000 in FY20.
- The **Tennis Concession** produced an average of about $124,000 in rent payments between FY15 and FY18, rising to $140,000 in FY19.
- '**Other'** revenue, including parking lease and tower lease revenue, totaled ±$75,000 in FY18 and FY19; this total represented about 2% of total revenue in FY18 (FY19 percentage was lower due to much higher gross food & beverage revenue included in total revenue).

Revenues per Round

In addition to reviewing total revenues, NGF looked at per-round trends for Sunnyvale Golf, and did a comparative analysis of daily green fee revenue per round vs. monthly play card revenues per round. Summary findings follow.

- **Total operating revenue per round**, including the tennis concession, fell within a tight range and averaged $29.24 from FY15 through FY18, rising to $30.67 in FY18 and $36.64 in FY19 (included ***gross*** F&B revenue that year).
- *Excluding* food & beverage revenue, **total revenue per round** averaged just under $29 from FY15 through FY18, increasing about 4% to $30.24 in FY18.
- **Total golf fee (green / cart / monthly play cards) revenue per round** fell within a tight range and averaged just under $24 from FY15 through FY18, increasing by 3% to $24.68 in FY18 and another 2% to $25.13 in FY19.
- Other revenue centers:
    - **Driving range** (Sunken Gardens only) revenue per round has been on a significant upswing of late, averaging $4.23 between FY15 and FY18, before increasing by 23% to $5.39 in FY18, and by another 36% to 7.30.
    - **Merchandise sales** – As has become the case with many "green-grass" golf retail operations, merchandise sales are not a primary focus of the Sunnyvale Golf operations. On a per-round basis, merchandise sales have fallen in the range of $1.14 to $1.43 over the 5-year period, with a 25% year-over-year increase shown in FY19.
    - **Golf lessons –** Lesson revenues have been increasing aggressively since FY15, when only $0.15 per system round was realized; the number has subsequently grown by 262%, to $0.55 in FY19. When factoring only Sunken Gardens rounds (lessons are not offered at Sunnyvale GC), the 5-year growth was 285%, to $1.36 per round in FY19.

Daily Fee vs. Monthly Card Revenue per Round

Monthly and annual cards/passes are popular at many municipal golf courses. While they can produce a reliable and predictable source of revenue, they also tend to produce rounds of golf that are highly discounted off of regular daily fee rates. NGF did a revenue analysis of daily green fees vs. Monthly Play Cards (Cart fees are not included in this analysis). Supporting tables can be found in Appendix B.

Summary findings:

- **At Sunnyvale GC**, paid daily fee rounds accounted for a little over 73% of the 58,000+ rounds played in FY19, while monthly play cards accounted for 18.5%, and complimentary rounds 8.2%.
- Average green fee revenue per daily fee round at **Sunnyvale GC** was $32.61. A total of 915 monthly play cards were sold, generating just under $157,000 in revenue and 10,786 rounds of play (11.8 average per card), or $14.55 per round. This equates to an *effective discount of 55.4% off of the average daily fee round.*
- **At Sunken Gardens GC**, paid daily fee rounds accounted for 70.8% of the 39,000+ rounds played in FY19, while monthly play cards accounted for 22.4%, and complimentary rounds 6.8%.
- Average green fee revenue per daily fee round at **Sunken Gardens** was $16.90. A total of 638 monthly play cards were sold (91% of which were the Senior GDC, Sunken Gardens Only Card), generating $64,665 in revenue and 8,869 rounds of play (13.9 average per card), or $7.29 per round. This equates to an *effective discount of 56.9% off of the average daily fee round.*

NGF does not take a negative view of these deep discounts that are realized through various forms of prepaid, unlimited green fees in the municipal golf industry (these programs are particularly valuable to fixed-income seniors and other avid golfers that have limited discretionary funds). However, we believe that stakeholders should recognize that these types of programs are more aligned with municipal golf that is considered a public recreation amenity, rather than as a self-sustaining enterprise, as offering them at such deep effective discounts would not be considered a best business practice in the private sector.

Operating Expenses

Golf courses are high fixed-cost businesses. In California, this is exacerbated by the high cost of labor and, usually, irrigation water, which is certainly the case for Sunnyvale. When City direct and indirect charges are added on to the true cost to operate the golf course, it becomes even more difficult to cover all costs through user fees. Compounding this situation in the case of Sunnyvale Golf is that the golf facilities are positioned as 'value' golf courses and cater to a generally price-sensitive clientele, meaning that fee increases cannot be expected to keep up with rising expenses (i.e., 'elastic' demand).

As we noted earlier in the context of revenues, yearly variations in the availability of food & beverage service at Sunnyvale GC have contributed to year-to-year variability in operating expenses. Also, expenses provided to NGF by the City were for **system totals**, so no breakdown between Sunnyvale GC and Sunken Gardens GC is provided below. NGF's key observations regarding operating expenses for Sunnyvale Golf for the period provided:

- **Total operating expenses** (excluding depreciation), including ±$100,000 annual cost of goods sold, increased from $3.64 million in FY15 to $4.35 million in FY18, or by 19.4%.
- The **cost of producing a round** of golf for the Sunnyvale Golf system rose from $29.86 in FY15 to $39.61 in FY18, or by just under 33%. (The cost increased to $51.13 in FY19 with the extra food & beverage related expenses).
- Annual City plus Program **In-Lieu charges** increased by 19% over this time period, totaling more than $466,000 in FY18. In combination with Department-wide Allocations, City General Fund charges to the Golf Fund are more than $600,000 annually, or about 15% of total operating expenses.

- The cost to **irrigate** the City golf courses has increased aggressively in recent years, more than doubling from about $272,000 in FY 15 to more than $568,000 in FY18. Together, City general fund charges and irrigation water cost add up to nearly $1.2 million annually, equivalent to about 28% of total operating expenses in FY18. For context, the Net Operating Loss in FY18 was $982,000.
- **Food & beverage operations** have been a large cost center at Sunnyvale GC in recent years as the City took back management of the operation from the former private operator. Expenses totaled about $603,000 in FY19 and $660,000 in FY20, resulting in net losses of about ($256,000) and ($354,000) in those two years, respectively.
- **Total Labor Expense** increased from $2.04 million in FY15 to $2.3 million in FY18, or 13%. As a percentage of total expenses, labor actually decreased from about 56% to 53%, though this is misleading due to the run-up in other expenses, such as irrigation and In-Lieu charges. NGF has observed that, in California, state and local minimum/living wage laws have made it more difficult for golf courses to remain profitable.
- **Tennis Center operations**, though a private concession, have significant expenses for the City. From FY15 through FY18, annual expenses averaged just under $72,000, before jumping to more than $106,000 in FY19 (tennis concession revenue was $140,000).
- The City also makes an **annual rent payment** of ~$60,000 for lease of part of the Sunnyvale Golf Course land that is owned under leasehold by Google (dba Planetary Ventures).

NGF GOLFER SURVEY RESULTS

As part of the study process, NGF implemented a golfer survey at both Sunnyvale and Sunken Gardens Golf Courses to gauge customer opinions and overall satisfaction with the facilities. The NGF survey is used by hundreds of courses across the country, allowing us to compare results from Sunnyvale and Sunken Gardens with other courses nationwide. It is important to note that survey responses are from current customers, whose ratings will generally be more favorable than former course patrons.

NGF's web-based Golfer Survey Program was fielded by in July/August 2020, with distribution by the Golf Operations Manager through an email campaign to the Sunnyvale/Sunken Gardens customer database. A total of 399 completed surveys were submitted for Sunnyvale Golf Course, comfortably above the 200+/- threshold NGF seeks in order to make meaningful inferences. For Sunken Gardens Golf Course, 187 surveys were submitted, which we believe is sufficient to gauge customers opinions. Summary results and findings are presented below.

Sunnyvale Golf Course

Satisfaction Scores

Sunnyvale Golf Course - 2020 Customer Survey - Satisfaction Factors			
Total Responses	**399**		
Factors	**Average Score (Scale 1-10)**	**Standard Percentile[1]**	**National Percentile[1]**
Overall Value	7.5	27	29
Overall Course Conditions	7.1	17	14
Pace of Play	6.7	21	16
Friendliness/Helpfulness of Staff	8.5	59	47
Golf Course Design/Layout	7.5	6	5
Convenience of Course Location	8.7	82	78
Tee Time Availability	6.8	2	3
Condition of Greens	7.3	23	20
Scenery and Aesthetics of Course	6.8	3	3
Condition of Golf Cars	7.7	26	20
Amenities (clubhouse, pro shop, locker room)	5.8	4	4
Food and Beverage Service	4.3	-	0
On-course Services (restrooms, drinking water)	5.8	2	2
Overall Experience	7.6	16	13
Affordability	7.6	48	56
Condition of Tees	6.9	12	10
Condition of Bunkers	5.4	6	5
Condition of Fairways	7.1	13	10
Overall Quality of Golf Shop	6.8	15	10
Overall Quality of Golf Shop Apparel	6.3	4	3
Overall Quality of Golf Shop Merchandise	6.5	5	3

1. Measured on a scale of 0 to 100, this number represents the percent of golf facilities that received lower customer ratings on this measure than your facility. 'Standard' is for public golf courses with peak 18-hole riding fees of $40 to $70. 'National' is for all US public courses.

Key Survey Takeaways

In reviewing the results of the golfer survey completed August 2020, the NGF has noted several key takeaways to share with the City and Sunnyvale GC management:

1. Overall customer satisfaction at Sunnyvale Golf Course is well below average compared to other 'Standard' price point (green fees $40-$70) courses and to the national benchmark percentile for all participating public golf courses.
2. In terms of the absolute score (**scale of 1 to 10**), the highest satisfaction scores at Sunnyvale GC were recorded for items such as convenience of course location (8.7), friendliness/ helpfulness of staff (8.5), condition of golf cars (7.7), affordability and overall experience (each 7.6). However, relative to benchmarks, only convenience of course location (78th) and affordability (56th) rated above 50 in terms of national percentile for all public golf courses surveyed.
3. The lowest satisfaction scores were related to the food and beverage service (zero percentile of benchmark facilities), conditions of bunkers, on-course services (restrooms, drinking water) and facility amenities (clubhouse, pro shop, locker room). Other areas that were rated relatively low by surveyed players are the overall quality of the golf shop apparel and golf shop merchandise
4. The high level of deferred maintenance and capital improvements at Sunnyvale GC resulted in respondents rating course conditions low, with overall course conditions rating 7.1 (14th national percentile) and individual course components ranging from 5.4 for bunkers (5th national percentile) to 7.3 for greens (20th national percentile).
5. Sunnyvale GC golfers chose the following four local courses as "another course they play":
    - San Jose Municipal Golf Course (34%)
    - Santa Teresa Golf Club (26%)
    - Spring Valley Golf Course (24%)
    - Golf Club at Moffett Field (22%)
6. Among the sample of golfers who filled out this survey:
    - Over 86% are age 50+
    - 85% are male
    - 52% estimated they play at Sunnyvale GC between 1-7 rounds per year
    - 32% play 8-24 rounds per year
7. The respondent sample comprised golfers from the immediate local area, with over 36% of respondents from the 94087, 94086, 95070, 94040, 94024 and 95051 zip codes. (*See respondent origin map on following page*).

General Open-Ended Comments

1. In review of the general open-ended comments survey respondents made about **what they like most about Sunnyvale**, the NGF noted several key themes in common, including:
    - Convenience – close to home
    - Reasonably priced
    - Course layout (just the right amount of challenge and fun)
    - Friendly people and staff
    - Flat, very walkable
2. General open-ended comments survey respondents made about **what needed improvement at Sunnyvale GC** included:
    - More food and beverage amenities/open snack bar
    - Add a driving range
    - Increased time between tee times
    - Marshal to help with pace of play
    - More available early tee times
    - Course conditions

Custom Questions

1. When asked "how much additional green fee would you be willing to pay per round of golf to ensure the continued viability of municipal golf in Sunnyvale?" NUMBERING
    - 34% of respondents indicated they are willing to pay $2 to $3 more
    - 23% are willing to pay $4 to $5 more
    - 6% are willing to pay $6 to $7 more
    - 25% indicated they are *not* willing to pay more
    - 12% indicated they will pay whatever the fees are
2. When golfers were asked what programs, events and features they would be interested in participating in if they were available at Sunnyvale GC, the four most popular choices were: equipment demo days (27%), Technology (such as Trackman launch monitor/simulator, 20%), and individual lessons and club fitting services (14%). Golfers also suggested the following additional programs, events and features:
    - Driving range/hitting cage
    - Youth golf camps
    - Men's and Women's clubs
    - Golf tournaments/night golf
3. A question noted consideration of adding other features, amenities and/or programming to support the overall experience at Sunnyvale GC. These could include golf simulators, new food & beverage venues/service, interactive games, music, events and contests, etc. When surveyors were asked "how do you think the addition of some or all of these features would affect your envisioned frequency of visits to the golf facility?" 57% said their usage would not be affected, 39% said the addition of some or all of these amenities would lead them to utilizing Sunnyvale GC more frequently, and the remaining 4% said the addition of some or all of these amenities would lead them to utilize the golf course less frequently.
4. Survey respondents were asked to choose the phrase below that best describes their expectations or desires related to F&B service at the golf course? Below is a summary of the responses:
    - Small kiosk-style venue with pre-made grab-n-go items, hot dogs, beverages is enough for me. (95 responses – 26%)
    - Prefer a full-service bar/grill/restaurant. (60 responses – 16%)
    - Prefer a "19th hole" type venue for socializing after a round of golf. (136 responses – 37%)
    - Full food & beverage service at the golf course is not important to me as long as I can grab a snack and a beverage there. (74 responses – 20%)
5. In consideration of the COVID-19 pandemic, golfers were asked how they think the situation will affect how often they play golf in at least the near-term future, 63% don't anticipate that it will affect their frequency of play, while 21% think there are too many unknowns involved and don't think they can predict with any accuracy how it will affect their golf play frequency. 10% anticipate having more discretionary time than they did prior to the pandemic, so they will probably play more frequently.
6. Respondents were asked "what would you like to see at Sunnyvale GC that would increase your enjoyment and/ or frequency of use of the golf facility?" These responses mirrored answers given under the "what would you improve" section of the survey.

Sunnyvale GC – NGF Summary Conclusion

The robust survey response tells NGF Consulting that Sunnyvale GC customers are highly engaged in the golf course. Customers generally value the friendliness and helpfulness of golf course staff, the convenience of the location and the affordability of green fees. However, the facility received very poor ratings across many measures, especially when benchmarked against other public golf courses of similar type that NGF have surveyed over many years. The strongest negative ratings relate to food & beverage service (or, lack thereof), as well as the condition of the golf course overall and of individual course components, with greens, tees, bunkers, and fairways all being rated at 6 or below by respondents.

NGF believes that a key finding from the survey is that the long-term trend of declines in rounds and revenues at Sunnyvale GC may be due largely to playing conditions that – despite a yeomanlike effort from the current superintendent and crew – have deteriorated over time due to aging infrastructure, deferred maintenance / capital improvements, and overstretched maintenance budgets. Improving the golf course product seems essential to building market share and revenues, though this will likely not be sufficient to make the golf fund self-sustaining, given the size of the operating deficits and subsidies.

Aside from better course conditions, open-ended comments made about "what needed improvement at Sunnyvale GC" revealed several recurring themes, including adding food & beverage amenities, building a driving range, and improving pace of play. Answers to another custom question that sought to elicit the potential effect on frequency of play of adding new features, amenities and programs to support the overall experience at Sunnyvale GC revealed that about 4 in 10 would utilize the golf course more frequently with the addition of some or all of the listed amenities. The custom question specific to the type of food & beverage service respondents would prefer revealed that more than half would like to see a full-service bar/grill or "19th hole" type venue, while just under half indicated they would be fine with more of a minimalist operation serving pre-made items, hot dogs, beverages, snacks, etc.

Finally, another potential positive can be gleaned from the results of the survey's "custom questions". Despite what customers perceive to be a product in need of significant improvement, about 3 out of 4 responding golfers surveyed would be willing to pay some level of fee increase in order to help with the viability of the golf course. About one-third said they will pay $2 to $3 more per round, 23% would pay $4 to $5, another 6% would pay $6 to $7 more, and 12% would pay "whatever the fees are". In short, it looks like demand for golf will be relatively inelastic with nominal fee increases aimed at keeping up with rising expenses.

Sunken Gardens Golf Course

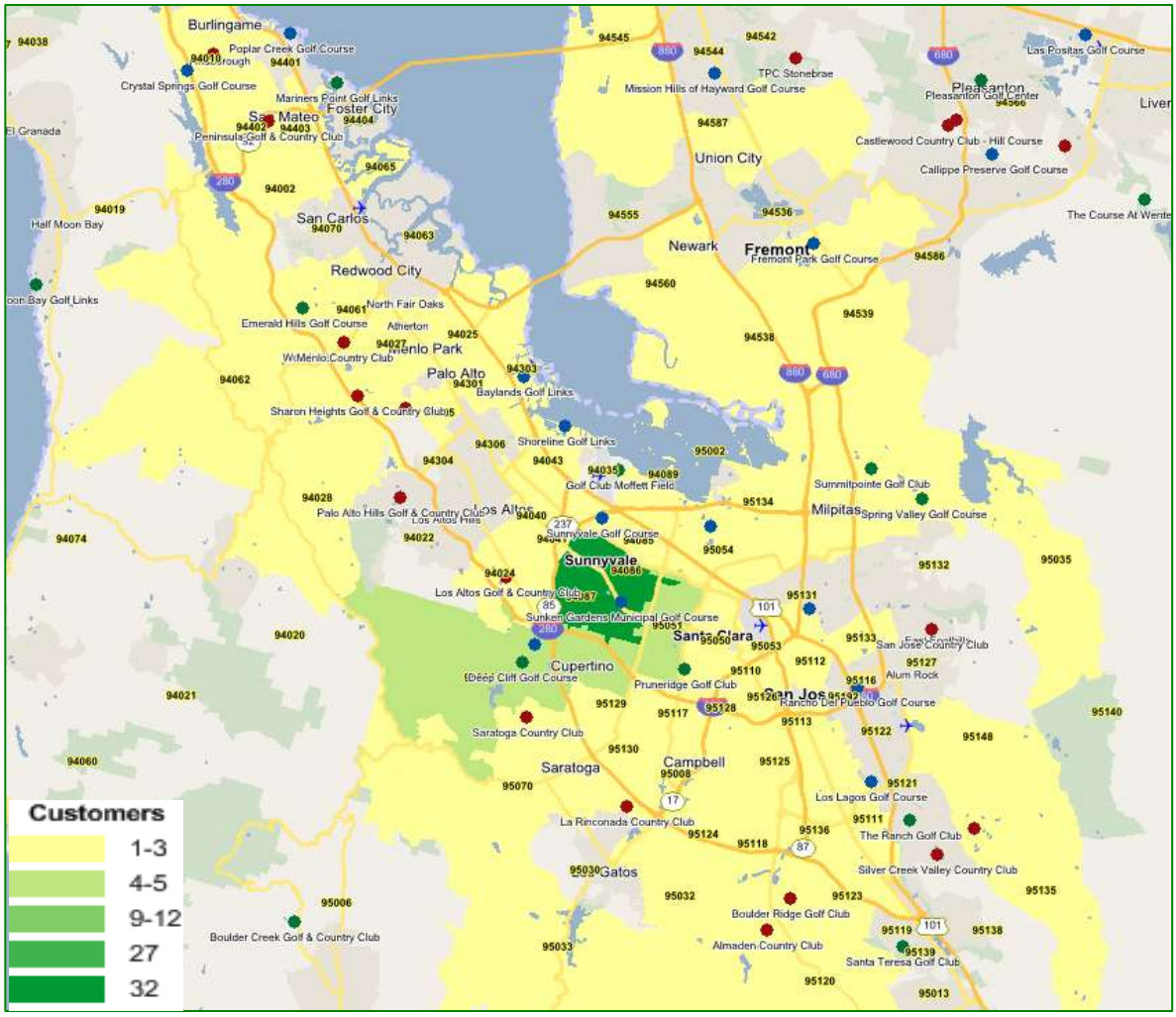
Satisfaction Scores

Sunken Gardens Golf Course - 2020 Customer Survey - Satisfaction Factors			
Total Responses	**187**		
Factors	**Average Score (Scale 1-10)**	**Value Percentile[1]**	**National Percentile[1]**
Overall Value	8.0	37	69
Overall Course Conditions	6.9	21	9
Pace of Play	6.9	22	25
Friendliness/Helpfulness of Staff	8.4	36	42
Golf Course Design/Layout	7.9	36	17
Convenience of Course Location	8.7	53	78
Tee Time Availability	8.3	46	71
Condition of Greens	6.1	8	3
Scenery and Aesthetics of Course	7.9	53	25
Condition of Golf Cars	7.1	8	4
Amenities (clubhouse, pro shop, locker room)	5.5	4	2
Food and Beverage Service	8.0	85	80
Overall Experience	7.8	32	21
Affordability	8.2	39	83
Condition of Tees	5.8	1	0
Condition of Bunkers	7.1	67	41
Condition of Fairways	7.3	30	15
Overall Quality of Practice Facility	6.9	36	24
Overall Quality of Golf Shop	5.6	-	1
Overall Quality of Golf Shop Merchandise	5.7	-	1
1. Measured on a scale of 0 to 100, this number represents the percent of golf facilities that received lower customer ratings on this measure than your facility			

Key Survey Takeaways

For Sunken Gardens GC, NGF notes the following key takeaways from the golfer survey completed in July / August 2020:

1. Overall customer satisfaction at Sunken Gardens is well below average compared to other 'value' price point (peak green fees <$40) courses and to the national benchmark percentile for all participating public golf courses.
2. In terms of the absolute score (**scale of 1 to 10**), the highest satisfaction scores at Sunken Gardens GC were recorded for items such as convenience of course location, friendliness/ helpfulness of staff, tee time availability, food & beverage service, affordability, and overall value. Relative to benchmarks, food & beverage service (80th percentile), convenience of course location (78th) and affordability (56th) rated above 50 in terms of national percentile.
3. Again, in terms of the absolute scores, the lowest satisfaction scores were related to the golf course amenities, condition of tees, and overall quality of the golf shop and its merchandise (well below benchmarks). Respondents rated these areas in the 5.5 to 5.8 range on the 10-point scale, which places the facility at the bottom of the pack for value-price participating facilities and also at the bottom for all participating public golf courses.
4. As with Sunnyvale GC, course conditions were rated poorly, with overall course conditions rating 6.9 (9th national percentile); individual course components also fared poorly, ranging from 5.8 for tees (0 percentile) to 7.3 for fairways (15th percentile), and the all-critical greens averaging a 6.1 rating (3rd percentile).
5. Similar to Sunnyvale, Sunken Garden respondents are largely local golfers, with over 43% of respondents from the 94087, 94086, 95051 and 95014 zip codes. (*See map following page*).
6. Sunken Gardens GC golfers named the following four local courses as "another course they play":
    - Deep Cliff Golf Course (38%)
    - Pruneridge Golf Club (26%)
    - Los Lagos Golf Course (20%)
    - Blackberry Farm Golf Course (16%)
7. Among the sample of golfers who filled out this survey:
    - 69% are age 50+
    - 72% are male
    - 45% of the customers estimated they play at Sunken Gardens GC between 1-7 rounds per year
    - 33% play between 8-24 rounds per year



General Open-Ended Comments

In review of the general open-ended comments survey respondents made about **what they like most about Sunken Gardens**, the NGF noted several key themes in common, including:

- Friendly staff
- Convenience – close to home
- Reasonably priced
- Course layout (easy to walk and a fun, quick 9)
- Pretty, quiet setting

General open-ended comments survey respondents made about what **needed improvement at Sunken Gardens GC** focused on course conditions:

- Improve golf course conditions, especially greens and tees
- More efficient check-in process (more staff)
- Less ground coverage under trees

Custom Question

When asked "How much additional green fee would you be willing to pay per round of golf to ensure the continued viability of municipal golf in Sunnyvale?"

- 44% of respondents indicated they are willing to pay $1 to $2 more
- 19% are willing to pay $3 to $4 more.
- About 1 in 5 indicated they are not willing to pay more
- 15% indicated they will pay whatever the fees are.

Summary

As NGF often observes with "alternative length" facilities, the level of survey response was muted for Sunken Gardens GC compared to Sunnyvale GC. Still, the response was enough to provide directional guidance on customer opinions and satisfaction. Sunken Gardens rated (scale of 1 to 10) generally well on course location, friendliness/helpfulness of staff (common theme in open-ended comments), tee time availability, food & beverage service, and affordability. Unfortunately, the facility received poor to very poor ratings across many measures, especially when benchmarked against other facilities of a similar type. While satisfaction measures were low for areas such as the pro shop and facility amenities, the stronger negative ratings related to golf course conditions - especially tees and greens.

As was the case with Sunnyvale GC, survey results indicate that improving the golf course physical product will be a key to increasing rounds and revenue. NGF believes that a key positive takeaway from the survey – despite what customers perceive to be a product in need of significant improvement – is that nearly 4 out of 5 golfers surveyed would be willing to pay some level of fee increase in order to help with the viability of the golf course, perhaps in recognition that green fees have been raised only modestly in recent years.

Physical Evaluation of the Golf Courses

In this section, the NGF team - including golf course architect and current President of the American Association of Golf Course Architects (ASGCA), Forrest Richardson – provides a summary physical evaluation of the Sunnyvale and Sunken Gardens golf courses. For each course, we provide:

- Brief overview and history of the golf courses
- Assessment of current conditions
- Preliminary capital improvement recommendations

INTRODUCTION

The City of Sunnyvale owns two golf course assets. The Sunnyvale Golf Course is an 18-hole, par-70 regulation length layout. The other facility, Sunken Gardens, is a 9-hole, par-29 layout. The two facilities are located about 10 miles apart, both within the Sunnyvale city limits. NGF Consulting subcontracted Golf Course Architect, Forrest Richardson, ASGCA, to provide an overview of existing conditions, improvement needs, and concepts that may generate additional revenues and lead to reductions in the annual subsidy for the Golf & Tennis Fund. For the latter aspect, the consulting team focused on possibilities that that may provide the City an opportunity to realize greater use and associated revenue from the facilities, but which would require further study.

At both facilities, as summarized below, the findings are significant with regard to the needs of capital expenditure to bring each of these golf facility assets up to competitive standards, and to ensure their continued benefit to residents and visitors. The concepts provided to the City take into account the reality that major improvement work is needed at both facilities, due to the age and the condition of nearly all infrastructure, and the lack of capital investment in these facilities by the City that has effectively allowed the golf courses to compete primarily on the basis of price. ***As a result, we believe that a major level of capital investment is required in the facilities regardless of any new amenities or reconfiguration that may be deemed beneficial to the City in terms of increasing revenue and reducing the annual subsidy from the General Fund***. In other words, major investment is needed simply to remain viable and to compete effectively beyond the short term.

Efficiencies may be realized when fully renovating these park facilities to also simultaneously develop new elements and amenities. Accordingly, we believe that study of new elements that may be beneficial are best studied and planned now as the City considers other aspects of the overall golf operation.

The consulting team has visited both subject properties within 12 months of this assignment. In addition to previous on-site visits, Mr. Richardson consulted with George Young, GCSAA, and other key City staff regarding current conditions, needs and nuances of the facilities. Mapping and other background information was provided and reviewed, including the August 2017 "Sunnyvale Golf Irrigation Design & Driving Range Feasibility Study" prepared by Verde Design.

SUNNYVALE GOLF COURSE

General Overview & History

Sunnyvale is an 18-hole, par-70 course. The back tee yardage is just over 6,200 yards. The mid-range rating is 67.9 with a SLOPE rating of 110 (men). The terrain is mostly flat and generally parkland in nature. Large mature trees have been removed in the Runway Protection Zone of Moffett Field, which is located directly north of the golf course across the 101 Freeway. This area of the course has been replanted with lower growing indigenous tree varieties. The balance of the site is planted with now mature eucalyptus, pine and other common varieties.

The total acreage is approximately 132± with 82± acres north of the 237 Freeway and the remaining 50± acres to the south. A tunnel that runs under the 237 Freeway connects the two main parts of the course and is used by golfers and maintenance staff. The course comprises multiple land parcels and is traversed by a major water line of the Bay Area's Hetch Hetchy potable water delivery system. Turf coverage is nearly "wall to wall" with a few areas not covered by the irrigation system. These include areas of dense tree cover and some areas along the perimeters.

The course is bordered primarily by corporate office buildings. To the north is the 101 Freeway and north of the freeway is Moffett Field, now leased by Google as its main campus and research center.

The course opened in 1968 to a design of David W. Kent, a course architect who primarily worked in California. Kent is credited with 13 completed projects. Kent was born in Brooklyn, New York in 1913. In 1955 he established his practice in Northridge, California. Kent transformed agriculture fields into what is now Sunnyvale Golf Course.

Although never a major player in the business, Kent did bring some new ideas to golf design. He was among the pioneers in developing precision-length courses in the 1960s to provide smaller, shorter, quicker courses for busy golfers. He told reporters he was designing them for "executives on the run," and the phrase "executive course" soon became the most common term used by the media to describe such courses. He was also among the first golf architects to embrace the notion that golf courses could be built on city dump sites, dismal pieces of land that were later termed landfills and brownfields. He also built a few courses that doubled as flood-control projects, long before most communities even thought about utilizing golf course property in such a manner.

Among Kent's course designs are Desert Hills (Yuma, AZ), El Niguel Country Club (Laguna Niguel, CA), Hansen Dam (Pacoima, CA), Palos Verdes Country Club (Palos Verdes Estates, CA), and Bellevue Municipal (Bellevue, WA).

Current Conditions

(please see Appendix C, Exhibit 1)

Conditions at Sunnyvale are average to good with primary obstacles to higher quality being a small maintenance crew and deteriorating infrastructure across all areas of the site. At the time of this writing, the total maintenance (grounds) staff count reported to NGF for both City golf assets was just nine (9), including the primary supervisor (Senior Greenskeeper). A facility the size and turf footprint of Sunnyvale Golf Course alone would generally have a maintenance staff of 8-12 individuals plus a supervisor. At the time or our interview with management in May 2020, it was reported that only 5-6 staff are available daily at Sunnyvale due to situations such as the course being open every day, light duty, vacations or illness. Personal time off that is accrued by the staff, many of whom have been employed for 15 or more years, contributes to the staffing problem at any given time. Further compounding the staffing issue is that some maintenance staff is shared between the Sunnyvale and Sunken Gardens courses.

In terms of the golf course proper, turf suffers from a variety of conditions such as excessive shade (dense and tall trees), an inadequate irrigation system and a lack of site drainage. All features - tees, bunkers and greens-— are essentially past their lifecycle. No course-wide capital investment plan has been implemented in the past 30 or more years.

The **irrigation system** is indicative of this with multiple patches and replaced components, none of which are consistent. The irrigation system has two water sources, one for greens and the larger for the balance of the turf areas. The greens system comes directly off of the Hetch Hetchy water delivery system, providing ample pressure with no significant issues. There is no booster pump for this greens system as the pressure is acceptable. The larger system is recycled water and is used for the majority (90± acres) of the turf area. This system is connected to the recycled delivery line from three tap points. It also operates without a booster pump, relying on the ambient pressure from the water treatment plant. Unfortunately, this pressure is not consistent and at many times the system will not function properly.

The irrigation system was partially replaced in the 1980s, although staff is not certain of the extent of this project as there are few records. The most recent upgrades have been to the above-ground control system. Obvious issues to the system involve main lines and valves, many of which appear to be sized and configured improperly. There is no accurate mapping of the system, making some repairs more difficult. Staff replaces parts as needed and the result is a hodge-podge of components from various manufacturers. When there is an issue, the source of the problem has to be located and, without mapping, this is a frustrating process resulting in delays and significant time. Staff does a good job of managing the old, outdated system.

Ponds on the course add strategy to the layout, with a degree of **drainage** benefit. One pond exists between Hole Nos. 1 and 2; a second is at Hole No. 7; a third series is located at Hole No. 8; and a fourth is at Hole No. 18. The pond at No. 18 accepts water that is pumped from the tunnel under the 237 Freeway to keep this passageway from flooding. Some surface drainage is collected in the ponds. Except for the pond at No. 18, most are seasonal and dry up in the summer months when rainfall and groundwater is not present.

Greens are in good condition, but several greens require different management protocols due to being rebuilt with varying methods. This takes more time and resources. Most greens are the original (c. 1968) "push up" type greens, which means they were generally built on native soils with sand applied regularly thereafter as a result of topdressing. Poa annua is the primary turf cover with underlying bentgrass. The staff does a very good job of managing greens; as a result, they are among the best conditioned parts of the golf course.

Tees are in need of leveling and alignment. Tee surface area is generally ample, but flexibility in yardage is lacking. Forward tees render a course of 5,200 yards. Ideal yardage for less skilled players, beginners and some seniors should be in the 4,000 to 4,400-yard range.

Bunkers are well past their lifecycle. Sand is added without any reconstruction of essential drainage systems. As noted, all features (tees, greens and bunkers) are "old and tired" and show a decline in quality compared to several competitive public golf courses in the area.

ADA compliance appears acceptable with some areas of cart path curbing and slopes potentially contrary to ADA guidelines. No review of the parking and clubhouse areas was made with respect to ADA compliance. A full inventory of ADA deficiencies and needs should be addressed as part of any future planning.

While located in a pleasant setting and benefiting from a great location, we believe the Sunnyvale Golf Course at present offers a rather ordinary **overall golf experience**. Some holes are more strategic than others, but none are particularly outstanding. The parkland theme remains its best asset and should be preserved, but with an eye toward opening some areas for better sunlight and air circulation to turf areas, especially around green sites.

The current **routing** of the course is somewhat awkward with the 9th and 10th holes remote from the clubhouse. Some holes along the perimeter are aligned close to adjacent land. Errant balls to these areas, as well as the adjoining freeways, are of concern. Netting and trees have helped to mitigate some conditions.

Aviation Constraints

Moffett Field imposes important restrictions on the golf course. In turn, the golf course provides an excellent land use that is compatible with the various safety zones that extend outward from the airfield. These restrictions and land use considerations are well covered in the Windus report as adopted by the Santa Clara County Airport Land Use Commission (November 2012, by Walter B. Windus, PE).

The restrictions include height limitations for buildings, poles and vegetation. Certain guidelines are provided relative to noise and the types of development (residential, commercial, etc.) appropriate depending on how proximate the land use will be to the airfield. The safety zones noted above constitute

the most onerous of the restrictions as they prohibit certain uses regardless of height and noise aspects. On Exhibit 2 in Appendix C, these have been shown in their approximate location relative to the golf course with mapping extracted from the Windus report.

In summary, the golf course occupies land on which three safety zones necessary for the airfield are needed. These include a *Runway Protection Zone* where existing Hole Nos. 10, 11, 12 and 13 are located, as well as portions of Hole Nos. 3, 4, 5 and 9. A second zone, the *Inner Safety Zone*, is occupied by portions of Hole Nos. 1, 2, 3, 8 and 9; the area where Hole Nos. 14 through 18 are located; and the clubhouse, parking and cart storage building. The third - the *Turning Safety Zone* - is occupied by all or portions of Hole Nos. 1, 2, 6, 7 and 8, plus the golf maintenance facility.

The safety zones as outlined are progressively more restrictive, beginning with the *Runway Protection Zone*. The general land uses and restrictions for each zone are abbreviated below as extracted from the above noted report:

Runway Protection Zone:	Uses for agricultural, open landscapes (parks) and roadways; no structures
Inner Safety Zone:	Nonresidential uses that serve a maximum of 120 people per acre on a regular basis; 30% open space; no hazardous materials storage
Turning Safety Zone:	Nonresidential uses that serve a maximum of 200 people per acre on a regular basis; 20% open space; no hazardous materials storage

This report does not attempt to ascertain any absolute permitted uses on the golf course parcels. What we have done is to interpret the aviation study and general limitations, and to offer concepts that need to be further vetted and studied in the context of their suitability to the airfield proximity. An assumption made is that the golf facility, notwithstanding improvements in obvious conflict to safety zones or maximum permitted heights, is a viable and reasonable use based on its proximity to Moffett Field. Golf courses are land uses often evident at the ends of runways for their obvious open space benefit that meets the requirements for the various safety zones while allowing the land to be used for productive purposes. The fact that a relatively small number of users is concentrated to one particular location across the site of a golf course at any given time makes them an ideal land use near active airfield operations on land restricted by such safety zones.

The golf course is home to a ground-mounted Approach Lighting Systems (ALS) for the southern approach to Moffett Field. Across Hole Nos. 10 and 11, and adjacent to No. 12 and 13, a series of nine ALS lights are spaced at 100-foot intervals as a navigation aid for the airfield.

Facility Capital Improvement Needs

Because Sunnyvale GC is aging and has not seen significant capital investment in more than 30 years, nearly all areas are in need of full replacement or full refurbishing/renovation. Golf courses have components that wear out at varying intervals, but at Sunnyvale there is no single category on the course itself that could be considered “light” in terms of needs. The following are areas of the facility that appear valuable to preservation and integration to a facility-wide improvement project, followed by a second list of essential needs based on our assessment:

Valuable Assets

- Parking and entry access (from Benecia Ave.)
- Trees and "corridors" formed by tree groupings
- General site terrain (pushed-up soils, such as at existing green sites)
- Ponds (locations and general relationship to the site)
- Maintenance Facility (with nominal upgrades)

Essential Needs

- Irrigation System Replacement
- Drainage Improvements (dewatering system for certain areas)
- Features Rebuilding (tees, bunkers, greens)
- Safety Analysis (errant balls to adjacent land and freeways)
- Golf Course "Theme" (concentrated style for features and overall design)
- Re-grassing (rootzone replacement as needed, following drainage and irrigation improvements)
- Arbor Management (selective tree removal and replacement with more appropriate varieties)
- Clubhouse Replacement

Independent of any course-wide improvement work, the NGF team strongly recommends that the City initiate an irrigation mapping project to provide staff with needed information on the current system in use. This undertaking is likely a small investment, in the range of $10,000 to $15,000, and would immediately lead to return on investment as staff would spend less time dealing with irrigation issues because they would have a "roadmap" to more quickly and efficiently source where the problem exists and make the necessary repairs.

We recommend that the City, in addition to putting a plan together to address the list of essential needs, also continue its planned effort to reduce the managed turf footprint. This was covered in the Verde Design Report, which concludes several benefits for having less managed turf. The Verde Report provides specific irrigation solutions for the current "as-is" course layout. These solutions would obviously not be directly applicable to a reconfiguration of the course layout, but are worthwhile in their overall assessment and approach.

SUNKEN GARDENS GOLF COURSE

(please see Appendix C, Exhibit 3)

General Overview & History

This 9-hole "executive length" course" is a par-29 layout measuring just over 1,500 yards from the back set of tees. The course rating is 56.8 with a slope rating of 88 (men). A practice range accompanies the course, along with a single large putting green. There is a small practice bunker near the range tee. Players enjoy the course for many reasons including its "inclusive" quality that can appeal to players of all abilities. It also takes less time to play, due to both its 9-hole format and shorter overall length. There are only two par-4 holes with the balance all being par-3s of varying lengths.

The terrain is mostly flat with some site undulation that adds interest. Dense trees line all fairways. The total acreage is just 28± acres. The turf coverage is "wall to wall" although the primary areas of the practice range have been allowed to die in order to conserve water use.

The course was designed by Clark Glasson, a native of San Jose, California. Glasson, who passed away in 1994 at the age of 81, caddied at the Los Altos Hills Country Club, where he developed a passion for the game. He later earned a degree in engineering from San Jose State College. In 1950 he established a golf course construction firm and in the mid 1950s began offering design services. Over the next 15-20 years he designed and constructed several golf facilities, and even operated many of these completed projects.

Current Conditions

Conditions at Sunken Gardens are average to good with the predominant issue being turf quality across the full site. Staff reports the primary obstacles to better conditions are the aging irrigation system and excessive shade as a result of the large, mature trees lining virtually every golf hole and surrounding three sides of every green site. As with Sunnyvale GC, understaffing is an issue, and the facilities share staff and supervision. While Sunken Gardens is relatively small in terms of acreage, there are still 10 greens and golf holes to maintain, and the associated details of mowing, trimming and care.

Safety is perhaps the most noticeable deficiency, and this is related to errant balls. The course laid out in the late 1950s (opening in 1959) when safety set-backs and best practices were not as formalized as they became in the 1970s and later. Glasson was more of a self-taught golf designer. A review of his work shows that consolidating golf holes into often smaller areas than needed is one of the common traits among his work. This is especially evident on shorter courses, as is the case at Sunken Gardens.

Some holes are aligned very near to neighboring homes and land uses. Screening and trees do a decent job of helping to guide players and reduce errant balls. Staff reports that balls do leave the premises and this has been a chronic issue. Studies by Verde design and supported by Tanner Consulting Group (a specialized sports trajectory consultant) provide detailed mitigation for the practice range. This work has not been initiated by the City, although repairs to the netting were in process as of late May 2020. Staff has reportedly been using reduced flight "floater" golf balls in an effort to reduce errant balls from leaving the range area, both prior to netting replacement and in lieu of more significant changes to increase pole and netting heights along with reconfiguration recommended in the Verde Design report.

NGF recommends an updated safety analysis, and suggests that this be handled by a member of the American Society of Golf Course Architects (ASGCA). Armed with such an analysis, the City can weigh course improvements that may help reduce errant balls. This would also help reduce conflicts between golf holes as the current situation has several areas where play on holes overlaps due to tight spacing.

Irrigation water is potable and comes directly from the municipal water system. Pressure is boosted by a pump. The potable water is costly and would ideally be replaced by an alternative source, such as recycled water. Turf reduction was recommended by Verde Design. NGF supports this approach with the caveat that a suitable cover be installed to prevent dust and erosion, and which does not lead to a

heightened situation of players losing golf balls. Mulch, a recommendation of Verde Design, may prove to be a reasonable cover and should be studied further.

The irrigation system was partially replaced in the 1980s, although staff does not know the extent. As with Sunnyvale GC, an accurate mapping of the system is needed so staff can pinpoint issues and know where to trace lines, wires and valve connections.

All course features are past their expected lifecycle. Greens remain in good condition as a result of staff's persistence. Surfaces are mostly poa annua, with underlying bentgrass. Still, now past its 60th year, course features, including the now nearly 40-year old irrigation system, are simply worn out and in need of refurbishment. Approaches to replacement are discussed below.

ADA compliance appears acceptable with some areas potentially needing to be updated or retro-fitted. No review of the parking and clubhouse areas was made with respect to ADA compliance. A full inventory of ADA deficiencies and needs should be addressed as part of any future planning.

Staff notes that the maintenance facility needs some repair, including roofing. This should be further evaluated and integrated to an overall Master Plan for the full facility.

Facility Improvement Needs

Because the facility is aging and has not seen significant capital investment in many years, nearly all areas are in need of full replacement or refurbishing/renovation in the shorter-term future. Following are areas of the facility that appear valuable to preservation and integration to a facility-wide improvement project, and a list of essential needs.

Valuable Assets

- Parking and entry access (although surface improvements are needed)
- Trees and "corridors" formed by tree groupings
- General site terrain (pushed-up soils, such as at existing green sites and site undulations)

High-Priority Needs

- Irrigation System Replacement
- Drainage Improvements (de-watering system for certain areas)
- Features Rebuilding (tees, bunkers, greens)
- Golf Course "Theme" (concentrated style for features and overall design)
- Re-grassing (rootzone replacement as needed, following drainage and irrigation improvements)
- Arbor Management (selective tree removal and replacement with new varieties)
- Clubhouse Replacement/Refurbishment
- Maintenance Facility Repairs/Upgrades

Independent of any course-wide improvement work, the NGF team recommends that the City initiate an irrigation mapping project to provide staff with needed information on the current system in use. This undertaking likely requires a small investment, in the range of $5,000 to $7,500, and would immediately lead to return on investment as staff would spend less time dealing with intense investigation in order to make repairs. There is likely an efficiency should a mapping contract for both facilities go to one qualified golf irrigation design consultant.

Golf Market Overview

Below, NGF Consulting provides a summary of key "external" factors that characterize the trade area in which the Sunnyvale golf courses operate, including NGF's macro perspective of the U.S. golf industry. On a local/regional basis, the overview includes an analysis of basic demographic measures, as well as golf supply and demand indicators, that have the potential to affect green fee tolerances and the economic performance of public golf facilities.

NATIONAL GOLF INDUSTRY OVERVIEW

While some participation headwinds persist for golf, the industry continued its macro stabilization trend over the 2016 – 2019 period. The game remains popular and has a deep well of interested prospects. While golf's pay-for-play green fee revenues and other spending will always be vulnerable to outside forces such as weather and the economy, its chief challenge remains ***getting more of those non-golfers who express interest in playing ('latent demand') to actually give golf a try, and converting more beginners into committed participants.*** Golf is also having trouble attracting and retaining young adults (i.e., Millennials); though this segment continues to account for a large percentage of annual play and spending, factors such as debt and competing recreational activities have suppressed golf demand from this segment.

Key Trends in Demand

Participation - The national golfer number (defined as those people that had played at least one round of golf the prior 12 months) showed net attrition since 2012, declining by about ±1.2 million to 23.8 million people in both 2016 and 2017 before rebounding to 24.2 million in 2018. Overall, the number of golfers has declined by nearly 7 million since peaking at 30.6 million in 2003. Research shows that this attrition was primarily among occasional/less committed golfers. However, the vast majority of "core" golfers remain in the game.

Rounds Played 2018-2020 – Nationally, about 434 million rounds were played in 2018, representing a 4.8% decrease year-over-year, according to Golf Datatech. For California, rounds were *up* 3.3%**.** For 2019, rounds played (year-over-year) were up by 1.5% nationally, while California was *down* by 4.7% *(see Appendix D, Exhibit 1).* Remarkably, despite nationwide Covid-19-related golf course shutdowns beginning in March, national rounds played surged in 2020 after reopening, finishing 13.9% (about 60 million rounds) **ahead** of 2019's numbers *(see Appendix D, Exhibit 2).* California, with generally more restrictive measures in response to the pandemic as well as a severe wildfire year, finished up 5.6% ahead of 2019.

Baby Boomer Effect and Generation G (the "Golf Generation") – As Baby Boomers age and retire over the next 15 years or so, we expect to see a measurable increase in total rounds played in the U.S. Boomers - born between 1946 and 1964 - are currently 55 to 74 years old. About 6 million of them are golfers; that's approximately 1/4 of all golfers, and they currently play about 1/3 of all rounds. While not technically a generation, the 46-65 age cohort is the most vital group for the golf industry, accounting for the most golfers, rounds and spend in the industry – more than $9 billion in total annually. Gen G includes younger Boomers and older members of Generation X.

Golf Course Supply

The number of course closures has outweighed new openings for 14 consecutive years during the ongoing balancing of supply and demand. According to NGF data, since the market correction in golf course supply began in 2006, there has been an 10% cumulative reduction of U.S. golf courses in terms of 18-hole equivalents (18HEQ). In 2019 there were 279.5 permanent closures (18HEQ), about 40% higher than the level experienced in the prior two years. For perspective, golf supply grew by 44% from 1986-2005. The demand for land to develop residential and commercial real estate is influencing the supply correction in golf. Closures tend to be more value-oriented, public facilities in the best-supplied areas; Florida, Texas, Ohio, California and New York had the most closures in 2019 and all rank among the top six states with the most golf courses.

Other Measures of Health

Other metrics to consider when measuring the health and trajectory of golf include:

Investment in Facilities: Investment in major renovation projects has replaced new construction as the largest source of U.S. golf course development activity. NGF tracked about 1,300 major renovations completed since 2006, totaling more than $3.75 billion in spending.

Increasing Diversity: The junior golf population showed moderate attrition, dropping from 2.7 million in 2017 to 2.5 million in both 2018 and 2019. Junior golfers continue to show a transformation in diversity. About 34% of golfers age 6-17 are females, up from 17% in 1995 (23% of **all** golfers are women). Also, about 1 in 4 junior golfers are non-Caucasian, up from only 6% in 1995. A similar trend is observed among young adult (18-34) or Millennial golfers, of which about a quarter are female and a quarter non-Caucasian. The highest diversity is among beginning golfers (see below).

Beginners: The number of beginners rose to a record 2.6 million in 2017 and 2018, surpassing the record set in 2016 and representing an increase of about 600,000 since 2014 (beginners fell slightly to 2.5 million in 2019). The last two years have set records and exceeded the year 2000, when Tiger Woods was in his prime and drawing newcomers to the game in unprecedented numbers. About 35% of beginning golfers are women, and 26% are non-Caucasian (compares to 18% of total golf population).

Off-Course Participation: Driven primarily by the popularity and growth of Topgolf, a non-traditional form of golf entertainment, there were an estimated 23 million off- participants course (involves only those activities that involve hitting a ball with a golf club) in 2019, up by 2 million from 2017. About 40% of these participants did not play on a golf course.

Latent Demand: Overall interest in playing golf remains very high. NGF survey research indicates that the number of non-golfers who say they are “very interested” in taking up golf – which had doubled between 2014 and 2018 (CAGR of ±15%), increased by an additional 1 million in 2019 to 15.7 million people.

Dedicated: Several years ago, NGF developed a scale to gauge participant engagement/ passion for golf. NGF annual golfer survey research indicates that the number of dedicated golfers has remained steady at 20 million for the past 8 years. These dedicated golfers are responsible for ±95% of rounds played and spending. Those who are more engaged are significantly more likely to continue playing.

National Golf Industry Overview Summary – Potential Implications for Sunnyvale Golf

It is difficult to conclude how the national trends discussed above will affect any particular golf course, as we cannot definitively predict which, if any, of these trends will continue. Likewise, it is way too early to understand what, if any, the long-term impacts of the Covid-19 pandemic will be. On balance, however, we believe that a continuation in the growth of beginning golfers, successful activation of the large cohort of non-golfers that have expressed interest in playing ("latent demand") by golf operators and organizations such as National Golf Foundation (through its "Welcome2Golf" program), and the continued golf course supply correction towards equilibrium should have a positive effect on golf courses such as Sunnyvale and Sunken Gardens.

LOCAL / REGIONAL MARKET

Below we provide an overview of recent and emerging trends with respect to golf participation and municipal golf, as well as a summary of golf demand and supply indicators in the Bay Area region and local Sunnyvale/South Bay market. NGF Consulting utilizes predictive models as benchmarks for estimating potential market strength.

Defining the Primary Trade Area for Sunnyvale Golf Courses

A number of factors assist in determining the expected market area for a golf facility. In addition to the quantity, quality, and nature of the subject facility and competitive facilities in the area, the availability of highway and major thoroughfare infrastructure, traffic patterns, economic and demographic factors, and the propensity for golfers to travel to play golf all play a role in establishing the primary market area for a golf facility.

Based on NGF's analysis of the subject facility and the factors cited above, as well as zip code analysis from the golfer surveys, we expect that Sunnyvale GC draws the majority of its play from a market comprising a 10-mile radius of the course. This area includes Sunnyvale, Santa Clara, Cupertino, Mountain View, Palo Alto, Los Altos, and at least parts of Campbell, Milpitas, and San Jose. For the alternative length Sunken Gardens, the primary trade area is likely somewhat smaller, as short courses at this low price point tend to draw very local clientele.

Demographics

Below, NGF provides key observations regarding the population, median age, and median household income trends for the 5-mile, 10-mile and 30-minute market rings surrounding Sunnyvale and Sunken Gardens golf courses, as well as Santa Clara County, California and the U.S. (See Appendix E for source tables). Data sources: Applied Geographic Solutions and Tactician Corporation.

- **Sunnyvale GC** is supported by a dense population base, with 2019 estimates of 1.2 million residents in the 10-mile market, and 2.62 million residents in the 30-mile drive time market around the facility. Population growth in the subject markets is projected to be minimal, at about 0.07% annually through 2024.
    - For **Sunken Gardens**, 2019 estimates show a population of about 516,000 within 5 miles of the course, 1.37 million residents in the 10-mile market, and 2.43 million in the 30-mile drive time market. Population growth in the subject markets is projected to be ± 0.05% annually through 2024.
- *Median Household Incomes* in the area are more than twice the 2019 national median of $60,523:
    - **Sunnyvale GC**: the 5-mile market median income of more than $137,000 is 127% higher than the national median income of $60,523, and 83% higher than the California median of $75,100. For the 30-minute drive-time, household incomes in

these two markets are 83% and 63% higher than the corresponding national and state median incomes, respectively.

- **Sunken Gardens GC**: the 5-mile market median income of more than $134,000 is 122% higher than the national median income, and 79% higher than the California median of $75,100. For the 30-minute drive-time, household incomes in these two markets are 79% and 63% higher than the corresponding national and state median incomes, respectively.
- *In general, higher income people are more likely to participate in golf, and they play more frequently than lower income residents*. (Locally, these high figures are mitigated by the very high cost of living in the Bay Area).

- The *Median Ages* in the subject markets for both Sunnyvale GC and Sunken Gardens are similar to the national median of 38.2 years. In general, the propensity to play golf with greater frequency increases with age, making older markets more attractive to golf facility operators, all factors being equal.

Local Economic & Climate Factors Affecting Demand for Golf

With a location in the heart of the Silicon Valley, the Sunnyvale/South Bay area benefits from a very strong economy marked by low unemployment and high wages. (*At this writing, it is impossible to tell what the lasting effects of the Covid-19 pandemic will have on the area economy and/or on golf demand and participation*).

- Supplementing golf demand from permanent residents are: (1) The area's large number of major corporate and public employers, including many high-tech companies; (2) Visitors to the South Bay area: though visitation numbers were not available for Sunnyvale specifically, Longwoods Travel cited about 19 million trips to nearby San Jose in 2018 (including 6+ million overnight). Additionally, about 17 million people visit San Francisco each year. NGF research shows that roughly one-third of all golfers participate in the activity while traveling.
- In the last five years, annual passenger traffic has jumped 25 percent to 55.8 million at San Francisco International, 31 percent to 13.1 million at Oakland International and a robust 51 percent to 12.5 million at Norman Y. Mineta San Jose International Airport, which is now the nation's fastest growing airport
- Golf courses in the Sunnyvale area benefit from year-round golf play. The South Bay has a warm-summer Mediterranean climate; summers are warm and dry, while winters are mild and wet. Average annual rainfall is only ±15 inches, with about 60 days of measurable precipitation.
- Located about 10 miles from San Jose International Airport, Sunnyvale (2019 population of 155,567) is an integral part of the Silicon Valley's innovation and success. Sunnyvale's top private employers include Google (14,228 employees), Apple (4,500), Lockheed Martin (4,093), Amazon (3,748), and LinkedIn (3,548).
- Nearby San Jose is also a major hub for technology, with a major presence from companies such as Cisco, PayPal, eBay, and Adobe Systems. These large employers and others are prime targets for are golf courses soliciting tournament/outing play, which are generally strong revenue generators and expose a number of golfers to a facility for the first time.
- The Sunnyvale-San Jose area was experiencing historically low unemployment rates prior to the coronavirus outbreak, with 2019 showing only a 2.2% jobless rate. For some golf course owners, very low unemployment was a double-edged sword, as low jobless rates make it harder to find and retain quality workers, and also result in upward pressure on wages.

Local Golf Demand Indicators

Below is a summary of key findings regarding the public golf demand in the Sunnyvale trade area. This information is derived from the NGF Demand Model (based on ongoing NGF golf participation research), NGF U.S. Golf Facilities Database, and NGF Golf Market Analysis Platform (GolfMAP).

- Household golf participation rates in the subject markets around Sunnyvale GC and Sunken Gardens GC are estimated to be in the range of 12% to 13% (moderately higher in the Sunnyvale submarkets), and are generally 5% to 10% lower than the national benchmark; the measure of rounds demanded per household is moderately higher in the local markets than for the nation overall.
- Based on facility self-reported and modeled activity levels, average annual rounds played per 18 holes of public golf in this regional market is in the range of 55,000 to 60,000, placing it among the most active golf markets in the country.
- People who express an interest in playing golf but have not yet started include former golfers and those who have never tried. The demographic profile of latent demand tends to be more female and younger than the population as a whole. Surveys show these golf-interested non-golfers cite several barriers to entry in golf, including the cost and social aspects (no one to play with). NGF research estimates that nearly 220,000 interested non-golfers live in Sunnyvale GC 's 10-mile market, while an estimated 245,000 live within 10 miles of Sunken Gardens. This represents a rich well of "prospects", some of whom can be activated with creative programming aimed at inviting and "onboarding" them into the game.
- With less competition from other sports and activities, the Covid-19 pandemic, at least in the short term, has had an effect on golf demand, with a significant rise in new and returning golfers manifesting in fuller tee sheets across the U.S. Another outcome has been higher average green/cart fees for those facilities that are able to practice dynamic pricing. Research shows that a strong percentage of public golf courses are catching up to, or even ahead of, last year's pace on rounds and golf revenues. Of course, those facilities with large food & beverage and, especially, banquet operations have suffered the most, though reduction in expenses has helped to somewhat mitigate loss in revenue.

Local Golf Supply Indicators

Source: NGF U.S. Golf Facilities Database and NGF Golf Market Analysis Platform (GolfMAP).

- **Sunnyvale GC**: With the closure of Santa Clara Golf & Tennis, there are 14 total (9 public) golf facilities in the 10-mile market area, and 30 total facilities, including 19 public, within 30-minute drive time of Sunnyvale Golf Course. Of the 9 public facilities 7 operate at peak golf/cart fees of less than $70.
- **Sunken Gardens GC**: There are 15 total (10 public) golf facilities in the 10-mile market area, and 28 total facilities, including 18 public, within 30-minute drive time of Sunken Gardens GC. Of the 10 public facilities 8 operate at peak golf/cart fees of less than $70. Note number alternative length.
- The NGF database reveals no new golf course projects in the primary trade area for either subject facility currently in planning or under construction.
- *Due to the density of the population, the trade areas for both Sunnyvale and Sunken Gardens golf courses have significantly more golfing households per 18 holes of golf than the nation overall.* For example, in both the 10-mile primary trade area and the 30-minute drivetime markets for Sunnyvale GC there are ***four times as many households available (favorable) to support each 18 holes of public golf than we observe in the overall U.S***. (benchmark = 100). The ratios are only moderately less

- Below we discuss the level of golf course closures in the Bay Area over the last five years; the closure most directly benefiting market share for Sunnyvale GC is that of Santa Clara Golf & Tennis Club, formerly a primary competitor. Other recent regional public golf course closures include 36-hole Sunol Valley GC in 2016 and The Ranch Golf Club in San Jose (2019). Another public course, 18-hole Skywest in Hayward, is closed at least temporarily, as The Hayward Area Recreation and Park District will not be renewing its lease on the property (expires September 30) with the City of Hayward.

Bay Area Market

As was the case with nearly every golf market NGF examined nationally, average annual rounds played at San Francisco Bay Area public golf courses dropped significantly between the late 1990s / 2000 and the early-2010s, with some stabilization in playable-day adjusted activity levels noted in the last several years. Even with the sharp decline off of peak activity levels, average rounds played per 18 holes of public golf remain high compared to the national average, though overall utilization is still well below capacity considering the year-round climate for golf.

A key factor contributing significantly to the decline in average rounds played from its peak, both nationally and regionally, was the decline in the number of golfers (±20% national decrease from peak of about 30 million in 2003). Another contributing factor was the aggressive run-up in golf course supply during that time, especially in the public segment. Though the supply increase was not as notable as NGF observed in many other parts of the country (perhaps due to land cost and availability issues), ***the nine-county Bay Area region added 27 total golf facilities between 1997 and 2006.*** This included 6 private (comprising 90 holes) and 21 public (360 holes) facilities.

The last decade plus has seen a contraction in golf course supply in the Bay Area. For example, looking at only the five-county area comprising Santa Clara, San Mateo, San Francisco, Alameda and Contra Costa counties, we see that 12 golf facilities, totaling 207 holes, have permanently closed since just the middle of 2015 (*includes Santa Clara Golf & Tennis Club, a former primary competitor to Sunnyvale GC that closed in fall 2019*). All of these facilities except for The Institute LLC, a private club in Morgan Hill, were public access facilities, including the 36-hole Sunol Valley Golf Courses in Sunol.

Conversely, in those same counties, only TPC Stonebrae – an 18-hole private club in Hayward – has been added to the market in the last 12+ years. With a contraction in supply and an increasing population base, activity levels appear to have stabilized. (The closure of 18-hole Skywest Golf Course in Hayward further enhances the regional demand-supply dynamic). NGF believes that the next few years will provide a stronger indication of whether playable day-adjusted rounds have truly stabilized, and whether the increasing population, coupled with the standstill in new course development, will result in increasing activity levels at area golf courses.

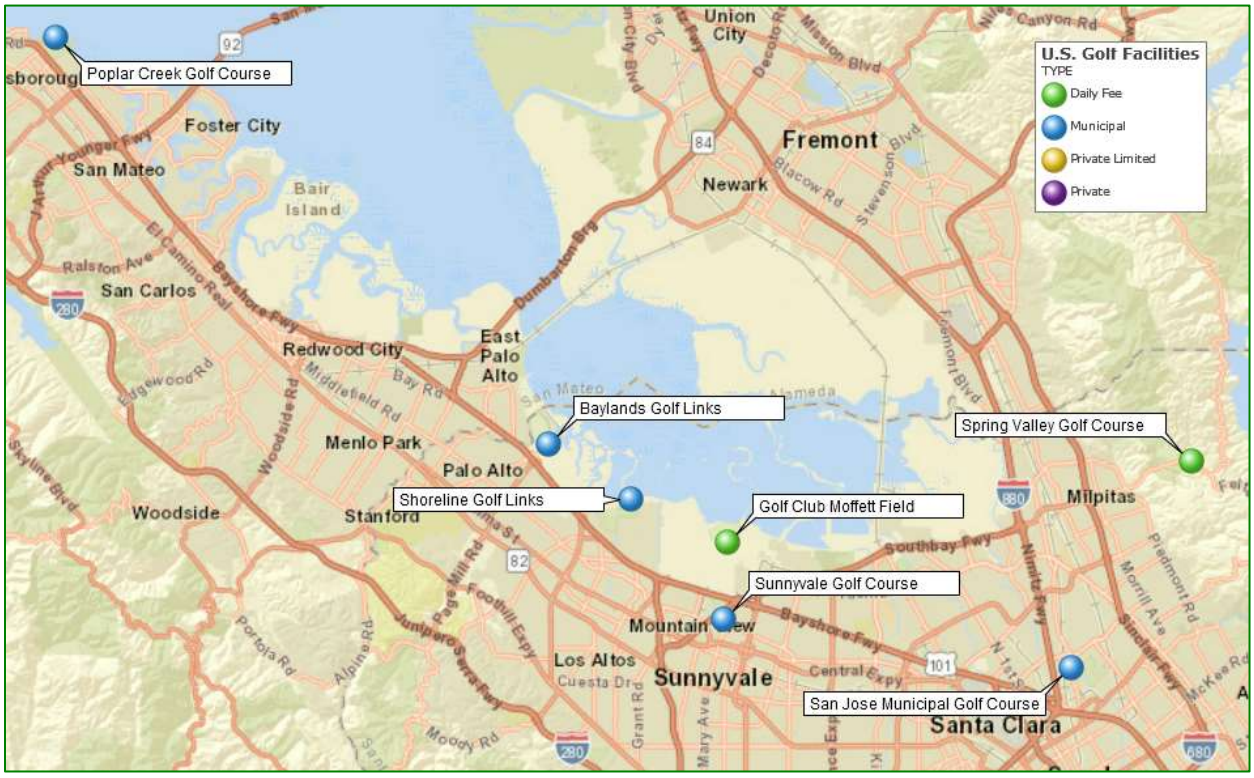
An additional dynamic in many markets across the country, including the Bay Area as documented in this report, is that municipal golf courses – even those set up as enterprise funds - are increasingly having to rely on general fund (i.e., taxpayer) support to make up for operating deficits, fund capital needs and/or meet debt service requirements. This external source of funding is a remedy not available to private operators of golf facilities.

Sunnyvale Golf Course Competitive Golf Market

NGF reviewed the public access golf market in which Sunnyvale GC operates, with a focus on key competitors identified through NGF market experience and input from golf course management. The list is intended to be a representative subset – based on factors such as price point, quality, and amenities offered - and is not totally exhaustive. For example, we consider the city of San Jose's "Muni" golf course to be a primary competitor (note #1 in golfer survey), while the city's other 18-hole offering – the shorter-length, more distant and much less popular Los Lagos – is considered a secondary competitor. Other examples of secondary competitors to Sunnyvale GC include Santa Teresa Golf Club in San Jose, Coyote Creek Golf Club in Morgan Creek. and Cinnabar Hills Golf Club in San Jose.

The map below shows the location of the identified primary competitors in relation to the Sunnyvale golf courses. Following the map, NGF notes key observations about the competitive public golf market in which Sunnyvale GC operates.

Competitive Facility Location Map



Summary Information – Primary Competitors

The table below provides summary information regarding the golf courses we have identified as Sunnyvale Golf Course's primary competitors.

Sunnyvale Golf Course & Key Competitors – Summary Information

Golf Facility	Location	Type	Year Open	Par / Slope	Front Tee / Back Tee	Location Relative to Sunnyvale GC*
Sunnyvale Golf Course	Sunnyvale	MU 18H	1969	70 / 117	5,170 / 6,248	-
Golf Club of Moffett Field	Mountain View	DF 18H	1956	72 / 122	5,386 / 6,338	2 miles North
Shoreline Golf Links	Mountain View	MU 18H	1983	72 / 129	5,437 / 6,996	3.5 miles NW
Baylands Golf Links at Palo Alto	Palo Alto	MU 18H	2017	72 / 125	4,821 / 6,680	8 miles NW
San Jose Municipal Golf Course	San Jose	MU 18H	1968	72 / 123	4,200 / 6,700	8.5 miles E/SE
Spring Valley Golf Course	Milpitas	DF 18H	1956	70 / 115	5,294 / 6,143	11.5 miles E/NE
Poplar Creek Golf Course	San Mateo	MU 18H	1933	71 / 115	4,768 / 6,042	22 miles NW

*Air miles from subject site, rounded to half-mile; actual driving distances will likely be greater.
Type: DF – Daily Fee; MU – Municipal

The table below shows summary rounds trends and green fee information regarding Sunnyvale GC and its primary competitors.

Summary Operating Data – Sunnyvale Golf Course and Primary Competitors						
Golf Facility	**Est. Annual Rounds Played**	**18-Hole Resident Green Fee (WD/WE)**	**18-Hole Non-Resident Green Fee (WD/WE)**	**Per Person 18-Hole Cart Fee**	**18-Hole Twilight Green Fee (WD/WE)**	**18-Hole Super-Twi Green Fee (WD/WE)**
Sunnyvale Golf Course	58,356	$37/$49	$41/$55	$16	$30/$35 ($30 Res.)	$20/$25
Golf Club of Moffett Field	46,000	$33/$47 Flight card	$44/$68	$16	$21/$30 Flight Card $26/$35 public	$17/$20 Flight Card $19/$24 public
Baylands Golf Links at Palo Alto	54,619	$60/$85 Bay Area $54/$72 Palo Alto	$65/93	$16	$33/$41 Bay Area res $32/$39 Palo Alto res. $36/$47 n/r	$33/$38 Bay Area res. $32/$36 Palo Alto res. $36/$43 n/r
Poplar Creek Golf Course	70,000	$34/$47	$39/$55	$17	$28/$35	$20/$27
San Jose Municipal GC	62,000	DNA	$40/$55	$16	$26/$33	$20/$24
Santa Clara Golf & Tennis	47,000					
Shoreline Golf Links	60,541	$36/$52	$43/$59	$15	$23/$26 res $30/$33 n/r	$15/$15 res $22/$22 n/r
Spring Valley Golf Course	56,000	DNA	$43/$63	$17	Midday $38/$51 Afternoon $31/$36	Late afternoon $23/$28 Evening $12/$15

*NGF Consulting estimate N/A – Information not available, DNA – Does not apply / Not offered.
Source: Area golf operators; City CAFRs and other public records.

Key Findings – Competitive Market

- Golf Club Moffett Field sits on land leased by Google (dba 'Planetary Ventures'), and operated under management agreement by OB Sports. GCMF has undergone a series of improvements over recent years, and has become a stronger competitor to Sunnyvale GC and other local public golf courses that have failed to keep up with capital investment, such as Shoreline Golf Links, Poplar Creek GC (though did add a driving range), and San Jose Muni.
- Baylands Golf Links at Palo Alto (formerly Palo Alto Muni), which reopened in 2018 after a complete multi-year renovation, is a high-end municipal golf course in the regional golf market, though its price points are a tier higher than Sunnyvale GC. Still, NGF believes that the reopening of Baylands should not have materially affected market share for Sunnyvale due to the different market positioning between the two facilities.
- Though this regional market is down 25% or more from peak activity achieved in the late 1990s, this competitive set is active, with an average of more than 58,000 annual rounds played (excluding now-closed Santa Clara Golf & Tennis), or about 84% higher than the national average. There are few submarkets in the nation that produce activity levels this high, largely attributable to the year-round golf season and the high number of golfers per 18 holes in the area.
- Baylands Golf Links, which utilizes dynamic pricing, is positioned as the premier public golf course among this competitive set, with peak weekend non-resident riding green fees topping $100 even for Bay Area residents (though Palo Alto residents are further discounted).
    - The second tier of facilities from a pricing standpoint comprises Golf Club Moffett Field and Spring Valley GC, each with $60 weekday riding fees, and both at $80 or higher on weekends (GCMF offers lower fees with its 'Flight Card').
    - The lower tier of facilities includes four muni tracks - **Sunnyvale GC**, Shoreline Golf Links, Poplar Creek, and San Jose Muni, which are bunched within a narrow range in terms of 'rack' green fees, with 18-hole weekday non-resident riding rates ranging from $56 at Poplar Creek and San Jose Muni to $58 at Shoreline; weekend non-resident riding rates ranging from $71 at Sunnyvale GC and San Jose Muni, to $74 at Shoreline. NGF experience in this market reveals that posted green fees, as well as average daily green + cart revenues per round, have risen only very modestly over the last several years.
- The combination of growing population and decreasing golf course supply in recent years has made the per capita golf course supply ratios more favorable in the local and regional market. The recent closure that most directly affects Sunnyvale GC market share is nearby Santa Clara Golf & Tennis, which closed in October 2019 (mixed use City Center concept). Additional regional public golf course closings have included 36-hole Sunol Valley GC, 18-hole The Ranch in San Jose, and 18-hole Skywest Golf Course in Hayward. This dynamic should benefit Sunnyvale GC in terms of market share for daily fee play, though the facility is not suited to compete for whatever outings/tournaments are up for grabs, due to the lack of a driving range and food & beverage service.

Sunken Gardens GC Competitive Golf Market

Sunken Gardens' direct competition is from other alternative length golf courses in the market. Summary information for these short courses follows. The list is not exhaustive; other broader market 9-hole short courses that may be secondary competitors include the Santa Teresa executive 9H course, Links 9 Par-3 at Las Positas in Livermore, and Valley Gardens (9H Exec) in Scotts Valley.

The table below shows summary information for Sunken Garden GC and key competitors.

Sunken Gardens Golf Course & Key Competitors – Summary Information							
Golf Facility	**Type**	**Location**	**Year Open**	**Par**	**Back Tee**	**Foot Golf**	**Location Relative to Sunken Gardens GC***
Sunken Gardens Municipal Golf Course	9H Exec-MU	Sunnyvale	1955	29	1,502	Yes	-
Blackberry Farm Golf Course	9H Exec-MU	Cupertino	1962	29	1,544	Yes	3.5 miles SW
Deep Cliff Golf Course	18H Exec-DF	Cupertino	1960	60	3,358	No	4 miles SW
Pruneridge Golf Club	9H Exec-DF	Santa Clara	1967	30	1,770	Yes	3.5 miles SE
Rancho Del Pueblo Golf Course	9H Exec-MU	San Jose	2000	28	1,338	Yes	9 miles East
*Air Miles MU = Municipal DF = Daily Fee							

Sunken Gardens Golf Course & Key Competitors – Summary Fee Information								
Facility	**Type**	**WD/WE 9-Hole**	**Replay WD/WE**	**WD/WE Senior**	**WD/WE Junior**	**Cart Fees**	**Annual/ Multi-Play Program**	**Driving Range**
Sunken Gardens Golf Course	9H Exec-MU	$20/$24 $18/$21 RES.	$12/$14	-	$12/$12	$12	Golf Discount Card (sen./ jun.) $110 month - SAC - $15; unlimited play Mon-Friday	18 tee stations; lighted
Blackberry Farm Golf Course*	9H Exec-MU	$17/$19	-	$16/$19	$16/$16	$7 Two carts available for hndcp. only)	Unlimited Play Weekdays only and Every-day Passes offered Multi-play round cards offered.	2 artificial mats netted hitting cage $1 / $3
Deep Cliff Golf Course	18H Exec-DF	$22/$25	$15 / $24	$15 / $25	$15 / -	$15	Player Club Member Receive $5 off primetime rates	11- station netted hitting area, 35-yard driving range; $3.50
Pruneridge Golf Club	9H Exec-DF	$22/$24	-	$17/ NA	$12/$12	-	Players Pass $29 per month - single $59 per month - family + special rate of $6 WD/ $11 WE	Covered, two tier, lit facility. VIP members use grass range. Indoor & outdoor high-tech, stop motion video instruction. $8/$13/$17/$21
Rancho Del Pueblo Golf Course	9H Exec-MU	$15/$17	$8/$8	$11/NA	$7/$8	-	Not true membership; different clubs available	25 stations; 10,000 sq-ft bent grass putting green. Night-lit. $5/$7/$10: discount range key Pay $20 for $25 worth of balls. Pay $40 for $50 worth of balls. Pay $75 for $100 worth of balls
* Cupertino residents receive a $2.00 discount with proper identification of residency								

Key Findings – Competitive Market

- Sunken Gardens GC's most direct competitors include two 9-hole municipal executive golf courses, the city of San Jose's Rancho del Pueblo GC and the City of Cupertino's Blackberry Farm Golf Course, as well as daily fee Pruneridge Golf Club (9H Exec) in Santa Clara and 18H executive Deep Cliff Golf Course in Cupertino. Other regional secondary or tertiary market competitors include the Short Course at Santa Teresa Golf Club (9H Par 3), the Links 9 (9H Par 3) at Las Positas in Livermore, and Valley Gardens (9H Exec) in Scotts Valley.
- Most of Sunken Gardens GC's competitive set comprises older courses with varying levels of playing conditions and amenities offered. San Jose's Rancho del Pueblo is the newest of the courses, as it was a former 18-hole course renovated by the City after its acquisition and reopened in 2000 in its current configuration.
    - Sunken Gardens, Pruneridge, and Rancho del Pueblo all have lighted driving ranges, while Blackberry Farm and Deep Cliff offer netted hitting areas. All but Deep Cliff offer footgolf.
    - Pruneridge has the most extensive amenities, including a lighted, covered 2-tier driving range, VIP practice area, and both indoor/outdoor high-tech practice opportunities. The facility also has a fully stocked pro shop.
    - In terms of food & beverage services, most of these short courses have quality offerings. Sunken Gardens features the Old Greenwood BBQ at the Gold Rush Saloon, while Pruneridge has the new Aces Icehouse bar & grill, and Deep Cliff features the renovated DC Taphouse. Rancho del Pueblo has a café open on Friday, Saturday and Sunday, and a snack bar within the clubhouse, while Blackberry Farm golfers must rely on service from the separate Blue Pheasant restaurant above the small pro shop.
- These market alternative length courses are characterized by low fees, generally in the $15 to $25 range for 9-hole play, depending on day of the week. Based on relative quality and other market factors, NGF believes that green fees at Sunken Gardens are appropriate in the context of the fees for the market competitive short courses.
- At about 40,000 annual rounds, Sunken Gardens is the most active of the 9-hole short courses, which are estimated (based on recent history) to host between 20,000 (Blackberry Farm and Rancho del Pueblo) and 35,000 (Pruneridge) annual rounds.
- Par 3 and Executive courses – especially those of the 9-hole variety – tend to draw from very local markets and appeal primarily to certain segments of golfers, including beginners, juniors and seniors, as well as those that have constraints with respect to discretionary time and/or money. These facilities tend to have difficulty gaining traction among avid golfers. Also, green fees and revenues are generally constrained due to the nature of the golf courses, and active programming is often key to enhancing revenues.

Golf Subsidy Analysis

In this section, NGF compares and analyzes the FY 2018-19 general fund subsidy of the Sunnyvale Golf & Tennis Operations Fund ("Golf Fund") to the experience of other Bay Area / northern California municipal golf systems for that year. Because annual transfers-in from a public agency's general fund will often not match the actual operating loss for the enterprise fund from that year, ***we have used net operating income (loss) before depreciation as a basis for comparison between the City of Sunnyvale and other municipalities***. Examples of why an annual transfer-in may not match the operating loss in a given year: a city may have a built-up reserve in the golf enterprise fund that helps partially or even fully offset the year loss; or, a city may choose a certain year to "write off" accumulated loans to the general fund at the same time they fund that year's operating deficit.

In addition to comparing Sunnyvale Golf to other municipal golf systems, we compare the Golf Fund to other City of Sunnyvale programs and services in terms of cost recovery percentage achieved through user fees / other operating revenues. Finally, we examine the cost of maintaining the golf facilities as open space, should the City decide it no longer desired to subsidize the golf operations.

While one of the City's primary goals for this study is to establish what an "appropriate" or "reasonable" subsidy level is going forward for Sunnyvale Golf, we note that this is a subjective measure based on City objectives relative to the ideas of golf as a public recreation amenity vs. a self-sustaining enterprise. The consultant, meanwhile, is constrained to presenting what we believe is actually achievable by the Sunnyvale golf courses, based on objective facility and market analyses.

The following abridged excerpts from the City's FY 2020/21 Adopted Budget present the appropriate background and context for the subsidy analysis:

"While golf and tennis operations continue to face challenges over the twenty-year financial plan (increasing operational costs, deferred capital maintenance, seasonality due to its dependence on favorable weather conditions, the continued decline in the interest in golf nationally, etc.), revenues have been expected to grow modestly each year. With the COVID-19 shelter in place orders, however, revenue growth has been interrupted in FY 2019/20 and revenue projections for the current year were adjusted down. Projections for FY 2020/21 and FY 2021/22 have also been revised due to the continued uncertainty regarding the length of the impacts of the COVID-19 pandemic. The twenty-year financial plan assumes base levels of golf play return in FY 2022/23.

"The FY 2020/21 Adopted Budget includes General Fund contributions of between $1.5 to $2.0 million annually until FY 2023/24 when substantial contributions are planned to end. In FY 2020/21, $1.7 million is programmed for transfer to the Golf and Tennis Fund and reflects cost-savings adopted by Council in Budget Supplement 2. Given the revenue uncertainty related to the impacts of COVID-19, however, subsidy amounts will be revisited during the next budget cycle.

"Although positive strides in reducing operating costs are being made, operating expenses related to labor costs and the Fund's portion of rent for the new civic center will drive costs at a rate greater than the 2% revenue increase projected throughout the twenty-year plan. An additional concern over the longer term is that capital improvement projects needed at the golf courses are significantly underfunded. Fiscal strategies are required beyond FY 2023/24 to maintain a positive financial position and to continue funding operations and deferred infrastructure maintenance".

COMPARISON TO OTHER REGIONAL MUNICIPAL GOLF SYSTEMS

NGF researched FY 2018/19 operating results for fourteen (14) northern California municipal golf systems for comparison to the City of Sunnyvale golf system on the measure of what we have defined as Net Operating Income before Transfers (excluding depreciation). The comparable comparison was reduced to five (5) other facilities, as explained below. According to the City of Sunnyvale's FY 2018/19 Comprehensive Annual Financial Reports, or CAFR, the net operating loss before transfers for the Sunnyvale Golf Fund was $1,613,411, while the transfer-in / subsidy from the City's General Fund was $1,455,755.)

Methodology

The information and data sources used for this analysis included public records such as Comprehensive Annual Financial Reports (CAFR, such as was used for Sunnyvale), facility operators, municipal administrators, and a regional Municipal Golf Survey NGF created and distributed for this project. When selecting the other golf systems, finding direct apples-to-apples comparisons to Sunnyvale across multiple variables / system characteristics was impossible. However, we utilized a set of criteria to match Sunnyvale as closely as possible; these criteria included:

- Northern California location (greater Bay Area preference)
- Transparency of accounting - all but one golf system is enterprise or special revenue fund
- Similar golf inventory - preference one 18H regulation course plus one 9H short course
- City of similar mid-size population (exception to this rule among final list is San Jose)

Based on these criteria, NGF winnowed the original list of public agency golf systems down to five (5) other "comparables" to Sunnyvale Golf for purposes of our analysis. These are listed in the table on the following page, along with information about golf course inventory, city population, accounting method, and management structure, as well as summary financial information for FY 2018-19.

Summary Financial Results - Comparable Set						
Public Agency	**Hayward Area RPD**	**City of Modesto**	**City of Pleasanton**	**City of San Jose**	**City of Santa Clara**	**City of Sunnyvale**
Golf Course Inventory	18H + 9H (E)	Two 18H + 9H	18H	18H + 9H (E)[1]	18H	18H + 9H (E)
Accounting Structure	General Fund	Enterprise Fund	Enterprise Fund	Special Rev. Fund	Enterprise Fund	Enterprise Fund
Management Structure	Self-Operated by RPD through sublease	Management Contract	Management Contract	Management Contract	Management Contract	Self-Operated
Estimated Annual Rounds Played	65,000	75,000	46,826	66,403	47,000	97,875
Total Oper. Revenue/Charges for Serv.	$2,101,410	$2,419,938	$3,237,437	$2,843,987	$2,001,086	$3,586,593
Total Operating Exp. excl. Depreciation	$3,821,863	$2,928,525	$3,273,504	$3,946,428	$2,067,371	$5,200,004
Indirect / Admin./ Allocated Charges	$0	$142,779	$27,600	$0	$0	$407,692
Labor/Personnel Cost	$2,812,199	n/a	$1,289,184	$2,000,000**	$1,135,000	$2,467,528
Labor % of Total Expense	74%	n/a	39%	51%	55%	47%
Labor % excl. City Charges & Util.	76%	n/a	48%	57%	69%	60%
Utilities Expense	$120,000	$53,580	$550,359	$450,000**	$431,000	$698,741
Net Operating Income before Transfers	**-$1,720,453**	**-$508,587**	**-$36,067**	**-$1,102,441**	**-$66,285**	**-$1,613,411**
NOI Excluding City Charges & Utilities	**-$1,600,453**	**-$312,228**	**$541,892**	**-$652,441**	**$364,715**	**-$506,978**
Transfer In	n/a	$981,616	-$199,248	$2,700,000	$466,266[2]	$1,455,755
City Population*	160,197	220,126	79,392	1,047,871	127,401	155,766

*Population estimates are for 2019 and are provided by the California Department of Finance; **Estimate based on available data
Key: E = Executive length; n/a = information not available
1 Numbers include Los Lagos and Rancho del Pueblo golf courses; San Jose Muni, which is leased and provides ~$400,000 in annual rent to City, not included.
2 Santa Clara G&TC Fund had $4.22 million advance from general fund outstanding at time of golf facility closure (in addition to $3MM accumulated fund deficit).

Significant Findings

Following are NGF Consulting's key findings from the comparison of Sunnyvale Golf FY 2018-19 operating results to the five other systems:

- In terms of net operating loss (excl. depreciation), Sunnyvale had the second highest loss at more than $1.6 million, trailing only Hayward Area PRD, which lost $1.72 million on its 18H regulation Skywest Golf Course (now closed permanently) and 9H executive Mission Hills GC. San Jose also had a $1 MM+ loss for 18H regulation Los Lagos GC and 9H executive Rancho del Pueblo GC (San Jose Muni not included because it is leased to a private operator). In addition to the $1.1 million operating loss on these two facilities, San Jose had a debt service payment of $1.9 million related to the construction of Los Lagos and other improvements.
- Four of the five systems that had either enterprise or special revenue fund accounting (Hayward Area RPD is general fund) for golf reported a 'Transfer In' from the general fund for FY19 operations, ranging from $466,000 for Santa Clara (golf course now permanently closed) to $2.7 million for San Jose. Sunnyvale had the second highest transfer in, at $1.445 million.
- In comparison to the other five systems in our comparable set, the City of Sunnyvale Golf System has high utility (predominately irrigation water) costs, as well as high "indirect" fixed costs, such as In-Lieu charges and allocated departmental expenses. For Sunnyvale, these indirect charges plus utility costs totaled more than $1.1 million in FY19, or 21% of the total expenses listed for the Golf Fund in the City's CAFR. *In other words, the expenses for Sunnyvale Golf are "fully loaded in".*
    - For comparison, of the other four enterprise or special revenue fund golf systems, two (San Jose and Santa Clara) **did not** allocate general fund indirect charges to the golf fund, while for the other two (Modesto and Pleasanton), the charges – about $143,000 and $28,000, respectively - were much lower than Sunnyvale's total of ~ $408,000 in FY19. *We note that all four of these golf systems were operated via private management contract, an operating structure that NGF has observed generally results in a lower level of indirect charges from the general fund to the golf fund in comparison to systems operated with staff employed by the public agency*.
    - Likewise, in terms of utilities cost (again, mostly irrigation water), the average annual cost for the other 5 systems was $312,000, or 123% lower than Sunnyvale's cost of just under $700,000 in FY19.
    - The Golf Fund also showed a loss of nearly $256,000 on food & beverage operations alone in FY 19.
    - ***After subtracting out general fund charges and utility costs for Sunnyvale and the five comparative systems, Sunnyvale's net operating deficit would be just ($507,000) in FY19, compared to an average loss of ($332,000) for the other five systems***.
- Another contributing factor to **Sunnyvale's** continuing large annual operating losses (and, hence, required subsidies) are high labor costs. At nearly $2.5 million in FY19, the Golf Fund's labor expense, including benefits, was more than twice the average cost of labor for Santa Clara and Pleasanton, and about 23% higher than San Jose. Only Hayward Area RPD, with more than $2.8 million in personnel costs, was higher than Sunnyvale (Modesto labor cost information not available, but if 50% of total operating expenses, would be less than $1.5 million). NGF research over the years, including survey data compiled for municipal golf courses in 2020, has consistently shown that average labor costs for municipal golf courses (equalized per hole and by region) that are operated under fee-for-service management agreements are generally about 15% to 20% lower than for those operated with public employees.

Per-Unit Metrics

The table below summarizes where Sunnyvale ranks on the metrics of net operating loss per: 1) Resident; 2) Round of Golf; and 3) Golf Hole. (**Note**: Number of unique users for the Sunnyvale golf courses was not made available to NGF, so this metric unavailable).

NGF summary observations:

- For net *operating loss per resident*, **Sunnyvale** ranked as the second highest among the subset of 6 public agencies, at $10.36 per resident. HAPRD had the highest loss per resident at $10.74, while the other four cities ranged from a loss of $0.45 (Pleasanton) to $2.31 (Modesto) per resident.
- For net *operating loss per round of golf*, **Sunnyvale** ranked as the third highest among the subset of 6 public agencies, at $16.48 per resident. HAPRD had the highest loss per resident at $26.47 and San Jose was second at $16.60. The other three cities ranged from a loss of $0.77 (Pleasanton) to $2.31 (Modesto) net operating income (loss) per round.
- For net *operating loss per golf hole*, **Sunnyvale** ranked as the second highest among the comparable set, at $59,756 per golf hole. Once again, HAPRD had the worst metric, losing $63,720 per golf hole in FY19. San Jose was third highest at a loss of $30,623, while the other three cities had much lower losses per hole, ranging $2,004 (Pleasanton) to $11,302 (Modesto).

Summary Subsidy Metric Rankings

Public Agency	Net Operating Income before Transfers	Subsidy* Rankings (highest to lowest)	NOI per Resident	NOI per Resident Rank	NOI per Round	NOI per Round Rank	NOI per Golf Hole	NOI per Golf Hole Rank
Hayward Area RPD	-$1,720,453	1 of 6	-$10.74	1 of 6	-$26.47	1 of 6	-$63,720	1 of 6
City of Sunnyvale	-$1,613,411	2 of 6	-$10.36	2 of 6	-$16.48	3 of 6	-$59,756	2 of 6
City of San Jose	-$1,102,441	4 of 6	-$1.06	4 of 6	-$16.60	2 of 6	-$30,623	3 of 6
City of Modesto	-$508,587	3 of 6	-$2.31	3 of 6	-$6.78	4 of 6	-$11,302	4 of 6
City of Santa Clara	-$66,285	5 of 6	-$0.52	5 of 6	-$1.41	5 of 6	-$3,683	5 of 6
City of Pleasanton	-$36,067	6 of 6	-$0.45	6 of 6	-$0.77	6 of 6	-$2,004	6 of 6

*Defined as Net Operating Income before Transfers

GOLF COST RECOVERY PERCENTAGE VS. OTHER CITY PROGRAMS

NGF Consulting was also asked to compare the cost of golf to other City of Sunnyvale programs. Our experience in working with hundreds of municipal golf systems has been that, even in cases where golf does not operate at breakeven or a profit, it typically has among the highest - and usually the highest - cost recovery percentages among a given municipality's recreational programs, services and amenities. The table below summarizes this comparison of "cost recovery" for the City of Sunnyvale. As we can see, the Golf Fund had a substantially higher cost recovery percentage compared to the other City programs referenced, despite the fact that Golf is "fully costed", including City "In-Lieu" and allocated overhead charges, while these costs and others such as facilities maintenance expenses are *not* included in the calculation for the other programs.

Comparative Cost Recovery Percentages: Golf vs. Other City of Sunnyvale Programs – FY 2019

Program	Cost Recovery Ratio*
Golf & Tennis Fund (excl. depreciation)	69%
Golf & Tennis Fund (including depreciation)	65.7%
Community Services Division (Prog. 527 & 626)	51.8%
527 Youth and Family Services	21.4%
626 Arts and Recreation Programs	56.2%

*City: Ratio Does Not Include Overhead, Capital, All Maintenance, or All Utility Costs

COST TO MAINTAIN AS PARK SPACE

A final consideration if the City were to decide that continuing to provide the golf amenities to its residents at or near the current level of annual subsidy is not financially feasible, is maintaining the Sunnyvale GC and/or Sunken Gardens GC acreage as park space. In a document provided to NGF by the City called *Responses to Council Questions from the FY 2020/21 Budget Workshop*, staff responded to a Council question about the average cost per acre to maintain the golf courses vs. the average cost per acre to maintain parks. Following are the conclusions / takeaways:

- The annual cost to maintain an acre of Park is approximately $34,704, based on the portion of Program 267.05 (Parks and Open Space Management) that is centered on Maintenance Activities.
- Based on this estimate, the total cost to maintain the 91.87 acres of Sunnyvale GC not being leased from NASA as open park space would be roughly $3,188,256, while the cost to maintain Sunken Gardens GC would be about $1,049.102.
- In total, the acreage of the two City golf courses, minus the NASA land, would cost about $4.24 million annually to maintain as park space, with no revenue attached to the land use (except, perhaps, for tower rent revenue of about $33,000, growing annually at 2%. For comparison, the annual subsidy for golf was $1.455 million in FY 2018-19, and is projected to be between $1.5 to $2.0 million annually through FY 2023-24.
- Another consideration when comparing cost to operate as passive park space vs. golf would be the cost of any noncancelable leases for the golf operation during the duration of the lease.

NGF SUMMARY CONCLUSION – SUBSIDY ANALYSIS

NGF believes the Sunnyvale Golf & Tennis Operations Fund's continued annual operating losses and general fund subsidies – totaling more than $3.7 million, cumulatively, for the FY 2016-17 through FY 2018-19 period – are high for a golf enterprise fund, based on NGF experience. The results of our regional benchmarking analysis bear this out, as do the results of NGF's recent national municipal benchmarking survey (*results not released as of this report*). *However, Sunnyvale Golf's FY19 operational deficit compared more favorably to those of the other five municipal systems in our comparable set when equalized for irrigation water costs and City indirect charges to the Golf Fund.*

Of course, the magnitude of the subsidy is subjective, based on the public policy of how municipal golf is viewed within a community – i.e., business vs. public recreation amenity (or even a combination of both). Also, as we just saw, the Golf Fund's recent annual financial results can be viewed within the context of cost recovery, with golf & tennis recovering about 69% of its operating costs in FY19, which compared favorably to the other City programs noted above. Finally, in the context of potential alternate uses of the golf course land, we saw that the City estimates the current annual cost to maintain the golf courses as parkland to be about $4.24 million, *or nearly three times the actual subsidy amount for the Golf Fund in FY 2018/19*.

There are certainly mitigating factors causing these large-scale deficits for Sunnyvale Golf, such as: market competitive factors; aging infrastructure and deferred capital at each golf course; the lack of a driving range and food & beverage service at Sunnyvale GC; the golf system's high cost of public labor; and, the fact that the Golf Fund starts each year with well over $1 million dollars in fixed expenses related to irrigation water and various City charges and allocations. Also, food & beverage operations at Sunnyvale GC contributed about $256,000 to the overall operations deficit in FY19, and more than $354,000 in FY20.

Whatever the reasons for these continuing large-scale operating deficits and general fund subsidies, our experience has been that when losses and subsidies become recurring – and are even budgeted for as in the case of Sunnyvale – it generally portends a conversion to general fund accounting for golf. California cities that have recently made this change include Livermore, San Mateo, and Ventura. NGF believes this should be studied carefully by the City, especially in light of the large-scale capital investment needed to improve the golf courses and keep them competitive for the longer-term future.

Potential Approaches to Improving Sunnyvale Golf Revenue Model

In this section, NGF Consulting organizes potential revenue enhancement opportunities for Sunnyvale Golf into two components: (1) Physical Facility Improvements (potential approaches presented for both Sunnyvale GC and Sunken Gardens GC); and (2) Potential Operational Revenue Enhancement Opportunities.

The NGF team believes that if the City wants to continue to provide residents the golf and tennis recreation amenities, regardless of the likelihood of ongoing subsidies, the most likely path to meaningfully reducing annual operating deficits is to invest in the facilities. We have noted longstanding deferred capital needs resulting from infrastructure that is well past expected useful life, as well as deferred maintenance due to tight operating budgets.

Improving the facilities should allow the City to increase rounds played and the average golf fee revenue per round, and potentially create a new revenue center with the addition of a driving range. In short, extensive facility improvements will make the golf courses more competitive and economically viable, and help ensure their sustainability for the long term. Of course, the proposed improvements will cost multiple millions of dollars. As NGF understands it, the Park Dedication Fund is a potential source of financing.

Below we present potential facility improvement scenarios for addressing capital needs, including discussion of approaches the NGF consulting team believes would make Sunnyvale GC and Sunken Gardens GC more attractive to area golfers and potentially result in a reduction of the annual subsidies of the Golf & Tennis Fund.

POTENTIAL FACILITY IMPROVEMENT APPROACHES – SUNNYVALE GC

Baseline Approach — 18-Hole Regulation Course & Full-Length Practice Range

(See Appendix C, Exhibit 4)

Of the potential options for improving the Sunnyvale GC facility to enhance revenue that the NGF team analyzed, the "**Baseline Approach**" - a limited reconfiguration to achieve a full-length practice range - represents the lowest level of changes to the golf facility, and hence the lowest cost. While other smaller footprint amenities can be considered, such as a short game area, putting course, indoor simulators, etc., none in our opinion would generate revenues close to the level of what a full-length driving range would. Other Bay Area courses have proven this amenity to not only be a profit center, but highly used as a recreation offering to residents and visitors. This opportunity requires reconfiguration of the course to "make room" for such a practice facility.

The "Baseline Approach" looks at the minimum investment for reconfiguration to achieve this objective. The approach retains a par-70, 6,200-yard layout, which we feel is the threshold that should be maintained, and involves building five (5) new green sites and transforming golf holes to yield a front nine with a par-33 and a back nine with a par-37. (*In all of the potential approaches presented in this section, we have retained the regulation length par-70 course, feeling that this remains the most viable and marketable course type for the City to own and operate in this market*).

A full-length range is accommodated where existing Hole Nos. 1 and 2 are currently situated. The pond at that location would be removed. A new pond is shown at new Hole No. 18. While retaining golf holes in

this area along with developing a new range facility has been studied, this does not appear to be feasible. Even if land were able to be devoted to golf holes in this area with a range addition, the area would essentially be "orphaned" and the resulting golf holes would not articulate to the balance of the course. Also problematic would be pole and netting heights relative to nearby offices and the 237 Freeway. The design analysis shows that the area is basically efficient to house a range of customary width and length, and would not necessarily need a dual level tee area as the tee could be 300 feet or more in width. This is a significant savings over building a decked system at the tee area.

Overlaid to this approach (plan) are known aviation (FAA) safety zones. Also shown is the approximate location of the main water line easement that traverses the course. This exhibit shows conceptual golf holes as they would be routed to take advantage of existing green sites, tree corridors and ponds. The plan establishes vast improvements to many areas relative to safety (errant ball potential) compared to the existing course routing. Of note is removal of existing Hole Nos. 1, 5, and 18, where current setbacks are most problematic from a safety standpoint.

Another benefit of this approach is getting the two nines to return generally to the clubhouse area, which should promote 9-hole rounds and offer a level of flexibility to the operation and to customers.

For the baseline approach we have provided a preliminary probable cost range for developing the range and the associated bare minimum golf hole reconfiguration work, based on recent consultant experience in market, prevailing wage assumptions, etc. A replacement clubhouse site is shown along with future practice greens of which one could be a dedicated short game area, though the cost of these elements is not included in the preliminary cost estimates.

Key Golf Benefits:

- 18-Hole Regulation Course
- 6,200-yards (back tee length)
- Par-70 (33 + 37)
- Returning Nines (Nos. 9 and return to the clubhouse area)
- Full-length Practice Range

Key Revenue Enhancements:

- Direct practice range revenues
- Potential additional revenues from complementary uses/services, such as events, programs, merchandise sales/club-fitting, demo days

Cost Range (preliminary ranges provided based on conceptual approaches; 2020 dollars):

- Golf Re-configuration* (new tees and greens as required): $1.7 – $2.0 million
- Golf Practice Range** $1.5 – $2.5 million

*Assumes irrigation retro-fitting, tee and green work to facilitate the re-routing to free up area of existing Hole Nos. 1 and 2. **Assumes single-level; 30-35 tee stations; steel poles 80' to 100' high; netting; concrete hitting area. High end of cost range includes artificial turf landing area, target greens, lighting.

NGF Consulting provides the very preliminary cost range of $3.2 million to $4.5 million in today's dollars for the "Baseline Approach" plan. (Lower end of the cost range could be realized without the synthetic turf and the lighting). This range is limited to the conceptual approach provided as part of this study and our understanding of golf facility (prevailing wage) construction in the Silicon Valley region. *Of course, prior to acting, the City should more formally study the potential site and financial feasibility of adding the practice range at Sunnyvale GC.*

NOTE: An option evaluated for Sunnyvale GC was to look at the possibility of establishing some type of practice area/range that may be configured in less space than a traditional full-length range (perhaps occupying 8-12 acres). One method of allowing "full shots" by players is to use a golf ball with a significantly reduced weight, translated to a much shorter distance. One such ball, the "Point Five", allows full shots with the result being approximately 35% of the distance of a standard ball. Some facilities are converting to such balls to reduce liability, especially those where the practice area adjoins residential or other land uses.

Many older golf facilities were not laid out with what are now considered adequate set-backs, or enough acreage devoted to the range footprint. In some cases, poles and netting are simply not able to be raised to heights necessary to contain standard flight golf balls. With reduced-flight balls, these facilities have been able to retain practice uses. At Sunnyvale GC, this approach could work, although our experience shows that many avid golfers have an aversion to using such limited flight balls. So, a reduced-footprint range may not draw the level of demand necessary to produce a positive return-on-investment, or perhaps require a long payback period. This possibility, taken together with the cost to make changes to the course to accommodate a range of perhaps 4-5 acres, would, in our opinion, make this option infeasible.

More Intensive Approaches to Improvements and Enhanced Revenue Opportunities

NGF Consulting believes that the Sunnyvale Golf Course has a strong potential to become more than just an ordinary golf facility with "customary" conditions and an "expected" guest experience. Because of its location within Silicon Valley, and with great access from all directions, we feel that the facility, following a well-planned reconfiguration and renovation program, would be well-positioned to compete among the higher quality municipal golf courses in the area, such as Baylands Golf Links.

To accomplish the goal of elevating the golf facility and experience we recommend a strong design theme be a part of any improvement/reconfiguration program. Forrest Richardson, ASGCA, has provided conceptual ideas demonstrating a design theme where Sunnyvale is treated as a more natural landscape, while maintaining the rich parkland heritage of mature trees and its urban setting.

Treatments, such as simplified bunkering and greens with formal (rectangular) tees, will give the appearance of a classic golf facility that looks as if has been around for much longer than its 1960s origination. The combination of tree management, naturalized zones and classic features will collectively create an ambiance to "put Sunnyvale on the map" in terms of must-play public golf courses in the Bay Area. Sunnyvale Golf Course is literally at the heart of Silicon Valley. This attribute, if carefully combined with the theme and certain approaches, could render a win-win project of tremendous value to the City and its residents.

The "look and feel" expressed in the Richardson theme will also help reduce certain maintenance efforts, allowing staff to shift resources to more crucial areas, such as greens, tees and fairways. We would expect that the intensely managed turfgrass footprint could be reduced to approximately 65-70 acres, well below its present coverage of 90± acres. Water usage and irrigation investment would be reduced, a long-term savings to the City.

To be met, the opportunities require the following goals:

- Retain 18 holes
- Maintain Par-70 (regulation length ≥6,000 yards)
- Add full-length Practice Range
- Enhance the facility (all areas, conditions and quality)
- Plan for Non-golf Revenue sources

Two specific approaches are provided with respect to Sunnyvale Golf Course improvements that go considerably beyond the less-intensive Baseline Approach presented earlier. In the exhibits in Appendix C, each has been put into a simplified plan format in order to demonstrate potential site feasibility. Golf holes are shown with simple stick-figure representation. New green sites are distinguished from existing sites with a green infill. Each approach ("A" and "B") allows for significant revenue increases, and each also allows the City to expand the site opportunities to include uses beyond the golf course itself. This is intended to make the facility - even though a golf course - more attractive to non-golfers by adding amenities and development that has a broader appeal and will include even more residents and visitors.

Since virtually all infrastructure (irrigation, drainage and rootzones), course features and the clubhouse are in need to be refurbished or fully replaced, a complete reconfiguration may be managed within virtually the same investment cost that would be required to leave all golf holes in their same location with no changes and effectively "repair / renovate in place". The benefits of a full reconfiguration are many as further explained below.

Approach "A" — 18-hole Regulation Course, Full-length Practice Range

Approach A involves re-routing golf holes, including establishing (6) new green sites. The reconfiguration renders an essentially "new" golf course in terms of all infrastructure and features. The approach is depicted in Appendix C, Exhibit 5, which generally shows known aviation (FAA) safety zones. Also shown is the approximate location of the main water line easement that traverses the course. This exhibit shows conceptual golf holes as they would be routed to take advantage of existing green sites, tree corridors and ponds. The plan establishes vast improvements to many areas relative to safety (errant ball potential) compared to the existing course routing.

Benefits of this approach are having Hole No. 1 and No. 10 both near to the clubhouse, at the exit of the tunnel leading from the clubhouse area. Hole No. 9 returns and is immediately near to Hole No. 10, allowing golfers playing 9 holes to quickly get to the clubhouse. Hole No. 18 finishes as it currently does, at the clubhouse area. The plan conceptually shown has a variety of hole lengths among par-3s, 4s and 5s. It is unusual in that there are three par-5s and four par-3s on the front nine, with only two par-4s. This feature, which allows retention of par-70, would be an unusual characteristic but highly enjoyable as par-3 and par-5s are among the holes types where all player types are often able to post good scores.

We envision under this approach that all golf features will be fully reconstructed with all new infrastructure (irrigation, drainage, etc.) and that a full re-grassing of the course would take place.

A new pond would be constructed near the existing pond at Hole No. 18. Adding this pond would effectively replace the pond that currently exists between Hole Nos. 1 and 2, and would be filled in to allow for the new practice range (see below). Two new practice greens would also be constructed, of which one may be a dedicated short game amenity. There is ample space to also consider a public putting course that could serve area corporations, perhaps becoming a lunchtime activity that would further the Parks Department goals to provide outdoor activities for residents and visitors.

A new, full-length practice range will occupy the far southwest portion of the site where current Hole Nos. 1 and 2 are now located. This range will require full perimeter enclosure with poles and netting to protect both the 237 Freeway and adjacent corporate offices. The range is angled away from the 237 Freeway with a set-back along the right side. Netting height is assumed to be in the 80-100 feet range based on known FAA surface thresholds, although this requires further study. The range tee is shown at approximately 260-feet in width, capable to handle 25± users at any given time. This tee area may also be studied to be two levels, translating to 50± users at any given time. The maintenance facility would remain in its present location, and would have direct access to the new range for maintenance purposes.

A new clubhouse site is shown in roughly the same location as the existing clubhouse. Flexibility in this plan would allow options to place a new clubhouse, and also the size and overall programming for this facility. Access and parking for golf is shown in its present location. Phasing of a new clubhouse,

including razing the existing structure and placement of a temporary facility, could easily be accommodated by using the existing parking, proposed range and/or other areas.

Key Golf Benefits:

- 18-Hole Regulation Course
- 6,100 yards (back tee length)
- Par-70 (35 + 35)
- Returning Nines (Nos. 9 and return to the clubhouse area)
- Full-length Practice Range
- All New Golf Features
- Short Game Area

Potential Revenue Enhancements:

- More Competitive Golf Asset (i.e., more rounds and/or higher average green fees)
- Practice Range Revenues
- Short Game Area Amenity
- New Golf Clubhouse & Grill (±8,000 s.f.)

Cost Range (preliminary ranges provided based on conceptual approaches):

- Golf Re-building/Reconfiguration (18 holes): $5.5 – $6.0 million
- Golf Practice Range (single-level; ~30-35 stations): $1.5 – $2.5 million
- New Clubhouse*: $2.5 – $3.0 million
- Site Improvements (other): $0.5 – $1.0 million

*Not including equipment and furnishings.

NGF Consulting provides the very preliminary cost range of $10 million to $12.5 million (2020 dollars) for a complete overhaul of the golf facility based on Approach A. This range is intended only as a guidepost. It is limited to the conceptual approach provided as part of this study and our understanding of golf facility (prevailing wage) construction in the Silicon Valley region. The next step to addressing feasibility will be an in-depth master plan and feasibility analysis that would further address golf facility improvements, including a new clubhouse.

Approach "B" — 18-hole Regulation Course, Full-length Practice Range

Approach B also involves re-routing golf holes, including establishing (8) new green sites. The reconfiguration also renders completely new infrastructure and features. The approach is depicted in Appendix C, Exhibit 6, which generally shows known aviation (FAA) safety zones. The approximate location of the main water line easement that traverses the course is also depicted. This exhibit shows conceptual golf holes as they would be routed to take advantage of many existing green sites, tree corridors and existing ponds. Approach B makes significant improvements to some areas relative to safety (errant ball potential) compared to the existing course routing.

To facilitate the range, holes are shown in the conceptual plan to be re-routed and creatively positioned to take advantage of the available land. Not only does the plan permit a full-length range, but frees up space (currently where Hole Nos. 1 and 2 exist) for potential future other golf or recreation uses.

One hole, No. 4, is shown in an area identified as an archeological site. Depending on what restrictions may be applicable, this hole could be configured with no disturbance between tees and green (as a short par-3), or the hole may be relocated. If relocated, changing what is shown as Hole No. 5 into a shorter par-5 with Hole No. 4 shifted eastward from where it is shown on Approach B would be a potential solution. Ideally, if this plan were to be implemented, the aforementioned method of leaving the archeological site intact with the golf features of Hole No. 4 to either side of the site would be best.

Approach B also has the unusual characteristic on the front nine of three par-5s and four par-3s. The two par-5s on the back nine (Nos. 10 and 15) would be very interesting holes defined by trees, bunkers and naturalized areas. This routing has just five par-4 holes, whereas "typical" golf courses have ten. As noted, the higher number of par-3s and 5s is appealing in that players of all abilities will enjoy these holes and the associated ability to have scoring success.

All golf features will be fully reconstructed with new infrastructure (irrigation, drainage, etc.) and a full re-grassing of the course would take place. Two new practice greens would also be constructed, of which one may be a dedicated short game amenity. As with Approach A there is ample space to also consider a public putting course to serve the area's dense residential and corporate neighborhoods.

A new, full-length practice range is shown in the area now occupied by Hole Nos. 15 and 16. The re-routing provides returning nines with 15 holes north of the 237 Freeway and three holes remaining south. Netting height is assumed to be in the 80-foot range based on known FAA surface thresholds, although this requires further study. The range tee is shown at approximately 320-feet in width, capable of hosting 35± golfers at any given time. This tee area may also be studied to be two levels, translating to 70± users at any given time. This range location is likely to require less perimeter height as it borders no roadways or adjacent property owners.

Key Golf Benefits:

- 18-Hole Regulation Course
- 6,000 yards (back tee length)
- Par-70 (35 + 35)
- Returning Nines (Nos. 9 and 18 return to the clubhouse area)
- Full-length Practice Range
- All New Golf Features
- Short Game Area

Potential Revenue Enhancements:

- More Competitive Golf Asset (i.e., more rounds and/or higher average green fees)
- Practice Range Revenues
- Short Game Area Amenity
- New Golf Clubhouse & Grill

Cost Range (preliminary ranges provided based on conceptual approaches):

- Golf Re-building/Reconfiguration (18-holes): $5.8 – $6.2 million
- Golf Practice Range (single level tee area): $1.5 – $2.5 million
- New Clubhouse: $2.5 – $3.0 million
- Site Improvements (other): $0.5 – $1.0 million

NGF Consulting provides the very preliminary cost range of ~$10 million to $12 million for a complete overhaul of the golf facility based on **Approach B.** This range is intended only as a guidepost. It is limited to the conceptual approach provided as part of this study and our understanding of golf facility (prevailing wage) construction in the Silicon Valley region. The next step to addressing feasibility will be an in-depth planning and feasibility analysis to further address golf facility improvements.

Approach Comparisons

NGF offers both approaches so that each may be compared and weighed further, against each other and the less-intensive **Baseline Approach** presented at the beginning of this section. Under **Approach B**, there appears to be a significant benefit in freeing up more land for potential other golf uses, such as a pitch -n- putt course (not studied), or other recreation use. Approach B also reduces the overall turf footprint of the golf course, which can result in minor maintenance and/or water cost savings.

While the resulting golf course of **Approach B** is slightly less in length (6,000 yards as compared to Approach "A" at 6,200 yards) we do not view this as an obstacle to creating a marketable golf offering. Given the design theme and approach provided by Forrest Richardson, we see Sunnyvale GC as being a more marketable 18-hole course. The renovated and reimagined course would not rely on length as its primary attribute. Rather, we see the "new" Sunnyvale GC as a fun, enjoyable golf experience that has elements of classic era courses. Strategy and interest would be the main hallmarks, as opposed to an emphasis on length. This approach also results in a routing with returning nines, which may become increasingly important in the future as shorter-duration golf rounds continue to gain popularity.

POTENTIAL FACILITY IMPROVEMENT APPROACH – SUNKEN GARDENS

NGF Consulting, together with Forrest Richardson, ASGCA, recommends that the Sunken Gardens golf asset be further evaluated in the context of determining the best and most viable option to renovation weighed against full replacement. While land use restrictions preclude development into non-golf uses, there may be opportunities along with a clubhouse renovation to add space for enhanced food and beverage, golf simulators, or other amenities that could be realized with a relatively small footprint.

The format for such evaluation and analysis should be a master plan, incorporating as much revenue enhancement and other improvements as is reasonably warranted. While the facility may be able to continue to operate for the short term given the low fees and attendant expectations of its customers, we believe that most all of the golf features and infrastructure (irrigation being the primary system) needs to be fully replaced in the coming years. Whether certain infrastructure, such as main lines (larger diameter pipes) and greens rootzones, can be preserved would be determined by such study. A qualified golf course architect, together with a team comprising a golf agronomic consultant, golf irrigation consultant and clubhouse designer, would prepare a master plan and then submit findings for financial analysis. The plan would include probable costs, sequencing and phasing, with associated improvements and facility enhancements.

The outcome is likely a series of options, each with a corresponding benefit analysis. The focus points of a master plan analysis are recommended to include the following:

- Preservation of the 9-hole format and routing (with safety mitigations)
- Safety Analysis (errant balls)
- Agronomic Evaluation and Recommendations
- Irrigation Assessment (retro-fit or replacement options)
- ADA Compliance Evaluation
- Practice Range Work (mitigation of errant balls, other improvements)
- Expanded Short Game Area
- Golf Clubhouse Enhancements

The "Master Plan" would be used by the City to determine how best to move forward, and under what funding mechanism, such as the Park Dedication Fund. While we cannot predict a total required investment at Sunken Gardens without further study, we believe the range of anticipated costs, without the parking and clubhouse areas included, is in the range of $2.5 million to $3.5 million in 2020 dollars. This represents only a very high-level, preliminary estimate based on the site acreage, number of holes, conditions as reported, and what we view as the most pressing issues.

Sunken Gardens, because it does not hold the potential to become a regional "must play" golf facility, can be thought of as a neighborhood golf "park" that caters mostly to locals, including strong contingents of juniors and seniors. However, this does not mean that necessary facility improvements can be ignored indefinitely. The deferred capital, if left to escalate, will become more difficult and costly to correct, so we believe now is the time to plan how best to improve and renovate this pleasant 9-hole facility.

POTENTIAL OPERATIONAL REVENUE ENHANCEMENT OPPORTUNITIES

Aside from enhancing the golf course products through an improvement program such as those recommended in this section, NGF does not believe there is any "low hanging fruit" in terms of additional revenue generation at the Sunnyvale golf courses that will significantly reduce the level of ongoing operational deficits requiring City subsidy. Because of the competitive nature of the local public golf market and the level of deferred maintenance / capital at Sunnyvale GC and Sunken Gardens GC, they are essentially confined to competing as 'value' golf courses.

On the expense side, we have previously noted the very high fixed costs associated with irrigation water and general fund charges to the Golf Fund. Additionally, the cost of labor is high and cannot realistically be trimmed, as staffing is already very lean and to reduce personnel or hours would likely make the golf courses less competitive. One way an increasing number of municipalities shave anywhere from 15% to 30% from their labor budget is to enter into a third-party management agreement; due to the California minimum wage legislation, most savings are attributable to replacing the public labor benefit structure with a private one. (A typical annual management fee in this market would be equivalent to about 4% to 6% of facility gross revenues). The City has indicated to NGF that it does not want to outsource management at this time.

NGF has not identified any feasible "fiscal policies" – short of a high level of capital investment in the golf facilities– that will be game-changing in terms of eliminating or even meaningfully reducing the level of general fund subsidies for golf. However, we recommend the City consider the following strategies, some or all of which may improve golf facility financials to some degree:

- **Raise Green Fees Modestly** – NGF's golfer surveys undertaken as part of this project indicated that most golfers would be willing to pay moderately higher green fees so that the City can help defray some of the rapidly rising costs necessary to operate the golf courses. Of Sunnyvale GC survey respondents, 3 out of 4 indicated they would be willing to pay some level of fee increase in order to help with the viability of the golf course, while nearly 4 out of 5 Sunken Gardens respondents indicated the same. (Increases could be presented as capital surcharges, with associated revenues going into a set-aside fund). Even a $2 increase in average green + cart fee revenue across all rounds – assuming no decline in demand – could add close to $200,000 in annual revenue, with very little associated variable cost.
- **Add Driving Range at Sunnyvale Golf Course** – As we discussed in our approaches to physical improvements to Sunnyvale GC, adding a 30 to 35-station driving range at Sunnyvale GC appears to be site feasible. Based on a favorable location, the loss of the Santa Clara G&T driving range, and revenue figures attained for San Mateo's Poplar Creek, Palo Alto's Baylands Golf Links, and San Jose Muni, we have estimated year 1 gross revenue of $17,000 per tee station for a new driving range at Sunnyvale GC.
    - If a driving range was added at Sunnyvale, there will be additional revenue opportunities related to adding a technology component (e.g., launch monitors, TopTracer Range, etc.) and aggressively programming around it. This is a growing trend NGF is observing across the US. An example in California is the City of Sacramento's Haggin Oaks Golf Course, which is open 24 hours in season and features The Hangout food truck, raised synthetic turf target greens, music, games & contests, and Trackman on several stalls. Another example NGF observed on a recent consulting assignment is the programming around the driving range at the City of Loveland, Colorado's Mariana Butte GC: https://www.golfloveland.com/city-government/departments/parks-recreation/golf-courses/mariana-butte-golf-course/games-on-the-range
    - Adding a driving range at Sunnyvale GC should also enhance lesson revenue (now essentially zero) and merchandise/club fitting revenue.

- **Themed Programming & Events** – Creative golf-themed events, on both the golf course and the driving range, are becoming popular with operators looking to make golf more fun for less committed golfers, including many young adults who want their recreation to be 'experiential'. The Sunnyvale/Mountain View/Silicon Valley area is rich in prospects for various types of events. Examples of events that NGF has observed include:
    - Weekly **9-Hole Scrambles** that generate green/cart fees, entry fees, merchandise sales and food & beverage revenues before and after the event.
    - **Wine & Nine** – combines 9 holes of golf with a wine social; these types of events have become ubiquitous at golf courses and are particularly popular among women, including beginning golfers.
    - **'Balls & Beers'** at the driving range. Participants pay a small fee for the event, which can feature a keg (or craft beers from local brewers) and unlimited range balls for an hour, with a golf pro walking the range giving quick lessons and tips.
    - **'Car Wars' / 'Bar Wars' –** over time, recruit local car dealerships, bars, and other businesses to participate in weekly or bi-weekly afternoon leagues.
    - Sacramento's **Haggin Oaks GC driving range**, noted above, is open 24/7 from May through October. It features a Power Tee system, radio sound system, and putting course, which is utilized for contests and tournaments. Various events are held at the venue, which also has The Hangout food truck. These events attract many young adults and, as with Topgolf, golfers are recruiting some of their non-golfing friends to come along.
- **Food & Beverage Service –**At public golf courses, having some level food & beverage offering is typically more about providing a service to golfers - and not giving them a reason to golf elsewhere - than it is about generating profits. Recognizing that the City has not budgeted any type of F&B at Sunnyvale GC going forward, NGF recommends the City consider at least the following:
    - Repurpose part of the pro shop area and equip it sufficiently so that the facility can offer **grab and go items**, such as fresh premade sandwiches, as well as hot dogs, beverages, snacks, etc. Also, make coffee, juice, Danish, etc. available for early morning golfers.
    - Run an outside **barbecue grill** during busier times, league play, etc., with items such as hamburgers, hot dogs, and grilled chicken at the ready.
    - Hire a part-time salesperson (base plus commission, if permitted) to market **rentals of the upper floor space at Sunnyvale GC** for events, corporate team-building events, etc. Perhaps invest in a golf simulator or two on this floor or in the pro shop area for rentals, leagues, contests, etc.
    - For Sunken Gardens, the private vendor can create events such as Sunday Brunch, 50-cent Wing Night; Monday Night Football/college football Saturday/NFL Sunday events; Trivia Night (buffet menu); Pub Night, with light fare menu.
    - See if the Sunken Gardens concessionaire would be interested in bringing a food truck to Sunnyvale as well, as least during busier times (this would have dual benefit of having a liquor license at Sunnyvale GC).

- **Enhanced Integration of Technology** - More comprehensive use of the POS system could help management better understand its customer profile segments, while also providing assistance in marketing, yield management and customer tracking. Technology is one of the most important tools available to a golf course management team to build a larger customer database, create customer loyalty and boost revenue. The efficiency of software for tee time reservations, operations / accounting reporting, retail point-of-purchase reporting, and overall management information systems continues to advance dramatically and can help improve overall facility performance.
    - Use the POS system to identify specific customers and spending patterns to help effective implement targeted email marketing campaigns (i.e. data mining), rather than one-size-fits-all email blasts that are largely informational.
    - Integrate social media tools into email marketing. This can be done automatically through delivery tools that automatically integrate to the leading social media forums, such as Facebook, Twitter, Instagram, etc.
    - There are also vendors that don't necessarily provide POS but offer comprehensive services that manage all aspects of online marketing efforts. For example, they provide software that integrates information collected from the POS, tee sheet, website, mobile applications, booking engine and social media networks to help golf course managers better understand and market to their customers.

Golf & Tennis Fund Financial Projections and Sensitivity Analysis

Using actual FY 2018/19 rounds played and revenues as a baseline, and assuming some interim growth in revenues per round, NGF Consulting has modeled a number of financial projection scenarios for the City of Sunnyvale **Golf and Tennis Operations Fund** ('Golf Fund') for the 10-year period of FY 2021/22 through FY 2030/31. All models use City projections for operating expenses, as presented in the FY 2020/21 Adopted Budget. All operating revenue and expense figures are expressed in 2020 dollars.

We have assumed that facility improvements will be made as needed (repairs and replacement as needed to remain competitive - nothing 'transformative' in nature) over this time, but no debt service or cost of capital has been incorporated into the models. For purposes of this analysis, we have not assumed golf course closure for any improvements during the 10-year subject timeframe.

We note that a key consideration, which is not captured by the financial models, is the potential "cost of doing nothing" in addressing the deferred capital needs of the Sunnyvale golf courses. Due to a variety of factors, rounds and revenues has already been on a downward trajectory. Deferring the highest priority improvements will likely continue to result in rounds played attrition and worsening performance. There may also be a cost in terms of product quality when maintenance resources and staff time are frequently diverted to making emergency or stop-gap repairs.

The Baseline and Sensitivity scenarios are as follows (*more detailed model assumptions presented later in this section, and attendant financial model spreadsheets can be found in Appendix F*):

1. **Baseline Scenario** - 'Steady State' operation and no major capital improvements; assumes annual rounds (both courses) played constant at 98,000 throughout period.
2. **Sensitivity Scenario 1** - Baseline inputs but assumes operation of a 35-station driving range at Sunnyvale GC beginning in FY2022/23.
3. **Sensitivity Scenario 2** - Baseline inputs but annual system *rounds increased* to 108,000 (approximate average total rounds played over FY17 and FY18).
4. **Sensitivity Scenario 3** - Baseline inputs but higher average green fee and cart fee revenue-per-round.
5. **Sensitivity Scenario 4** - Baseline inputs but higher rounds **and** higher average green fee and cart fee revenue-per-round. Assumes 90% margin – additional expenses for part-time staff time, supplies, repairs, etc.
6. **Sensitivity Scenario 5** – 'Best Case' scenario with higher rounds, higher rates, modest food & beverage/room rental revenue at Sunnyvale GC, **and** operation of a 35-station driving range at Sunnyvale GC beginning in FY2022/23

All of the NGF financial model scenarios assume continued self-operation of the golf facilities with City employees, with the exception of the Sunken Gardens GC food & beverage operation and contract teaching professionals. Based on direction from City staff, none of the scenarios include a private management structure, nor do any include a private food & beverage concession at Sunnyvale GC.

BASELINE SCENARIO – 'STEADY STATE' - FY 2021/22 - FY 2030/31

NGF has created a 10-year pro forma model for the Golf Fund fiscal years FY 2022 through FY 2031 that illustrates what we think Sunnyvale Golf will look like from an operating standpoint under "steady state" conditions. This baseline scenario is intended to capture "as is" or "expected" operations, with no substantive changes in operations, green fee levels, rounds played, or facility capital investment.

Key Assumptions

The NGF revenue estimates for the "steady state" financial pro forma have been crafted based on the overriding assumptions of continuation of the current operating structure at the Sunnyvale golf courses, similar market conditions, and no significant degradation in playing conditions. This baseline scenario assumes completion of infrastructure improvements as needed to maintain the current quality of the golf experience, such as the already-funded irrigation system at Sunnyvale GC, etc.

The Base assumptions in preparing the projected financial performance estimates cover several categories, including: rounds played activity; average revenue per round across the various revenue centers (green fee, cart, driving range, and 'other'); concession revenues; tower lease revenue; and, operating expenses, broken down by golf, tennis, and City charges.

Following **are rounds played, revenue, and expense assumptions** (based on FY 2018-19 actual):

- Sunnyvale Golf System is projected to host a total of 98,000 **rounds played** each year through FY 2030/31, with Sunnyvale GC at 58,500 and Sunken Gardens at 39,500. (Just under 98,000 total rounds were hosted in FY 2018/19.
- Average FY22 **revenues per round** in the various revenue centers all reflect 6% increases over actual FY19 results, and all are projected at 2% annually through FY 2030/31:
  - Golf / Green Fees - Sunnyvale - $21.82 per round
  - Golf / Green Fees – Sunken Gardens - $13.62 per round
  - Golf Cart Rentals - $3.64 per round
  - Driving Range (Sunken Gardens GC only) – $7.30 per round
  - Other Golf Revenue - $2.41 per round
- **Rents and Concessions**, as well as **tower lease**, revenues are based directly on the City's FY 2020/21 budget and are as follows:
  - Rents & Concessions Tennis Center - $145,000 in FY22, growing @ $5K / year
  - Rents & Concessions Golf - $25,000 in FY22, growing by 2% annually
  - Tower Lease Revenue - $33,771 in FY22, growing by 2% annually
- **Transfers** from the General Fund are not included in the model.
- All **operating expenses** are taking directly from City's FY 2020/21 budget; FY 2021/22 expenses are as follows (varying annual growth rates through FY 2030/31):
  - Golf Course Operations - $4,217,045
  - Tennis Center Operations - $111,639
  - Program In-Lieu Charges - $137,961
  - Citywide In-Lieu Charges - $369,748
  - Project Operating – ($4,667)

Financial Model Summary Results: Baseline Scenario - FY 2021/22 – FY 2030/31

Utilizing the above assumptions and activity/revenue/expense estimates for the Baseline scenario, NGF Consulting crafted a 10-year pro forma financial model for the City of Sunnyvale Golf Fund for the period of FY 2021/22 through FY 2030/31. The Baseline scenario shows total gross system operating revenues of just under $37 million and a **cumulative net operating loss** for the Golf Fund of about **$21.5 million** over the subject 10-year period through FY 2030/31, based on City expense projections.

SENSITIVITY SCENARIO 1 – BASELINE + ADDITION OF DRIVING RANGE

In addition to the baseline/'steady state' financial model, we have modeled five alternate scenarios, as summarized below. We note that operating expenses remain the same in all scenarios, though the two models that include a driving range include a 'cost of sales' adjustment against revenues.

Assumptions

Same as Baseline, with following exceptions:

- Addition of 35-station driving range at Sunnyvale GC, operational beginning in FY 2022/23.
- Annual capital cost/debt service through FY31 is included in this scenario to account for the cost of adding the driving range. We have assumed the lower end of our preliminary cost estimate for adding the driving range, $3.2 million, which includes the cost of the partial course reconfiguration to accommodate the range. For simplicity, we assumed a simple interest 20-year loan with 2% interest and no coverage requirements. This amounts to annual debt service payments of $194,259. (We've also assumed no lost revenue during construction).
- Based on market comparables at Poplar Creek, San Jose Muni, and Baylands Golf Links, revenues have been estimated at $17,000 per station in FY 23, growing at 3% annually. NGF believes our revenue projections are conservative and has a high level of confidence that they are achievable, especially given the recent closure of the Santa Clara Golf & Tennis range.
- A cost of sales – to account for additional labor associated with maintaining the range – has been estimated at 7.5% of revenues and is recorded as an adjustment to revenue rather than an expense.
- For purposes of simplicity, we have *not* assumed disruption to the operating model during FY 2021/22, the presumed year of construction of the range and other course modifications. While there likely will be disruption due to mobilization and construction, it may be possible for Sunnyvale GC to be net revenue-neutral through some creative routing and cost savings (e.g., temporary suspension of In-Lieu and other indirect charges, reduction of part-time labor and other golf course maintenance expenses).
- No additional lesson or merchandise/club fitting revenue has been assumed, though both of these revenue centers should be enhanced with the addition of a driving range.

Results:

The addition of the driving range at Sunnyvale GC, with all other variables held constant, results in a total 10-year system adjusted gross operating revenue increase of just under $5.6 million over the base scenario, and the **cumulative net operating loss** for the Golf Fund is **$17.8 million** through FY 2030/31, including the cost of capital/debt. We note that while the debt service / capital cost will not be retired for an additional 10 years under these financing assumptions, *the increased net cash flow resulting from the driving range at Sunnyvale GC should continue long after the debt is paid off*.

OTHER SENSITIVITY SCENARIOS

In addition to the steady state/expected and driving range addition financial models, we have created four alternate model scenarios, as summarized below. (Operating expenses remain the same under each). For these additional "what if" scenarios, we are presenting what the financial outcomes *could be* by manipulating variables, *not what we expect to be reasonably achievable based on the current and expected quality of the Sunnyvale golf courses (absent major improvements) and the market*. For example, raising green fees beyond a modest amount may have a negative impact on rounds played and perhaps overall green fee revenues.

Scenario 2 - Increased Rounds

Assumptions:

- Same as Baseline, with exception that annual total system rounds played are projected at 108,000, broken down by 64,800 at Sunnyvale GC and 43,200 at Sunken Gardens GC. The 108,000 represents an approximate average of the activity levels in FY17 and FY18.
- There is no variable expense associated with producing these additional rounds of golf.

Results

With the addition of 10,000 annual rounds over the Baseline scenario, total 10-year gross system operating revenue increases by more than $3.6 million over the base scenario, and the **cumulative net operating loss** for the Golf Fund is **$17.9 million** over the 10-year period through FY 2030/31.

Scenario 3 – Higher Average Green & Cart Fees

Assumptions:

- Same as Baseline, with following exceptions:
  - Average green fee revenue per round at Sunnyvale GC in FY 21/22 increases by 7.5% over Baseline, to $30.56.
  - Average green fee revenue per round at Sunken Gardens GC in FY 21/22 increases by 5% over Baseline, to $15.15.
  - Average cart fee revenue per round (system) in FY 21/22 increases by 5% over Baseline, to $4.05.

Results

With moderately higher average rates, total 10-year gross system operating revenue increases by about $1.9 million over the base scenario, and the **cumulative net operating loss** for the Golf Fund is **$19.6 million** over the 10-year period through FY 2030/31.

Scenario 4 – Higher Rounds and Average Rate

Assumptions:

- Same as Baseline, with exceptions that annual total system rounds played are increased to 108,000 **and** average rates are increased as in Scenario 2.

Results

With higher rounds **and** moderately higher average rates, total 10-year gross system operating revenue increases by about $5.64 million over the base scenario, and the **cumulative net operating loss** for the Golf Fund total about **$15.8 million** over the 10-year period through FY 2030/31.

Scenario 5 – 'Best Case': Higher Rounds & Rate / Sunnyvale GC Range + F&B Service

Sensitivity scenario 5 represents the 'best case' among NGF Consulting's models. Obviously, the Sunnyvale golf system could obviously outperform – or underperform – all of these scenarios based on the outcome of many variables.

Assumptions:

- Combines the various sensitivity assumptions of higher rounds, higher rates, and addition of a 35-station driving range at Sunnyvale GC.
- In addition, we have assumed some modest food & beverage revenue at Sunnyvale GC, at $1.00 per round in FY22, and growing at 2% annually. This revenue is intended to reflect the addition of 'grab and go' type food & beverage offerings, operating the barbeque occasionally for busier times, plus rentals of the upstairs area of the clubhouse etc. A cost of sales of 30% has been assumed, as an adjustment to revenue.
- Same loan provisions as under alternative scenario 1 to account for construction of range.

Results

The 'Best Case' scenario results in 10-year total revenue (adjusted for cost of sales) that is about $11.73 million higher than the Baseline model. The **cumulative 10-year net operating loss** for the Golf Fund is more than **$4.15 million** more favorable than the next best sensitivity scenario, **Higher Rounds + Higher Rate,** at about **$11.7 million** (after debt service) through FY 2030/31.

Financial Pro Forma Models Summary

The table below summarizes key variables and operating measures for the Baseline financial model and the five sensitivity scenarios discussed in this section. Cumulative 10-year losses for the FY 2021/22 through FY 2030/31 period - utilizing City projected expenses from the Adopted FY 2020/21 Budget and NGF rounds played and revenue assumptions – range from about $11.7 million for the best-case scenario, to nearly $21.5 million for the base-case (expected) outcome.

NGF's main takeaway from this exercise is that without some 'game-changing' major investment in the Sunnyvale golf facilities (especially Sunnyvale GC), there is no reason to believe that annual operating losses will not continue to be as high as $1.5 million or more. There do not appear to be any significant upside revenue opportunities for these golf courses that can meaningfully change the overall dynamics of their financial situations, and golf course staffing is already very thin.

Sustainable green fee increases are constrained by the quality of the golf experiences offered relative to key competitors, while the lack of driving range and food & beverage amenities at Sunnyvale GC present additional revenue constraints. Even with the closures of key competitor Santa Clara Golf & Tennis, as well as other recent regional public golf course closures such as 36-hole Sunol Valley and 18-hole Skywest GC in Hayward, rounds have continued to decline in Sunnyvale (FY20 results not available).

On the expense side, the high and quickly rising cost of public labor, large-scale expense in irrigation water, and significant level of indirect expenses (i.e., City charges to the Golf Fund) make it very difficult, if not impossible, for these golf courses to operate anywhere close to breakeven. Even if rounds played were to return to the ~130,000 level last achieved in 2013, the Golf Fund would still be significantly in the red based on the current and projected expense structure.

Sunnyvale Golf & Tennis Operations Fund - 10-Year Pro Forma Scenarios Summary						
SENSITIVITY SCENARIO	**Base Model - 'Steady State'**	**Higher Rounds**	**Higher Rate**	**Higher Rounds + Higher Rate**	**Base Model + Driving Range at SGC**	**Best Case' = Higher Rds., Higher Rate + F&B + Driving Range at SGC**
Total Annual System Rounds Played	98,000	108,000	98,000	108,000	98,000	108,000
Ave. FY 2021/22 Green Fee Rev. per Round - SGC	$28.42	$28.42	$30.56	$30.56	$28.42	$30.56
Ave. FY 2021/22 Green Fee Rev. per Round - Sunken Gardens GC	$14.43	$14.43	$15.15	$15.15	$14.43	$15.15
Total Cart Fee Revenue through FY 2030/31	$4,142,600	$4,565,300	$4,349,700	$4,793,600	$4,142,600	$4,793,600
Total Driving Range Revenue through FY 2030/31	$3,348,300	$3,661,800	$3,348,300	$3,661,800	$9,393,100	$9,393,100
Total Adj. Gross Operating Rev. through FY 2030/31	$36,998,783	$40,561,175	$38,884,575	$42,643,575	$42,591,075	$48,731,655
Cost of Capital – Driving Range					$1,942,590	$1,942,590
Total Expenses through FY 2030/31	$58,463,511	$58,463,511	$58,463,511	$58,463,511	$60,406,101	$60,406,101
Cumulative Loss through FY 2030/31	**($21,464,728)**	**($17,902,336)**	**($19,578,936)**	**($15,819,936)**	**($15,872,436)**	**($9,731,856)**
Cumulative Loss after Debt Service (Range scenarios)					**($17,815,026)**	**($11,674,446)**

Appendices

APPENDIX A – Golf Course Playing Fees

APPENDIX B – Golf Discount & Advantage Card Analysis

APPENDIX C – Existing Conditions and Potential Facility Improvement Approaches

APPENDIX D – National Rounds Played Report

APPENDIX E – Local Demographic, Demand and Supply Data

APPENDIX F – Sunnyvale Golf Fund Financial Projection Scenarios

APPENDIX G – Golf Course Items Expected Life Cycle

APPENDIX A – GOLF COURSE PLAYING FEES

Sunnyvale Golf Course 2020 Rates				
Green Fees	**Weekday**	**Weekends**	**Golf Cart per Rider**	**Monthly Play Cards (M-F)**
Sunnyvale Resident	$37	$49	Single - $20 Shared - $16	$200
Non-Resident	$41	$55		$235
Junior	$12	$20		DNA
Senior (Age 60+)	$30	DNA		$175
Twilight	$30	Res. $30/ Non- Res. $35	$14	
Super Twilight	$20	$25	$12	
Replay Rate	$19	$19		
Back 9 - first hour of AM	$30	$32		

Sunken Gardens Golf Course 2020 Rates				
Green Fees	**Weekday**	**Weekends**	**Golf Cart per Rider**	**Monthly Play Cards (M-F)**
Sunnyvale Resident	$18	$21	$12	$125
Non-Resident	$20	$24		DNA
Junior	$12	$12		$110
Senior	DNA	DNA		$110
Range Balls	Small $5 / Medium $8 / Large $11			

APPENDIX B – GOLF DISCOUNT & ADVANTAGE CARD ANALYSIS

The tables below provide supporting data for the summary analysis provided in the report narrative.

Sunnyvale GC - FY 19 from EZLinks				
	Rounds	Revenue	Rev./Round	
Paid Daily Fee	42,747	$1,393,869	$32.61	
Monthly Cards	10,786	$156,939	$14.55	
Complimentary	4,823	$ -	$ -	
Total	**58,356**	**$1,550,808**	**$26.57**	
			$28.97	Paid
Note: Cart revenue not included				

Sunken Gardens GC - FY 19 from EZLinks			
	Rounds	Revenue	Rev./Round
Paid Daily Fee	27,962	$472,486	$16.90
Monthly Cards	8,869	$64,665	$7.29
Complimentary	2,672	$ -	$ -
Total	**39,503**	**$537,151**	**$13.60**
Note: Cart revenue not included			

Total Monthly Cards - FY19							
	# Sold	Revenue	Rounds	Rev./Round	Rev./Card	Rds./Card	Eff. Discount
Sunnyvale	915	$156,939	10,786	$14.55	$171.52	11.8	55.4%
Sunken Gardens	638	$64,665	$8,869	$7.29	$101.36	13.9	56.9%

APPENDIX C – EXISTING CONDITIONS AND POTENTIAL FACILITY IMPROVEMENT APPROACHES

Exhibit 1 – Sunnyvale Golf Course Existing Conditions

Exhibit 2 – Known Aviation Zones (Moffett Field)

Exhibit 3 – Sunken Gardens Golf Course Existing Conditions

Exhibit 4 – Sunnyvale Golf Course: Baseline Approach

Exhibit 5 – Sunnyvale Golf Course: Conceptual Approach A

Exhibit 6 – Sunnyvale Golf Course: Conceptual Approach B

APPENDIX D - NATIONAL ROUNDS PLAYED REPORT

Exhibit 1 – Year End 2019

National Golf Rounds Played Report

DECEMBER 2019

	DEC	YTD
PACIFIC	**-8.7%**	**-3.4%**
CA	**-12.6%**	**-4.7%**
Los Angeles	-13.9%	-3.6%
Orange County	-7.7%	-6.7%
Palm Springs	-0.2%	-0.4%
Sacramento	-21.8%	-5.5%
San Diego	-14.6%	-4.9%
San Francisco/Oakland	-24.8%	-4.9%
HI	**4.6%**	**2.4%**
OR	**17.7%**	**-1.8%**
Portland	12.4%	-1.0%
WA	**8.2%**	**-0.5%**
Seattle	13.4%	2.2%
MOUNTAIN	**-8.4%**	**-2.4%**
AZ	**-7.4%**	**0.5%**
Phoenix	-4.2%	0.9%
CO	**-33.3%**	**-3.1%**
Denver	-35.1%	-3.0%
ID, WY, MT, UT	**3.6%**	**-4.9%**
NM	**9.0%**	**-3.7%**
NV	**-1.7%**	**-0.7%**
Las Vegas	-1.9%	-3.8%
WEST NORTH CENTRAL	**35.7%**	**2.0%**
KS, NE	**37.8%**	**2.7%**
ND,SD	**NA**	**5.8%**
MN	**NA**	**1.4%**
Minneapolis/St.Paul	NA	4.2%
IA, MO	**34.1%**	**0.9%**
St Louis	17.4%	-0.1%
Kansas City	14.7%	-0.2%

	DEC	YTD
UNITED STATES	**8.3%**	**1.5%**
PUBLIC ACCESS	**6.5%**	**1.1%**
PRIVATE	**13.4%**	**2.2%**
EAST NORTH CENTRAL	**55.8%**	**4.0%**
IL	**98.3%**	**0.8%**
Chicago	116.7%	-0.5%
IN	**56.1%**	**7.2%**
MI	**23.1%**	**3.2%**
Detroit	16.2%	4.9%
OH	**18.6%**	**7.6%**
Cincinnati	32.6%	4.0%
Cleveland	23.9%	5.4%
WI	**NA**	**1.1%**
SOUTH CENTRAL	**33.8%**	**-0.1%**
AL	**37.5%**	**-1.0%**
AR, LA, MS	**33.2%**	**-4.8%**
KY	**38.9%**	**-0.8%**
OK	**43.4%**	**-2.7%**
TN	**53.0%**	**6.3%**
TX	**29.9%**	**0.9%**
Dallas/Ft. Worth	37.8%	2.9%
Houston	39.3%	1.6%
San Antonio	18.5%	5.8%

	DEC	YTD
SOUTH ATLANTIC	**10.9%**	**3.4%**
DE, DC, MD	**17.5%**	**12.6%**
Washington/Baltimore	16.3%	15.8%
FL	**1.5%**	**0.5%**
Jacksonville	4.1%	1.8%
Orlando	4.6%	3.7%
Tampa	17.0%	0.5%
Palm Beach	-10.2%	-0.7%
Naples/Ft Myers	1.9%	1.4%
Miami/Ft.Lauderdale	-9.8%	-0.2%
GA	**43.7%**	**3.3%**
Atlanta	69.4%	5.4%
NC	**38.5%**	**3.4%**
Greensboro/Raleigh	53.8%	7.0%
SC	**23.9%**	**0.9%**
Charleston	30.4%	2.8%
Hilton Head	14.4%	1.5%
Myrtle Beach	27.5%	3.6%
VA, WV	**23.9%**	**12.8%**
MID ATLANTIC	**-1.3%**	**6.5%**
NJ	**0.9%**	**12.1%**
NY	**-4.2%**	**2.5%**
New York City	1.7%	9.6%
PA	**0.9%**	**8.2%**
Philadelphia	10.3%	9.7%
Pittsburgh	12.0%	11.1%
NEW ENGLAND	**-9.5%**	**3.7%**
CT	**-5.5%**	**7.2%**
MA, RI	**-10.5%**	**2.4%**
Boston	-31.6%	0.7%
ME, NH, VT	**NA**	**3.7%**

The percentages represent the differences in number of rounds played comparing December 2019 to December 2018
For more information contact Golf Datatech, golfroundsplayed@golfdatatech.com or call 407-944-4116

National Golf Rounds Played Report

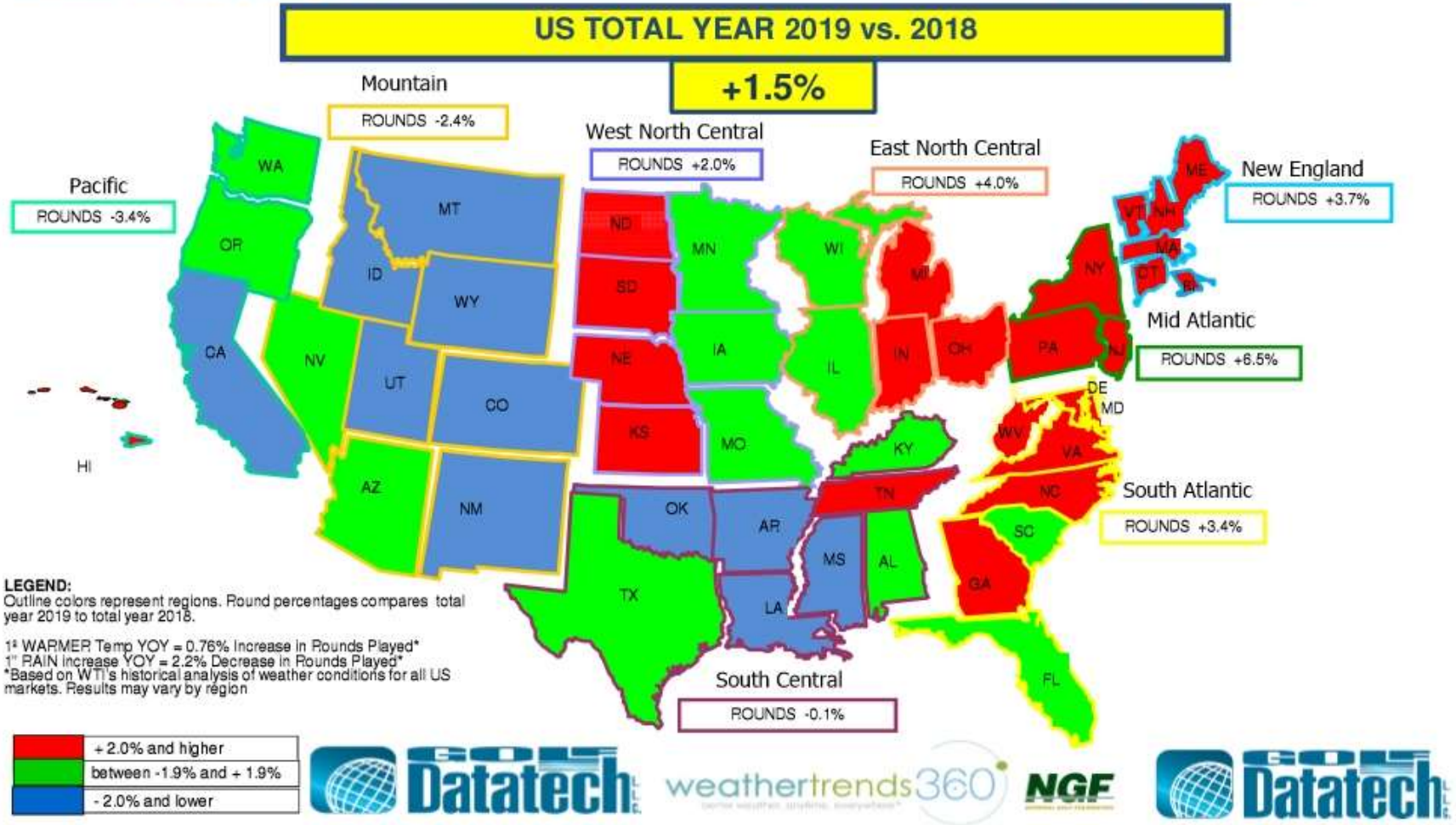


Exhibit 2 – Year-End 2020 National Rounds

National Golf Rounds Played Report

DECEMBER 2020

	DEC	YTD
PACIFIC	**53.9%**	**4.8%**
CA	**58.3%**	**5.6%**
Los Angeles	45.6%	*
Orange County	32.3%	*
Palm Springs	19.2%	*
Sacramento	106.8%	*
San Diego	60.0%	*
San Francisco/Oakland	130.9%	*
HI	**-8.4%**	**-32.7%**
OR	**79.8%**	**22.2%**
Portland	87.1%	*
WA	**67.0%**	**3.6%**
Seattle	87.6%	*
MOUNTAIN	**30.2%**	**14.3%**
AZ	**25.9%**	**12.2%**
Phoenix	29.9%	*
CO	**43.3%**	**19.9%**
Denver	5.9%	*
ID, WY, MT, UT	**52.9%**	**20.4%**
NM	**25.5%**	**2.0%**
NV	**36.8%**	**-3.6%**
Las Vegas	36.9%	*
WEST NORTH CENTRAL	**84.6%**	**23.1%**
KS, NE	**87.9%**	**20.0%**
ND,SD	**NA**	**24.4%**
MN	**NA**	**23.6%**
Minneapolis/St.Paul	NA	*
IA, MO	**72.5%**	**24.6%**
St Louis	70.3%	*
Kansas City	147.5%	*

	DEC	YTD
UNITED STATES	**37.3%**	**13.9%**
PUBLIC ACCESS	**34.7%**	**12.4%**
PRIVATE	**45.2%**	**19.9%**

	DEC	YTD
EAST NORTH CENTRAL	**16.8%**	**14.5%**
IL	**28.6%**	**15.4%**
Chicago	16.9%	*
IN	**47.1%**	**23.5%**
MI	**-9.1%**	**7.1%**
Detroit	-5.5%	*
OH	**3.0%**	**14.0%**
Cincinnati	29.2%	*
Cleveland	-26.6%	*
WI	**NA**	**19.9%**
SOUTH CENTRAL	**33.5%**	**20.3%**
AL	**37.6%**	**5.0%**
AR, LA, MS	**36.8%**	**19.4%**
OK	**33.3%**	**24.3%**
KY, TN	**38.2%**	**22.5%**
TX	**30.7%**	**21.4%**
Dallas/Ft. Worth	37.9%	*
Houston	20.0%	*
San Antonio	37.7%	*

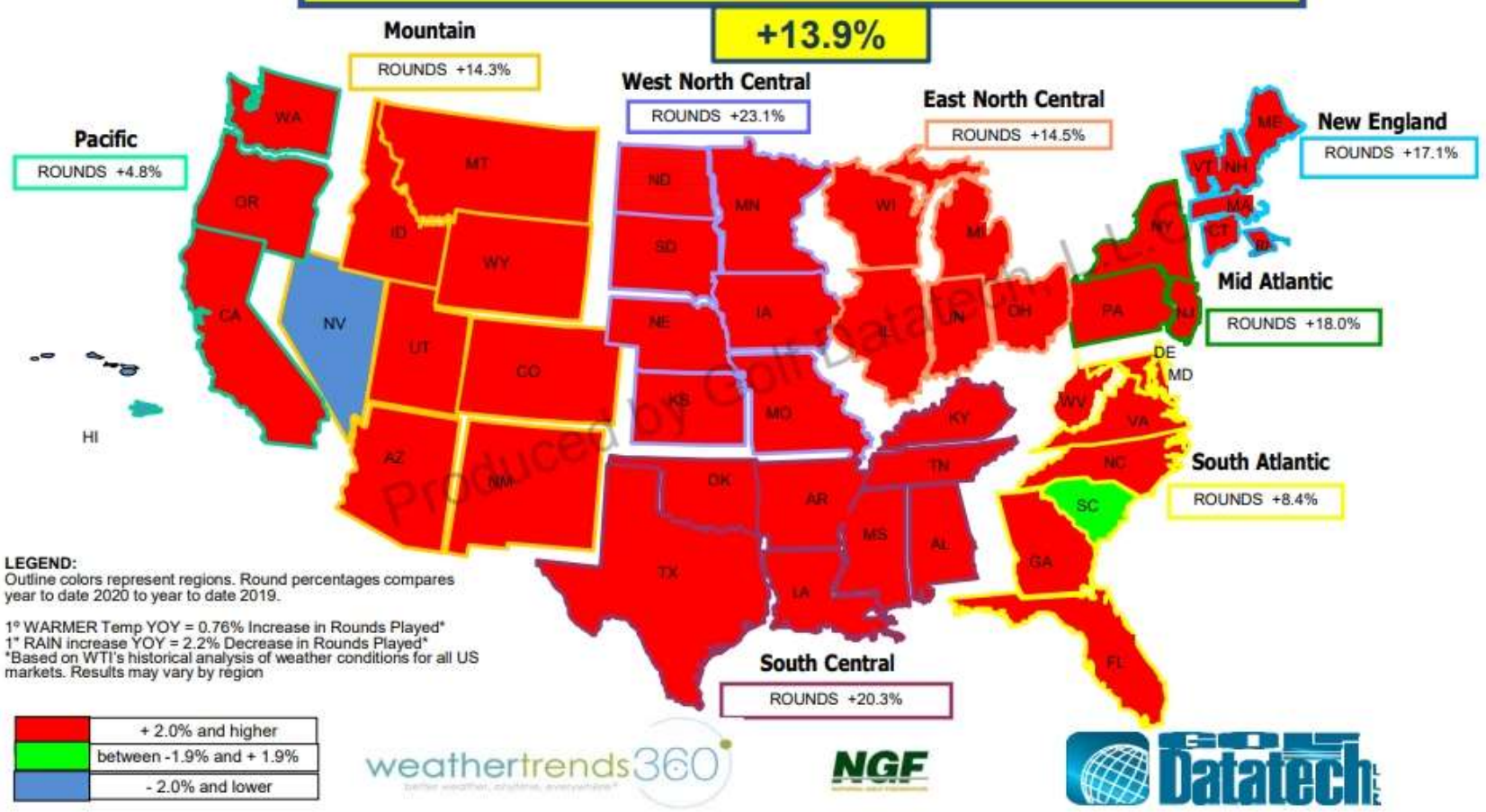
* Not reporting YTD 2020

	DEC	YTD
SOUTH ATLANTIC	**26.9%**	**8.4%**
DE, DC, MD	**56.1%**	**7.7%**
Washington/Baltimore	75.2%	*
FL	**19.0%**	**6.9%**
Jacksonville	27.1%	*
Orlando	23.7%	*
Tampa	20.3%	*
Palm Beach	12.5%	*
Naples/Ft Myers	19.8%	*
Miami/Ft.Lauderdale	10.5%	*
GA	**47.7%**	**14.6%**
Atlanta	51.8%	*
NC	**29.5%**	**5.8%**
Greensboro/Raleigh	50.9%	*
SC	**31.6%**	**-0.2%**
Charleston	55.7%	*
Hilton Head	63.4%	*
Myrtle Beach	15.6%	*
VA, WV	**56.9%**	**21.3%**
MID ATLANTIC	**66.6%**	**18.0%**
NJ	**80.8%**	**15.8%**
NY	**72.7%**	**20.6%**
New York City	77.5%	*
PA	**52.1%**	**16.3%**
Philadelphia	52.3%	*
Pittsburgh	11.9%	*
NEW ENGLAND	**101.1%**	**17.1%**
CT, MA, RI	**100.3%**	**18.0%**
Boston	80.8%	*
ME, NH, VT	**NA**	**15.0%**

The percentages represent the differences in number of rounds played comparing December 2020 to December 2019
For more information contact Golf Datatech, golfroundsplayed@golfdatatech.com or call 407-944-4116

National Golf Rounds Played Report

US 2020 vs. 2019 YTD THROUGH DECEMBER



APPENDIX E – LOCAL DEMOGRAPHIC, DEMAND AND SUPPLY DATA

Sunnyvale Golf Course

Sunnyvale Golf Course	5-mile ring	10-mile ring	30-minute drive time	Santa Clara County	State of California	2019 U.S.
Summary Demographics						
Population 1990 Census	295,515	916,060	2,035,600	1,496,700	29,724,503	248,584,652
Population 2000 Census	325,337	1,012,820	2,279,340	1,682,590	33,871,650	281,399,034
CAGR 1990-2000	0.97%	1.01%	1.14%	1.18%	1.31%	1.25%
Population 2010 Census	349,881	1,076,623	2,384,392	1,781,642	37,253,956	308,745,538
CAGR 2000-2010	0.73%	0.61%	0.45%	0.57%	0.96%	0.93%
Population Estimate 2019	387,688	1,203,559	2,621,391	1,964,685	39,889,786	326,955,948
Population 2024 Projected	388,980	1,207,687	2,629,757	1,967,216	40,974,819	338,366,389
CAGR 2019-2024	0.07%	0.07%	0.06%	0.03%	0.54%	0.69%
CAGR 2010-2024	0.82%	0.89%	0.76%	0.77%	0.73%	0.71%
Median HH Income (2019)	$137,489	$128,184	$122,432	$121,416	$75,100	$60,523
Median Age (2019)	37.4	37.3	38.0	37.8	37.0	38.2
Ethnicity						
White	41.5%	41.4%	42.1%	42.4%	54.8%	70.1%
African American	2.8%	3.5%	3.3%	3.0%	6.6%	13.4%
Asian	43.8%	41.1%	37.6%	37.6%	15.1%	5.8%
All Other	12.0%	14.1%	16.9%	17.0%	23.4%	10.7%
Hispanic Population						
Hispanic	15.5%	18.7%	23.5%	25.1%	38.6%	17.6%
Not Hispanic	84.5%	81.3%	76.5%	74.9%	61.4%	82.4%

CAGR = Compound Annual Growth Rate

Sunnyvale Golf Course	5-mile ring	10-mile ring	30-minute drive time	Santa Clara County	State of California	U.S.
Golf Demand Indicators						
Total Households	149,997	435,637	891,589	665,668	13,700,586	125,541,798
Number of Golfing Households	19,871	54,262	110,320	84,466	1,520,613	17,484,590
Projected Golfing Households (2024)	20,948	56,273	113,163	87,328	1,552,972	18,258,060
Projected Annual Growth Rate	1.10%	0.70%	0.50%	0.70%	0.40%	0.90%
Seasonal Golfing Households	130	343	553	436	44,242	748,477
Latent Demand/Interested Non-Golfers	80,017	218,974	431,553	325,213	5,817,387	47,425,600
Household Participation Rate	13.20%	12.50%	12.40%	12.70%	11.10%	13.90%
Number of Golfers	33,452	97,386	203,744	157,714	2,770,445	24,241,030
Rounds Potential (resident golfers)	542,623	1,503,512	3,015,771	2,297,922	44,644,700	434,080,100
Estimated Course Rounds (in-market supply)	474,387	758,645	1,521,241	1,625,849	43,882,520	434,084,100
Demand Indices						
Golfing Household Participation Rate	97	92	91	93	82	100
Seasonal Golfing Households	15	14	11	11	55	100
Latent Demand/Interested Non-Golfers	143	126	114	115	101	100
Rounds Potential per Household (resident golfers)	107	102	100	102	96	100

Sunnyvale Golf Course	5-mile ring	10-mile ring	30-minute drive time	Santa Clara County	State of California	U.S.
Golf Supply						
Golf Facilities						
Total	8	15	31	32	856	14,604
Public	7	10	20	21	586	10,896
Public: Daily Fee	1	3	9	12	406	8,377
Public: Municipal	6	7	11	9	180	2,519
Private	1	5	11	11	270	3,708
Public Golf Facilities by Price Point						
Premium (>$70)	2	2	6	8	169	1,428
Standard ($40-$70)	3	5	7	7	240	4,081
Value (<$40)	2	3	7	6	177	5,387
Golf Holes						
Total	126	234	504	558	15,282	247,815
Public	108	153	306	360	10,143	179,760
Public: Daily Fee	18	45	144	225	7,002	137,760
Public: Municipal	90	108	162	135	3,141	42,000
Private	18	81	198	198	5,139	68,055
Non-Regulation (Executive & Par-3)	18	45	99	81	2,295	19,872
Net Change*						
Net Change in Holes past 5 years	0	0	18	-18	-990	-14,346
Percentage Total Holes Past 5 Yrs	0.00%	0.00%	3.70%	-3.10%	-6.10%	-5.50%
Net Change in Holes past 10 Years	0	0	0	-18	-1,359	-21,888
Percentage Total Holes Past 10 Yrs	0.00%	0.00%	0.00%	-3.10%	-8.20%	-8.10%

*Numbers may include courses under construction and temporarily closed at the end of the year.

Sunnyvale Golf Course	5-mile ring	10-mile ring	30-minute drive time	Santa Clara County	State of California	U.S.
Supply-Demand Ratios						
Households per 18 Holes						
Total	21,428	33,511	31,842	21,473	16,137	9,119
Public	25,000	51,251	52,446	33,283	24,313	12,571
Public: Daily Fee	149,997	174,255	111,449	53,253	35,220	16,404
Public: Municipal	29,999	72,606	99,065	88,756	78,513	53,804
Private	149,997	96,808	81,054	60,515	47,988	33,205
Premium (>$70)	74,999	217,819	137,168	66,567	69,370	72,630
Standard ($40-$70)	49,999	87,127	127,370	95,095	53,206	28,779
Value (<$40)	149,997	290,425	254,740	221,889	126,273	32,225
Golfing Households per 18 Holes						
Total	2,839	4,174	3,940	2,725	1,791	1,270
Public	3,312	6,384	6,489	4,223	2,699	1,751
Public: Daily Fee	19,871	21,705	13,790	6,757	3,909	2,285
Public: Municipal	3,974	9,044	12,258	11,262	8,714	7,493
Private	19,871	12,058	10,029	7,679	5,326	4,625
Premium (>$70)	9,936	27,131	16,972	8,447	7,699	10,115
Standard ($40-$70)	6,624	10,852	15,760	12,067	5,905	4,008
Value (<$40)	19,871	36,175	31,520	28,155	14,015	4,488
Household Indices						
Total	232	362	344	232	175	100
Public	196	402	412	261	191	100
Private	446	288	241	180	143	100
Premium (>$70)	99	286	180	88	91	100
Standard ($40-$70)	169	295	432	322	180	100
Value (<$40)	472	913	801	698	397	100
Golfing Household Indices						
Total	226	332	313	217	142	100
Public	191	368	374	244	156	100
Private	434	263	219	168	116	100
Premium (>$70)	96	262	164	82	74	100
Standard ($40-$70)	165	270	392	300	147	100
Value (<$40)	459	836	728	650	324	100
Rounds per 18 Holes						
Rounds Potential (resident golfers)	77,518	115,655	107,706	74,127	52,585	31,530
Estimated Course Rounds (in-market supply)	67,770	58,357	54,330	52,447	51,687	31,530

Sunken Garden Golf Course

Sunken Garden Golf Course	5-mile ring	10-mile ring	30-minute drive time	Santa Clara County	State of California	2019 U.S.
Summary Demographics						
Population 1990 Census	400,105	1,063,884	1,883,350	1,496,700	29,724,503	248,584,652
Population 2000 Census	438,878	1,166,966	2,106,470	1,682,590	33,871,650	281,399,034
CAGR 1990-2000	0.93%	0.93%	1.13%	1.18%	1.31%	1.25%
Population 2010 Census	473,042	1,240,354	2,204,572	1,781,642	37,253,956	308,745,538
CAGR 2000-2010	0.75%	0.61%	0.46%	0.57%	0.96%	0.93%
Population Estimate 2019	516,324	1,373,818	2,425,426	1,964,685	39,889,786	326,955,948
Population 2024 Projected	517,462	1,377,032	2,432,155	1,967,216	40,974,819	338,366,389
CAGR 2019-2024	0.04%	0.05%	0.06%	0.03%	0.54%	0.69%
CAGR 2010-2024	0.69%	0.81%	0.76%	0.77%	0.73%	0.71%
Median HH Income (2019)	$134,358	$123,877	$122,547	$121,416	$75,100	$60,523
Median Age (2019)	37.4	37.6	37.8	37.8	37.0	38.2
Ethnicity						
White	39.3%	41.9%	42.2%	42.4%	54.8%	70.1%
African American	2.7%	3.1%	3.3%	3.0%	6.6%	13.4%
Asian	46.5%	40.0%	37.6%	37.6%	15.1%	5.8%
All Other	11.6%	15.0%	17.0%	17.0%	23.4%	10.7%
Hispanic Population						
Hispanic	14.8%	21.1%	23.8%	25.1%	38.6%	17.6%
Not Hispanic	85.2%	78.9%	76.2%	74.9%	61.4%	82.4%

CAGR = Compound Annual Growth Rate

Sunken Garden Golf Course	5-mile ring	10-mile ring	30-minute drive time	Santa Clara County	State of California	U.S.
Golf Demand Indicators						
Total Households	193,944	490,046	823,613	665,668	13,700,586	125,541,798
Number of Golfing Households	24,709	59,614	101,692	84,466	1,520,613	17,484,590
Projected Golfing Households (2024)	26,027	61,712	104,437	87,328	1,552,972	18,258,060
Projected Annual Growth Rate	1.00%	0.70%	0.50%	0.70%	0.40%	0.90%
Seasonal Golfing Households	150	321	502	436	44,242	748,477
Latent Demand/Interested Non-Golfers	102,125	244,668	400,029	325,213	5,817,387	47,425,600
Household Participation Rate	12.70%	12.20%	12.30%	12.70%	11.10%	13.90%
Number of Golfers	43,270	107,542	188,059	157,714	2,770,445	24,241,030
Rounds Potential (resident golfers)	665,477	1,631,590	2,771,208	2,297,922	44,644,700	434,080,100
Estimated Course Rounds (in-market supply)	412,189	807,313	1,413,480	1,625,849	43,882,520	434,084,100
Demand Indices						
Golfing Household Participation Rate	94	89	91	93	82	100
Seasonal Golfing Households	13	11	10	11	55	100
Latent Demand/Interested Non-Golfers	137	124	115	115	101	100
Rounds Potential per Household (resident golfers)	102	99	100	102	96	100

Sunken Garden Golf Course	5-mile ring	10-mile ring	30-minute drive time	Santa Clara County	State of California	U.S.
Golf Supply						
Golf Facilities						
Total	8	16	29	32	856	14,604
Public	7	11	19	21	586	10,896
Public: Daily Fee	3	3	9	12	406	8,377
Public: Municipal	4	8	10	9	180	2,519
Private	1	5	10	11	270	3,708
Public Golf Facilities by Price Point						
Premium (>$70)	0	2	5	8	169	1,428
Standard ($40-$70)	4	5	7	7	240	4,081
Value (<$40)	3	4	7	6	177	5,387
Golf Holes						
Total	117	243	468	558	15,282	247,815
Public	99	162	288	360	10,143	179,760
Public: Daily Fee	45	45	144	225	7,002	137,760
Public: Municipal	54	117	144	135	3,141	42,000
Private	18	81	180	198	5,139	68,055
Non-Regulation (Executive & Par-3)	45	54	99	81	2,295	19,872
Net Change*						
Net Change in Holes past 5 years	0	0	18	-18	-990	-14,346
Percentage Total Holes Past 5 Yrs	0.00%	0.00%	4.00%	-3.10%	-6.10%	-5.50%
Net Change in Holes past 10 Years	0	0	0	-18	-1,359	-21,888
Percentage Total Holes Past 10 Yrs	0.00%	0.00%	0.00%	-3.10%	-8.20%	-8.10%

*Numbers may include courses under construction and temporarily closed at the end of the year.

Sunken Garden Golf Course	5-mile ring	10-mile ring	30-minute drive time	Santa Clara County	State of California	U.S.
Supply-Demand Ratios						
Households per 18 Holes						
Total	29,838	36,300	31,677	21,473	16,137	9,119
Public	35,263	54,450	51,476	33,283	24,313	12,571
Public: Daily Fee	77,578	196,018	102,952	53,253	35,220	16,404
Public: Municipal	64,648	75,392	102,952	88,756	78,513	53,804
Private	193,944	108,899	82,361	60,515	47,988	33,205
Premium (>$70)	0	245,023	149,748	66,567	69,370	72,630
Standard ($40-$70)	48,486	98,009	117,659	95,095	53,206	28,779
Value (<$40)	129,296	245,023	235,318	221,889	126,273	32,225
Golfing Households per 18 Holes						
Total	3,801	4,416	3,911	2,725	1,791	1,270
Public	4,493	6,624	6,356	4,223	2,699	1,751
Public: Daily Fee	9,884	23,846	12,712	6,757	3,909	2,285
Public: Municipal	8,236	9,171	12,712	11,262	8,714	7,493
Private	24,709	13,248	10,169	7,679	5,326	4,625
Premium (>$70)	0	29,807	18,489	8,447	7,699	10,115
Standard ($40-$70)	6,177	11,923	14,527	12,067	5,905	4,008
Value (<$40)	16,473	29,807	29,055	28,155	14,015	4,488
Household Indices						
Total	323	393	343	232	175	100
Public	277	427	404	261	191	100
Private	576	323	245	180	143	100
Premium (>$70)	0	322	197	88	91	100
Standard ($40-$70)	164	332	399	322	180	100
Value (<$40)	406	770	740	698	397	100
Golfing Household Indices						
Total	302	351	311	217	142	100
Public	259	382	367	244	156	100
Private	539	289	222	168	116	100
Premium (>$70)	0	288	179	82	74	100
Standard ($40-$70)	154	297	362	300	147	100
Value (<$40)	381	689	671	650	324	100
Rounds per 18 Holes						
Rounds Potential (resident golfers)	102,381	120,859	106,585	74,127	52,585	31,530
Estimated Course Rounds (in-market supply)	63,414	59,801	54,365	52,447	51,687	31,530

APPENDIX F – SUNNYVALE GOLF FUND FINANCIAL PROJECTION SCENARIOS

Baseline 'Steady State' Scenario - 'Steady State' operation and no major capital improvements; assumes annual rounds (both courses) played constant at 98,000 throughout period.

CITY OF SUNNYVALE
GOLF AND TENNIS OPERATIONS FUND
NGF FINANCIAL MODEL BASED ON ACTUAL FY19 AND CITY FY20 BUDGET
JULY 1, 2021 TO JUNE 30, 2031

Fiscal Year	2021/2022	2022/2023	2023/2024	2024/2025	2025/2026	2026/2027	2027/2028	2028/2029	2029/2030	2030/2031	2021/2022 To 2030/2031 TOTAL
TOTAL ROUNDS PLAYED	**98,000**	**98,000**	**98,000**	**98,000**	**98,000**	**98,000**	**98,000**	**98,000**	**98,000**	**98,000**	
Sunnyvale GC	58,500	58,500	58,500	58,500	58,500	58,500	58,500	58,500	58,500	58,500	
Sunken Gardens GC	39,500	39,500	39,500	39,500	39,500	39,500	39,500	39,500	39,500	39,500	
PER ROUND											
Golf Fees - Sunnyvale	28.42	28.99	29.57	30.16	30.77	31.38	32.01	32.65	33.30	33.97	
Golf Fees - Sunken Gardens	14.43	14.72	15.02	15.32	15.62	15.94	16.25	16.58	16.91	17.25	
Golf Cart Rentals	3.86	3.94	4.02	4.10	4.18	4.26	4.35	4.43	4.52	4.61	
Driving Range Fees	7.74	7.90	8.05	8.22	8.38	8.55	8.72	8.89	9.07	9.25	
Other Golf Revenue	2.55	2.60	2.66	2.71	2.76	2.82	2.88	2.93	2.99	3.05	
REVENUES:											
Rents and Concessions - Tennis Center	145,000	150,000	155,000	160,000	165,000	170,000	175,000	180,000	185,000	190,000	1,675,000
Rents and Concessions - Golf	25,000	25,500	26,000	26,500	27,000	27,500	28,100	28,700	29,300	29,900	273,500
Golf Fees - Sunnyvale	1,662,800	1,696,100	1,730,000	1,764,600	1,799,900	1,835,900	1,872,600	1,910,100	1,948,300	1,987,200	18,207,500
Golf Fees - Sunken Gardens	570,100	581,500	593,100	605,000	617,100	629,400	642,000	654,900	668,000	681,300	6,242,400
Golf Cart Rentals	378,300	385,900	393,600	401,500	409,500	417,700	426,100	434,600	443,300	452,100	4,142,600
Driving Range Fees	305,800	311,900	318,100	324,500	331,000	337,600	344,400	351,300	358,300	365,400	3,348,300
Other Golf Revenue	250,200	255,200	260,300	265,500	270,800	276,300	281,800	287,400	293,200	299,000	2,739,700
Tower Lease Revenue	33,771	34,446	35,135	35,838	36,555	37,286	38,032	38,792	39,568	40,360	369,783
TOTAL REVENUES	**3,370,971**	**3,440,546**	**3,511,235**	**3,583,438**	**3,656,855**	**3,731,686**	**3,808,032**	**3,885,792**	**3,964,968**	**4,045,260**	**36,998,783**

EXPENSES:											
Golf Course Operations	4,217,045	4,524,190	4,812,622	4,963,350	5,124,891	5,282,325	5,445,065	5,613,280	5,778,642	5,877,571	51,638,981
Tennis Center Operations	111,639	113,314	115,014	117,889	121,426	125,068	128,820	132,685	136,666	140,766	1,243,287
Program In-Lieu Charges	137,961	143,566	149,241	151,484	149,595	153,784	157,629	161,808	165,608	169,998	1,540,674
Citywide In-Lieu Charges	369,748	379,313	389,117	333,770	409,465	420,023	430,844	441,936	453,305	464,958	4,092,479
Project Operating	(4,667)	(4,760)	(4,855)	(4,953)	(5,052)	(5,203)	(5,359)	(5,520)	(5,685)	(5,856)	(51,910)
TOTAL EXPENSES	**4,831,726**	**5,155,623**	**5,461,139**	**5,561,540**	**5,800,325**	**5,975,997**	**6,156,999**	**6,344,189**	**6,528,536**	**6,647,437**	**58,463,511**
NET OPERATING INCOME	**-1,460,755**	**-1,715,077**	**-1,949,904**	**-1,978,102**	**-2,143,470**	**-2,244,311**	**-2,348,967**	**-2,458,397**	**-2,563,568**	**-2,602,177**	**-21,464,728**

Sensitivity Scenario 1 - Baseline inputs but annual system *rounds increased* to 108,000 (approximate average total rounds played over FY17 and FY18).

CITY OF SUNNYVALE
GOLF AND TENNIS OPERATIONS FUND
NGF FINANCIAL MODEL BASED ON ACTUAL FY19 AND CITY FY20 BUDGET
JULY 1, 2021 TO JUNE 30, 2031

Fiscal Year	2021/2022	2022/2023	2023/2024	2024/2025	2025/2026	2026/2027	2027/2028	2028/2029	2029/2030	2030/2031	2021/2022 To 2030/2031 TOTAL
TOTAL ROUNDS PLAYED	**108,000**	**108,000**	**108,000**	**108,000**	**108,000**	**108,000**	**108,000**	**108,000**	**108,000**	**108,000**	
Sunnyvale GC	64,800	64,800	64,800	64,800	64,800	64,800	64,800	64,800	64,800	64,800	
Sunken Gardens GC	43,200	43,200	43,200	43,200	43,200	43,200	43,200	43,200	43,200	43,200	
PER ROUND											
Golf Fees - Sunnyvale	28.42	28.99	29.57	30.16	30.77	31.38	32.01	32.65	33.30	33.97	
Golf Fees - Sunken Gardens	14.43	14.72	15.02	15.32	15.62	15.94	16.25	16.58	16.91	17.25	
Golf Cart Rentals	3.86	3.94	4.02	4.10	4.18	4.26	4.35	4.43	4.52	4.61	
Driving Range Fees	7.74	7.90	8.05	8.22	8.38	8.55	8.72	8.89	9.07	9.25	
Other Golf Revenue	2.55	2.60	2.66	2.71	2.76	2.82	2.88	2.93	2.99	3.05	
REVENUES:											
Rents and Concessions - Tennis Center	145,000	150,000	155,000	160,000	165,000	170,000	175,000	180,000	185,000	190,000	1,675,000
Rents and Concessions - Golf	25,000	25,500	26,000	26,500	27,000	27,500	28,100	28,700	29,300	29,900	273,500
Golf Fees - Sunnyvale	1,841,900	1,878,700	1,916,300	1,954,600	1,993,700	2,033,600	2,074,300	2,115,800	2,158,100	2,201,200	20,168,200
Golf Fees - Sunken Gardens	623,500	636,000	648,700	661,700	674,900	688,400	702,200	716,200	730,500	745,100	6,827,200
Golf Cart Rentals	416,900	425,300	433,800	442,500	451,300	460,300	469,500	478,900	488,500	498,300	4,565,300
Driving Range Fees	334,400	341,100	347,900	354,900	362,000	369,200	376,600	384,200	391,800	399,700	3,661,800
Other Golf Revenue	275,800	281,300	286,900	292,600	298,500	304,500	310,500	316,800	323,100	329,600	3,019,600
Tower Lease Revenue	33,771	34,446	35,135	35,838	36,555	37,286	38,032	38,792	40,360	40,360	370,575
TOTAL REVENUES	**3,696,271**	**3,772,346**	**3,849,735**	**3,928,638**	**4,008,955**	**4,090,786**	**4,174,232**	**4,259,392**	**4,346,660**	**4,434,160**	**40,561,175**

EXPENSES:											
Golf Course Operations	4,217,045	4,524,190	4,812,622	4,963,350	5,124,891	5,282,325	5,445,065	5,613,280	5,778,642	5,877,571	51,638,981
Tennis Center Operations	111,639	113,314	115,014	117,889	121,426	125,068	128,820	132,685	136,666	140,766	1,243,287
Program In-Lieu Charges	137,961	143,566	149,241	151,484	149,595	153,784	157,629	161,808	165,608	169,998	1,540,674
Citywide In-Lieu Charges	369,748	379,313	389,117	333,770	409,465	420,023	430,844	441,936	453,305	464,958	4,092,479
Project Operating	(4,667)	(4,760)	(4,855)	(4,953)	(5,052)	(5,203)	(5,359)	(5,520)	(5,685)	(5,856)	(51,910)
TOTAL EXPENSES	**4,831,726**	**5,155,623**	**5,461,139**	**5,561,540**	**5,800,325**	**5,975,997**	**6,156,999**	**6,344,189**	**6,528,536**	**6,647,437**	**58,463,511**
NET OPERATING INCOME	**-1,135,455**	**-1,383,277**	**-1,611,404**	**-1,632,902**	**-1,791,370**	**-1,885,211**	**-1,982,767**	**-2,084,797**	**-2,181,876**	**-2,213,277**	**-17,902,336**

Sensitivity Scenario 2 - Baseline inputs but higher average green fee and cart fee revenue-per-round.

CITY OF SUNNYVALE
GOLF AND TENNIS OPERATIONS FUND
NGF FINANCIAL MODEL BASED ON ACTUAL FY19 AND CITY FY20 BUDGET
JULY 1, 2021 TO JUNE 30, 2031

Fiscal Year	2021/2022	2022/2023	2023/2024	2024/2025	2025/2026	2026/2027	2027/2028	2028/2029	2029/2030	2030/2031	2021/2022 To 2030/2031 TOTAL
TOTAL ROUNDS PLAYED	**98,000**	**98,000**	**98,000**	**98,000**	**98,000**	**98,000**	**98,000**	**98,000**	**98,000**	**98,000**	
Sunnyvale GC	58,500	58,500	58,500	58,500	58,500	58,500	58,500	58,500	58,500	58,500	
Sunken Gardens GC	39,500	39,500	39,500	39,500	39,500	39,500	39,500	39,500	39,500	39,500	
PER ROUND											
Golf Fees - Sunnyvale	30.56	31.17	31.79	32.43	33.08	33.74	34.41	35.10	35.80	36.52	
Golf Fees - Sunken Gardens	15.15	15.46	15.77	16.08	16.40	16.73	17.07	17.41	17.76	18.11	
Golf Cart Rentals	4.05	4.13	4.22	4.30	4.39	4.48	4.56	4.66	4.75	4.84	
Driving Range Fees	7.74	7.90	8.05	8.22	8.38	8.55	8.72	8.89	9.07	9.25	
Other Golf Revenue	2.55	2.60	2.66	2.71	2.76	2.82	2.88	2.93	2.99	3.05	
REVENUES:											
Rents and Concessions - Tennis Center	145,000	150,000	155,000	160,000	165,000	170,000	175,000	180,000	185,000	190,000	1,675,000
Rents and Concessions - Golf	25,000	25,500	26,000	26,500	27,000	27,500	28,100	28,700	29,300	29,900	273,500
Golf Fees - Sunnyvale	1,787,500	1,823,300	1,859,800	1,897,000	1,934,900	1,973,600	2,013,100	2,053,300	2,094,400	2,136,300	19,573,200
Golf Fees - Sunken Gardens	598,600	610,600	622,800	635,200	648,000	660,900	674,100	687,600	701,400	715,400	6,554,600
Golf Cart Rentals	397,200	405,200	413,300	421,600	430,000	438,600	447,400	456,300	465,400	474,700	4,349,700
Driving Range Fees	305,800	311,900	318,100	324,500	331,000	337,600	344,400	351,300	358,300	365,400	3,348,300
Other Golf Revenue	250,200	255,200	260,300	265,500	270,800	276,300	281,800	287,400	293,200	299,000	2,739,700
Tower Lease Revenue	33,771	34,446	35,135	35,838	36,555	37,286	38,032	38,792	40,360	40,360	370,575
TOTAL REVENUES	**3,543,071**	**3,616,146**	**3,690,435**	**3,766,138**	**3,843,255**	**3,921,786**	**4,001,932**	**4,083,392**	**4,167,360**	**4,251,060**	**38,884,575**
EXPENSES:											

Golf Course Operations	4,217,045	4,524,190	4,812,622	4,963,350	5,124,891	5,282,325	5,445,065	5,613,280	5,778,642	5,877,571	51,638,981
Tennis Center Operations	111,639	113,314	115,014	117,889	121,426	125,068	128,820	132,685	136,666	140,766	1,243,287
Program In-Lieu Charges	137,961	143,566	149,241	151,484	149,595	153,784	157,629	161,808	165,608	169,998	1,540,674
Citywide In-Lieu Charges	369,748	379,313	389,117	333,770	409,465	420,023	430,844	441,936	453,305	464,958	4,092,479
Project Operating	(4,667)	(4,760)	(4,855)	(4,953)	(5,052)	(5,203)	(5,359)	(5,520)	(5,685)	(5,856)	(51,910)
TOTAL EXPENSES	**4,831,726**	**5,155,623**	**5,461,139**	**5,561,540**	**5,800,325**	**5,975,997**	**6,156,999**	**6,344,189**	**6,528,536**	**6,647,437**	**58,463,511**
NET OPERATING INCOME	**-1,288,655**	**-1,539,477**	**-1,770,704**	**-1,795,402**	**-1,957,070**	**-2,054,211**	**-2,155,067**	**-2,260,797**	**-2,361,176**	**-2,396,377**	**-19,578,936**

Sensitivity Scenario 3 - Baseline inputs but higher rounds **and** higher average green fee and cart fee revenue-per-round. Assumes 90% margin – additional expenses for part-time staff time, supplies, repairs, etc.

CITY OF SUNNYVALE
GOLF AND TENNIS OPERATIONS FUND
NGF FINANCIAL MODEL BASED ON ACTUAL FY19 AND CITY FY20 BUDGET
JULY 1, 2021 TO JUNE 30, 2031

Fiscal Year	2021/2022	2022/2023	2023/2024	2024/2025	2025/2026	2026/2027	2027/2028	2028/2029	2029/2030	2030/2031	2021/2022 To 2030/2031 TOTAL
TOTAL ROUNDS PLAYED	**108,000**	**108,000**	**108,000**	**108,000**	**108,000**	**108,000**	**108,000**	**108,000**	**108,000**	**108,000**	
Sunnyvale GC	64,800	64,800	64,800	64,800	64,800	64,800	64,800	64,800	64,800	64,800	
Sunken Gardens GC	43,200	43,200	43,200	43,200	43,200	43,200	43,200	43,200	43,200	43,200	
PER ROUND											
Golf Fees - Sunnyvale	30.56	31.17	31.79	32.43	33.08	33.74	34.41	35.10	35.80	36.52	
Golf Fees - Sunken Gardens	15.15	15.46	15.77	16.08	16.40	16.73	17.07	17.41	17.76	18.11	
Golf Cart Rentals	4.05	4.13	4.22	4.30	4.39	4.48	4.56	4.66	4.75	4.84	
Driving Range Fees	7.74	7.90	8.05	8.22	8.38	8.55	8.72	8.89	9.07	9.25	
Other Golf Revenue	2.55	2.60	2.66	2.71	2.76	2.82	2.88	2.93	2.99	3.05	
REVENUES:											
Rents and Concessions - Tennis Center	145,000	150,000	155,000	160,000	165,000	170,000	175,000	180,000	185,000	190,000	1,675,000
Rents and Concessions - Golf	25,000	25,500	26,000	26,500	27,000	27,500	28,100	28,700	29,300	29,900	273,500
Golf Fees - Sunnyvale	1,980,000	2,019,700	2,060,000	2,101,200	2,143,300	2,186,100	2,229,900	2,274,500	2,319,900	2,366,300	21,680,900
Golf Fees - Sunken Gardens	654,700	667,800	681,100	694,800	708,600	722,800	737,300	752,000	767,100	782,400	7,168,600
Golf Cart Rentals	437,800	446,500	455,500	464,600	473,900	483,300	493,000	502,900	512,900	523,200	4,793,600
Driving Range Fees	334,400	341,100	347,900	354,900	362,000	369,200	376,600	384,200	391,800	399,700	3,661,800
Other Golf Revenue	275,800	281,300	286,900	292,600	298,500	304,500	310,500	316,800	323,100	329,600	3,019,600
Tower Lease Revenue	33,771	34,446	35,135	35,838	36,555	37,286	38,032	38,792	40,360	40,360	370,575
TOTAL REVENUES	**3,886,471**	**3,966,346**	**4,047,535**	**4,130,438**	**4,214,855**	**4,300,686**	**4,388,432**	**4,477,892**	**4,569,460**	**4,661,460**	**42,643,575**

EXPENSES:											
Golf Course Operations	4,217,045	4,524,190	4,812,622	4,963,350	5,124,891	5,282,325	5,445,065	5,613,280	5,778,642	5,877,571	51,638,981
Tennis Center Operations	111,639	113,314	115,014	117,889	121,426	125,068	128,820	132,685	136,666	140,766	1,243,287
Program In-Lieu Charges	137,961	143,566	149,241	151,484	149,595	153,784	157,629	161,808	165,608	169,998	1,540,674
Citywide In-Lieu Charges	369,748	379,313	389,117	333,770	409,465	420,023	430,844	441,936	453,305	464,958	4,092,479
Project Operating	(4,667)	(4,760)	(4,855)	(4,953)	(5,052)	(5,203)	(5,359)	(5,520)	(5,685)	(5,856)	(51,910)
TOTAL EXPENSES	**4,831,726**	**5,155,623**	**5,461,139**	**5,561,540**	**5,800,325**	**5,975,997**	**6,156,999**	**6,344,189**	**6,528,536**	**6,647,437**	**58,463,511**
NET OPERATING INCOME	**-945,255**	**-1,189,277**	**-1,413,604**	**-1,431,102**	**-1,585,470**	**-1,675,311**	**-1,768,567**	**-1,866,297**	**-1,959,076**	**-1,985,977**	**-15,819,936**

Sensitivity Scenario 4 - Baseline inputs but assumes operation of a 30-station driving range at Sunnyvale GC beginning in FY2022/23.

CITY OF SUNNYVALE
GOLF AND TENNIS OPERATIONS FUND
NGF FINANCIAL MODEL BASED ON ACTUAL FY19 AND CITY FY20 BUDGET
JULY 1, 2021 TO JUNE 30, 2031

Fiscal Year	2021/2022	2022/2023	2023/2024	2024/2025	2025/2026	2026/2027	2027/2028	2028/2029	2029/2030	2030/2031	2021/2022 To 2030/2031 TOTAL
TOTAL ROUNDS PLAYED	**98,000**	**98,000**	**98,000**	**98,000**	**98,000**	**98,000**	**98,000**	**98,000**	**98,000**	**98,000**	
Sunnyvale GC	58,500	58,500	58,500	58,500	58,500	58,500	58,500	58,500	58,500	58,500	
Sunken Gardens GC	39,500	39,500	39,500	39,500	39,500	39,500	39,500	39,500	39,500	39,500	
RANGE TEE STATIONS - SUNNYVALE		30	30	30	30	30	30	30	30	30	
PER ROUND											
Golf Fees - Sunnyvale GC	28.42	28.99	29.57	30.16	30.77	31.38	32.01	32.65	33.30	33.97	
Golf Fees - Sunken Gardens	14.43	14.72	15.02	15.32	15.62	15.94	16.25	16.58	16.91	17.25	
Golf Cart Rentals	3.86	3.94	4.02	4.10	4.18	4.26	4.35	4.43	4.52	4.61	
Driving Range Fees - Sunken Gardens	7.74	7.90	8.05	8.22	8.38	8.55	8.72	8.89	9.07	9.25	
Driving Range Fees - Sunnyvale GC	Construction	17,000	17,510	18,035	18,576	19,134	19,708	20,299	20,908	21,535	
Other Golf Revenue	2.55	2.60	2.66	2.71	2.76	2.82	2.88	2.93	2.99	3.05	
REVENUES:											
Rents and Concessions - Tennis Center	145,000	150,000	155,000	160,000	165,000	170,000	175,000	180,000	185,000	190,000	1,675,000
Rents and Concessions - Golf	25,000	25,500	26,000	26,500	27,000	27,500	28,100	28,700	29,300	29,900	273,500
Golf Fees - Sunnyvale	1,662,800	1,696,100	1,730,000	1,764,600	1,799,900	1,835,900	1,872,600	1,910,100	1,948,300	1,987,200	18,207,500
Golf Fees - Sunken Gardens	570,100	581,500	593,100	605,000	617,100	629,400	642,000	654,900	668,000	681,300	6,242,400
Golf Cart Rentals	378,300	385,900	393,600	401,500	409,500	417,700	426,100	434,600	443,300	452,100	4,142,600
Driving Range Fees - Sunken Gardens	305,800	311,900	318,100	324,500	331,000	337,600	344,400	351,300	358,300	365,400	3,348,300
Driving Range Fees - Sunnyvale	0	510,000	525,300	541,100	557,300	574,000	591,200	609,000	627,200	646,100	5,181,200
Other Golf Revenue	250,200	255,200	260,300	265,500	270,800	276,300	281,800	287,400	293,200	299,000	2,739,700
Tower Lease Revenue	33,771	34,446	35,135	35,838	36,555	37,286	38,032	38,792	40,360	40,360	370,575
TOTAL REVENUES	**3,370,971**	**3,950,546**	**4,036,535**	**4,124,538**	**4,214,155**	**4,305,686**	**4,399,232**	**4,494,792**	**4,592,960**	**4,691,360**	**42,180,775**

Sunnyvale Driving Range Cost of Sales	0	38,300	39,400	40,600	41,800	43,100	44,300	45,700	47,000	48,500	
ADJUSTED GROSS REVENUES	**3,370,971**	**3,912,246**	**3,997,135**	**4,083,938**	**4,172,355**	**4,262,586**	**4,354,932**	**4,449,092**	**4,545,960**	**4,642,860**	**42,180,775**
EXPENSES:											
Golf Course Operations	4,217,045	4,524,190	4,812,622	4,963,350	5,124,891	5,282,325	5,445,065	5,613,280	5,778,642	5,877,571	51,638,981
Tennis Center Operations	111,639	113,314	115,014	117,889	121,426	125,068	128,820	132,685	136,666	140,766	1,243,287
Program In-Lieu Charges	137,961	143,566	149,241	151,484	149,595	153,784	157,629	161,808	165,608	169,998	1,540,674
Citywide In-Lieu Charges	369,748	379,313	389,117	333,770	409,465	420,023	430,844	441,936	453,305	464,958	4,092,479
Project Operating	(4,667)	(4,760)	(4,855)	(4,953)	(5,052)	(5,203)	(5,359)	(5,520)	(5,685)	(5,856)	(51,910)
TOTAL EXPENSES	**4,831,726**	**5,155,623**	**5,461,139**	**5,561,540**	**5,800,325**	**5,975,997**	**6,156,999**	**6,344,189**	**6,528,536**	**6,647,437**	**58,463,511**
NET OPERATING INCOME	**-1,460,755**	**-1,243,377**	**-1,464,004**	**-1,477,602**	**-1,627,970**	**-1,713,411**	**-1,802,067**	**-1,895,097**	**-1,982,576**	**-2,004,577**	**-16,282,736**

Sensitivity Scenario 5 – 'Best Case' scenario with higher rounds, higher rates, modest food & beverage/room rental revenue at Sunnyvale GC, **and** operation of a 30-station driving range at Sunnyvale GC beginning in FY2022/23

CITY OF SUNNYVALE
GOLF AND TENNIS OPERATIONS FUND
NGF FINANCIAL MODEL BASED ON ACTUAL FY19 AND CITY FY20 BUDGET
JULY 1, 2021 TO JUNE 30, 2031

Fiscal Year	2021/2022	2022/2023	2023/2024	2024/2025	2025/2026	2026/2027	2027/2028	2028/2029	2029/2030	2030/2031	2021/2022 To 2030/2031 TOTAL
TOTAL ROUNDS PLAYED	**108,000**	**108,000**	**108,000**	**108,000**	**108,000**	**108,000**	**108,000**	**108,000**	**108,000**	**108,000**	
Sunnyvale GC	64,800	64,800	64,800	64,800	64,800	64,800	64,800	64,800	64,800	64,800	
Sunken Gardens GC	43,200	43,200	43,200	43,200	43,200	43,200	43,200	43,200	43,200	43,200	
RANGE TEE STATIONS - SUNNYVALE	0	30	30	30	30	30	30	30	30	30	
PER ROUND											
Golf Fees - Sunnyvale GC	30.56	31.17	31.79	32.43	33.08	33.74	34.41	35.10	35.80	36.52	
Golf Fees - Sunken Gardens	15.15	15.46	15.77	16.08	16.40	16.73	17.07	17.41	17.76	18.11	
Golf Cart Rentals	4.05	4.13	4.22	4.30	4.39	4.48	4.56	4.66	4.75	4.84	
Driving Range Fees - Sunken Gardens	7.74	7.90	8.05	8.22	8.38	8.55	8.72	8.89	9.07	9.25	
Driving Range Fees - Sunnyvale GC	Construction	17,000	17,510	18,035	18,576	19,134	19,708	20,299	20,908	21,535	
F&B Sales/Room Rentals - Sunnyvale GC	1.00	1.02	1.04	1.06	1.08	1.10	1.13	1.15	1.17	1.20	
Other Golf Revenue	2.55	2.60	2.66	2.71	2.76	2.82	2.88	2.93	2.99	3.05	
REVENUES:											
Rents and Concessions - Tennis Center	145,000	150,000	155,000	160,000	165,000	170,000	175,000	180,000	185,000	190,000	1,675,000
Rents and Concessions - Golf	25,000	25,500	26,000	26,500	27,000	27,500	28,100	28,700	29,300	29,900	273,500
Golf Fees - Sunnyvale	1,980,000	2,019,700	2,060,000	2,101,200	2,143,300	2,186,100	2,229,900	2,274,500	2,319,900	2,366,300	21,680,900
Golf Fees - Sunken Gardens	654,700	667,800	681,100	694,800	708,600	722,800	737,300	752,000	767,100	782,400	7,168,600
Golf Cart Rentals	437,800	446,500	455,500	464,600	473,900	483,300	493,000	502,900	512,900	523,200	4,793,600
Driving Range Fees - Sunken Gardens	334,400	341,100	347,900	354,900	362,000	369,200	376,600	384,200	391,800	399,700	3,661,800
Driving Range Fees - Sunnyvale GC	0	510,000	525,300	541,100	557,300	574,000	591,200	609,000	627,200	646,100	5,181,200
F&B Sales/Room Rentals - Sunnyvale GC	64,800	66,100	67,400	68,800	70,100	71,500	73,000	74,400	75,900	77,400	709,400
Other Golf Revenue	275,800	281,300	286,900	292,600	298,500	304,500	310,500	316,800	323,100	329,600	3,019,600

Tower Lease Revenue	33,771	34,446	35,135	35,838	36,555	37,286	38,032	38,792	40,360	40,360	370,575
TOTAL REVENUES	**3,951,271**	**4,542,446**	**4,640,235**	**4,740,338**	**4,842,255**	**4,946,186**	**5,052,632**	**5,161,292**	**5,272,560**	**5,384,960**	**48,534,175**
Cost of Sales											
Sunnyvale GC Food & Beverage	19,440	19,830	20,220	20,640	21,030	21,450	21,900	22,320	22,770	23,220	
Sunnyvale GC Driving Range	0	38,300	39,400	40,600	41,800	43,100	44,300	45,700	47,000	48,500	
ADJUSTED GROSS REVENUES	**3,931,831**	**4,484,316**	**4,580,615**	**4,679,098**	**4,779,425**	**4,881,636**	**4,986,432**	**5,093,272**	**5,202,790**	**5,313,240**	**47,932,655**
EXPENSES:											
Golf Course Operations	4,217,045	4,524,190	4,812,622	4,963,350	5,124,891	5,282,325	5,445,065	5,613,280	5,778,642	5,877,571	51,638,981
Tennis Center Operations	111,639	113,314	115,014	117,889	121,426	125,068	128,820	132,685	136,666	140,766	1,243,287
Program In-Lieu Charges	137,961	143,566	149,241	151,484	149,595	153,784	157,629	161,808	165,608	169,998	1,540,674
Citywide In-Lieu Charges	369,748	379,313	389,117	333,770	409,465	420,023	430,844	441,936	453,305	464,958	4,092,479
Project Operating	(4,667)	(4,760)	(4,855)	(4,953)	(5,052)	(5,203)	(5,359)	(5,520)	(5,685)	(5,856)	(51,910)
TOTAL EXPENSES	**4,831,726**	**5,155,623**	**5,461,139**	**5,561,540**	**5,800,325**	**5,975,997**	**6,156,999**	**6,344,189**	**6,528,536**	**6,647,437**	**58,463,511**
NET OPERATING INCOME	**-899,895**	**-671,307**	**-880,524**	**-882,442**	**-1,020,900**	**-1,094,361**	**-1,170,567**	**-1,250,917**	**-1,325,746**	**-1,334,197**	**-10,530,856**

APPENDIX G - GOLF COURSE EXPECTED LIFE CYCLE CHART

GOLF COURSE ITEMS
EXPECTED LIFE CYCLE

HOW LONG SHOULD PARTS OF THE GOLF COURSE LAST?

No two golf courses are alike except for one thing: deferring replacement of key items can lead to greater expense in the future, as well as a drop in conditioning and player enjoyment. The following information represents a realistic timeline for each item's longevity.

Component life spans can vary depending upon location of the golf course, quality of materials, original installation and past maintenance practices. The American Society of Golf Course Architects (ASGCA) encourages golf course leaders to work with an ASGCA member, superintendents and others to assess their course's components.

ITEM	YEARS
Greens (1)	15 – 30 years
Bunker Sand	5 – 7 years
Irrigation System	10 – 30 years
Irrigation Control System	*10 – 15 years*
Pump Station	*15 – 20 years*
Cart Paths – asphalt (2)	5 – 10 years (or longer)
Cart Paths – concrete	15 – 30 years (or longer)
Practice Range Tees	5 – 10 years
Tees	15 – 20 years
Corrugated Metal Pipes	15 – 30 years
Bunker Drainage Pipes (3)	5 – 10 years
Mulch	1 – 3 years
Grass (4)	Varies

NOTES: *(1) Several factors can weigh into the decision to replace greens: accumulation of layers on the surface of the original construction, the desire to convert to new grasses and response to changes in the game from an architectural standpoint (like the interaction between green speed and hole locations).* ***(2)*** *Assumes on-going maintenance beginning 1 - 2 years after installation.* ***(3)*** *Typically replaced because the sand is being changed – while the machinery is there to change sand, it's often a good time to replace the drainage pipes as well.* ***(4)*** *As new grasses enter the marketplace – for example, those that are more drought and disease tolerant — replanting may be appropriate, depending upon the site.*

ASGCA thanks those at the USGA Green Section, Golf Course Builders Association of America, Golf Course Superintendents Association of America and various suppliers for their assistance in compiling this information.

The materials presented on this chart have been reviewed by the following Allied Associations of Golf:

For more information, contact ASGCA at (262) 786-5960 or visit www.ASGCA.org

DATA COMPILED BY ASGCA, 125 NORTH EXECUTIVE DRIVE, SUITE 302, BROOKFIELD, WI 53005

City of Sunnyvale

Agenda Item

21-0359 **Agenda Date:** 11/9/2021

Picture Book Month

City of Sunnyvale

Agenda Item

21-0360 **Agenda Date:** 11/9/2021

Small Business Saturday

City of Sunnyvale

Agenda Item

21-0986 **Agenda Date:** 11/9/2021

SUBJECT
Approve City Council Meeting Minutes of October 26, 2021

RECOMMENDATION
Approve the City Council Meeting Minutes of October 26, 2021 as submitted.

City of Sunnyvale

Meeting Minutes - Draft
City Council

Tuesday, October 26, 2021 **5:30 PM** **Telepresence Meeting: City Web Stream | Comcast Channel 15 | AT&T Channel 99**

Special Meeting: Closed Session - 5:30 PM | Special Meeting: Study Session - 6 PM | Regular Meeting - 7 PM

5:30 P.M. SPECIAL COUNCIL MEETING (Closed Session)

Call to Order

Pursuant to Government Code Subdivision 54953(e), the meeting was conducted telephonically; pursuant to state law, the City Council made the necessary findings by adopting Resolution No. 1089-21 on October 26, 2021.

Mayor Klein called the meeting to order at 5:30 p.m. via teleconference.

Roll Call

Present: 7 - Mayor Larry Klein
Vice Mayor Glenn Hendricks
Councilmember Gustav Larsson
Councilmember Russ Melton
Councilmember Mason Fong
Councilmember Alysa Cisneros
Councilmember Omar Din

Mayor Klein, Vice Mayor Hendricks and all Councilmembers attended via teleconference.

Public Comment

Public Comment opened at 5:32 p.m.
No speakers.
Public Comment closed at 5:32 p.m.

Convene to Closed Session

A 21-0613 CONFERENCE WITH LEGAL COUNSEL-PENDING LITIGATION

Closed Session held pursuant to California Government Code Section 54956.9(d)(1).
Name of case: Charles Shah v. City of Sunnyvale, Santa Clara County Superior Court, Case No. 20CV362725

Adjourn Special Meeting

Mayor Klein adjourned the meeting at 5:50 p.m.

6 P.M. SPECIAL COUNCIL MEETING (Study Session)

Call to Order

Pursuant to Government Code Subdivision 54953(e), the meeting was conducted telephonically; pursuant to state law, the City Council made the necessary findings by adopting Resolution No. 1089-21 on October 26, 2021.

Mayor Klein called the meeting to order at 6:00 p.m. via teleconference.

Roll Call

Present: 7 - Mayor Larry Klein
Vice Mayor Glenn Hendricks
Councilmember Gustav Larsson
Councilmember Russ Melton
Councilmember Mason Fong
Councilmember Alysa Cisneros
Councilmember Omar Din

Mayor Klein, Vice Mayor Hendricks and all Councilmembers attended via teleconference.

Study Session

B 21-0938 Consider the Creation of a Formal Process for City Council Colleague Memorandums (Study Issue)

City Clerk David Carnahan provided the staff report and presentation.

Public Comment opened at 6:52 p.m.

Mike Serrone communicated support for the creation of a process for colleague memorandums.

Public Comment closed at 6:55 p.m.

Adjourn Special Meeting

Mayor Klein adjourned the meeting at 6:57 p.m.

7 P.M. COUNCIL MEETING

CALL TO ORDER

Pursuant to Government Code Subdivision 54953(e), the meeting was conducted telephonically; pursuant to state law, the City Council made the necessary findings by adopting Resolution No. 1089-21 on October 26, 2021.

Mayor Klein called the meeting to order at 7:00 p.m. via teleconference.

ROLL CALL

Present: 7 - Mayor Larry Klein
Vice Mayor Glenn Hendricks
Councilmember Gustav Larsson
Councilmember Russ Melton
Councilmember Mason Fong
Councilmember Alysa Cisneros
Councilmember Omar Din

Mayor Klein, Vice Mayor Hendricks and all Councilmembers attended via teleconference.

CLOSED SESSION REPORT

Vice Mayor Hendricks reported that Council met in Closed Session held pursuant to California Government Code Section 54956.9(d)(1): CONFERENCE WITH LEGAL COUNSEL PENDING LITIGATION Name of case: Charles Shah v. City of Sunnyvale, Santa Clara County Superior Court, Case No. 20CV362725; nothing to report

SPECIAL ORDER OF THE DAY

C 21-0438 Department of Public Safety Special Awards

The Department of Public Safety presented the 2020-21 Special Awards and Recognition to Public Safety staff.

ORAL COMMUNICATIONS

Councilmember Din announced details of the current recruitment for various Board and Commissions and that applications are being accepted for The Great Box Cover-up utility box public art project.

Mayor Klein announced that a Santa Clara City Council Study Session related to Project HomeKey and potential project sites is scheduled for November 9, 2021.

Lizzie Li shared opposition to the Project HomeKey sites along Sunnyvale borders.

Jamie communicated opposition to the Project HomeKey sites bordering Sunnyvale.

Megan Roy voiced concerns with the lack of transparency related to the Project HomeKey process and requested a public hearing on the projects be held.

Kimberly shared opposition to the HomeKey housing sites bordering Sunnyvale and concerns with the lack of transparency related to the projects.

Abby Wen communicated opposition to the Project HomeKey sites bordering Sunnyvale and Mountain View. She requested an informational meeting be scheduled prior to November 9 meeting.

Mayor Klein announced that the November 9 meeting is being held by Santa Clara City Council and that outreach meetings related to the Mountain View Project HomeKey site have been held by the Santa Clara County Board of Supervisors.

Duanya Tu voiced concerns with the proposed housing sites that border Sunnyvale.

Mel Foody spoke towards the lack of outreach efforts to neighborhoods near the proposed housing sites and requested Sunnyvale City Council collaborate with residents and neighboring local agencies to find solutions that benefit all individuals.

Tata shared opposition to the Santa Clara County Project HomeKey sites that border Sunnyvale and requested Council stop the projects.

Grace communicated opposition to the Project HomeKey sites bordering Sunnyvale and requested a town hall meeting related to the projects be held.

Pat C. shared statistics related to the Milpitas Project HomeKey site and spoke towards the lack of long-term funding for the projects. He urged the projects be stopped.

Tracie Huang voiced concerns with the proposed housing sites being located in high-density residential neighborhoods.

Henry Luo communicated opposition to the Project HomeKey sites bordering Sunnyvale and Santa Clara and concerns with the lack of transparency related to the project sites. He requested the City of Sunnyvale communicate project details via a town hall meeting.

Kelly shared opposition to the Project HomeKey sites bordering Sunnyvale and Santa Clara and concerns related to safety, lack of transparency and project locations.

Louie voiced concerns with the Project HomeKey site and its proximity to a new park location.

Danny communicated concerns related to the lack of transparency and communication about the projects.

Jiazhen Zheng spoke towards Council support to prohibit the projects.

Mandy shared concerns with the Project HomeKey sites and requested the projects be postponed until residents are provided adequate information.

Elaine voiced safety concerns with the Project HomeKey sites and opposition to the projects.

Ada Koi indicated a desire to speak but was unable to provide public comment due to technical difficulties.

Sam G. spoke towards Council’s inaction related to concerns with Project HomeKey.

Yun communicated concerns with the sites and requested Council establish an action plan and timeline to address residents’ concerns.

Brian K. spoke towards the lack of requirements associated with Assembly Bill No. 83 and inquired on the list of properties considered and selection criteria.

Jenny Yang voiced concerns with the housing site bordering Sunnyvale and Santa Clara, the selection of the site and proximity to a new park and possible impact to the Sunnyvale police.

Tony G. spoke towards elected officials proactively addressing residents' concerns rather than directing concerns to other jurisdictions.

SM spoke towards Sunnyvale leaders negotiating with neighboring cities and support for establishing programs that inform residents of neighboring city projects that may impact Sunnyvale residents.

Christine voiced support for having elected officials negotiate with neighboring cities on behalf of Sunnyvale residents and for public outreach meetings.

Richard indicated a desire to speak but was unable to provide public comment due to technical difficulties.

Rose spoke towards the recent wet weather and the impact to unhoused individuals. She shared support for activating a warming center in response to inclement weather.

Skyler communicated concerns with the Project HomeKey site that borders Sunnyvale and Santa Clara and with the lack of transparency and communication related to the project.

Yao shared concerns related to the Project HomeKey site specifically personal safety. He requested that a study be conducted to gauge the negative impacts to the community and to mitigate risk to residents.

Alyssa Weatherston voiced support for providing help and security to the unhoused population in the community and spoke towards equivocating unhoused individuals with criminals.

Hongliang Fei communicated concerns with safety and the lack of resident engagement related to the Project HomeKey site locations.

Shiyang Chen shared concerns related to the Project HomeKey sites bordering Sunnyvale and requested Council express residents' concerns with the project leaders.

Helen Gettinger spoke towards the recent wet weather and the failure of declaring it an emergency. She requested in the future City staff reach out to Santa Clara County's Emergency Operation Center about undeclared emergencies. She voiced support for assigning a dedicated staff member to address unhoused issues.

Bella communicated opposition to the Project HomeKey sites bordering Sunnyvale and concerns with the lack of transparency related to the projects.

Alyssa shared support for activating a warming center in response to the upcoming winter months. She spoke towards community concerns related to Project HomeKey and requested the well-being of unhoused individuals be considered when options are being discussed.

Richard voiced opposition to Project HomeKey due to the lack of transparency and requested Council express residents' concerns with the project leaders.

Ashley Zhang communicated concerns with the Project HomeKey site bordering Sunnyvale and Mountain View and requested a town hall meeting related to the project be held.

Lillian voiced support for scheduling a town hall meeting related to the Project HomeKey sites and elected officials, on behalf of Sunnyvale residents, request that neighboring cities postpone the projects.

Stephen Meier shared that Project HomeKey concerns should be addressed with the proper governing body such as Santa Clara County. He communicated support for providing services to the unhoused population.

Leticia spoke towards her experience as an unhoused individual and being equivocated as a criminal.

A member of the public encouraged others to show empathy towards unhoused individuals and help them find housing.

Lu Fields communicated concerns with the Project HomeKey site bordering

Sunnyvale and Santa Clara due to traffic congestion and requested information on the selection criteria.

Yvette spoke towards the lack of transparency and communication related to the Project HomeKey sites. She requested a study be conducted regarding long-term funding and identifying low-density residential sites.

Richard Mehlinger voiced support for helping the unhoused population and providing housing near services such as public transportation.

Brandon shared concerns with the Project HomeKey site bordering Sunnyvale and Santa Clara due to traffic congestion and high-density residential neighborhood.

Lillian communicated opposition to the Project HomeKey site bordering Sunnyvale and Mountain View.

Mayor Klein announced that Council will hear the remainder of speakers under Oral Communications following the Public Hearing/General Business agenda items.

CONSENT CALENDAR

Vice Mayor Hendricks pulled Item 1.E for separate consideration.

MOTION: Vice Mayor Hendricks moved and Councilmember Larsson seconded the motion to approve agenda items 1.A through 1.D and 1.F through 1.J.

The motion carried with the following vote:

Yes: 7 - Mayor Klein
Vice Mayor Hendricks
Councilmember Larsson
Councilmember Melton
Councilmember Fong
Councilmember Cisneros
Councilmember Din

No: 0

1.A 21-0693 Approve City Council Meeting Minutes of September 28, 2021

Approve the City Council Meeting Minutes of September 28, 2021 as submitted.

1.B 21-0206 Approve City Council Meeting Minutes of October 12, 2021

Approve the City Council Meeting Minutes of October 12, 2021 as submitted.

1.C 21-0260 Approve the List(s) of Claims and Bills Approved for Payment by the City Manager

Approve the list(s) of claims and bills.

1.D 21-0217 Accept Fiscal Year 2020/21 Transportation Development Act Article 3 Funding in the Amount of $184,876, Approve Budget Modification No. 8 to Appropriate the Grant Funding and Developer Fair Share Contribution of $8,000 from 581-583 E. Fremont Avenue to Fund the Construction of Pedestrian and Bicycle Safety Improvements at Fremont Avenue and Manet Drive/Bobwhite Avenue Project, and Find that the Action is Exempt from the California Environmental Quality Act

Accept Fiscal Year 2020/21 Transportation Development Act Article 3 funding in the amount of $184,876; approve Budget Modification No. 8 to appropriate the grant funding and developer fair share contribution of $8,000 from 581-583 E. Fremont Avenue to fund the construction of pedestrian and bicycle safety improvements at Fremont Avenue and Manet Drive/Bobwhite Avenue Project, and find that the action is exempt from the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines Section 15301(c).

1.E 21-0969 Award of Contract to Verde Design Inc. for Professional Design Services for Community Center Grounds Renovations and Enhancement Project (F21-153)

Public Hearing opened at 8:37 p.m.
No speakers.
Public Hearing closed at 8:37 p.m.

Vice Mayor Hendricks moved and Councilmember Larsson seconded the motion to:
- Award a Consultant Services Agreement in substantially the same form as Attachment 1 to the report in the amount not-to-exceed $1,270,719.00 to Verde Design Inc.;
- Authorize the City Manager to execute the contract when all necessary conditions have been met; and
- Approve a 10% contingency in the amount of $127,072.00.

The motion carried with the following vote:

Yes: 7 - Mayor Klein
Vice Mayor Hendricks
Councilmember Larsson
Councilmember Melton
Councilmember Fong
Councilmember Cisneros
Councilmember Din

No: 0

1.F 21-0974 Award of Contract to GDT for an All-Inclusive Network Infrastructure and Go-Live Support for the New Civic Center (F22-026)

Take the following actions:
- Award a Services Agreement in the amount not-to-exceed $1,297,211.90 in substantially the same form as Attachment 1 to the report to GDT for an all-inclusive network infrastructure and pre- and post go-live support for a Cisco ACI Network; and
- Approve a 10% contingency in the amount of $129,721.20.

1.G 21-0958 Authorize the Purchase of Two Parks Maintenance Service Mowers from Turf Star Western (F22-018)

Authorize the City Manager to issue a Purchase Agreement in the amount of $281,371.20 to Turf Star Western for two Toro maintenance service mowers.

1.H 21-0901 Adopt the City’s Investment Policy for Fiscal Year 2021/22 and Receive Annual Performance Report for Fiscal Year 2020/21

Adopt the City's Investment Policy for FY 2021/22 (Council Policy 7.1.2).

1.I 21-0940 Adopt a Resolution Extending the City’s Declaration of Local Emergency for COVID-19

Adopt a Resolution extending the City Manager/Director of Emergency Services' Proclamation of Existence of a Local Emergency (COVID-19).

1.J 21-0956 Adopt a Resolution Making Findings Pursuant to Government Code Subdivision 54953 (e) (AB 361) to Continue Virtual Public Meetings for the City Council and Boards, Commissions and Council Subcommittees During the COVID-19 State of Emergency

Adopt a Resolution making findings pursuant to Government Code Subdivision 54953 (e) to continue virtual public meetings for the City Council and City Boards, Commissions and Council Subcommittees during the COVID-19 State of Emergency.

Council took a recess at 8:41 p.m. and reconvened at 8:45 p.m. with all Councilmembers present via teleconference.

PUBLIC HEARINGS/GENERAL BUSINESS

2 21-0248 Authorize the City Manager to Execute Amendment One to Parking Area License Agreement Between the City of Sunnyvale and TP SPE LLC for the Continued Use of 84 Parking Stalls at the Sunnyvale Golf Course (605 Macara Avenue - APN: 165-39-015)

Public Works Director Chip Taylor provided the staff report and presentation.

Public Hearing opened at 8:48 p.m.
No speakers.
Public Hearing closed at 8:48 p.m.

MOTION: Vice Mayor Hendricks moved and Councilmember Larsson seconded the motion to approve Alternative 1: Authorize the City Manager to execute amendment one to Parking Area License Agreement between the City of Sunnyvale and TP SPE LLC for the continued use of 84 parking stalls at the Sunnyvale Golf Course extending the term of the license for two years with three one-year extensions.

The motion carried with the following vote:

Yes: 7 - Mayor Klein
Vice Mayor Hendricks
Councilmember Larsson
Councilmember Melton
Councilmember Fong
Councilmember Cisneros
Councilmember Din

No: 0

3 21-0985 Approve Amendments to Council Policy 7.1.7 (Budget Issue Process); Council Policy 7.2.19 (Boards and Commissions); and the Code of Ethics and Conduct for Elected and Appointed Officials as Recommended by the Council Subcommittee on Boards and Commissions

City Clerk David Carnahan and Finance Director Tim Kirby provided the staff report.

Mayor Klein provided the Subcommittee report.

Public Hearing opened at 8:59 p.m.
No speakers.
Public Hearing closed at 8:59 p.m.

MOTION: Vice Mayor Hendricks moved and Councilmember Larsson seconded the motion to approve Alternatives 1, 3, and 5:
1. Approve the Council Subcommittee's recommended changes to Council Policy 7.1.7 Budget Issue Process (Attachment 1);
3. Approve the Council Subcommittee's recommended changes to Council Policy 7.2.19 Boards and Commissions (Attachment 6); and
5. Approve the Council Subcommittee's recommended changes to the Code of Ethics and Conduct for Elected and Appointed Officials (Attachment 8).

The motion carried with the following vote:

Yes: 7 - Mayor Klein
Vice Mayor Hendricks
Councilmember Larsson
Councilmember Melton
Councilmember Fong
Councilmember Cisneros
Councilmember Din

No: 0

4 21-0966 Consider Options for Building A Pipeline for Students for Careers in the Public Service Study Issue and Plan Update as Part of the Fiscal Year 2022/23 Budget Process

Human Resources Director Tina Murphy provided the staff report.

Public Hearing opened at 9:27 p.m.

No speakers.
Public Hearing closed at 9:27 p.m.

MOTION: Councilmember Fong moved and Councilmember Din seconded the motion to approve Alternative 1: As part of the Fiscal Year 2022/23 Budget process include Options 1, 2 and 3:

1. Lowest resource commitment:
Continue current programs for internships within City of Sunnyvale for students, encouraging more participation from City departments; offer more student internships for high school and college students. The City would look for opportunities to grow our existing program, but not expand what staff are currently doing;

2. Moderate resource commitment:
Invite up to 10 Sunnyvale high school students to participate in the NOVA Summer Youth Program to take jobs within the City and attend NOVA skills training. Participants would be those who are not otherwise eligible to participate in the NOVA Summer Youth Program;

3. Significant resource commitment:
Fund five (5) full-time internships in various City departments;

With the following additional options:
Option 2b - Identify a maximum number of high school or college students to participate in the NOVA Summer Youth Program with the number of participants to be identified by NOVA Workforce Services; and
Option 3b – Identify part-time internships to fund instead of full-time internships.

Mayor Klein clarified if the motion intended to include a specific number of part-time internships to fund for budgetary purposes.

Councilmember Fong indicated the intent of the motion is to provide a range that allows staff to identify a specific number of possible City departments interested in part-time internships.

FRIENDLY AMENDMENT: Councilmember Fong amended the motion to fund up to 10 part-time internships.

City Manager Kent Steffens clarified if the motion intended to include placement limitations for the participants in the NOVA Summer Youth Program.

FRIENDLY AMENDMENT: Councilmember Fong amended the motion to limit participants be placed with the City of Sunnyvale and be Sunnyvale residents.

The amended motion carried with the following vote:

Yes: 7 - Mayor Klein
Vice Mayor Hendricks
Councilmember Larsson
Councilmember Melton
Councilmember Fong
Councilmember Cisneros
Councilmember Din

No: 0

Mayor Klein announced that Council will now hear the remainder of Oral Communication speakers.

ORAL COMMUNICATIONS (Continued)

Public Comment opened at 9:52 p.m.
No speakers.
Public Comment closed at 9:52 p.m.

COUNCILMEMBERS REPORTS ON ACTIVITIES FROM INTERGOVERNMENTAL COMMITTEE ASSIGNMENTS

None.

NON-AGENDA ITEMS & COMMENTS

-Council

Mayor Klein announced details of an upcoming County outreach meeting related to the Project HomeKey Crestview development.

-City Manager

City Manager Kent Steffens communicated that due to the number of retirements and departures in the work force, he approved unfreezing a Human Resources Technician position and conducting a recruitment for the position in Recruitment.

INFORMATION ONLY REPORTS/ITEMS

21-0641	Tentative Council Meeting Agenda Calendar
21-0925	Board/Commission Meeting Minutes
21-0685	Information/Action Items

ADJOURNMENT

Mayor Klein adjourned the meeting at 9:55 p.m.

City of Sunnyvale

Agenda Item

21-0261 **Agenda Date:** 11/9/2021

REPORT TO COUNCIL

SUBJECT
Approve the List(s) of Claims and Bills Approved for Payment by the City Manager

BACKGROUND
Pursuant to Sunnyvale Charter Section 802(6), the City Manager has approved for payment claims and bills on the following list(s); and checks have been issued.

List No.	Date	Total Disbursements
097	10-10-21 through 10-16-21	$11,633,540.52
098	10-17-21 through 10-23-21	$21,970,539.79

Payments made by the City are controlled in a variety of ways. In general, payments are reviewed by the appropriate City staff for compliance with the goods or services provided. Any discrepancies are resolved and re-submitted for payment. Different levels of dollar amounts for payments require varying levels of approval within the organization. Ultimately payments are reviewed and processed by the Finance Department. Budgetary control is set by Council through the budget adoption resolution.

ENVIRONMENTAL REVIEW
The action being considered does not constitute a “project” within the meaning of the California Environmental Quality Act (“CEQA”) pursuant to CEQA Guidelines section 15378(b)(4) in that it is a fiscal activity that does not involve any commitment to any specific project which may result in a potential significant impact on the environment.

PUBLIC CONTACT
Public contact was made by posting the Council agenda on the City's official-notice bulletin board outside City Hall, Sunnyvale Public Library and Department of Public Safety. In addition, the agenda and report are available at the Office of the City Clerk and on the City's website.

RECOMMENDATION
Approve the list(s) of claims and bills.

Prepared by: Tim Kirby, Director of Finance
Reviewed by: Jaqui Guzmán, Deputy City Manager
Approved by: Kent Steffens, City Manager

ATTACHMENTS
1. List(s) of Claims and Bills Approved for Payment

City of Sunnyvale

LIST # 097

List of All Claims and Bills Approved for Payment

For Payments Dated 10/10/2021 **through** 10/16/2021

Sorted by Payment Type, Payment Number and Invoice Number

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
CHECK	XXXXX5670	10/13/2021	NOVAworks Foundation	81.92	PR202140	PR202140 -- NOVA dues	81.92	0.00	$81.92
	XXXXX5671	10/13/2021	R & R Refrigeration & Air Conditioning	462.25	70843	FS#2 Ice Machine Svc	462.25	0.00	$462.25
	XXXXX5672	10/13/2021	Sunnyvale Public Safety Officers Assn	20,070.00	PR202140	PR202140 -- Association dues	20,070.00	0.00	$20,070.00
	XXXXX5673	10/13/2021	The Home Depot Pro	229.01	646069773	Disc.$2.12 by 11/10/21	231.13	2.12	$229.01
	XXXXX5674	10/13/2021	Turf & Industrial Equipment Co	4,914.72	UI19984	Supplies	4,914.72	0.00	$4,914.72
	XXXXX5675	10/13/2021	United Parcel Service	478.21	000096660840 1	Shipper No 966608 W/E 9/11/21-10/2/21	478.21	0.00	$478.21
	XXXXX5676	10/13/2021	United Way Bay Area	149.15	PR202140	PR202140 -- United	149.15	0.00	$149.15
	XXXXX5677	10/13/2021	Viasyn	3,250.00	27415	Scheduling Coordination and Settlement Svc Jul 2021	3,250.00	0.00	$6,500.00
				3,250.00	27466	Scheduling Coordination and Settlement Svc Sept 2021	3,250.00	0.00	
	XXXXX5678	10/13/2021	West Valley Staffing Group	2,105.28	303088	Netto, Margaret W/E 10/3/2021	2,105.28	0.00	$2,105.28
	XXXXX5679	10/13/2021	Western States Tool & Supply Corp	647.11	201543	Stores Inventory	647.11	0.00	$647.11

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
	XXXXX5680	10/13/2021	Hensel Phelps Construction Co	6,650,000.00	CivicCenter#09	PR-19-06	6,650,000.00	0.00	$6,650,000.00
	XXXXX5681	10/13/2021	Robert A Bothman Inc	967,411.76	FAOKPKPLYGD#11	PR-16-04	967,411.76	0.00	$967,411.76
	XXXXX5682	10/13/2021	Karen E Routt	398.00	2021-12	August 2021	398.00	0.00	$398.00
	XXXXX5683	10/13/2021	First Foundation Bank	350,000.00	CivicCenter#09	PR-19-06	350,000.00	0.00	$350,000.00
	XXXXX5684	10/13/2021	Park Consulting Group Inc	21,440.00	COSUN202109	EnerGov Permitting System Implementation Sep 2021	21,440.00	0.00	$21,440.00
	XXXXX5685	10/13/2021	Ace Fire Equipment & Service Co Inc	139.42	10300144	Service call	139.42	0.00	$139.42
	XXXXX5686	10/13/2021	Stearns, Conrad and Schmidt Consulting Engineers Inc	3,750.00	0404068	BAQMD Title 17 LMR SEM for LF Apr 2021	3,750.00	0.00	$13,347.98
				9,597.98	0411648-Revised	LF Non-routine & Repair Svc July 2021	9,597.98	0.00	
	XXXXX5687	10/13/2021	DPR Construction	20,363.38	198871-21990	Utility credit balance refund	20,363.38	0.00	$20,363.38
	XXXXX5688	10/13/2021	Reyna Pedraza	500.00	553300	Refund for Ballroom rental	500.00	0.00	$500.00
	XXXXX5689	10/13/2021	Rosemarie Ocray	350.00	546228	Refund for park building rental	350.00	0.00	$350.00
	XXXXX5690	10/13/2021	Susheel Chitre	416.73	136031-70210	Utility credit balance refund	416.73	0.00	$416.73
	XXXXX5691	10/13/2021	R & B Equipment, Inc	3,008.43	195321-48396	Utility credit balance refund	3,008.43	0.00	$3,008.43
	XXXXX5692	10/13/2021	Ladan Saghafi	156.36	181447-6930	Utility credit balance refund	156.36	0.00	$156.36
	XXXXX5693	10/13/2021	Acushnet Co	312.72	911832142		312.72	0.00	$312.72
	XXXXX5694	10/13/2021	AdManor Inc	1,350.00	2071	Design Work Interpretive Signs	1,350.00	0.00	$1,350.00

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
	XXXXX5695	10/13/2021	Affordable Turf & Specialty Tire	808.02	4054450		808.02	0.00	$808.02
	XXXXX5696	10/13/2021	Alhambra	13.06	19768402 080121 DPS PREV	Water Cooler Rental	13.06	0.00	$446.39
				22.10	19768402 090121 DPS PREV	Water Cooler Rental	22.10	0.00	
				304.50	19768402 090121 ESD/WPCP	Water Cooler	304.50	0.00	
				52.85	19768402 100121 DPW SOC	Water Cooler	52.85	0.00	
				24.99	19768402 100121 LIB	Water Cooler	24.99	0.00	
				28.89	19768402 100121 PRINT	Water Cooler	28.89	0.00	
	XXXXX5697	10/13/2021	Allstar Fire Equipment Inc	420.13	233551	Leather Structure Boots	420.13	0.00	$420.13
	XXXXX5698	10/13/2021	AMA Golf	461.58	203754		461.58	0.00	$744.78
				283.20	203768		283.20	0.00	
	XXXXX5699	10/13/2021	Amazon Capital Services Inc	39.28	1K1Y-DJKP-7QYT		39.28	0.00	$307.37
				220.07	1K3C-WQGH-P1L1		220.07	0.00	
				48.02	1PWV-3QPL-FJ7L		48.02	0.00	
	XXXXX5700	10/13/2021	AppleOne Employment Services	1,848.53	01-6035308	Consulting Fleet	1,848.53	0.00	$3,949.13
				2,100.60	01-6052336	Consulting WPCP	2,100.60	0.00	
	XXXXX5701	10/13/2021	Ascent Environmental	20,004.05	18010029.01-24	Lawrence Station Area Plan EIR Update	20,004.05	0.00	$20,004.05

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
	XXXXX5702	10/13/2021	Bound Tree Medical LLC	3,682.99	84240364	Gloves	3,682.99	0.00	$3,682.99
	XXXXX5703	10/13/2021	Burke Williams & Sorensen LLP	735.50	274180	Legal	735.50	0.00	$735.50
	XXXXX5704	10/13/2021	California Sports Center	41,926.82	CSC0921	Gymnastics	41,926.82	0.00	$41,926.82
	XXXXX5705	10/13/2021	Can-Am Technologies Inc	6,600.00	2021-89	Teller SAAS	6,600.00	0.00	$6,600.00
	XXXXX5706	10/13/2021	Canon Solutions America Inc	24.51	4037221474	Maintenance	24.51	0.00	$24.51
	XXXXX5707	10/13/2021	CDM Smith	288,502.72	90132165	WPCP Program Management Services Project#218636	288,502.72	0.00	$288,502.72
	XXXXX5708	10/13/2021	Cengage Learning Inc	91.63	75826299	Books	91.63	0.00	$295.84
				144.00	75841742	Books	144.00	0.00	
				60.21	75921660	Books	60.21	0.00	
	XXXXX5711	10/13/2021	Cintas Loc #38K	152.09	4092086050		152.09	0.00	$7,275.85
				2.82	4092086120	UNiform	2.82	0.00	
				21.46	4092086187		21.46	0.00	
				162.54	4092086303		162.54	0.00	
				320.05	4092086308		320.05	0.00	
				162.54	4092794780		162.54	0.00	
				2.82	4092794853		2.82	0.00	
				21.46	4092794863		21.46	0.00	
				152.09	4092794864		152.09	0.00	
				320.05	4092794933		320.05	0.00	
				21.46	4093417682		21.46	0.00	
				162.54	4093417739		162.54	0.00	
				152.09	4093417843		152.09	0.00	
				2.82	4093417854		2.82	0.00	
				320.05	4093418003		320.05	0.00	
				152.09	4094076170		152.09	0.00	

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
				21.46	4094076224		21.46	0.00	
				2.82	4094076259		2.82	0.00	
				204.51	4094076306		204.51	0.00	
				320.05	4094076402		320.05	0.00	
				21.46	4094759157		21.46	0.00	
				162.54	4094759274		162.54	0.00	
				152.09	4094759310		152.09	0.00	
				2.82	4094759320		2.82	0.00	
				320.05	4094759540		320.05	0.00	
				17.08	4094760257		17.08	0.00	
				22.56	4094760349		22.56	0.00	
				21.46	4095379099		21.46	0.00	
				333.55	4095379101	Uniform	333.55	0.00	
				9.93	4095379118		9.93	0.00	
				21.46	4095567811		21.46	0.00	
				228.93	4095567897		228.93	0.00	
				2.82	4095567934		2.82	0.00	
				320.05	4095567946		320.05	0.00	
				152.09	4095567955		152.09	0.00	
				21.46	4096114473		21.46	0.00	
				2.82	4096114478		2.82	0.00	
				162.54	4096114523		162.54	0.00	
				152.09	4096114533		152.09	0.00	
				320.05	4096114548		320.05	0.00	
				5.60	4096114630		5.60	0.00	
				188.61	4096114718	Uniform	188.61	0.00	
				152.09	4096114744		152.09	0.00	
				21.46	4096745867		21.46	0.00	
				152.09	4096746018		152.09	0.00	
				162.54	4096746027		162.54	0.00	
				2.82	4096746058		2.82	0.00	
				320.05	4096746246		320.05	0.00	
				41.67	4096747021		41.67	0.00	

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
				162.54	4096747049		162.54	0.00	
				174.64	4096747144	Uniform	174.64	0.00	
				21.46	4097420723		21.46	0.00	
				152.09	4097420746		152.09	0.00	
				162.54	4097420778		162.54	0.00	
				2.82	4097420903		2.82	0.00	
				320.05	4097421001		320.05	0.00	
				2.82	4097421711		2.82	0.00	
				17.75	4097421726		17.75	0.00	
				86.55	4097421882	Uniform	86.55	0.00	
	XXXXX5712	10/13/2021	Concentra	120.50	72766175	DOT Physical Recert	120.50	0.00	$120.50
	XXXXX5713	10/13/2021	Del Gavio Group	2,956.50	9877	Design and reconfiguration of SMaRT Station and SOC	2,956.50	0.00	$6,707.25
				2,800.75	9909	Design and reconfiguration of SMaRT Station and SOC 130 office spaces	2,800.75	0.00	
				950.00	9910	Design and reconfiguration of SMaRT Station and SOC 130 office spaces	950.00	0.00	
	XXXXX5714	10/13/2021	Du-All Safety	6,781.25	22778	Monthly Safety Maintenance Contract	6,781.25	0.00	$6,781.25
	XXXXX5715	10/13/2021	Econolite Systems Inc	20,143.49	34580	Mark Outs May 2021	20,143.49	0.00	$108,488.67
				2,347.61	34948		2,347.61	0.00	
				259.44	35037		259.44	0.00	
				3,747.40	35038		3,747.40	0.00	

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
				12,583.16	35039		12,583.16	0.00	
				1,279.85	35040		1,279.85	0.00	
				2,886.01	35041		2,886.01	0.00	
				17,534.65	35049		17,534.65	0.00	
				10,629.36	35050		10,629.36	0.00	
				7,637.04	35051		7,637.04	0.00	
				8,523.56	35074		8,523.56	0.00	
				6,789.20	35086		6,789.20	0.00	
				276.51	35195		276.51	0.00	
				13,851.39	35321		13,851.39	0.00	
	XXXXX5716	10/13/2021	FedEx	85.54	7-511-11003	Mail	85.54	0.00	$85.54
	XXXXX5717	10/13/2021	FitGuard Inc	1,146.57	0000179559	Parts	1,146.57	0.00	$1,146.57
	XXXXX5718	10/13/2021	BKF Engineers	9,927.00	21080770	Sunnyvale Pedestrian/Bicycle Improvements Project	9,927.00	0.00	$9,927.00
	XXXXX5719	10/13/2021	The Goodyear Tire & Rubber Co	1,341.62	189-1107555	Tire	1,341.62	0.00	$1,341.62
	XXXXX5720	10/13/2021	Haute Cuisine Inc	1,300.00	311-2021	Senior Lunch	1,300.00	0.00	$1,300.00
	XXXXX5721	10/13/2021	Hexagon Transportation Consultants Inc	1,344.50	14950	LSAP Phase 2	1,344.50	0.00	$4,548.87
				1,013.00	14951	LSAP Phase 2	1,013.00	0.00	
				670.00	15047	LSAP Phase 2	670.00	0.00	
				1,521.37	15048	LSAP Phase 2	1,521.37	0.00	
	XXXXX5722	10/13/2021	ImageTrend Inc	1,545.00	130789	Annual Fee	1,545.00	0.00	$1,545.00
	XXXXX5723	10/13/2021	Interstate Battery System of San Jose	394.76	10301898.	Battery	394.76	0.00	$394.76
	XXXXX5724	10/13/2021	Intex Auto Parts	549.61	2-64528-12	Parts	549.61	0.00	$916.27
				108.03	2-64889-18	Parts	108.03	0.00	
				258.63	2-64980-9	Parts	258.63	0.00	

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
	XXXXX5725	10/13/2021	IPS Group Inc	131.11	#INV64412	Multi-soace Parking Meter Fees	131.11	0.00	$131.11
	XXXXX5726	10/13/2021	Keenan & Associates	35,693.75	264530	W/C Claim Admin Installment 10 of 12	35,693.75	0.00	$35,693.75
	XXXXX5727	10/13/2021	Kelly Moore Paint Co Inc	52.41	820-00000446421	Paint Supplies	52.41	0.00	$52.41
	XXXXX5728	10/13/2021	Kelly Paper Co	28.32	10724239	Supplies	28.32	0.00	$28.32
	XXXXX5729	10/13/2021	L N Curtis & Sons Inc	458.33	INV530353	Stores Inventory	458.33	0.00	$458.33
	XXXXX5730	10/13/2021	LPAS Inc	22,945.25	36146	Performing Arts Ctr Facility Enhancements P/E 8/31/21	22,945.25	0.00	$22,945.25
	XXXXX5731	10/13/2021	McMaster Carr Supply Co	29.74	63670822	Supplies	29.74	0.00	$3,219.66
				48.57	63674218	Supplies	48.57	0.00	
				202.99	64222653	Supplies	202.99	0.00	
				58.96	64223368	Supplies	58.96	0.00	
				-53.80	64276458	Invoice 63504619	-53.80	0.00	
				44.23	64282515	Supplies	44.23	0.00	
				1,214.45	64293272	Supplies	1,214.45	0.00	
				45.15	64446900	Supplies	45.15	0.00	
				480.45	64906371	Supplies	480.45	0.00	
				70.68	64913801	Supplies	70.68	0.00	
				41.09	65081635	Supplies	41.09	0.00	
				451.66	65082781	Supplies	451.66	0.00	
				12.81	65379865	Supplies	12.81	0.00	
				286.79	65389165	Supplies	286.79	0.00	
				202.65	65462204	Supplies	202.65	0.00	
				83.24	65481014	Supplies	83.24	0.00	
	XXXXX5732	10/13/2021	Midwest Tape	30.26	501028678	Library Materials	30.26	0.00	$605.94
				294.51	501051803	Library Materials	294.51	0.00	
				117.55	501061333	Library Materials	117.55	0.00	

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
				163.62	501082961	Library Materials	163.62	0.00	
	XXXXX5733	10/13/2021	MNS Engineers	2,810.00	78778	Design for Sanitary Sewer Main Replacement Aug 21	2,810.00	0.00	$2,810.00
	XXXXX5734	10/13/2021	NAPA Auto Parts	50.63	5983-690117	Parts	50.63	0.00	$560.38
				10.02	5983-696040	Parts	10.02	0.00	
				16.86	5983-697145	Parts	16.86	0.00	
				65.17	5983-697288	Parts	65.17	0.00	
				25.73	5983-697381	Parts	25.73	0.00	
				15.98	5983-697382	Parts	15.98	0.00	
				25.51	5983-698426	Parts	25.51	0.00	
				119.16	5983-698427	Parts	119.16	0.00	
				42.86	5983-699067	Parts	42.86	0.00	
				79.94	5983-699334	Parts	79.94	0.00	
				108.52	5983-699920	Parts 2% 10th/$2.12 Discount By 11/10/2021	110.64	2.12	
	XXXXX5735	10/13/2021	National Assn of Clean Water Agencies	11,590.00	71532	10/01/2021-9/30/2022 Mbership	11,590.00	0.00	$11,590.00
	XXXXX5736	10/13/2021	National CineMedia LLC	20.00	INV 205103	Theater Advertising 8/2-29/2021	20.00	0.00	$20.00
	XXXXX5737	10/13/2021	Office Depot Inc	67.82	200431201001	Victoria Ketell 10/7/2021	67.82	0.00	$2,987.99
				323.04	200589114001	Michelle Chuck 10/5/21	323.04	0.00	
				362.55	201543562001	Rebecca Montalvo 10/6/2021	362.55	0.00	
				36.27	201807228001	Julie Callaghan 10/5/2021	36.27	0.00	
				165.87	202437443001	Lorena Rodriguez 10/5/2021	165.87	0.00	
				30.06	203089958002	Edgar Santa Ana 9/30/2021	30.06	0.00	

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
				652.82	203229365001	Priscilla Luckey 10/6/2021	652.82	0.00	
				960.29	203386330002	Lisa Mason 10/5/2021	960.29	0.00	
				361.68	203642319001	Lorena Rodriguez 10/4/2021	361.68	0.00	
				27.59	204565866001	Stacy De Benedetti 10/7/2021	27.59	0.00	
	XXXXX5738	10/13/2021	P&R Paper Supply Co Inc	442.94	30386492-00	Stores Inventory Cr Memo 30390822-00 Applied	442.94	0.00	$442.94
	XXXXX5739	10/13/2021	Pacific Gas & Electric Co	134,021.46	1105922118-1 0821	City Buildings	134,021.46	0.00	$134,021.46
	XXXXX5740	10/13/2021	Pacific West Security Inc	205.00	52351	CNC Oct 2021	205.00	0.00	$205.00
	XXXXX5741	10/13/2021	Power Plan - OIB	89.58	12825024	Parts	89.58	0.00	$89.58
	XXXXX5742	10/13/2021	Roto-Rooter	2,401.34	193-23178979	/6/2021 Svc	2,401.34	0.00	$2,401.34
	XXXXX5743	10/13/2021	Golden State Emergency Vehicle Service Inc	929.26	CI025305	Parts for 6WO68	929.26	0.00	$929.26
	XXXXX5744	10/13/2021	Radius Earthwork Inc	207,743.41	JWCGrnbltPthwyRhb#01	PR-18-04	207,743.41	0.00	$207,743.41
	XXXXX5745	10/13/2021	S D Myers LLC	3,748.00	INV8974	Sample test for transformer oil & general inspection 8/9/21	3,748.00	0.00	$3,748.00
	XXXXX5746	10/13/2021	DeSilva Gates Construction LP	67,441.26	PvmntRehab2020#06	ST-18-09	67,441.26	0.00	$67,441.26
	XXXXX5747	10/13/2021	Core & Main LP	1,390.47	P614458	Parts	1,390.47	0.00	$2,612.68
				21.83	P655700	Parts	21.83	0.00	
				1,200.38	P682587	Supplies	1,200.38	0.00	

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
	XXXXX5748	10/13/2021	BTAC Acquisition Corp	466.51	083121SVAVP		466.51	0.00	$5,889.94
				13.70	2036178851		13.70	0.00	
				2,572.99	4151680920 21V		2,572.99	0.00	
				25.39	5017200056		25.39	0.00	
				286.93	5017200058		286.93	0.00	
				191.56	5017200060		191.56	0.00	
				63.46	5017200062		63.46	0.00	
				6.40	5017212839		6.40	0.00	
				365.26	5017212841		365.26	0.00	
				152.46	5017212843		152.46	0.00	
				52.53	5017213297		52.53	0.00	
				125.65	5017213299		125.65	0.00	
				917.55	5017229575		917.55	0.00	
				69.67	H57335500		69.67	0.00	
				97.51	H57480090		97.51	0.00	
				290.43	H57480100		290.43	0.00	
				60.32	H57592570		60.32	0.00	
				108.38	H57592580		108.38	0.00	
				23.24	H57622200		23.24	0.00	
	XXXXX5749	10/13/2021	Grainger	932.43	9022953039	Supplies	932.43	0.00	$1,311.45
				379.02	9075829342	Supplies	379.02	0.00	
	XXXXX5750	10/13/2021	Kingdom Pipelines Inc	139,460.00	Srra&WshPrk RstrmRhb#02	PR-17-03	139,460.00	0.00	$139,460.00
	XXXXX5751	10/13/2021	Benjamin Ball	2,500.00	1078	Honorarium to semi-finalist artist for civic center modernization amphitheater art design proposal	2,500.00	0.00	$2,500.00
	XXXXX5752	10/13/2021	Safeway Inc	38.19	00438543-100421	10/4/2021 Purchase	38.19	0.00	$38.19
	XXXXX5753	10/13/2021	San Jose	9,583.33	7614	Glass Collection Sept	9,583.33	0.00	$9,583.33

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
			Conservation Corps			2021			
	XXXXX5754	10/13/2021	SHI International Corp	24.17	B14099959	Acrobat Pro DC for enterprise	24.17	0.00	$24.17
	XXXXX5755	10/13/2021	Siegfried Engineering Inc	2,719.20	42454	On-Call Surveying Svc Thru 8/29/2021	2,719.20	0.00	$2,719.20
	XXXXX5756	10/13/2021	Sierra Pacific Turf Supply Inc	672.06	0605793-IN	Supplies	672.06	0.00	$9,943.80
				6,518.17	0606640-IN	Supplies	6,518.17	0.00	
				2,753.57	0606835-IN	Supplies	2,753.57	0.00	
	XXXXX5757	10/13/2021	California Newspapers Partnership	251.00	0006604059		251.00	0.00	$448.00
				197.00	0006607451		197.00	0.00	
	XXXXX5758	10/13/2021	Silicon Valley Ergonomics LLC	675.00	SVL1020	Ergonomic Consultation 9/2/2021	675.00	0.00	$675.00
	XXXXX5759	10/13/2021	South Bay Regional Public Safety	199.00	222140	Jason Johnson Cert Exam 9/15/21	199.00	0.00	$199.00
	XXXXX5760	10/13/2021	Special Services Group LLC	3,000.00	15109	Covert Tracking Svc 12/30/21-12/29/22	3,000.00	0.00	$3,000.00
	XXXXX5761	10/13/2021	Srixon Golf	385.20	6509158 SO	Golf merchandise for resale	385.20	0.00	$3,135.20
				2,750.00	6626733 SO	Golf Balls for driving range	2,750.00	0.00	
	XXXXX5763	10/13/2021	Summit Uniforms	425.47	75045	Uniforms	425.47	0.00	$14,070.00
				145.47	75046	Uniform Alterations & Equip	145.47	0.00	
				65.63	75054	Equipment	65.63	0.00	
				811.56	75261	Uniforms & Alterations	811.56	0.00	
				134.53	75322	Equipment	134.53	0.00	
				780.94	75327	Uniform	780.94	0.00	
				1,024.84	75333	Uniforms	1,024.84	0.00	
				86.41	75348	Uniform	86.41	0.00	
				226.41	75349	Uniform	226.41	0.00	
				129.06	75362	Uniforms	129.06	0.00	

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
				390.47	75376	Uniforms	390.47	0.00	
				802.81	75377	Uniforms	802.81	0.00	
				96.25	75378	Uniforms	96.25	0.00	
				129.06	75379	Uniform	129.06	0.00	
				64.53	75380	Uniform	64.53	0.00	
				64.53	75381	Uniform	64.53	0.00	
				258.13	75437	Uniforms	258.13	0.00	
				464.84	75468	Uniforms	464.84	0.00	
				146.56	75498	Uniforms	146.56	0.00	
				141.09	75554	Uniform	141.09	0.00	
				183.75	75559	Uniform	183.75	0.00	
				119.22	75561	Uniform	119.22	0.00	
				480.16	75601	Uniforms	480.16	0.00	
				91.88	75602	Uniform	91.88	0.00	
				152.03	75672	Uniform	152.03	0.00	
				705.47	75703	Uniforms	705.47	0.00	
				824.69	75746	Uniforms	824.69	0.00	
				282.19	75747	Uniform	282.19	0.00	
				514.06	75755	Uniforms	514.06	0.00	
				705.47	75772	Uniforms	705.47	0.00	
				890.31	75773	Uniforms	890.31	0.00	
				749.22	75774	Uniforms	749.22	0.00	
				846.56	75775	Uniforms	846.56	0.00	
				64.53	75849	Uniform	64.53	0.00	
				129.06	75872	Uniforms	129.06	0.00	
				183.75	75873	Uniform	183.75	0.00	
				126.88	75879	Uniforms	126.88	0.00	
				141.09	75915	Uniform	141.09	0.00	
				178.28	75923	Uniforms	178.28	0.00	
				312.81	75955	Uniforms	312.81	0.00	
	XXXXX5765	10/13/2021	Sustainable Turf Science Inc	1,767.83	5984	Supplies	1,767.83	0.00	$1,767.83
	XXXXX5766	10/14/2021	State of California	223.00	27680-2101	July EMT licenses	223.00	0.00	$223.00

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
			Emergency Medical Services Authority						
	XXXXX5767	10/14/2021	Police Executive Research Forum	9,700.00	204932995	Hank Syu Sr Mgmt Institute for Police 6/5-23/2022	9,700.00	0.00	$9,700.00
	XXXXX5768	10/14/2021	WateReuse Assn	6,195.00	D44137	2022 WateReuse Association Dues	6,195.00	0.00	$6,195.00
	XXXXX5769	10/14/2021	Secretary for Environmental Protection Agency	2,371.00	070120-063021	CUPA Pass Through Fees For City Owned Facilities FY 20/21	2,371.00	0.00	$2,371.00
	XXXXX5770	10/14/2021	Damon Kalahele	175.00	EXP0000208 51352	MIsc. Uniform Reimbursement	175.00	0.00	$175.00
	XXXXX5771	10/14/2021	Martin R Martinez	175.00	EXP0000208 51330	MIsc. Uniform Reimbursement	175.00	0.00	$175.00
	XXXXX5772	10/14/2021	Gabriela Martinez Melena	121.84	EXP0000207 90172	MIsc. Uniform Reimbursement	121.84	0.00	$121.84
	XXXXX5773	10/14/2021	Charles A Reyburn	134.16	EXP0000208 51206	MIsc. Uniform Reimbursement	134.16	0.00	$134.16
	XXXXX5774	10/14/2021	Joseph P Andrade Junior	175.00	EXP0000208 51363	MIsc. Uniform Reimbursement	175.00	0.00	$175.00
	XXXXX5775	10/14/2021	Jared M Williams	174.36	EXP0000207 89893	MIsc. Uniform Reimbursement	174.36	0.00	$174.36
	XXXXX5776	10/14/2021	Giovanni Vergara	152.73	EXP0000208 51570	MIsc. Uniform Reimbursement	152.73	0.00	$152.73
	XXXXX5777	10/14/2021	Richard Ryu Nambu	109.07	EXP0000207 90107	MIsc. Uniform Reimbursement	109.07	0.00	$109.07
	XXXXX5778	10/14/2021	Matthew J Hutchison	93.00	EXP0000210 99681	Travel Tempe 092121	93.00	0.00	$93.00
	XXXXX5779	10/14/2021	Tashae Hawkins	149.40	21-181	Reimbursement to NOVA participant for required textbooks: "Leadership: Theory, Application, & Skill Development" and	149.40	0.00	$149.40

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
						"Business Com - WIOA #5642988			
	XXXXX5780	10/14/2021	Vesna Jankovic	54.55	21-182	Reimbursement to NOVA participant for required textbook: "Financial Accounting" - WIOA #5643279	54.55	0.00	$54.55
	XXXXX5781	10/14/2021	Nimish & Arundhati Kabe	208.20	168315 - 8696	Utility credit balance refund	208.20	0.00	$208.20
	XXXXX5782	10/14/2021	Monica Alvarez	21.43	254044	Patron paid for lost library material on 9/26/2021 and later returned it for a refund.	21.43	0.00	$21.43
	XXXXX5783	10/14/2021	Xiaohui zhou	26.88	85013	Patron paid for lost library material on 1/27/2020 and later returned it for a refund.	26.88	0.00	$26.88
	XXXXX5784	10/14/2021	Altec Industries Inc	7,151.77	50856851	Parts & Labor	7,151.77	0.00	$7,151.77
	XXXXX5785	10/14/2021	Amazon Capital Services Inc	47.55	11JV-JRTN-WVNH		47.55	0.00	$2,697.97
				59.16	14ML-6NLH-GLXM		59.16	0.00	
				58.92	14ML-6NLH-HY6Q		58.92	0.00	
				151.50	177T-JGQL-NY6X		151.50	0.00	
				53.36	1CK7-N4TM-XTDQ		53.36	0.00	
				24.98	1HJ9-T1YW-XJVY		24.98	0.00	

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
				376.80	1HPK-WHWD-RGJM		376.80	0.00	
				45.82	1JFL-PHYR-LFWM		45.82	0.00	
				113.86	1KLD-X7T7-C16K		113.86	0.00	
				966.50	1KY1-3F3T-Y3QT		966.50	0.00	
				100.33	1KY9-TFYH-HQDW		100.33	0.00	
				117.84	1L91-MFWL-K9KW		117.84	0.00	
				43.64	1NT3-T6FH-JYW9		43.64	0.00	
				59.65	1Q7R-CDJH-HYPX		59.65	0.00	
				10.90	1QKD-747D-WT64		10.90	0.00	
				266.33	1WV4-HX94-GCY6		266.33	0.00	
				17.45	1Y3Q-76Q4-R3GX		17.45	0.00	
				119.02	1Y7D-QJNP-4Y74		119.02	0.00	
				20.72	1YCF-M3Q3-FPPR		20.72	0.00	
				43.64	1YYX-1WNF-7TTX		43.64	0.00	
	XXXXX5786	10/14/2021	Arne Sign & Decal Co Inc	425.59	12-12792.	Bumper Stickers	425.59	0.00	$425.59
	XXXXX5787	10/14/2021	Bruce Barton Pump Service Inc	224.27	0108104-IN	Motor	224.27	0.00	$224.27

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
	XXXXX5788	10/14/2021	California Science and Tech University	600.00	169	WIOA #5643591 Li Guanxin	600.00	0.00	$600.00
	XXXXX5789	10/14/2021	Caltronics Business Systems	287.28	3178614	HP	287.28	0.00	$287.28
	XXXXX5790	10/14/2021	Cities Assn of Santa Clara County	13,046.27	1140	Citywide membership dues 07/01/21-06/30/2022	13,046.27	0.00	$13,046.27
	XXXXX5791	10/14/2021	CSG Consultants Inc	31,187.50	B211631	Building Plan Review Services	31,187.50	0.00	$31,187.50
	XXXXX5792	10/14/2021	David J Powers & Assoc Inc	3,251.25	26980		3,251.25	0.00	$3,251.25
	XXXXX5793	10/14/2021	Division of the State Architect	289.50	JUL-SEP 2021	State CASp fee -SB 1186 and AB 1379	289.50	0.00	$289.50
	XXXXX5794	10/14/2021	Foster Bros Security Systems Inc	23.73	330728	Key	23.73	0.00	$23.73
	XXXXX5795	10/14/2021	GCS Environmental Equipment Services Inc	69.97	23413	Parts	69.97	0.00	$605.55
				31.26	23809	Parts	31.26	0.00	
				38.89	23810	Parts	38.89	0.00	
				465.43	23926	Parts	465.43	0.00	
	XXXXX5796	10/14/2021	The Goodyear Tire & Rubber Co	253.30	189-1107486	Road Service	253.30	0.00	$538.35
				285.05	189-1107574	Tires	285.05	0.00	
	XXXXX5797	10/14/2021	H K Avery Construction	6,280.00	2721	Hong Soon Kim 1111 Morse Ave.	6,280.00	0.00	$6,280.00
	XXXXX5798	10/14/2021	Infosend Inc	1,070.35	184660.		1,070.35	0.00	$21,858.81
				1,786.76	184661	Statement Postage	1,786.76	0.00	
				450.00	195339	PROGRAMMING FEE: Adjustments to FedEx Notices	450.00	0.00	
				1,490.53	196129	Statement Data Processing/Print/Mail Prep Service	1,490.53	0.00	
				2,496.53	196130	Statement Postage	2,496.53	0.00	
				1,455.10	196253	Monthly	1,455.10	0.00	

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
						Maintenance/Support Fee			
				115.66	196305	1 box SNW Blank Forms	115.66	0.00	
				2,986.39	197107	Statement Postage	2,986.39	0.00	
				9.05	198162	Data Processing/Print/Mail Prep Service	9.05	0.00	
				27.65	198163	Statement Postage	27.65	0.00	
				1,460.84	198355	Monthly Maintenance/Support Fee Aug 21	1,460.84	0.00	
				1,187.85	198788	t Data Processing/Print/Mail Prep Service	1,187.85	0.00	
				2,159.67	198789	Statement Postage	2,159.67	0.00	
				1,347.70	199855	Processing/Print/Mail Prep Service	1,347.70	0.00	
				2,342.43	199856	Postage	2,342.43	0.00	
				1,472.30	199947	Monthly Maintenance/Support Fee Sep 21	1,472.30	0.00	
	XXXXX5799	10/14/2021	L N Curtis & Sons Inc	5,616.97	INV531762	Stores Inventory	5,616.97	0.00	$5,616.97
	XXXXX5801	10/14/2021	LC Action Police Supply	882.90	420407	Supplies	882.90	0.00	$17,044.26
				37.21	426614	Supplies	37.21	0.00	
				145.69	426958	Supplies	145.69	0.00	
				8.33	427426	Supplies	8.33	0.00	
				58.21	427428	Supplies	58.21	0.00	
				882.90	427503	Supplies	882.90	0.00	
				212.55	427507	Supplies	212.55	0.00	
				34.92	427968	Supplies	34.92	0.00	
				24.00	427971	Supplies	24.00	0.00	

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
				11.99	428010	Supplies	11.99	0.00	
				43.64	428011	Supplies	43.64	0.00	
				24.00	428053	Supplies	24.00	0.00	
				883.91	428443	Supplies	883.91	0.00	
				50.74	428445	Supplies	50.74	0.00	
				47.20	428587	Supplies	47.20	0.00	
				158.56	428588	Supplies	158.56	0.00	
				470.72	429312	Supplies	470.72	0.00	
				15.57	429313	Supplies	15.57	0.00	
				158.56	429314	Supplies	158.56	0.00	
				163.37	429315	Supplies	163.37	0.00	
				55.60	429491	Supplies	55.60	0.00	
				115.66	429855	Supplies	115.66	0.00	
				490.79	429942	Supplies	490.79	0.00	
				381.94	429943	Supplies	381.94	0.00	
				993.58	430043	Supplies	993.58	0.00	
				993.58	430044	Supplies	993.58	0.00	
				993.58	430045	Supplies	993.58	0.00	
				223.92	430122	Supplies	223.92	0.00	
				17.45	430287	Supplies	17.45	0.00	
				52.38	430288	Supplies	52.38	0.00	
				7,315.65	430290	Supplies	7,315.65	0.00	
				147.10	430333	Supplies	147.10	0.00	
				168.39	430570	Supplies	168.39	0.00	
				144.21	430816	Supplies	144.21	0.00	
				330.29	430817	Supplies	330.29	0.00	
				34.08	430818	Supplies	34.08	0.00	
				38.86	430819	Supplies	38.86	0.00	
				168.39	430820	Supplies	168.39	0.00	
				63.84	430821	Supplies	63.84	0.00	
	XXXXX5802	10/14/2021	LTI Electric Inc	1,315.00	4672	Troubleshoot Breaker Labor & Material	1,315.00	0.00	$1,315.00
	XXXXX5803	10/14/2021	Mallory Safety &	-1,885.42	4892477	Invoice 5189202	-1,885.42	0.00	$286.45

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
			Supply LLC			Recalled Hand Sanitizer			
				1,885.42	5189202	Cr Memo 4892477 Recalled Hand Sanitizer	1,885.42	0.00	
				286.45	5196968	Stores Inventory	286.45	0.00	
	XXXXX5804	10/14/2021	Mountain View Garden Center	212.91	107688	Supplies	212.91	0.00	$212.91
	XXXXX5805	10/14/2021	NAPA Auto Parts	145.12	5983-702297	Stores Inventory 2% 10th/$2.97 Discount By 11/10/21	148.09	2.97	$145.12
	XXXXX5806	10/14/2021	NI Government Services Inc	78.77	21092908851	Satellite Telephone Svc Sept 2021	78.77	0.00	$78.77
	XXXXX5807	10/14/2021	Office Depot Inc	278.71	201324287001	Tamiko Boiko 9/30/2021	278.71	0.00	$2,900.11
				43.98	201324288001	Tamiko Boiko 9/30/2021	43.98	0.00	
				13.91	201807228002	Julie Callaghan 10/5/2021	13.91	0.00	
				61.94	202955655001	Edgar Santa Ana 10/2/2021	61.94	0.00	
				117.44	204218758001	Priscilla Luckey 10/10/2021	117.44	0.00	
				32.79	204355574001	Betty King 10/8/2021	32.79	0.00	
				86.78	204355576001	Betty King 10/8/2021	86.78	0.00	
				44.72	204618274001	Julie Callaghan 10/7/2021	44.72	0.00	
				1,007.31	204618275001	Julie Callaghan 10/7/2021	1,007.31	0.00	
				955.90	204723568001	Edgar Santa Ana 10/11/2021	955.90	0.00	

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
				256.63	204723569001	Edgar Santa Ana 10/11/2021	256.63	0.00	
	XXXXX5808	10/14/2021	Orlandi Trailer Inc	323.75	202257	Trailer Parts	323.75	0.00	$683.22
				359.47	202291	Trailer Parts	359.47	0.00	
	XXXXX5809	10/14/2021	P&R Paper Supply Co Inc	2,887.51	30391138-00	Stores Inventory	2,887.51	0.00	$4,465.89
				1,578.38	30391319-00	Stores Inventory	1,578.38	0.00	
	XXXXX5810	10/14/2021	Pacific Crest Landscape and Maintenance	833.33	43913	Oct 2021 Landscaping Maintenance	833.33	0.00	$833.33
	XXXXX5811	10/14/2021	Pacific Gas & Electric Co	93.40	9129031168-6 0921	1382 Kifer Rd/Kifer Lift Station	93.40	0.00	$93.40
	XXXXX5812	10/14/2021	Pape Machinery	107.08	13054607	Parts	107.08	0.00	$107.08
	XXXXX5813	10/14/2021	Payment Vision	1,785.60	208928	Gateway Services Aug 2021	1,785.60	0.00	$1,785.60
	XXXXX5814	10/14/2021	Pine Cone Lumber Co Inc	20.54	119956	Supplies $0.19 Discount By 10/16/2021	20.73	0.19	$80.83
				60.29	120317	Supplies $0.56 Discount By 10/18/2021	60.85	0.56	
	XXXXX5815	10/14/2021	Portnov Computer School	595.00	09-07-21	Shvakel, Natallia 19-07-1194-15	595.00	0.00	$595.00
	XXXXX5816	10/14/2021	Pro-Sweep Inc	535.60	300939	121 W Evelyn Power Sweeping Oct 2021	535.60	0.00	$535.60
	XXXXX5817	10/14/2021	Psomas	154,441.39	174463	WPCP Construction Mgmt Svc 6/4-6/30/2021	154,441.39	0.00	$154,441.39
	XXXXX5818	10/14/2021	Rain for Rent	7,726.19	1654196	Equipment Rental & Svc	7,726.19	0.00	$7,726.19
	XXXXX5819	10/14/2021	Reed & Graham Inc	1,298.37	012843	Asphalt $68.34 Discount By 10/25/2021	1,366.71	68.34	$1,298.37

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
	XXXXX5820	10/14/2021	Royal Brass Inc	450.99	964167-001	Supplies	450.99	0.00	$475.08
				24.09	966942-001	Parts $0.22 Discount By 10/14/21	24.31	0.22	
	XXXXX5821	10/14/2021	Safeway Inc	62.70	00720764-100621	10/6/2021 Purchase	62.70	0.00	$92.60
				29.90	00723082-101221	10/12/2021 Purchase	29.90	0.00	
	XXXXX5822	10/14/2021	California Newspapers Partnership	451.00	0006601356		451.00	0.00	$1,353.00
				451.00	0006601931		451.00	0.00	
				451.00	0006606592		451.00	0.00	
	XXXXX5823	10/14/2021	Silicon Valley Polytechnic Institute	2,700.00	10062021-752	Vo, Phuong 19-11-501-28	2,700.00	0.00	$2,700.00
	XXXXX5824	10/14/2021	TEC Accutite	196.00	203704	Fuel System Labor Charge	196.00	0.00	$196.00
	XXXXX5825	10/14/2021	The Home Depot Pro	522.69	646357988	Supplies	522.69	0.00	$522.69
	XXXXX5826	10/14/2021	United Rentals	1,675.18	165469049-035	Pickup Truck 9/2/21-9/30/21	1,675.18	0.00	$5,046.69
				3,371.51	172295268-028	Dump Truck 8/30/21-9/27/21	3,371.51	0.00	
	XXXXX5827	10/14/2021	University of California Santa Cruz	374.00	59024	Doyle, Michelle 19-14-1170-141	374.00	0.00	$35,439.25
				399.50	59063	Rudashevskaya, Alexandra 19-14-501-166	399.50	0.00	
				5,400.00	59119	Shaikh, Ashfaq 19-14-201-18	5,400.00	0.00	
				4,900.50	59121	Hill, Dianne 19-14-1194-182	4,900.50	0.00	
				5,400.00	59123	Sainani, Sameer 19-14-501-180	5,400.00	0.00	
				2,835.00	59125	Kong, Tony 19-14-501-181	2,835.00	0.00	

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
				5,400.00	59127	Tran, Toan 19-14-501-179	5,400.00	0.00	
				5,400.00	59130	Bhusari, Pratik 19-14-201-184	5,400.00	0.00	
				5,330.25	59133	Sindhia, Pramila 19-14-201-163	5,330.25	0.00	
	XXXXX5828	10/14/2021	Verde Design Inc	1,680.00	5-2006000	Cricket Batting Cage Feasibility Study 7/1-25/21	1,680.00	0.00	$3,237.50
				1,557.50	6-2006000	Cricket Batting Cage Feasibility Study 7/26-8/25/21	1,557.50	0.00	
	XXXXX5829	10/14/2021	Woodard & Curran Inc	15,717.85	194478	Collection Sys Expansion & Assessment P/E 9/3/21	15,717.85	0.00	$29,612.30
				13,894.45	195769	Collection Sys Expansion & Assessment P/E 10/1/21	13,894.45	0.00	
	XXXXX5830	10/14/2021	Cubic ITS, Inc	15,834.60	90081255	Synchro plus SimTraffic	15,834.60	0.00	$15,834.60
	XXXXX5831	10/14/2021	Core & Main LP	3,295.58	P559992	Parts	3,295.58	0.00	$23,458.26
				7,279.62	P619385	Parts	7,279.62	0.00	
				1,004.07	P638815	Parts	1,004.07	0.00	
				9,151.23	P642038	Parts	9,151.23	0.00	
				868.64	P656303	Parts	868.64	0.00	
				1,543.25	P656457	Parts	1,543.25	0.00	
				315.87	P689425	Parts	315.87	0.00	
	XXXXX5832	10/14/2021	BTAC Acquisition Corp	780.75	093021SVAVP		780.75	0.00	$2,956.37
				247.19	2036193032		247.19	0.00	
				753.10	5017144951		753.10	0.00	

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
				48.49	5017216692		48.49	0.00	
				16.17	5017216694		16.17	0.00	
				141.21	5017216696		141.21	0.00	
				341.16	5017216698		341.16	0.00	
				49.61	5017273830		49.61	0.00	
				18.75	5017273832		18.75	0.00	
				169.85	5017273834		169.85	0.00	
				343.62	5017273836		343.62	0.00	
				19.35	H57520760	Offsetted by H654006CM	19.35	0.00	
				46.47	H57622190		46.47	0.00	
				-19.35	H654006CM	Wrong item delivered. Inv H57520760	-19.35	0.00	
	XXXXX5833	10/14/2021	Grainger	68.65	9001540377	Supplies	68.65	0.00	$60.23
				85.32	9052778256	Parts	85.32	0.00	
				76.48	9052778264	Supplies	76.48	0.00	
				258.01	9063028048	Supplies	258.01	0.00	
				189.90	9067529785	Parts	189.90	0.00	
				57.25	9072131957	Parts	57.25	0.00	
				-900.88	9798158805	Credit memo for Inv#9704533406	-900.88	0.00	
				112.62	9961105989	Supplies	112.62	0.00	
				112.88	9967663312	Supplies	112.88	0.00	
	XXXXX5834	10/14/2021	Aaronson, Dickerson, Cohn & Lanzone, APC	13,728.00	422267 - SUNNYVALE	Outside Counsel	13,728.00	0.00	$13,728.00
	XXXXX5835	10/14/2021	Bosco Oil Company	144.04	521981	Fuel System Parts	144.04	0.00	$144.04
EFT	XXXXX6696	10/14/2021	Christopher C Fiene	220.00	EXP0000212 30511	Misc Boot Reimbursement 081821	220.00	0.00	$220.00
	XXXXX6697	10/14/2021	Inderdeep Kaur Dhillon	360.00	EXP0000209 11733	Membership Dues Reimbursement	360.00	0.00	$360.00

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
	XXXXX6698	10/14/2021	Rhonda D Pryor	24.30	EXP0000212 60289	Travel San Mateo 09082021	24.30	0.00	$24.30
	XXXXX6699	10/14/2021	Klayton Tang	641.84	EXP0000210 99623	Travel Brea 091421	641.84	0.00	$641.84
	XXXXX6700	10/14/2021	Kyungho Cha	276.00	EXP0000216 96927	APA membership Reimbursement	276.00	0.00	$276.00
	XXXXX6701	10/14/2021	Daniel L Moskowitz	174.00	EXP0000213 99045	Misc Boot Reimbursement 091521	174.00	0.00	$174.00
	XXXXX6702	10/14/2021	Samuel H Vasquez	93.35	EXP0000208 51374	MIsc. Uniform Reimbursement	93.35	0.00	$93.35
	XXXXX6703	10/14/2021	Corinne L Abernathy	239.28	EXP0000210 99700	Travel Tempe 092121	239.28	0.00	$239.28
WIRE	XXXXX6516	10/12/2021	Wells Fargo	169.00	325003-2021-10-12	Paid on behalf of Gonsalves Joseph	169.00	0.00	$116,467.52
				21.81	325004-2021-10-12	Paid on behalf of Hextell Nancy	21.81	0.00	
				9.66	325005-2021-10-12	Paid on behalf of Johnson Tisha	9.66	0.00	
				39.76	325006-2021-10-12	Paid on behalf of Gamble Deborah	39.76	0.00	
				510.71	325007-2021-10-12	Paid on behalf of Berdeen Bryan	510.71	0.00	
				1,650.00	325008-2021-10-12	Paid on behalf of Dunn Leonard	1,650.00	0.00	
				64.98	325009-2021-10-12	Paid on behalf of LoFranco John	64.98	0.00	
				72.24	325010-2021-10-12	Paid on behalf of Huerta Rene	72.24	0.00	
				667.49	325011-2021-10-12	Paid on behalf of Wilson Rodney	667.49	0.00	
				1,071.05	325012-2021-10-12	Paid on behalf of Merrill Mark	1,071.05	0.00	

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
				380.18	325013-2021-10-12	Paid on behalf of Hill Trenton	380.18	0.00	
				400.00	325014-2021-10-12	Paid on behalf of Raygoza Jesus	400.00	0.00	
				4.67	325015-2021-10-12	Paid on behalf of Medina Roberto	4.67	0.00	
				492.02	325016-2021-10-12	Paid on behalf of Nunez-Sanchez Jennifer	492.02	0.00	
				350.00	325017-2021-10-12	Paid on behalf of Belcher Douglas	350.00	0.00	
				716.73	325018-2021-10-12	Paid on behalf of Gamez Alberto	716.73	0.00	
				224.18	325019-2021-10-12	Paid on behalf of Masamori Mark	224.18	0.00	
				824.00	325020-2021-10-12	Paid on behalf of Goel Swati	824.00	0.00	
				2,022.88	325021-2021-10-12	Paid on behalf of Bokla Sonia	2,022.88	0.00	
				457.00	325022-2021-10-12	Paid on behalf of Rodriguez Lorena	457.00	0.00	
				205.54	325023-2021-10-12	Paid on behalf of Card Gregory	205.54	0.00	
				482.00	325024-2021-10-12	Paid on behalf of Knight Robert	482.00	0.00	
				121.01	325025-2021-10-12	Paid on behalf of Jensen Julie	121.01	0.00	
				2,209.97	325026-2021-10-12	Paid on behalf of Tokutomi Eric	2,209.97	0.00	
				1,705.14	325027-2021-10-12	Paid on behalf of Rodriguez Pedro	1,705.14	0.00	
				209.05	325028-2021-10-12	Paid on behalf of Sipes Jeffrey	209.05	0.00	

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
				13,270.20	325029-2021-10-12	Paid on behalf of Ketell Victoria	13,270.20	0.00	
				15.81	325030-2021-10-12	Paid on behalf of Mckinley Joseph	15.81	0.00	
				695.63	325031-2021-10-12	Paid on behalf of Gutierrez Monica	695.63	0.00	
				211.33	325032-2021-10-12	Paid on behalf of Young George	211.33	0.00	
				2,800.00	325033-2021-10-12	Paid on behalf of Holden Katrina	2,800.00	0.00	
				150.68	325034-2021-10-12	Paid on behalf of Bracamonte Markus	150.68	0.00	
				167.81	325035-2021-10-12	Paid on behalf of Plonka Marie	167.81	0.00	
				725.21	325036-2021-10-12	Paid on behalf of Choi Yong Nan	725.21	0.00	
				1,007.92	325037-2021-10-12	Paid on behalf of Cotter Rick	1,007.92	0.00	
				6,357.53	325038-2021-10-12	Paid on behalf of Mason Lisa	6,357.53	0.00	
				160.37	325039-2021-10-12	Paid on behalf of Nguyen Alex	160.37	0.00	
				250.00	325040-2021-10-12	Paid on behalf of Rodriguez Maria	250.00	0.00	
				415.29	325041-2021-10-12	Paid on behalf of Gutierrez Randy	415.29	0.00	
				942.27	325042-2021-10-12	Paid on behalf of Serfoss Charles	942.27	0.00	
				90.04	325043-2021-10-12	Paid on behalf of Alanis-Richelle Edith	90.04	0.00	
				122.10	325044-2021-10-12	Paid on behalf of Jacquemet Paul	122.10	0.00	
				1,056.16	325045-2021-	Paid on behalf of	1,056.16	0.00	

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
					10-12	Theyskens William			
				91.89	325046-2021-10-12	Paid on behalf of Belanger Richard	91.89	0.00	
				247.50	325047-2021-10-12	Paid on behalf of Woodworth Kevin	247.50	0.00	
				307.59	325048-2021-10-12	Paid on behalf of Avila Saul	307.59	0.00	
				515.99	325049-2021-10-12	Paid on behalf of Contreras Audel	515.99	0.00	
				221.83	325050-2021-10-12	Paid on behalf of Brown James	221.83	0.00	
				129.09	325051-2021-10-12	Paid on behalf of Mcelroy Scott	129.09	0.00	
				518.43	325052-2021-10-12	Paid on behalf of Van Dyne Susan	518.43	0.00	
				102.45	325053-2021-10-12	Paid on behalf of Medina Gerardo	102.45	0.00	
				2,323.76	325054-2021-10-12	Paid on behalf of Kashitani Timothy	2,323.76	0.00	
				67.80	325055-2021-10-12	Paid on behalf of Tano Troy	67.80	0.00	
				1,911.58	325056-2021-10-12	Paid on behalf of Barajas Jerardo	1,911.58	0.00	
				475.00	325057-2021-10-12	Paid on behalf of Barajas Sandra	475.00	0.00	
				1,284.06	325058-2021-10-12	Paid on behalf of Lopez Javier	1,284.06	0.00	
				335.09	325059-2021-10-12	Paid on behalf of Barajas Emiliano	335.09	0.00	
				52.36	325060-2021-10-12	Paid on behalf of Ragsdale Michele Bridget	52.36	0.00	
				5,284.78	325061-2021-	Paid on behalf of	5,284.78	0.00	

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
					10-12	Luckey Priscilla			
				2,120.00	325062-2021-10-12	Paid on behalf of LoFranco Delanie	2,120.00	0.00	
				2,127.94	325063-2021-10-12	Paid on behalf of Espinoza Leonard	2,127.94	0.00	
				361.00	325064-2021-10-12	Paid on behalf of Callaghan Julie	361.00	0.00	
				154.66	325065-2021-10-12	Paid on behalf of Kashitani Jamie	154.66	0.00	
				4,222.14	325066-2021-10-12	Paid on behalf of Buczeke Walter	4,222.14	0.00	
				235.54	325067-2021-10-12	Paid on behalf of Garcia Claire	235.54	0.00	
				1,107.46	325068-2021-10-12	Paid on behalf of Griffith Jonathan	1,107.46	0.00	
				7,101.20	325069-2021-10-12	Paid on behalf of Bayani Rafael	7,101.20	0.00	
				385.18	325070-2021-10-12	Paid on behalf of Lemasters James	385.18	0.00	
				14,155.52	325071-2021-10-12	Paid on behalf of Klackle Chris	14,155.52	0.00	
				3,909.00	325072-2021-10-12	Paid on behalf of Chuck Michelle	3,909.00	0.00	
				446.14	325073-2021-10-12	Paid on behalf of Ashe Jesse	446.14	0.00	
				574.59	325074-2021-10-12	Paid on behalf of Thompson Kori	574.59	0.00	
				131.12	325075-2021-10-12	Paid on behalf of Padilla Tony	131.12	0.00	
				719.77	325076-2021-10-12	Paid on behalf of Gott Tracey	719.77	0.00	
				3,407.00	325077-2021-10-12	Paid on behalf of Hernandez Jaime	3,407.00	0.00	

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
				25.00	325078-2021-10-12	Paid on behalf of Chetcuti Marie	25.00	0.00	
				4,319.95	325079-2021-10-12	Paid on behalf of Badiei Jody	4,319.95	0.00	
				716.96	325080-2021-10-12	Paid on behalf of Rich Elizabeth	716.96	0.00	
				193.30	325081-2021-10-12	Paid on behalf of Elizondo Mary	193.30	0.00	
				4,111.21	325082-2021-10-12	Paid on behalf of Cornejo Charles	4,111.21	0.00	
				69.24	325083-2021-10-12	Paid on behalf of Carrasco Christopher	69.24	0.00	
				103.32	325084-2021-10-12	Paid on behalf of Sanchez Richard	103.32	0.00	
				4,195.97	325085-2021-10-12	Paid on behalf of Le Kien Ricky	4,195.97	0.00	
				1,245.77	325086-2021-10-12	Paid on behalf of Bailey Camron	1,245.77	0.00	
				117.11	325087-2021-10-12	Paid on behalf of Villalobos Jose	117.11	0.00	
				261.47	325088-2021-10-12	Paid on behalf of Valino Marion	261.47	0.00	
				255.05	325089-2021-10-12	Paid on behalf of Dunklee Chaunacey	255.05	0.00	
				7.50	325090-2021-10-12	Paid on behalf of Velasco Leanora	7.50	0.00	
				40.42	325091-2021-10-12	Paid on behalf of Howard Jonathan	40.42	0.00	
				113.64	325092-2021-10-12	Paid on behalf of Smith Robin	113.64	0.00	
				330.00	325093-2021-10-12	Paid on behalf of De La Cerda Melanie	330.00	0.00	
				200.00	325094-2021-	Paid on behalf of	200.00	0.00	

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
					10-12	Lovett Linda			
				373.50	325095-2021-10-12	Paid on behalf of Willett Madeline	373.50	0.00	
				152.90	325096-2021-10-12	Paid on behalf of Moskowitz Daniel	152.90	0.00	
				271.53	325097-2021-10-12	Paid on behalf of Wan Xianliang	271.53	0.00	
				25.00	325098-2021-10-12	Paid on behalf of Luc Annie	25.00	0.00	
				791.80	325099-2021-10-12	Paid on behalf of Manzanares Anjelene	791.80	0.00	
	XXXXX6694	10/14/2021	Carl Warren & Company	33,660.35	Sep 2021	Liability Trust Fund Replenishment - WR date 10/12/2021	33,660.35	0.00	$33,660.35
	XXXXX6695	10/14/2021	Public Employees Retirement System	1,758,191.31	100000016559169	Medical Premium - Active & Retired for October coverage WR date 10-12-21	1,758,191.31	0.00	$1,758,191.31
Grand Total				11,633,540.52			11,633,617.04	76.52	$11,633,540.52

City of Sunnyvale

LIST # 098

List of All Claims and Bills Approved for Payment

For Payments Dated 10/17/2021 **through** 10/23/2021

Sorted by Payment Type, Payment Number and Invoice Number

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
CHECK	XXXXX5836	10/19/2021	Hagensen Pacific Construction Inc	83,705.01	WSHNGTNPOOL#21	PR-15-02	83,705.01	0.00	$83,705.01
	XXXXX5837	10/19/2021	Larry Hopkins Honda	920.94	30729	Parts	920.94	0.00	$920.94
	XXXXX5838	10/19/2021	Mission Valley Ford Truck Sales Inc	98.75	760318	Parts	98.75	0.00	$98.75
	XXXXX5839	10/19/2021	Myers Tire Supply Co	502.19	11451364	Parts	502.19	0.00	$502.19
	XXXXX5840	10/19/2021	National Construction Rentals Inc	247.30	6251334	301 Carl 8/21-9/17/2021	247.30	0.00	$408.21
				160.91	6251335	Borregas & Carl 8/21-9/17/2021	160.91	0.00	
	XXXXX5841	10/19/2021	Pro-Sweep Inc	3,510.00	156011E	10/11/21 Plaza Del Sol Steam Cleaning	3,510.00	0.00	$3,510.00
	XXXXX5842	10/19/2021	Reeds Indoor Range	126.00	689071	Sept 2021 Lane Rentals	126.00	0.00	$126.00
	XXXXX5843	10/19/2021	San Jose BMW	846.89	267660	Repair Order Parts & Labor	846.89	0.00	$846.89
	XXXXX5844	10/19/2021	State of California Emergency Medical Services Authority	223.00	27680-2103	Sept 2021 EMT Licenses Renewal	223.00	0.00	$223.00
	XXXXX5845	10/19/2021	State Water Resources Control Board	65.00	Edward Eke D2 Exam Appl	Edward Eke Gr D2 Exam Appl Fee	65.00	0.00	$65.00
	XXXXX5846	10/19/2021	Valley Water	50,321.43	GM103063	Groundwater Extraction Charges	50,321.43	0.00	$50,321.43

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
						Sept 2021			
	XXXXX5847	10/19/2021	Silicon Valley Ergonomics LLC	675.00	SVL1021	Ergonomic Consultation 10/7/21	675.00	0.00	$675.00
	XXXXX5848	10/19/2021	Spartan Tool LLC	162.05	IN00020810	Supplies	162.05	0.00	$162.05
	XXXXX5849	10/19/2021	Staples Inc	97.31	3490038011	Summary Bill 8063915684 Priscilla Luckey 10/4/21	97.31	0.00	$127.73
				30.42	3490038013	Summary Bill 8063915684 Thao Nguyen 10/5/21	30.42	0.00	
	XXXXX5850	10/19/2021	Statcomm Inc	434.30	W17336	9/21/21 Corp Yard Gates Mtnce Svc	434.30	0.00	$434.30
	XXXXX5851	10/19/2021	Stop Processing Center	31.43	19438	Utility Bill ACH Payment Processing	31.43	0.00	$31.43
	XXXXX5852	10/19/2021	Studio Em Graphic Design	294.64	18345	Fall Activities Postcard	294.64	0.00	$628.56
				333.92	18346	Fall 2021 Activities Guide updates 8/31-9/1/21	333.92	0.00	
	XXXXX5853	10/19/2021	Sunnyvale Ford	101.75	194746FOW	Parts	101.75	0.00	$462.78
				159.90	194942FOW	Parts	159.90	0.00	
				7.51	194949FOW	Parts	7.51	0.00	
				37.58	195134FOW	Parts	37.58	0.00	
				106.28	195319FOW	Parts	106.28	0.00	
				17.50	195322FOW	Parts	17.50	0.00	
				32.26	195343FOW	Parts	32.26	0.00	
	XXXXX5854	10/19/2021	Sure Fire Protection Co Inc	620.00	PA21136-01	CNC Annual on (1) riser	620.00	0.00	$620.00
	XXXXX5855	10/19/2021	The Home Depot Pro	101.69	646543827	Disc.0.94 by 11/11/21	102.63	0.94	$101.69
	XXXXX5856	10/19/2021	Thomas Plumbing Inc	570.00	7396	10/1/2021 Service	570.00	0.00	$570.00

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
	XXXXX5857	10/19/2021	TRISTAR Risk Management	3,531.71	113862	Workers Comp Losses Paid 9/1-9/30/21	3,531.71	0.00	$3,531.71
	XXXXX5858	10/19/2021	TRISTAR Risk Management	849.92	104106	9/2021 Claims Admin Fees	849.92	0.00	$1,699.84
				849.92	104440	10/2021 Claims Admin Fees	849.92	0.00	
	XXXXX5859	10/19/2021	TriTech Software Systems	70,281.00	332589	Public Safety NIBRS Appl Proj Mgmt/Trng/Dvpt Svc 75% Due	70,281.00	0.00	$70,281.00
	XXXXX5860	10/19/2021	Turf & Industrial Equipment Co	209.11	IV40637	Supplies	209.11	0.00	$209.11
	XXXXX5861	10/19/2021	Turf Star Inc	101.48	7189285 -00	Parts	101.48	0.00	$389.62
				288.14	7196114-00	Supplies	288.14	0.00	
	XXXXX5862	10/19/2021	Tymco Inc	282,677.95	259596	Street Sweeper & Accessories	282,677.95	0.00	$565,355.89
				282,677.94	259597	Street Sweeper & Accessories	282,677.94	0.00	
	XXXXX5863	10/19/2021	United Language Group LLC	1,007.44	174138	Sept 2021 Svc	1,007.44	0.00	$1,007.44
	XXXXX5864	10/19/2021	United Rentals (North America), Inc.	275.00	198400069-001	Hose 9/22-29/29/021	275.00	0.00	$275.00
	XXXXX5865	10/19/2021	Verde Design Inc	8,642.75	44-1713500	Fair Oaks Park Renovation 8/26-9/25/2021	8,642.75	0.00	$8,642.75
	XXXXX5866	10/19/2021	VWR International LLC	118.71	8805825428	Supplies	118.71	0.00	$2,715.44
				433.22	8805858086	Suppies	433.22	0.00	
				502.90	8806010089	Supplies	502.90	0.00	
				378.96	8806041055	Supplies	378.96	0.00	
				31.71	8806045484	Supplies	31.71	0.00	
				447.64	8806053855	Supplies	447.64	0.00	

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
				45.73	8806054307	Supplies	45.73	0.00	
				156.62	8806103313	Supplies	156.62	0.00	
				515.38	8806123111	Supplies	515.38	0.00	
				84.57	8806165721	Supplies	84.57	0.00	
	XXXXX5867	10/19/2021	Wardell Auto Interiors and Tops LLC	314.50	11288	Upholstery Repair	314.50	0.00	$314.50
	XXXXX5868	10/19/2021	Weck Laboratories Inc	541.19	W1H1793	7/14/2021 Lab Svc	541.19	0.00	$5,019.24
				562.39	W1I0206	8/25/2021 Lab Svc	562.39	0.00	
				848.93	W1I0505	8/11/2021 Lab Svc	848.93	0.00	
				1,230.93	W1I0506	8/18/2021 Lab Svc	1,230.93	0.00	
				626.07	W1I0507	8/19/2021 Lab Svc	626.07	0.00	
				774.63	W1I1325	9/1/2021 Lab Svc	774.63	0.00	
				435.10	W1I1842	9/9/2021 Lab Svc	435.10	0.00	
	XXXXX5869	10/19/2021	West Valley Staffing Group	2,105.28	303436	Netto, Margaret W/E 10/10/2021	2,105.28	0.00	$2,105.28
	XXXXX5870	10/19/2021	WHCI Plumbing Supply	86.48	S2669839.001	Supplies 2% Discount By 11/10/2021	88.25	1.77	$1,275.01
				1,188.53	S2670353.001	Supplies 2% Discount By 11/10/2021	1,212.79	24.26	
	XXXXX5871	10/19/2021	Winsupply of Silicon Valley	102.95	028761 01	Supplies	102.95	0.00	$102.95
	XXXXX5872	10/19/2021	ZAP Manufacturing Inc	2,217.01	5997	Labor & Parts	2,217.01	0.00	$2,217.01
	XXXXX5873	10/19/2021	Paris Extreme Builders Inc	679.20	21142-1	1282 Lawrence Stn Rd Shower Drain Replacement	679.20	0.00	$679.20
	XXXXX5874	10/19/2021	Colleen Valles Writer	1,475.00	54	Horizon Review, Writing	1,475.00	0.00	$1,475.00
	XXXXX5875	10/19/2021	Brian Wilkes	515.00	August2021	Aug 2021 2021 Med Insurance Reimb	515.00	0.00	$515.00
	XXXXX5876	10/19/2021	Banksia Landscape	1,021.00	10768	Landscape	1,021.00	0.00	$1,021.00

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
			Inc			Maintenance Services September 2021			
	XXXXX5877	10/19/2021	Ace Fire Equipment & Service Co Inc	638.32	10568035	System Service, Replace rubber caps	638.32	0.00	$3,670.85
				489.03	10672088	Service Call	489.03	0.00	
				1,263.50	8141363	System Service	1,263.50	0.00	
				1,280.00	9379037	System Service	1,280.00	0.00	
	XXXXX5878	10/19/2021	Stryker Sales LLC	6,550.12	3543077M	Infant/child Reduced Energy Defibrillation Electrode Replacement	6,550.12	0.00	$6,550.12
	XXXXX5879	10/19/2021	University Electric Co Inc	2,544.80	0326179-IN	Fire Station#1 Frigidaire Oven	2,544.80	0.00	$2,544.80
	XXXXX5880	10/19/2021	WEX Health Inc	1,341.00	0001414945-IN	Cobra/Commuter/FSA Sept 2021	1,341.00	0.00	$1,341.00
	XXXXX5881	10/19/2021	JAMF Holdings Inc & Subsidiaries	350.49	INV218488	COM-NC Jamf Pro macOS	350.49	0.00	$350.49
	XXXXX5882	10/19/2021	FLEXIM AMERICAS Corporation	15,562.45	US-SI21-2357	Dual Channel Flowmeter, n ultrasonic flow transducers	15,562.45	0.00	$15,562.45
	XXXXX5883	10/19/2021	Jo-Ann Stores LLC	4,000.00	DMARVA22-671	Creativebug Enterprise Renewal Subscription (Jul '21 - Jun '22)	4,000.00	0.00	$4,000.00
	XXXXX5884	10/19/2021	Core & Main LP	472.20	P590884	Parts	472.20	0.00	$3,566.71
				1,257.37	P651506	Parts	1,257.37	0.00	
				785.17	P714686	Parts	785.17	0.00	
				1,051.97	P718465	Parts	1,051.97	0.00	
	XXXXX5885	10/19/2021	BTAC Acquisition Corp	11.54	5017227091		11.54	0.00	$1,213.57
				15.01	5017227093		15.01	0.00	
				232.20	5017227095		232.20	0.00	

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
				91.87	5017227097		91.87	0.00	
				21.80	5017227099		21.80	0.00	
				95.53	5017227847		95.53	0.00	
				198.23	5017227849		198.23	0.00	
				43.28	5017227851		43.28	0.00	
				504.11	5017247752		504.11	0.00	
	XXXXX5886	10/19/2021	Grainger	18.78	9036932623	Supplies	18.78	0.00	$171.15
				152.37	9080427579	Supplies	152.37	0.00	
	XXXXX5887	10/19/2021	Horizon DataSys Corporation	897.00	9549	Annual maintenance and support of Reboot Restore 10/01/21-09/30/24	897.00	0.00	$897.00
	XXXXX5888	10/19/2021	Linda Brunker	2,500.00	01280	Semi finalist design honorarium	2,500.00	0.00	$2,500.00
	XXXXX5889	10/19/2021	Safetyhub Inc	2,850.00	70234	Safety Training Annual Renewal	2,850.00	0.00	$2,850.00
	XXXXX5890	10/19/2021	Stuart Event Rentals	370.00	198901	10/9/21 State Of City Equip Rental	370.00	0.00	$370.00
	XXXXX5891	10/19/2021	Core Power Services Inc	3,337.00	184831	Maintenance contract on UPS and Battery	3,337.00	0.00	$3,337.00
	XXXXX5892	10/19/2021	Fisher Scientific Co LLC	130.31	6021044		130.31	0.00	$130.31
	XXXXX5893	10/19/2021	State Water Resources Control Board	11,500.00	EA-AN-1021-1340	Annual Environmental Laboratory Accreditation Program Fee	11,500.00	0.00	$11,500.00
	XXXXX5894	10/19/2021	Matthew J Hutchison	146.56	EXP0000213 99569	Misc Boot Reimbursement 100121	146.56	0.00	$146.56
	XXXXX5895	10/19/2021	Applied Materials Inc	191.10	332002		191.10	0.00	$391.10
				200.00	333002		200.00	0.00	

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
	XXXXX5896	10/19/2021	Dish Dash	19.59	333003		19.59	0.00	$19.59
	XXXXX5897	10/19/2021	Hemalatha Nekkanti	50.00	HNekkanti	Years of Service Award 5 years (Employee retired and unable to add award to her paycheck in September)	50.00	0.00	$50.00
	XXXXX5898	10/19/2021	3M Traffic Safety Systems Division	2,133.58	9412843298	Prismatic Reflective Sheeting	2,133.58	0.00	$2,133.58
	XXXXX5900	10/19/2021	Aantex Pest Control	137.00	452546	Pest Control	137.00	0.00	$2,286.00
				82.00	453532	Pest Control	82.00	0.00	
				63.00	453533	Pest Control	63.00	0.00	
				105.00	453534	Pest Control	105.00	0.00	
				101.00	453535	Pest Control	101.00	0.00	
				80.00	453536	Pest Control	80.00	0.00	
				126.00	453537	Pest Control	126.00	0.00	
				86.00	453538	Pest Control	86.00	0.00	
				86.00	453539	Pest Control	86.00	0.00	
				86.00	453540	Pest Control	86.00	0.00	
				86.00	453541	Pest Control	86.00	0.00	
				63.00	453542	Pest Control	63.00	0.00	
				63.00	453543	Pest Control	63.00	0.00	
				63.00	453544	Pest Control	63.00	0.00	
				44.00	453545	Pest Control	44.00	0.00	
				85.00	453548	Pest Control	85.00	0.00	
				88.00	453550	Pest Control	88.00	0.00	
				86.00	455012	Pest Control	86.00	0.00	
				86.00	455013	Pest Control	86.00	0.00	
				44.00	455014	Pest Control	44.00	0.00	
				44.00	455015	Pest Control	44.00	0.00	
				44.00	455016	Pest Control	44.00	0.00	

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
				44.00	455017	Pest Control	44.00	0.00	
				44.00	455018	Pest Control	44.00	0.00	
				63.00	455019	Pest Control	63.00	0.00	
				87.00	455020	Pest Control	87.00	0.00	
				63.00	455021	Pest Control	63.00	0.00	
				87.00	455022	Pest Control	87.00	0.00	
				85.00	455288	Pest Control	85.00	0.00	
				65.00	455289	Pest Control	65.00	0.00	
	XXXXX5901	10/19/2021	Abode Services	45,689.82	TBRA 2019/20-21-1	Tenant-Based Rental Assistant Program for Jan 2021	45,689.82	0.00	$91,293.62
				45,603.80	TBRA 2019/20-21-3	Tenant-Based Rental Assistant Program for Mar 2021	45,603.80	0.00	
	XXXXX5902	10/19/2021	Access Hardware	291.37	5797362-IN	Hardware	291.37	0.00	$582.74
				291.37	5797363-IN	Hardware	291.37	0.00	
	XXXXX5903	10/19/2021	Access Systems	1,012.50	11747		1,012.50	0.00	$1,012.50
	XXXXX5904	10/19/2021	Agilent Technologies Inc	17,624.64	9100618972	Service Contract 08/16/21-08/15//22	17,624.64	0.00	$17,624.64
	XXXXX5905	10/19/2021	Air Exchange Inc	4,769.10	91605659	Parts and labor	4,769.10	0.00	$4,769.10
	XXXXX5906	10/19/2021	Alameda County Information Tech Dept	2,341.78	112-2109055	Monthly connect to AWS	2,341.78	0.00	$2,341.78
	XXXXX5907	10/19/2021	Alhambra	-4.94	19768402 080121 ESD	Water cooler	-4.94	0.00	$136.73
				64.83	19768402 100121 DPS FIRE	Water	64.83	0.00	
				76.84	19768402 100121 DPS PREV	Water Cooler Rental	76.84	0.00	
	XXXXX5908	10/19/2021	All Star Glass	740.73	ISJ076479	Parts and Labor	740.73	0.00	$740.73

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
	XXXXX5909	10/19/2021	Amazon Capital Services Inc	155.95	11DV-N4DX-PGCJ		155.95	0.00	$859.29
				82.94	14JN-D1W7-771F		82.94	0.00	
				21.69	19D9-GX47-D373		21.69	0.00	
				23.88	1J4Y-TD4D-9QFC		23.88	0.00	
				17.41	1JJG-CL33-FG9N		17.41	0.00	
				259.28	1VDM-MDHW-6FHG		259.28	0.00	
				81.19	1VDM-MDHW-7C7W		81.19	0.00	
				75.29	1WV4-HX94-Y66R		75.29	0.00	
				50.08	1XJ6-WF4Q-DM1W		50.08	0.00	
				50.11	1XJ6-WF4Q-KGC6		50.11	0.00	
				41.47	1YDX-K6PL-7NKJ		41.47	0.00	
	XXXXX5910	10/19/2021	AmfaSoft Corp	5,400.00	JING-01	Training for participant #19-04-201-46 WIOA#5643608	5,400.00	0.00	$5,400.00
	XXXXX5911	10/19/2021	AppleOne Employment Services	1,073.28	01-6039371	Consulting WPCP	1,073.28	0.00	$3,316.80
				1,975.20	01-6060179	Consulting Finance	1,975.20	0.00	
				268.32	01-6060181	Consulting WPCP	268.32	0.00	
	XXXXX5912	10/19/2021	AT&T	723.19	000016566965	Internet bandwidth increase	723.19	0.00	$23,340.00
				723.19	00001714559	Internet bandwidth	723.19	0.00	

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					2	increase			
				21,893.62	000017182950	BAN:9391023729 09/13/21-10/12/21	21,893.62	0.00	
	XXXXX5913	10/19/2021	Bound Tree Medical LLC	651.31	84227231	Supplies	651.31	0.00	$651.31
	XXXXX5914	10/19/2021	Buckles-Smith Electric Co	462.14	3250045-01	Line Reactor	466.81	4.67	$974.72
				512.58	3250045-02	Line Reactor	517.76	5.18	
	XXXXX5915	10/19/2021	Burke Williams & Sorensen LLP	803.00	274179	ADA TRANSITION PLAN	803.00	0.00	$803.00
	XXXXX5916	10/19/2021	Burtons Fire Inc	187.12	S54488	Valve Check	187.12	0.00	$187.12
	XXXXX5917	10/19/2021	Callander Associates Landscape Architec	188.55	18054-25Revised	Lawrence Station Sense of Place	188.55	0.00	$1,144.20
				760.38	18054A-11	Intuitive Surgical SOP Addition	760.38	0.00	
				195.27	18054A-6Rev	Intuitive Surgical SOP Addition	195.27	0.00	
	XXXXX5918	10/19/2021	Caltest Analytical Laboratory	261.00	623855	Chemicals	261.00	0.00	$1,981.94
				336.00	624904	Mercury Trace Level	336.00	0.00	
				179.94	625153	Chemical Analysis	179.94	0.00	
				1,205.00	625290	Chemical Analysis	1,205.00	0.00	
	XXXXX5919	10/19/2021	Can-Am Technologies Inc	1,366.13	2021-76	Teller SAAS	1,366.13	0.00	$1,366.13
	XXXXX5920	10/19/2021	Canon Financial Services Inc	9,299.12	27515464	Contract Charge	9,299.12	0.00	$9,299.12
	XXXXX5921	10/19/2021	Cengage Learning Inc	59.34	75973176	Books	59.34	0.00	$59.34
	XXXXX5923	10/19/2021	Cintas Loc #38K	17.08	4094754024	Uniform	17.08	0.00	$2,431.70
				17.08	4094754034	Uniform	17.08	0.00	
				18.95	4094759999	Uniform	18.95	0.00	
				36.67	4094760102	Uniform	36.67	0.00	
				100.14	4094760250	Uniform	100.14	0.00	
				209.88	4094760280	Uniform	209.88	0.00	

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				22.56	4094760431	Uniform	22.56	0.00	
				111.16	4094760457	Uniform	111.16	0.00	
				17.75	4094760592	Uniform	17.75	0.00	
				36.67	4095379056	Uniform	36.67	0.00	
				100.14	4095379097	Uniform	100.14	0.00	
				36.47	4095379104	Uniform	36.47	0.00	
				25.45	4095379113	Uniform	25.45	0.00	
				174.64	4095379145	Uniform	174.64	0.00	
				86.55	4095379153	Uniform	86.55	0.00	
				17.75	4095379157	Uniform	17.75	0.00	
				22.56	4095379187	Uniform	22.56	0.00	
				17.08	4095567388	Uniform	17.08	0.00	
				17.08	4095567396	Uniform	17.08	0.00	
				17.08	4096112636	Uniform	17.08	0.00	
				17.08	4096112646	Uniform	17.08	0.00	
				36.67	4096114590	Uniform	36.67	0.00	
				22.20	4096114698	Uniform	22.20	0.00	
				100.14	4096114710	Uniform	100.14	0.00	
				174.64	4096114737	Uniform	174.64	0.00	
				22.56	4096114747	Uniform	22.56	0.00	
				86.55	4096114758	Uniform	86.55	0.00	
				17.75	4096114774	Uniform	17.75	0.00	
				17.08	4096741220	Uniform	17.08	0.00	
				17.08	4096741263	Uniform	17.08	0.00	
				36.67	4096746810	Uniform	36.67	0.00	
				22.20	4096746826	Uniform	22.20	0.00	
				36.67	4096746884	Uniform	36.67	0.00	
				100.14	4096746927	Uniform	100.14	0.00	
				174.64	4096747104	Uniform	174.64	0.00	
				86.55	4096747107	Uniform	86.55	0.00	
				22.56	4096747130	Uniform	22.56	0.00	
				17.75	4096747232	Uniform	17.75	0.00	
				17.08	4097270435	Uniform	17.08	0.00	

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
				17.08	4097415754	Uniform	17.08	0.00	
				36.67	4097421510	Uniform	36.67	0.00	
				22.20	4097421517	Uniform	22.20	0.00	
				100.14	4097421781	Uniform	100.14	0.00	
				22.56	4097421871	Uniform	22.56	0.00	
				86.55	4097421916	Uniform	86.55	0.00	
				17.75	4097421981	Uniform	17.75	0.00	
	XXXXX5924	10/19/2021	Clay Planet	2,854.60	223992	Pottery tool kit, porcelain	2,854.60	0.00	$2,854.60
	XXXXX5925	10/19/2021	Concentra	209.00	72229084	Basic Pre-employment services	209.00	0.00	$1,948.50
				100.00	72300846	Physical PrePlacement	100.00	0.00	
				285.00	72384390	Basic Pre-Employment Services	285.00	0.00	
				25.00	72460988		25.00	0.00	
				1,088.50	72684583		1,088.50	0.00	
				241.00	72929622	Physical Recertification	241.00	0.00	
	XXXXX5926	10/19/2021	Cooke & Associates	1,889.00	193145	Full background - PSOIT Sworn - R. Zuccaire	1,889.00	0.00	$12,457.90
				2,249.00	193171	Full background - PSOIT Sworn - D. Bravo-Trujillo	2,249.00	0.00	
				690.00	193174	Background & Polygraph	690.00	0.00	
				2,297.42	193183	Background, Polygraph	2,297.42	0.00	
				1,870.00	193184	Background, Polygraph	1,870.00	0.00	
				1,870.00	193185	Background ,	1,870.00	0.00	

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
						Polygraph			
				1,592.48	193186	Non-sworn Background - Senior Records - Rebecca Montalvo	1,592.48	0.00	
	XXXXX5927	10/19/2021	Creative Security Company Inc	2,014.00	67060	Patrol Service Sep 2021	2,014.00	0.00	$2,014.00
	XXXXX5928	10/19/2021	CyberSource Corp	75.00	235951943823	Monthly CC	75.00	0.00	$75.00
	XXXXX5929	10/19/2021	D & M Traffic Services Inc	175.69	81249	Paper Sign	175.69	0.00	$175.69
	XXXXX5930	10/19/2021	Du-All Safety	5,696.25	22853	Monthly Safety Maintenance Contract for September 2021	5,696.25	0.00	$5,696.25
	XXXXX5931	10/19/2021	Dukes Root Control Inc	6,205.76	19713	Pipe sewer root control	6,205.76	0.00	$6,205.76
	XXXXX5932	10/19/2021	Ennis Paint Inc	4,124.93	421803	TM WX Spray	4,124.93	0.00	$4,124.93
	XXXXX5933	10/19/2021	Evoqua Water Technologies LLC	175.94	905064530	Pre-Treatment Cartridge	175.94	0.00	$1,026.36
				274.87	905065928	Pre-Treatment Cartridge	274.87	0.00	
				575.55	905074571	Pre-treatment Cartridge	575.55	0.00	
	XXXXX5934	10/19/2021	Ferguson US Holdings Inc	2,165.49	1645821	Supplies	2,165.49	0.00	$2,165.49
	XXXXX5935	10/19/2021	Fisher Scientific Co LLC	66.01	6564674	Parts	66.01	0.00	$419.14
				39.35	7392468	Parts	39.35	0.00	
				313.78	8862935	Parts	313.78	0.00	
	XXXXX5936	10/19/2021	Fix Air	833.03	3082658	Parts	833.03	0.00	$4,275.68
				3,442.65	3083958	Parts	3,442.65	0.00	
	XXXXX5937	10/19/2021	FleetPride Inc	78.47	82896160	Parts	78.47	0.00	$297.62

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
				73.99	83134159	Parts	73.99	0.00	
				117.08	83261099	Parts	117.08	0.00	
				22.98	83516864	Parts	22.98	0.00	
				5.10	83794540	Parts	5.10	0.00	
	XXXXX5938	10/19/2021	Foster Bros Security Systems Inc	823.86	330863	Battery, Lockset	823.86	0.00	$823.86
	XXXXX5939	10/19/2021	Gardenland Power Equipment	173.14	887867	Parts	173.14	0.00	$173.14
	XXXXX5940	10/19/2021	GCS Environmental Equipment Services Inc	31.28	24043	Gasket-Strainer	31.28	0.00	$31.28
	XXXXX5941	10/19/2021	Global Access Inc	236.00	18122	Online Fax	236.00	0.00	$236.00
	XXXXX5942	10/19/2021	Golden Gate Mechanical Inc	9,637.00	34305	Ductwork at the Courtyard	9,637.00	0.00	$9,637.00
	XXXXX5943	10/19/2021	Golden Gate Truck Center	177.78	FA005086100 :0l	Parts	177.78	0.00	$707.19
				466.95	FA005087176 :01	Parts	466.95	0.00	
				62.46	FA00S08554 1:01	Parts	62.46	0.00	
	XXXXX5944	10/19/2021	The Goodyear Tire & Rubber Co	560.94	189-1107494	Tires	560.94	0.00	$1,567.44
				1,006.50	189-1107618	Tires	1,006.50	0.00	
	XXXXX5945	10/19/2021	H K Avery Construction	5,150.00	HA-Anton-1	Home Access Program Nancy Anton - 1225 Vienna Dr. #273	5,150.00	0.00	$11,115.00
				5,965.00	HA-Owen-1	Home Access Program: Jeanne Owen - 1220 Tasman Dr. #113	5,965.00	0.00	
	XXXXX5946	10/19/2021	H T Harvey & Assoc	1,316.28	57849	Conducting a pre-activity survey for	1,316.28	0.00	$1,316.28

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
						nesting birds			
	XXXXX5947	10/19/2021	Hach Co Inc	434.11	12625546	Chemicals	434.11	0.00	$1,372.59
				938.48	12626584	Chemicals	938.48	0.00	
	XXXXX5948	10/19/2021	Hybrid Commercial Printing Inc	86.21	27348	Business Cards	86.21	0.00	$546.46
				345.94	27349	Business Cards	345.94	0.00	
				114.31	27351	9 State City of Sunnyvale 2021 Signs	114.31	0.00	
	XXXXX5949	10/19/2021	IDEXX Distribution Inc	5,561.66	3092334545	Supplies	5,561.66	0.00	$5,561.66
	XXXXX5950	10/19/2021	Inhouse Commercial Recyclers LLC	675.00	21091CS4	Library book Recycling Sep	675.00	0.00	$675.00
	XXXXX5951	10/19/2021	Interstate Battery System of San Jose	588.16	60285146	Parts	588.16	0.00	$588.16
	XXXXX5952	10/19/2021	Interstate Sales	4,101.16	8390	ALKYD WHITE CA THERMODROP	4,101.16	0.00	$4,101.16
	XXXXX5953	10/19/2021	Intex Auto Parts	750.75	2-67680-15	Auto Parts	750.75	0.00	$776.87
				26.12	2-67864-14	Auto Parts	26.12	0.00	
	XXXXX5954	10/19/2021	JAM Services Inc	3,400.80	145022	Polara 2-Wire	3,400.80	0.00	$4,839.39
				1,438.59	147096	CAT5 CABLE (	1,438.59	0.00	
	XXXXX5955	10/19/2021	Kelly Moore Paint Co Inc	72.10	820-00000440778	Supplies	72.10	0.00	$94.80
				22.70	820-00000446937	Supplies	22.70	0.00	
	XXXXX5956	10/19/2021	LC Action Police Supply	55.54	426959	Supplies	55.54	0.00	$2,892.09
				55.54	426960.	Supplies	55.54	0.00	
				472.06	427424	Supplies	472.06	0.00	
				487.61	427425	Supplies	487.61	0.00	
				55.54	427427	Supplies	55.54	0.00	
				882.90	427505	Supplies	882.90	0.00	
				882.90	427506	Supplies	882.90	0.00	
	XXXXX5957	10/19/2021	Lynx Technologies Inc	600.00	9388	GIS Svc June 2021	600.00	0.00	$1,875.00
				1,275.00	9436	GIS Svc Aug 2021	1,275.00	0.00	

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
	XXXXX5958	10/19/2021	Mallory Safety & Supply LLC	97.51	5198782	Stores Inventory	97.51	0.00	$117.02
				19.51	5198795	Stores Inventory	19.51	0.00	
	XXXXX5959	10/19/2021	Midwest Tape	297.25	501093976	Library Materials	297.25	0.00	$297.25
	XXXXX5960	10/19/2021	Mission Linen Service	76.14	515479998	Supplies	76.14	0.00	$791.19
				117.02	515480001	Supplies	117.02	0.00	
				84.09	515528858	Supplies	84.09	0.00	
				117.02	515528861	Supplies	117.02	0.00	
				81.44	515565067	Supplies	81.44	0.00	
				117.02	515565070	Supplies	117.02	0.00	
				81.44	515611832	Supplies	81.44	0.00	
				117.02	515611835	Supplies	117.02	0.00	
	XXXXX5961	10/19/2021	Mountain View Garden Center	252.37	107801	Supplies	252.37	0.00	$252.37
	XXXXX5962	10/19/2021	NAPA Auto Parts	147.64	5983-677121	Parts	147.64	0.00	$1,113.65
				26.72	5983-698835	Parts	26.72	0.00	
				63.48	5983-700261	Parts 2% 10th/$1.30 Discount By 11/10/2021	64.78	1.30	
				271.27	5983-700396	Parts 2% 10th/$5.54 Discount By 11/10/2021	276.81	5.54	
				34.95	5983-700705	Parts 2% 10th/$0.71 Discount By 11/10/2021	35.66	0.71	
				6.01	5983-700756	Parts 2% 10th/$0.12 Discount By 11/10/2021	6.13	0.12	
				78.31	5983-701265	Parts 2% 10th/$1.60 Discount By 11/10/2021	79.91	1.60	
				25.26	5983-701287	Parts 2% 10th/$0.52 Discount By	25.78	0.52	

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
						11/10/2021			
				23.00	5983-701290	Parts $0.47 Discount By 11/10/2021	23.47	0.47	
				20.32	5983-701291	Parts 2% 10th/$0.41 Discount By 11/10/2021	20.73	0.41	
				100.00	5983-701298	Parts 2% 10th/$2.04 Discount By 11/10/2021	102.04	2.04	
				62.79	5983-701523	Parts 2% 10th/$1.28 Discount By 11/10/2021	64.07	1.28	
				42.21	5983-701536	Parts 2% 10th/$0.86 Discount By 11/10/2021	43.07	0.86	
				7.52	5983-701755	Parts 2% 10th/$0.15 Discount By 11/10/2021	7.67	0.15	
				26.33	5983-701866	Parts 2% 10th/$0.54 Discount By 11/10/2021	26.87	0.54	
				80.53	5983-702259	Parts 2% 10th/$1.64 Discount By 11/10/2021	82.17	1.64	
				97.31	5983-702375	Parts 2% 10th/$1.99 Discount By 11/10/2021	99.30	1.99	
	XXXXX5963	10/19/2021	National Construction Rentals Inc	247.30	6282448	301 Carl 9/18-10/15/2021	247.30	0.00	$408.21
				160.91	6282449	Borregas & Carl 9/18-10/15/2021	160.91	0.00	
	XXXXX5964	10/19/2021	Newcomb Mechanical Inc	1,702.35	14325	Refrigerant	1,702.35	0.00	$1,702.35
	XXXXX5965	10/19/2021	Office Depot Inc	91.17	20087376400	Frances Moralez	91.17	0.00	$726.55

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
					1	10/13/2021			
				100.22	200893460001	Frances Moralez 10/13/2021	100.22	0.00	
				58.38	200906292001	Debra Alvarez 10/13/2021	58.38	0.00	
				49.86	201218794001	Lorena Rodriguez 10/13/2021	49.86	0.00	
				64.19	201477379001	Reiko Yoshidome 10/12/2021	64.19	0.00	
				50.27	201477382001	Reiko Yoshidome 10/12/2021	50.27	0.00	
				59.12	202799094001	Edith Alanis 10/13/2021	59.12	0.00	
				86.38	203213140001	Michelle Chuck 10/12/2021	86.38	0.00	
				40.76	204207480001	Edgar Santa Ana 10/14/2021	40.76	0.00	
				13.91	204207482001	Edgar Santa Ana 10/14/2021	13.91	0.00	
				30.53	204287674001	Jason Raquinio 10/8/2021	30.53	0.00	
				40.10	204401354001	Candi Latini 10/14/2021	40.10	0.00	
				41.66	204535787001	Aaron Migliaccio 10/13/2021	41.66	0.00	
	XXXXX5966	10/19/2021	P & D Appliance	1,052.95	0197180	Sr Ctr Dishwasher Repairs	1,052.95	0.00	$1,052.95
	XXXXX5967	10/19/2021	Pacific Coast Trane Controls	2,819.00	C25340	Rotary Chiller Technical Support	2,819.00	0.00	$2,819.00
	XXXXX5968	10/19/2021	Pacific Gas & Electric Co	3,858.88	0395847945-7 0921	121 W Evelyn Ave-Multimodal	3,858.88	0.00	$3,871.01
				12.13	8980516791-6 0921	N/S El Camino & E Remington	12.13	0.00	

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
	XXXXX5969	10/19/2021	Peterson	10,011.13	PC240037063	Parts	10,011.13	0.00	$18,590.10
				8,578.97	R3224448	Equipment Rental 8/21-9/20/2021	8,578.97	0.00	
	XXXXX5970	10/19/2021	PlaceWorks Inc	4,426.80	75801	Housing Dvpt Objective Design Guidelines Jun 2021	4,426.80	0.00	$32,841.46
				12,209.40	75991	Housing Dvpt Objective Design Guidelines Jul 2021	12,209.40	0.00	
				9,672.16	76320	Housing Dvpt Objective Design Guidelines Aug 2021	9,672.16	0.00	
				6,533.10	76524	Housing Dvpt Objective Design Guidelines Sep 2021	6,533.10	0.00	
	XXXXX5971	10/19/2021	QED Environmental Systems Inc	89.92	0000292300	Supplies	89.92	0.00	$89.92
	XXXXX5972	10/19/2021	Raimi + Associates Inc	81,429.09	21-4339	Moffett Park Specific Plan June 2021	81,429.09	0.00	$81,429.09
	XXXXX5973	10/19/2021	RDO Equipment Co	1,336.70	P08859 74	Parts	1,336.70	0.00	$1,970.79
				634.09	P0893274	Parts	634.09	0.00	
	XXXXX5974	10/19/2021	Redgwick Construction Co	31,822.62	HmsteadRd@HmsteadHigh #05	TR-18-06	31,822.62	0.00	$31,822.62
	XXXXX5975	10/19/2021	Reed & Graham Inc	1,550.46	012842	Broken AC & Asphalt $81.60 Discount By 10/25/21	1,632.06	81.60	$1,550.46
	XXXXX5976	10/19/2021	Refrigeration Supplies Distributor	60.01	38486137-00	Supplies	60.01	0.00	$170.51
				110.50	38486260 -00	Supplies	110.50	0.00	
	XXXXX5977	10/19/2021	Safety Kleen Systems Inc	885.36	87104706	Parts	885.36	0.00	$885.36
	XXXXX5978	10/19/2021	Security Alert Systems of California Inc	188.00	177213	9/22/21 Las Palmas Park Fire Alarm Sys	188.00	0.00	$853.00

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
						Svc			
				188.00	177214	9/22/21 Serra Park Fire Alarm Sys Svc	188.00	0.00	
				477.00	177217	9/24/21 Las Palmas Park Fire Alarm Sys Svc	477.00	0.00	
	XXXXX5979	10/19/2021	SFO Reprographics	55.83	72017	ESD ORGANIZATION	55.83	0.00	$55.83
	XXXXX5980	10/19/2021	SHI International Corp	42.00	B13750736	Acrobat Pro DC for enterprise	42.00	0.00	$818.87
				183.51	B13753656	Premiere Pro for Enterprise	183.51	0.00	
				563.34	B13827447	ProjOnlnProfGOV & VisioPlan2GCC	563.34	0.00	
				30.02	B14033118	Acrobat Pro DC for enterprise	30.02	0.00	
	XXXXX5981	10/19/2021	Sierra Pacific Turf Supply Inc	1,837.59	0607820-IN	Supplies	1,837.59	0.00	$1,837.59
	XXXXX5982	10/21/2021	NOVAworks Foundation	81.92	PR202142	PR202142 NOVA Dues	81.92	0.00	$81.92
	XXXXX5983	10/21/2021	Pine Cone Lumber Co Inc	603.02	121033	Supplies $5.53 Discount By 10/23/21	608.55	5.53	$603.02
	XXXXX5984	10/21/2021	Pacific Gas & Electric Co	1,325.00	Order#42681 286	Interconnection Rule 21 Enhanced Pre-Appl Report Req For Civic Ctr	1,325.00	0.00	$1,325.00
	XXXXX5985	10/21/2021	Sunnyvale Public Safety Officers Assn	20,070.00	PR202142	PR202142 Association Dues	20,070.00	0.00	$20,070.00
	XXXXX5986	10/21/2021	Tripepi, Smith and Associates Inc	3,680.00	6627	Redistricting Services July 2021	3,680.00	0.00	$4,267.50
				587.50	6888	Redistricting Services Sept 2021	587.50	0.00	
	XXXXX5987	10/21/2021	Turf & Industrial Equipment Co	453.48	IV40804	Stores Inventory	453.48	0.00	$453.48

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	XXXXX5988	10/21/2021	Turf Star Inc	985.01	7197892-00	Supplies	985.01	0.00	$985.01
	XXXXX5989	10/21/2021	UC Regents	5,089.50	1090355-213	Munshi, Komal 19-13-501-29	5,089.50	0.00	$5,089.50
	XXXXX5990	10/21/2021	United Site Services of California Inc	973.48	114-12435642	795 E Arques 9/24-10/21/2021	973.48	0.00	$973.48
	XXXXX5991	10/21/2021	Univar Solutions USA Inc	3,823.19	49428614	SOD HYPO	3,823.19	0.00	$30,971.37
				218.25	49430884	FREIGHT	218.25	0.00	
				3,622.43	49432469	SOD HYPO	3,622.43	0.00	
				3,621.21	49440243	SOD HYPO	3,621.21	0.00	
				3,783.59	49451487	SOD HYPO	3,783.59	0.00	
				4,339.29	49453587	SOD BISULFITE	4,339.29	0.00	
				3,623.15	49466541	SOD HYPO	3,623.15	0.00	
				4,320.65	49472838	SOD BISULFITE	4,320.65	0.00	
				3,619.61	49482265	SOD HYPO	3,619.61	0.00	
	XXXXX5992	10/21/2021	USA Bluebook	2,319.20	720054	Supplies	2,319.20	0.00	$2,319.20
	XXXXX5993	10/21/2021	VESTRA Resources Inc	1,638.00	SUNNYVALE_CI.82107-1	Svc Thru 8/17/2021	1,638.00	0.00	$1,638.00
	XXXXX5994	10/21/2021	Winsupply of Silicon Valley	72.58	028100 01	Supplies	72.58	0.00	$1,030.20
				602.59	028122 01	Supplies	602.59	0.00	
				355.03	028365 01	Supplies	355.03	0.00	
	XXXXX5995	10/21/2021	SCBA Safety Check Inc	25.00	11175	Svr Air Cart Annual Testing	25.00	0.00	$25.00
	XXXXX5996	10/21/2021	Sunnyvale Downtown Association	8,105.69	BID20211015	BID Collected 8/26-9/30/2021	8,105.69	0.00	$8,105.69
	XXXXX5997	10/21/2021	Asian Americans for Community Involvement of Santa Clara County Inc	1,890.00	F08-2021.06-1	Evidence Based Training classes	1,890.00	0.00	$1,890.00
	XXXXX5998	10/21/2021	Core & Main LP	1,031.23	P795698	Parts	1,031.23	0.00	$3,255.20
				2,223.97	P799075	Parts	2,223.97	0.00	
	XXXXX5999	10/21/2021	BTAC Acquisition	1,884.74	5017147703		1,884.74	0.00	$2,950.40

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			Corp	21.94	5017242877		21.94	0.00	
				43.28	5017242879		43.28	0.00	
				128.18	5017242881		128.18	0.00	
				67.72	5017242883		67.72	0.00	
				407.08	5017263713		407.08	0.00	
				192.80	H57708610		192.80	0.00	
				11.61	H57708620		11.61	0.00	
				108.42	H57737260		108.42	0.00	
				75.08	H57807310		75.08	0.00	
				9.55	H57844580		9.55	0.00	
	XXXXX6000	10/21/2021	Grainger	4,193.70	7094072308	WPCP Aug Supplies	4,193.70	0.00	$6,441.25
				1,854.78	9081640006	Supplies	1,854.78	0.00	
				392.77	9081640014	Supplies	392.77	0.00	
	XXXXX6001	10/21/2021	UC Regents	499.50	1082346-213	Duong, Justine 19-13-501-22	499.50	0.00	$10,555.30
				4,743.00	1082533-214	Dinitz, Laura 19-13-501-31	4,743.00	0.00	
				223.30	1082542-213	Falsetti, Christine 19-13-1170	223.30	0.00	
				5,089.50	1092549-214	Nelson, Laura 19-13-501-30	5,089.50	0.00	
	XXXXX6002	10/21/2021	Nom Burger - The Prolific Oven - R+R Kitchens, Inc.	347.05	068668	Refund of overpayment. Closed account Business License #068668	347.05	0.00	$347.05
	XXXXX6003	10/21/2021	G & G Builders Inc.	4,598.96	206091-71324	Utility credit balance refund	4,598.96	0.00	$4,598.96
	XXXXX6004	10/21/2021	Underground Construction Co.	4,631.77	188507-40940	Utility credit balance refund	4,631.77	0.00	$4,631.77
	XXXXX6005	10/21/2021	4Leaf Inc	17,796.91	J3567A4	Sep 2021 Building Inspector	17,796.91	0.00	$17,796.91
	XXXXX6006	10/21/2021	Airgas USA LLC	579.28	9117183832	Argon	579.28	0.00	$1,060.24
				142.12	9117693504		142.12	0.00	

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
				338.84	9982567510	Oxygen	338.84	0.00	
	XXXXX6007	10/21/2021	Alhambra	46.84	19768402 100121 PARKS	Water Cooler	46.84	0.00	$46.84
	XXXXX6008	10/21/2021	All City Management Services Inc	21,955.39	71736.24	School Crossing Guard Services	21,955.39	0.00	$52,392.12
				30,436.73	72314	School Crossing Guards	30,436.73	0.00	
	XXXXX6009	10/21/2021	Amazon Capital Services Inc	28.61	1DQR-Q3KH-W7HR		28.61	0.00	$427.80
				140.55	1F9K-FYND-PR74		140.55	0.00	
				107.76	1FDF-X1F9-11FF		107.76	0.00	
				81.87	1QKD-747D-GQN7		81.87	0.00	
				69.01	1VMH-KMT4-VVF1		69.01	0.00	
	XXXXX6010	10/21/2021	AT&T	307.76	000017156101	Billing Acct:939106447609/10-10-09/21	307.76	0.00	$307.76
	XXXXX6011	10/21/2021	Atlas Copco Compressors LLC	8,346.80	1121088554	Parts	8,346.80	0.00	$8,346.80
	XXXXX6012	10/21/2021	Bellecci & Assoc Inc	2,917.00	20002-P	Design plans, specifications & Estimate. Construction Support	2,917.00	0.00	$2,917.00
	XXXXX6013	10/21/2021	Buckles-Smith Electric Co	940.11	3253686-00	Parts	949.61	9.50	$1,000.50
				60.39	3253686-01	Parts	61.00	0.61	
	XXXXX6014	10/21/2021	Carbonic Service Inc	255.77	384847		255.77	0.00	$255.77
	XXXXX6015	10/21/2021	CDM Smith	1,409.85	90134720	On-call service for Recyclable and Potable Water	1,409.85	0.00	$1,409.85

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
	XXXXX6016	10/21/2021	Concentra	125.00	71916856		125.00	0.00	$125.00
	XXXXX6017	10/21/2021	Creative Security Company Inc	2,014.00	66386	Patrol Service	2,014.00	0.00	$2,014.00
	XXXXX6018	10/21/2021	CSG Consultants Inc	390.00	39606	CC Fire Protection Plan Review	390.00	0.00	$390.00
	XXXXX6019	10/21/2021	E-Z-Go Textron Inc	1,625.91	92326558	Parts HD	1,625.91	0.00	$3,249.75
				631.49	92457615	Parts HD	631.49	0.00	
				992.35	92459018	Parts HD	992.35	0.00	
	XXXXX6020	10/21/2021	Foster Bros Security Systems Inc	165.99	330201		165.99	0.00	$165.99
	XXXXX6021	10/21/2021	Garda	3,582.17	10651508	Armored Transportation Services for Multiple City of Sunnyvale Locations	3,582.17	0.00	$6,748.54
				3,166.37	10657242	Armored Transportation Services for Multiple City of Sunnyvale Location	3,166.37	0.00	
	XXXXX6022	10/21/2021	Heritage Bank of Commerce	19,994.33	FOAOHBRIDGE#15	TR-13/01-16	19,994.33	0.00	$19,994.33
	XXXXX6023	10/21/2021	Hybrid Commercial Printing Inc	495.43	27358	Recycling Guide	495.43	0.00	$495.43
	XXXXX6024	10/21/2021	Idemia Identity & Security USA LLC	2,900.25	135209	TPE WINDOWS 10 LAPTOP Upgrade and Installation	2,900.25	0.00	$2,900.25
	XXXXX6025	10/21/2021	Imperial Maintenance Services Inc	61,947.00	40	Janitorial Services Sep 21	61,947.00	0.00	$61,947.00
	XXXXX6026	10/21/2021	Intex Auto Parts	33.92	2-68816-17	Parts	33.92	0.00	$33.92
	XXXXX6027	10/21/2021	Jensen Instrument Co	7,286.37	20-02870		7,286.37	0.00	$9,702.62
				2,416.25	20-03011	Rosemount	2,416.25	0.00	

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
	XXXXX6028	10/21/2021	Joseph J Albanese Inc	369,892.32	FOAOHBRIDGE#15	TR-13/01-16	369,892.32	0.00	$369,892.32
	XXXXX6029	10/21/2021	Judicial Council of California	1,700.00	November 2021	Facility No. 43-F1 Monthly rental fee	1,700.00	0.00	$1,700.00
	XXXXX6030	10/21/2021	Kimley Horn & Assoc Inc	5,403.86	19771475	DILEMMA ZONE II SVC THRU 8/31/21	5,403.86	0.00	$5,403.86
	XXXXX6031	10/21/2021	Mountain View Community Television	5,833.34	7638	Govt/Community Access TV May 2021	5,833.34	0.00	$29,689.21
				5,833.34	7668	Govt/Community Access TV Jun 2021	5,833.34	0.00	
				6,007.51	7679	Govt/Community Access TV July 2021	6,007.51	0.00	
				6,007.51	7688	Govt/Community Access TV Aug 2021	6,007.51	0.00	
				6,007.51	7693	Govt/Community Access TV Sept 2021	6,007.51	0.00	
	XXXXX6032	10/21/2021	Koffler Electrical	3,901.17	0098704-IN	HOIST MOTOR REPAIR	3,901.17	0.00	$3,901.17
	XXXXX6033	10/21/2021	L N Curtis & Sons Inc	708.44	INV514493	Supplies	708.44	0.00	$10,361.59
				350.77	INV524711	Supplies	350.77	0.00	
				9,250.00	INV528348	Care G1 Initial Certification Training	9,250.00	0.00	
				52.38	INV534242	Supplies	52.38	0.00	
	XXXXX6034	10/21/2021	Lawson Products Inc	282.47	9308764929	Supplies	282.47	0.00	$1,071.79
				26.41	9308775854	Supplies	26.41	0.00	
				452.15	9308818956	Supplies	452.15	0.00	
				5.14	9308846905	Supplies	5.14	0.00	
				305.62	9308853556	Supplies	305.62	0.00	
	XXXXX6035	10/21/2021	LexisNexis Risk Solutions	130.00	1409790-20210930	Utility Billing Skip Tracing Svc Sept 2021	130.00	0.00	$130.00
	XXXXX6036	10/21/2021	Mallory Safety & Supply LLC	504.62	5189162	Supplies	504.62	0.00	$504.62

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
	XXXXX6037	10/21/2021	Marsha Hovey LLC	5,250.00	SV-027	Emergency Management Svc July/Aug 2021	5,250.00	0.00	$5,250.00
	XXXXX6038	10/21/2021	Midwest Tape	6.00	501066783	MARC Processing Service	6.00	0.00	$181.83
				111.74	501066790	Processing Service	111.74	0.00	
				64.09	501126061	Library Materials	64.09	0.00	
	XXXXX6039	10/21/2021	Mission Linen Service	81.08	515472724	Linen Svc	81.08	0.00	$1,195.69
				85.40	515472748	Linen Svc	85.40	0.00	
				61.23	515479999	Linen Svc	61.23	0.00	
				66.53	515480000	Linen Svc	66.53	0.00	
				81.08	515519701	Linen Svc	81.08	0.00	
				89.36	515519725	Linen Svc	89.36	0.00	
				66.53	515528859	Linen Svc	66.53	0.00	
				66.53	515528860	Linen Svc	66.53	0.00	
				81.08	515556302	Linen Svc	81.08	0.00	
				83.51	515556326	Linen Svc	83.51	0.00	
				66.53	515565068	Linen Svc	66.53	0.00	
				66.53	515565069	Linen Svc	66.53	0.00	
				81.08	515602022	Linen Svc	81.08	0.00	
				86.16	515602046	Linen Svc	86.16	0.00	
				66.53	515611833	Linen Svc	66.53	0.00	
				66.53	515611834	Linen Svc	66.53	0.00	
	XXXXX6040	10/21/2021	NAPA Auto Parts	6.13	5983-700932	Parts 2% 10th/$0.12 Discount By 11/10/2021	6.13	0.00	$70.75
				64.62	5983-704737	Stores Inventory 2% 10th/$1.32 Discount By 11/10/21	65.94	1.32	
	XXXXX6041	10/21/2021	Office Depot Inc	69.64	204282417001	Patricia Pickett 10/18/2021	69.64	0.00	$886.22
				25.39	204401353001	Candi Latini 10/14/2021	25.39	0.00	

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
				13.19	204401354002	Candi Latini 10/14/2021	13.19	0.00	
				32.82	204410688001	Rebecca Elizondo 10/14/2021	32.82	0.00	
				216.61	204629871001	Patricia Pickett 10/15/2021	216.61	0.00	
				97.95	204996042001	Frances Moralez 10/19/2021	97.95	0.00	
				33.36	205036184001	Debra Alvarez 10/14/2021	33.36	0.00	
				45.70	205279456001	Victoria Ketell 10/20/2021	45.70	0.00	
				339.17	205434141001	Julie Callaghan 10/19/2021	339.17	0.00	
				12.39	206224869001	Anjelene Manzanares 10/18/2021	12.39	0.00	
	XXXXX6042	10/21/2021	Otis Elevator Company	5,074.35	100400437799	Svc Site Library 8/1-10/31/21 Mtnce	5,074.35	0.00	$5,074.35
	XXXXX6043	10/21/2021	Pacific Eco-Risk	3,140.00	17665	Toxicity Testing	3,140.00	0.00	$3,140.00
	XXXXX6044	10/21/2021	Peterson	268.72	PC240037112	Parts	268.72	0.00	$268.72
	XXXXX6045	10/21/2021	Polydyne Inc	53,502.40	1574497	CLARIFLOC WE-717	53,502.40	0.00	$121,689.40
				5,474.00	1577936	CLARIFLOC WE-717	5,474.00	0.00	
				8,211.00	1577942	CLARIFLOC WE-717	8,211.00	0.00	
				54,502.00	1579894	CLARIFLOC WE-717	54,502.00	0.00	
	XXXXX6046	10/21/2021	Psomas	127,308.00	175314	WPCP Construction Mgmt Svc 7/1-29/2021	127,308.00	0.00	$127,308.00
	XXXXX6047	10/21/2021	Reed & Graham Inc	1,424.03	013040	Broken AC & Asphalt $74.95 Discount By 10/29/2021	1,498.98	74.95	$30,214.36

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
				1,279.73	013041	Asphalt $67.35 Discount By 10/29/2021	1,347.08	67.35	
				5,120.50	013042	PMCRS-2H $269.50 Discount By 10/29/21	5,390.00	269.50	
				7,127.56	013315	PMCRS-2H $375.13 Discount By 10/30/2021	7,502.69	375.13	
				7,159.56	013419	PMCRS-2H $376.62 Discount By 10/31/2021	7,536.38	376.82	
				6,802.95	013548	PMCRS-2H $358.05 Discount By 11/1/2021	7,161.00	358.05	
				1,300.03	013813	Broken AC & Asphalt $68.42 Discount By 11/5/21	1,368.45	68.42	
	XXXXX6048	10/21/2021	Roto-Rooter	1,694.00	193-23230980	Sewer Pipe Cleaning	1,694.00	0.00	$2,253.50
				559.50	193-23238022	Toilet clearance	559.50	0.00	
	XXXXX6049	10/21/2021	San Francisco Bay Bird Observatory	1,729.80	1931	Avian Botulism June 2021	1,729.80	0.00	$3,459.60
				1,729.80	1995	Avian Botulism Aug 2021	1,729.80	0.00	
	XXXXX6050	10/21/2021	Security Alert Systems of California Inc	660.00	177198	Security & Alarm Monitoring Fees Sep 2021	660.00	0.00	$660.00
	XXXXX6051	10/21/2021	Shawn Spano	11,000.00	21-2	DPS Improvement Proj Mar-Aug 2021	11,000.00	0.00	$11,000.00
	XXXXX6052	10/21/2021	SHI International Corp	36.03	B13855328	Acrobat Pro DC for enterprise	36.03	0.00	$198.60
				90.06	B13989874	Acrobat Pro DC for enterprise	90.06	0.00	

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
				72.51	B14129061	Acrobat Pro DC for enterprise	72.51	0.00	
	XXXXX6053	10/21/2021	Stericycle, Inc	86.33	8000021511	Customer 1000431167 8/16/21 Svc	86.33	0.00	$584.43
				293.47	8000130838	Customer 3000153519 Aug&Sep 2021	293.47	0.00	
				204.63	8182309260	Customer 13190207 Jun 2021	204.63	0.00	
	XXXXX6054	10/21/2021	Sigler Wholesale Distributors	346.78	INV-SAJ21022795	Supplies	385.31	38.53	$346.78
	XXXXX6055	10/21/2021	Srixon Golf	511.20	6637525 SO	Resale Merchandise	511.20	0.00	$511.20
	XXXXX6056	10/21/2021	Summit Uniforms	170.63	75420	Uniforms	170.63	0.00	$170.63
	XXXXX6057	10/21/2021	Sunbelt Rentals Inc	14,352.66	104908856-0015	Heavy Equip Rental 8/20/21-9/16/21	14,352.66	0.00	$14,352.66
	XXXXX6058	10/21/2021	TaylorMade Golf Co	894.37	35363113	Resale Merchandise	894.37	0.00	$3,708.21
				651.48	35363709	Resale Merchandise $13.01 Discount By 12/4/2021	664.49	13.01	
				161.75	35363969	Resale Merchandise $3.10 Discount By 11/4/2021	164.85	3.10	
				984.91	35367482	Resale Merchandise $19.49 Discount By 12/5/2021	1,004.40	19.49	
				419.72	35368414	Resale Merchandise $8.32 Discount By 11/6/2021	428.04	8.32	
				297.99	35370946	Resale Merchandise $5.81 Discount By 11/6/2021	303.80	5.81	

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
				297.99	35371054	Resale Merchandise $5.81 Discount By 11/6/2021	303.80	5.81	
	XXXXX6059	10/21/2021	The Home Depot Pro	1,074.31	648185502	Supplies	1,074.31	0.00	$1,074.31
	XXXXX6060	10/21/2021	Tint of Class	778.30	211012	Lakewood Park Broken Door Svc	778.30	0.00	$1,744.27
				965.97	211015	50 Olive #600 Window Repair	965.97	0.00	
	XXXXX6061	10/21/2021	Fremont Union High School District	15,368.25	B15-FUHSD-Fees	Sunnyvale Block 15 School Fees (365 S. Mathilda Avenue, Sunnyvale CA) ATTN: Grace Perez (Developer Fees)	15,368.25	0.00	$15,368.25
EFT	XXXXX6909	10/19/2021	David K Sakurai	395.34	EXP0000213 99701	Travel San Diego 092621	395.34	0.00	$395.34
	XXXXX6910	10/19/2021	Bronson D Mcmoore	376.68	EXP0000217 25461	Travel Soquel 100421	376.68	0.00	$376.68
	XXXXX6911	10/19/2021	Matthew T Sutterfield	332.56	EXP0000216 12390	Travel Garden Grove 100321	332.56	0.00	$332.56
	XXXXX6912	10/19/2021	Anais Martinez Aquino	24.75	EXP0000217 47301	Parking Reimbursement	24.75	0.00	$24.75
	XXXXX6913	10/19/2021	Marissa Noel Robinson	145.00	EXP0000216 12418	Travel Anaheim 092721	145.00	0.00	$145.00
	XXXXX6914	10/19/2021	Matthew E Aguirre	303.95	EXP0000213 99189	Travel Burbank 092621	303.95	0.00	$303.95
	XXXXX6915	10/19/2021	Norma V O'Connell	206.33	EXP0000213 22698	Travel Anaheim 092721	206.33	0.00	$206.33
	XXXXX6916	10/19/2021	Regan G Williams Junior	318.72	EXP0000213 99796	Travel Burbank 092621	318.72	0.00	$318.72
	XXXXX6917	10/19/2021	Connie R Patchin Frank	100.00	EXP0000216 98737	Reimbursement for Retirement Party	100.00	0.00	$100.00
	XXXXX6918	10/19/2021	Andrew J Tara	241.00	EXP0000216	Travel Garden Grove	241.00	0.00	$241.00

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
					12366	100321			
	XXXXX6919	10/19/2021	Suzanne M Park	132.00	EXP0000205 18487	Professional Certification Renewal	132.00	0.00	$132.00
	XXXXX6920	10/19/2021	David T Carnahan	150.00	EXP0000215 62058	Tuition Reimbursement Technical Track for Clerks Training, Series 400 FY2021/22	150.00	0.00	$150.00
	XXXXX6921	10/19/2021	Fabian E Monge	207.00	EXP0000218 54292	Travel Monterey 101221	207.00	0.00	$207.00
	XXXXX6922	10/19/2021	Kent D Steffens	103.78	EXP0000213 22752	Travel Sacramento 092421	103.78	0.00	$103.78
	XXXXX6923	10/19/2021	Phebea A Klein	389.00	EXP0000213 99167	Travel Monterey 092621	389.00	0.00	$389.00
	XXXXX6924	10/19/2021	Priscilla E Luckey	145.00	EXP0000213 99229	Travel Anaheim 092721	145.00	0.00	$145.00
	XXXXX6925	10/19/2021	Matty E Maxwell	180.98	EXP0000215 36170	Travel Anaheim 092721	180.98	0.00	$180.98
	XXXXX6926	10/19/2021	Gary D Brown	49.73	EXP0000217 47074	Misc Mileage Expenses 10132021	49.73	0.00	$49.73
	XXXXX6927	10/19/2021	Patricia K Richards	29.79	EXP0000212 60284	Travel Burlingame 09242021	29.79	0.00	$29.79
	XXXXX6928	10/19/2021	Ava M Fanucchi	194.02	EXP0000213 99208	Travel Anaheim 092721	194.02	0.00	$194.02
	XXXXX6929	10/19/2021	Elisa M Barrios	197.17	EXP0000213 22716	Travel Anaheim 092721	197.17	0.00	$197.17
	XXXXX6930	10/19/2021	Howard Wesley Hyden	219.00	EXP0000212 17510	Misc ICC 09252021	219.00	0.00	$219.00
	XXXXX6931	10/19/2021	Ryan L Yin	392.82	EXP0000213 99264	Travel San Diego 092621	392.82	0.00	$392.82
WIRE	XXXXX6908	10/19/2021	Chicago Title Company	17,482,837.00	Block 15 Affordable Housing	HMF and HOME Loans disbursement - WR date 10/15/2021	17,482,837.00	0.00	$17,482,837.00

Payment Type	Payment #.	Payment Date	Vendor Name	Amount Paid	Invoice No.	Description	Invoice Amount	Discount Taken	Payment Total
					Project Loan				
	XXXXX7011	10/21/2021	Keenan & Associates	203,054.75	10/1/21 - 10/15/21	Wire for Keenan & Associates - Trust Reimbursement 10/01/21 to 10/15/21 - WR date 10/19/2021	203,054.75	0.00	$203,054.75
	XXXXX7012	10/21/2021	San Francisco Public Utilities Commission	1,872,104.20	09022021-10012021	Purchased Water from SFPUC September 2021 - WR date 10/18/2021	1,872,104.20	0.00	$1,872,104.20
Grand Total				21,970,539.79			21,972,378.63	1,838.84	$21,970,539.79

21-0783 **Agenda Date:** 11/9/2021

REPORT TO COUNCIL

SUBJECT
Receive and File the FY 2021/22 First Quarter Budget Update

REPORT IN BRIEF
This report summarizes the year-to-date financial position of the City's major funds, including an update on the receipt of revenue and current status of expenditures. Overall, the City's financial position is tracking as planned pursuant to the FY 2021/22 Budget, though based on limited information. FY 2020/21 is anticipated to end the year slightly better than planned.

BACKGROUND
In FY 2020/21, staff began providing a report to Council detailing the current financial condition of the City on a quarterly basis. This is the first of these reports for FY 2021/22. This update compares the FY 2021/22 Adopted Budget with actual revenues and expenditures through the first quarter of the fiscal year. In addition, this report provides a preliminary review of the FY 2020/21 year-end financial results.

Information on actuals, especially revenues, is not yet fully developed. Receipts tend to lag by a month. Many sources of revenue aren't received until several months into the year. For example, Transient Occupancy Tax (TOT) for September, is not due to the City until the end of October. Another example is Business License Tax, which will appear low until the second half of the fiscal year after renewals occur. Operating expenditures tend to trend more evenly due to regular payroll costs. Exceptions include large bills like water purchases with July expenses not paid until mid or late August. Consequently, each Quarterly Report will provide more context for the year-to-date status of revenues and expenditures.

EXISTING POLICY
Pursuant to Sunnyvale Charter Section 1305, at any meeting after the adoption of the budget, the City Council may amend or supplement the budget by motion adopted by affirmative votes of at least four members so as to authorize the transfer of unused balances appropriated for one purpose to another, or to appropriate available revenue not included in the budget.

ENVIRONMENTAL REVIEW
The action being considered does not constitute a "project" with the meaning of the California Environmental Quality Act ("CEQA") pursuant to CEQA Guidelines section 15378 (b) (4) in that it is a fiscal activity that does not involve any commitment to any specific project which may result in a potential significant impact on the environment.

DISCUSSION

This report presents preliminary budget and actual year-end results for FY 2020/21 and year-to-date information for FY 2021/22 (through September 2021) for the General Fund and Enterprise funds. FY 2020/21 data reflects the estimates presented in the FY 2021/22 Adopted Budget, which includes updated revenue projections and budget modifications. Transfers, interfund revenues, bond proceeds, debt service as well as project and equipment costs are not included in this report. Note that FY 2020/21 actuals are unaudited and that significant changes can occur during the fiscal year end close.

While overall progress looks to be as planned for FY 2021/22, staff continue to carefully monitor incoming receipts and outgoing expenditures. Economic factors, such as supply chain issues and inflationary pressures on goods and services due to reported labor shortages are being closely monitored.

Additionally, during the FY 2021/22 budget development process, some vacant positions continued to be frozen as cost-savings measures. The City Manager froze 21.65 FTE vacancies in the budget process with the service level reductions approved by Council. The City Manager continues to exercise judgement on which vacancies to hold. This surgical approach to freezing positions allows the City to continue to be responsive to shifting and changing conditions while maintaining the needed cost savings in each affected fund. To that end, it should be noted that the City is experiencing more turnover than in recent history. To address this issue, the City Manager recently unfroze a Human Resources Analyst. The cost for this position will be absorbed within the current operating budget of the Human Resources Department using vacancy savings.

General Fund

Overall, preliminary FY 2021/22 financials show positive year-end revenue and expenditure results for the General Fund. FY 2021/22 is tracking as expected at this point and staff continue to diligently monitor revenue and expenditures.

Revenue

General Fund Revenue	FY 2021/22 *25.00% of Fiscal Year*			FY 2020/21 *99.00% of Fiscal Year*		
	Budget	Actuals	% to Date	Adjusted Budget	Actuals	Variance
Property Tax	$ 94,860,330	$ 98,692	0.1%	$ 93,432,808	$ 94,805,639	$ 1,372,831
Sales Tax	$ 27,782,519	$ 2,089,110	7.5%	$ 26,255,743	$ 26,089,903	$ (165,840)
Transient Occupancy Tax	$ 8,296,416	$ 2,021,674	24.4%	$ 5,308,664	$ 5,192,090	$ (116,573)
UUT & Franchise Fees	$ 15,872,231	$ 2,354,257	14.8%	$ 15,407,784	$ 15,570,014	$ 162,230
Construction Tax	$ 2,795,302	$ 1,278,946	45.8%	$ 2,345,528	$ 2,454,170	$ 108,642
Business License Tax	$ 1,914,476	$ 110,623	5.8%	$ 1,914,476	$ 1,922,860	$ 8,384
Real Property Transfer Tax	$ 1,844,144	$ 633,452	34.3%	$ 1,315,802	$ 1,970,280	$ 654,478
Permits & Licenses	$ 1,955,653	$ 459,924	23.5%	$ 1,915,142	$ 1,894,016	$ (21,126)
Service Fees	$ 4,111,732	$ 1,257,446	30.6%	$ 3,389,771	$ 3,669,946	$ 280,175
Rents & Concession	$ 3,134,422	$ 309,482	9.9%	$ 2,691,932	$ 2,988,355	$ 296,423
Other Revenue	$ 17,666,511	$ 384,695	2.2%	$ 21,660,345	$ 19,890,117	$ (1,770,229)
Revenue Subtotal	*$ 180,233,736*	*$ 10,998,301*	*6.1%*	*$ 175,637,996*	*$ 176,447,390*	*$ 809,394*
One-Time Revenue*	$ -	$ 2,635,039		$ 9,000,000	$ 6,491,153	$ (2,508,847)
Grand Total	***$ 180,233,736***	***$ 13,633,340***	***7.6%***	***$ 184,637,996***	***$ 182,938,543***	***$ (1,699,453)***

** Sale of Property, ERAF*

FY 2020/21

General Fund revenue is expected to end the year $0.8M above projections when one-time revenues are excluded. Almost all major sources exceeded revised revenue projections, except for sales tax and transient occupancy tax. Sales Tax was $0.2M below its revised estimate. People continued to shop online but resumed some in person shopping for consumer goods and other discretionary purchases, such as jewelry. Auto sales also rebounded with higher prices amid anticipated inventory shortages. Building material prices rose with the home improvement trend continuing. Additionally, the City has started to receive the direct allocation of one-time sales tax associated with major construction projects in the city. These gains were offset with a slower recovery for the restaurant and hospitality industries as COVID-19 restrictions and public health concerns lingered and workers continued to work remotely. The City's County Pool receipts were also impacted by a one-time negative adjustment and sales spikes associated with other agencies in the countywide pool.

Transient Occupancy Tax (TOT) came in $0.1M below its revised estimate of $5.3M. While TOT revenue is still a fraction of the pre-pandemic revenue. Business travel has yet to significantly resume with average occupancy and room rates remaining steady through the fiscal year. Reporting indicates that average room rates for the fiscal year were approximately $89 per night and average occupancy rate tracked at 42%.

Construction tax revenue has moderated from the elevated levels experienced prior to the COVID-19 pandemic. It continues to be steady and has a positive variance of $0.1M to the revised revenue projection. Real Property Transfer Tax exceeded its revised revenue expectations by $0.7M led by increased prices for single family homes due to fewer properties being offered for sale and lower interest rates for home loans.

The Other Revenue category is driven primarily by interest income and also includes the $14.1M in American Rescue Plan Act (ARPA) representing the first half of the City's federal allocation. The $1.8M negative variance is primarily related to grant projects that are still underway with the revenue expected next fiscal year.

One-time revenue reflects $6.5M in Property Tax Educational Revenue Augmentation Funds (Excess ERAF). that was not budgeted during FY 2021/22 budget development due to a dispute between Santa Clara County and the State over the distribution methodology. The $2.5M negative variance is associated with a delay in the Sale of Property (Transfer of the Block 15 - Charles Street at Mathilda property) from the General Fund to the Housing Fund. It will now be completed in FY 2021/22 with Council approving the final transfer amount in October.

FY 2021/22 Year to Date Update

Few revenues are received evenly throughout the year and therefore progress is difficult to gauge early in the fiscal year. For example, sales tax revenue lags the actual economic activity because taxpayers have 30 days to file for monthly reporting periods followed by processing by the California Department of Tax and Fee Administration (CDTFA), which takes several weeks. The City uses a Sales Tax consultant to analyze activity. At this time, the City's consultant has indicated that it is anticipated that the City will meet its Sales Tax estimates for FY 2021/22, though staff is closely monitoring the impact of a major retailer's change in tax payer return filing to the County Pool as the State/County Pool is now the City's second highest major industry group for sales tax returns.

TOT revenue is still slowly recovering to the pre-pandemic revenue level. The trend is more positive in FY 2021/22 with average room rates at $98 per night and average occupancy rates tracking at 58% in the first quarter of the fiscal year. Construction Tax is also showing an uptick in returns at roughly 46% of the FY 2021/22 revenue estimate year-to-date.

Property tax revenue received to date reflects a Supplemental Tax payment. Supplemental taxes are taxes that are due when property undergoes a change of ownership or new construction. These mid-year adjustments will be reflected on the tax roll the following year, but in the year of the event, the tax is prorated, and the City receives this amount separate from the Secured tax revenue. Secured property tax is received in ten payments that the City receives between late November and June. Property valuation growth for the FY 2021/22 tax roll shows an increase of 4.9%, which is greater than the FY 2021/22 Budget estimate of 3%. Additionally, the growth factor is trending greater than the 2% California CPI allowed for the FY 2022/23 roll at this time. We will know the final growth factor for the FY 2022/23 tax roll when the County releases the data at the beginning of the 2022 calendar year.

The City also received $2.6M in Excess ERAF funding this first quarter, which is the balance of the FY 2020/21 ERAF due to the City that the County had set aside while the distribution methodology was under review with the state.

Service fees are tracking ahead of the 25% accounting benchmark, with recreation activity offerings increasing as well as resuming to greater capacity. Parking fees, however, continue to be very depressed when compared to pre-pandemic revenue.

Expenditures

General Fund Expenditures	FY 2021/22			FY 2020/21		
	25.00% of Fiscal Year			*99.00% of Fiscal Year*		
	Budget	Actuals	% to Date	Adjusted Budget	Actuals	Variance
Community Development	$ 1,511,080	$ 260,904	17.3%	$ 1,780,747	$ 1,653,202	$ 127,545
Environmental Services	$ 2,416,846	$ 659,224	27.3%	$ 2,417,676	$ 2,218,011	$ 199,665
Finance	$ 10,449,054	$ 1,664,010	15.9%	$ 11,298,211	$ 10,411,568	$ 886,643
Human Resources	$ 4,621,728	$ 898,073	19.4%	$ 5,136,261	$ 4,453,762	$ 682,499
Library and Recreation Services*	$ 18,008,325	$ 2,699,170	15.0%	$ 18,308,181	$ 17,172,959	$ 1,135,222
Office of the City Attorney	$ 1,641,269	$ 374,245	22.8%	$ 1,875,126	$ 2,023,531	$ (148,405)
Office of the City Manager	$ 5,165,085	$ 818,058	15.8%	$ 5,505,884	$ 5,297,633	$ 208,251
Public Safety	$ 83,273,492	$ 17,390,752	20.9%	$ 102,064,174	$ 101,363,024	$ 701,151
Public Works	$ 23,610,283	$ 4,321,843	18.3%	$ 25,057,955	$ 23,061,740	$ 1,996,214
Operating Subtotal	*$ 150,697,162*	*$ 29,086,279*	*19.3%*	*$ 173,444,216*	*$ 167,655,429*	*$ 5,788,787*
Grand Total	***$ 150,697,162***	***$ 29,086,279***	***19.3%***	***$ 173,444,216***	***$ 167,655,429***	***$ 5,788,787***

FY 2020/21

The General Fund is preliminarily projected to end the year with a $5.8M positive operating variance primarily as a result of salary savings. Goods & Services spending is expected to end the year with a positive variance as some non-essential business activity continued to be slowed down due to the pandemic.

While General Fund expenditures are expected to end the year favorably, the City continues to incur some operating costs in response to the COVID-19 pandemic, such as for Personal Protection Equipment (PPE). The City does not anticipate that all of these costs will be reimbursed, though the $14.1M in ARPA revenue to backfill the City's General Fund revenue loss as a result of the pandemic, will help offset these added expenditures.

FY 2021/22 Year to Date Update

General Fund expenditures are at 19.3% while approximately 25% of the fiscal year has passed. Expenditures trend more evenly throughout the year driven mainly by bi-weekly payroll costs. Accordingly, salaries are trending slightly above the 25.3% payroll benchmark for this point in the fiscal year at 26.8%. Staff is closely monitoring salaries and benefits this fiscal year with the implementation of the change to some employee benefits (i.e., retiree medical, unfunded accrued pension liability, etc.) moving to a fund-to-fund transfer rather than being incorporated into department operating budgets as part of the benefit rate. The timing of operations & maintenance expenditures can vary throughout the year and are expected to end the year at budget as rental rates and other known expenditures actualize. That said, staff is closely monitoring costs for goods and services in the current inflationary economic environment.

Enterprise Funds

Golf & Tennis Operations

Golf & Tennis Fund Revenue	FY 2021/22			FY 2020/21		
	25.00% of Fiscal Year			*99% of Fiscal Year*		
	Budget	Actuals	% to Date	Adjusted Budget	Actuals	Variance
Golf Course Revenue	$ 3,139,748	$ 1,416,377	45.1%	$ 3,440,023	$ 4,613,990	$ 1,173,967
Tennis Revenue (Rental Fee)	$ 145,000	$ 24,174	16.7%	$ 70,000	$ 97,831	$ 27,831
Grand Total	*$ 3,284,748*	*$ 1,440,551*	*43.9%*	*$ 3,510,023*	*$ 4,711,821*	*$ 1,201,798*

*Golf & Tennis Fund Expenditures**	FY 2021/22			FY 2020/21		
	25.00% of Fiscal Year			*99% of Fiscal Year*		
	Budget	Actuals	% to Date	Adjusted Budget	Actuals	Variance
Golf Course Expenditures	$ 3,773,179	$ 801,364	21.2%	$ 3,961,279	$ 3,992,866	$ (31,587)
Tennis Expenditures	$ 107,513	$ 11,086	10.3%	$ 108,428	$ 69,842	$ 38,586
Grand Total	*$ 3,880,692*	*$ 812,450*	*20.9%*	*$ 4,069,707*	*$ 4,062,708*	*$ 7,000*

**Excludes transfers and in-lieu fees.*

FY 2020/21

Revenue associated with the golf courses ended the year with a $1.2M positive variance. Golf play became more popular as an outdoor sport that allows for social distancing. The majority of this positive variance can be attributed directly to golf fees, such as Green fees and Driving Range fees. Tennis activities also resumed after varying restrictions and likewise shows a positive year-end variance. When transfers and overhead costs are factored in (approximately $0.7M) , the Golf & Tennis fund is expected to be just shy of breaking even for the fiscal year with total expenditures at $4.7M.

FY 2021/22 Year to Date Update

The Golf and Tennis fund is off to a strong start with Golf revenue at 45% the first quarter of the year compared to the 25% accounting benchmark. The restaurant operations at Sunken Gardens and tennis operations also have a stable start to the year.

Golf & Tennis fund expenditures are trending low at this point in the fiscal year as known costs such as internal service charges will be actualized throughout the year.

Development Enterprise Fund

Development Enterprise Fund Revenue	FY2021/22 25.00% of Fiscal Year			FY 2020/21 99.00% of Fiscal Year		
	Budget	Actuals	% to Date	Budget	Actuals	Variance
Permits & Licenses	$11,273,821	$3,887,100	34.5%	$ 9,381,521	$ 10,225,124	$ 843,603
Service Fees	$ 3,996,083	$1,318,834	33.0%	$ 4,723,056	$ 4,232,598	$ (490,458)
Other*	$ 1,025,231	$ 1,766	0.2%	$ 1,237,299	$ 1,069,541	$ (167,758)
Grand Total	*$ 16,295,135*	*$ 5,207,700*	*32.0%*	*$ 15,341,876*	*$ 15,527,263*	*$ 185,387*

*Interest Income & Miscellaneous

Development Enterprise Fund Expenditures	FY2021/22 25.00% of Fiscal Year			FY 2020/21 99.00% of Fiscal Year		
	Budget	Actuals	% to Date	Budget	Actuals	Variance
Community Development	$ 6,916,092	$1,352,875	19.6%	$ 7,916,010	$ 8,908,680	$ (992,670)
Environmental Services	$ 243,640	$ 42,824	17.6%	$ 271,741	$ 170,684	$ 101,057
Library and Recreation Services	$ 21,274	$ 5,512	25.9%	$ 25,018	$ 54,014	$ (28,996)
Office of the City Attorney	$ 435,534	$ 64,890	14.9%	$ 511,221	$ 475,521	$ 35,700
Public Safety	$ 1,207,260	$ 200,496	16.6%	$ 1,425,639	$ 1,208,695	$ 216,944
Public Works	$ 2,595,428	$ 432,623	16.7%	$ 2,756,989	$ 2,451,357	$ 305,632
Grand Total	*$ 11,419,228*	*$ 2,099,220*	*18.4%*	*$ 12,906,618*	*$ 13,268,951*	*$ (362,333)*

FY 2020/21

Revenues in the Development Enterprise Fund exceeded current revenue estimates by almost $0.2M driven by permits and license fees, which includes building permits and fire prevention construction permits.

Overall, the Development Enterprise Fund expenditures came in over budget by approximately $0.4M. The Community Development Department exceeded its operating budget. This overage can be attributed to the use of contract services by the Building Safety Division to augment staffing needed to provide additional workload capacity related to plan check and inspections though overspending is offset by additional revenues.

FY 2021/22 Year to Date Update

Development fee revenues have been steady for this point in the fiscal year and Housing Mitigation and Transportation Impact fees are off to a strong start. Expenditures are trending low at this time in the fiscal year as known costs such as rental rates will be actualized throughout the year. We will monitor revenues and expenditures closely to adjust as may be needed, but at this point, the fund is expected to meet budget.

Development Impact Fees

Development Impact Fees*	FY2021/22 25.00% of Fiscal Year			FY 2020/21 99.00% of Fiscal Year		
	Budget	Actuals	% to Date	Budget	Actuals	Variance
Park Dedication Fees	$ 33,629,534	$ -	0.0%	$ 6,927,565	$ 4,203,104	$ (2,724,461)
Housing Mitigation Fees	$ 20,549,092	$5,277,700	25.7%	$ 2,063,538	$ 38,304	$ (2,025,234)
Transportation Impact Fees	$ 8,779,304	$2,723,156	31.0%	$ 313,610	$ 56,800	$ (256,810)
Sense of Place Fees	$ 876,937	$ -	0.0%	$ -	$ 1,821,552	$ 1,821,552
Grand Total	*$ 63,834,867*	*$ 8,000,856*	*12.5%*	*$ 9,304,713*	*$ 6,119,760*	*$ (3,184,953)*

Development projects take years to come to fruition, therefore, the timing of Development Fee Impact revenue is difficult to predict in the short-term. FY 2020/21 revenue came in below revised revenue estimates by $3.2M, though it is expected that much of the revenue not yet received is delayed and will be received in a future year. Impact fees are not received evenly throughout year, but rather based on milestones in the development process.

Current year budget estimates are based on known projects in the development pipeline, including shifting some expected revenue from FY 2020/21 to FY 2021/22 based on project status. Staff will monitor development activity and revisit revenue projections as necessary during FY 2022/23 budget development.

Utility Funds

Utility Fund Revenue	FY 2021/22			FY 2020/21		
	*25.00% of Fiscal Year**			*99.00% of Fiscal Year*		
	Budget	Actuals	% to Date	Adjusted Budget	Actuals	Variance
Water Fund	$ 60,188,552	$ 18,384,408	30.5%	$ 61,616,893	$ 63,421,053	$ 1,804,160
Wastewater Fund	$ 51,064,199	$ 18,186,511	35.6%	$ 50,153,933	$ 51,698,344	$ 1,544,411
Solid Waste Management Fund	$ 54,677,049	$ 12,029,987	22.0%	$ 50,002,966	$ 51,528,732	$ 1,525,766
Grand Total	*$ 165,929,800*	*$ 48,600,906*	*29.3%*	*$ 161,773,792*	*$ 166,648,129*	*$ 4,874,337*

*July and August customer billing revenue.

Utility Fund Expenditures	FY 2021/22			FY 2020/21		
	25.00% of Fiscal Year			*99.00% of Fiscal Year*		
	Budget	Actuals	% to Date	Budget	Actuals	Variance
Water Fund	$ 43,530,362	$ 8,588,828	19.7%	$ 42,532,763	$ 42,436,108	$ 96,655
Wastewater Fund	$ 18,989,800	$ 2,908,063	15.3%	$ 20,332,934	$ 19,228,800	$ 1,104,134
Solid Waste Management Fund	$ 47,619,507	$ 9,484,315	19.9%	$ 42,422,156	$ 41,502,287	$ 919,869
Grand Total	*$ 110,139,669*	*$ 20,981,206*	*19.0%*	*$ 105,287,853*	*$ 103,167,195*	*$ 2,120,658*

FY 2020/21

Preliminary year end results show all three utility funds exceeding revised revenue estimates. The Water Fund is anticipated to end the year with a positive variance of about $1.8M mostly driven by metered water sales. The positive Wastewater revenue result is due to Connection Fees beating the revised estimate.

Fines and penalties continue to be down across all three utility funds due to Council action to waive late fee penalties in consideration of COVID-19 financial impacts to the community. This is not a significant portion (average of $96,000) of the utility funds' revenue budget.

Anticipated year end savings for the Water and Wastewater funds are mainly the result of salary savings and lower than expected spending on services. Some of these expenditures are likely delayed and will be actualized the following year. The Solid Waste Fund had some salary savings, but also realized savings related to landfill and transfer costs. These reduced expenditures have a proportionate impact on revenue.

FY 2021/22 Year to Date Update

Utility revenue is off to a strong start. Connection fees continue to be a large contributor to the positive first quarter revenue variances in the Water and Wastewater funds. Solid Waste service fees are in line with costs for the collection, transfer and disposal services for this point in the fiscal year.

There is some risk ahead for the Water Fund as the City has implemented a voluntary 15% water reduction campaign for its water customers due to drought conditions. Should the drought conditions worsen, and customer usage reductions become mandatory, less water use will likely result in less revenue for water service fees as well as some potential pressure for increases in the City's costs to purchase water.

As with other funds, salary and benefit operating expenditures tend to trend more evenly during the fiscal year due to regular payroll costs while timing of operations and maintenance costs can vary. Salaries and benefits are right around the 25% payroll benchmark for all three utility funds. Timing of operations and maintenance expenditures can vary throughout the year and known costs, such as rental rates, will be actualized throughout the year. Therefore, at this time, it is expected these funds will meet budget.

FISCAL IMPACT

Preliminary FY 2020/21 year-end financial data as well as the FY 2021/22 first quarter financial analysis discussed in this report are informational.

PUBLIC CONTACT

Public contact was made by posting the Council agenda on the City's official-notice bulletin board outside City Hall, Sunnyvale Public Library and Department of Public Safety. In addition, the agenda and report are available at the Office of the City Clerk and on the City's website.

STAFF RECOMMENDATION

Receive and file the FY 2021/22 First Quarter Budget Update.

Prepared by: Felicia Silva, Budget Manager
Reviewed by: Tim Kirby, Director of Finance
Reviewed by: Jaqui Guzmán, Deputy City Manager
Approved by: Kent Steffens, City Manager

21-0902 **Agenda Date:** 11/9/2021

REPORT TO COUNCIL

SUBJECT
Authorize the Issuance of a Contract Purchase Agreement to Reed & Graham, Inc. for Asphaltic Materials and Pavement Reinforcement Fabric (F22-030)

REPORT IN BRIEF
Approval is requested to authorize the issuance of a contract purchase agreement to Reed & Graham, Inc. of San Jose in an amount not to exceed $1,300,000 for asphaltic materials and pavement reinforcement fabric. Approval is also requested to authorize the City Manager to amend the not to exceed amount, subject to available budget and if pricing and service remain acceptable to the City.

EXISTING POLICY
Pursuant to Section 2.08.040 of the Sunnyvale Municipal Code, Council approval is required for the procurement of goods and/or services greater than $250,000 in any one transaction.

Further, Section 2.08.070(b)(3) authorizes the purchase of goods and/or services to be exempted from the competitive bidding requirements when the solicitation of bids or proposals would be impractical, unavailing, or impossible.

ENVIRONMENTAL REVIEW
The action being considered does not constitute a “project” within the meaning of the California Environmental Quality Act (“CEQA”) pursuant to CEQA Guidelines section 15378(a) as it has no potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment.

BACKGROUND AND DISCUSSION
The Public Works Department uses asphaltic materials for routine maintenance and capital improvement projects on City streets and parking areas. To complete these projects, staff requires emulsion oils, asphaltic concrete, pavement reinforcement fabric, and various filler/sealer materials. Additionally, Public Works supports the Environmental Services Department by performing pavement repairs related to underground utility repairs that distort surface pavement. These materials are essential to Public Works’ operations. Every three to four years, staff solicits bids from vendors to provide asphalt materials to support annual paving operations.

Due to the pandemic, the annual contract to provide materials for this program was not utilized and the solicitation cycle was interrupted. Staff conducted the previous bid process in 2017, resulting in Reed & Graham being awarded a contract to provide the majority of these products (RTC No. 18-0148). Reed & Graham demonstrates the ability to provide asphaltic materials on schedule and at the lowest cost to the City. In consideration of this and the need to restart the annual pavement program,

staff has determined it would be impractical to complete a bid solicitation in an efficient manner. Therefore, staff recommends awarding a contract purchase agreement to Reed & Graham in a not to exceed amount of $1,300,000 for asphaltic materials and reinforcement fabric. Staff anticipates bidding for these services in the current fiscal year then presenting a recommendation for a multi-year contract to Council.

FISCAL IMPACT

Materials cost during the annual term of the purchase agreement are estimated to total $1.3 million. Funding is available in Operating Program 13200 (Pavement and Concrete Maintenance, Streets, and Street Lights) and Capital Project 825290 Pavement Rehabilitation.

Street operations are funded by a combination of the General Fund, Gas Tax Funds, Road Maintenance and Repair Act (SB1) Funds, Measure B Funds, and Vehicle Registration Fee revenue. Pavement repairs related to the City's Water and Wastewater systems are funded by each respective Enterprise Fund.

PUBLIC CONTACT

Public contact was made by posting the Council agenda on the City's official-notice bulletin board outside City Hall, Sunnyvale Public Library and Department of Public Safety. In addition, the agenda and report are available at Office of the City Clerk, and on the City's website.

RECOMMENDATION

Take the following actions:

- Authorize the issuance of a contract purchase agreement to Reed & Graham, Inc. in a not-to-exceed contract amount of $1,300,000; and
- Authorize the City Manager to amend the not to exceed amount of this contract purchased agreement, subject to available budget and if pricing and service remain acceptable to the City.

Prepared by: Gregory S. Card, Purchasing Officer
Reviewed by: Tim Kirby, Director of Finance
Reviewed by: Chip Taylor, Director of Public Works
Reviewed by: Jaqui Guzmán, Deputy City Manager
Approved by: Kent Steffens, City Manager

City of Sunnyvale

Agenda Item

21-0185 **Agenda Date:** 11/9/2021

REPORT TO COUNCIL

SUBJECT
Adopt a Resolution Approving the City Council Regular Meeting Calendar for 2022 through February 2023

DISCUSSION
Charter Section 608 states that the City Council "shall hold regular meetings at least twice each month, at such times as it shall fix by ordinance or resolution and may adjourn or readjourn any regular meeting to a date certain, which shall be specified in the order of adjournment and when so adjourned, each adjourned meeting shall be a regular meeting for all purposes." A Resolution establishing the Council's regular meeting schedule is provided in Attachment 1 for Council review and approval. Exhibit A of the Resolution is the proposed 2022 City Council Meeting Calendar, which specifies the proposed dates of the Council's regular meetings for 2022 and through February 2023. The Calendar also includes potential dates for special meetings and notes City holidays.

Agenda items for the proposed regular meetings will be added to the Tentative Council Meeting Agenda Calendar (TCMAC) as approved and scheduled by the Mayor, the City Manager, and/or the majority of the City Council.

ENVIRONMENTAL REVIEW
The action being considered does not constitute a "project" within the meaning of the California Environmental Quality Act ("CEQA") pursuant to CEQA Guidelines section 15378(b)(5) in that it is a governmental, organizational or administrative activity that will not result in direct or indirect changes in the environment.

PUBLIC CONTACT
Public contact was made by posting the Council agenda on the City's official-notice bulletin board outside City Hall, Sunnyvale Public Library and Department of Public Safety. In addition, the agenda and report are available at the Office of the City Clerk and on the City's website.

STAFF RECOMMENDATION
Adopt a Resolution Approving the City Council Regular Meeting Calendar for 2022 through February 2023 as submitted.

Prepared by: David Carnahan, City Clerk
Reviewed by: Jaqui Guzmán, Deputy City Manager
Reviewed by: Teri Silva, Assistant City Manager
Approved by: Kent Steffens, City Manager

ATTACHMENTS

1. Resolution Approving the City Council Regular Meeting Calendar for 2022 through February 2023

DRAFT 10/19/2021 *JAN*

RESOLUTION NO. _____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SUNNYVALE FIXING THE DAYS AND TIME FOR REGULAR CITY COUNCIL MEETINGS FOR 2022

WHEREAS, Section 608 of the Sunnyvale City Charter provides that the City Council shall hold regular meetings at least two times a month, and further provides that the times for such shall be fixed by ordinance or resolution; and

WHEREAS, on November 16, 2004, to change the start time of council meetings to encourage more public input and participation, the City Council adopted Resolution No. 141-04 which provides that regular monthly meetings of the Council shall be held at least two Tuesdays each month at 7:00 p.m. in the City Council Chambers, Sunnyvale, California, or at other locations to which the Council may adjourn within the City.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF SUNNYVALE THAT the regular City Council meetings shall be held starting at 7:00 p.m., in the City Council Chambers, Sunnyvale, California, on the dates specified in Exhibit A of this Resolution, for the Council meetings occurring in 2022 and through February 2023.

Adopted by the City Council at a regular meeting held on _____, by the following vote:

AYES:
NOES:
ABSTAIN:
ABSENT:
RECUSAL:

ATTEST: APPROVED:

_____ _____

City Clerk Mayor

(SEAL)

APPROVED AS TO FORM:

_____

City Attorney

EXHIBIT A

2022
Proposed Council Meeting Calendar

Month, Year	Date	Day and Time	Meeting Body	Meeting Type
January 2022	1/4/2022	Tue - 7 PM	City Council	Regular Meeting
	1/13/2022	Tue - 7 PM	City Council	Special Joint Meeting w/ Redistricting Commission
	1/17/2022	*City Offices closed in observance of Martin Luther King, Jr. Holiday*		
	1/25/2022	Tue - 7 PM	City Council	Regular Meeting
	1/27/2022	Thu - 8:30 AM	City Council	Strategic Planning Workshop
February 2022	2/1/2022	Tue - 7 PM	City Council	Regular Meeting
	2/8/2022	Tue - 6 PM	City Council	Special Meeting - Board/Commission Interviews
	2/15/2022	Tue - 7 PM	City Council	Regular Meeting
	2/17/2022	Thurs - 8:30 AM	City Council	Study Issues/Budget Proposals Workshop
	2/21/2022	*City Offices closed in observance of Presidents' Holiday*		
	2/22/2022	Tue - 7 PM	City Council	Special Meeting - Map Adoption (Tentative if needed)
March 2022	3/1/2022	Tue - 7 PM	City Council	Regular Meeting
	3/22/2022	Tue - 7 PM	City Council	Regular Meeting
	3/29/2022	Tue - 7 PM	City Council	Regular Meeting (Tentative - if needed)
April 2022	4/5/2022	Tue - 7 PM	City Council	Regular Meeting
	4/26/2022	Tue - 7 PM	City Council	Regular Meeting
May 2022	5/3/2022	Tue - 7 PM	City Council	Regular Meeting
	5/9/2022	Mon - 6 PM	City Council	Special Meeting - Board/Commission Interviews
	5/10/2022	Tue - 6 PM	City Council	Special Meeting - Board/Commission Interviews
	5/19/2022	Thu - 8:30 AM	City Council	Special Meeting - Budget Workshop
	5/24/2022	Tue - 7 PM	City Council	Regular Meeting
	5/30/2022	*City Offices closed in observance of Memorial Day Holiday*		
June 2022	6/7/2022	Tue - 7 PM	City Council	Regular Meeting
	6/21/2022	Tue - 7 PM	City Council	Regular Meeting
	6/28/2022	Tue - 7 PM	City Council	Regular Meeting
July 2022	*7/4/2022*	*City Offices closed in observance of Independence Day Holiday*		
	7/12/2022	Tue - 7 PM	City Council	Regular Meeting
	7/19/2022	Tue - 7 PM	City Council	Regular Meeting (Tentative - if needed)
	7/26/2022	Tue - 7 PM	City Council	Regular Meeting
August 2022	8/9/2022	Tue - 7 PM	City Council	Regular Meeting
	8/16/2022	Tue - 6 PM	City Council	Special Meeting - Board/Commission Interviews
	8/30/2022	Tue - 7 PM	City Council	Regular Meeting
September 2022	*9/5/2022*	*City Offices closed in observance of Labor Day Holiday*		
	9/13/2022	Tue - 7 PM	City Council	Regular Meeting
	9/20/2022	Tue - 7 PM	City Council	Regular Meeting (Tentative - if needed)
	9/27/2022	Tue - 7 PM	City Council	Regular Meeting
October 2022	10/11/2022	Tue - 7 PM	City Council	Regular Meeting
	10/25/2022	Tue - 7 PM	City Council	Regular Meeting
November 2022	11/1/2022	Tue - 6 PM	City Council	Special Meeting - Board/Commission Interviews
	11/8/2022	Tue - 7 PM	City Council	Regular Meeting
	11/24/2022	*City Offices closed in observance of Thanksgiving Holiday*		
	11/25/2022	*City Offices closed in observance of Thanksgiving Holiday*		
	11/29/2022	Tue - 7 PM	City Council	Regular Meeting
December 2022	12/6/2022	Tue - 7 PM	City Council	Regular Meeting
	12/13/2022	Tue - 7 PM	City Council	Regular Meeting
	12/23/2022	*City Offices closed in observance of Christmas Eve Holiday*		
	12/26/2022	*City Offices closed in observance of Christmas Day Holiday*		
	12/30/2022	*City Offices closed in observance of New Year's Eve Holiday*		

2023

January 2023	*1/2/2023*	*City Offices closed in observance of New Year's Day Holiday*		
	1/3/2023	Tue - 7 PM	City Council	Regular Meeting
	1/10/2023	Tue - 7 PM	City Council	Regular Meeting
	1/16/2023	*City Offices closed in observance of Martin Luther King, Jr. Holiday*		
	1/24/2023	Tue - 7 PM	City Council	Regular Meeting
	1/26/2023	Thu - 8:30 AM	City Council	Strategic Planning Workshop
	1/31/2023	Tue - 7 PM	City Council	Regular Meeting (Tentative - if needed)
February 2023	2/7/2023	Tue - 7 PM	City Council	Regular Meeting
	2/14/2023	Tue - 7 PM	City Council	Regular Meeting
	2/16/2023	Thurs - 8:30 AM	City Council	Study Issues/Budget Proposals Workshop
	2/20/2023	*City Offices closed in observance of Presidents' Day Holiday*		

January and February 2022 approved 1/5/2021

Dates of Special Meetings are listed for informational purposes only and may be subject to change

City of Sunnyvale

Agenda Item

21-1012 **Agenda Date:** 11/9/2021

REPORT TO COUNCIL

SUBJECT

Joining United Against Hate Week and Proclaiming November 14-20, 2021 as United Against Hate Week

BACKGROUND & DISCUSSION

The City of Sunnyvale has a long history of promoting an inclusive community environment. Sunnyvale takes pride in the incredible diversity of people who form the rich fabric of our City. We embrace our community of many backgrounds and beliefs, and pride ourselves in our openness and acceptance for all. In February 2017, former Mayor Glenn Hendricks and the entire Sunnyvale City Council adopted a Statement of our City Values. The Statement affirms our commitment to ethical service delivery to meet the needs and protect all community members regardless of race, religion, ancestry, ethnicity, ability, gender, sexual orientation or gender identity. Recently, the City Council revised the Statement to make explicit that Sunnyvale welcomes refugees.

The City strongly condemns hate, violence and bigotry in all its forms. There has been a disturbing uptick in hate crimes and incidents in the Bay Area and throughout the United States. The draft resolution reaffirms the City's commitment to the well-being and safety of all its diverse communities, including Black, Indigenous and People of Color (BIPOC); Asian American and Pacific Islander (AAPI); Lesbian, Gay, Bisexual, Transgender, Queer or Questioning Plus (LGBTQ+) and all others.

In response to the recent rise in hate crimes and incidents, we must work together to create community-centered solutions that stop this violence in all communities. Staff recommends joining the growing number of communities participating in United Against Hate Week (UAHW) in solidarity with BIPOC, AAPI, LGBTQ+ and other diverse communities. UAHW calls on all constituents and leaders to join in condemning racist, homophobic, and harassing attacks, in all forms; speaking out against such attacks; defending and protecting those targeted; and seeking out and punishing those who commit hate crimes against any members of our community.

If the Resolution is adopted, staff plans to launch a social media campaign to increase awareness about United Against Hate Week. The Library will also curate a book and film list to help engage the community on the issue.

EXISTING POLICY

General Plan, Chapter 2 Community Vision, Goal IV Safe and Healthy Community:
To maintain Sunnyvale's traditional high level of public health and safety, so all residents, employees and visitors feel safe at all times and in all places in the City.

General Plan, Chapter 6 Safety and Noise, Goal SN-3 Safe and Secure City:
Ensure a safe and secure environment for people and property in the community by providing

effective public safety response and prevention and education services.

ENVIRONMENTAL REVIEW

The action being considered does not constitute a "project" with the meaning of the California Environmental Quality Act ("CEQA") pursuant to CEQA Guidelines section 15378 (a) as it has no potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment.

FISCAL IMPACT

None.

PUBLIC CONTACT

Public contact was made by posting the Council agenda on the City's official-notice bulletin board outside City Hall, Sunnyvale Public Library and Department of Public Safety. In addition, the agenda and report are available at the Office of the City Clerk and on the City's website.

RECOMMENDATION

Adopt a Resolution joining United Against Hate Week and proclaiming November 14-20, 2021 as United Against Hate Week.

Prepared by: Jaqui Guzmán, Deputy City Manager
Reviewed by: Teri Silva, Assistant City Manager
Approved by: Kent Steffens, City Manager

ATTACHMENTS

1. Draft Resolution
2. Statement on Our City Values and Public Service

DRAFT 10/29/2021 *JAN*

RESOLUTION NO. _____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SUNNYVALE JOINING UNITED AGAINST HATE WEEK AND PROCLAIMING NOVEMBER 14-20, 2021 AS UNITED AGAINST HATE WEEK

WHEREAS, the United States is a nation of immigrants, whose strength comes from its diversity; and

WHEREAS, the Constitution enshrines equality on all individuals, regardless of race, gender, orientation, religion, or political views; and

WHEREAS, on February 7, 2017, the Sunnyvale City Council adopted a Statement of Our Values and Public Service stating that we take pride in the incredible diversity of people who form the rich fabric of our city, and embracing our community of many backgrounds and beliefs; and

WHEREAS, on September 28, 2021, the Sunnyvale City Council adopted a revised Statement of Our Values and Public Service to explicitly welcome refugees in our community; and

WHEREAS, Sunnyvale is not immune to hate and bigotry and has strongly condemned hate crimes and incidents that have occurred in the City; and

WHEREAS, on June 9, 2020, the Sunnyvale City Council adopted a resolution denouncing xenophobia and anti-Asian sentiment arising due to fears of the COVID-19 pandemic and affirming its commitment to the well-being and safety of Asian American and Pacific Islander (AAPI) communities; and

WHEREAS, on March 30, 2021, the Sunnyvale City Council adopted a resolution standing with the AAPI community and calling on all constituents and leaders to join us in condemning racist attacks against AAPI community members, in all forms, and renewing our commitment to speak out against such attacks, defend and protect those targeted, and seek out and punish those who commit hate crimes against AAPI members of our community; and

WHEREAS, the Sunnyvale City Council wishes to reaffirm its commitment to the well-being and safety of all its diverse communities, including Black, Indigenous and People of Color (BIPOC); AAPI; Lesbian, Gay, Bisexual, Transgender, Queer or Questioning Plus (LGBTQ+) and all others; and

WHEREAS, the Sunnyvale City Council wishes to ensure that its BIPOC, AAPI, LGBTQ+, and other diverse communities are not alone and that they can speak out to help stop the spread of bigotry; and

WHEREAS, there has been a recent rise of hate crimes, some notable for their violence and cruelty, hate incidents, and hate speech throughout the United States and the greater San Francisco Bay Area; and

WHEREAS, the recent rise of violence is part of a larger history of violence against marginalized communities, and we must work together to create community-centered solutions that stop the violence in all communities; and

WHEREAS, the Sunnyvale City Council stands with the BIPOC, AAPI, LGBTQ+ and other diverse communities and calls on all constituents and leaders to join us in condemning racist, homophobic, and harassing attacks, in all forms, and renewing our commitment to speak out against such attacks, defend and protect those targeted, and seek out and punish those who commit hate crimes against any members of our community.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF SUNNYVALE THAT the City Council does hereby acknowledge United Against Hate Week and proclaims the week of November 14-20, 2021 as United Against Hate Week.

Adopted by the City Council at a regular meeting held on _____, by the following vote:

AYES:
NOES:
ABSTAIN:
ABSENT:
RECUSAL:

ATTEST: APPROVED:

_____ _____
City Clerk Mayor
(SEAL)

APPROVED AS TO FORM:

_____
City Attorney

Sunnyvale

456 West Olive Avenue
Sunnyvale, CA 94088-3707

408-730-7473
TDD/TYY 408-730-7501
sunnyvale.ca.gov

Statement on Our City Values and Public Service

As the "Heart of the Silicon Valley," Sunnyvale is a thriving community that is a highly desirable place to live, work, and play. Comprised of approximately 150,000 residents and about 9,000 active businesses, we are a community that emulates the spirit of all American ideals particularly worth noting now:

- Valuing our individual experiences and supporting and protecting people of any race, religion, ancestry, ethnicity, ability, gender, sexual orientation, or gender identity;
- Honoring cultural and religious traditions; and
- Valuing and embracing the diverse backgrounds, race, nationalities, ancestries, and ethnicities.
- Welcoming immigrants and refugees.

Sunnyvale has a large representation of immigrants from all over the world that are part of our thriving community. Per the Census 2015 American Community Survey (for 2011-2015), over 48% of Sunnyvale's population is made up of foreign-born residents representing over 25 countries, with about 45% speaking languages other than English. Our local economy reflects both the diversity of our community, as reflected in the rich mixture of restaurants, small businesses, and availability of wide-ranging diverse goods and services. This is matched by our widely recognized global technology businesses with offices in Sunnyvale that depend on the talent and skills of members of the local and international community, such as: Amazon, Apple, GoDaddy, Google, LinkedIn, Lockheed Martin, Microsoft, Plug and Play Tech Center, Tesla, Yahoo!, and many more that contribute to the innovation economy.

We strongly believe that diversity and inclusiveness are strengths that are part of the foundation of Sunnyvale's incredible local history. Recognized as the "nation's safest city" (Smart Asset) and the "#1 best performing cities" (Milken Institute), Sunnyvale's thriving, diverse community and local economy help shape the world's innovation, and are key components of what make Sunnyvale a great place to live and work. We are proud of Sunnyvale's record of leading the innovation economy and recognize the significant role that our immigrant population has played in advancing these efforts.

Sunnyvale

Likewise, Sunnyvale's municipal practices embrace these principles and our employees uphold them each day. The City's General Plan highlights our commitment to safety for all community members and specifically states the goal to ensure a safe and secure environment for people and property in the community by providing effective public safety response and prevention. Through strong local partnerships, the City's service delivery ethic ensures that we serve the needs of all community members with respect, professionalism, dignity, and fair and equitable treatment, regardless of race, religion, ancestry, ethnicity, ability, gender, sexual orientation, or gender identity. Specifically, all City employees are responsible to serve all members of the public with courtesy, impartiality, fairness, and equality under the law at all times.[1] This model of inclusion and integration is critical to the general welfare of the City, and supports and protects our residents, business community, and quality of life. Indeed, this philosophy is the underpinning of the remarkable standard of public service that the community continues to receive and expect.

For these reasons, the City of Sunnyvale affirms its long history of inclusiveness and its public service ethic of helping our City continue to thrive as a culturally diverse community where all are welcome, safe and acknowledged.

Larry Klein

Mayor

[1] Administrative Policy, Chapter 1. General Management and Chapter 3. Personnel

21-0788 **Agenda Date:** 11/9/2021

REPORT TO COUNCIL

SUBJECT

Award an Agreement for Operation of the Sunnyvale SMaRT® Station to Bay Counties Waste Services

REPORT IN BRIEF

The current operating agreement with Bay Counties Waste Services (BCWS) expires December 31, 2021. Staff recommends awarding a new single source agreement to BCWS in order to avoid changing operators during a planned major retrofit of the SMaRT Station which will be completed by the end of 2025. Staff recommends that the agreement year be aligned to the fiscal year and provide sufficient time to complete the Station retrofit and obtain operating data for the retrofitted equipment before issuing an RFP in 2026 for the next SMaRT Station operating agreement.

The terms of the new negotiated agreement include changes to how BCWS is compensated for union labor and the depreciation of new equipment. The recommended terms also allow BCWS to continue utilizing existing equipment (trucks, loaders, forklifts, etc.) that still has useful life. The recommended terms shift the cost of the recycling and composting of negative value recyclables and of SMaRT Station electricity from the Contractor to the City, require BCWS (instead of third-party contractors) to haul organics to compost facilities, create a “floor” and a “ceiling” for the recyclables revenues shared with BCWS, reduce compensation to reflect reduced inbound tonnage (loss of Palo Alto), and increase BCWS waste studies and reporting to meet SB 1383 requirements.

During negotiations, BCWS agreed to reduce their annual compensation by 3% at the beginning of the new agreement, to forgo reimbursement of approximately $350,000 of increased transportation cost owed to them for 2021, and to provide $538,640 worth of undepreciated equipment to the City for no additional compensation.

Due to the substantial increase in labor and organic processing costs, the overall SMaRT Station operational costs will increase by 6% in the first year and then by approximately 5% per year for the remainder of the 7.5-year term. The current financial plan in the adopted budget includes sufficient funding for this proposed contract, so there are no additional rate impacts than those already included in the financial plan

BACKGROUND

The SMaRT Station is a large volume materials recovery facility and transfer station serving the cities of Mountain View, Palo Alto, and Sunnyvale. Starting January 1, 2022, the City of Palo Alto will no longer be a partner in the SMaRT Station. The SMaRT Station is owned by the City of Sunnyvale and operated by a private company, Bay Counties Waste Services (BCWS). The City’s current operating agreement with BCWS will expire on December 31, 2021.

The current agreement provides for a three-year extension at current terms and compensation rates. BCWS is not required to accept the extension. BCWS notified the City that they could not accept a three-year extension at current compensation rates due to significant increases in union labor costs dictated by their Collective Bargaining Agreements (CBAs). In addition, the City wished to renegotiate the terms (and associated compensation rates) of the agreement due to: 1) A major planned retrofit of the SMaRT station during 2021-2025; 2) The loss of the Palo Alto material; 3) The City's desire to pay directly for the composting/recycling of organic materials and other negative value recyclable commodities, so that BCWS would have no financial disincentive to recover those materials; and 4) new State regulations (SB 1383). Because of these proposed changes, the Office of the City Attorney recommended the two parties negotiate a new agreement rather than an extension of the current one.

Procurement Options

Staff pursued single source negotiations with BCWS for a new agreement as opposed to a Request for Proposals (RFP) process because Staff determined that it would not be advantageous or availing to the City or practical to change vendors during the planned retrofit of the SMaRT Station (2021-2025). Staff determined that BCWS's operational experience would be immensely beneficial to the design and implementation of the retrofit. The planned retrofit of the SMaRT Station is expected to include major modifications to the waste processing lines and this directly impacts operations and associated costs. The retrofit is also expected to impact diversion rates that in turn has a material impact on recycling and recycling revenues. BCWS has extensive experience operating the SMaRT Station and Operator's input into the retrofit is integral to the success of the retrofit project. Due to these reasons, conducting an RFP process before the retrofit is finished would not provide complete information on the future operations of the SMaRT Station and would result in uncompetitive or incomplete proposals. Therefore, an open competitive bidding process for the SMaRT Station operation was not considered practical or availing. Sunnyvale Municipal Code Section 2.08.070 (b) (3) allows for an exemption to the formal competitive bidding requirements for "situations where solicitation of bids or proposals would for any reason be impractical or unavailing or impossible."

Term Options

Staff considered four options for the term of the new operating agreement:

1. Three years at current compensation. This is not a viable option due to BCWS' increased labor costs.

2. Three years with increased compensation for union labor. A three-year term would not be sufficient to complete the retrofit. The retrofit is planned to be completed by the end of 2025. Procurement for a new SMaRT Station operations agreement requires two-to-three years to complete. That would mean starting the RFP process in 2022 before the retrofit is complete.

3. Five years with negotiated compensation and terms. A five-year term may also not be sufficient to complete the retrofit and have useful operational data for proposers during the next RFP process. The retrofit is planned to be completed by the end of 2025. Procurement for a new SMaRT Station operations agreement requires two-to-three years to complete. That would mean starting the RFP process in 2024 or 2025 before the City would have sufficient operational data on the performance of the new equipment to provide to potential proposers. The type and performance of the equipment has a material impact on the staffing levels and

operational costs. At least six months of operating the new equipment is needed to obtain such data, and a five-year agreement would not provide sufficient time should the retrofit be delayed and not be completed by the end of 2025.

4. Seven and one-half years with negotiated compensation and terms. A seven and one-half year term would provide sufficient time to complete the planned SMaRT Station retrofit and obtain operational data with the new equipment before issuing an RFP for the next operating agreement. All of the past SMaRT Station operating agreements, including the current BCWS agreement have had seven-year terms. Staff is recommending that the new operating agreement with BCWS have a term of seven years and six months, ending June 30, 2029. The additional six months will align the agreement year with the fiscal year to facilitate SMaRT Station accounting.

Major Cost Drivers

Sorter Wages

The first major cost driver in the proposed agreement is sorter wages. The majority of BCWS' union employees are sorters who manually separate materials on the tipping floor and off of conveyor belts. BCWS currently employs 62 sorters, 14 equipment operators, 6 drivers, and 12 mechanics.

BCWS and Local Union Number 350, affiliated with the International Brotherhood of Teamsters, Chauffeurs, Warehousemen and Helpers of America (Union) executed a new Collective Bargaining Agreement (CBA) effective October 7, 2020 to December 31, 2026.

The Union and BCWS negotiated in good faith to bring members to comparable wages for similar positions in the region. A wage and benefits comparison was made with similar CBAs from San Jose and South San Francisco operations. Based on the CBA, BCWS's combined sorter wages and benefits are estimated to increase 7% each year over the next five years (2022 to 2026). The reason for the 7% per year increases is that BCWS's sorter wages are currently less than the median sorter wages in the region.

BCSW has a good relationship with the Union, and they match sensible wage adjustments to show the cities of Sunnyvale and Mountain View and any other future partners that they negotiate for favorable wages, and they plan to do this in 2026 when these contracts expire. The proposed agreement contains language which states that the City is not required to compensate BCWS for union labor in excess of the average comparable wages for the region. This will provide BCWS additional incentive to negotiate favorable union wages for the sixth and seventh years of the proposed agreement. Other potential operators of the SMaRT Station would be subject to equivalent labor rates.

Organics Processing Costs

A second major cost driver affecting the proposed agreement is the cost of sending organic materials, yard trimmings and Materials Recovery Facility (MRF) organic Fines, to composting facilities. BCWS and the City share this cost in the current agreement, with BCWS paying approximately $1 million per year and the City paying approximately $1.7 million per year. In the proposed agreement, the City will pay for all of this cost directly to the composters. BCWS' cost for composting is being removed from their compensation under the proposed agreement. On May 25, 2021, the City Council approved agreements with Zanker Road Resource Management, Ltd. and

Sustainable Organic Solutions, LLC to process organics (RTC No. 21-0208). Starting in 2022, the City's cost to compost MRF Fines and Yard Trimmings is an estimated $3.4 million per year. The increase in composting cost is a result of supply and demand, with SB 1383 increasing the demand for composting rapidly while the number of compost facilities is increasing more slowly.

Proposed Changes in the New Agreement

The proposed operating agreement (Attachment 1) contains the following notable changes from the current agreement. The changes primarily address reducing the financial impact of BCWS's new labor agreements, maximizing the life of BCWS's existing equipment, equitably sharing the risk and reward from fluctuating recyclables markets, incentivizing recycling, and complying with SB 1383 regulations.

1. Compensation Adjustment for Union Labor

BCWS currently receives a lump sum annual compensation rate, the Basic Annual Payment (BAP), which is paid in twelve monthly installments. The BAP is adjusted for changes in the Consumer Price Index (CPI) each July 1. In the proposed new agreement, the union labor component of the BAP would be adjusted annually to reflect actual union labor rates (as negotiated in their existing collective bargaining agreements) and the number of employees in each classification. In BCWS's original proposal, they conservatively estimated total union labor cost over the term of the agreement and annualized it. That approach put the City at risk for compensating BCWS for more than their actual union labor cost, and "front-loaded" the cost which would have led to a large compensation increase in year one of the agreement. The recommended "pass through" approach ensures that BCWS is not over-compensated for union labor and spreads the cost impact to the City out gradually over the term of the agreement. BCWS would have to obtain prior City permission to increase or decrease the number of union employees. This labor component adjustment would occur each January 1 to align with the CBA's. The union labor rates for calendar years 2027, 2028, and 2029 (six months) are not known as BCWS' CBAs expire after 2026. The proposed agreement contains language which states that the City is not required to compensate BCWS for union labor in excess of the average comparable wages for the region. This will provide BCWS additional incentive to negotiate favorable union wages for the period after their current CBAs expire.

2. Use of Existing Equipment

BCWS is required to provide equipment (e.g., transfer trucks, loaders, forklifts, etc.) to operate the SMaRT Station. In past agreements, the operator was required to provide all new equipment at the beginning of the agreement. However, since the City would be continuing with the same contractor, both parties would benefit from BCWS being allowed to utilize existing equipment that still has useful life.

BCWS' has agreed not to carry over any equipment depreciation expense from the current agreement and to reduce their BAP for the new agreement accordingly. This helps to minimize cost increases for the City. BCWS owns some existing equipment that will not be fully depreciated at the end of the current agreement: The food scrap processing equipment with $372,061 remaining to be depreciated, and trailers with a total of $166,579 remaining. BCWS has agreed not to carry over this depreciation into the new agreement, and they will not be compensated for it through the BAP. BCWS has offered to allow the City to purchase the food scrap processing equipment at no cost, and it will become City property on January 1, 2022. BCWS will utilize the trailers during the term of the new agreement and replace them at the end of their useful life.

3. Depreciation of New Equipment

Under the proposed agreement, BCWS would need to obtain City permission to purchase any new equipment during the term of the new agreement, and the City could not require BCWS to keep any equipment that was older than ten years. The City (or the next operator) would be required to purchase any of BCWS's equipment that was not fully depreciated at the end of the new agreement. The purchase price would be the undepreciated amount. The City would have the option to purchase any fully depreciated equipment at no cost at the end of the new agreement. BCWS may surplus any old equipment that is replaced during the term of the new agreement. This "stranded assets" purchase requirement was modeled on similar language from the City's collection franchise agreement with Specialty Solid Waste and Recycling. Staff estimates that the cost for the City (or the next operator) to purchase BCWS' undepreciated equipment at the end of the agreement would be $3.3 million.

The annual depreciation of BCWS's existing equipment was not included in the BAP for the new agreement since most of the existing equipment has already been fully depreciated. BCWS would be allowed to add to the BAP the annual depreciation cost of any new equipment that BCWS purchases (with prior City approval) during the term of the new agreement. This annual adjustment to the BAP for depreciation of new equipment would occur every July 1. The estimated BAP provided in the table in the Fiscal Impact section of this report includes estimated depreciation of new equipment expected to be purchased during the term of the new agreement. BCWS proposed an equipment replacement schedule which was used to make this estimate. BCWS would depreciate equipment purchased during the term of the new agreement over ten years, with the City (or the next operator) purchasing the "stranded assets" for the undepreciated amount at the end of the agreement.

4. City to Pay for Electricity to Facilitate Solar Power Conversion

Currently BCWS pays for electricity utilized by the SMaRT Station. The City is planning to install solar panels on the SMaRT Station through a separate power purchase agreement, which will provide a renewable energy source at a lower cost. To capture this savings, the City will assume direct payment for electricity. The annual cost of electricity is removed from the BAP in the proposed agreement.

5. City to Pay to Recycle Negative Value Commodities

BCWS shares the revenue from the sale of recyclables with Sunnyvale and Mountain View. However, many of the materials currently being recycled at the SMaRT Station (e.g., organic materials such as yard trimmings) have a negative value (i.e., there is cost to recycle these materials). This creates a financial disincentive for BCWS to recycle these materials. In order to encourage more recycling, the City (instead of BCWS) will directly pay composters/recyclers to accept negative value commodities. The BAP is reduced to reflect that they no longer have to pay to recycle negative value commodities. On May 25, 2021, the City Council took the first step to facilitate this change by approving organics processing agreements with Zanker Road Resource Management, Ltd. and Sustainable Organic Solutions, LLC. The proposed agreement also commits the City to pay for other negative value recyclables such as soil and concrete.

6. BCWS Drivers to Transport Organic Materials

Currently BCWS hires third party trucking firms to deliver organics to compost facilities. The proposed agreement requires BCWS to transport these materials using their own union drivers in order to ensure reliable, timely delivery of the materials and avoid excess accumulation of organics at the SMaRT Station. Currently the City and BCWS share the cost of the third-party trucking. BCWS

is compensated for their portion of the third-party trucking cost through the BAP, and then reimbursed separately each month by the City for the remainder of the third-party trucking cost. In the future all of the organic materials transportation cost will be covered by the BAP, and the work will be performed by BCWS drivers as opposed to third-party trucking firms.

7. Sharing Recyclables Market Risk

BCWS currently receives a share of the revenue from the sale of recyclable materials recovered at the SMaRT Station. Their share is determined on a sliding scale based upon how much material they recover from solid waste. For more than a year BCWS has received their maximum share, 75%, with the remaining 25% of the recyclables revenue being split between the cities of Sunnyvale and Mountain View. The BAP does not cover all of their costs, so they depend upon their recyclables revenue share to break even or make a profit. In recent years, due in large part to Chinese import restrictions ("National Sword"), recyclables markets have been volatile and recyclables revenues have been greatly reduced. However, commodity prices are starting to increase with demand as the world economy recovers from COVID. In order to ensure that recyclables market fluctuations don't cause BCWS to become unprofitable (or to reap a windfall) the proposed agreement establishes a recyclables revenue "floor" of $480,000 per month and a "ceiling" of $530,000 per month. If actual monthly recycling revenue is less than $480,000, BCWS' share will be calculated as a percentage of $480,000 (e.g., 75% of $480,000). If actual monthly recycling revenue is greater than $530,000, then BCWS' share will be calculated as a percentage of $530,000, with the partner cities receiving 100% of the amount in excess of $530,000 in addition to our regular share (e.g., 25%) of the revenue up to $530,000. The "floor" and "ceiling" levels would be increased by CPI every July 1.

The $480,000 "floor" was calculated by taking the average recyclables revenue for the past fiscal year and decreasing it for estimated reduced tons (Due to Palo Alto no longer being a SMaRT Station Partner) in the coming year. The $530,000 "ceiling" is the amount that the City negotiated above which the cities get all the recyclable revenues. From July thru September 2021, the average recyclables revenue per month was $631,603. With the current agreement BCWS receives 75% of this and Sunnyvale and Mountain View share the other 25%. This means that Sunnyvale and Mountain View have been sharing $157,901 each month on average, but assuming the current prices stay constant, under the proposed agreement we would share $234,103 per month on average. Under a worst-case scenario in which recyclables revenues were zero and BCWS still met their maximum diversion numbers to obtain 75% of the revenue, the City would owe BCWS $360,000 per month (75% of the $480,000 "floor") in addition to the BAP. For the estimated costs in the table in the Fiscal Impact section of this report, staff assumed that recyclables revenues would remain between the floor and the ceiling and therefore there would be no impact, positive or negative.

8. Reduced Tonnage

Since Palo Alto will no longer be bringing any material to the SMaRT Station, and Mountain View will no longer bring mixed organics or construction debris, the tons to be processed and transferred will be reduced, which will decrease some variable costs for the Operator. These reductions are reflected in the new BAP.

9. SB 1383 Requirements

A comprehensive new State law intended to decrease the amount of organic waste that is landfilled will require BCWS to perform periodic audits of materials and report the results, slightly increasing their costs.

Staff negotiated these changes with BCWS. The overall result is that the BAP will decrease by 3% from 2021 to 2022. However, including the impact of removing negative value commodities, and electricity costs (which will now be paid by the City directly), the total cost increase will be around 6%. Future year increases will be between 4%-5% annually during the term of the agreement to reflect union wages, equipment deprecation, and inflation.

EXISTING POLICY

General Plan Policy EM-14.2: Maximize diversion of solid waste from disposal by use of demand management techniques, providing and promoting recycling programs and encouraging private sector recycling.

General Plan Policy EM-14.3: Meet or exceed all federal, state and local laws and regulations concerning solid waste diversion and implementation of recycling and source reduction programs.

Sunnyvale Municipal Code Section 2.08.070 allows for an exemption to the competitive bidding requirements for situations where solicitation of bids or proposals would for any reason be impractical or unavailing. Additionally, City Council approval is required for the procurement of goods and/or services exceeding $250,000 in any one transaction.

ENVIRONMENTAL REVIEW

Operation of the SMaRT Station would be performed consistent with the Final Environmental Impact Report “Sunnyvale Material Recovery and Transportation Station (SMART®)” dated September 14, 1990 and a subsequent addendum dated July 21, 1992 (SCH #89022812).

FISCAL IMPACT

The table below estimates the increase in SMaRT Station operation expenses, in millions of dollars, affected by the proposed agreement with BCWS, over the recommended term.

SMaRT Station Expenses Affected by the Recommendation

Year	BCWS Payment (BAP)	Negative Value Commodities + Electricity	Total Cost	Increase
2021 (Current)	$14.9 M	$2.9 M	$17.8 M	N/A
2022	$14.4 M	$4.5 M	$18.9 M	6.1%
2023	$15.3 M	$4.6 M	$19.9 M	5.3%
2024	$16.0 M	$4.8 M	$20.8 M	4.5%
2025	$17.0 M	$4.9 M	$21.9 M	5.5%
2026	$18.1 M	$5.1 M	$23.2 M	5.4%
2027	$18.8 M	$5.2 M	$24.0 M	3.8%
2028	$19.6 M	$5.4 M	$25.0 M	4.0%

In the estimate above, all costs were assumed to increase 3% for inflation by year, except for the union labor and new equipment depreciation components of the BAP. The City will begin paying directly for electricity utilized by the SMaRT Station starting in 2022. The SMaRT Station solar project is scheduled to be completed in 2022, which will significantly decrease this expense. The potential cost reduction from the solar project is not included in the estimates above. In addition, the planned retrofit of the SMaRT Station may decrease some labor costs through automation and any potential labor savings has not been included in the estimates above.

The adopted FY 2021/22 budget and the 20-year financial plan anticipated the cost increases in the table above and the rate increases included in the financial plan already account for these cost increases.

The affected expenses are shared between the cities of Sunnyvale and Mountain View based upon the tons of each type of material that each city delivers to the SMaRT Station. For the $18.9 M in 2022 affected expenses estimated above, Sunnyvale's share would be 62% ($11.7 M) and Mountain View's share would be 38% ($7.2 M).

PUBLIC CONTACT

Public contact was made by posting the Council agenda on the City's official-notice bulletin board outside City Hall, Sunnyvale Public Library and Department of Public Safety. In addition, the agenda and report are available at the Office of the City Clerk and on the City's website.

ALTERNATIVES

1. Award a seven and one-half (7.5) year agreement for operation of the SMaRT Station, in substantially the same form as Attachment 1 to the report, to Bay Counties Waste Services, Inc. and authorize the City Manager to execute the Agreement for the Operation of the Sunnyvale Materials Recovery and Transfer Station between the City of Sunnyvale and Bay Counties Waste Services, Inc. when all necessary conditions have been met.
2. Award a five-year agreement for operation of the SMaRT Station, in substantially the same form as Attachment 1 to the report, to Bay Counties Waste Services, Inc. and authorize the City Manager to execute the Agreement for the Operation of the Sunnyvale Materials Recovery and Transfer Station between the City of Sunnyvale and Bay Counties Waste Services, Inc. when all necessary conditions have been met.
3. Award an agreement for operation of the SMaRT Station to Bay Counties Waste Services, Inc. with modifications to the terms of the operations agreement and authorize the City Manager to execute the modified Agreement for the Operation of the Sunnyvale Materials Recovery and Transfer Station between the City of Sunnyvale and Bay Counties Waste Services, Inc. when all necessary conditions have been met.

STAFF RECOMMENDATION

Alternative 1: Award a seven and one-half (7.5) year agreement for operation of the SMaRT Station, in substantially the same form as Attachment 1 to the report, to Bay Counties Waste Services, Inc. and authorize the City Manager to execute the Agreement for the Operation of the Sunnyvale Materials Recovery and Transfer Station between the City of Sunnyvale and Bay Counties Waste Services, Inc. when all necessary conditions have been met.

Alternative 1 (7.5 years) is recommended because it will provide the City with sufficient time to

complete the planned retrofit of the SMaRT Station and obtain adequate data regarding the operation of the new equipment before issuing and RFP for the next agreement. Alternative 2 (5 years) is not recommended because it may not provide sufficient time.

Prepared by: David Krueger, Solid Waste Programs Division Manager
Reviewed by: Ramana Chinnakotla, Director of Environmental Services
Reviewed by: John Nagel, City Attorney
Reviewed by: Tim Kirby, Finance Director
Reviewed by: Teri Silva, Assistant City Manager
Approved by: Kent Steffens, City Manager

ATTACHMENTS

1. Agreement for the Operation of the Sunnyvale Materials Recovery and Transfer Station between the City of Sunnyvale and Bay Counties Waste Services, Inc.

AGREEMENT FOR THE OPERATION OF THE SUNNYVALE MATERIALS RECOVERY AND TRANSFER STATION BETWEEN THE CITY OF SUNNYVALE AND BAY COUNTIES WASTE SERVICES, INC.

January 1, 2022

Council Review Draft
November 9, 2021

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LIST OF EXHIBITS

AGREEMENT FOR THE OPERATION OF THE SUNNYVALE MATERIALS RECOVERY AND TRANSFER STATION

THIS AGREEMENT is made as of this ____ day of December 2021, by and between the CITY OF SUNNYVALE, a charter municipal corporation (hereinafter referred to as the "City") and Bay Counties Waste Services, Inc., a California corporation (hereinafter referred to as "Contractor"). Except for known and unknown claims between the parties or by or against applicable third parties under or arising from the Prior Agreement, this Agreement supercedes in its entirety the Prior Agreement when the Prior Agreement expires on December 31, 2021.

ARTICLE 1. DEFINITIONS

Unless the context otherwise requires, capitalized terms used in this Agreement will have the meanings specified in Exhibit A to this Agreement, which is attached hereto and incorporated herein by this reference.

ARTICLE 2. TERM OF AGREEMENT

2.1 Effective Date

The Effective Date of this Agreement shall be January 1, 2022 ("Effective Date").

2.2 Term

Term of the Agreement shall commence on the Effective Date and shall end at midnight on June 30, 2029. Contractor's obligation to operate the Station shall commence January 1, 2022.

2.3 Conditions to Effectiveness of Agreement

The obligation of the City to perform under this Agreement is subject to satisfaction, on or before the Effective Date, of each and every one (1) of the conditions set out below, which may be waived in whole or in part by City:

A. Accuracy of Representations

The representations and warranties made by Contractor in Article 8 of this Agreement shall be true and correct on and as of the Effective Date, and a certification to that effect dated as of the Effective Date shall be delivered by Contractor to City on the Effective Date.

B. Absence of Litigation

There shall be no litigation pending on the Effective Date in any court challenging the execution of this Agreement or seeking to restrain or enjoin its performance.

C. Furnishing of Bond

Contractor has furnished the Performance Bond required by Section 7.3 of this Agreement.

D. Effectiveness of City's Approval

The City's approval of this Agreement shall have become effective, pursuant to California law, on or before the Effective Date.

In the event that any condition set forth in this Section 2.3 is not satisfied or waived, by the Effective Date, by the City, this Agreement shall be void and shall have no further force or effect. City may waive the satisfaction of conditions described in this Section 2.3, allow this Agreement to become effective, and exercise its rights and remedies under this Agreement for Contractor's failure to deliver the bond. Each party is obligated to perform in good faith the actions, if any, which this Agreement requires it to perform before the Effective Date and to cooperate towards the satisfaction of the conditions set forth above.

ARTICLE 3. OPERATION OF TRANSFER STATION

3.1 Receipt of Municipal Solid Waste and Recyclable Materials

Commencing on January 1, 2022 and continuing throughout the Term, Contractor shall receive and accept (1) all Municipal Solid Waste (MSW), Source Separated Recyclable Materials, and Source Separated Organic Materials delivered to the Station by or on behalf of City, the other Partner Agencies and its or their Designated Haulers; and (2) Publicly Hauled Waste generated within the City or within the jurisdictions of the other Partner Agencies.

Contractor shall Process and transport such materials for either Diversion or Disposal in accordance with this Agreement.

3.2 Priority

The basic and primary purpose of the Station is to Process Municipal Solid Waste, Source Separated Recyclable Materials, and Source Separated Organic Materials delivered by the Partner Agencies and their respective Designated Haulers, who shall have first priority in use of the Station. A secondary purpose is to Process Publicly Hauled Waste delivered by residents and/or businesses of the Partner Agencies, who shall have second priority in use of the Station. If City allows, pursuant to Section 3.4, Municipal Solid Waste, Source Separated Recyclable Materials, and Source Separated Organic Materials generated outside the Partner Agencies to be delivered to and accepted for Processing at the Station, such material shall be assigned third priority and Contractor shall operate the Station in order to give effect to the above stated priorities.

Processing of material from outside the Partner Agencies shall, if allowed, never be permitted to interfere with Processing of materials delivered by or on behalf of the Partner Agencies or their Designated Haulers. To that end, and by way of example and not limitation, City may direct that materials from outside the Partner Agencies not be accepted during peak hours or when vehicles of Designated Haulers from any of the Partner Agencies are delayed entry beyond the times allowed in Section 3.12.

3.3 Days and Hours of Operation

Contractor shall operate the Station, as specified in this Section 3.3, every day of the year except January 1, the fourth (4th) Thursday of November, and December 25 ("the Holidays").

Contractor shall operate the Station for the receipt and Processing of Municipal Solid Waste, Source Separated Recyclable Materials, Source Separated Yard Trimmings and Source Separated Food Scraps

from City, the other Partner Agencies and their respective Designated Haulers at least twelve (12) hours per day, Monday through Friday and on Saturdays that occur in weeks containing a Holiday that falls on a weekday. These minimum hours of full-scale operations shall be 5:00 a.m. to 5:00 p.m. On all other Saturdays the Contractor shall operate the Station for the receipt and Processing of Municipal Solid Waste, Source Separated Recyclable Materials, Source Separated Yard Trimmings and Source Separated Food Scraps from City, other Partner Agencies and their respective Designated Haulers between the hours of 8:00 a.m. and 3:00 p.m. Loading and off-site transport of materials for Processing or Disposal may occur at hours other than those defined for full-scale Station operations with prior written approval from the City.

Contractor shall operate the Station for the receipt and Processing of Publicly Hauled Waste, and shall operate the buyback/drop-off center, from 8:00 a.m. to 5:00 p.m. every day, including Saturday and Sunday, except for the Holidays. With forty-eight (48) hours' prior notice, Contractor shall operate the Station for the receipt and Processing of Municipal Solid Waste, Source Separated Recyclable Materials, Source Separated Yard Trimmings, and Source Separated Food Scraps from the City or a Partner Agency between 8:00 a.m. and 5:00 p.m. on Saturday and/or Sunday. These times in this Subsection can be changed pursuant to a mutual written agreement between Contractor and City.

Contractor may operate the Station for Processing of Municipal Solid Waste, Source Separated Recyclable Materials, Source Separated Yard Trimmings and Source Separated Food Scraps, the loading of vehicles, and for delivery of Residual Materials and unprocessed Municipal Solid Waste to the Disposal Facility and of Recyclable Materials to market beyond the hours set forth above, provided that the Contractor complies with the limits on operation of equipment specified in the then applicable Conditional Use Permit (Exhibit E). Exhibit E shall be automatically updated upon any amendment of the Conditional Use Permit by the City's Planning Commission.

3.4 Receipt and Processing of Other Tons Outside Primary Service Area

City may at any time, and from time to time, require Contractor to receive and Process Municipal Solid Waste, Source Separated Recyclable Materials, Source Separated Yard Trimmings and/or Source Separated Food Scraps ("Other Tons") that originate from outside of the Primary Service Area.

Contractor may also propose delivery of Other Tons from outside the Primary Service Area for City review and approval, which the City may provide in its sole discretion. Such approval shall not be unreasonably withheld.

In approving receipt of Other Tons, City may require such reasonable conditions as are necessary to ensure priority is given to receipt, Processing, and transfer of materials from the Partner Agencies, as provided in Section 3.2. In approving receipt of Other Tons, City may require Contractor to collection of, and remittance of Outside User Fees.

City review and approval of receipt of Other Tons from outside of the Extended Service Area (i.e., from outside of Santa Clara County) may require compliance with provisions of the California Environmental Quality Act. The cost of determining whether any such compliance is required, and of ensuring compliance, shall be paid equally by City and Contractor.

If City directs Contractor to receive and Process Other Tons from the Extended Service Area or from outside of Santa Clara County, either party may request that a waste characterization study (Study) of the Municipal Solid Waste from this area be conducted in accordance with the procedure described in Exhibit

T, and City will arrange for such Study to be conducted, with the expenses thereof paid equally by City and Contractor.

Promptly upon completion of the Study, the parties will meet to consider: (1) whether the Study shows a significant difference in composition of the Municipal Solid Waste from the Extended Service Area or from outside of Santa Clara County, as compared to that from within the Primary Service Area, and (2) if so, whether and to what extent there should be a change in the Minimum Diversion Level. If the parties are unable to agree on an appropriate change in the Minimum Diversion Level, the dispute may be submitted to binding arbitration pursuant to the procedures set out in Exhibit R.

3.5 Material Recovery Operations

A. General

Contractor recognizes that City and the other Partner Agencies are committed to Diverting waste materials that have in the past been disposed of in landfills. To that end, the Station has been designed and shall be operated to accomplish materials recovery in four (4) distinct operations that are summarized below in Subsections B, C, D, and E, described and illustrated in the material flow diagram contained in Exhibit B.

B. Processing of Municipal Solid Waste; Minimum Diversion Level

Contractor shall Process all Municipal Solid Waste delivered by the Partner Agencies and their Designated Haulers, and Publicly Hauled Waste, to Divert materials from Disposal. Contractor shall Divert from Municipal Solid Waste the materials listed in Exhibit AA.

Contractor shall Divert not less than seventeen and one half percent (17.5%) by weight of Municipal Solid Waste (including Publicly Hauled Waste) delivered to the Station, which percentage is hereinafter referred to as the "Minimum Diversion Level." In addition, Contractor shall use all reasonable efforts to Divert the maximum economically feasible amount. Contractor's performance in achieving the Minimum Diversion Level will be measured on a Fiscal Year basis. The Diversion Level achieved by Contractor will be calculated as provided in this Section 3.5 and Exhibit S. The Minimum Diversion Level shall be recalculated upon the completion of the planned material recovery facility upgrades ("Exhibit Y Next Gen Plans") in accordance within Exhibit Y.

Contractor shall not be required to Process: 1) Source Separated Recyclable Materials and Source Separated Organic Materials which can be Diverted without Processing (e.g., Source Separated soil, Source Separated concrete); or 2) Municipal Solid Waste that cannot be safely Processed (e.g., MSW from a hospital, bar screen grit from a Water Pollution Control Plant). Such unprocessed wastes shall be included in the Diversion Level calculation as specified in Exhibit S

If Contractor fails to achieve the Minimum Diversion Level in any Fiscal Year, it shall pay City the sum obtained by multiplying the Disposal Fee per Ton in effect during such Fiscal Year by the difference, in Tons, between the number of Tons which, if Diverted, would have achieved the Minimum Diversion Level and the number of Tons actually Diverted; provided, however, that Contractor shall not be required to achieve the Minimum Diversion Level for any time period during which the Station is closed for retrofits or the installation of new equipment or if Contractor is prevented from achieving that Minimum Diversion Level as the result of one or more events of Force Majeure as defined in Section 10.21.

The foregoing amounts shall be paid to City within thirty (30) days after the Diversion Level for the Fiscal

Year has been calculated by City pursuant to Exhibit S and Exhibit P. If not so paid, City may deduct the amount due from future payments to Contractor. Payment of the foregoing amounts does not cure the breach of this Agreement represented by failure to achieve the Minimum Diversion Level and City retains its rights under Article 9 in addition to the payment required under this Section 3.5.

Contractor shall deliver MRF Fines recovered by Processing Municipal Solid Waste to a Composting facility(ies) designated by the City. As of the Effective Date, the City-designated Composting facility for MRF Fines is the Z-Best Composting Facility (pursuant to the 2021 Agreement between the City of Sunnyvale and Zanker Road Resource Management, Ltd. for Organic Materials Processing Services).

In the event that Contractor produces MRF Fines that meet the specifications of the City designated Composting facility, but cannot be accepted by the City designated Composting facility for reasons that are beyond the control of Contractor (e.g., the City designated Composting facility(ies) do not have sufficient capacity for all of the Station's MRF fines) Contractor may upon written City direction Dispose of those MRF Fines but they will be considered to be Diverted for the purpose of calculating the Minimum Diversion Level and the Contractor's share of Recyclables revenue pursuant to Exhibit P. Contractor shall document the production of such MRF Fines in a manner approved in advance in writing by the City Contract Manager.

C. Processing of Source Separated Recyclable Materials

Contractor shall Process all Source Separated Recyclable Materials collected by City, by other Partner Agencies, by their respective Designated Haulers or by other Persons under contract, that are delivered to the Station for marketing in accordance with Section 3.16. Contractor shall Divert from Source Separated Recyclable Materials the materials listed in Exhibit AA. Diversion of Source Separated Recyclable Materials does not count towards Contractor's achievement of the Minimum Diversion Level, in accordance with Exhibit S Residue from Processing Recyclable Materials that is Disposed of shall be included in the calculation of the Contractor's Minimum Diversion Level.

Contractor shall be responsible for handling, storage and marketing of used motor oil, oil filters and household batteries collected with curbside Recyclables. Contractor shall drain oil containers used by the Partner Agencies' curbside collection programs of all free-flowing residue and shall make reusable emptied containers available to the operators of the curbside collection programs for reuse.

D. Processing of Source Separated Yard Trimmings

Yard Trimmings are collected separately from residential and commercial customers by the City and by other Partner Agencies. So long as Partner Agencies continue to collect Yard Trimmings separately, they will continue to be delivered to the Station pursuant to Section 10.17.

Contractor will direct vehicles delivering Source Separated Yard Trimmings to a specific Processing area for removal of contaminants (e.g., large metal objects, dirt and rock), shredding/grinding, magnetic removal of small pieces of ferrous metal and separate bulk storage. Yard Trimmings recovered from Municipal Solid Waste through sorting on the tipping floor will also be Processed in the same manner.

Contractor shall deliver Processed Source Separated Yard Trimmings to a Composting facility(ies) designated by the City. As of the Effective Date, the primary City-designated Composting facility for Source Separated Yard Trimmings is the Z-Best Composting Facility (pursuant to the 2021 Agreement between the City of Sunnyvale and Zanker Road Resource Management, Ltd. for Organic Materials Processing Services). Alternate Source Separated Yard Trimmings Processing Facilities include the Zero Waste Energy

Development (ZWED) anaerobic digestion facility (pursuant to the 2021 Agreement between the City of Sunnyvale and Zanker Road Resource Management, Ltd. for Organic Materials Processing Services), and the El Nido Composting Facility-Synagro West (Synagro) and Agromin-Bowles Green Material Composting (Agromin) (pursuant to the 2021 Agreement between the City of Sunnyvale and Sustainable Organic Solutions, LLC for Organic Materials Processing Services).

Contractor shall Process Source Separated Yard Trimmings to meet the material specifications in the City's above-referenced Organics Materials Processing Agreements and as referenced in Exhibit I Contractor may deliver un-Processed Source Separated Yard Trimmings to the City-designated Composting facility(ies) with prior written approval from the City Contract Manager.

E. Processing of Source Separated Food Scraps

Food Scraps are collected separately from residential and commercial customers by the City and by other Partner Agencies. So long as Partner Agencies continue to collect Food Scraps separately, they will continue to be delivered to the Station pursuant to Section 10.17.

Contractor will direct vehicles delivering Source Separated Food Scraps to a specific Processing area for removal of contaminants, bag shredding, pressing through a food press and screening, or otherwise Processing in a manner consistent with the Conditional Use Permit for the Facility. Contractor shall Process Source Separated Food Scraps into a "food mash" that meets the material specifications of the City's agreement with the primary City-designated Source Separated Food Scraps Processor, Sustainable Organic Solutions, LLC (pursuant to the 2021 Agreement between the City of Sunnyvale and Sustainable Organic Solutions, LLC for Organic Materials Processing Services) and any successor vendors, and as specified in Exhibit I.

Contingency Source-Separated Food Scraps Processors include the Z-Best Composting Facility and the Zero Waste Energy Development (ZWED) anaerobic digestion facility (pursuant to the 2021 Agreement between the City of Sunnyvale and Zanker Road Resource Management, Ltd. for Organic Materials Processing), and Mission Trail Waste Systems, Inc. (MTWS) and the East Bay Municipal Utility District (EBMUD) anaerobic digestion facility pursuant to the 2021 Agreement between the City of Sunnyvale and Sustainable Organic Solutions, LLC for Organic Materials Processing Services).

Contractor is not required to transport Processed Source Separated Food Scraps to the City-designated Processing facilities, and such transportation, except as noted below, would constitute a Change in Scope per Section 10.20.

Both parties acknowledge that the City may during the Term of this Agreement designate the City's Water Pollution Control Plant (WPCP) located adjacent to the Station as a Source Separated Food Scraps Processor. In that instance, Contractor shall meet the materials specifications for Processed Source Separated Food Scraps ("food mash") received at the WPCP. In the event that the City requires Contractor to transport some or all of the Processed Source Separated Food Scraps to the WPCP, Contractor shall to that extent be relieved of any obligation to provide such materials to any other facility and City and Contractor shall meet and confer to determine whether this constitutes a Change in Scope per Section 10.20.

Residue from Processing Source Separated Food Scraps that is Disposed of shall not be included in the calculation of the Contractor's Minimum Diversion Level.

F. Buyback / Drop-off Center

Contractor shall establish and operate a buyback/drop-off center within the Station. The purpose of the Buyback/Drop-off Center is to receive Source Separated Recyclable Materials that are delivered to the Station by members of the public to Process and then to market such materials. Contractor shall accept the materials listed in Exhibit AA at the buyback/drop-off center.

Contractor may request that materials be added to or removed from this list, subject to prior written approval from the City Contract Manager. City Contract Manager may request that materials be added to this list, subject to the Change in Scope provisions in Section 10.20.

Contractor shall distribute at the buyback/drop-off compost (provided by the City) to residents from the Partner Agencies, or any other jurisdictions requested by the City. Contractor shall track by jurisdiction the number of carloads of compost distributed.

Contractor shall establish prices to be paid for materials accepted at the Buyback/Drop-off Center and shall maintain complete and accurate records of purchase transactions. Such prices shall be within ten percent (10%), plus or minus, of the average prices paid for similar materials purchased in retail quantities from individual customers in similar facilities in Alameda, San Mateo and Santa Clara counties. These prices are provided by CalRecycle and are updated every January 1 and July 1.

City shall reimburse Contractor for a portion of the prices paid to users of the Buyback/Drop-off Center, the percentage to be equivalent to the City's percentage share of revenues from Recyclable Materials sales, determined in accordance with Section 6.5 and Exhibit P. The reimbursement shall be effected by a credit against the amount due to City from Contractor under Section 6.5. City shall reimburse Contractor for proper Recycling of universal waste materials accepted from residential generators at the drop off center (e.g., fluorescent bulbs and tubes, batteries and antifreeze).

Diversion of materials accepted at the Buyback/Drop-off Center does not count towards Contractor's achievement of the Minimum Diversion Level.

Contractor shall install and maintain signage at the Station giving members of the public appropriate information about the location and operation of the Buyback/Drop-off Center. The text of the signage shall be approved by City Contract Manager prior to its being installed.

3.6 Permits

City will obtain and pay the costs of renewals of all operating permits and approvals listed in Exhibit D as "City." Contractor shall assist City in the renewal of these permits and approvals as requested by City. Contractor shall obtain all permits and renewals listed on Exhibit D as "Contractor."

If new operating permits and approvals (or amendments to the permits and approvals obtained by City) become necessary during the Term, by virtue of Contractor's operations, it will be the responsibility of Contractor to obtain them and the Contractor shall bear all costs. City will assist the Contractor in obtaining them provided that the operations that give rise to the need for them are in compliance with this Agreement. Contractor shall submit a draft of all applications for operating permits (and for subsequent renewals or modifications thereof) to the City Contract Manager for review and approval prior to filing an application with any governmental agency. Contractor shall keep the City Contract Manager fully informed at all times on the status of all permit applications, including meetings with the governmental agency staff and hearings on permit applications before the governmental agency's

governing board. Contractor shall apply for permits in its name or in the name of the City, upon obtaining prior written approval from the City Contract Manager. Contractor shall not agree to permit terms and conditions on any permit that is to be issued in the name of the City without prior written approval from the City Contract Manager. Copies of all permits issued in Contractor's name and originals of all permits issued in the City's name (and any renewals or amendments) shall be delivered to the City Contract Manager promptly and, in any case, within five (5) working days of their receipt by Contractor.

Subject to City's obligation to obtain renewals of all operating permits and approvals listed on Exhibit D as "City" with Contractor assistance as requested by City, Contractor shall keep all licenses, permits and approvals governing the Station in force and shall comply with their terms, including any that may require improvements or modifications in operating procedures. Without limiting the generality of the foregoing, Contractor will comply with the terms and conditions contained in the Conditional Use Permit issued by the City for the Station, a copy of which is attached as Exhibit E.

Contractor shall be solely responsible for paying any fines or penalties imposed by governmental agencies for Contractor's noncompliance with permit terms or its failure to obtain necessary permits; provided, however, that Contractor will not be responsible for fines or penalties imposed due to City's failure to obtain renewal of any operating permit or approval listed in Exhibit D as "City" or due to the inability of City equipment to meet the relevant standards, such as for water treatment. Contractor shall be liable for any fines or penalties imposed by governmental agencies due to Contractor's failure to maintain and repair City equipment pursant to the manufacturer's recommendations.

3.7 Mitigation Measures

Contractor shall comply with and perform all of the mitigation measures identified in the FEIR that relate to the operation and maintenance by Contractor of the Station and transportation by Contractor of Municipal Solid Waste to the Disposal Facility, which were adopted by the City Council when the FEIR was certified and that are listed on Exhibit F.

3.8 Hazardous Waste

Contractor shall, upon commencement of operations at the Station, implement a Hazardous Waste Exclusion Program ("HWEP"), the minimum requirements for which are set out in Exhibit G, in a diligent, reasonable and non-discriminatory manner. Contractor shall obtain all required permits and approvals and provide its staff with required training. If the California Department of Resources Recycling and Recovery (CalRecycle), the Local Enforcement Agency, or the California EPA require additional measures to be incorporated into the HWEP, Contractor shall comply with such additional measures. Contractor shall temporarily store materials discovered through the HWEP (or otherwise) that cannot be Processed at the Station or accepted at the Disposal Facility in the appropriate storage areas provided at the Station for this purpose. Contractor shall arrange and pay for the safe and lawful disposal of such waste,subject to reimbursement as provided in Section 5.4.

The operator of the Disposal Facility is required to conduct its own independent HWEP which will entail checking of loads delivered from the Station by Contractor. If the operator of the Disposal Facility rejects material delivered to the Disposal Facility under Section 3.06 of the Disposal Contract, Contractor shall remove and dispose of it in a safe and lawful manner, at its sole expense. Contractor shall also be solely responsible for reimbursing the Disposal Facility operator for costs of testing and Disposal of waste that the Disposal Facility operator initially accepts but subsequently discovers may not be legally disposed of at the Disposal Facility, to the extent that such reimbursement is required by Section 3.06 of the Disposal

Contract. To the extent Contractor must pay the Disposal Facility for the costs of disposing of such hazardous material due to the failure of transporters of Municipal Solid Waste to eliminate such materials prior to their delivery to the Station, Contractor shall be entitled to pursue whatever remedies,if any, it may have against such transporters, but shall not be entitled to reimbursement from City or the Partner Agencies.

Contractor shall comply with all regulations concerning the Recycling of appliances, and shall maintain all required trainings and certifications therefore. Contractor shall remove and arrange for proper disposition of CFCs and compressor oils from appliances delivered to the Station, as well as switches containing mercury, and other materials requiring special handling. The cost of removal and disposal is included in the Basic Annual Payment.

3.9 Equipment

City will provide the equipment listed as such in Exhibit H. Contractor shall provide all other equipment, sufficient in number and capacity to perform safely and efficiently the work required by this Agreement including but not limited to the equipment listed as such in Exhibit H. All equipment furnished by Contractor will be suitable in design and construction for arduous, heavy-duty service in a solid waste transfer station operation. All equipment shall comply with all Applicable Laws and regulations.

On January 1, 2022 the City shall take ownership of Contractor's Processing equipment as used during the Prior Agreement that is listed as such in Exhibit H, at no cost to the City.

At the expiration or earlier termination of this Agreement, the City shall purchase any and all equipment purchased by Contractor pursuant to this Agreement that has not been fully depreciated ("Stranded Assets"). The City's purchase price for such equipment shall be equal to the Contractor's purchase price less accumulated depreciation, subject to the last paragraph in this Section 3.9. Depreciation for purposes of this Section 3.9 shall mean straight line depreciation using a ten (10) year useful life.

At the expiration or earlier termination of this Agreement, the City shall have the option to purchase any equipment purchased by Contractor pursuant to this Agreement or the Prior Agreement that has been fully depreciated. The City's purchase price for Contractor's fully depreciated equipment shall be at no cost.

Equipment owned by the Contractor that is replaced during the Term of this Agreement may be sold, scrapped, or otherwise disposed of by Contractor, and the City shall have no obligation to purchase such replaced equipment. If such equipment is replaced by Contractor before it is fully depreciated, City shall have no obligation to compensate Contractor for the undepreciated amount.

Exhibit U (Contractor's Cost Forms) provides Contractor's anticipated equipment purchase, replacement, and depreciation schedule after January 1, 2022. No piece of equipment costing more than $50,000 (including equipment listed in Exhibit U) shall be purchased or replaced without the prior written approval from the City Contract Manager. Prior to purchasing equipment, Contractor shall provide documentation to the City demonstrating that the proposed purchase price is consistent with market prices, as reasonably determined by City. After purchase, Contractor shall provide documentation to the City Contract Manager verifying the purchase price and date, and the date that Contractor first began accounting for depreciation of the equipment. City cannot require Contractor to utilize any piece of rolling stock (truck, trailer, loader, forklift, etc.) purchased by Contractor pursuant to this Agreement and costing more than $50,000 for longer than 10 years (deny replacement).

All equipment purchased by Contractor pursuant to the Prior Agreement (prior to January 1, 2022) that will be utilized in the implementation of this Agreement, shall be considered to be fully depreciated as of January 1, 2022 Contractor shall not carry over any equipment depreciation from the previous Agreement.

Prior to the Effective Date, Contractor shall deliver to the City Contract Manager properly signed UCC-1 Financing Statements and all other documents necessary or appropriate for the City to secure its purchase options and shall record, or allow the City to record, such Statements and other documentation. As new or replacement equipment is purchased, similar documentation covering it shall be provided by Contractor.

Upon the City's purchase of the equipment, Contractor will sign and deliver bills of sale or other documents reasonably requested by City to evidence the transfer of title to all equipment purchased.

If Contractor wishes to lease (rather than purchase) the equipment that it is to furnish, it shall provide to City Contract Manager complete and accurate copies of all equipment leases that it proposes to enter into and shall obtain City Contract Manager's prior written approval to enter into any equipment lease. The leases must provide that the lessor will, if requested, approve of their assignment to City without charge in excess of the purchase price described above upon the expiration or earlier termination of this Agreement and must provide adequate mechanisms for the City to purchase the equipment at its sole discretion.

The City may satisfy its obligation to purchase Contractor's equipment at the expiration or early termination of this Agreement by requiring a successor contractor to purchase Contractor's equipment.

Contractor shall be partially compensated for the depreciation cost of all equipment purchased during the Term of this Agreement through an annual adjustment to the Basic Annual Payment as specified in Section 5.2.

The annual adjustment to the Basic Annual Payment for new depreciation shall occur each July 1. Depreciation on equipment purchased before July 1 of each year shall be added to the purchase price of that equipment upon the expiration or earlier termination of this Agreement (e.g., a vehicle is purchased in April 2024 and Contractor begins accounting for its depreciation in April 2024. In July 2024 Contractor's Basic Annual Payment is adjusted to include depreciation of that vehicle. The depreciation of that vehicle for the period of April-June 2024 is added to the City's purchase cost of that vehicle at the end of the Agreement.)

3.10 Personnel

A. General

Contractor shall furnish qualified competent drivers and maintenance, supervisory, compliance, clerical, laborers and other personnel in sufficient numbers to perform the work required by this Agreement (including the continued and uninterrupted operation and maintenance of the Station and the transfer of Municipal Solid Waste to the Disposal Facility and Recyclable Materials to market) in a safe and efficient manner. The complement of personnel staffing the Station shall be as shown in Exhibit U, Contractor's Cost Forms.

B. Covered Classifications

The job classifications covered by this Section 3.10 are drivers, sorters, mechanics, and operators. It does

not apply to management, supervisory, administrative or clerical employees, or to any employees not covered by the collective bargaining agreements contained in Exhibit V, or their successor agreements.

Contractor shall not increase or decrease the number of personnel in each covered classification for more than one month without prior written approval from the City Contract Manager. Contractor to provide documentation to justify increases or decreases in personnel. Contractor's Basic Annual Payment shall be adjusted on January 1, 2023 and on each January 1 thereafter to reflect 1) changes in the number of employees in each covered classification and 2) changes in the wages and benefits as specified in the collective bargaining agreements contained in Exhibit V. The methodology for this adjustment is provided in Exhibit U and Section 5.2.C.1.

C. Prevailing Wages

The Parties acknowledge that currently the services provided by Contractor do not constitute a "public work" and are not subject to any of the provisions of California Labor Code Sections 1720-1901, nor of the regulations promulgated thereunder. However, until and unless otherwise directed by City in writing, Contractor will pay its employees in a covered classification described above wages and benefits equivalent to the general prevailing rate of wages applicable to the work to be done, as determined by the Director of the California Department of Industrial Relations (the "Department"). Contractor may provide any combination of wages and benefits so long as the hourly cash equivalent of such combination equals the corresponding prevailing wage rate. Future determinations of prevailing wages in relevant job classifications will be obtained from the Department by City and provided to Contractor from time to time.

City may presume that wage rates paid by Contractor in excess of the prevailing wages determined by the Department are unreasonable for purposes of determining Contractor's Basic Annual Payment to the extent of the excess. Contractor may present evidence demonstrating that those wages are reasonable notwithstanding their being in excess of prevailing wage rates.

For job classifications for which there the Department has not determined a prevailing wage (e.g., sorters) Contractor shall provide wages and benefits that are no higher the median wages and benefits paid for that job classification in the San Francisco Bay Area, and the City is not obligated to increase Contractor's Basic Annual Payment for wages and benefits that are in excess of that median amount. Contractor may present evidence demonstrating that those wages are reasonable notwithstanding their being in excess of that median amount. Contractor shall provide City with the data that Contractor used to determine the median wages and benefits, and that determination is subject to prior written approval from the City.

D. Use of Employment Agency

If Contractor engages any workers through a Subcontractor, such as an employment agency,it shall ensure that such Subcontractor:

1. Provides all such workers compensation equal to that which this Section 3.10 would require Contractor to pay if the workers had been hired as its own employees;
2. Complies with the nondiscrimination requirements imposed on Contractor by Section 10.14;
3. Maintains workers compensation and employer's liability insurance covering such workers in the amount required by Section 7.2.A.1 and with policies meeting the other requirements of Section 7.2.A.

Contractor is responsible for providing qualified and competent workers, whether as direct employees

or through workers furnished by an independent contractor. Contractor is also responsible for providing sufficient training to all workers so that they can perform the work in a safe and competent manner and are thoroughly familiar with the work that Contractor is required to perform and the standards it is required to meet under this Agreement.

If workers provided by a particular independent contractor prove persistently unsatisfactory, City may require that Contractor either secure workers through a different independent contractor or hire qualified and competent employees directly. Contractor shall defend and indemnify City from and against any claim or suit filed by any independent contractor furnishing workers to Contractor pursuant to Section 7.1.

E. Employment Records

Contractor shall promptly furnish the City Contract Manager information that it requests, including certified payrolls, to verify Contractor's compliance with this Section 3.10.

3.11 Other Operating Procedures and Standards

In addition to the foregoing, Contractor shall conduct its operations in accordance with the requirements of CalRecycle currently in effect (as codified in Title 14 and Title 27 of the California Code of Regulations ("CCR")) and as they may be changed from time to time, and with the procedures and standards contained in Exhibit J.

3.12 SB 1383 Facility Operating Requirements

SB 1383 and the Regulations contain operating, sampling and reporting obligations for the Station. These operating, sampling and reporting obligations are set forth in Exhibit T. Contractor shall comply with all SB 1383 obligations, including the Regulations, without increase in the Basic Annual Payment. City shall reimburse Contractor for the cost of required lab analysis of MRF Fines and food mash.

Contractor shall not be responsible for any fines, penalties or other sanctions levied by CalRecycle for the failure of MRF Fines from the Station to meet the incompatible materials limit in recovered organic waste per Section 17409.5.8 of the SB 1383 Regulations, provided that Contractor has followed City approved Processing procedures to produce the MRF Fines and has delivered the MRF Fines to the City designated Composting facility. Contractor and City understand and agree that the City designated Composting facility for MRF Fines (the Z-Best Composting Facility) indicated as of the Effective Date that it is not subject to Section 17409.5.8(a) and that it can accept Organic Materials that exceed the incompatible materials limit pursuant to Section 17409.5.8(c)(2) of the Regulations.

It is the City's intent that the Station shall meet the standards of a High Diversion Organic Waste Processing Facility as defined in 14 CCR Section 18982(a)(33), and Contractor shall perfom the sampling and reporting necessary to determine whether the Station meets those standards. Contractor's cost of such sampling and reporting is included in the Basic Annual Payment. The sampling and reporting protocols are described in Exhibit T. Contractor shall work cooperatively with the City to meet the standards of a High Diversion Organic Waste Processing Facility, but is in no way liable if the Station fails to meet those standards except to the extent caused by Contractor's active negligence or willful misconduct. Contractor is responsible for the required sampling and reporting, but not for the outcome.

3.13 Turnaround Time for Incoming Collection Vehicles

Contractor shall operate the Station so that:

A. All vehicles of Partner Agencies and their Designated Haulers entering the Station are Processed through the scale house weighing operation in no more than ninety (90) seconds per vehicle, measured from the vehicle's entry onto the scale.

B. All vehicles of Partner Agencies and their Designated Haulers except vehicles delivering Source Separated Food Scraps, are able to unload and depart from the Station in no more than fifteen (15) minutes from their leaving the scale house.

C. All vehicles carrying Publicly Hauled Waste do not wait an unreasonable amount of time at the scale house or for an assigned place to dump.

3.14 Weighing

Contractor shall operate and maintain the scale system at the Station. Weighing operations shall be conducted in accordance with standards and procedures set out on Exhibit J. City will provide four (4) scales at the Station. Contractor shall furnish all hardware (including computers, cabling and terminals) and software (including memory storage) and all other items necessary to generate, at a minimum, all the reports contained in Exhibit O. The software shall have the capabilities described in Exhibit O. The Contractor shall be solely responsible for operation of the computers and software.

Contractor shall provide City Contract Manager with licenses and all other documentation necessary or useful for City to operate the computers and software upon expiration or earlier termination of the Agreement.

Radiation monitoring equipment is used at the entrance to the Station to identify loads containing radioactive waste. Contractor will arrange for its employees to be trained in its use, and will maintain, repair and operate the equipment and respond to alerts as described in Exhibit L without additional cost to City.

Contractor shall weigh all loads that are greater than or equal to twelve (12) cubic yards, and shall charge those customers by weight, at rates established by the City.

3.15 Collection of Public Use Fees

Contractor shall collect Public Use Fees established by the City from all Persons who use the Station other than the Partner Agencies and their Designated Haulers. Contractor shall keep complete and accurate records of all Public Use Fees collected, shall be responsible for the safekeeping of monies and negotiable instruments collected, and shall remit to the City (and the other Partner Agencies) all of such Public Use Fees collected, except the Gate Fee, as provided in Section 5.3. The City shall have sole and exclusive authority to establish Public Use Fees and to modify them from time to time, provided that they will always be sufficient to generate at least the Gate Fee.

3.16 Cooperation Regarding Extra Dumping Weekends, Shredding Events, and Neighborhood Clean Up Events

Contractor shall cooperate with all the Partner Agencies in providing extra dumping weekends, paper shredding events and in the use of "free dumping" coupons by residents of the Partner Agencies. Extra dumping weekends are currently held at the Station four (4) times per year. There will be three (3) shredding events held every year. Other neighborhood cleanup activities by the City's franchised hauler are held at various times during the year. Neighborhood cleanups use roll-off boxes that are dumped at

the Station typically on Saturdays. Contractor shall cooperate with City to accept MSW and Source Separated materials (e.g., carpet, mattresses, tires and wood) from these events. In addition, Contractor shall cooperate with City Contract Manager in other events, including periodic document shredding at the Station by providing traffic management assistance, signage, Recycling bins and other support as needed.

3.17 Marketing of Recyclable Materials

A. Marketing Efforts

Contractor shall use its best efforts in marketing and promoting the sale of all Recyclable Materials. Contractor shall employ its best marketing strategy in effecting disposition of Recyclable Materials, and shall use its best efforts to obtain the best possible prices for Recyclable Materials consistent with prevailing conditions in the market, whether foreign or domestic. Contractor will exert at least the same effort in marketing the Recyclable Materials from the Station as it does in marketing materials that it markets for its own account as Principal or as an agent/broker for any third party.

B. Marketing Plan

Contractor shall submit on or before March 1 of each year, a plan for marketing of Recyclable Materials for the forthcoming year. The Marketing Plan shall include the following at a minimum (City Contract Manager may request additional information from Contractor):

- An overall summary of the prior year's marketing efforts including tonnage by material type and a description of the markets to which materials were sold, including information regarding end- market use of materials.
- Summary of current year plan for marketing including Tons to be marketed by material type, description of markets and end use, projected market price.

C. Marketing Duties

Contractor shall perform all of the following:

1. Storage. Contractor shall suitably store all Recyclable Materials to protect against fire, theft, deterioration, contamination or other damage. As provided in Section 7.2.A.4, Contractor shall insure all Recyclable Materials while in its possession, and during shipment prior to transfer of title, against fire, theft and other casualty losses. Contractor shall ship all Processed Recyclable Materials offsite for Recycling within ninety (90) days of their delivery to the Station unless stockpiling of specific Recyclable Materials on site longer than ninety (90) days is approved in writing by City Contract Manager in advance.
2. Certificate of End Use. If requested by City Contract Manager, Contractor shall use reasonable efforts to obtain a certification of end use from the purchaser establishing that the materials sold have been, in fact, Recycled and Diverted.
3. No Warranties. Contractor shall not make any warranties or representations regarding the Recyclable Materials other than those, if any, specifically authorized by the City Contract Manager to be made and will include in all sales contracts a disclaimer of warranties by City, if required to do so by City.
4. Delivery. Contractor will be responsible for effecting delivery to purchasers unless the terms of sale require the purchaser to arrange for delivery.

5. Disposition Costs When No Markets Exist. Due to market cycles and fluctuations, some or all of the Processed Recyclable Materials may have no, or negative, market value (i.e., an end user willaccept the material for Diversion but will charge a fee for doing so). When market conditions aresuch that some or all of the Processed Recyclable Materials cannot be sold, Contractor must deliver Processed Recyclable Materials to users willing to accept them.

The City shall pay recyclers/Composting facility(ies) directly to accept and Divert the following negative value Processed Recyclable Materials:

- MRF Fines
- Source Separated Yard Trimmings (Processed)
- Source Separated Food Scraps (Processed)

Contractor shall transport MRF Fines and Source Separated Yard Trimmings to the City designated Composting facilit(ies). Contractor's compensation for such transportation is included in the Basic Annual Payment. The City-designated Organics Processor for Source Separated Food Scraps shall collect that material from the Station, after Contractor has Processed the Source Separated Food Scraps into food mash.

For the other negative value Processed Recyclable Materials listed in Exhibit U, Contractor shall pay for Diversion and transportation, and City shall reimburse Contractor monthly for such amounts. Contractor and City shall work cooperatively to minimize the cost of Diversion and transportation for negative value Processed Recyclable Materials. The current costs of Diversion and transportation of negative value Processed Recyclable Materials are provided in Exhibit U, Contractor's Cost Forms.

Contractor shall Divert all of the Processed Recyclable Materials listed in Exhibit AA. Contractor shall not add or subtract Processed Recyclable Materials from Exhibit AA without prior written approval from the City Contract Manager. Contractor shall not stop Diverting a Processed Recyclable Material listed on Exhibit AA without prior written approval from the City Contract Manager.

In the event that a Processed Recyclable Material that is not listed in Exhibit U as a negative value Processed Recyclable Material (e.g., mixed paper) becomes a negative value Processed Recyclable Material at any time during the Term of this Agreement, Contractor shall continue to Divert that material and the cost to Divert and transport that Processed Recyclable Material shall be subtracted from gross Recyclables revenue and shared between Contractor and the City per Section 6.5 and Exhibit P. The City Contract Manager may request in writing that the Contractor no longer Divert a positive value Processed Recyclable Material from Exhibit AA that becomes a negative value Processed Recyclable Material.

If the City Contract Manager requests Contractor to Divert a new Processed Recyclable Material not listed in Exhibit AA, the two parties shall meet and confer to determine if Diverting that new Processed Recyclable Material constitutes a Change in Scope per Section 10.20. If the new Processed Recyclable Material has a positive value, the revenue will be shared per Exhibit P. If the new Processed Recyclable Material has a negative value, the City shall reiumburse Contractor for any cost to transport and Divert the Processed Recyclable Material.

D. Title and Risk of Loss

Title to, and risk of loss of, Recyclable Materials and Organics shall be with Contractor upon delivery to the Station. Contractor shall keep the Recyclable Materials and Organics free from liens and other claims

of Contractor's creditors.

E. Relationship of Parties

The parties to this Agreement intend and hereby agree that their relationship shall be that of independent contractors with respect to the marketing of Recyclable Materials. Nothing contained herein shall be construed to create any employment, partnership, joint venture, co-ownership or agency relationship between the parties, and Contractor shall not by any action allow any presumption to arise that a relationship of partnership or agency exists between the parties.

3.18 City's Right to Cure

In the event that Contractor fails to perform any of its obligations under this Article 3, and fails to commence and diligently prosecute such work within three (3) days after written notice from City, City may (but shall not be obligated to) enter the Station Site with necessary workers and equipment and perform the required work, or engage a third party contractor to do so. In such event, Contractor shall immediately upon demand reimburse City for all costs thereof, including any payments to a third party contractor, with interest after thirty (30) days at prime rate (as established by the Bank of America "reference rate") plus two percent (2%) but not in excess of the maximum interest rate allowed by law. If Contractor fails to make such reimbursement, City may deduct the amounts due from subsequent payments to Contractor under Article 5.

3.19 City Use of Offices/Visitor Center

A. Offices

City shall have exclusive use of approximately seven hundred (700) square feet of the office space. In addition, four (4) parking spaces will be reserved for the exclusive use of City staffand invitees. Contractor shall provide, at no charge to City, utilities to this portion of the Office/Visitor Center building, including water and sewer, as well as janitorial and building maintenance services. City will provide, at its expense, telephones and other communications equipment, furniture, computers, office supplies and moveable partitions.

Contractor shall provide janitorial and building maintenance services to keep the facility in excellent condition and at a high level of cleanliness.

B. Green Business Certification

The Station administration building was certified as a Green Business in 2010 and as a result, City and Contractor staffs are required to meet general environmental practices and targeted resource conservation and pollution prevention measures. Every three years a re-certification process will be conducted by the City and Contractor will cooperate in that effort.

C. Other Areas

City shall have the right to make reasonable use of the common areas in the remainder of the building (e.g., the lobby, orientation room, lunch room, lockers/showers, and restrooms). City's use of these areas shall not interfere with Contractor's use, and the parties shall cooperate with each other in the scheduling of the use of the orientation room.

Contractor shall furnish the lobby with seating and the lunchroom and conference room with the number

and type of tables and chairs deemed reasonably adequate by the City. Furnishings shall be cleaned and maintained regularly during the Term of the Agreement.

3.20 Source Separated Recyclables Composition Survey

Contractor shall conduct, or assist City in the conduct of, a survey of the composition of Source Separated Recyclable Materials delivered to the Station by Partner Agencies and Designated Haulers. The purpose of the survey is to determine the relative amounts of various types and grades of Source Separated Recyclable Materials delivered from each Partner Agency for purposes of the MOU. Surveys will be conducted at a minimum every other year beginning in 2023, and at the City's request no more frequently than once every six (6) months. The procedure for the survey, and the content of the report to be furnished within six (6) weeks after completion of the survey, are described in the "Final Report: Waste Characterization Methodology for Determining Allocation of Curbside Recycling Revenues" dated May 2003, a portion of which is attached as Exhibit K and the entire text of which has been provided to Contractor.

3.21 Cost Allocation Reports

No later than thirty (30) days after the end of each Fiscal Year (i.e., July 30 of the following Fiscal Year), Contractor shall deliver to City Contract Manager a report showing the distribution of all payments received from the City among the following operations:

- MSW Processing (MSW)
- Yard Trimmings (Clean Green)
- C&D
- Public Haul
- Dual-stream Recyclables Processing and Public buyback/drop off (REC-DUAL)
- Food Scrap Processing (Food)

Contractor shall set forth the cost allocation method it used to calculate the distribution. In addition, if requested by City Contract Manager, it shall submit up to two (2) additional revenue distributions using alternative allocation assumptions provided by the City.

3.22 Clean Air Fuels Plan

Contractor will utilize the following fuels or sources of power for the following types of equipment:

Forklifts	Electric or Propane
Scissor Lift	Electric
Loaders (4)	Renewable Diesel
Transfer Trucks	Renewable Diesel or RNG, or Electric

Contractor will use its best efforts to make use of renewable diesel fuel for transfer trucks as soon as practicable.

ARTICLE 4. TRANSPORTATION OF SOLID WASTE

4.1 Transportation

Contractor shall transport and deliver to the Disposal Facility all Municipal Solid Waste that is not Diverted. Contractor shall transport and deliver (or arrange for the transportation and delivery of) all Materials, including Source Separated Recyclable Materials, Source Separated Yard Trimmings, MRF Fines and Recyclable Materials recovered from MSW, to a purchaser, a permitted Recycling facility, or a Person who will use the materials in a process or product and will not dispose of them. Contractor shall transport and deliver all Source Separated and MRF recovered Yard Trimmings and MRF Fines to a permitted off-site Composting facility, anerobic digestion, wastewater treatment, biomass-fuel electrical generating station or other organic Diversion facility as designated by City Contract Manager. Contractor shall transport and deliver (or arrange for the transportation and delivery of) universal waste, Hazardous Waste, Designated Waste and other materials that are encountered at the Station and that cannot be accepted at the Disposal Facility to an appropriately permitted disposal facility. Routes within City over which vehicles travel to effect this transport and delivery shall be selected to minimize inconvenience and disturbance to the public and shall be subject to the prior written approval of City.

Contractor shall use due care to prevent any materials from being spilled or scattered during transport. All vehicles hauling materials from the Station shall be enclosed or have other appropriate covering as approved by City Contract Manager. Contractor shall immediately clean up all materials spilled within the City, whether on private or public property.

No Recyclable Materials that have been delivered to the Station already separated and no materials that have been Processed at the Station for Diversion may be disposed of (1) on land, or (2) with the sole exception of wood, through Transformation or biomass conversion, without prior written approval from the City Contract Manager. All Organic Materials must be Diverted using a program allowable under SB 1383.

No materials of any kind may be disposed of on land at any location other than the Disposal Facility. No materials of any kind may be disposed of in water or in the atmosphere. Notwithstanding the foregoing, Contractor may, and shall, dispose (or arrange for the disposal) of Hazardous Waste that it identifies among the materials delivered to the Station at permitted Hazardous Waste disposal facilities, subject to City reimbursement under Section 5.4.

Transfer Vehicles shall arrive and depart the Station within hours as designated in the Transfer Processing Report, CUP And FEIR. Loading and off-site transport of materials for Processing or Disposal may occur at hours other than those defined for full-scale Station operations with prior written approval of the City Contract Manager.

4.2 Parking and Maintenance of Transfer Vehicles

Contractor may park empty Transfer Vehicles in the fenced and paved operational area of the Station Site, which does not include the office parking lot, and fire lanes. Transfer Vehicles may only receive maintenance and repair, in the designated shop area. Transfer Vehicles containing Municipal Solid Waste must be parked on the tipping floor, so that liquids from the Municipal Solid Waste drain only to the tipping floor.

ARTICLE 5. COMPENSATION TO CONTRACTOR

5.1 General

The payments provided for in Sections 5.2 through 5.4 and the share of revenues provided in Section 5.5

are the full, entire and complete compensation due to Contractor for furnishing all labor, equipment, materials and supplies and all other things necessary to perform all of the services required by this Agreement in the manner and at the time prescribed, and for fulfilling all of its obligations under this Agreement, including but not limited to the operation of the Station in accordance with Article 3, and the transportation of materials in accordance with Article 4. The compensation provided for in this Article 5 includes all costs for the items mentioned above and also for all taxes, insurance, bonds, overhead, profit and all other costs necessary or appropriate to perform the services in accordance with this Agreement. Notwithstanding the foregoing, if a possessory interest tax is assessed against Contractor pursuant to California Revenue and Taxation Code Section 107, Contractor shall pay such tax but City shall reimburse Contractor for the amount of tax paid upon receipt of evidence of the tax assessment and payment. Contractor shall cooperate with City, if requested, in City's effort to seek a reduction in or removal of such tax, including filing a protest of the tax. Expenses incurred by Contractorin so doing will also be reimbursed by City.

5.2 Basic Annual Payment

A. Initial Amount of Basic Annual Payment

Contractor will be paid a Basic Annual Payment for receipt, Processing and transfer of Muncipal Solid Waste, Source Separated Recyclable Materials, and Source Separated Organic Materials delivered to the Station by the Partner Agencies, their Designated Haulers, and the Designated Haulers of communities in the Extended Service Area. The Basic Annual Payment in effect as of the Effective Date is Fourteen Million Two Hundred Thirty Thousand and Twenty-One Dollars ($14,230,021.00).

B. Types of Adjustments to Basic Annual Payment

There are four types of adjustments to the Basic Annual Payment:

1. Regularly scheduled semi-annual adjustments as provided in Section 5.2.C.

2. Annual adjustment to reflect actual total cost of labor over the previous year due to staffing changes, as provided in Section 5.2.D.

3. Changes in union labor costs during City-directed and City-managed facility upgrades and equipment installation, and in union labor costs and other specified costs following completion of City-directed and City-managed facility upgrades, as provided in Section 10.20 and Exhibit Y.

4. Modifications due to other Changes in Scope as provided in Section 10.20.

C. Semi-Annual Adjustments of Basic Annual Payment

The Basic Annual Payment shall be adjusted each January 1 and each July 1, beginning July 1, 2022 by the following three components:

1. Union Labor

   Contractor's Basic Annual Payment shall be adjusted on January 1, 2023 and on each January 1 thereafter, following any adjustment as provided in Section 5.2.D, to reflect 1) changes in the number of employees in each covered classification and 2) changes in the wages and benefits as specified in the collective bargaining agreement(s). This adjustment only applies to Covered

Classifications per Section 3.10.B. Contractor shall update Exhibit U to itemize the number of employees in each covered classification and the wages and benefits to take effect in the coming calendar year. The change in total compensation for union labor from the current calendar year to the upcoming calendar year shall be added to or subtracted from the Basic Annual Payment.

2. Revised Depreciation

Contractor's Basic Annual Payment shall be adjusted on July 1, 2022, and on each July 1 thereafter, following any adjustment as provided in Section 5.2.D, to reflect the depreciation cost of vehicles and equipment purchased by Contractor pursuant to Section 3.9 of this Agreement after January 1, 2022. Contractor shall update Exhibit U to itemize the new vehicles equipment purchased and their annual depreciation schedule. All vehicles and equipment shall be depreciated over 10 years. The change in total depreciation from the current Fiscal Year (July – June) to the upcoming Fiscal Year will be added or subtracted from the Basic Annual Payment.

3. The Remainder of the Basic Annual Payment

The remainder of the Contractor's Basic Annual Payment shall be adjusted on July 1, 2022, and on each July 1 thereafter to reflect changes in Consumer Price Index, following any adjustment as provided in Section 5.2.D. The Basic Annual Payment for the current year, minus the total annual cost of union labor in the current year and minus the total depreciation cost in the current year for equipment and vehicles purchased after January 1, 2022, will constitute the remainder of the Basic Annual Payment to be adjusted to reflect changes in the Consumer Price Index. The index utilized shall be the San Francisco/Oakland/Hayward Metropolitan Area Consumer Price Index (identified as All Urban Consumers: 1982-84 = 100) compiled and published by the United States Department of Labor, Bureau of Labor Statistics ("the Index") between the Base Index and the most recent Index. The Index level as of December, 2020 (i.e., 302.948) shall be the Base Index and shall be compared with the Index as of December in subsequent years. All calculated adjustments shall be to a minimum of three decimal places.

The parties recognize that the amount of the monthly installment payment will change each August to reflect the changes to the Basic Annual Payment taking effect each July for changes to depreciation as provided in 5.2.C.2. above, to labor costs due to changes in staffing levels as provided in 5.2.D, and remainder components. The amount of the monthly installment payment will change each February to reflect changes to the Basic Annual Payment taking effect each January for changes in the hourly cost of union labor.

4. Other CPI Adjustments

Other items which are adjusted each July 1 to reflect changes in CPI, using the Index and methodology in 5.2.C.3 above are listed in Exhibit X.

D. Annual Labor Reconciliation ("True Up") for Changes in Staffing Levels

Beginning in January 2023 for calendar 2022, and for each successive year, the City shall retroactively compare i) total union labor compensation to Contractor over the previous year as contained in each monthly payment of the Basic Annual Payment to ii) Contractor's actual direct cost of union labor over the previous year to reflect fluctuations in staffing. To the extent the actual cost of union labor exceeded compensation to Contractor therefor, City shall add the difference to the next monthly payment of the

Basic Annual Payment. To the extent the actual cost of union labor was less than the compensation to Contractor therefor, City shall deduct the difference from the next monthly payment of the Basic Annual Payment. Contractor's actual cost of union labor for the last monthly Basic Annual Payment of the previous year shall become the monthly labor component of the Basic Annual Payment for the following year.

E. Payment of Basic Annual Payment

The Basic Annual Payment will be paid as provided in Section 6.1.

5.3 Gate Fees for Publicly Hauled Waste

A. Contractor will be paid a Gate Fee for receipt, Processing and transfer of Publicly Hauled Waste for which customers are charged a Public Use Fee, that is delivered to the Station whether from within the Primary Service Area or, if approved in writing by City Contract Manager, from within the Extended Service Area. This Gate Fee will be, as of the Effective Date, Eight dollars and Thirty-five Cents ($8.35) per cubic yard.

B. The Gate Fee for Publicly Hauled Waste shall be adjusted as of July 1, 2022 and as of July 1 annually thereafter by the same percentage the "Remainder" component Basic Annual Payment in Section 5.2C is adjusted to reflect changes in the Index, as defined in Section 5.2C.

C. Gate Fees for Publicly Hauled Waste will be paid with the monthly installment of the Basic Annual Payment as provided in Section 6.1.

5.4 Reimbursement of Certain Costs

The Basic Annual Payment provided in Section 5.2, the Gate Fees for Publicly Hauled Waste in Section 5.3, and the Contractor's Share of Recyclable Materials Revenues in Section 5.5 are, combined, intended to cover all costs of operating the Station, except as otherwise provided in this Agreement and other than those costs incurred by Contractor for the following:

1. To arrange for transport and legal disposal of Hazardous Waste and Sharps identified through the Hazardous Waste Exclusion Program or during subsequent Processing at the Station, radioactive wastes detected at the scales, and Sharps and universal wastes delivered to the Drop Off Facility; and

2. To purchase replacement parts for stationery equipment.

3. The cost of repair of large specialty equipment, as described in Exhibit H, or specific equipment, mutually identified and approved in writing by the City Contract Manager and the Contractor, where the City has the option to solicit bids, manage and pay for major repairs of these equipment.

Contractor will not receive reimbursement for costs of disposal of compressor oils, switches containing mercury, or CFCs and capacitors removed from appliances delivered to the Station or for Hazardous Waste generated by the Contractor's own operations, all of which are included in the Basic Annual Payment Reimbursement of actual and reasonable costs incurred will be made as provided in Section 6.4.

5.5 Contractor's Share of Recyclable Materials Revenues

As an incentive to Contractor to maximize both the quantity and quality of materials recovered and successfully marketed for Diversion, subject to Section 6.3.C, Contractor will be entitled to retain a percentage of gross revenues from the sale of:

A. Materials recovered from MSW;

B. Source Separated Recyclable Materials delivered by the Partner Agencies' Designated Haulers;

C. Materials delivered to the Buy Back/Drop-Off Center.

The percentage of gross revenue to be retained by Contractor is dependent on the level of recovery achieved, as set forth on Exhibit P, whichever applies at the time.

The method by which Contractor will share revenues as provided above is specified in Section 6.3.

ARTICLE 6. PAYMENT AND REVENUE SHARING PROCEDURES

6.1 Basic Annual Payment

The Basic Annual Payment provided for in Section 5.2 shall be paid in arrears in twelve (12) equal monthly installments, with the first payment earned as of January 31, 2022. City will pay each installment within fifteen (15) business days after receipt of the monthly statement from Contractor required by Section 6.4.

6.2 Cost Reimbursements

If Contractor incurs costs that are reimbursable under Section 5.4, it shall include those costs, together with information sufficient to substantiate the amount and purpose of each expense, in the statement from Contractor required by Section 6.4. City will pay the cost reimbursements due within fifteen (15) business days after its receipt of a timely and complete monthly statement.

6.3 Revenues Received from Sale of Recyclable Materials

A. Contractor shall remit to City Contract Manager the applicable percentage of the gross sales revenue of all materials delivered to the Station that are not disposed of at the Disposal Facility, including, but not limited to (1) materials recovered by Contractor from Municipal Solid Waste, (2) Source Separated Recyclable Materials delivered by Designated Haulers, and (3) Recyclable Materials delivered to the Buyback/Drop-off center. If Contractor receives Quality Incentive Payments for color-sorted glass, those will be considered Recyclables revenue to be shared in accordance with this Section 6.3.

B. Contractor shall report monthly to City Contract Manager the percentage of the gross sales revenue earned during the preceding month from the sale of material described in Section 6.4.A to which the City is entitled under Section 5.5 (the portion not due to Contractor) and Exhibit P, based on the Diversion Level achieved during that month as shown on the monthly statement from Contractor required by Section 6.4. The City shall deduct this total monthly revenue from the monthly installment of the Basic Annual Payment. The amount to be deducted by the City will be all revenues earned that Contractor is not entitled to retain under Section 5.5.

C. In any month that the total gross revenue from Recyclables is below $480,000.00 (the Recyclables revenue "floor"), the Contractor's share of such revenue shall be calculated under this Section 6.3 and Exhibit P as though such revenue were $480,000.00, with the City paying Contractor any shortfall between the amount of such revenue and Contractor's deemed share. If in any month the total gross revenue from Recyclables exceeds $530,000.00 (the Recyclables revenue "ceiling"), the Contractor's share of such revenue shall be calculated under Section 6.6 and Exhibit P as though such revenue were $530,000.00, and the City shall be entitled to any amount in excess of Contractor's deemed share. Examples of revenue sharing calculations utilizing the "floor" and "ceiling" are included in Exhibit U, Contractor's Cost Forms. The "floor" and "ceiling" amounts will be adjusted as of July 1, 2022 and as of July 1 annually thereafter by the same percentage that the "remainder" component of the Basic Annual Payment in Section 5.2 is adjusted.

6.4 Monthly Contractor's Statement

A. On or before the twentieth (20th) day of each calendar month, Contractor shall submit to City Contract Manager a statement showing amounts due to Contractor and City under Sections 6.1 through 6.5. With respect to amounts due under Section 6.5, the statement shall include at least the following information:

1. The amount (in Tons) of Source Separated Recyclable Materials, Source Separated Yard Trimmings, and Source Separated Food Scraps delivered to the Station during each day of the preceding month by each of the Partner Agencies and/or their Designated Haulers;

2. The amount (in Tons) of Recyclable Materials delivered to the Buyback/Drop-off Center during each day of the preceding month;

3. The amount (in Tons) of Recyclable Materials recovered by Contractor from Municipal Solid Waste delivered to the Tipping Floor;

4. The amount (in Tons) of Recyclable Materials sold by type and grade, and the total sales price; and

5. A daily accounting showing the following information for each sales transaction:

   - date of sale;
   - type of material sold and grade, if applicable;
   - quantity of material sold;
   - unit price;
   - total revenue due from sale;
   - name and address of purchaser; and
   - a copy of the sales invoice, purchase order or other document evidencing transfer of title.

   Contractor shall utilize the appropriate reporting forms in Exhibit O.

   City will consider adopting reporting systems and procedures that will protect the confidentiality of parties to brokered transactions, if Contractor advises that doing so would enhance the marketability or market price of Recyclable Materials. City has no obligation to

adopt or implement any such system and its decision on this matter will be in its sole discretion.

B. City Contract Manager may request additional information regarding a report within thirty (30) days from receipt. Such request shall be in writing and shall describe the information requested with reasonable specificity. Contractor shall furnish the requested information to City within thirty (30) days from the date of the request. City Contract Manager shall notify Contractor within thirty (30) days after receipt of the initial report and payment, or within thirty (30) days after receipt of the additional information if such information is requested, of any dispute as to the accuracy of the report and the amount of the payment. City may withhold payment on disputed items or on charges to City that are not properly documented.

6.5 Adjustments to and Reconciliation of Recyclable Sales Revenues

A. If Contractor and purchasers adjust the sales price for materials after the initial sales transaction to account for agreed-upon differences in quantities (due to moisture loss, for example) or quality (due to grade determinations), Contractor shall notify City Contract Manager within one hundred twenty (120) days after the close of the month in which the sale was initially made and an adjustment shall be made (up or down) in the amount of revenue due to City to reflect the ultimate sales price. This adjustment procedure does not allow Contractor to reduce amounts owed City due to purchaser default; credit sales are at the sole risk of Contractor.

B. The parties shall, during July of each year, perform an annual reconciliation of the allocation of Recyclable Materials revenues by calculating the annual Diversion level for the preceding Fiscal Year per Exhibit S, determining the corresponding revenue allocations per Exhibit P, and applying those percentages to the total amount of revenue earned during that Fiscal Year. (In July 2022, the reconciliation will cover the previous six months). The resulting dollar amounts will be compared with the sum of the monthly payments to the City and any adjustment (which is not expected to be large) made by means of a credit or debit to Contractor on the next monthly installment of Contractor's Basic Annual Payment. Beginning in July 2022, the Recyclables revenue "floor" and "ceiling" in Section 6.3.C shall be applied to this annual reconciliation, with the annual Recyclables revenue "floor" calculated as twelve (12) times the monthly Recyclables revenue "floor" and the annual Recyclables revenue "ceiling" calculated as twelve times the the monthly Recyclables revenue ceiling (with a six month "floor" and "ceiling" calculation utilized for the period of January 1 through June 30, 2022).

6.6 Host Fee and Land Rent Reports

In order to assist City in separately collecting the Host Fee and Land Rent from the other Partner Agencies, on or before the twentieth (20th) day of each month, Contractor shall submit to City Contract Manager a report showing: (1) the amount (in Tons or yards, whichever is applicable) of Municipal Solid Waste, Source Separated Recyclable Materials, and Source Separated Organic Materials delivered to the Station on each day of the preceding month; (2) the total amount of Municipal Solid Waste, Source Separated Recyclable Materials andSource Separated Organic Materials (in Tons or yards) delivered to the Station during the preceding month; and a breakdown showing how many Tons or yards of Municipal Solid Waste, Source Separated Recyclable Materials and Source Separated Organic Materials from cities that are not Partner Agencies, if any, and from all other sources during the preceding month.

City Contract Manager may request additional information regarding a report within thirty (30) days from

its receipt. Such request shall be in writing and shall describe the information requested with reasonable specificity. Contractor shall furnish the requested information to City Contract Manager within thirty (30) days from the date of the request. City Contract Manager shall notify Contractor within thirty (30) days after receipt of the initial report, or within thirty (30) days after receipt of the additional information, if such information was requested, of any dispute as to the accuracy of the report.

ARTICLE 7. INDEMNITY, INSURANCE, BONDS

7.1 Indemnification

Contractor shall indemnify, defend and hold harmless City, the other Partner Agencies and its and their respective officers, employees and agents from and against any and all loss, liability, penalty, forfeiture, claim, demand, action, proceeding or suit, of any and every kind and description, whether judicial, quasi-judicial or administrative in nature including, but not limited to, injury to and death of any Person and damage to property or for contribution or indemnity claimed by third parties (collectively, the "Claims"), arising out of or occasioned in any way by, directly or indirectly, Contractor's performance of, or its failure to perform, its obligations under this Agreement. The foregoing indemnity shall not apply to the extent that the Claim is caused solely by the negligence or intentional misconduct of City, another Partner Agency or its or their respective officers, employees or agents, but shall apply if the Claim is caused by the joint negligence of Contractor and such other Persons. Upon the occurrence of any Claim, Contractor, at Contractor's sole cost and expense, shall defend (with attorneys reasonably acceptable to City) City, the other Partner Agencies and its and their respective officers, employees, and agents. Contractor's duty to indemnify and defend shall survive the expiration or earlier termination of this Agreement.

7.2 Insurance

A. Types and Amounts of Coverage

Contractor, at Contractor's sole cost and expense, shall procure from an insurance company or companies licensed to do business in the State of California and maintain in force at all times during the Term the following types and amounts of insurance:

1. Workers' Compensation and Employer's Liability

Contractor shall maintain workers' compensation insurance covering its employees in statutory amounts and otherwise in compliance with the laws of the State of California. Contractor shall maintain Employer's Liability insurance in an amount not less than Ten Million Dollars ($10,000,000) per accident or disease. Provided, however, that Contractor shall not be obligated to carry workers' compensation insurance if (1) it qualifies under California law and continuously complies with all statutory obligations to self-insure against such risks; (2) provides a Certificate of Permission to Self-Insure issued by the Department of Industrial Relations; and (3) provides a certified copy of the permit renewing authorization for such self-insurance at leastten (10) days before expiration of the old permit.

2. Commercial General Liability

Contractor shall maintain Commercial General Liability insurance with a combined single limit of not less than Twelve Million One Hundred Thousand Dollars ($12,100,000) per occurrence and Twelve Million One Hundred Thousand Dollars ($12,100,000) aggregate covering all claims and all legal liability for personal injury, bodily injury, death, and property damage, including the loss of use thereof, arising out of, or

occasioned in any way by, directly or indirectly, Contractor's performance of, or its failure to perform, services under this Agreement. The minimum limits of insurance required above may be satisfied by a combination of primary and umbrella or excess insurance coverage otherwise meeting the requirements of this Section 7.2, provided that any umbrella or excess insurance contains, or is endorsed to contain, a provision that it will apply on a primary basis for the benefit of the Partner Agencies, and any insurance or self-insurance maintained by Partner Agencies, their officials, employees, or volunteers will be in excess of Contractor's umbrella or excess coverage and will not contribute to it.

The insurance required by this Subsection shall include:

a) Premises Operations, including use of owned and non-owned equipment;

b) Independent Contractor's Protective;

c) Products and Completed Operations, protecting against possible liability resulting from use of Recyclable Materials by another Person;

d) Personal Injury Liability with Employment Exclusion deleted;

e) Broad Form Blanket Contractual, including Contractor's Obligation under Section 7.1, with no exclusions for bodily injury, personal injury or property damage;and

f) Broad Form Property Damage, including Completed Operations.

The Commercial General Liability insurance required by this Section 7.2.A.2 shall be written on an "occurrence" (not an "accident"), rather than a "claims made" basis, in a form at least as broad as the most current version of the Insurance Services Office commercial general liability occurrence policy form (CG 0001). If coverage is not obtainable, Contractor must arrange for "tail coverage" on a claims made policy to protect City from claims filed within four years after the expiration or termination of this Agreement relating to incidents that occurred prior to such expiration or termination. Any excess or umbrella policies shall be on a "following form" basis. The policy limit shall be adjusted at five (5) year intervals to reflect changes in the Index utilizing the same indices and procedures provided in Section 5.2, rounded to the nearest One Hundred Thousand Dollars ($100,000).

3. Automobile Liability

For bodily injury (including death) and property damage which provides total limits of not less than Five Million Dollars ($5,000,000) combined single limit per occurrence applicable to all owned, non-owned and hired vehicles. ISO form CA 0001 or equivalent is required. Coverage shall include MCS-90 endorsement. The minimum limits of insurance required above may be satisfied by a combination of primary and umbrella or excess insurance coverage otherwise meeting the requirements of this Section 7.2, provided that any umbrella or excess insurance contains, or is endorsed to contain, a provision that it will apply on a primary basis for the benefit of the Partner Agencies, and any insurance or self-insurance maintained by Partner Agencies, their officials, employees, or volunteers will be in excess of Contractor's umbrella or excess coverage and will not contribute to it.

4. Physical Damage

Contractor shall maintain comprehensive (fire, theft and collision) physical damage insurance covering (a)

the vehicles and equipment used in providing service to City under this Agreement, with a deductible or self-insured retention not greater than Fifty Thousand Dollars ($50,000), and (b) Recyclable Materials at the Station Site or in transit to a purchaser, with no deductible or self-insured retention. Regardless of the foregoing, for the tractors and trailers used in providing services under this Agreement Contractor shall be allowed to self-insure for physical damage provided Contractor provides adequate audited financial information to City and City is reasonably satisfied that Contractor has the financial net worth to cover any losses. Contractor must also carry comprehensive physical damage insurance with a deductible of not more than One Hundred Thousand Dollars ($100,000) applicable to a casualty occurring while such vehicles are parked.

5. Pollution Liability

Contractor shall maintain Contractor's pollution liability insurance with limits in an amount of not less than Five Million Dollars ($5,000,000) per occurrence and annual aggregate covering claims for on-site, under-site, or off-site bodily injury and property damage and remediation as a result of pollution conditions arising out of its operations under this Agreement.

6. Cyber Liability

Contractor will maintain cyber liability insurance with a combined single limit of not less than One Million Dollars ($1,000,000) per event. Contractor's cyber policy must include language related to Contractor data breach. Contractor shall verify by providing City a copy of the Declarations Page for the policy for City review prior to the Commencement Date.

The insurance required by this subsection includes:

a) Premises Operations;

b) Independent Contractor's Protective;

c) Products and Completed Operations;

d) Personal Injury Liability with Employment Exclusion deleted;

e) Broad Form Blanket Contractual, including Contractor's Obligation under Section 9.1;

f) Automobile Liability that includes Owned, Non-Owned, and Hired Motor Vehicles; and

g) Broad Form Property Damage, including Completed Operations.

The insurance policies required by this Section 7.2 shall be issued by an insurance company or companies admitted to do business in the State of California, and with a rating in the most recent edition of Best's Insurance Reports of size category XV or larger and a rating classification of A- or better. However, if Contractor demonstrates that such insurance is unavailable on reasonable terms from insurers with such ratings, it may request approval of insurers with a rating of not less than A- VII in the then most recent edition of Best's Insurance Reports and City shall not unreasonably refuse such a request. Under no circumstances shall the insurer be rated less than "A-."

B. Required Endorsements

1. The Worker's Compensation and Employers' Liability policy shall contain endorsements in substantially the following form:

"Insurer waives all right of subrogation against City and its officers andemployees arising from work performed for City."

2. The Commercial General Liability, Hazardous Materials and Pollution Liability policies shallcontain endorsements in substantially the following form:

   a) "The Cities of Sunnyvale and Mountain View, and their officers, employees, and agents, are additional insureds on this policy."

   b) "This policy shall be considered primary insurance as respects any other valid and collectible insurance maintained by the City of Sunnyvale, including any self-insured retention or program of self-insurance, and any other such insurance shall be considered excess insurance only."

   c) "Inclusion of the City of Sunnyvale and Mountain View as an insured shall not affect the Partner Agencies' rights as respects any claim, demand, suit or judgment brought or recovered against the Contractor. This policy shall protect Contractor and the Partner Agencies in the same manner as though a separate policy had been issued to each, but this shall not operate to increase the company's liability as set forth in the policy beyond the amount shown or to which the company would have been liable if only one party had been named as an insured."

3. The physical damage policy shall contain the following endorsements:

   a) Cross liability endorsement, as provided in Subsection B.2(c).

   b) Waiver of subrogation against City.

   c) Proceeds to be paid to City to the extent of loss of or damage to Recyclable Materials.

C. Delivery of Proof of Coverage

No later than thirty (30) days before the commencement of operations (e.g., December 1, 2021) Contractor shall furnish City certificates of each policy of insurance on a Standard ACORD form substantiating that each of the coverages required hereunder, in form and substance satisfactory to City. Such certificates shall show the type and amount of coverage, effective dates and dates of expiration of policies and shall have all required endorsements. If City requests, copies of each policy together with all endorsements shall also be promptly delivered to City.

Contractor shall furnish renewal certificates to City to demonstrate maintenance of the required coverages throughout the Term.

D. Other Insurance Requirements

1. In the event any services are delegated to a Subcontractor, Contractor shall require such Subcontractor to provide statutory workers' compensation insurance and employer's liability insurance for all of the Subcontractor's employees engaged in the work. The liability insurance required by Subsection 7.2.A.2 shall cover all Subcontractors or the Subcontractor must furnish evidence of insurance provided by it meeting all of the requirements of this Section 7.2.

2. Contractor shall comply with all requirements of the insurers issuing policies. The carrying of insurance shall not relieve Contractor from any obligation under this Agreement, including those imposed by Section 7.1. If any claim is made by any third Person against Contractor or any Subcontractor on account of any occurrence related to this Agreement, Contractor shall promptly report the facts in writing to the insurance carrier and to the City. If Contractor fails to procure and maintain any insurance required by this Agreement, City may take out and maintain, at Contractor's expense, such insurance as it may deem proper and deduct the cost thereof from any monies due Contractor.

3. City is not responsible for payment of premiums for or deductibles under any required insurance coverages. All deductibles and self-insured retentions must be disclosed to and approved by the City's Risk Manager.

4. Contractor shall provide no less than 30 days' advance notice to the City in the event that any insurance required by this Agreement is cancelled or modified so that it no longer meets the requirements of this Agreement.

5. Any waivers of or deviations from the insurance requirements in this Agreement must be reviewed and approved by the City's Risk Manager. The City's Risk Manager is authorized to approve such waivers or deviations. Contractor will submit a request for waivers or deviations pursuant to Section 10.6 of this Agreement.

7.3 Faithful Performance Bond

Not later than ten (10) days before the Effective Date, Contractor shall file with City a bond securing the Contractor's faithful performance of its obligations under this Agreement. The principal sum of the bond shall be Two Million Three Hundred Twenty Five Thousand Dollars ($2,325,000). The form of the bond shall be as set out in Exhibit Q. The bond shall be executed as surety by a corporation admitted to issue surety bonds in the State of California, regulated by the California Insurance Commissioner and with a financial condition and record of service satisfactory to City.

The term of the bond shall be not less than twenty-four (24) months, or until December 31, 2024, whichever occurs first. The bond shall be extended, or replaced by a new bond in the same principal sum, for the same term (i.e., twenty-four (24) months) and in the same form, bi-annually thereafter, except that the term of the bond furnished to be effective in January 2028 may be limited to the balance of the Term of the Agreement (i.e., until December 31, 2028). Not less than ninety (90) days before the expiration of the bond, the Contractor shall furnish either a replacement bond or a continuation certificate substantially in the form attached as Exhibit Q, executed by the surety. If the City extends the Term of the Agreement, Contractor shall arrange for the term of the bond to be correspondingly extended.

The principal amount of the bond shall be increased in 2026 by the same percentage that the remainder portion of the Basic Annual Payment has been cumulatively increased pursuant to Section 5.2.C.3, rounded to the nearestTwenty-Five Thousand Dollars ($25,000).

It is the intention of this Section 7.3 that there be in full force and effect at all times a bond securing the Contractor's faithful performance of the Agreement, throughout its Term.

7.4 Alternative Security

City may, in its sole discretion, allow Contractor to provide alternative security in the amount set forth in

Section 7.3, in the form of (a) a prepaid irrevocable standby letter of credit in form and substance satisfactory to City and approved by the City Attorney and issued by a financial institution acceptable to City, or (b) a certificate of deposit in the name of the City with a term satisfactory to City and with a financial institution acceptable to City.

7.5 Hazardous Waste Indemnification

Contractor shall indemnify, defend with Counsel approved by the City, protect and hold harmless the City, the other Partner Agencies and its and their respective officers, employees and agents against all claims, of any kind whatsoever paid, incurred or suffered by, or asserted against City, another Partner Agency or its respective officers, employees and agents arising from or attributable to any repair, cleanup or detoxification, or preparation and implementation of any removal, remedial, response, closure or other plan (regardless of whether undertaken due to governmental action) concerning any Hazardous Waste at any place where Contractor stores or disposesof Hazardous Waste pursuant to this Agreement except to the extent that Contractor can demonstrate that such claim arises solely from Hazardous Waste collected and deposited by City employees or employees of any other Partner Agency acting within the ordinary course and scope of their employment. The foregoing indemnity is intended to operate as an agreement pursuant to Section 107(e) of the Comprehensive Environmental Response, Compensation and Liability Act, ("CERCLA"), 42 U.S.C. Section 9607(e), and California Health and Safety Code Section 25364, to defend, protect, hold harmless and indemnify City from liability.

7.6 Integrated Waste Management Act Indemnification

Contractor agrees to indemnify and hold harmless the City, the other Partner Agencies and its and their respective officers, employees and agents against all fines and/or penalties imposed by CalRecycle or the Local Enforcement Agency (LEA): a) based on Contractor's failure to comply with laws, regulations or permits issued or enforced by CalRecycle or the LEA; or, b) caused or contributed to by the Contractor's failure to perform obligations under this Agreement. This indemnity obligation is subject to the limitations and conditions in Public Resource Code Section 40059.1 but is enforceable to the maximum extent allowable by that Section.

ARTICLE 8. CONTRACTOR REPRESENTATIONS AND WARRANTIES

8.1 Corporate Status

Contractor is a corporation duly organized, validly existing and in good standing under the laws of the State of California, and is qualified to do business in the State of California. It has the corporate power to own its properties and to carry on its business as now owned and operated and as required by this Agreement.

8.2 Corporate Authorization

Contractor has the authority to enter into and perform its obligations under this Agreement. The Board of Directors of Contractor (or the shareholders, if necessary) have taken all actions required by law, its Articles of Incorporation, its Bylaws or otherwise to authorize the execution of this Agreement. The Person signing this Agreement on behalf of Contractor has authority to do so.

8.3 No Conflict with Applicable Law or Other Documents

Neither the execution and delivery by Contractor of this Agreement, nor the performance by Contractor of its obligations hereunder (1) conflicts with, violates or will result in a violation of any existing Applicable

Law; or (2) conflicts with, violates or will result in a breach or default under any term or condition of any existing judgment, order or decree of any court, administrative agency or other governmental authority, or of any existing contract or instrument to which Contractor is a party, or by which Contractor is bound.

8.4 No Litigation

There is no action, suit, proceeding, or investigation at law or in equity, before or by any court or governmental entity, pending or, to the knowledge of Contractor, threatened against Contractor, or otherwise affecting Contractor, wherein an unfavorable decision, ruling, or finding, in any single case or in the aggregate, would materially adversely affect Contractor's performance hereunder, or which, in any way, would adversely affect the validity or enforceability of this Agreement, or which would have a material adverse effect on the financial condition of Contractor.

8.5 Financial Condition

Contractor has made available to City information on its financial condition. Contractor recognizes that City has relied on this information in evaluating the sufficiency of Contractor's financial resources to perform this Agreement. To the best of Contractor's knowledge, this information is complete and accurate, does not contain any material misstatement of fact and does not omit any fact necessary to prevent the information provided from being materially misleading.

8.6 Expertise

Contractor has the expertise and professional and technical capability to perform all of its obligations under this Agreement.

ARTICLE 9. DEFAULT AND REMEDIES

9.1 Events of Default

Each of the following shall constitute an event of default ("Contractor Default") hereunder:

A. Contractor fails to perform any of its obligations under this Agreement, or any present or future supplement to this Agreement and fails to cure such breach (1) within thirty (30) days of receiving notice from City specifying the breach, provided that if the nature of the breach is such that it will reasonably require more than thirty (30) days to cure, Contractor shall not be in default so long as Contractor promptly commences the cure and diligently proceeds to completion of the cure; or (2) immediately, if the breach is such that the health, welfare or safety of the public is endangered thereby.

B. There is a seizure or attachment of, or levy on, the operating equipment of Contractor used at the Station, including without limitation, its vehicles, maintenance or office facilities, of such proportion as to substantially impair Contractor's ability to perform under this Agreement, and which is not released, bonded or otherwise lifted within two (2) business days.

C. There is any termination or suspension from any cause, including, without limit, labor unrest including strike, work stoppage or slowdown, sickout, picketing, or other concerted job action, of (a) the Contractor's ability to accept incoming materials at the Station for more than two (2) days, or (b) its ability to conduct operations as described in Section 3.5 for more than fourteen (14) days.

D. Contractor files a voluntary case for debt relief under any applicable bankruptcy, insolvency, debtor relief, or other similar law now or hereafter in effect, or shall approve of the appointment of or taking of possession by a receiver, liquidator, assignee, trustee, custodian, sequestrator (or similar official) of Contractor for any part of Contractor's operating assets or any substantial part of Contractor's operating assets or any substantial part of Contractor's property, or shall make any general assignment for the benefit of Contractor's creditors, or shall fail generally to pay Contractor's debts as they become due or shall take any action in furtherance of any of the foregoing.

E. A court having jurisdiction enters a decree or order for relief in respect of the Agreement, in any involuntary case brought under any bankruptcy, insolvency, debtor relief, or similar law now or hereafter in effect, or Contractor consents to or fails to oppose any such proceeding, and such proceeding shall remain undismissed or unstayed for a period of ninety (90) days or any such court enters a decree or order appointing a receiver, liquidator, assignee, custodian, trustee, sequestrator (or similar official) of the Contractor or for any part of the Contractor's operating equipment or assets, or orders the winding up or liquidation of the affairs of the Contractor.

F. Contractor fails to furnish a replacement bond or a continuation certificate of the existing bond not less than sixty (60) days before expiration of the performance bond, as required by Section 7.3 of the Agreement or fails to maintain all required insurance coverages in force. The default shall occur immediately upon such failure without any necessity for notice from City of the breach and there shall be no opportunity to cure such breach. City shall have the right to give notice of termination under Section 9.2 immediately upon such default.

G. Contractor fails to provide reasonable assurance of performance required under Section 10.19.

H. Any representation or warranty contained in Article 8 proves to be false or misleading in a material respect as of the date such representation or warranty was made.

9.2 Right to Suspend or Terminate Upon Default

A. Upon any Contractor Default, City shall have the right to suspend or terminate this Agreement, in whole or in part. Such suspension or termination shall be effective thirty (30) days after City has given notice of suspension or termination to Contractor, except that such notice may be effective immediately if the Contractor Default is one which endangers the health, welfare or safety of the public. Notice may be given orally in person or by telephone to the representative of Contractor designated in or under Section 10.12 (or, if he/she is unavailable, to a responsible employee of Contractor) and shall be effective immediately. Written confirmation of such oral notice of suspension or termination shall be sent by personal delivery, facsimile, or other expedited means of delivery to Contractor within twenty-four (24) hours of the oral notification. Contractor shall continue to perform the portion of the Agreement not suspended, in full conformity with its terms.

B. City will also have the right to suspend or terminate this Agreement, upon the same notice provisions, if Contractor's ability to perform is prevented or materially interfered with by a change in permit or law with which, under Sections 3.6 and 10.2 Contractor must comply, or by a cause which excuses nonperformance under Section 10.21 but only in accordance with that Section, despite the fact that nonperformance in any of such cases is neither a breach nor default by Contractor.

9.3 Specific Performance

By virtue of the nature of this Agreement, the urgency of timely, continuous and high-quality service, the lead time required to effect alternative service, and the rights granted by City to Contractor, the remedy of damages for a breach hereof by Contractor is inadequate and City shall be entitled to injunctive relief.

9.4 Right to Perform

If this Agreement is suspended and/or terminated due to a Contractor Default, City shall have the right to perform and complete, by contract or otherwise, the work herein or such part thereof as it may deem necessary and to procure labor, equipment, and materials and incur all other expenses necessary for completion of the work, including, but not limited to, transportation of Municipal Solid Waste to the Disposal Facility. If such expenses exceed the amounts which would have been payable to Contractor under this Agreement if it had been fully performed by Contractor, then Contractor shall pay the amount of such excess to City.

9.5 City's Remedies Cumulative

City's right to cure under Section 3.18, to suspend or terminate the Agreement under Section 9.2, to obtain specific performance under Section 9.3, and to perform under Section 9.4 are not exclusive, and City's exercise of one (1) such right shall not constitute an election of remedies. Instead, they shall be in addition to any and all other legal and equitable rights and remedies that the City may have, and including a legal action for damages, including incidental, consequential and/or special damages.

9.6 Liquidated Damages

The parties acknowledge (1) that consistent, efficient operation of the Station is of utmost importance, that delays in operations that increase the costs of Partner Agencies' Designated Haulers will affect the payments that Partner Agencies must make to their Designated Haulers, and (3) that City has considered and relied on Contractor's representations as to its quality of service commitment in entering into this Agreement. The parties further recognize that quantified standards of performance are necessary and appropriate to ensure consistent and reliable service. The parties further recognize that if Contractor fails to achieve the performance standards, Partner Agencies and their residents will suffer damages and that it is and will be impracticable and extremely difficult to ascertain and determine the exact amount of damages that Partner Agencies will suffer. Therefore, the parties agree that the following liquidated damage amounts represent a reasonable estimate of the amount of such damages considering all of the circumstances existing on the date of this Agreement, including the relationship of the sums to the range of harm to Partner Agencies that reasonably could be anticipated and anticipation that proof of actual damages would be costly or inconvenient. In placing their initials at the places provided, each party specifically confirms the accuracy of the statements made above and the fact that each party had ample opportunity to consult with legal counsel and obtain an explanation of this liquidated damage provision at the time that this Agreement was made.

Contractor Initial Here:_____ City Initial Here:_____

Contractor agrees to pay (as liquidated damages and not as a penalty) the amount set forth below and further agrees that these amounts may be deducted by City from payments to Contractor by City:

• For each failure to clean the Station floor, as required in Exhibit J, Section 14.	$1,260 per event
• For each notice of violation received from a governmental agency (provided that if a fine or penalty is assessed against the Station due to the inability of City equipment to meet current standards, for example water treatment, Contractor will not be responsible for such fine or penalty).	$1,260 per violation
• For each loaded transfer truck parked outside the tipping floor.	$190 per truck
• For each load improperly tipped outside the designated tipping floor areas.	$190 per load
• For each failure to remove litter and/or conduct sweeping on a daily basis.	$190 per day
• For each failure to properly and timely prepare for rain event as provided in Exhibit Z.	$190 per event
• For repairs to the facility or equipment that are the responsibility of the Contractor and are not commenced within 30 days of a written notice of repair from City Contract Manager or diligently prosecuted to completion.	$190 per day

Each of the above amounts will be adjusted as of July 1, 2022 and as of July 1 annually thereafter by the same percentage that the "remainder" component of the Basic Annual Payment in Section 5.2 is adjusted.

City's right to recover liquidated damages for Contractor's failure to meet the service performance standards shall not preclude City from obtaining equitable relief for persistent failures to meet such standards nor from terminating the Agreement for such persistent failures.

9.7 City Default

City shall be in default under this Agreement ("City Default") in the event City commits a material breach of the Agreement and fails to cure such breach within thirty (30) days after receiving notice from the Contractor specifying the breach, provided that if the nature of the breach is such that it will reasonably require more than thirty (30) days to cure, City shall not be in default so long as City promptly commences the cure and diligently proceeds to completion of the cure. City shall not be in default if a dispute arising under any Section for which arbitration is specified as the method of dispute resolution has been referred to arbitration until thirty (30) days after the arbitrator's final decision has been rendered.

In the event of a City Default, Contractor shall have all remedies available under California law for breach of contract; provided, however, that Contractor will continue to perform all of its obligations hereunder until a court of competent jurisdiction has issued a final judgment declaring that Contractor has the right to terminate this Agreement as a result of a City Default.

9.8 City's Right to Cure

In the event that Contractor fails to perform any of its obligations under Articles 3, 4, 5 or 6 and fails to perform such work within three (3) business days after notice from City, City may (but shall not be obligated to) enter the Station Site with necessary workers and equipment and perform the required work, or engage a third party contractor to do so. In such event, Contractor shall immediately upon demand reimburse City for all costs thereof, including any payments to a third party contractor, with interest after thirty (30) days at prime rate (as established by the Bank of America "reference rate") plus two percent (2%) but not in excess of the maximum interest rate allowed by law. If Contractor fails to make such reimbursement, City may deduct the amounts due from subsequent payments to Contractor

under Article 5.

9.9 Use of Property Upon Default

In the event of Contractor's Default, the City shall have the right to use any of Contractor's equipment, facilities and other property reasonably necessary for the provision of services hereunder. The City shall have the right to continue use of such property until other suitable arrangements can be made for the provision of such services, which may include the award of a contract to another service provider. If the City continues use thereof after the period of time for which Contractor has already been paid, Contractor shall be entitled to the reasonable rental value of such property, which payments (1) shall be used by Contractor to pay rent or debt service on the equipment as it becomes due, and (2) may be treated as part of damages due the City as a result of Contractor's Default. Contractor agrees that it will fully cooperate with the City to effect the City's use of such property, including, if requested by City, arranging for an assignment of its leases of such equipment to City. The City may immediately engage all or any personnel necessary for the provision of services, including, if the City so desires, employees previously employed by Contractor. Contractor further agrees, if the City so requests, to assist the City in securing the services of any or all management or office personnel employed by Contractor whose skills are reasonably necessary for the continuation of services. Contractor agrees that the City's exercise of its rights under this Section 9.9: (i) does not constitute a taking of private property for which compensation must be paid; (ii) will not create any liability on the part of the City to Contractor other than the payment of reasonable rental value as provided for in this Subsection; (iii) does not exempt Contractor from the indemnity provisions of Article 7 which are meant to extend to circumstances arising under this Section 9.9.

9.10 Damages

Contractor shall be liable to City for all direct and consequential damages arising out of Contractor's Default. This Section 9.10 is intended to be declarative of existing California law. The City may offset such damages against sums that would otherwise be due to Contractor.

ARTICLE 10. OTHER AGREEMENTS OF THE PARTIES

10.1 Relationship of Parties

The parties intend that Contractor shall perform the services required by this Agreement as an independent contractor engaged by City and not as an officer or employee of City, nor as a partner of or joint venturer with City. No employee or agent of Contractor shall be deemed to be an employee of City, nor an agent of City except to the extent contemplated by Section 3.17E. Except as expressly provided herein, Contractor shall have exclusive control over the manner and means of conducting the services performed under this Agreement and all Persons performing such services. Contractor shall be solely responsible for the acts and omissions of its officers, employees, Subcontractors and agents. Neither Contractor nor its officers, employees, Subcontractors or agents shall obtain any rights to retirement benefits, workers' compensation benefits, or any other benefits that accrue to City employees by virtue of their employment with City.

10.2 Compliance with Law

In providing the services required under this Agreement, Contractor shall at all times comply with all Applicable Laws of the United States, the State of California and City, and with all applicable regulations promulgated by federal, state, regional or local administrative and regulatory agencies, now in force and

as they may be enacted, issued or amended during the Term and all permits affecting the services to be provided, including but not limited to the Environmental Laws and the Americans with Disabilities Act, 42 U.S.C. 12101, et seq.

10.3 Governing Law

This Agreement shall be governed by, and construed and enforced in accordance with, the laws of the State of California.

10.4 Jurisdiction

Any lawsuits between the parties arising out of this Agreement shall be brought and concluded in the courts of the State of California, which shall have exclusive jurisdiction over such lawsuits. With respect to venue, the parties agree that this Agreement is made in and will be performed in Santa Clara County.

10.5 Assignment

Contractor acknowledges that this Agreement involves rendering a vital service to the City's residents and businesses, and that the City has selected Contractor to perform the services specified herein based on (1) Contractor's experience, skill and reputation for conducting its operations in a safe, effective and responsible fashion, and (2) Contractor's financial resources to maintain the required equipment and to support its indemnity obligations to the City under this Agreement. The City has relied on each of these factors, among others, in choosing Contractor to perform the services to be rendered by Contractor under this Agreement.

A. City Approval Required

Contractor shall not assign its rights or delegate or otherwise transfer its obligations under this Agreement to any other Person without the prior written approval from the City. Any such assignment made without the prior written approval of City shall be void and the attempted assignment shall constitute a breach of this Agreement.

B. Assignment Defined

For the purpose of this Section 10.5, "assignment" shall include, but not be limited to: (i) a sale, exchange or other transfer of substantially all of Contractor's local, regional, and/or corporate assets dedicated to service under this Agreement to a third party; (ii) a sale, exchange or other transfer of ten (10) percent or more of the stock or ownership of Contractor to a Person (other than a transfer of shares in Contractor by the shareholder of such shares to Contractor, to a trust for the benefit of the shareholder's immediate family, to members of the shareholder's immediate family, or to another shareholder of shares in Contractor) except that no cumulative sale, exchange, or transfer of shares may exceed twenty (20) percent during the Term of the Agreement (other than a transfer of shares in Contractor by the shareholder of such shares to Contractor, to a trust for the benefit of the shareholder's immediate family, to members of the shareholder's immediate family, or to another shareholder of shares in Contractor); (iii) any reorganization, consolidation, merger, recapitalization, stock issuance or re-issuance, voting trust, pooling agreement, escrow arrangement, liquidation or other transaction to which Contractor or any of its shareholders is a Party which results in a change of ownership or control of ten (10) percent or more of the value or voting rights in the local, regional, and/or corporate stock of Contractor (excluding as the result of changes in ownership or control between a shareholder of shares in Contractor and a trust for the benefit of the shareholder's immediate family, members of the shareholder's immediate family, or another shareholder of shares in Contractor); (iv) divestiture of an Affiliate (e.g., trucking company,

materials recovery facility, transfer station) used by Contractor to fulfill its obligations under this Agreement; and (v) any combination of the foregoing (whether or not in related or contemporaneous transactions) which has the effect of any such transfer or change of ownership and/or control of Contractor. For purposes of this Section 10.5, the term "proposed assignee" shall refer to the proposed transferee(s) or other successor(s) in interest pursuant to the assignment. For purposes of this Section 10.5, the term “shareholder” shall mean the Person with legal title to shares of the Contractor and “immediate family” shall mean the parents, children, spouses, and siblings, excluding brothers-in-law and sisters-in-law of any shareholder that is a natural Person.

C. Approval Requirements

If Contractor requests City’s consideration of and approval of an assignment, City may deny or approve such request in its sole discretion. No request by Contractor for approval to an assignment need be considered by City unless and until Contractor has met the following requirements:

1. Contractor shall undertake to pay City its reasonable expenses for attorneys’ fees and investigation costs necessary to investigate the suitability of any proposed assignee, and to review and finalize any documentation required as a condition for approving any such assignment;

2. Contractor shall furnish City with audited financial statements of the proposed assignee’s operations for the immediately preceding three (3) operating years;

3. Contractor shall furnish City with satisfactory proof: (1) that the proposed assignee has at least ten (10) years of Municipal Solid Waste/Recycling management experience on a scale equal toor exceeding the scale of operations conducted by Contractor; (2) that in the last five (5) years, the proposed assignee has not been subject to any administrative or judicial proceedings initiated by any federal, state or local agency having jurisdiction over its Municipal Solid Waste/Recycling operations due to any significant failure to comply with state, federal or local laws and that the assignee has provided City with a complete list of such proceedings and their status; (3) that the proposed assignee has at all times conducted its operations in an environmentally safe and conscientious fashion; (4) that the proposed assignee conducts its Municipal Solid Waste management practices in accordance with sound waste management practices in full compliance with all federal, state and local laws regulating the collection and Disposal of waste, including all Environmental Laws; and (5) of any other information required by City to ensure the proposed assignee can fulfill the terms of this Agreement in a timely, safe and effective manner.

10.6 Subcontracting

Contractor shall not engage any Subcontractors without prior written approval from City. Contractor shall notify the City at least thirty (30) days prior to the date on which it proposes to enter into a subcontract. City may approve or deny any such request in its sole discretion. Any request for any waivers of or deviations from the insurance requirements set forth in Section 7.2 of this Agreement must be submitted for review and approval by the City’s Risk Manager prior to the Subcontractor performing any work.

Contractor may, in cases of emergency, engage Subcontractors for up to seven (7) consecutive days. Contractor shall give prompt notice to City of any such emergency subcontracting and any such engagement must be approved by City in writing if it is to extend beyond seven (7) days, or if Contractor wishes to renew after an interval of less than thirty (30) days.

10.7 Binding on Successors

The provisions of this Agreement shall inure to the benefit of and be binding on the successors and permitted assigns of the parties.

10.8 Parties in Interest

Nothing in this Agreement, whether express or implied, is intended to confer any rights on any Persons other than the parties to it and their representatives, successors and permitted assigns, with the express exception of the Partner Agencies, which are third party beneficiaries of City's rights hereunder.

10.9 Waiver

The waiver by either party of any breach or violation of any provisions of this Agreement must be in writing and shall not be deemed to be a waiver of any breach or violation of any other provision nor of any subsequent breach of violation of the same or any other provision. The subsequent acceptance by either party of any monies that become due hereunder shall not be deemed to be a waiver of any pre-existing or concurrent breach or violation by the other party of any provision of this Agreement.

10.10 Contractor's Investigation; No Warranties by City

Contractor has made an independent investigation (satisfactory to it) of the conditions and circumstances surrounding the Agreement and the work to be performed by it, including the nature and amount of the Municipal Solid Waste generated within the City and the Partner Agencies and the Diversion programs now in effect in the City and other Partner Agencies. The Agreement accurately and fairly represents the intentions of Contractor, and Contractor enters into the Agreement on the basis of that independent investigation and analysis.

Contractor has had the opportunity to inspect the Station Site; the Station; the equipment installed in the Station; the environmental review documents (including the FEIR and the addendum thereto adopted in August 1992), as well as the permits governing its operation; the Source Reduction and Recycling Elements adopted by each of the Partner Agencies under the Act; the Disposal Contract with Waste Management, Inc.; and the collection agreements between each of the Partner Agencies and their respective Designated Haulers. Contractor further previously provided substantially similar services to City at the Station prior to the Effective Date pursuant to the Prior Agreement.

City makes no warranties in connection with this Agreement. The City expressly disclaims any warranties, either express or implied, as to the merchantability or fitness for any particular purpose of Municipal Solid Waste, Source Separated Recyclable Materials, or Source Separated Yard Trimmings delivered to the Station.

10.11 Condemnation

City reserves the rights to acquire the Contractor's property utilized in the performance of this Agreement through the exercise of the right of eminent domain, in accordance with the procedure described in Section 1605 of the City Charter.

10.12 Notice

All notices, demands, requests, proposals, approvals, consents and other communications which this Agreement requires, authorizes or contemplates shall, except as provided in Section 9.2, be in writing and

shall either be personally delivered to a representative of the parties at the address below or be deposited in the United States mail, first class postage prepaid (certified mail, return receipt requested), addressed as follows:

If to City:
City Manager
City of Sunnyvale
456 West Olive Avenue
P.O. Box 3707
Sunnyvale, CA 94088-3707

With a copy to:
Director of Environmental Services
City of Sunnyvale
456 West Olive Avenue
P.O. Box 3707
Sunnyvale, CA 94088-3707

With a copy to:
City Manager
City of Mountain View
500 Castro St.
P.O. Box 7540
Mountain View, CA 94039

If to Contractor:
Bay Counties Waste Services, Inc
3355 Thomas Road
Santa Clara, CA 95054
Attention: Jerry Nabhan

The address to which communications may be delivered may be changed from time to time by a notice given in accordance with this Section 10.12.

10.13 Representatives of the Parties

A. Representatives of City

The City Contract Manager shall be the City's representative for all purposes of this Agreement. Contractor may rely upon action taken by such designated representative as actions of the City unless they are outside the scope of the authority delegated to him/her by the City as communicated to Contractor.

B. Representatives of Contractor

Contractor shall, by the Effective Date, designate in writing a responsible officer who shall serve as the representative of Contractor in all matters related to the Agreement and shall inform City in writing of such designation and of any limitations upon his or her authority to bind Contractor. City may rely upon action taken by such designated representative as actions of Contractor unless they are outside the scope of the authority delegated to him/her by Contractor as communicated to City.

10.14 Duty of Contractor Not to Discriminate

During the performance of this Agreement, Contractor and its Subcontractors shall not unlawfully

discriminate, harass or allow harassment, against any employee or applicant for employment because of sex, sexual orientation, race, color, religious creed, marital status, denial of family and medical care leave, ancestry, national origin, medical condition (cancer/genetic characteristics), age (40 and above), disability (mental and physical) including HIV and AIDS, denial of pregnancy disability leave or reasonable accommodation. Contractor and Subcontractors shall ensure that the evaluation and treatment of their employees and applicants for employment are free from such discrimination and harassment. Contractor and Subcontractors shall comply with the provisions of the Fair Employment and Housing Act (Gov. Code, §12900 et seq.) and the applicable regulations promulgated thereunder (Cal. Code Regs, tit. 2, §7285.0 et seq.). The applicable regulations of the Fair Employment and Housing Commission implementing Government Code, §12990 (a)–(f), are incorporated into this Agreement by reference and made a part hereof as if set forth in full (Cal. 1808 Code Regs, tit. 2, §7285.0 et seq.). Contractor shall include the non-discrimination and compliance provisions of this clause in all subcontracts to perform work under contract.

10.15 City Environmental Policies

Contractor and its Subcontractors shall comply with City's Sustainable Procurement Policy, Integrated Pest Management Policy, and Green Business certification standards as they may be amended.

10.16 Right to Enter and Inspect Station

City shall have the right, but not the obligation, to observe and inspect all of the Contractor's operations under this Agreement. In connection therewith, City Contract Manager shall have the right to enter the Station during operating hours, speak to any of Contractor's employees and receive cooperation from such employees in response to inquiries. In addition, upon reasonable notice and without interference with Contractor's operations, City Contract Manager may review and copy any of Contractor's operational and business records related to this Agreement, including but not limited to utility bills and records of employee training. If City so requests, Contractor shall make specified personnel available to accompany City employees on inspections and shall provide electronic copies of records stored in electronic media.

10.17 Diversion Programs Not Restricted

Nothing in this Agreement shall restrict City or the other Partner Agencies, or any of them, as to their participation or non-participation, or the nature or extent of their participation in, any Diversion program, developed or operated by City, the other Partner Agencies, or by one (1) or more residents, businesses, commercial, industrial or retail operators, or other Persons, within their respective jurisdictions.

Notwithstanding the foregoing, the City agrees to deliver, or arrange for the delivery, to the Station of all Source Separated Recyclable Materials that are collected from residences within the City and the City of Mountain View by employees of either city, by their respective Designated Haulers, or by other Persons operating a program of collecting Source Separated Recyclable Materials from residences undera contract with the City or the City of Mountain View. The City does not, however, guarantee that it or the City of Mountain View will continue to operate such a program, nor does it guarantee that privately- sponsored residential Diversion programs will not operate within either city or both cities.

10.18 Maintenance and Review of Records, Submission of Reports

Contractor shall compile, on a daily basis, accurate records of its operations at the Station in sufficient

detail to allow for accurate determinations of all matters that require periodic determination under this Agreement, including, but not limited to, Articles 3 through 6 hereof. City shall have the right during regular business hours to review and make copies of (at City's expense) any documents relevant to this Agreement, including, but not limited to, Contractor's payroll records, cash register records, scale records, videotape recordings of transactions at the scale house, and records. All records must be maintained in an electronic format, and backed-up in a manner that assures information can be retrieved quickly and reliably.

Contractor shall prepare and submit complete, accurate and timely reports on forms provided or approved by City, including those reporting forms identified in Exhibit O. All reports are to be provided electronically, unless otherwise specified by City.

Contractor shall maintain accounting, statistical, operational, and other records related to its performance as shall be necessary to provide reporting under this Agreement, Applicable Law, and to demonstrate compliance with this Agreement. Unless otherwise required in this Article 10, Contractor shall retain all records and data required to be maintained by this Agreement for the Term of this Agreement plus four (4) years after its expiration or earlier termination. Records and data shall be in chronological and organized form and readily and easily interpreted. Upon request, any such records shall be retrieved within ten (10) Working Days of a request by the City and made available to the City. Contractor shall maintain adequate record security to preserve records from events that can be reasonably anticipated such as a fire, theft (physical or electronic), and an earthquake. Electronically-maintained data and records shall be protected and backed-up as necessary to ensure no loss of data. To the extent that Contractor utilizes its computer systems to comply with record keeping and reporting requirements under this Agreement, Contractor shall, on a monthly basis, save all system-generated reports supporting those record keeping and reporting requirements in a static format in order to provide an audit trail for all data required.

City views its ability to defend itself against Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), and related litigation as a matter of great importance. For this reason, City regards as extremely important its ability to prove where Recyclable Materials, Organic Materials, Solid Waste and Construction Debris are taken for Diversion, Processing, or Disposal. Contractor shall maintain records which can establish where Recyclable Materials, Organic Materials, Residue, and Construction Debris were Diverted, Processed, or Disposed. This provision shall survive the expiration or earlier termination of this Agreement. Contractor shall maintain these records for a minimum of ten (10) years beyond expiration or earlier termination of the Agreement. Contractor shall provide these records to City (upon request or at the end of the record retention period) in an organized and indexed manner rather than destroying or Disposing of them.

10.19 Right to Demand Assurances of Performance

If Contractor (1) "persistently" suffers the imposition of liquidated damages under Section 9.6; (2) is the subject of any labor unrest including work stoppage or slowdown, sickout, picketing or other concerted job action; (3) appears in the reasonable judgment of City to be unable to regularly pay its bills as they become due; or (4) is the subject of a civil or criminal proceeding brought by a federal, state, regional or local agency for violation of an Environmental Law, City may, at its option and in addition to all other remedies it may have, demand from Contractor reasonable assurances of timely and proper performance of this Agreement, in such form and substance as the City may require.

10.20 Changes in Scope

City Contract Manager may, without amending this Agreement, direct Contractor to cease performing one (1) or more types of service described in Articles 3 and 4, may direct Contractor to modify the scope of one (1) or more such services, may direct Contractor to perform additional Processing services, or may otherwise direct Contractor to modify its performance under any other Section of this Agreement, including, by way of example, directing Contractor to deliver Municipal Solid Waste to a different Disposal Facility, to install (or arrange for installation of) new or additional equipment at the Station, or to utilize new or additional equipment installed by or on behalf of City. Any such direction shall constitute a Change in Scope. Contractor shall promptly and cooperatively comply with such direction.

If any such Change in Scope causes an increase or decrease in Contractor's cost of performing the services, an equitable adjustment shall be made in the Basic Annual Payment and related Exhibits in accordance with this Section 10.20. Contractor's compensation will be adjusted to reflect actual changes in Contractor's costs, without mark-up. Contractor will continue to perform the new or changed service while the appropriate adjustments are being determined.

If City Contract Manager has directed a Change in Scope and either party believes that such Change in Scope will increase or decrease the costs of providing service, the party which believes the Contractor's compensation should be adjusted shall within thirty (30) calendar days submit to the other party a proposed adjustment and the parties shall thereafter meet and confer regarding the proposed Change in Scope. Contractor shall promptly provide all relevant schedules, supporting documentation and other financial information requested by City Contract Manager to evaluate the necessity for an adjustment and the amount thereof. City's Environmental Services Director shall participate in key meetings regarding those adjustments. Within ninety (90) days of the submission of the proposed adjustment, City will determine the equitable amount of the adjustment, if any, and shall thereafter make the adjustment accordingly. Any adjustments will be made effective as of the date the City directed the Change in Scope.

If the Contractor is dissatisfied with the decision of the City, any dispute shall be referred to and resolved by binding arbitration conducted pursuant to the procedures set forth in Exhibit R.

Changes in scope shall include, but shall not be limited to:

- Significant increases or decreases in the Tons of Municipal Solid Waste, Source Separated Recyclable Materials, and/or Source Separated Organic Materials received, as compared to Contractor's Cost Forms, Exhibit U.
- Significant changes in the mix of Municipal Solid Waste, Source Separated Recyclable Materials and Source Separated Organic Materials received, as compared to Contractor's Cost Forms, Exhibit U.
- Significant changes in the composition of Municipal Solid Waste (e.g., a significant reduction in the percentage of recyclable/compostable material in the Municipal Solid Waste as the result of source separation programs).
- Pilot programs and potential new and modified collection programs implemented by Partner agencies.
- A Change in Law as defined in Exhibit A.
- A significant increase or decrease in the distance to City-designated Composting facilities for those compostable materials transported by Contractor (e.g., a Composting facility other than Z-Best).

- Inability to compact Municipal Solid Waste (e.g., compactor is inoperable due to no fault of Contractor).
- Installation of C&D Processing equipment proposed by Contractor.
- Significant City-initiated/approved changes to the Processing equipment (see Exhibit Y).
- Material increases in the cost to Contractor of Subcontractors resulting from replacing one or more Subcontractors and/or paying Subcontractors higher fees where the City Risk Manager does not grant waivers from the insurance requirements in Section 7.2 above for such Subcontractors, or attaches specific coverage requirements as a condition to granting waivers to such Subcontractors, pursuant to Section 7.2 and the definition of "Subcontractor" in Exhibit A. Materiality for purposes of this Subsection shall be $25,000 per year, which amount will be adjusted as of July 1, 2022 and as of July 1 annually thereafter by the same percentage that the "remainder" component of the Basic Annual Payment in Section 5.2 is adjusted.

10.21 Force Majeure

Neither party shall be in default of its obligations under this Agreement in the event, and for so long as, it is impossible or extremely impracticable for it to perform its obligations due to an "act of God" (including, but not limited to, flood, earthquake or other catastrophic events), war, insurrection, riot, pandemic affecting Contractor's operations, labor unrest of other than the party's employees (including strike, work stoppage, slowdown, sick out, picketing, or other concerted job action), or other similar cause not the fault of, and beyond the reasonable control of, the party claiming excuse. A party claiming excuse under this Section 10.21 must have taken reasonable precautions, if possible, to avoid being affected by the cause and shall demonstrate how the event actually, and not potentially, affects its operations or other abilities to meet its obligations under the Agreement.

A. No Excuse from Performance

Neither Contractor nor the City shall be excused from the performance of its obligations under this Agreement except where a party's failure to perform is due to an event of Force Majeure, as defined in this Agreement.

B. Obligation to Restore Ability to Perform

Any suspension of performance by a party pursuant to this Section 10.21 shall be only to the extent, and for a period of no longer duration than, required by the nature of the event, and the party claiming excuse from obligation shall use its best efforts in an expeditious manner to remedy its inability to perform, and mitigate damages that may occur as result of the event.

C. Notice

The party claiming excuse shall deliver to the other party a written notice of intent to claim excuse from performance under this Agreement by reason of an event of Force Majeure. Notice required by this Section 10.21 shall be given promptly in light of the circumstances, but in any event not later than five (5) days after the occurrence of the event of Force Majeure. Such notice shall describe in detail the event of Force Majeure claimed, the services impacted by the claimed event of Force Majeure, the expected length of time that the party expects to be prevented from performing, the steps which the party intends to take to restore its ability to perform, and such other information as the other party reasonably requests.

D. City's Rights in the Event of Force Majeure

The partial or complete interruption or discontinuance of Contractor's services caused by an event of Force Majeure shall not constitute an event of default under this Agreement. Notwithstanding the foregoing: (1) the City shall have the right to make use of Contractor's facilities and equipment in the same manner as described in Section 9.9 of this Agreement in the event of non-performance excused by Force Majeure; (2) if Contractor's excuse from performance for reason of Force Majeure continues for a period of thirty (30) days or more, the City shall have the right, in its sole discretion, to immediately terminate this Agreement; (3) if Contractor is unable to Process, Transfer, and Dispose of Municipal Solid Waste as required by this Agreement for a period of three (3) or more consecutive days or for any (3)-days in a seven (7)-day period as a result of Force Majeure, the City shall have the right to make use of Contractor's property in the same manner as described in Section 9.9, and (4) if Contractor's inability to dispose of Municipal Solid Waste continues for fourteen (14) days or more from the date by which Contractor gave or should have given notice under Subsection C above, the City may terminate this Agreement.

10.22 Cooperation During Transition

At the expiration or earlier termination of the Term, Contractor, at its own expense, shall cooperate fully with the City, as necessary, to ensure an orderly transition to any and all new service providers. In addition, during the last twelve months of the Term, Contractor shall allow prospective operators to observe operations at the Station.

10.23 Reports as Public Records

The reports, records and other information submitted (or required to be submitted) by Contractor to City are public records within the meaning of that term in the California Public Records Act, Government Code Section 6250 *et seq*. Unless a particular record is exempted from disclosure by the California Public Records Act, it must be disclosed to the public by the City upon request.

ARTICLE 11. MISCELLANEOUS AGREEMENTS

11.1 Exhibits

Each of the Exhibits, identified as Exhibits "A" through "AA" is attached hereto and incorporated herein and made a part hereof by this reference.

11.2 Entire Agreement

This Agreement, including the Exhibits, represents the full and entire Agreement between the parties with respect to the matters covered herein and supersedes all prior negotiations and agreements, either written or oral, with respect to such matters, including the Prior Agreement.

Section Headings

The article headings and section headings in this Agreement are for convenience of reference only and are not intended to be used in the construction of this Agreement nor to alter or affect any of its provisions.

11.3 Interpretation

This Agreement shall be interpreted and construed reasonably and neither for nor against either party, regardless of the degree to which either party participated in its drafting.

11.4 Amendment

This Agreement may not be modified or amended in any respect except by a writing signed by the parties.

11.5 Severability

If any non-material provision of this Agreement is for any reason deemed to be invalid and unenforceable, the invalidity or unenforceability of such provision shall not affect any of the remaining provisions of this Agreement that shall be enforced as if such invalid or unenforceable provision had not been contained herein.

11.6 References to Laws

All references in this Agreement to laws and regulations shall be understood to include such laws and regulations as they may be subsequently amended or recodified. In addition, references to specific governmental agencies shall be understood to include agencies that succeed to or assume the functions they are currently performing.

11.7 Coordination with Other Agreements

Contractor acknowledges and agrees to fulfill the obligations of the Station Operator and/or Transfer Station Operator, as set forth in the following Agreements:

1. The 2021 Agreement between the City of Sunnyvale and Zanker Road Resource Management, Ltd. for Organic Materials Processing Services

2. 2021 Agreement between the City of Sunnyvale and Sustainable Organic Solutions, LLC for Organic Materials Processing Services”

3. The Disposal Contract

Provided, however, that in the event of any conflict between the obligations of the Station Operator and/or Transfer Station Operator under any of those agreements and under this Agreement, the obligations under this Agreement shall control.

IN WITNESS WHEREOF, City and Contractor have executed this Agreement as of the day andyear first above written.

ATTEST:

By

David Carnahan, City Clerk

CITY OF SUNNYVALE ("CITY"),
a chartered municipal corporation

By

Kent Steffens, City Manager

APPROVED AS TO FORM:

By

John A. Nagel, City Attorney

BAY COUNTIES WASTE SERVICES, INC.("CONTRACTOR"), a California corporation

By

Name and Title

Name and Title

EXHIBIT A:
DEFINITIONS

EXHIBIT A
DEFINITIONS

1. **Agreement**. "Agreement" means this Agreement between City and Contractor for the Operation of the Sunnyvale Materials Recovery and Transfer Station dated as of December __, 2021, including all exhibits and attachments, and any amendments hereto.

2. **Applicable Law.** "Applicable Law" means all Federal, State, County, and local laws, regulations, rules, orders, judgments, decrees, permits, approvals, or other requirement of any governmental agency having jurisdiction over the Processing and Disposal of Municipal Solid Waste, Source Separated Recyclable Materials, Source Separated Yard Trimmings and Source Separated Food Scraps that are in force on the Effective Date and as may be enacted, issued or amended during the Term of this Agreement. Applicable Law includes, but is in no way limited to, AB 939, AB 341, AB 1826, and SB 1383.

3. **Ash**. "Ash" means the material remaining after incineration of Municipal Solid Waste, including bottom ash and fly ash. "Ash" does not include ashes from residential burning, such as fireplaces, barbecues, etc.

4. **Bulky Waste**. "Bulky Waste" means stoves, refrigerators, other white goods, furniture and other similar waste materials with weights or volumes greater than those allowed in waste collection cans.

5. **Change in Law.** "Change in Law" means any of the following events or conditions that has a material and adverse effect on the performance by either Party of its obligations under this Agreement (except for payment obligations):

   (a) The enactment, adoption, promulgation, issuance, modification, or written change in administrative or judicial interpretation, of any Applicable Law on or after the Effective Date; or

   (b) The order or judgment of any Federal, State, County, or local governmental body, on or after the Effective Date, to the extent such order or judgment is not the result of willful or negligent action, error or omission or lack of reasonable diligence of City or of Contractor, whichever is asserting the occurrence of a Change in Law; provided, however, that the contesting in good faith or the failure in good faith to contest any such order or judgment shall not constitute or be construed as such a willful or negligent action, error or omission or lack of reasonable diligence.

6. **Change in Scope.** "Change in Scope" has the meaning set forth in Section 10.20 of this Agreement.

7. **City**. "City" means the City of Sunnyvale, a municipal corporation, and all of the territory lying within its municipal boundaries as presently existing or as such boundaries may be modified during the Term, as well as unincorporated areas completely surrounded by City which are provided solid waste collection services by City or by a company or companies which from time to time is granted the exclusive right to franchise to collect Municipal Solid Waste for City.

8. **City Contract Manager.** "City Contract Manager" means the Environmental Services Department's Solid Waste Division Manager, or other designee of the Environmental Services Director, who is responsible for the administrative management of this Agreement.

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9. **Composting.** "Composting" means the controlled or uncontrolled biological decomposition of organic constituents such that the resulting material meets the maximum acceptable metal concentration limits specified in Section 17868.2 and pathogen reduction requirements specified in Section 17868.3 of Title 14, California Code of Regulations Chapter 3.1.

10. **Construction Debris**. "Construction Debris" means waste building materials resulting from construction, remodeling, repair or demolition operations.

11. **Contractor**. "Contractor" means Bay Counties Waste Services, Inc., a California corporation.

12. **Designated Hauler**. "Designated Hauler" means the company or companies which from time to time are granted the exclusive right or franchise to collect Municipal Solid Waste within the Partner Agencies and deliver it to the Station.

13. **Designated Waste**. "Designated Waste" means those substances classified as designated waste by the State of California, presently in 23 California Code of Regulations Section 2522.

14. **Disposal**. "Disposal" or "Disposed" means the final disposition of MSW or Residue at the Disposal Facility or at any other landfill or incinerator, or any other final disposition that is not Diversion.

15. **Disposal Contract**. "Disposal Contract" means the Agreement for Long Term Disposal of Solid Waste between the City and Waste Management of California, Inc., dated as of September 10, 1991, and as it may be subsequently amended.. The term Disposal Contract also includes the Mountain View-Waste Management Disposal Contract approved by Mountain View City Council on June 8, 2021, and as it may subsequently be amended.

16. **Disposal Facility**. "Disposal Facility" means the Kirby Canyon Recycling and Disposal Facility located east of U.S. Highway 101 in San Jose, California.

17. **Disposal Fee**. "Disposal Fee" means the amount payable by the Partner Agencies to Waste Management of California, Inc. (or whatever company owns and/or operates the Disposal Facility) for Municipal Solid Waste delivered to the Disposal Facility pursuant to the Disposal Contract including taxes and governmental fees.

18. **Diversion or Divert**. "Diversion" or "Divert" means activities that recover useful materials from MSW, and thus reduce the amount of materials intended for Disposal. Specific Diversion activities directly provided by the Station or on behalf of the Partner Agencies include, but are not limited to, recovery of Organics, Recyclables, and Construction Debris from Processing of MSW and Residue, and from Processing of Source Separated Yard Trimmings, Source Separated Food Scraps, Source Separated Recyclables, and Source Separated Construction Debris. Diversion means to prevent Disposal at landfill or transformation facilities, (including facilities using incineration, pyrolysis, distillation, gasification, or biological conversion methods), reuse, Recycling, Composting, anaerobic digestion or other method of Processing, in accordance with the provisions of AB 939, AB 341, SB 1383, and subsequent legislation. Diversion is a broad concept that is to be inclusive of material handling and Processing changes that may occur over the Term, including, but not limited to, changes in standard industry practice or implementation of innovative (but not necessarily fully

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proven) techniques or technology that reduce Disposal risk, decrease costs and/or are for other reasons deemed desirable by the City.

19. **Diversion Level.** "Diversion Level" means the percentage of the Municipal Solid Waste (including Publicly Hauled Waste) entering the Station which is Diverted from Disposal by Contractor's operations and thereafter Recycled. The Diversion Level will be calculated as shown on Exhibit S.

20. **Effective Date.** "Effective Date" has the meaning set forth in Section 2.1 of the Agreement.

21. **Environmental Laws.** "Environmental Laws" means all federal and state statutes, county and city ordinances concerning public health, safety and the environment including, by way of example and not limitation, the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. Section 9601 *et seq.*; the Resource Conservation and Recovery Act, 42 U.S.C. Section 6901 *et seq.*; the Federal Clean Air Act, 42 U.S.C. Section 7401 *et seq*.; the Federal Clean Water Act, 33 U.S.C. Section 1251 *et seq.*; the Emergency Planning and Community Right to Know Act, 42 U.S.C. Section 11001 *et seq.*; the Occupational Safety and Health Act, 29 U.S.C. Section 651 *et seq.*; the California Integrated Waste Management Act, California Public Resources Code Section 40000 *et seq.*; the California Hazardous Waste Control Act, California Health and Safety Code Section 25100 *et seq*.; the California Toxic Substances Account Act, California Health and Safety Code Section 25300 *et seq*.; the Porter-Cologne Water Quality Control Act, California Water Code Section 13000 et seq.; the Safe Drinking Water and Toxic Enforcement Act, California Health and Safety Code Section 25249.5 *et seq.*; the California Clean Air Act, Health and Safety Code Sections 39000 *et seq.*; the California Hazardous Materials Response Plan and Inventory Act, Health and Safety Code Sections 25500 *et seq*., as currently in force or as hereafter amended, and all rules and regulations promulgated thereunder.

22. **Extended Service Area.** "Extended Service Area" means any area in Santa Clara County, outside the Primary Service Area, from which the City authorizes the Contractor to accept Municipal Solid Waste and/or Recyclable Materials at the Station.

23. **FEIR.** "FEIR" means the Final Environmental Impact Report entitled "Sunnyvale Materials Recovery and Transfer Station Environmental Impact Report" certified by the Sunnyvale City Council on September 25, 1990, including the Draft Environmental Impact Report dated June 18, 1990 and the Final Environmental Impact Report dated September 14, 1990.

24. **Fiscal Year**. "Fiscal year" means the year ending June 30th.

25. **Food Scraps.** "Food Scraps" include: (1) fruit and vegetable trimmings, including peels, pits and cores, (2) dairy products, (3) eggs and shells, (4) meat, bones, shellfish and shells, (5) tea bags, coffee filters and coffee grounds, (6) uneaten food scraps and leftovers, (7) spoiled food, (8) frozen and freezer-burned food (without the packaging).

26. **Food-Soiled Paper.** "Food-Soiled Paper" means compostable paper, paperboard, and cardboard products that have come in contact with food or liquids, such as, but not limited to, compostable paper plates, paper coffee cups, paper napkins, paper towels, paper take-out containers, paper

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clamshells, sandwich wrappers, and pizza boxes. Compostable/Food-Soiled Paper is a subset of Organic Materials. Food-Soiled Paper does not include Non-Compostable Paper.

27. **Garbage.** "Garbage" means putrescible animal, fish, food, fowl, fruit or vegetable matter, or any product thereof, resulting from the preparation, storage, handling or consumption of such substances.

28. **Gate Fee.** "Gate Fee" means the amount (initially $8.35 per Cubic Yard) which Contractor is entitled to collect from users of the Station delivering Publicly Hauled Waste, and to retain. It is a component of the Public Use Fee.

29. **Hazardous Waste.** "Hazardous Waste" means all substances defined or characterized as hazardous waste by the Federal Solid Waste Disposal Act (42 U.S.C. Section 3251 *et seq.*), as amended, including the Resource Conservation and Recovery Act (42 U.S.C. Section 6901 *et seq.*) and all future amendments thereto or regulations promulgated thereunder; all substances defined as hazardous waste, acutely hazardous waste, or extremely hazardous waste by Health and Safety Code Sections 25110.02, 25115, and 25117, and future amendments to or recodifications of such statutes or regulations promulgated thereunder, including 23 California Code of Regulations Sections 2521 and 2522; and radioactive wastes. If two or more governmental agencies having concurrent or overlapping jurisdiction over hazardous waste adopt conflicting definitions of "hazardous waste," for purposes of processing and disposal to land, the broader, more restrictive definition shall be employed for purposes of this Agreement.

30. **Host Fee.** "Host Fee" means an amount which City is entitled to receive for Municipal Solid Waste, Source Separated Recyclable Materials, and Source Separated Organic Materials delivered to the Station from the other Partner Agencies, for Publicly Hauled Waste, and for any materials from outside the Primary Service Area for use of the Station. Contractor is to collect the Host Fee, as a component of the Public Use Fee or Outside User Fee, and remit it to City. The City may designate or adjust the Host Fee with written notice to Contractor, including annual calendar year CPI adjustments beginning January 2023.

31. **Land Rent.** "Land Rent" means an amount which City is entitled to receive for Municipal Solid Waste, Source Separated Recyclable Materials, and Source Separated Organic Materials delivered to the Station from the other Partner Agencies, for Publicly Hauled Waste, and for any materials from outside the Primary Service Area for use of the Station. Contractor is to collect the Land Rent, as a component of the Public Use Fee or Outside User Fee, and remit it to City. The City may designate or adjust the Land Rent with written notice to Contractor, including annual calendar year CPI adjustments beginning January 2023.

32. **Maintenance Waste.** "Maintenance Waste" means the following materials collected by maintenance employees of a Partner Agency or by private contractors hired by a Partner Agency: Debris from street and sewer repairs; debris from street sweepings unsuitable for composting; grass clippings, leaves and tree trimmings mixed with other non-compostable wastes from maintenance of parks, streets, median strips and other city property; rock and concrete; concrete and asphalt pavement from streets; and tree stumps.

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33. **Medical Waste.** "Medical Waste" means those materials defined in Health and Safety Code Section 25023.2 and does not include waste identified as not being medical wastes in Section 25023.8.

34. **Memorandum of Understanding.** "Memorandum of Understanding" or "MOU" means the 2022 Memorandum of Understanding Among the Cities of Mountain View and Sunnyvale Relating to the Operation of a Materials Recovery and Transfer Station.

35. **Minimum Diversion Level.** "Minimum Diversion Level" means the then-applicable percentage shown in Section 3.5.B which Contractor is obligated to Divert.

36. **MRF Fines.** "MRF Fines" means the 2" minus material fraction (i.e., material equal to or less than 2 inches in diameter) that results from mechanized sorting, and which is high in organic content.

37. **Municipal Solid Waste, MSW.** "Municipal Solid Waste" or "MSW" means all substances or materials that are discarded or rejected as being spent, useless, worthless or in excess of the owner's needs at the time of discard or rejection including, without limitation, all putrescible and non-putrescible solid and semi-solid waste including garbage, Rubbish, Maintenance Waste, Bulky Wastes, industrial wastes, Construction Debris, and grit and sweepings from a Water Pollution Control Plant, which are generated by residential, commercial, industrial, institutional, municipal, agricultural and other activities and which are not otherwise restricted in a Class III landfill by State or Federal regulations and which are delivered to the Station. Municipal Solid Waste does not include: (1) Hazardous Waste; (2) Designated Waste; (3) Medical Waste; (4) Ash; (5) Source Separated Organic Materials; (6) Source Separated Recyclable Materials; (7) materials segregated for Processing and recycling at the Station once they have been so segregated and Processed.

38. **Non-Compostable Paper.** "Non-Compostable Paper" includes, but is not limited to, paper, paperboard, and cardboard products that are coated with any substance, such as wax or plastic, which prevents the paper from breaking down in the composting process, or as otherwise defined in 14 CCR Section 18982(a)(41). For purposes of this Agreement, Non-Compostable Paper includes "waxed" corrugated cardboard and any paper container designed to hold liquid (e.g. cups, cartons, and soup containers). Non-Compostable Paper does not include paper towels and napkins or most paper plates, bowls, or take-out containers.

39. **Organic Materials.** "Organic Materials" or "Organics" means material originated from living organisms and their metabolic waste products, including, but not limited to, food, green materials, landscape and pruning waste, lumber, wood, paper products, printing and writing paper, Yard Trimmings, Food Scraps, Food -Soiled Paper, MRF Fines, or as otherwise defined by the City. As of the Effective Date and unless modified by the City, Organics does not include organic textiles and carpets, manure, biosolids, digestate, and sludges.

40. **Other Tons.** "Other Tons" means MSW, Source Separated Recyclable Materials, Source Separated Yard Trimmings, Source Separated Food Scraps or other materials originating from outside of the Primary Service Area, and approved by City for delivery to the Station.

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41. **Outside User Fees.** "Outside User Fees" means the amounts established by City that Contractor is to collect from users of the Station from outside the Primary Service Area, and is required to remit to City.

42. **Partner Agencies.** "Partner Agencies" means the cities of Mountain View and Sunnyvale, or either of them, as the context requires.

43. **Person.** "Person" includes any individual, firm, association, organization, partnership, corporation, business trust, joint venture, the United States, the State of California, the County of Santa Clara, municipality or special purpose district or any other entity whatsoever.

44. **Primary Service Area.** "Primary Service Area" means the geographical area within the jurisdiction of the Partner Agencies and any contiguous areas which are served by the Designated Hauler(s) of one or more Partner Agencies.

45. **Prior Agreement**. "Prior Agreement" means the Agreement between the City of Sunnyvale and Bay Counties Waste Services, Inc. for Operation of the Sunnyvale Materials Recovery and Transfer Station dated June 30, 2014, as amended, including the signed March 2020 Equitable Adjustment for Change in Scope of Work Diversion of 100% of Recovered MRF Fines.

46. **Processing.** "Processing" or "Process" means the recovery, separation, segregation, sorting, screening, cleaning, reducing, grinding, shredding, auguring, condensing, densifying, baling, compacting, Composting, Recycling, or otherwise preparing for market commodities from MSW, Source Separated Recyclable Materials, Source Separated Yard Trimmings, Source Separated Food Scraps or other materials as may be delivered to the Station.

47. **Public Use Fee.** "Public Use Fee" means amounts established by City to be charged to persons delivering Publicly Hauled Waste to the Station.

48. **Publicly Hauled Waste.** "Publicly Hauled Waste" means Municipal Solid Waste, Source Separated Organic Materials, and Source Separated Recyclable Materials delivered to the Station by persons other than the Partner Agencies and/or their Designated Haulers.

49. **Recyclable Materials.** "Recyclable Materials" or "Recyclables" means any materials pulled out of the waste stream, including domestic, commercial or industrial by-products of some potential value which are set aside, handled, packaged or offered for collection in a manner different from Garbage, Rubbish or other forms of Municipal Solid Waste.

50. **Recycle; Recycling.** "Recycle" or "Recycling" means the process of collecting, sorting, cleaning, treating and reconstituting materials and returning them to the economic mainstream in the form of raw material for new, reused or reconstructed products which meet the quality standards necessary to be used in the marketplace. "Recycle" or "Recycling" does not include Transformation, except for the Transformation or biomass conversion of wood (but not wood by-products, such as paper) to produce fuel.

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51. **Regulations or SB 1383 Regulations**. "Regulations" or "SB 1383 Regulations" means those sections of the California Code of Regulations issued by CalRecycle in November 2020 to implement SB 1383. Citations to sections of the Regulations refer to sections of Titles 14 and 27 of the California Code of Regulations adopted or amended by the Regulations.

52. **Residue.** "Residue" means unrecoverable materials remaining after Processing of MSW, Source Separated Recyclable Materials, Source Separated Yard Trimmings, or other materials delivered to the Station for which there are no other options for viable use and which therefore must be disposed of in a landfill.

53. **Rubbish.** "Rubbish" means all waste wood, wood products, printed materials, paper, pasteboard, rags, straw, used and discarded clothing, packaging materials, ashes from residential burning, floor sweepings, glass, and other waste materials not included in the definition of Garbage, Hazardous Waste, or Yard Trimmings.

54. **SB 1383.** "SB 1383" means the Short-Lived Climate Pollutants Act of 2016 (an act to add Sections 39730.5, 39730.6, 39730.7, and 39730.8 to the Health and Safety Code, and to add Chapter 13.1 [commencing with Section 42652] to Part 3 of Division 30 of the Public Resources Code, relating to methane emissions), also commonly referred to as "SB 1383," as amended, supplemented, superseded, and replaced from time to time.

55. **Sharps.** "Sharps" means sharp-edged or pointed medical implements, such as needles, lancets, etc.

56. **Source Separated.** "Source Separated" or "Source Separation" means the segregation, by the Generator, of materials designated for separate Collection for some form of Recycling, Composting, recovery, or reuse.

57. **Station.** "Station" means the facility owned by the City which is utilized to receive Municipal Solid Waste, Recyclable Materials, and Organic Materials, to temporarily store, separate, recover, convert or otherwise Process such materials, to Recycle materials from the Municipal Solid Waste and to transfer the remaining Municipal Solid Waste, including Residue, to Transfer Vehicles for transport to the Disposal Facility.

58. **Station Site.** "Station Site" means the area (approximately 9 acres) on which the Station and appurtenances are located.

59. **Stranded Assets.** "Stranded Assets" means equipment and vehicles, including, but not limited to, trucks, trailers, loader, and forklifts, purchased by Contractor pursuant to this agreement, with prior written City approval, after January 1, 2022, depreciated over ten (10) years, that have not been fully depreciated as of the expiration or earlier termination of this Agreement.

60. **Study.** "Study" means a waste characterization study.

61. **Subcontractor.** "Subcontractor" means a Person who has entered into a contract, express or implied, with the Contractor for the performance of an act that is necessary for, and directly related to, the Contractor's fulfillment of its obligations for providing service under this Agreement. As of

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the Effective Date, Subcontractors include, without limitation: Persons providing, at a minimum, the following services as subcontractors to Contractor in connection with Contractor's services under this Agreement: (i) Hazardous Waste and Universal Waste clean-up and removal services (ii) rolling stock on-site repair, (iii) major compactor repair, (iv) fire monitoring system repair and maintenance, (v) major electrical work , (vi) major equipment repair, (vii) refrigerator fluid removal, (viii) sharps collection, (ix) storm water sampling, (x) storm water system maintenance, (xi) on-site tire repair, (xii) used motor oil collection, (xiii) third-party truck operators, and (xiiii) janitorial services. Notwithstanding any other provision in this Agreement, vendors providing services, materials and/or supplies to Contractor that are not directly related to Contractor's provision of services under this Agreement (such as office supplies, equipment parts and paving services), and professional service firms providing legal, accounting and/or other ancillary business services to Contractor, shall not be considered Subcontractors for any purpose under this Agreement.

62. **Term.** "Term" has the meaning set forth in Section 2.2 of the Agreement.

63. **Ton.** "Ton" means a short ton of 2,000 pounds avoirdupois.

64. **Transfer Vehicle.** "Transfer Vehicle" means a tractor and trailer designed to haul a load of no less than 20 Tons of material.

65. **Transformation.** "Transformation" means the incineration, pyrolysis, distillation, gasification, or biological conversion other than composting.

66. **Yard Trimmings.** "Yard Trimmings" means tree trimmings, grass cuttings, dead plants, leaves, branches and dead trees, and similar organic materials. Yard Trimmings may be Source Separated Recyclable Materials if they are segregated prior to collection and delivered to the Station in a separated condition. They may also constitute Municipal Solid Waste if they are delivered commingled with other waste materials.

EXHIBIT B:
MRF OPERATIONS PLAN

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As a prelude to this *Materials Recovery and Marketing Plan,* BCWS firmly believes that quality performance is the driving factor in the Company's success in diverting materials from the SMaRT Station. This belief is evident in every strand of current operations (and our vision and goals for the future); most obvious, is the priority treatment we give to our comprehensive safety program, the consideration we bestow on our employees, and the care and maintenance we provide to the SMaRT Station facility and equipment. The City has considerable experience working with the Company since we took over operations in 2008 and can be assured a continued clean, expertly managed SMaRT Station under the watch of BCWS.

The Company will not waiver in our commitment to continuously provide quality performance in service to SMaRT Station operations. The key to increasing diversion and selling commodities to valid markets is running a quality operation that produces exceptional end products. The largest investment BCWS will make in managing SMaRT Station operations is, by far, the recovery of recyclable materials from the MSW stream. The Company estimates that well over 65% of operating costs will be allocated to our materials recovery efforts, which will substantially increase diversion at the facility.

Exceptional end products mean highly marketable commodities and good rapport with materials brokers. Recyclable materials markets are volatile and beyond the Company's control. However, we intend to place BCWS in the strongest position possible with commodities brokers by consistently shipping materials that meet or exceed the broker's standards and in the amounts promised.

NOTE: BCWS is mindful of "Operation Green Fence". In response to the Peoples' Republic of China's "Operation Green Fence", we have implemented additional engineering improvements and quality control procedures to ensure that the cleanest bales are sent to markets and end users. SMaRT Station staff has been trained to ensure all bales contain minimal amounts of contamination. Since the implementation of China's "Green Fence" protocols, NO bales or containers have been rejected for excessive contamination.

We will continue to ensure that the highest standards of quality control are implemented at all times by implementing a Quality Assurance Plan, the focal point of which will be a periodic in-house assessment on the following general points:

- ✓ Workplace/Worker Safety | Are work areas clean, dry, and properly ventilated; are workers performing tasks in the safest possible way; and is all safety equipment accessible and utilized?

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- ✓ Efficacy of processing practices to maximize diversion | Are employees making every best effort to divert recyclable materials; do more effective/safe work practices need to be implemented to accomplish objectives, or are there other processing methods that would yield better results?
- ✓ Waste Stream Composition | Has the waste stream changed; if it has changed, how so, and is there a corresponding market or emerging market to handle new materials/material components?
- ✓ Markets | How are relations with materials brokers; is the Company securing the best possible pricing; and what impacts do market trends have on operations; how will trend forecasts be used?

By having our objective be quality performance in all areas of SMaRT Station operations, and by performing regular audits to evaluate our performance against these objectives, we believe diversion can increase without compromising safety. BCWS is also applying an ample labor force of sorters in order to assertively and more effectively recover recyclable and organic materials from the waste stream. Staffing schedules are included in *Cost Forms 8A, 8B,* and *8C.* The remainder of this subsection is organized as follows:

Subsection	Title
14a	General Parameters & Operating Standards
14b	Materials Sources & Targeted/Accepted Materials for Diversion
14c	Processing Operations & Material Flow
14d	Diversion Efforts
14e	Marketing
14f	Conclusion

14a | *General Parameters & Operating Standards*

BCWS understands that the following general parameters apply to operating the SMaRT Station:

- BCWS has thoroughly reviewed and has presented for review to its legal and accounting team the terms and conditions of the *Agreement* included in the *RFP documents* as *Appendix C.* The Company agrees to all terms and conditions without exception.
- BCWS will assertively mine and process recyclable materials from the following waste classifications as the *RFP documents* indicate from both City-designated haulers and the general public: MSW, source-separated recyclable materials, C&D debris and wood and yard trimmings. Utilizing our own transfer rigs, we will transport residuals to Kirby Canyon Landfill. Recyclable materials, including yard waste and organics, will be transported by materials brokers per the marketing plan presented in *14e* of this section, or hauling of these materials will be subcontracted to outside haulers or conducted by BCWS.

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- The above classifications will divert materials through these Station functions: MSW processing operations, source separated recyclable materials processing operations, wood and yard trimmings processing, and the public buy-back/drop-off center.
- Materials processed via the above operating lines are derived primarily from franchise collection operations of the Participating Agencies, with one current exception; which is discussed in subsection *14b*. The Company also notes that the City of Palo Alto may elect to bring its curbside materials to the SMaRT Station when its current contract for processing terminates in 2017, and that the additional materials will not, given current tonnage forecasts, push the Station's throughput beyond its permitted capacity, nor will it generate additional compensation under the terms of the *Agreement.* The sale of recyclable materials will be split with the City as per the Revenue Sharing Worksheet included in *Cost Form 14B*.
- The Company agrees to meet or exceed the minimum diversion requirement of 17.5% from MSW waste stream utilizing the City's MRF Fines approach or the minimum diversion requirement of 15% with no change to the MRF fines. Note: the City's approach to removing glass from the MRF fines is uninstalled and untested, so our projections are slightly conservative. Additional opportunities for increased diversion are presented in much more detail in *Cost Forms 16*.
- BCWS agrees to operate the Station on the days and during the hours stipulated in the *Agreement* and under every condition of all permits pertaining to the Station, and in alignment with the City's environmental and safety policies—including its Environmental Procurement Policy, Storm Water Pollution Prevention Plan, Integrated Pest Management Policy, Wastewater Discharge Requirements, and Hazardous Waste Screening Protocols.
- The Company will continue to treat all equipment and the facility with the utmost care. All equipment will continue to be maintained as specified by the manufacturer.
- BCWS will work closely and cooperatively with the City, as demonstrated by the collection franchise, to achieve the objectives of the City/Participating Agencies.

14b | *Materials Sources & Targeted/Accepted Materials for Recycling*

Materials flow into the SMaRT Station from the following sources:

- ✓ MSW from each of the three Participating Agencies, delivered by franchised haulers, and official City vehicles;
- ✓ Source Separated Recyclable Materials of single-family curbside recycling, multi-family recycling programs and commercial (including C&D debris) in the Cities of Sunnyvale and Mountain View and possibly Palo Alto when their contract expires in 2017.

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- ✓ Yard Trimmings and Wood Waste of residential premises in the Cities of Sunnyvale and Mountain View (discussed in detail in ***Proposal Form 15A***); and,
- ✓ Public/Self-Haul MSW and Yard Trimmings brought to the SMaRT Station.

MSW

Our goal is to surpass the minimum MSW diversion requirements: 15% recovery with current operations or 17.5% recovery with the City's MRF Fines Approach. The materials that will be recovered from the MSW stream are noted in Table 15, derived from the Detailed Waste Composition, *SMaRT Station Residuals, 2010* of the *City of Sunnyvale Waste Composition Report*[1]. These materials represent the highest recovery potential in the MSW waste stream. The report finds that over 84% (approximately 85,000 tons) of SMaRT Station residuals are recyclable or compostable. This figure has increased from the 2006 report for SMaRT Station residuals derived from the Palo Alto Waste Composition Analysis that was used in determining preliminary MSW diversion assumptions during our initial bid in 2006.

BCWS anticipates that we can assertively mine MSW for the materials listed in the table on the following page. Many factors go into the change in residuals composition, as detailed in BCWS' SMaRT Station Material Marketing Plan from 2012, like the economic recession, crashing of domestic and foreign materials markets, change in waste composition and quantity delivered for processing, tightened bale specifications, and processing facility restrictions.

The table below lists our targeted recyclable / divertible materials from the MSW stream, based on the 2010 Waste Characterization Study.

[1] Cascadia Consulting Group, November 2010.

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SMaRT Station Residual MSW StreamTargeted Recyclable/Divertible Materials

Commodity | Material	Total Reported Residual | Tons Annually (2010 Waste Characterization Study)
Carpet	*Approximately 650 tons remain in the MSW residual stream.*
Concrete	*Approximately 55 tons remain in the MSW residual stream.*
Dirt	*Approximately 50 tons of soil, rock, and fines remain in the MSW residual stream.*
E-Waste, CRTs/Monitors	*Less than 50 tons remain in the MSW residual stream.*
Food	*Approximately 13,000 tons remain in the MSW residual stream. See Proposal Form 15A.*
Food-Soiled Paper	*Approximately 63,000 tons remain in the MSW residual stream. See Proposal Form 15A.*
Glass, Mixed	*Approximately 135 tons remain in the MSW residual stream.*
Green Materials	*Approximately 2,400 tons of prunings, trimmings, leaves, and grass remain in the MSW residual stream.*
Metal, Aluminum UBC	*Approximately 90 tons remain in the MSW residual stream.*
Metal, Composite	*Approximately 1,300 tons of composite metals remain in the MSW residual stream.*
Metal, Scrap Steel	*Approximately 1,000 tons of ferrous metals remain in the MSW residual stream.*
Metal, Tin Cans	*Approximately 325 tons of tin cans remain in the MSW residual stream.*
Organic MRF Fines	*Approximately 30,000 tons of organics MRF fines in the MSW residual stream.*
Paper, Mixed	*Approximately 725 tons of misc. paper, magazines, and catalogs remain in the MSW residual stream.*
Paper, OCC	*Approximately 5,300 tons of cardboard remain in the MSW residual stream.*
Paper, Office Pack	*Approximately 3,100 tons of white ledger remain in the MSW residual stream.*
Paper, ONP	*Approximately 3,000 tons remain in the MSW residual stream.*
Plastic, Film *	*Approximately 5,000 tons remain in the MSW residual stream.*
Plastic, HDPE *Colored (Epic)*	*Approximately 1,100 tons remain in the MSW residual stream.*
Plastic, PET	*Approximately 850 tons remain in the MSW residual stream.*
Rock	*See "Dirt," above.*
Textiles, Carpet *	*Approximately 650 tons remain in the MSW residual stream.*
Tires	*0 vehicle & truck | 99 "other" tires found in the MSW residual stream.*

Note: the City's approach to removing glass from the MRF fines is uninstalled and untested, so our projections are slightly conservative.

*Of the materials listed above, all but two are very easily marketable: film plastics and textiles. In order to market these items, great time and care is needed during the sorting process to recover greater quantities of these materials. Film plastic and textiles represent areas to strengthen marketing activities and we have been actively exploring emerging markets for these materials. Included in ***Proposal Form 16H.7*** is an optional proposal for recovering additional film plastic from the MSW stream utilizing vacuums, marketing the product domestically to be processed back into crude oil and used for fuel.

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The City has expressed its desire to sustainably handle MRF Fines in order to divert as much organic material as possible. Included in Cost Form 16E, we are proposing alternatives that can potentially result in a higher diversion while being much more cost-effective.

Source Separated Recyclable Materials

Source separated recyclable materials brought to the station are cleaned, through a process described in the section that follows, and meet bale specifications prior to being shipped to market. These materials include:

- Glass | Amber, Flint, Green, and Mixed → market: domestic
- Metals | Aluminum UBC, Tin Cans, and Scrap → market: domestic & foreign
- Paper | Mixed, OCC, and ONP → market: foreign
- Plastics | HDPE (colored, Epic mix), PET → market: domestic & foreign

BCWS commits to doing an excellent job in recovering and preparing these products for market to maintain good rapport with markets/brokers.

14c | Processing Operations & Material Flow

Prior to a detailed discussion of material flow through the facility, the following important facility controls are acknowledged:

Station Controls | The Company will maintain, in an optimal state, the station controls listed below. Inspection of these controls systems is already a part of BCWS' regular facility and safety inspections and we will continue to ensure the facility operates at maximum efficiency.

- ✓ Nuisance Control | BCWS will continue to operating the Station in accordance with all permit requirements by the laws and requirements of all regulating agencies or entities with jurisdiction over it. The facility will be kept clean to deter possible nuisance complaints.
- ✓ Passive Landfill Gas Venting System | The Company understands and accepts the propensity for the migration of landfill gas from the adjacent closed landfill and will monitor the venting system as specified. Supervisors and employees will receive training on proper procedures in case a sensor alarm is activated.
- ✓ Dust Control | BCWS ensures that dust control equipment will continue to be maintained and utilized in the fashion intended to mitigate excessive dust generation indoors and outdoors.
- ✓ Vector/Bird Control | All best practices will continue to be employed to manage vectors and birds. Since we took over operations at the SMaRT Station in 2008, the amount of pigeons inside the

EXHIBIT B
MRF OPERATIONS PLAN

facility has significantly decreased than with the previous operator. We will continue to keep birds and other vectors under control while meeting the City's Integrated Pest Control Policy.

- ✓ Drainage Control | The Company is familiar with storm drainage at the facility and will continue to operate in accordance with all requirements of the SMaRT Station's Storm Water Pollution Prevention Plan (SWPPP). As per the facility's SWPPP, and recent revisions to be incorporated in 2014, we are committed to conducting our due diligence as the facility operator to ensure all drainage locations and storm drain inlets are thoroughly and routinely inspected, clean and repaired, as needed and operating as designed. Our overall goal is to ensure our operations do not negatively impact the facility or the surrounding environment.
- ✓ Litter Control | The interior of the facility is swept daily and on an as-needed basis to keep litter under control. BCWS cooperates fully with the City's Litter Control Program and will continue to operate the facility as clean as possible.
- ✓ Noise Control | The Company will monitor and investigate noise complaints to ensure we do not exceed noise standards. We have never received a complaint for excessive noise since we began operating the facility in 2008; however, if a noise complaint is brought to our attention, we will investigate and monitor the situation immediately.
- ✓ Odor Control | BCWS acknowledges that odor from MSW and decaying organics has the potential to drift to open areas outside the facility. A particular concern is the walking/jogging paths located at the closed landfill. The Company knows and understands that the best mitigation is to remove waste accumulations every 24 to 48 hours at a minimum, and we will continue to do so. If excessive odor complaints are brought to our attention, we will immediately investigate and monitor the situation.
- ✓ Traffic Control | BCWS is very familiar with traffic patterns and will continue to operate the facility obeying all traffic control measures to ensure all customer, visitors and employees at the SMaRT Station can travel safely while onsite.

Materials will flow to the SMaRT Station from the generators listed in the previous subsection *14b*. The following narrative describes the general progression of events once materials arrive at the Station.

- ➢ Collection Vehicles | All collection vehicles weigh in at the inbound scales located at the front entrance and scale house area. They then proceed to the designated tipping areas. Determination of tipping location based on type of material in the vehicles is either prearranged or determined at the scale house through inquiry by the scale attendant.

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MRF OPERATIONS PLAN

- General Public | Signs direct the public on how to proceed once past the scale house. The public is charged for disposal of their materials on a volume basis as assessed by scale attendants.

Hazardous/Unpermitted Waste Screening

BCWS strictly protects the health and safety of our workforce and the general public by enforcing the City's *Hazardous Waste Exclusion Program* included as *Exhibit G* of the *Agreement*. Our goal is to detect and remove hazardous and other prohibited materials from solid waste prior to it entering the MRF, helping to protect the environment, employees and the public from immediate and future health risks. We will continue to conduct, at a minimum, six random load check inspections each week as well as inspection of any suspicious loads entering the facility, as outlined in the Load Check Program. The load check process will take place exactly as the *Program* guidelines dictate. The Company's Health and Safety Program/Hazardous Materials Procedures are discussed in much more detail in ***Proposal Form 10A***. ***Exhibit 10f*** includes our hazardous waste exclusion training documents, load check flyer provided to customers who are found to have delivered hazardous waste to the facility, and our hazardous waste denial log to track each occurrence.

Source Separated Recyclable Materials Handling

Materials from the curbside collection programs of the Cities of Sunnyvale and Mountain View are directed to tip either at the *source separated recyclables processing area* or the *yard/wood trimmings processing area*, depending on the material inside the collection vehicle. It is understood that, at this time, the City of Palo Alto does not bring its recyclable materials to the SMaRT Station. The Company also notes that the City of Palo Alto may elect to bring its curbside materials to the facility when its current contract for processing terminates in 2017, and that the additional materials will not, given current tonnage forecasts, push the Station's throughput beyond its permitted capacity, nor will it generate additional compensation under the terms of this *Agreement.*

The curbside collection programs of the Cities of Sunnyvale and Mountain View both employ dual stream recycling: fiber and commingled containers (cans, glass, plastic) are segregated from each other, reducing contamination and increasing the marketability of the commodities. Once curbside recycling vehicles unload their materials in the *source separated recyclables processing area*, fiber materials are transferred onto the fiber sorting line and containers are transferred to the container sorting line utilizing the rolling stock proposed in ***Cost Form 11***.

EXHIBIT B
MRF OPERATIONS PLAN

Materials are mechanically and manually sorted and stored in bunkers located beneath the sorting platform until accumulations or time constraints warrant moving materials to the baler (with the exception of glass which is loaded into covered containers and shipped loose). Source separated recyclables will be processed in the same way as is currently done, and therefore no new mass diagram has been included in this submittal.

Yard Trimmings and Wood Waste Processing

Yard waste routes and commercial/residential loads of clean wood/yard waste (typically brought to the facility via roll-off truck) are directed to offload in the *Wood Room.* Wood and yard waste recovered from MSW loads will also be moved to this same area. Loads are inspected and contaminants are removed. The clean materials are then shredded in the wood grinder and transferred to a conveyor equipped with an overhead magnet that removes small metal pieces, such as nails. Fines and overs are also separated for marketing purposes (discussed in detail in ***Proposal Form 15A***) and they are stockpiled until shipped offsite. ***Cost Form 11*** lists the proposed rolling stock to be utilized in yard/wood waste operations and the Wood Room.

BCWS understands the importance of not allowing any yard/wood waste to be disposed of in the landfill, and makes a concerted effort to divert as much yard and wood waste materials from the MSW waste stream. *We certify that no segregated yard trimmings or wood waste will be disposed of in a landfill and will not be utilized as Alternative Daily Cover (ADC).*

MSW Handling

The existing MSW processing equipment was designed to capture greater amounts of materials all through out the system, while producing a -2" organic fraction that was anticipated to be highly recyclable. After BCWS took over operations at the facility most of the MSW processing equipment was still being installed. Now that the trommels are operational, we have found that the -2" fines have proven to have much more contamination than previously anticipated. Due to this contamination (mostly glass) we have proposed various optional methods for marketing the MRF fines. Additional information on optional MRF fines processing and marketing is discussed in detail in ***Cost Forms 16D and 16E*** and have been developed because we intend on continuing to increase diversion of the waste stream.

EXHIBIT B
MRF OPERATIONS PLAN

MSW Pre-sort | The pre-sort begins on the tipping floor, where the following materials are manually removed to as great an extent as possible: bulky rejects (to landfill); wood/stumps (to the *Wood Room*), bulky metals (to market), e-waste, dirt, and concrete. Hazardous materials are isolated and properly dealt with. The remaining material is transferred from the tipping floor to dual sorting lines and flow over a series of conveyors. In the first phase of sorting, the pre-sort room is geared toward the removal of bulky items that cannot go into the trommels, such as: concrete (C-700 – concrete load out conveyor); carpet, tires, clothing (C-701 – rejects load out conveyor); lumber, pallets, limbs, stumps (C702 – wood load out conveyor); bulky metal items (C-703 – bulky metals load out conveyor), and large OCC boxes (C-704 – OCC transfer conveyor). The pre-sort room is where we can remove carpet and textiles when specific markets are identified, terms defined, and arrangements made for materials delivery.

The remaining material is fed into trommels which breaks open bags (via a bag breaker) and further screens the materials into three classifications: a) organics fines (-2"), b) middlings (-9"), and c) oversize (+9").

- -2"material | Fines generally equate to organics or residual waste, which are dropped through holes onto belly conveyors (C-106 and C-205 – fines collection conveyors). An overhead magnet pulls out small metal objects, prior to load out into roll-of containers. Metal objects will then be conveyed (C-504 – standard conveyor) for storage into the walking floor bin.
- -9" material | Middlings include: mixed paper, glass, plastics 1 through 7, PET, HDPE, and aluminum cans. As these items fall onto belly conveyors (C-107 and C-206 – middlings collection conveyors) which, in turn, feed into V-700 (primary rotating disc screen) where two size separations are made: a) -9 / +5"; and b) -5". Dual sorting platforms allow for increased recovery of recyclable materials and QC stations.
- +9" | These materials include ferrous metals, mixed paper, ONP, OCC, wood and yard waste and will be transported from the trommels to C-105 and C-204 (overs conveyors) for manual sorting and QC stations.
- -9 / +5" | This material (the same as listed above) is conveyed into a splitter box to reduce depth, thereby increasing potential for more effective sorting activities. Depending on the throughput at the time, the materials may be sent onto one conveyor, or at peak times the materials may be sent onto two conveyors (C-711 and C-712 – middlings sort conveyors). Magnets positioned above these conveyors pick up and discharge ferrous metals onto C-505, which will discharge those materials for storage into C-726 (walking floor ferrous bunker). The remaining residue is transported via load out conveyor C-601 (residue transfer conveyor).

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- -5 / +2 | (refer to *-9"*, above): These materials essentially include metal cans and other small items, and will be discharged over the disc screen (V-701) to feed another magnet and Eddy Current Separator (ECS) (G-300 – aluminum separator) to segregate ferrous from non ferrous metals. Non-ferrous materials (like aluminum) will continue to G-301 (aluminum cleanup) for further processing and quality control. Ferrous materials will be deposited into a hopper on the floor near the pre-sort station.
- -2" | These materials will fall through disc screen (V-701) openings onto a belly conveyor (C-720) that dumps onto C-501 (fines transfer conveyor) to join the -2" stream.

See *Cost Form 11* for a list of rolling stock to be provided by BCWS and utilized in MSW processing operations.

MSW Finishing | Combined residue from the ferrous/non-ferrous separator will be transported via C-405 to C-601 (residue transfer conveyors) to the trash loading area for eventual off-site disposal at Kirby Canyon Landfill. Finally, the following collected recyclable materials are transferred to the baler, baled, inspected, and prepared to ship to market:

- ✓ ONP
- ✓ Mixed Paper
- ✓ OCC
- ✓ HDPE
- ✓ PET
- ✓ Plastics 3 – 7
- ✓ Aluminum
- ✓ Ferrous Metals

Public Buy-back/Drop-Off Center

BCWS will operate the public buy-back/drop-off center as per the days and hours specified in the *Agreement* and per all of the operating standards and controls listed within this document. The public buy-back/drop-off center will accept the following materials:

- ✓ Newspaper
- ✓ Glass Bottles & Jars
- ✓ Aluminum
- ✓ All CRV Containers
- ✓ Metals
- ✓ *OCC (buyback)**
- ✓ Kraft Paper
- ✓ Office Paper
- ✓ Mixed Paper

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- ✓ Plastics (HDPE, PET)
- ✓ Clothing & Shoes
- ✓ Used Motor Oil (residents only)
- ✓ Used Auto Oil Filters (residents only)
- ✓ Anti-freeze (residents only)
- ✓ Auto Batteries (residents only)
- ✓ Household Batteries (residents only)
- ✓ Cooking Oil (residents only)
- ✓ Fluorescent Light Bulbs/Tubes (residents only)
- ✓ Household Items Containing Mercury (residents only)
- ✓ Universal Waste Electronic Devices & Consumer Electronic Devices (residents only)
- ✓ Other Materials (as approved by the City)
- ✓ *Latex Paint (residents only)**

The Company will also provide a safe drop-off bin for home-generated sharps. The bin will be fitted with a chute such that materials can be deposited but not removed from the chute. BCWS will arrange for proper disposal of such material, as approved by the City.

**Refer to Cost Forms 16H.4 and 16H.6 for additional information on our proposed optional programs to provide a sustainable and cost-effective OCC Buyback and Paint Take Back Program at the SMaRT Station.*

Transfer Operations

The Company's transfer experience is documented in *Proposal Form 4E* and is also evident through the fact that BCWS has been conducting for the past 7 years and partner/affiliate companies have conducted transfer operations since 1968. BCWS will continue to safely transport MSW to Kirby Canyon Landfill. The utilized transfer equipment (see *Cost Form 11*) is well suited to the steep grade from the landfill's gatehouse to the current tipping area on the face of the landfill. As previously stated, however, the Company intends to allow processed/prepared recyclable materials to be picked up at the facility by materials brokers, or to hire outside haulers to transport these commodities.

14d | Diversion Efforts

BCWS' cost model revolves around the throughput and recovery assumptions and projections presented in the table that follows and are included in *Cost Form 14B.1 – Base Recycling Revenue Worksheet*. The current structure of the MSW diversion and revenue sharing formula results in a disincentive for the operator to increase diversion past a certain point. As an option to the City/Participating Agencies, we have included

EXHIBIT B
MRF OPERATIONS PLAN

a revised recycling revenue worksheet in *Cost Form 14B.2 – Revised Recycling Revenue Worksheet* that reflects our proposed method for calculating the revenue sharing as to be more of an incentive to increase diversion, instead of a disincentive.

The example below demonstrates that as we increase diversion of negative value commodities (because that's all that is remaining in the MSW stream), our revenue sharing % results in a decrease in revenue. At some point, there is a peak in diversion and revenue sharing %, and after this peak, the more negative value commodities diverted, costs us more money to "recycle" and lowers our overall revenue.

Under our preferred Proposal Option B (which includes Cal Recovery fines diversion, high-diversion C&D floor sort, and our other innovations that increase diversion), we max out at 25% MSW diversion. Once we divert an additional 1% (to 26% MSW diversion), our revenue sharing decreases from $640,000 to $535,000. This formula does not incentivize us to divert more materials above and beyond the 25%.

Relative to MSW processing operations, we understand the importance of assertively diverting materials that are currently being landfilled due to outdated or less efficient equipment and other factors, such as labor and management. There is no secret to obtaining excellent results: labor must be well managed in every possible way to increase MSW diversion and we are committed to focusing on labor, management and utilizing the City's existing (and proposed) equipment in order to increase diversion beyond the City's minimum requirements.

NOTE: The Company is realistic in stated recovery projections.
To reiterate: there are variables strictly beyond BCWS' control at this juncture which render projections pure speculation: 1) the proposed new MRF Fines equipment is not yet installed and therefore untested; 2) it is unknown whether the equipment will produce the results estimated in the RFP documents, 3) it is unknown the impact of future compost regulations, and 4) should Cities implement various collection programs and curbside recycling programs in their jurisdictions, the waste stream composition might change, resulting in reduced recovery opportunities.

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MRF OPERATIONS PLAN

There are precisely five points during MSW processing where BCWS can intervene to positively affect recovery output: 1) at the tipping floor; 2) in the presort room; 3) on the +9" sort line; 4) on the '9" sortline; and 5) additional processing of problematic materials (MRF fines and film plastics). The Company will continue to be persistent with utilizing sorters to recover recyclable materials from the MSW at these points and rely on the existing equipment to do further separating. The focus will be on removing food waste, paper, yard trimmings, rocks, soil, and dirt. Throughput and recovery projections for both the source separated materials and MSW processing operations are expressed in the chart on the following page and correlate to the City's MRF fines approach, assuming a minimum of 17.5% diversion.

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MRF OPERATIONS PLAN

SMaRT Station Diversion Projections

Source Separated Recyclable Materials | Recovery Projections		
Commodity	Projected Throughput Annual Tons	Projected Recovery Rate Expressed as %
Aluminum	106	100
OCC	3,400	100
Glass, Amber	220	100
Glass, Flint	520	100
Glass, Green	550	100
Glass, Mixed	700	100
HDPE, Colored	470	100
Mixed Paper	5,000	100
ONP	6,400	100
PET	390	100
Tin Cans	360	100
MSW Tonnage Assumptions | Recovery Projections		
City's MRF Fines Approach | *Minimum 17.5% Recovery*		
Commodity	Projected Throughput Annual Tons	Projected Recovery Rate Expressed as %
Aluminum UBC	98	.29
Concrete	1,780	5.30
OCC	2,460	7.32
Glass, Mixed	450	1.34
HDPE	259	.77
Mixed Paper	2.874	8.56
Other Plastics/Plastic Film	30	.09
PET	233	.69
Scrap Steel	1,665	4.96
Tin Cans	703	2.09
Wood Waste	6,149	18.30
Organic MRF Fines	12,800	38.10
Clean Dirt	3,673	10.93
Tires	40	.12
Process Water	90	.27
Hazardous /Universal /Electronic Wastes	163	.49
Mattresses	48	.14
Carpet	77	.23
Other Moisture Loss	3,000	8.93

Additional Diversion Efforts

Included in *Cost Forms 16* are BCWS' optional proposals for increasing facility diversion past the minimum rates of 15% (under Proposal Forms A) and 17.5% (under Proposal Forms B). We have designed and developed numerous options that include additional screens, optical sorting, aggressive floor sorting

EXHIBIT B
MRF OPERATIONS PLAN

techniques, operational efficiencies and enhanced programs to increase diversion further. Refer to *Cost Forms 16A - 16H* for details on additional diversion efforts we are excited to share with the City.

Reuse Plan: In order to implement the "highest and best use" waste management hierarchy and given the space constraints and increasing and storm water issues at the SMaRT Station, we are proposing a mobile reuse "trailer" that allows for easy access during weekend or special event days. The portable trailer will be a 30-foot fully enclosed utility trailer and all reusable items found on the tipping floor will be itemized, cleaned (as needed) and stored in our "Bay Counties SMaRT Reuse Trailer".

The trailer will have shelving for products and space for customers to view items. During the week, sorters will recover items for reuse and accumulate them in the trailer until enough reusable items have accumulated. Items will include housewares, plumbing supplies, hardware/electrical, furniture and lumber/building materials. Offering these items to the public at no cost will be conducted monthly and other outlets may be explored through CraigsList, FreeCycle and Resource Area for Teaching (RAFT).

14e | Marketing

The same approach currently used at the SMaRT Station to market commodities will continue to be implemented by BCWS' Marketing Manager. The table below lists the various commodities we will recover and market from the MSW stream and includes projected annual tonnage, purchaser and market, and an estimated price per ton.

Commodities Estimates & Market Information

Commodity	Projected Annual Tons	Purchaser	Estimate Price (per ton)	Destination
OCC	9,369	Mega Fiber	$50 - $175	Export
Mixed Paper	13,435	"	$35 - $110	"
ONP #6 & #7	4,380	"	$65 - $165	"
PET	700	Weisco Recycling	$1,500 - $2,000	"
Mixed Glass	2,350	Strategic Materials	$60 - $160	"
Scrap Steel	3,330	Sims Metal	$80 - $260	Export / Domestic
Tin Cans	1,759	"	$50 - $180	"
Aluminum	338	Alco Iron & Metal	$3,000 - $4,200	Domestic
HDPE	957	Weisco Recycling	$0 - $65	Export / Domestic
E-waste	163	E-Recycling of CA	$.05 - $.10/lb.	"

BCWS is committed to continuing the relationships over the past 7 years at the SMaRT Station with our material brokers. Our partner and affiliate companies have had an even longer history (decades) of

EXHIBIT B
MRF OPERATIONS PLAN

processing and marketing commodities. Together, we are dedicated to marketing the materials recovered from operations and our rigorous quality control protocols and load check program ensures that the impact of market fluctuations is minimized.

- Market & Demand Fluctuations | Any fluctuations in quantity and composition of recyclable materials will be quickly identified and analyzed to determine the cause of any shortfall or degradation of commodities, which can be isolated quickly by our Operations Team and Marketing Manager. BCWS and our partner/affiliate companies have dealt with fluctuations in commodity pricing and market demands in recent years. In 2008 and 2009 there was a decrease in recyclable markets for mixed paper and other fibers because of the limited number of shipping containers in the Bay Area and below market prices. We managed to keep onsite storage down to a minimum while working with brokers to accept our materials and we were able to ship some material domestically but stored some baled products while waiting for the market to rebound. When the market began to rebound, vendors knew we consistently produced a high-quality, clean product and this attracted vendors to purchase our materials. In times when markets are not accepting materials or the prices have decreased significantly, we have storage for recyclable material prior to marketing, if necessary, to withstand these rare situations. BCWS' Marketing Manager continually monitors recyclables markets and economic situations to anticipate and adapt to changes in domestic and foreign markets.

We have historically been able to complete the recycling cycle by moving recovered materials to buyers and domestic facilities, even in periods where market demand and recycled goods pricing fluctuated dramatically. The Company's Materials Marketing Manager will continue to work with our SMaRT Station Operations Team to adjust sorting practices and equipment (with City approval) to meet market demands and develop and maintain domestic, sustainable markets. The focus will always be on increasing diversion, strengthening market position, and improving broker relations. We will work collaboratively with the City/Participating Agencies to ensure their satisfaction with marketing outcomes.

Furthermore, BCWS invites the City/Participating Agencies to check with materials brokers listed in *Proposal Form 4D* for reassurance relative to the Company's sound business practices and materials marketing experience.

14f | Conclusion

EXHIBIT B
MRF OPERATIONS PLAN

BCWS is a company with unrivaled materials recovery/transfer station operations experience, and a well-established presence and excellent reputation in the Bay Area and local community. The Company's lengthy and extensive operations experience, high attention to safety, cleanliness and detail, strength in the marketplace coupled with the strong intention to progressively and steadily divert greater amounts of MSW over the course of the contract, assures our success in meeting the operational and sustainable goals of the City and the Participating Agencies.

As shown over the past 7 years, we have experienced economic recessions and tightened bale specifications at overseas ports, making it difficult for some recyclers to move bales to market. BCWS on the other hand, continues to sell and market materials with minimal interruptions. As mentioned previously, we have not had any overseas containers containing any of our materials be sent back due to "Green Fence" restrictions. This is due to our long-term relationships with brokers and processors and our desire to implement additional quality control measures, making our material more desirable and marketable.

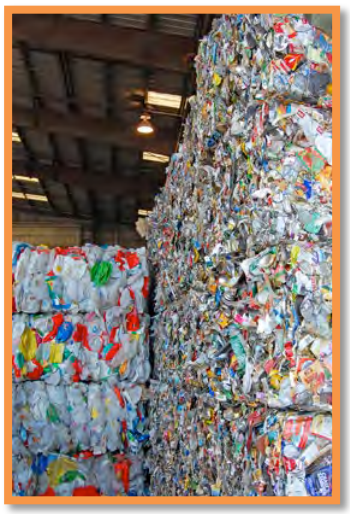

EXHIBIT B
MRF OPERATIONS PLAN

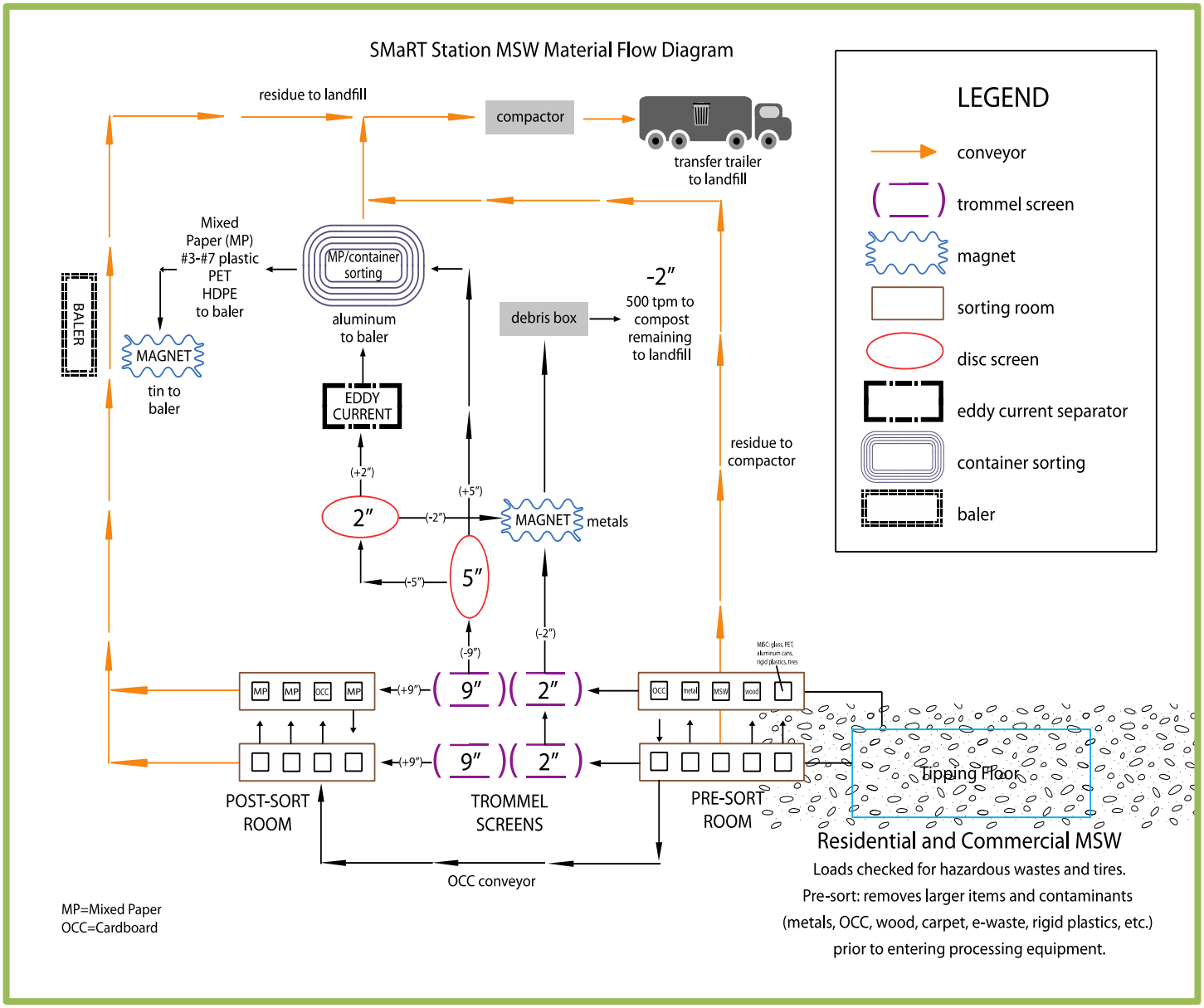

EXHIBIT C:
MSW PROCESSING DESIGN DRAWINGS

EXISTING FENCE LINE

NEW FENCE— SEE DWG. 110

N11,000

BALE LOAD—OUT

COMMERCIAL/INDUSTRIAL UNLOADING

FUELING STATION

VEH. MAINT.

PUMP STATION ACCESS ROAD

OFFICE & VISITORS

N10,790

E1,990

5.0' SIDEWALK

BUS

E2,010

N10,725

TIPPING FLOOR & TRANSFER AREA

NEW FENCE— SEE DWG. 110

SUB STN

VISITOR

STAFF

STAFF

STAFF

GLASS

Curbside Scale

CURBSIDE

SELF HAUL UNLOADING

PORTABLE SCALE

PORTABLE SCALE

PAY BOOTH

WASTE OIL

BUY—BACK

HHW

COMMERCIAL EXIT

PUBLIC EXIT

VISITORS, BUY—BACK & SELF HAUL

COMM., RES. & GLASS

SCALE HOUSE

COMM. & RES.

LANDFILL, TRANSFER & CURBSIDE VEHICLES BYPASS

CURBSIDE WASTE OIL

LANDFILL ACCESS & EGRESS

EXHIBIT D:
OPERATING PERMITS

EXHIBIT D
OPERATING PERMITS

PERMITS: Bay Counties Waste Services

Permit Name and Address *(if not 301 Carl Rd)*	Permit #	Permitting Agency
Alarm Permit (COS Dept. Public Safety) (408) 730-7117	8231001-R	City of Sunnyvale, Dept. of Public Safety
Schedule of Heavy Highway	n/a	Dept. of Treasury/IRS
FCC Radio Station Call Sign *FRN 0020892733 (not assoc. w/0020884425*	WQNZ248 (call sign)	FCC
Environmental Health Permit: ***-SMaRT Transfer***		Santa Clara County
Environmental Health Permit: ***-Food Materials Transfer***	PT0491820-4447	Santa Clara County
Weights and Measures *3355 Thomas Rd.*	n/a	Santa Clara County
Certified Appliance Recycler (CAR)	CAR#0370	Cal EPA and DTSC
Wastewater Discharge Permit	n/a	City of Sunnyvale
Certified Drop-off/Collection Program	CP0909	CalRecycle *(formerly Department of Conservation)*
Environmental Health Permit: ***-Transfer Trailers*** *3355 Thomas Rd.*	PT0464453-4462	Santa Clara County
Business License Tax *3355 Thomas Rd.*	53528	City of Sunnyvale

EXHIBIT D
OPERATING PERMITS

Permit Name and Address *(if not 301 Carl Rd)*	Permit #	Permitting Agency
Weighmaster License *3355 Thomas Rd.*	12082	Dept. of Food/Agriculture, Divisionof Measurement Standards
Permit to use Recycled Water	n/a	City of Sunnyvale, Public Works
Motor Carrier Permit (Renee) *3355 Thomas Rd.* *(for Specialty and Bay Counties)*	CA#0058324	DMV (SMaRT and SSWR)
Certified Recycling Center	RC13555	CalRecycle *(formerly Department of Conservation)*
CEW Approved Collector: e-Waste Payment Program	CEWID#107261	CalRecycle *(formerly CIWMB)*
Fire Prevention/Env Svcs: **(Hazmat Generation and Storage and UST)**	8231001-R	City of Sunnyvale, Dept. of Public Safety
Air Pressure Tank Permits		
Compressor	NB#37111	DIR
CS Fiber Optic	NB#776663	DIR
(NR) Maintenance Shop	NB#778466	XL
Food Transfer	NB#	XL
Food Transfer	NB#	XL
Portable	NB#183955	Travellers
Compactor	NB#520816	Travellers
Wood Room	NB#397219	Travellers
CS/MRF	NB#104767	Travellers

EXHIBIT D
OPERATING PERMITS

Permits: City of Sunnyvale		
Permit Name	Permit #	Permitting Agency
Authority to Operate	A5905	Bay Area Air Quality Management District
Solid Waste Facility Permit *3355 Thomas Rd.*	43-AA-0009	CalRecycle/Santa Clara County-LEA
Annual Methods Report		CalRecycle
Special Development Permit/Conditional Use Permit		City of Sunnyvale

Non-expiring ID #'s for BCWS		
Permit Name	Permit #	Permitting Agency
Cal EPA Number *3355 Thomas Rd.*	CAL000322291	DTSC
CRT Material Handler Notification *301 Carl Rd.*	Bay Counties SMaRT	DTSC
Tire Program ID Number (TPID) *3355 Thomas Rd.*	1369032-01	CalRecycle

EXHIBIT E:
CONDITIONS OF CITY USE PERMIT

Exhibit E
Conditions of Use Permit

PLANNING DIVISION APPLICATION FORM
COMMUNITY DEVELOPMENT DEPARTMENT

PROJECT INFORMATION

Project Address/Location	Assessor's Parcel Number (APN)
301 CARL ROAD	110032001

Project Description: SMART STATION

PROPERTY OWNER		APPLICANT	
Name: CITY OF SUNNYVALE		Company: CITY OF SUNNYVALE - ESD/ SOLID WASTE DIVISION	
Contact Person: DEBBI SARGENT		Contact Person: DEBBI SARGENT	
Address: 301 CARL ROAD		Address: 301 CARL ROAD	
City: SUNNYVALE		City: SUNNYVALE	
State: CA	Zip: 94089	State: CA	Zip: 94089
Phone: (408) 730-7673	Email: DSARGENT@SUNNYVALE	Phone: (408) 730-7673	Email:
Property Owner Signature: [signature]	Date: 4-6-15	Applicant Signature: [signature]	Date:

CHECK ALL APPLICABLE REQUESTS (OFFICE USE ONLY)

STAFF LEVEL REVIEWS

- $_____ ☐ SF/Duplex Design Review
- $_____ ☐ Large Family Child Care Home
- $_____ ☐ Miscellaneous Plan Permit
- $_____ ☐ Preliminary Review
- $_____ ☐ Tree Removal Permit: None w/ Certified Arborist Report by PG&E
- $_____ ☐ Signs: New (not MSP) Temp. MSP Minor MSP mod.
- $_____ ☐ Architectural Review, Landscaping, Parking & Lighting
- $_____ ☐ Temporary and Unenclosed Use
- $_____ ☐ Vendor
- $_____ ☐ Telecommunication Facility: New Renewal 2-yr Compliance Review
- $_____ ☐ Waiver: Screening Undergrounding
- $_____ ☐ Extension of Time
- $0.00 ☑ Other: Extension of hrs. of operation of wood chipper at Smart Station

PUBLIC HEARING REVIEWS

- $_____ ☐ Zoning Administrator Review: DR UP SDP VAR Plan Review Moffett Park
- $_____ ☐ Parcel Map
- $_____ ☐ Tentative Map: Base Fee Per Lot Fee Mod. TM COAs
- $_____ ☐ Planning Commission Review: DR UP SDP VAR Plan Review Moffett Park
- $_____ ☐ City Council Review: GPI GPA/SP Zoning Dist./Text PD HH/S per lot
- $_____ ☐ Heritage Preservation Review: RAP LAP Minor Rev./Change
- $_____ ☐ Environmental Review: IS/Assessment Study Rev. EIR EIR Prep (10%)
- $_____ ☐ Development Agreement: New/Major Mod. Minor Mod. Annual Review
- $_____ ☐ Art Permit (Arts Commission)
- $_____ ☐ Appeal: _____
- $_____ ☐ Engineering Review
- $_____ ☐ Other: _____

TOTAL $0.00

PLANNING PROJECT INFORMATION & P

Project Number	Typ ☐ C	P-2015-7280	110-03-001
2015-7280		301 Carl Rd	
Accepted By: [signature]	Filing Date: 4/7/15	MPP - Application Materials	

1110821

(Non-Public Hearing Items Only)

☐ Approved ☑ Approved w/ Conditions of Approval (see letter) ☐ Denied BY [signature] 4/21/15

FOR THE DIRECTOR OF COMMUNITY DEVELOPMENT DATE

Revised 12/14

PLANNING DIVISION APPLICATION FORM
COMMUNITY DEVELOPMENT DEPARTMENT

PROJECT INFORMATION

Project Address/Location	Assessor's Parcel Number (APN)
301 CARL ROAD	110032001

Project Description: SMART STATION

PROPERTY OWNER		APPLICANT	
Name: CITY OF SUNNYVALE		Company: CITY OF SUNNYVALE - ESD/ SOLID WASTE DIVISION	
Contact Person: DEBBI SARGENT		Contact Person: DEBBI SARGENT	
Address: 301 CARL ROAD		Address: 301 CARL ROAD	
City: SUNNYVALE		City: SUNNYVALE	
State: CA	Zip: 94089	State: CA	Zip: 94089
Phone: (408) 730-7673	Email: DSARGENT@SUNNYVALE	Phone: (408) 730-7673	Email:
Property Owner Signature: [signature]	Date: 4-6-15	Applicant Signature: [signature]	Date:

CHECK ALL APPLICABLE REQUESTS (OFFICE USE ONLY)

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- $_____ ☐ Other: _____

TOTAL $0.00

PLANNING PROJECT INFORMATION & P

Project Number	Typ ☐ C	
2015-7280		
Accepted By	**Filing Date**	**Rec**
[signature]	4/7/15	

P-2015-7280 110-03-001
301 Carl Rd
MPP - Application Materials
1110821

(Non-Public Hearing Items Only)

☐ Approved ☑ Approved w/ Conditions of Approval (see letter) ☐ Denied BY [signature] 4/21/15

FOR THE DIRECTOR OF COMMUNITY DEVELOPMENT DATE

Revised 12/14

SUNNYVALE
California

Date: 04/21/15

City of Sunnyvale ESD
301 Carl Dr
Sunnyvale, CA 64089

Project: 2015-7280 **Plan Submittal:** 1
Address: 301 CARL RD
Description: Proposal to extend hours of operation of wood chipper to 5 AM to 10 PM (current hours of operation 5 AM to 8 PM) seven days a week.

The Department of Community Development, Planning Division has reviewed your application for a Miscellaneous Plan Permit (MPP) at the above referenced address. Please refer any questions to Timothy Maier at (408) 730-7257.

The Planning Division has APPROVED your application subject to the following conditions:

Conditions of Approval -
1. Wood chipper may be operated from 5 AM to 10 PM, seven days a week.
2. Compliance with all standing permits associated with property must be maintained.

If you are in disagreement with this decision, you may appeal the decision to the Planning Commission within fifteen (15) calendar days of the date of the date of this notice. Appeals must be submitted in writing along with an appeal fee. Planning Fees are subject to change every fiscal year, please verify fees with Planning Division staff.

SUNNYVALE
California

Date: 04/21/15

City of Sunnyvale ESD
301 Carl Dr
Sunnyvale, CA 64089

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Sunnyvale Materials Recovery and Transfer (SMaRT®) Station
301 Carl Road
Sunnyvale, California 94089
SDP #7060

RE: Request for modification of operating hours for wood chopping equipment during the hours of 5:00 a.m. to 10:00 p.m.

Background:
The SMaRT Station is an 110,000 square foot, 1,500 ton per day solid waste materials recovery and transfer station designed to recycle at least 25% of the incoming solid waste. The SMaRT Station was designed and constructed in 1993 by the City of Sunnyvale on 10 acres of City-owned land adjacent to the Sunnyvale Landfill and the Water Pollution Control Plant. The SMaRT Station has served the Cities of Sunnyvale, Mountain View and Palo Alto since 1993.

SMaRT Station Operations:

1. Processing of Municipal Solid Waste (MSW) to recover recyclable materials
2. Transfer of residual MSW to Kirby Canyon Landfill
3. Processing of source-separated recyclables collected from city-sponsored curbside and commercial recycling programs
4. Processing of yard trimmings collected from city-sponsored yard trimmings programs
5. Operation of public buy-back/drop-off center

Request for Modification to permit:
SDP #7060 was issued in 1992, with modifications approved in 1995 and 2002. This request is for a modification to the permitted hours of operation for "wood chopping equipment" (aka grinder) - Permit item #7. The modification is requested in order to allow flexibility in modifying the hours of operation of the grinder as needed to balance electrical power conditions for the operation of other processing equipment at the facility.

Approved Operating Hours: 5 a.m. to 8:00 p.m.

Modified Operating Hours Requested: 5 a.m. to 10:00 p.m.

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CITY OF SUNNYVALE

SMaRT STATION

CONDITIONS OF APPROVAL

7060 - City of Sunnyvale, Revised 2-15-02

B. CONDITIONS OF APPROVAL

In addition to complying with applicable City Codes, Ordinances and Resolutions, the following conditions of approval are imposed:

1. Approval of this Use Permit is subject to execution of contract with the City of Sunnyvale to operate the transfer station.

2. Prior to issuance of Building Permit, a Use Permit Document shall be executed.

3. A directional sign program shall be submitted to the Planning Division for review and approval. The directional signs at minimum shall include the following:

   a. Northeast corner of Caribbean and Borregas facing east on west bound Caribbean: install signs reading "Water Pollution Control Plant" and "SMaRT Station" with directional arrows.
   b. In the west bound median facing east: install signs reading "Water Pollution Control Plant" and "SMaRT Station" with directional arrows.

   c. On Borregas Avenue north of Caribbean Drive: install signs in the median reading "Water Pollution Control Plant" and "SMaRT Station", with directional arrows.

   d. At the end of Borregas Avenue North of Caribbean Drive: install signs reading "Water Pollution Control Plant" and "SMaRT Station" with directional arrows.

   e. In the east bound median and south side of Caribbean facing west: install signs reading "Water Pollution Control Plant" and "SMaRT Station" with directional arrows.

   f. East side of Borregas Avenue just north of Caribbean install a sign reading 15 MPH".

4. All processing of waste shall be conducted in enclosed areas.

CITY OF SUNNYVALE

SMaRT STATION

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7060 - City of Sunnyvale, Revised 2-15-02

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5. The site plan shall be revised to include additional landscaping. The landscape plan shall be submitted to the Director of Community Development for review and approval.

6. Trucks delivering refuse shall be limited to the hours of 5:00 a.m. to 5:00 p.m.

7. The hours of operation for wood chipping equipment shall be limited to 5:00 a.m. to 8:00 p.m.

8. The hours of operation of compactors shall be limited to 5:00 a.m. to 10:00 p.m.

9. Refuse not diverted from disposal shall be removed to the Disposal Facility within 48 hours of its delivery to the Transfer Station. The refuse transfer truck loading area shall be cleaned and swept at the end of each day of operation.

10. A dust suppressant system shall be installed in all tipping floor and equipment areas.

11. Not Used

12. Reclaimed water from water pollution control plant shall be utilized for all uses except for domestic fire or misting system or any other purposes where use of reclaimed water is prohibited by local, state or federal agencies.

13. A litter control program shall be implemented. This program at minimum shall include weekly litter pick up on the following street frontages near the Station: (Borregas Avenue from Carl Road to Moffett Park Drive; Mathilda Avenue from Highway 237 to Caribbean Drive and Caribbean Drive from the north end of Mathilda Avenue to Highway 237), collecting all debris along these streets.

14. All trash carried by commercial vehicles shall be covered to prevent littering. The applicant is encouraged to provide incentives for public to cover their refuse preventing paper and other objects to become airborne. This incentive could include discount of the fee for those who cover their refuse.

15. Out-of-door loudspeakers shall be prohibited.

16. No inoperable vehicles shall be stored out-of-doors at the site for more than 24 hours.

17. Any expansion or modification of the approved use shall be approved by separate application at a public hearing by the Planning Commission.

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b. Ground cover shall be planted so as to ensure full coverage eighteen months after installation.

c. All areas not required for parking, driveways or structures shall be landscaped.

27. Prior to issuance of a Demolition Permit, a Grading Permit or a Building Permit, whichever occurs first, obtain approval of a tree protection plan from the Director of Community Development. Indicate all existing non-orchard trees on the plans, showing size and varieties, and clearly specify which are to be retained.

28. Submit exterior lighting plan, including fixture and pole designs, for approval by the Director of Community Development prior to issuance of Building Permit. Driveways and parking area lighting shall include the following:

a. Sodium vapor (or illumination with an equivalent energy savings).

b. Pole heights not to exceed 15 feet.

c. Provide photo cells for on/off control of all security and area lights.

d. All exterior security lights shall be equipped with vandal-resistant covers.

e. Implement approval plan prior to occupancy.

f. Wall packs shall not be placed on the roof of the building.

29. Consult with the Crime Prevention Division of the Public Safety Department for crime prevention measures appropriate to the proposed development.

30. On-site storage of hazardous waste shall be limited to household hazardous waste. Any other waste stored on-site, except for waste oil from maintenance of vehicles, shall be associated with load checks and shall not be stored on-site for more than 90 days. There shall be no drop-off facilities for hazardous waste.

31. A noise review to be conducted one year from the date of the completion of the transfer station.

32. The transfer trucks should be encouraged to use the Lawrence/Caribbean Way corridor rather than Mathilda.

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19. Details of exterior building materials and color schemes shall be submitted to the Director of Community Development for approval.

20. Any proposed fencing and/or walls shall be approved as to design and location by the Director of Community Development.

21. All existing on-site, existing street frontage and proposed overhead utilities shall be undergrounded prior to occupancy.

22. Unenclosed storage area(s) shall be fully screened to the highest point of any stored or stacked materials, equipment and/or supplies of any kind. The design and method of enclosure is subject to approval by the Director of Community Development. Any modification or expansion of unenclosed uses shall require approval from the Director of Community Development.

23. Preferential parking stalls in the first row of parking adjoining the building(s) shall be reserved and so marked for pool vans capable of carrying at least 8 people.

24. All outside lighting shall be installed and arranged as not to illuminate the area to the north.

25. A solar energy collection system shall be provided as the primary means of heating water for potable use. The requirement may be waived if solar is not cost effective using present value life cycle cost analysis as established by the City.

26. The landscape and irrigation plan shall be submitted to the Director of Community Development for approval prior to issuance of Building Permit Landscaping shall be planted prior to occupancy. The landscape plan shall include the following elements:

    a. Provide trees at minimum 30 feet intervals along side and rear property lines, except where mature trees are located immediately adjoining on neighboring property.

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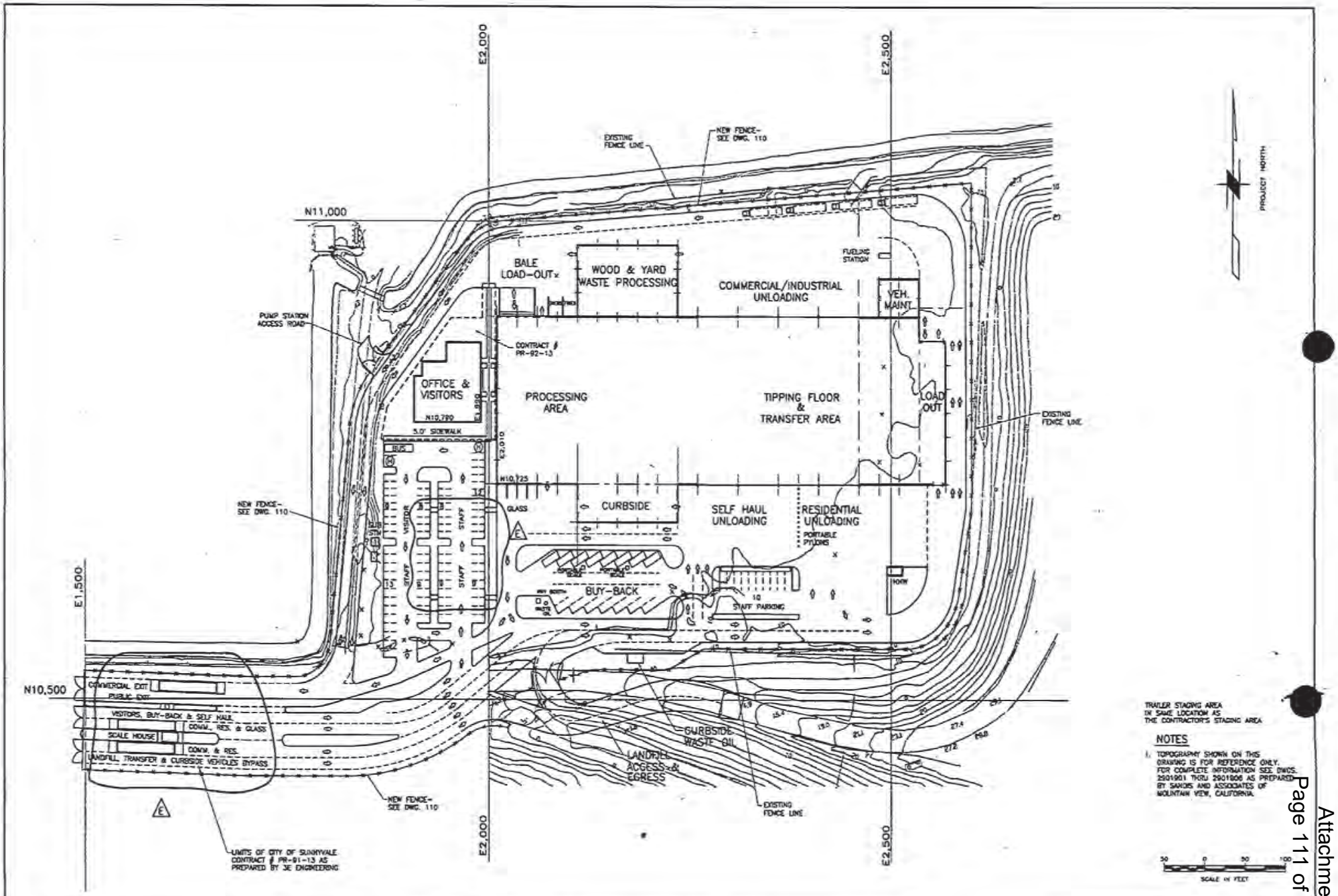


No.	DATE	BY	REVISION
E	10/5	RWC	ISSUED FOR ADDENDA #1
D	9/21	RWC	CLIENT REVIEW-PR-92-13
D	9/14	RWC	LANDFILL ACCESS/EGRESS & PARKING AREAS REVISED
C	9/4	RWC	BID PURPOSES
C	8/21	RWC	PARKING ENTRANCE REV.D /OWNER REVIEW
B	7/12.21	RWC	COMPACTOR ADDITION /OWNER REVIEW
A	5/12	VCH	REVISED PARKING, BUYBACK & WOODWASTE AREAS

JOB No. 78783
SCALE: 1"=50'
DESIGNED:
DRAWN BY: VCH
CHECKED BY:
PROJECT ENGINEER: RWC
APPROVED BY:
DATE:

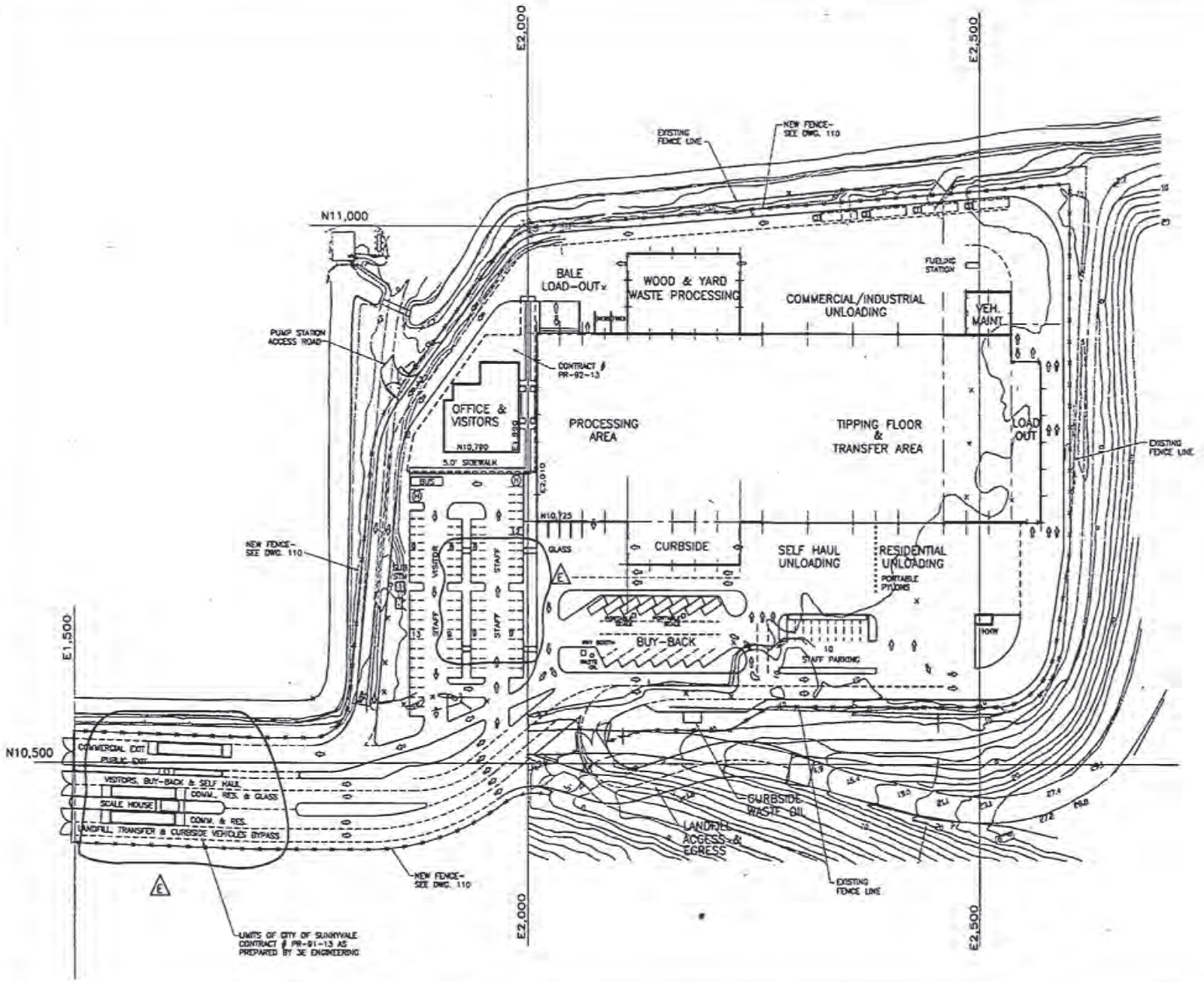
URS CONSULTANTS
WESTERN REGION
500 N.E. MULTNOMAH
PORTLAND OREGON
97232

CITY OF SUNNYVALE
CALIFORNIA

SMaRT STATION
SITE
GENERAL ARRANGEMENT

DRAWING NUMBER: 002
SHEET 2 / 74
ISSUE E

E1,350
N10,150



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JOB No. 78783
SCALE: 1"=50'
DESIGNED:
DRAWN BY: VCH
CHECKED BY:
PROJECT ENGINEER: RWC
APPROVED BY:
DATE:

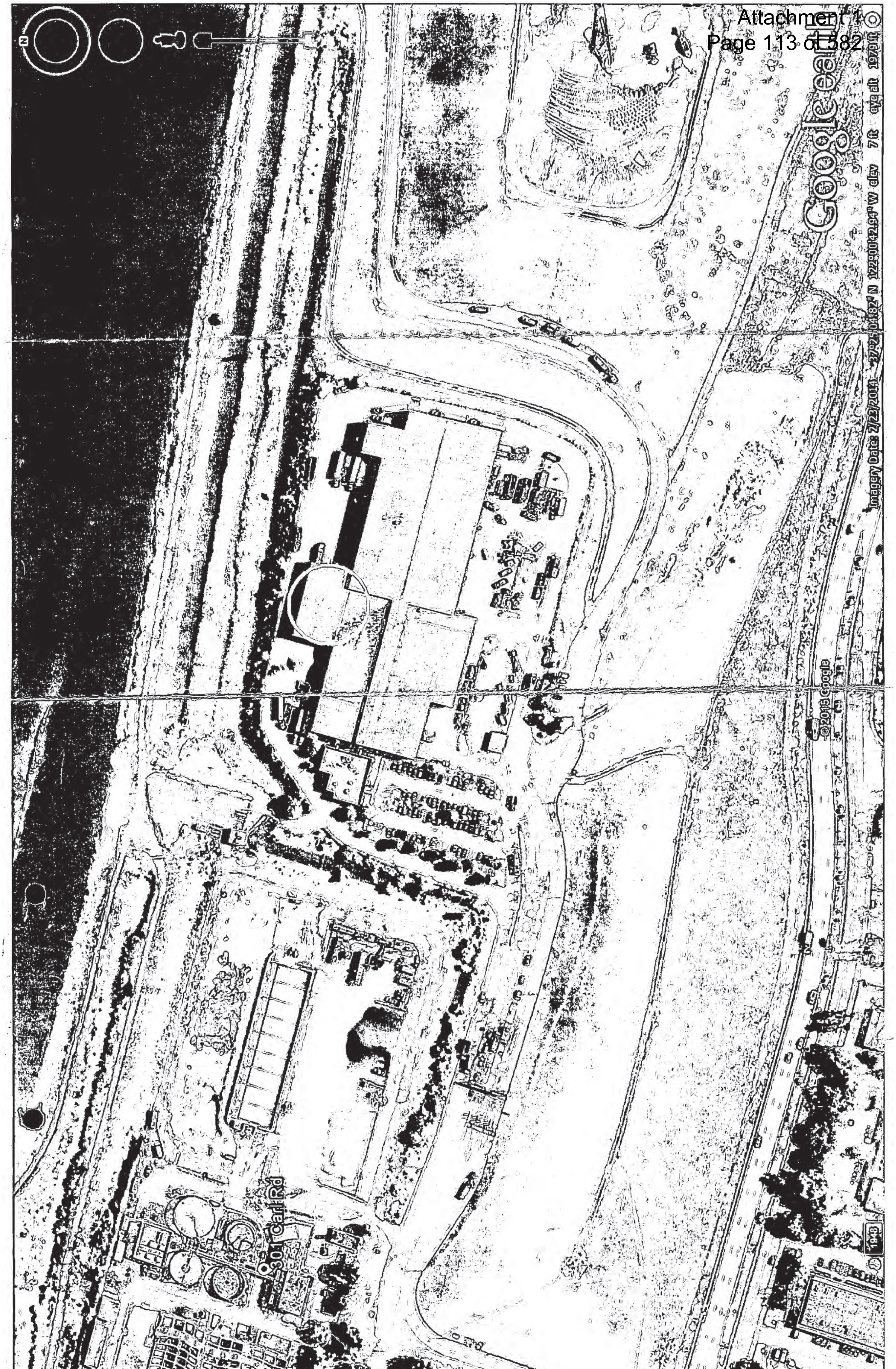
URS CONSULTANTS
WESTERN REGION
500 N.E. MULTNOMAH
PORTLAND OREGON
97232

CITY OF SUNNYVALE
CALIFORNIA

SMaRT STATION
SITE
GENERAL ARRANGEMENT

DRAWING NUMBER: 002
SHEET 2 / 74
ISSUE E

E1,350
N10,150


301 Carl Rd
Imagery Date: 2/23/2014
©2015 Google
Google earth

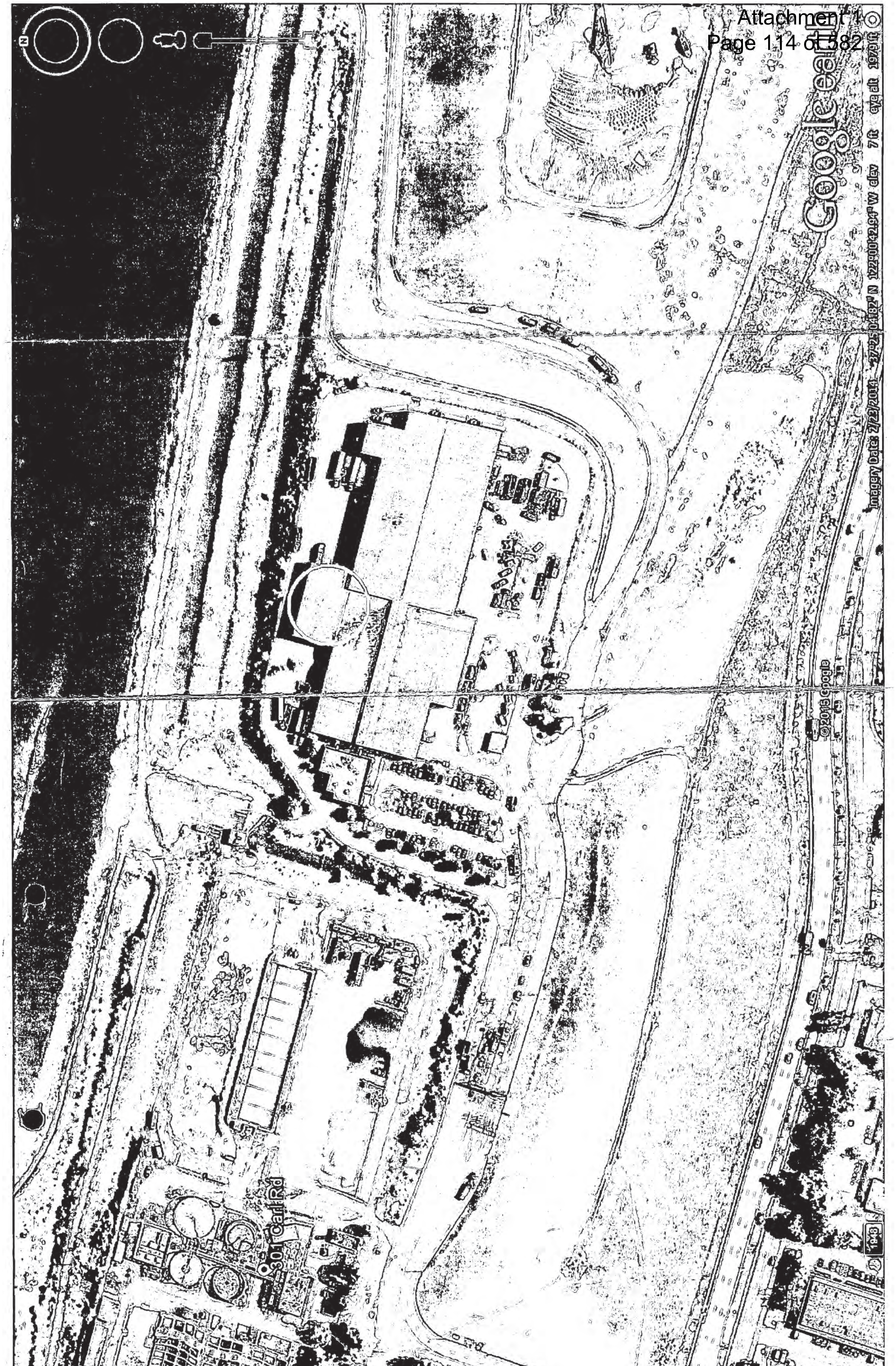

301 Carl Rd
Google earth
Imagery Date: 2/23/2014
©2015 Google

EXHIBIT F:
FINAL EIR MITIGATION MEASURES

EXHIBIT F

Environmental Findings, Impacts, Mitigation and Monitoring Program

SMaRT Station/Kirby Canyon Project

TRANSPORTATION

1. a. IMPACT: The left turn into the project site wold affect traffic volumes on Caribbean drive.

   b. MITIGATION: A 40-foot extension of the left-turn lane on Caribbean may be installed.

   c. FINDING: The project, as proposed, includes techniques and procedures to reduce this potential impact to an acceptable level.

   d. MONITORING: Project traffic should be monitored by the City of Sunnyvale and an extension to the left-turn lane installed, if deemed necessary.

2. a. IMPACT: On-site traffic control is needed to ensure safety.

   b. MITIGATION: A four-way stop may be installed at the first intersection of the site (Carl Road and Borregas Avenue). "One Way" and "Do Not Enter" signs may be installed to enforce the counter-clockwise circulation pattern.

   c. FINDING: The project, as proposed, includes techniques and procedures to reduce this potential impact to an acceptable level.

   d. MONITORING: Appropriate signage should be installed prior to the opening of the station and verified through the building permit process.

3. a. IMPACT: Utility improvements for the project will temporarily disrupt traffic on Caribbean Drive.

   b. MITIGATION: Street construction should be conducted such that a minimum of one lane in each direction remains open at all times.

   c. FINDING: The project, as proposed, includes techniques and procedures to reduce this potential impact to an acceptable level.

   d. MONITORING: Encroachment permits for construction in the public right of way should limit the time of construction in the public street and maintain a minimum of one lane open in each direction of flow.

PUBLIC SERVICES

4. a. IMPACT: The potential exists for fire to occur at the Station.

b. MITIGATION: Installation of sufficient fire suppression improvements consisting of hydrants, sprinklering of the enclosed areas, and adequate water supply.

c. FINDING: The project, as proposed, includes techniques and procedures to reduce this potential impact to an acceptable level.

d. MONITORING: The Sunnyvale Public Safety Department should review the project design plans to ensure compliance with fire protection standards.

5. a. IMPACT: Washdown water may exceed WPCP standards.

b. MITIGATION: Pretreatment of the washdown water may be required to eliminate oil, grease, and solids.

c. FINDING: The project, as proposed, includes techniques and procedures to reduce this potential impact to an acceptable level.

d. MONITORING: The washdown water should be monitored and compared to the industrial waste discharge requirements of the WPCP standards. If the washdown water exceeds the limits, the station should provide pretreatment necessary to reduce objectionable components.

SAFETY AND SEISMIC SAFETY

6. a. IMPACT: Structural damage caused by differential subsidence of the earth fill under the station.

b. MITIGATION: Construction considerations, such as pile foundation or modifications to the spread footing design, would prevent structural damage.

c. FINDING: The project, as proposed, includes techniques and procedures to reduce this potential impact to an acceptable level.

d. MONITORING: The City's Community Development Department will review the Station design to be sure it is engineered properly to ensure the integrity of the proposed structures.

7. a. IMPACT: Potential liquefaction, compaction and ground subsidence resulting from a maximum probable earthquake.

b. MITIGATION: Location and engineering design of the Station can minimize potential damage to the structure.

c. FINDING: The project, as proposed, includes techniques and procedures to reduce this potential impact to an acceptable level.

d. MONITORING: The Community Development Department will review the geophysical evaluation and engineering design to ensure structural integrity of the proposed improvements.

8. a. IMPACT: Landfill slope stability during an earthquake.

b. MITIGATION: Application of appropriate engineering standards to the excavation, compaction and placement of final cover of soil materials on landfill slopes can reduce the potential of this impact.

c. FINDING: The project, as proposed, includes techniques and procedures to reduce this potential impact to an acceptable level.

d. MONITORING: The Community Development and Public Works Departments will review the geophysical evaluation and engineering design to ensure structural integrity of the proposed improvements.

9. a. IMPACT: Worker exposure to landfill gas released during excavation of refuse for site preparation.

b. MITIGATION: Limit the amount of area of excavation to reduce the quantity of landfill gas released. Fit equipment with spark arresters. Worker education and use of methane gas monitoring and measuring devices.

c. FINDING: The project, as proposed, includes techniques and procedures to reduce this potential impact to an acceptable level.

d. MONITORING: The Sunnyvale Public Works Department will require the applicant to provide a health and safety plan with adequate detail to address the specific working conditions of the site. The department will monitor construction practices at the site to ensure compliance with the health and safety plan.

10. a. IMPACT: Fire hazard created by lateral migration of landfill gas (methane) into buildings.

b. MITIGATION: Install landfill-gas detection devices around the buildings, provide good building ventilation and, if necessary, install additional landfill-gas collection systems.

c. FINDING: The project, as proposed, includes techniques and procedures to reduce this potential impact to an acceptable level.

d. MONITORING: The Sunnyvale Public Works and Building Departments will review the engineering design plans to assure installation of landfill-gas-migration detection devices, landfill-gas perimeter cutoff trenches that could be

modified to an active landfill-gas withdrawal system and an adequate landfill-gas monitoring protocol for landfill-gas in the enclosed areas of the site. These departments will monitor the construction practices at the site to ensure compliance with the engineered plans.

11. a. IMPACT: Existing soils under the station contain some pesticides and heavy metals.

b. MITIGATION: Conform to state and federal regulations which allow this soil to be left in place.

c. FINDING: The project, as proposed, includes techniques and procedures to reduce this potential impact to an acceptable level.

d. MONITORING: The Public Works Department will monitor soils surrounding the site to be sure no migration of this material occurs.

12. a. IMPACT: Potential exposure of public to accidental spill or lead of hazardous gases from WPCP.

b. MITIGATION: Implementation of an evacuation plan including escape routes other than Borregas Ave.

c. FINDING: The project, as proposed, includes techniques and procedures to reduce this potential impact to an acceptable level.

d. MONITORING: The Public Works Department will require the applicant to prepare an evacuation plan in consultation with Water Pollution Control Plant staff.

13. a. IMPACT: Potential toxics in the wastestream to be received at SMaRT.

b. MITIGATION: Implementation of Hazardous Waste Exclusion Program (HWEP).

c. FINDING: The project, as proposed, includes techniques and procedures to reduce this potential impact to an acceptable level.

d. MONITORING: The City of Sunnyvale will require the applicant to prepare a HWEP.

14. a. IMPACT: Storage of toxics discovered by the HWEP program at the station.

b. MITIGATION: Preparation of an appropriate storage area and conformance to local, state, and federal regulations governing storage time of hazardous wastes.

c. FINDING: The project, as proposed, includes techniques and procedures to reduce this potential impact to an acceptable level.

d. MONITORING: The City of Sunnyvale will require the applicant to prepare a HWEP, as required under the California Administrative Code Title 23. The County of Santa Clara will serve as the Local Enforcement Agency (LEA) for the station. The county will conduct weekly inspections of the station, as required by state law. During the inspections, the County will determine whether the station operator is properly following the HWEP protocol.

NOISE

15. a. IMPACT: Noise generated from the tributary traffic of the project.

b. MITIGATION: Preservation of the condition of the streets to be maintained in good repair with smooth surfaces.

c. FINDING: The project, as proposed, includes techniques and procedures to reduce this potential impact to an acceptable level.

d. MONITORING: The Public Works Department will periodically review the integrity of the public roads to assure they are properly maintained. The Operator will repair street damage caused by construction, but will not be required to provide ongoing maintenance.

AIR QUALITY

16. a. IMPACT: Dust caused from the construction of the project.

b. MITIGATION: Implementation of a dust prevention program during construction.

c. FINDING: The project, as proposed, includes techniques and procedures to reduce this potential impact to an acceptable level.

d. MONITORING: The City will require the applicant to prepare the project specifications such that the creation of dust and airborne particles is kept to a minimum. The Public Works Department will conduct routine inspections during construction to assure compliance with the plan.

17. a. IMPACT:Potential release of landfill gas during site preparation and project construction.

b. MITIGATION: Limit area of excavation to reduce the amount of landfill gas released.

c. FINDING: The project, as proposed, includes techniques and procedures to reduce this potential impact to an acceptable level.

d. MONITORING: The City will require the applicant to prepare the project specifications such that the excavation of the refuse is limited to a minimum. The City Public Works Department will conduct routine inspections during construction to assure compliance with the plan.

WILDFIRE

18. a. IMPACT: Accidental disruption of wetland habitats adjacent to the station during construction.

b. MITIGATION: Install a fence prior to construction.

c. FINDING: The project, as proposed, includes techniques and procedures to reduce this potential impact to an acceptable level.

d. MONITORING: The City will require the applicant to install a fence prior to the commencement of construction. The Public Works Department will conduct an inspection prior to construction to assure the fence has been installed. A biologist should be on hand to prevent impact during construction.

NUISANCE

19. a. IMPACT: Vectors such as flies, rodents, and yellow-jackets may be attracted to refuse.

b. MITIGATION: Conformance with the state regulations which require operation and maintenance procedures to prevent vector impacts.

c. FINDING: The project, as proposed, includes techniques and procedures to reduce this potential impact to an acceptable level.

d. MONITORING: The County, as Local Enforcement Agency, will require the station operator to comply with the state's solid waste handling regulations. The County will conduct weekly inspections at the station to ensure compliance.

20. a. IMPACT: The generation of litter from private vehicles without properly covered loads.

b. MITIGATION: Enforcement of the State Vehicle Code regarding the transportation of materials and imposition of a special fee for improperly covered loads may reduce this impact.

c. FINDING: The project, as proposed, includes techniques and procedures to reduce this potential impact to an acceptable level.

d. MONITORING: The County, as Local Enforcement Agency, will require the station operator to comply with state regulations concerning the covering of

loads entering the station. The California Highway Patrol is responsible for enforcing the State Vehicle Code.

21. a. IMPACT: Objectional odors from the decay of organic materials.

b. MITIGATION: Conformance with the State regulations, as enforced by the LEA, regarding residence time of materials and processing odorous materials will require operation and maintenance procedures to reduce unpleasant odors. Also, regular cleaning and deodorizing of the station will assist to reduce this impact.

c. FINDING: The project, as proposed, includes techniques and procedures to reduce this potential impact to an acceptable level.

d. MONITORING: The LEA will conduct weekly inspections of the station to be sure the operator complies with the solid waste handling regulations of the CIWMB.

22. a. IMPACT: Dust emissions from station operations.

b. MITIGATION: Installation of appropriate exhaust ducts and dust removal equipment will reduce this impact to the adjacent areas. Workers should wear dust masks in dusty areas.

c. FINDING: The project, as proposed, includes techniques and procedures to reduce this potential impact to an acceptable level.

d. MONITORING: The LEA will conduct weekly inspections to ensure compliance.

23. a. IMPACT: Fire hazard created by refuse containing combustibles.

b. MITIGATION: Implementation of a load-checking program to detect combustibles in refuse loads and appropriate fire suppression equipment within the facility will reduce this impact.

c. FINDING: The project, as proposed, includes techniques and procedures to reduce this potential impact to an acceptable level.

d. MONITORING: The Public Safety Department will require the applicant to install proper fire suppression and protection improvements and to prepare an emergency response plan. The Public Works Department will provide routine inspections during construction to assure compliance with the plan.

24. a. IMPACT: Light and glare created by night operations at the station.

b. MITIGATION: Light should be directed downward to avoid any impact to surrounding land uses.

c. FINDING: The project, as proposed, includes techniques and procedures to reduce this potential impact to an acceptable level.

d. MONITORING: The Building Department will review the engineering design plans to ensure compliance with this requirement.

25. a. IMPACT: Visual impact to recreationalists at the levees north of the site, and future park users, from construction and station operation.

b. PARTIAL MITIGATION OR AVOIDANCE: The proposed SMaRT station is screened from view on the west, south and east by the Sunnyvale landfill and the WPCP. It is visible from the levees to the north. The sensitive receptors near the SMaRT include users of the Twin Creeks Softball Facility; users of the future park (to be built on the Sunnyvale landfill); recreationalists using levees north of the project; and employees in the office/industrial park along the south side of Caribbean. Of these receptors, only the recreationalists using the levees to the north of the landfill would be impacted. A screening fence and landscaping is proposed along the northern boundary of the site to help reduce the impact to the levee area.

City of Sunnyvale

Addendum to the Previously Certified Environmental Impact Report (SCH No. 89022812)

Sunnyvale Materials Recovery and Transfer Station (SMaRT Station®)

December 2016

Prepared for:
City of Sunnyvale
Environmental Services Department
P.O. Box 3707
Sunnyvale, CA 94088-3707

Prepared by:
Kimley-Horn and Associates
555 Capitol Mall, Suite 300
Sacramento, CA 95814

Kimley»Horn

SUNNYVALE SMART STATION®

ADDENDUM TO THE SUNNYVALE MATERIALS RECOVERY AND TRANSFER STATION FINAL ENVIRONMENTAL IMPACT REPORT

SCH NO. 89022812

Prepared for | City of Sunnyvale
P.O. Box 3707
Sunnyvale, California 94088-3707

Prepared by | Kimley-Horn and Associates
555 Capitol Mall
Sacramento, California 95814

Date | December 2016

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1.0 INTRODUCTION

This document constitutes an Addendum to the following environmental documents previously approved by the City of Sunnyvale (City) for the Sunnyvale Materials Recovery and Transfer Station (SMaRT Station) (hereafter referred to as the original project):

- Final Environmental Impact Report (certified September 1990, State Clearinghouse Number 89022812 (1990 Final EIR); and,

- Addendum to the 1990 Final EIR, approved July 1992 (1992 Addendum).

This current addendum (2016) evaluates whether modifications to the existing SMaRT Station service area to include the City of Milpitas (hereafter referred to as the modified project) would result in any new or substantially more significant effects or require any new mitigation measures not identified in the 1990 Final EIR and as modified in the 1992 Addendum.

As verified in this Addendum, the analyses and the conclusions in the 1990 Final EIR (and as modified by the 1992 Addendum) remain current and valid. The proposed modification to the original project, in the form of the addition of the City of Milpitas to the current service area would not cause new significant effects not identified in the 1990 Final EIR nor increase the level of environmental effect to substantial or significant, and, hence, no new mitigation measures would be necessary to reduce significant effects. No change has occurred with respect to circumstances surrounding the proposed project that would cause new or substantially more severe significant environmental effects than were identified in the 1990 Final EIR. In addition, no new information has become available that shows that the project would cause new or substantially more severe significant environmental effects which have not already been analyzed in the 1990 Final EIR.

Therefore, no further environmental review is required beyond this Addendum. This Addendum incorporates the mitigation measures detailed in the 1990 Final EIR. With this Addendum, the proposed project would still be within the framework of the evaluation for the original project as documented in the 1990 Final EIR.

B. Purpose of This Addendum

The purpose of this Addendum is to evaluate whether the modified project as currently proposed would result in any new or substantially greater significant effects or require any new mitigation measures not identified in the 1990 Final EIR prepared for the original project. This Addendum, together with the 1990 Final EIR will be used by the City when considering approval of the modified project.

C. CEQA Framework for Addendum

For a proposed project with modification from an original approved project, State CEQA Guidelines (Sections 15162 and 15164) provide that an Addendum to a certified EIR may be prepared if only minor technical changes or additions are necessary or none of the following conditions calling for the preparation of a subsequent EIR have occurred:

- Substantial changes in the project which require major revisions to the EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

- Substantial changes with respect to the circumstances under which the project is undertaken which require major revisions to the EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

- New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time of EIR certification, shows any of the following:

    A. The project will have one or more significant effects not discussed in the EIR,

    B. The project will result in impacts substantially more severe than those disclosed in the EIR,

    C. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponent declines to adopt the mitigation measure or alternative, or

    D. Mitigation measures or alternatives that are considerably different from those analyzed in the EIR would substantially reduce one or more significant effects on the environment, but the project proponent declines to adopt the mitigation measure or alternative.

Based on the analysis and evaluation provided in this Addendum, no new significant impacts would occur as a result of the modified project, nor would there be any substantial increase in the severity of any previously-identified significant environmental impact. In addition, no new information of substantial importance shows that mitigation measures or alternatives that were previously found not to be feasible or that are considerably different from those analyzed in the 1990 Final EIR would substantially reduce one or more significant effects on the environment. Therefore, none of the conditions described in Section 15162 of the CEQA Guidelines has

occurred. For this reason, an addendum is the appropriate document that will comply with CEQA requirements for the modified project.

D. Adoption and Availability of the Addendum

In accordance with CEQA Guidelines Section 15164(c), an addendum to a certified EIR need not be circulated for public review but can be included in or attached to the certified EIR and presented to the decision-making body. The decision-making body shall consider the Addendum with the certified EIR prior to making a decision on the project (CEQA Guidelines Section 15164(d)).

Although not required, this Addendum is also available for public review at the City of Sunnyvale's One-Stop Permit Center, 456 West Olive Avenue, Sunnyvale, California 94086, and will be made available as an Attachment to the Staff Report that will be provided when the project is scheduled for consideration by the decision-making body.

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2.0 DESCRIPTION OF MODIFIED PROJECT

A. Project Location

The SMaRT Station is located at 301 Carl Road, Sunnyvale, California 94089; the proposed addition of Milpitas to the service area would include the entire City of Milpitas. Please see Figures 1 and 2: *Regional Map*, and *Vicinity Map*, respectively.

B. Modified Project

The City of Sunnyvale proposes to expand the service area of the SMaRT Station to include the City of Milpitas. The City of Milpitas is interested in delivering its garbage, curbside recyclables and yard trimmings to the SMaRT Station. This modified project does not propose construction or changes to any of the existing facilities or operations at the existing SMaRT Station site. The inclusion of Milpitas into the service area does not permit or authorize any construction, land use changes, or expansion of other services within the cities of Sunnyvale or Milpitas.

Currently, the SMaRT Station is operating below its permitted 1,500 peak daily tonnage limit and, operationally, can accommodate the additional materials from the City of Milpitas. The Solid Waste Facility Permit does not need to be revised to accept refuse from Milpitas provided the permitted tonnage and traffic do not exceed the following:

Permitted Maximum Peak Tonnage: 1,500 tons per day

Permitted Traffic Volumes (total vehicles entering the site): 760 daily trips on weekdays, 519 daily trips on regular weekends, and 1,390 daily trips on extra dump weekend events

Permitted hours of operation are Monday through Sunday; 8:00 AM to 5:00 PM. Materials processing, removal and equipment maintenance are permitted 24 hours a day, seven days a week. Access to the SMaRT Station is via Highway 237 and Caribbean Drive. The modified project does not propose any changes to the existing Solid Waste Facility Permit.

C. Comparison of the 1990 Original Project and 2016 Modified Project

The modified project includes the addition of the City of Milpitas to the service area. No other changes are proposed.

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3.0 ANALYSIS OF POTENTIAL ENVIRONMENTAL EFFECTS

Previous review under the California Environmental Quality Act (CEQA) for the SMaRT Station was completed with an EIR certified by the City of Sunnyvale in 1990 (State Clearinghouse No. 89022812). The EIR evaluated the construction of the SMaRT Station and a service area covering three cities and an "extended service area" that included part or all of some adjacent/nearby jurisdictions. The City of Milpitas was not included in the extended service area.

Potentially significant impacts identified in the EIR include traffic impacts, fire hazard, wash-down water quality, impacts related to safety and seismic safety, dust emissions during project construction and operation, local impacts to biological resources, and nuisance impacts. Mitigation measures were adopted to reduce these potentially significant impacts to nonsignificant. All measures adopted in the certified EIR have been or will be implemented and the impacts will be mitigated to non-significant.

The EIR found two areas of environmental impact to be significant and unavoidable. Air quality impacts were determined to be significant and unavoidable because of short-term dust impacts during project construction and because of the potential release of hazardous landfill gas during excavation of the landfill. The EIR also found that the SMaRT Station would have significant unavoidable aesthetic impacts on recreationalists using levees to the north of the project site. A screening fence and landscaping along the north side of the project-site were required to help reduce aesthetic impacts. However, even with this mitigation the impact would remain significant and unavoidable.

In 1992 the project was modified to include a reduction in the size and design capacity of the station, reconfiguration of the main station building and relocation of the wood waste processing and public buy back areas. Additionally, the station design capacity was reduced (to 1,500 peak tons per day) as a result of more accurate waste volume figures from each city, and re-evaluation of the assumptions made in estimating growth in the waste stream. In addition to a reduction in the design capacity of the station, the project was also modified to reduce the project footprint. reduce the project footprint and reduce operational limits to what was actually built and permitted.

The 1992 Addendum concluded that the proposed modifications to the SMaRT Station project would not require any change in the mitigation measures adopted to reduce project impacts. All adopted mitigation measures were incorporated into the modified project. The modified project did not result in new impacts which required additional mitigation measures.

A Supplemental Environmental Checklist has been completed for the modified project to provide a comprehensive analysis of the proposed development in comparison with the analysis in the 1990 EIR and the 1992 Addendum. This checklist is provided as an attachment to this document.

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4.0 RECOMMENDATION

That the City of Sunnyvale finds on the basis of substantial evidence in the light of the whole record that the proposed modifications to the original project are within the scope of the original 1990 Final EIR analysis and will not cause any new significant environmental impacts, substantially increase previously identified impacts, nor require any new or modified mitigation.

In making this finding, the City of Sunnyvale has considered evidence presented by City Staff, and other interested parties and has determined that:

(1) NO substantial changes are proposed in the project which will require major revisions of the previously certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;

(2) NO substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions of the previously certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or

(3) New information which was not known and could not have been known with the exercise of reasonable diligence at the time the previously adopted Mitigated Negative Declaration was adopted, does NOT show any of the following:

(A) The project will have one or more significant effects not discussed in the previously certified EIR;

(B) Significant effects previously examined will be substantially more severe than shown in the previously certified EIR;

(C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or

(D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

Based on the foregoing, it is concluded that the analyses conducted and the conclusions reached in the EIR certified September 1990 remain valid. The proposed revisions to the project would not cause new significant impacts not identified in the 1990 EIR and as modified by the 1992 Addendum, and no new mitigation measures would be necessary to reduce significant impacts. No changes have occurred with respect to circumstances surrounding the proposed project that

would cause significant environmental impacts to which the project would contribute considerably, and no new information has become available that shows that the project would cause significant environmental impacts. Therefore, no supplemental environmental review is required beyond this addendum. Pursuant to CEQA Guidelines Section 15164, an addendum need not be circulated for public review but can be included in or attached to the certified Environmental Impact Report.

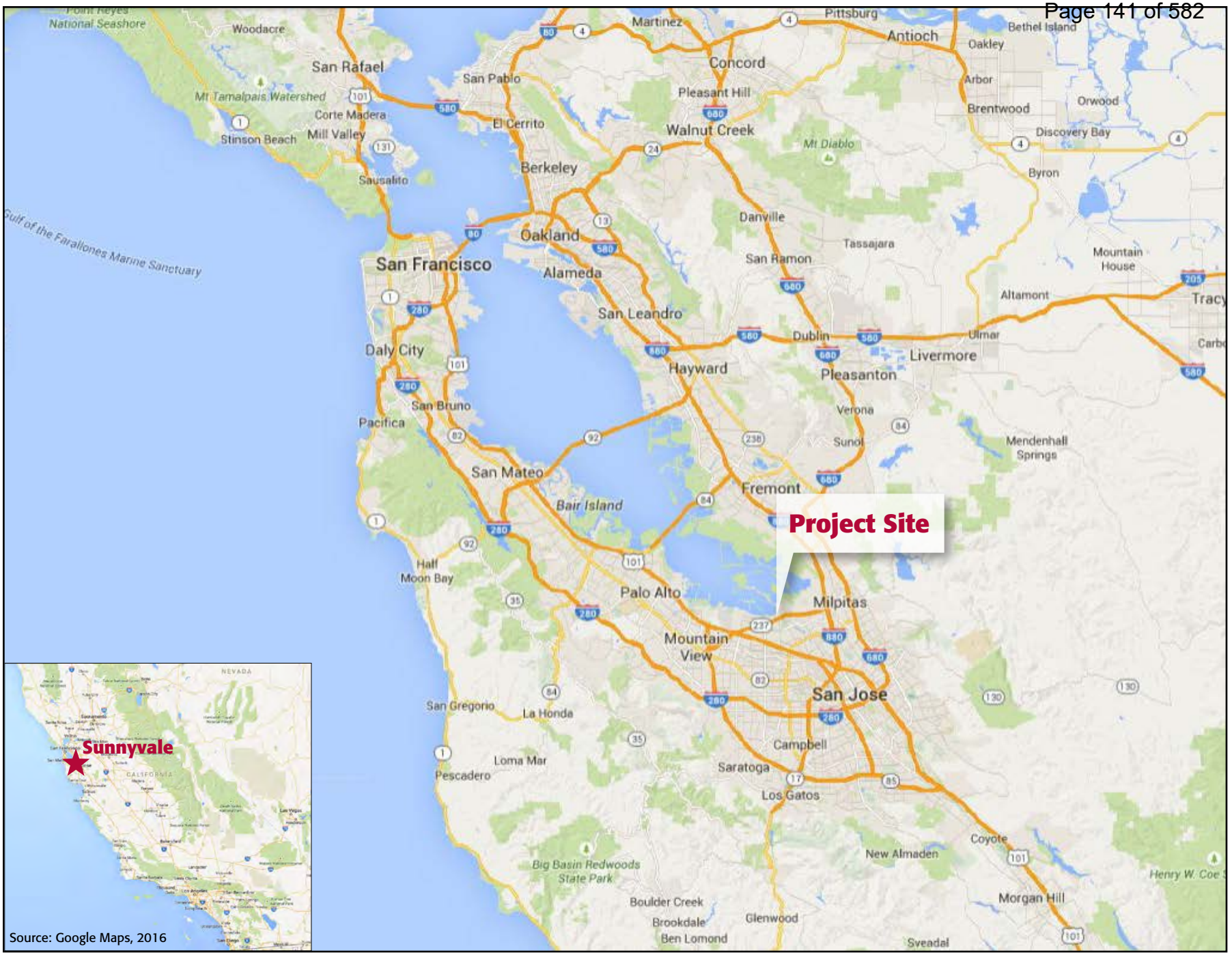
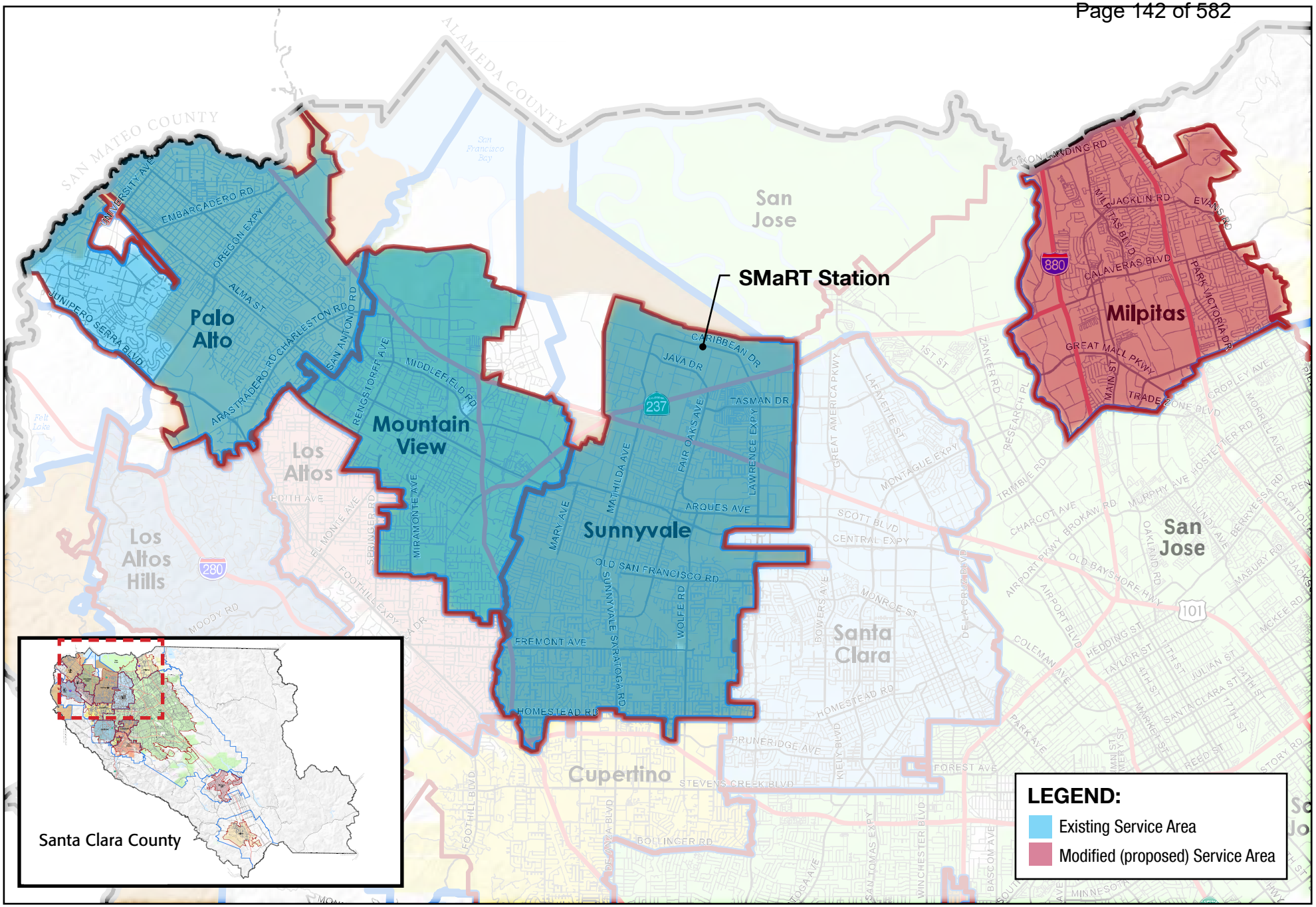


FIGURE 1: Regional Location Map
Sunnyvale SMaRT Station EIR Addendum
City of Sunnyvale

Not to scale

Kimley»Horn



Source: Santa Clara County Planning Office, 2010

FIGURE 2: Vicinity Map
Sunnyvale SMaRT Station EIR Addendum
City of Sunnyvale

Not to scale

Kimley»Horn

SUPPLEMENTAL ENVIRONMENTAL CHECKLIST FORM

FOR USE WHEN REVIEWING SUBSEQUENT DISCRETIONARY DOCUMENTS PURSUANT TO A PREVIOUSLY APPROVED OR CERTIFIED ENVIRONMENTAL DOCUMENT

1. **Project Title:** SMaRT Station®[1] - Addition of Milpitas to Service Area

2. **Lead Agency Name and Address:**

   City of Sunnyvale – Environmental Services Department
   P.O. Box 3707, Sunnyvale, CA 94088-3707

3. **Contact Person and Phone Number:** Mark Bowers, Solid Waste Programs Division Manager (408) 730-7421

4. **Project Location:** The SMaRT Station is located at 301 Carl Road, Sunnyvale, CA 94089; the proposed addition of Milpitas to the service area would include the entire City of Milpitas.

5. **Project Sponsor's Name and Address:**

   City of Sunnyvale – Environmental Services Department
   P.O. Box 3707, Sunnyvale, CA 94088-3707

6. **General Plan Designation:** Environmental Services 7. **Zoning:** M3 – PD (General Industrial – Planned Development)

8. **Previous Environmental Document:** Previous review under the California Environmental Quality Act (CEQA) for the SMaRT Station was completed with an EIR certified by the City of Sunnyvale in 1990 (State Clearinghouse No. 89022812). The EIR evaluated the construction of the SMaRT Station and a service area covering three cities and an "extended service area" that included a portion or all of some adjacent/nearby jurisdictions. The City of Milpitas was not included in the extended service area.

   Potentially significant impacts identified in the EIR include traffic impacts, fire hazard, wash-down water quality, impacts related to safety and seismic safety, dust emissions during project construction and operation, local impacts to biological resources, and nuisance impacts. Mitigation measures were adopted to reduce these potentially significant impacts to nonsignificant. All measures adopted in the certified EIR have been or will be implemented and the impacts will be mitigated to non-significant.

   The EIR found two areas of environmental impact to be significant and unavoidable. Air quality impacts were determined to be significant and unavoidable because of short-term dust impacts during project construction and because of the potential release of hazardous landfill gas during excavation of the landfill. The EIR also found that the SMaRT Station would have significant unavoidable aesthetic impacts on recreationalists using levees to the north of the project site. A screening fence and landscaping along the north side of the project-site were required to help reduce aesthetic impacts. However, even with this mitigation the impact would remain significant and unavoidable.

   In 1992 the project was modified to include a reduction in the size and design capacity of the station, reconfiguration of the main station building and relocation of the wood waste processing and public buy back areas. Additionally, the station design capacity was reduced (to 1,500 peak tons per day) as a result of more accurate waste volume figures from each city, and re-evaluation of the assumptions made in

[1] "SMaRT Station" is an abbreviation for Sunnyvale Materials Recovery and Transfer Station and is a registered service mark of the City of Sunnyvale.

estimating growth in the waste stream. In addition to a reduction in the design capacity of the station, the project was also modified to reduce the project footprint.

The 1992 Addendum concluded that the proposed modifications to the SMaRT Station project would not require any change in the mitigation measures adopted to reduce project impacts. All adopted mitigation measures were incorporated into the modified project. The modified project did not result in new impacts which required additional mitigation measures.

9. **Description of Modified Project:** The City of Sunnyvale proposes to expand the service area of the SMaRT Station to include the City of Milpitas. The City of Milpitas is interested in delivering its garbage, curbside recyclables and yard trimmings to the SMaRT Station. This modified project does not propose construction or changes to any of the existing facilities or operations at the existing SMaRT Station site. The inclusion of Milpitas into the service area does not permit or authorize any construction, land use changes, or expansion of other services within the cities of Sunnyvale or Milpitas.

Currently, the SMaRT Station serves the cities of Sunnyvale, Mountain View, and Palo Alto and is operating below its permitted 1,500 peak daily tonnage limit and, operationally, can accommodate the additional materials from the City of Milpitas. The Solid Waste Facility Permit does not need to be revised to accept refuse from Milpitas provided the permitted tonnage and traffic do not exceed the following:

Permitted Maximum Peak Tonnage: 1,500 tons per day

Permitted Traffic Volumes (total vehicles entering the site): 760 daily trips on weekdays

519 on regular weekends

1,390 on extra dump weekend events

Permitted hours of operation are Monday through Sunday, 8:00 AM to 5:00 PM. Materials processing, removal and equipment maintenance are permitted 24 hours a day, seven days a week. Access to the SMaRT Station is via Highway 237 and Caribbean Drive. The modified project does not propose any changes to the existing Solid Waste Facility Permit.

10. **Surrounding Land Uses and Setting:** (Briefly describe the project's surroundings.)

The existing SMaRT Station is located on a city-owned site adjacent to the Sunnyvale Landfill, the Sunnyvale Water Pollution Control Plant (WPCP), and San Francisco Bay. The existing facility is currently in operation 7 days a week, except certain holidays, from 8:00 AM to 5:00 PM. The City of Milpitas is approximately 10 miles from the SMaRT Station and is mostly developed with urban land uses at urban densities. Milpitas has a population of approximately 77,000 people and is approximately 13.6 square miles in size.

11. **Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):**

None.

NEW SIGNIFICANT ENVIRONMENTAL EFFECTS OR SUBSTANTIALLY MORE SEVERE SIGNIFICANT ENVIRONMENTAL EFFECTS COMPARED TO THOSE IDENTIFIED IN THE PREVIOUS CEQA DOCUMENT. The subject areas checked below were determined to be new significant environmental effects or to be previously identified effects that have a substantial increase in severity either due to a change in project, change in circumstances or new information of substantial importance, as indicated by the checklist and discussion on the following pages.

☐ Aesthetics	☐ Agriculture Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Geology / Soils
☐ Hazards & Hazardous Materials	☐ Hydrology / Water Quality	☐ Land Use / Planning
☐ Mineral Resources	☐ Noise	☐ Population / Housing
☐ Public Services	☐ Recreation	☐ Transportation / Traffic
☐ Utilities / Service Systems	☐ Mandatory Findings of Significance	☐ Greenhouse Gases

DETERMINATION:

On the basis of this initial evaluation:

☐ No substantial changes are proposed in the project and there are no substantial changes in the circumstances under which the project will be undertaken that will require major revisions to the previous approved ND or MND or certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Also, there is no "new information of substantial importance" as that term is used in CEQA Guidelines Section 15162(a)(3). Therefore, the previously adopted ND or MND or previously certified EIR is adequately discusses the potential impacts of the project without modification.

☒ No substantial changes are proposed in the project and there are no substantial changes in the circumstances under which the project will be undertaken that will require major revisions to the previous approved ND or MND or certified EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects. Also, there is no "new information of substantial importance" as that term is used in CEQA Guidelines Section 15162(a)(3). Therefore, the previously adopted ND, MND or previously certified EIR adequately discusses the potential impacts of the project; however, minor changes require the preparation of an ADDENDUM.

☐ Substantial changes are proposed in the project or there are substantial changes in the circumstances under which the project will be undertaken that will require major revisions to the previous ND, MND or EIR due to the involvement of significant new environmental effects or a substantial increase in the severity of previously identified significant effects. Or, there is "new information of substantial importance," as that term is used in CEQA Guidelines Section 15162(a)(3). However all new potentially significant environmental effects or substantial increases in the severity of previously identified significant effects are clearly reduced to below a level of significance through the incorporation of mitigation measures agreed to by the project applicant. Therefore, a SUBSEQUENT MND is required.

☐ Substantial changes are proposed in the project or there are substantial changes in the circumstances under which the project will be undertaken that will require major revisions to the previous environmental document due to the involvement of significant new environmental effects or a substantial increase in the severity of previously identified significant effects. Or, there is "new information of substantial importance," as that term is used in CEQA Guidelines Section 15162(a)(3). However, only minor changes or additions or changes would be necessary to make the previous EIR adequate for the project in the changed situation. Therefore, a SUPPLEMENTAL EIR is required.

☐ Substantial changes are proposed in the project or there are substantial changes in the circumstances under which the project will be undertaken that will require major revisions to the previous environmental document due to the involvement of significant new environmental effects or a substantial increase in the severity of previously identified significant effects. Or, there is "new information of substantial importance," as that term is used in CEQA Guidelines Section 15162(a)(3). Therefore, a SUBSEQUENT EIR is required.

Signature	Date
Printed Name	For

EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A finding of "No New Impact/No Impact" means that the potential impact was fully analyzed and/or mitigated in the prior CEQA document and no new or different impacts will result from the proposed activity. A brief explanation is required for all answers except "No New Impact/No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No New Impact/No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g. the project falls outside a fault rupture zone). A "No New Impact/No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g. the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) A finding of "New Mitigation is Required" means that the project have a new potentially significant impact on the environment or a substantially more severe impact than analyzed in the previously approved or certified CEQA document and that new mitigation is required to address the impact.

3) A finding of "New Potentially Significant Impact" means that the project may have a new potentially significant impact on the environment or a substantially more severe impact than analyzed in the previously approved or certified CEQA document that cannot be mitigated to below a level of significance or be avoided.

4) A finding of "Reduced Impact" means that a previously infeasible mitigation measure is now available, or a previously infeasible alternative is now available that will reduce a significant impact identified in the previously prepared environmental document.

Issues:		New Potentially Significant Impact	New Mitigation is Required	No New Impact/No Impact	Reduced Impact
I.	AESTHETICS. Would the project:				
a)	Have a substantial adverse effect on a scenic vista?	☐	☐	☒	☐
b)	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c)	Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☒	☐
d)	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

Discussion: The Final EIR certified in 1990 identified significant and unavoidable impacts on aesthetic views from recreational areas to the north of the SMaRT Station site. Mitigation measures were included to construct a screening wall and plant trees along the northern boundary of the project area to screen views of people using the recreational facilities north of the project site. However, the potential impacts remained significant with the implementation of the adopted mitigation measures. The proposed changes to the SMaRT Station in the 1992 EIR Addendum included a smaller project site (9 acres from 10 acres), a smaller building (111,550 from 128,000 square feet), among other changes to the site plan. The 1992 Addendum concluded that potential aesthetic impacts of the reconfigured station would be no worse than those of the original station design.

The modified project would extend the existing service area to include the City of Milpitas and would not require and physical changes to the existing SMaRT Station site, including the buildings or operational areas. The modified project would serve existing facilities within the City of Milpitas and would not require or permit any physical changes to properties or existing structures within the Milpitas service area. Therefore, the inclusion of the City of Milpitas into the service area would not result in any new adverse impacts or increase the severity of any previously identified impacts on the aesthetics of the existing project site and surrounding area. No further analysis is required.

Issues:		New Potentially Significant Impact	New Mitigation is Required	No New Impact/No Impact	Reduced Impact
II.	AGRICULTURE AND FOREST RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest protocols adopted by the California Air Resources Board. Would the project:				
a)	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☒	☐
b)	Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☒	☐
c)	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☒	☐
d)	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☒	☐
e)	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☒	☐

Issues:	New Potentially Significant Impact	New Mitigation is Required	No New Impact/No Impact	Reduced Impact

Discussion: The modified project would not result in additional impacts to agriculture beyond those identified in the 1990 EIR nor the 1992 EIR Addendum because there are no prime, unique, or statewide important farmlands in the project study area. The 1990 EIR nor the 1992 EIR Addendum did not identify any impacts to agricultural uses; therefore, mitigation was not required. The inclusion of the City of Milpitas into the service area would not result in any new adverse impacts or increase the severity of any previously identified impacts on agricultural or forest resources. The modified project would extend the existing service area to include the City of Milpitas and would not require any physical changes to the existing SMaRT Station site, including the buildings or operational areas. The modified project would serve existing facilities within the City of Milpitas and would not require or permit any physical changes to properties or existing structures within the Milpitas service area. No further analysis is required. No mitigation measures are required for the modified project.

III.	AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a)	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b)	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☒	☐
c)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d)	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e)	Create objectionable odors affecting a substantial number of people?	☐	☐	☒	☐

Discussion: Air quality-related impacts were addressed in the 1990 Final EIR at pages IV-87 through IV-93. The analysis identified that all air quality-related topics would be less than significant with the exception of construction-related impacts associated with short-term dust emissions and the potential to release hazardous landfill gas during excavation activities. The 1990 Final EIR identified mitigation to reduce the potential to release hazardous landfill gas during excavation activities to a less than significant level. Mitigation was also identified to reduce short-term dust emissions, yet not to a level below significance. Short-term dust emissions were determined to be significant and unavoidable.

Issues:		New Potentially Significant Impact	New Mitigation is Required	No New Impact/No Impact	Reduced Impact

The modified project proposes to expand the service area of the SMaRT Station to include the City of Milpitas and no physical changes to the SMaRT Station building or operation areas are proposed. Therefore, the modified would not result in construction-generated air pollutant emissions. No impacts would occur in this regard.

In terms of air pollutant emissions generated during SMaRT Station operations, the modified project would increase the amount of solid waste collection trips (a source of criteria air pollutant emissions) by 70 daily additional trips. This would result in a negligible increase of criteria air pollutant emissions (e.g., 6 pounds of the pollutant, nitrogen oxide, daily and less than one pound daily of reactive organic gases and particulate matter [course and fine]) compared with the significance thresholds promulgated by the Bay Area Air Quality Management District (BAAQMD),[2] the air pollution control officer for the modified service areas. Additionally, the 1990 Draft EIR accounted for 1,832 average daily solid waste collection trips in its evaluation of air quality impacts and the 1992 Addendum considered 1,246 average daily solid waste collection trips. The modified project would result in an increase of 70 daily solid waste collection trips for a total of 968 daily trips. Therefore, with the addition of Milpitas to the service area, the modified project would result in 278 fewer collection trips, the primary source of criteria air pollutant emissions, than what was accounted for in the 1992 Addendum. Therefore, air quality-related impacts would not be greater than originally determined in the 1990 Final EIR nor 1992 Addendum; no new impacts have been identified and no new mitigation measures are required.

The 1990 Final EIR identifies Mitigation Measures related to operations at the SMaRT Station and Kirby Canyon Landfill that were found to reduce potential impacts. The proposed modifications to the project would not require changes to the mitigation measures presented in the 1990 Final EIR. No additional measures are required.

IV.	BIOLOGICAL RESOURCES. Would the project:					
	a)	Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
	b)	Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐

[2] BAAQMD significance thresholds for criteria air pollutants are 54 daily pounds of reactive organic gases, nitrogen oxides, or fine particulate matter; and 82 daily pounds of course particulate matter.

Issues:		New Potentially Significant Impact	New Mitigation is Required	No New Impact/No Impact	Reduced Impact
c)	Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d)	Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐
e)	Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f)	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☒	☐

Discussion: The 1990 Final EIR identified that the proposed project would not have impacts to biological resources because the SMaRT Station site was previously disturbed as a result of previous landfill operations at the site. The 1990 Final EIR included mitigation measures to address indirect impacts on wildlife in the area. The modified project would extend the existing service area to include the City of Milpitas and would not require any physical changes to the existing SMaRT Station site, including the buildings or operational areas. The modified project would serve existing facilities within the City of Milpitas and would not require or permit any physical changes to properties or existing structures within the Milpitas service area. The proposed modifications to the project would not require changes to the mitigation measures presented in the 1990 Final EIR. No additional measures are required.

V.	CULTURAL RESOURCES. Would the project:				
a)	Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?	☐	☐	☒	☐
b)	Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☐	☒	☐

Issues:		New Potentially Significant Impact	New Mitigation is Required	No New Impact/No Impact	Reduced Impact
c)	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐
d)	Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐
e)	Cause a substantial adverse change in the significance of a Tribal Cultural Resource as defined in Public Resources Code §21074?	☐	☐	☒	☐

Discussion: The 1990 Final EIR did not identify potential impacts on cultural resources and no mitigation measures were proposed. No ground disturbance is proposed as part of the modified project. The modified project would extend the existing service area to include the City of Milpitas and would not require any physical changes to the existing SMaRT Station site, including the buildings or operational areas. The modified project would serve existing facilities within the City of Milpitas and would not require or permit any physical changes to properties or existing structures within the Milpitas service area.

VI.	GEOLOGY AND SOILS. Would the project:				
a)	Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving:	☐	☐	☒	☐
i)	Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☒	☐
ii)	Strong seismic ground shaking?	☐	☐	☒	☐
iii)	Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv)	Landslides?	☐	☐	☒	☐
b)	Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐

Issues:		New Potentially Significant Impact	New Mitigation is Required	No New Impact/No Impact	Reduced Impact
c)	Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐
d)	Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property?	☐	☐	☒	☐
e)	Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☒	☐

Discussion: The 1990 Final EIR identified potential impacts as a result of geologic hazards and unstable soils. Mitigation measures were identified for implementation during the construction of the SMaRT Station facility and operations areas. No ground disturbance or building construction is proposed as part of the modified project. Therefore, the modified project does not propose to construct or permit any new facilities that would be located within an Alquist-Priolo Fault Zone or be susceptible to groundshaking, ground failure, landslides, soil erosion, unstable geologic units, or expansive soils. The modified project would extend the existing service area to include the City of Milpitas and would not require any physical changes to the existing SMaRT Station site, including the buildings or operational areas. The modified project would serve existing facilities within the City of Milpitas and would not require or permit any physical changes to properties or existing structures within the Milpitas service area. The proposed modifications to the project would not require changes to the mitigation measures presented in the 1990 Final EIR. No additional measures are required.

VII.	GREENHOUSE GAS EMISSIONS. Would the project:				
a)	Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b)	Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emission of greenhouse gases?	☐	☐	☒	☐

Discussion: The 1990 Final EIR does not evaluate the effects of greenhouse gas (GHG) emission generation. At the time of certification of the Final EIR, the issue of contribution of GHG emissions to climate change was a prominent issue of concern. On March 18, 2010, amendments to the State CEQA Guidelines took effect which set forth requirements for the analysis of GHG emissions under CEQA. Since the SMaRT Station EIR has already been approved, the determination of whether GHG emissions and climate change needs to be analyzed for this specific development is governed by the law on supplemental or subsequent EIRs (Public Resources Code Section

Issues:	New Potentially Significant Impact	New Mitigation is Required	No New Impact/No Impact	Reduced Impact

21166 and CEQA Guidelines Sections 15162 and 15163). GHG emissions and climate change are not required to be analyzed under those standards unless it constitutes "new information of substantial importance, which was not known and could not have been known at the time" the 1990 Final EIR was certified (CEQA Guidelines Section 15162(a)(3)).

The issue of GHG emissions and climate change impacts is not new information that was not known or could not have been known at the time of the approval of the SMaRT Station Final EIR. The issue of climate change and GHG emissions was widely known prior to the 1990 Final EIR certification. For example, the regulation of GHG emissions to reduce climate change impacts was extensively debated and analyzed throughout the early 1990s.

As is clear from documents in the administrative record, the fact that GHG emissions could have a significant adverse environmental impact was known at the time the Final EIR was certified in 1990. Consistent with the statutory language, the courts have repeatedly held that new information that "was known" or "could have been known with the exercise of reasonable diligence" at the time of the EIR certification does not trigger the supplemental EIR standard. (*Citizens for Responsible Equitable Environmental Development v. City of San Diego* (2011) 196 Cal.App.4th 515, 532 ("CREED II"); ALARM, supra, 12 Cal.App.4th at 1800–1803.) Therefore, per the CREED II court decision, although this previous environmental document did not include a GHG analysis, a supplemental environmental analysis of GHG impacts cannot be required absent new information on that front. Information on the effect of GHG emissions on climate was known long before the City approved the Final EIR. Thus, the effect of GHG emissions on climate could have been raised in 1990 when the City considered the EIR. A challenge to an EIR must be brought within 30 days of the lead agency's notice of approval. (Pub. Resources Code, § 21167(b).) Under Public Resources Code section 21166(c), an agency may not require a supplemental environmental review unless new information, which was not known and could not have been known at the time the EIR was approved, becomes available. After a project has been subjected to environmental review, the statutory presumption flips in favor of the project proponent and against further review. (*Moss v. County of Humboldt* (2008) 162 Cal.App.4th 1041, 1049-1050.) "'[S]ection 21166 comes into play precisely because in-depth review has already occurred [and] the time for challenging the sufficiency of the original EIR has long since expired. . . .'" (*Id.*, 1050.) There is no competent evidence of new information of severe impact, and thus the City may rely on an addendum. Accordingly, the City finds that GHG impacts and climate change are not "new information" under Public Resources Code Section 21166.

Therefore, the impact of GHG emissions on climate change was known at the time of certification of the 1990 Final EIR in 1990 and therefore; under CEQA standards, it is not new information that requires analysis in a supplemental EIR or negative declaration. No supplemental environmental analysis of the Project's impacts on this issue is required under CEQA. Nonetheless, it is further noted that the modified would only increase the amount of solid waste collection trips (a source of GHG emissions) by 70 additional daily trips. This would result in a negligible increase of GHG emissions (274 metric tons annually) compared with the regional significance threshold of 1,100 metric tons annually promulgated by the BAAQMD, the air pollution control officer for the Project area. Additionally, the 1990 DEIR accounted for 1,832 average daily solid waste collection trips and the 1992 Addendum considered 1,246 average daily solid waste collection trips. The modified project would result in an increase of 70 daily solid waste collection trips for a total of 968 daily trips. Therefore, the modified project would result in 278 fewer collection trips, the primary source of GHG emissions, then that accounted for in the Final EIR.

Issues:		New Potentially Significant Impact	New Mitigation is Required	No New Impact/No Impact	Reduced Impact
VIII.	HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a)	Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐
b)	Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c)	Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☒	☐
d)	Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☒	☐
f)	For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☒	☐
g)	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
h)	Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☒	☐

Issues:		New Potentially Significant Impact	New Mitigation is Required	No New Impact/No Impact	Reduced Impact

Discussion: The 1990 Final EIR did not identify any significant impacts as a result of handling hazardous or toxic materials at the SMaRT Station. The SMaRT Station currently does not accept, handle, or process hazardous or toxic wastes from either public or private sources. The modified project does not propose to change any existing restrictions regarding the handling of hazardous materials. Proposed trash and recyclable collection within the Milpitas service area will be subject to the same prohibitions regarding hazardous materials that are in place for the existing service area. The modified project will not change or permit any current restrictions regarding the handling or transport of hazardous waste and will not change or modify the SMaRT Stations current Hazardous Waste Exclusion Program (HWEP) or any other local, State, or federal laws that restrict or control the handling of Hazardous Wastes at the SMaRT Station. The modified project would add the City of Milpitas into the service area and does not include any physical development or substantial changes in the operations of the existing facility. As such, the modified project does not conflict with any airport land use master plans, nor create safety hazards at public or private airports, interfere with the implementation of an adopted emergency response plan, or result in the exposure of people or property to wildfires. Therefore, the inclusion of the City of Milpitas into the service area would not result in any new adverse impacts or increase the severity of any previously identified impacts from hazards or hazardous materials on the existing project site or within the City of Milpitas. No mitigation measures are required.

IX.	HYDROLOGY AND WATER QUALITY. Would the project:				
a)	Violate any water quality standards or waste discharge requirements?	☐	☐	☒	☐
b)	Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☒	☐
c)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐

Issues:		New Potentially Significant Impact	New Mitigation is Required	No New Impact/No Impact	Reduced Impact
d)	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☐	☒	☐
e)	Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☒	☐
f)	Otherwise substantially degrade water quality?	☐	☐	☒	☐
g)	Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☒	☐
h)	Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☒	☐
i)	Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐
j)	Expose people or structures to inundation by seiche, tsunami, or mudflow?	☐	☐	☒	☐

Discussion: The 1990 Final EIR did not identify any significant impacts on water quality or from flooding at the SMaRT Station. The 1990 Final EIR concluded that the risks from flooding as a result of a 100-year high tide or tsunami were sufficiently low that no mitigation was required. Water quality impacts were addressed through the treatment of groundwater encountered through construction activities and mitigation required treatment and disposal of the groundwater in accordance with Regional Water Control Board standards. The modified project would add the City of Milpitas into the service area and does not include any physical development or substantial changes in the operations of the existing facility. Therefore, the inclusion of the City of Milpitas into the service area would not result in any new adverse impacts or increase the severity of any previously identified impacts from flooding or water quality on the existing project site or within the City of Milpitas. No mitigation measures are required.

Issues:		New Potentially Significant Impact	New Mitigation is Required	No New Impact/No Impact	Reduced Impact
X.	LAND USE AND PLANNING. Would the project:				
a)	Physically divide an established community?	☐	☐	☒	☐
b)	Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐
c)	Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☒	☐

Discussion: The 1990 Final EIR does not identify or evaluate any significant conflicts with land use or other planning documents as a result of developing the SMaRT Station. The modified project would add the City of Milpitas into the service area and does not include any physical development or substantial changes in the operations of the existing facility. Therefore, the inclusion of the City of Milpitas into the service area would not result in any new adverse impacts as a result of conflicts with existing land use plans on the existing project site or within the City of Milpitas. No physical structures would be developed that would physically divide an existing community in Sunnyvale or Milpitas. The modified project does not propose any development or land use changes that would conflict with an existing habitat plan or impede the development of a future habitat conservation plan in Sunnyvale or Milpitas. No mitigation measures are required.

XI.	MINERAL RESOURCES. Would the project:				
a)	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☒	☐
b)	Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☒	☐

Issues:	New Potentially Significant Impact	New Mitigation is Required	No New Impact/No Impact	Reduced Impact

Discussion: The 1990 Final EIR does not evaluate the effects of mineral resources. The City of Sunnyvale General Plan does not identify any regionally or locally important mineral resources on the Project site. The modified project would not remove any locally or regionally important mineral resources from production or preclude access to important mineral resources. The modified project would add the City of Milpitas into the service area and does not include any physical development or substantial changes in the operations of the existing facility. Therefore, the inclusion of the City of Milpitas into the service area would not result in any new adverse impacts resulting in the loss of mineral resources or the ability to recover locally important mineral resources at the existing project site or within the City of Milpitas. No mitigation measures are required.

XII. NOISE. Would the project result in:

a)	Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b)	Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c)	A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
d)	A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☒	☐
e)	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐
f)	For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☒	☐

Issues:		New Potentially Significant Impact	New Mitigation is Required	No New Impact/No Impact	Reduced Impact

Discussion: Noise resulting from on-site traffic at the SMaRT Station, off-site traffic, and operations of the Kirby Landfill were determined to be less than significant in the 1990 Final EIR. Conversely, the 1990 Final EIR determined that significant noise impacts would occur associated with the users of the levee trails north of the Project site as well as future visitors of a planned park. The noise source affecting the levee trails and planned park was identified as SMaRT Station operations and such operational noise was determined to be significant and unavoidable.

The modified project proposes to expand the service area of the SMaRT Station to include the City of Milpitas. Therefore, the predominate source of noise associated with the proposed Project would be transportation-generated noise. According to the Traffic Memo prepared for the Project (Kimley Horn 2016), the SMaRT Station currently generates 898 daily trips, 72 trips in the AM peak hour, and 28 trips in the PM peak hour. The proposed Project would result in an increase of solid waste collection trips by 70 additional daily trips. The 70 additional trips generated by the modified project would be dispersed among the various turning movements and roadways in the vicinity of the SMaRT Station site and throughout the various routes within Milpitas. According to the 2013 California Department of Transportation (Caltrans) *Technical Noise Supplement to the Traffic Noise Analysis Protocol*, doubling of traffic on a roadway would result in an increase of 3 decibels (dB) (a barely perceptible increase). The 70 additional daily trips generated by the modified project would be nominal compared to that generated under current conditions, and thus, would not result in a perceptible increase in traffic noise levels. The modified project would not result in exposing people to excessive noise levels from a public or private airport. A less than significant impact would occur in this regard. Noise-related impacts would not be greater than originally determined in the 1990 Final EIR; no new impacts have been identified and no new mitigation measures are required.

XIII.	POPULATION AND HOUSING. Would the project:				
a)	Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of road or other infrastructure)?	☐	☐	☒	☐
b)	Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐
c)	Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐

Discussion: The 1990 Final EIR does not evaluate the effects on population and housing. However, the modified project would add the City of Milpitas into the service area and does not include any physical development or substantial changes in the operations of the existing facility. Therefore, the inclusion of the City of Milpitas into the service area would not result in any new adverse impacts resulting in the displacement of substantial number of existing housing or the displacement of people at the existing project site, within Sunnyvale, or within the City of Milpitas. No mitigation measures are required.

Issues:		New Potentially Significant Impact	New Mitigation is Required	No New Impact/No Impact	Reduced Impact
XIV.	PUBLIC SERVICES. Would the project:				
a)	Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	☐	☐	☒	☐
	Fire protection?	☐	☐	☒	☐
	Police protection?	☐	☐	☒	☐
	Schools?	☐	☐	☒	☐
	Parks?	☐	☐	☒	☐
	Other public facilities?	☐	☐	☒	☐

Discussion: The 1990 Final EIR did not identify any significant impacts on public services at the SMaRT Station or within the extended service area. The modified project would add the City of Milpitas into the service area, however; this change does not include any physical development or substantial changes in the operations of the existing facility. This change would not include any physical development or changes to current land uses within the City of Milpitas. The addition of Milpitas into the service area does not authorize any new or additional development within Milpitas, nor does it remove an existing barrier to growth that would result in an increased need for public services. The inclusion of Milpitas into the service area would not result in an increased need for fire or police protection, or an increased need for schools, parks, or public facilities. No mitigation measures are required.

XV.	RECREATION. Would the project:				
a)	Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b)	Does the project include recreational facilities or require the construction or expansion of recreational facilities which have an adverse physical effect on the environment?	☐	☐	☒	☐

Issues:		New Potentially Significant Impact	New Mitigation is Required	No New Impact/No Impact	Reduced Impact

Discussion: The 1990 Final EIR did not identify any significant impacts on public services at the SMaRT Station or within the extended service area. The modified project would add the City of Milpitas into the service area, however; this change does not include any physical development or substantial changes in the operations of the existing facility. This change would not include any physical development or changes to current land uses within the City of Milpitas. The addition of Milpitas into the service area does not authorize any new or additional development within Milpitas, nor does it remove an existing barrier to growth that would result in an increased need for parks or recreational facilities. No mitigation measures are required.

XVI.	TRANSPORTATION / TRAFFIC. Would the project:					
	a)	Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☒	☐
	b)	Conflict with an applicable congestion management program, including, but not limited to, level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☒	☐
	c)	Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☒	☐
	d)	Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐
	e)	Result in inadequate emergency access?	☐	☐	☒	☐

Issues:		New Potentially Significant Impact	New Mitigation is Required	No New Impact/No Impact	Reduced Impact
f)	Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☒	☐

Discussion: The 1990 Final EIR concluded that the SMaRT Station would not have significant traffic impacts because the projected number of traffic trips would not have a significant adverse impact on the level of service operations at the study intersections or significantly increase traffic volumes on roadways within the study area. Nonetheless, mitigation measures were proposed to further reduce traffic impacts. The 1992 Addendum reflected a reduced number of traffic trips generated by the SMaRT station as a result of reducing the permitted capacity of the facility from 2,000 peak daily tonnage to 1,500 peak daily tonnage. The 1992 Addendum concluded that the proposed 32% reduction in capacity also resulted in a 32% reduction in SMaRT Station generated traffic. The 1992 Addendum concluded that the proposed revisions to the SMaRT Station did not result in any new or more significant impacts, and that no new mitigation measures were required.

To address the proposed increase in service area to include the City of Milpitas, a traffic analysis was prepared to assess the potential for new or increased traffic impacts as a result of the modified project. The traffic analysis, prepared by Kimley-Horn and Associates (2016) is included in Appendix A of this checklist.

Current SMaRT Station Trips

Trip generation of current SMaRT Station trips was based on current hourly volumes, which were provided by the City of Sunnyvale (Attachment A of Appendix A). These volumes were verified using two weeks of truck transaction data. Table 1 presents the current trip generation for the SMaRT Station.

Table 1: *Trip Generation for Current SMaRT Station Traffic*

Daily Trips	AM Peak			PM Peak		
	Total	In	Out	Total	In	Out
898	72	42	30	28	8	20

As shown in Table 1, the SMaRT Station currently generates 898 daily trips, 72 trips in the AM peak hour, and 28 trips in the PM peak hour. It should be noted that the 898 daily trips is less than the 1,246 daily trips analyzed in the 1992 EIR Addendum. The current SMaRT Trips were assigned to the network based on the trip distribution from the 1992 EIR Addendum.

Milpitas Trucks Trips

The City estimates that the proposed trucks from the Milpitas service area will add approximately 70 trucks per day. Trips during the AM and PM peak hours were determined by applying the same ratio of peak hour trips to daily trips from the existing SMaRT Station. These percentages are included in Attachment A of Appendix A. Table 2 presents the proposed trip generation for the Milpitas truck traffic.

Table 2: *Trip Generation for Proposed Milpitas Truck Traffic*

Daily Trips	AM Peak			PM Peak		
	Total	In	Out	Total	In	Out
70	4	4	8	1	1	2

Issues:	New Potentially Significant Impact	New Mitigation is Required	No New Impact/No Impact	Reduced Impact

As shown in Table 2, the proposed additional traffic from the Milpitas service area would be 8 trips in the AM peak hour, and 2 trips in the PM peak hour. It should be noted that the number of trips the project will generate during the AM or PM peak hour is under the 100 net new peak hour trip threshold to warrant the completion of a traffic impact analysis according to Santa Clara Valley Transportation Authority (VTA) guidelines.

More recent traffic volumes may differ compared to the forecasted future volumes analyzed in the 1992 EIR Addendum. As supplemental analysis, LOS and queuing analysis was conducted using more "present day" traffic volumes. The Present-Day analysis utilized intersection traffic volumes collected in November 2014 and June 2015.

Intersection LOS analysis was evaluated following the HCM 2000 methodology within the Traffix software, which follows standards and methodologies set forth by the City of Sunnyvale and Santa Clara County CMP administered by VTA.

Results of the LOS analysis for without and with the proposed Milpitas trucks conditions are presented in Table 3. All study intersections function within acceptable LOS standards under this analysis scenario. Thus, the project has a less than significant impact at all study intersections and no mitigation measures are required. Analysis sheets are provided in Attachment B of Appendix A.
An intersection queuing analysis was also conducted and showed minimal change in queue length due to the addition of the Milpitas truck traffic. Results from the queuing analysis are provided in Attachment C of Appendix A.

Table 3: *Present-Day Intersection Level of Service Summary*

#	Intersection	LOS Criteria	Present-Day						Present-Day Plus Milpitas Trucks									
			AM Peak			PM Peak			AM Peak					PM Peak				
			LOS	Delay (sec)	v/c Ratio	LOS	Delay (sec)[1]	v/c Ratio	LOS	Delay (sec)	v/c Ratio	v/c Var	Crit. Delay Var.	LOS	Delay (sec)	v/c Ratio	v/c Var	Crit. Delay Var.
1	Mathilda Avenue / Java Drive[1]	E	C	25.8	0.224	C	27.9	0.542	C	25.8	0.224	0.000	0.0	C	27.9	0.542	0.000	0.0
2	Mathilda Avenue / 5th Avenue[2]	E	B	13.6	0.170	C+	21.6	0.268	B	13.6	0.170	0.000	0.0	C+	21.6	0.268	0.000	0.0
3	Mathilda Avenue / Moffett Park Drive[2]	E	C+	21.8	0.621	C+	22.7	0.578	C+	21.8	0.621	0.000	0.0	C+	22.7	0.578	0.000	0.0
4	Mathilda Avenue / SR 237 WB Ramps[2]	E	B	12.4	0.603	B	16.0	0.731	B	12.4	0.603	0.000	0.0	B	16.0	0.731	0.000	0.0
5	Mathilda Avenue / SR 237 EB Ramps[2]	E	B	13.4	0.448	B+	11.6	0.570	B	13.4	0.448	0.000	0.0	B+	11.6	0.570	0.000	0.0
6	Mathilda Avenue / Ross Drive[2]	E	B	12.4	0.463	B	13.2	0.668	B	12.4	0.463	0.000	0.0	B	13.2	0.668	0.000	0.0
7	Borregas Avenue / Caribbean Drive	D	B	12.6	0.218	A	9.7	0.191	B	12.7	0.221	0.003	0.1	A	9.7	0.192	0.001	0.0
8	Borregas Avenue / Java Drive	D	B	17.4	0.275	B	17.9	0.333	B	17.4	0.275	0.000	0.0	B	17.9	0.333	0.000	0.0
9	Crossman Avenue / Caribbean Drive	D	B	13.7	0.248	D+	36.5	0.705	B	13.7	0.248	0.000	0.0	D+	36.5	0.705	0.000	0.0
10	Fair Oaks Avenue / Tasman Drive	D	B	17.0	0.422	B-	19.2	0.516	B	17.0	0.422	0.000	0.0	B-	19.2	0.516	0.000	0.0
11	Caribbean Drive / Moffett Park Drive	D	B	12.5	0.419	C-	34.9	0.620	B	12.6	0.420	0.001	0.0	C-	34.9	0.620	0.000	0.0
12	Lawrence Expressway / Tasman Drive[1]	E	D+	36.5	0.583	D	50.8	0.642	D+	36.5	0.583	0.000	0.0	D	50.8	0.642	0.000	0.0

1 Mathilda / Java Street (#1) and Lawrence Expressway/ Tasman (#12) are CMP intersections with LOS E threshold.
2 Mathilda Avenue is a regional significant roadway with a LOS E threshold.

As such, the addition of the City of Milpitas to the service area would generate approximately 8 trips in the AM peak hour, and 2 trips in the PM peak hour, which are under VTA's 100-trip threshold to warrant a traffic impact analysis. The level of service analysis concluded that there will be a less than significant impact on the transportation network, compared to the previously adopted 1992 Addendum. No new or additional mitigation measures are required.

Issues:		New Potentially Significant Impact	New Mitigation is Required	No New Impact/No Impact	Reduced Impact
XVII.	UTILITIES AND SERVICE SYSTEMS. Would the project:				
a)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
b)	Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
c)	Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e)	Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☒	☐
f)	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g)	Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐

Issues:	New Potentially Significant Impact	New Mitigation is Required	No New Impact/No Impact	Reduced Impact

Discussion: The 1990 Final EIR did not identify any significant impacts on utilities and services at the SMaRT Station or within the extended service area. The modified project would add the City of Milpitas into the service area, however, it does not include any physical development or substantial changes in the operations of the existing facility or within the City of Milpitas. The addition of Milpitas into the service area does not authorize any new or additional development within Milpitas, nor does it remove an existing barrier to growth that would result in an increased need for utilities and service systems. The inclusion of Milpitas into the service area would not result in an increased need for public water, sewer, wastewater treatment, or stormdrain facilities. The modified project does not increase the capacity or daily peak tonnage at either the SMaRT Station or the Kirby Canyon Landfill, and as such, no new or expanded solid waste facilities are proposed nor required. No mitigation measures are required.

XVIII.	MANDATORY FINDINGS OF SIGNIFICANCE				
a)	Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐
b)	Does the project have the potential to achieve short-term environmental goals to the disadvantage of long-term environmental goals?	☐	☐	☒	☐
c)	Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current project, and the effects of probable future projects.)	☐	☐	☒	☐
d)	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

Discussion: The 1990 Final EIR evaluated the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory. There is no substantial evidence that there are biological or cultural resources that are affected or associated with this modified project. In addition to project specific impacts, this evaluation considered the modified project's potential for potentially new or more significant cumulative effects than what was previously evaluated in the 1990 Final EIR. Mitigation measures have been identified that would address potential impacts on human beings, specifically measures for aesthetics, air quality, traffic, and noise, to reduce health hazards to humans. Therefore, the modified project has been determined not to meet this Mandatory Finding of Significance.

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5.0 PREPARERS

City of Sunnyvale (Lead Agency)

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6.0 REFERENCES

City of Sunnyvale, 1990. Final Environmental Impact Report, Sunnyvale Materials Recovery and Transfer Station (SMaRT), September 14.

City of Sunnyvale, 1992. Addendum to the Final Environmental Impact Report, Sunnyvale Materials Recovery and Transfer Station (SMaRT), July 21.

Kimley-Horn, 2016. Letter for Transportation Impacts, December.

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APPENDIX A

TRANSPORTATION IMPACTS LETTER

Kimley»Horn

December 8, 2016

Mark Bowers
Solid Waste Programs Division Manager
City of Sunnyvale

RE: ***Sunnyvale Materials Recover and Transfer Station (SMaRT Station®) – Letter for Transportation Impacts (Final)***

Dear Mr. Bowers:

The Sunnyvale Materials Recovery and Transfer Station (SMaRT Station®) is located at 301 Carl Road, just north of the Borregas Avenue and Caribbean Drive intersection in Sunnyvale, California. The original Environmental Impact Report (EIR) was certified by the City of Sunnyvale (City) in September 1990. In 1992, an addendum to the EIR analyzed a reduction in size and capacity from the 1990 EIR.

The SMaRT Station® serves the cities of Mountain View, Palo Alto, and Sunnyvale. Currently, the station is operating at an approximate peak daily tonnage of 940[1], which is less than the 1,500 peak daily tonnage permitted in the 1992 EIR Addendum. This project proposes additional operation of trucks between the SMaRT Station® to/from the City of Milpitas. It is anticipated that the SMaRT Station® will still operate under the tonnage and traffic permitted in the 1992 EIR Addendum.

Kimley-Horn and Associates, Inc. (Kimley-Horn) was retained by the City of Sunnyvale to evaluate potential traffic impacts for the proposed change. This letter documents the methodology, assumptions, and results of the traffic evaluation.

INTERSECTION LEVEL OF SERVICE

Figure 1 shows the study intersections in the study area. Intersection level of service (LOS) analysis for the AM (7:00 AM – 9:00 AM) and PM (4:00 PM – 6:00 PM) peak hour traffic was conducted for the same 12 study intersections included in the 1992 EIR Addendum:

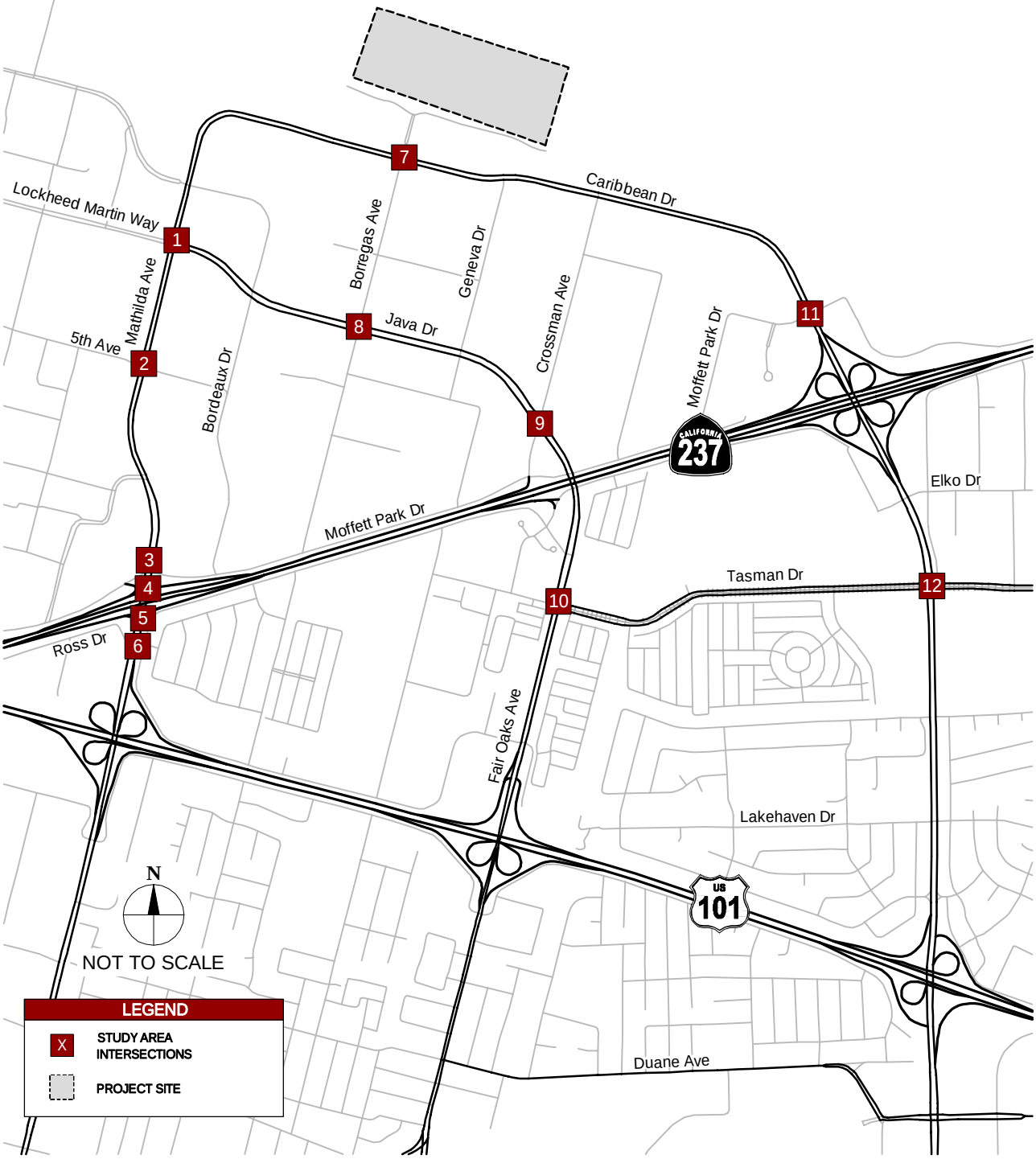
1. Mathilda Avenue / Java Drive
2. Mathilda Avenue / 5th Avenue
3. Mathilda Avenue / Moffett Park Drive
4. Mathilda Avenue / SR 237 WB Ramps
5. Mathilda Avenue / SR 237 EB Ramps
6. Mathilda Avenue / Ross Drive
7. Borregas Avenue / Caribbean Drive
8. Borregas Avenue / Java Drive
9. Crossman Avenue / Caribbean Drive

[1] Email communication with Debi Sargent on November 30, 2016.

10. Fair Oaks Avenue / Tasman Drive
11. Caribbean Drive / Moffett Park Drive
12. Lawrence Expressway / Tasman Drive

Traffic conditions were evaluated for the following traffic conditions:

- **Future (2010) EIR Baseline Plus Current SMaRT Traffic Conditions** – Based on "Future (2010) without Project" volumes analyzed in the 1992 EIR Addendum with the addition of current SMaRT Station® traffic.
- **Future (2010) EIR Baseline Plus Current SMaRT Plus Milpitas Truck Traffic Conditions** – Based on "Future (2010) without Project" volumes analyzed in the 1992 EIR Addendum with the addition of current SMaRT Station® traffic and proposed truck traffic from Milpitas.
- **Present-Day Traffic Conditions** – Based on existing traffic volumes and existing roadway geometry and traffic controls, which includes current SMaRT Station® traffic volumes.
- **Present-Day Plus Milpitas Truck Traffic Conditions** – Based on existing traffic volumes with the addition of the proposed truck traffic from Milpitas.



Kimley»Horn

FIGURE 1
PROJECT LOCATION AND STUDY INTERSECTIONS

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SUNNYVALE SMaRT STATION®

FUTURE (2010) EIR BASELINE TRAFFIC CONDITIONS

To be consistent with the 1992 EIR Addendum analysis, Future EIR Baseline traffic volumes utilized Future (2010) without project volumes from the 1992 EIR Addendum, with the addition of current SMaRT trips. Since the SMaRT Station® is operating under the permitted tonnage from the 1992 EIR Addendum, this analysis utilized the Future without Project volumes and added current SMaRT Trips instead of using Future (2010) plus project volumes from the 1992 EIR Addendum.

Current SMaRT Trips

Trip generation of current SMaRT Station® trips was based on current hourly volumes, which were provided by the City (**Attachment A**). These volumes were verified using two weeks of truck transaction data. **Table 1** presents the current trip generation for the SMaRT Station®.

Table 1: *Trip Generation for Current SMaRT Station® Traffic*

Daily Trips	AM Peak			PM Peak		
	Total	In	Out	Total	In	Out
898	72	42	30	28	8	20

As shown in **Table 1**, the SMaRT Station® currently generates 898 daily trips, 72 trips in the AM peak hour, and 28 trips in the PM peak hour. It should be noted that the 898 daily trips is less than the 1,246 daily trips analyzed in the 1992 EIR Addendum. The current SMaRT Trips were assigned to the network based on the trip distribution from the 1992 EIR Addendum.

Milpitas Trucks Trips

The City estimates that the proposed trucks from Milpitas will add approximately 70 truck trips per day. Trips during the AM and PM peak hours were determined by applying the same ratio of peak hour trips to daily trips from the existing SMaRT Station®. These percentages are included in **Appendix A**. **Table 2** presents the proposed trip generation for the Milpitas truck traffic.

Table 2: *Trip Generation for Proposed Milpitas Truck Traffic*

Daily Trips	AM Peak			PM Peak		
	Total	In	Out	Total	In	Out
70	4	4	8	1	1	2

As shown in **Table 2**, the proposed additional traffic from Milpitas would be 8 trips in the AM peak hour, and 2 trips in the PM peak hour. It should be noted that the number of trips the project will generate during the AM or PM peak hour is under the 100 net new peak hour trip threshold[2] to warrant the completion of a traffic impact analysis according to VTA guidelines.

[2] Santa Clara Valley Transportation Authority. *Transportation Impact Analysis Guidelines*. Oct 2014.

The Milpitas truck trip distribution was estimated based on proposed routes provided by the City, shown in **Figure 2**. The Milpitas trucks were assigned to the network based on the assumed trip distribution.

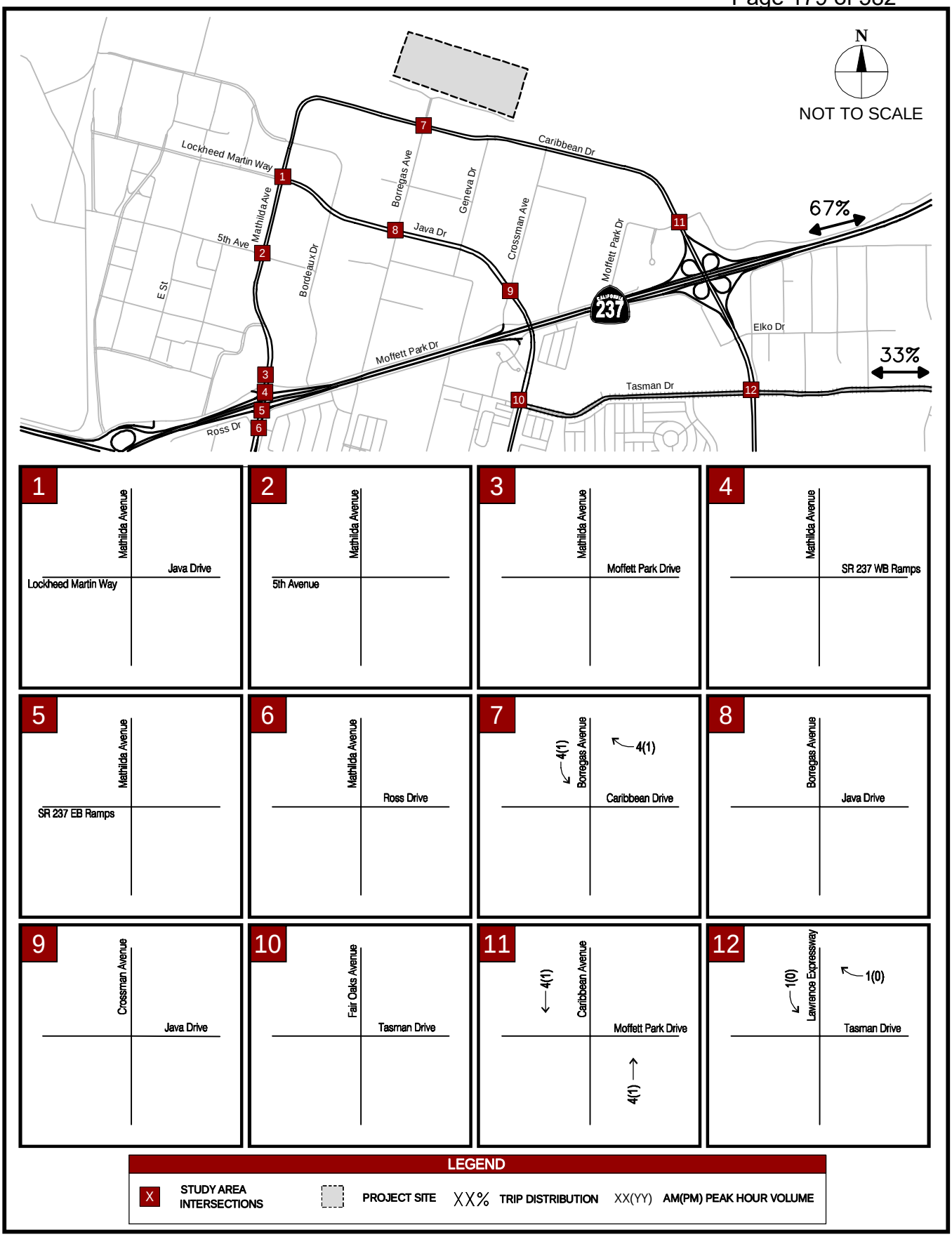
Analysis

To be consistent with the analysis performed in the 1990 EIR and 1992 EIR Addendum, intersection LOS analysis followed Transportation Research Board (TRB) Circular 212 Analysis methodology within the *Traffix* software. TRB Circular 212 analysis determines the LOS based on the volume-to-capacity (v/c) ratio. **Table 3** presents the variance in v/c ratio between the with and without Milpitas traffic conditions, as well as a change in LOS. Analysis sheets are provided in **Attachment B**.

Table 3: *Circular 212 Analysis Results Summary*
(1992 EIR Addendum Results compared to 2016 EIR Addendum Results)

#	Intersection	AM Peak		PM Peak	
		V/C Ratio Variance	Change in LOS	V/C Ratio Variance	Change in LOS
1	Mathilda Avenue / Java Drive	0.000	No	0.000	No
2	Mathilda Avenue / 5th Avenue	0.000	No	0.000	No
3	Mathilda Avenue / Moffett Park Drive	0.000	No	0.000	No
4	Mathilda Avenue / SR 237 WB Ramps	0.000	No	0.000	No
5	Mathilda Avenue / SR 237 EB Ramps	0.000	No	0.000	No
6	Mathilda Avenue / Ross Drive	0.000	No	0.000	No
7	Borregas Avenue / Caribbean Drive	0.000	No	0.000	No
8	Borregas Avenue / Java Drive	0.000	No	0.000	No
9	Crossman Avenue / Caribbean Drive	0.000	No	0.000	No
10	Fair Oaks Avenue / Tasman Drive	0.000	No	0.000	No
11	Caribbean Drive / Moffett Park Drive	0.001	No	0.000	No
12	Lawrence Expressway / Tasman Drive	0.000	No	0.000	No

The updated analysis showed no changes to the LOS for each study intersection. The analysis also concluded no changes in v/c ratio, except for Intersection #11 – Caribbean Drive / Moffett Park Drive, in which there was a slight increase of 0.001 in v/c. Thus, the project has a less than significant impact at all study intersections and no new mitigation measures are required.



Kimley»Horn

FIGURE 2
MILPITAS TRUCK TRAFFIC TRIP DISTRIBUTION AND TRIP ASSIGNMENT

Supplemental analysis for the Future EIR Baseline Traffic Conditions were evaluated following the Highway Capacity Manual (HCM) 2000 methodology within the *Traffix* software, which follows current standards and methodologies set forth by the City of Sunnyvale and Santa Clara County Congestion Management Program (CMP) administered by Santa Clara Valley Transportation Authority (VTA). **Table 4** presents the variance in delay between the with and without Milpitas traffic conditions, as well as a change in LOS. Analysis sheets are provided in **Attachment B**.

Table 4: *HCM 2000 Analysis Results Summary*
(1992 EIR Addendum Results compared to 2016 EIR Addendum Results)

#	Intersection	AM Peak		PM Peak	
		Delay Variance (sec)	Change in LOS	Delay Variance (sec)	Change in LOS
1	Mathilda Avenue / Java Drive	0.0	No	0.0	No
2	Mathilda Avenue / 5th Avenue	0.0	No	0.0	No
3	Mathilda Avenue / Moffett Park Drive	0.0	No	0.0	No
4	Mathilda Avenue / SR 237 WB Ramps	0.0	No	0.0	No
5	Mathilda Avenue / SR 237 EB Ramps	0.0	No	0.0	No
6	Mathilda Avenue / Ross Drive	0.0	No	0.0	No
7	Borregas Avenue / Caribbean Drive	0.1	No	0.1	No
8	Borregas Avenue / Java Drive	0.0	No	0.0	No
9	Crossman Avenue / Caribbean Drive	0.0	No	0.0	No
10	Fair Oaks Avenue / Tasman Drive	0.0	No	0.0	No
11	Caribbean Drive / Moffett Park Drive	0.2	No	0.0	No
12	Lawrence Expressway / Tasman Drive	0.0	No	0.0	No

The analysis showed no changes to the LOS for each study intersection. The analysis also concluded little to no change in delay for all intersections.

PRESENT-DAY TRAFFIC CONDITIONS

More recent traffic volumes may differ compared to the forecasted future volumes analyzed in the 1992 EIR Addendum. As supplemental analysis, LOS and queuing analysis was conducted using more “present day” traffic volumes. The Present-Day analysis utilized intersection traffic volumes collected in November 2014 and June 2015.

Milpitas Trucks

The Present-Day analysis utilized the same trip generation shown in **Table 2** and the same trip distribution shown in **Figure 2**.

Analysis

Intersection LOS analysis was evaluated following the HCM 2000 methodology within the *Traffix* software, which follows standards and methodologies set forth by the City of Sunnyvale and Santa Clara County CMP administered by VTA.

Results of the LOS analysis for without and with the proposed Milpitas trucks conditions are presented in **Table 5**. All study intersections function within acceptable LOS standards under this analysis scenario. Thus, the project has a less than significant impact at all study intersections and no mitigation measures are required. Analysis sheets are provided in **Attachment B**.

An intersection queuing analysis was also conducted and showed minimal change in queue length due to the addition of the Milpitas truck traffic. Results from the queuing analysis are provided in **Attachment C**.

Table 5: *Present-Day Intersection Level of Service Summary*

#	Intersection	LOS Criteria	Present-Day						Present-Day Plus Milpitas Trucks									
			AM Peak			PM Peak			AM Peak					PM Peak				
			LOS	Delay (sec)	v/c Ratio	LOS	Delay (sec)[1]	v/c Ratio	LOS	Delay (sec)	v/c Ratio	v/c Var	Crit. Delay Var.	LOS	Delay (sec)	v/c Ratio	v/c Var	Crit. Delay Var.
1	Mathilda Avenue / Java Drive[1]	E	C	25.8	0.224	C	27.9	0.542	C	25.8	0.224	0.000	0.0	C	27.9	0.542	0.000	0.0
2	Mathilda Avenue / 5th Avenue[2]	E	B	13.6	0.170	C+	21.6	0.268	B	13.6	0.170	0.000	0.0	C+	21.6	0.268	0.000	0.0
3	Mathilda Avenue / Moffett Park Drive[2]	E	C+	21.8	0.621	C+	22.7	0.578	C+	21.8	0.621	0.000	0.0	C+	22.7	0.578	0.000	0.0
4	Mathilda Avenue / SR 237 WB Ramps[2]	E	B	12.4	0.603	B	16.0	0.731	B	12.4	0.603	0.000	0.0	B	16.0	0.731	0.000	0.0
5	Mathilda Avenue / SR 237 EB Ramps[2]	E	B	13.4	0.448	B+	11.6	0.570	B	13.4	0.448	0.000	0.0	B+	11.6	0.570	0.000	0.0
6	Mathilda Avenue / Ross Drive[2]	E	B	12.4	0.463	B	13.2	0.668	B	12.4	0.463	0.000	0.0	B	13.2	0.668	0.000	0.0
7	Borregas Avenue / Caribbean Drive	D	B	12.6	0.218	A	9.7	0.191	B	12.7	0.221	0.003	0.1	A	9.7	0.192	0.001	0.0
8	Borregas Avenue / Java Drive	D	B	17.4	0.275	B	17.9	0.333	B	17.4	0.275	0.000	0.0	B	17.9	0.333	0.000	0.0
9	Crossman Avenue / Caribbean Drive	D	B	13.7	0.248	D+	36.5	0.705	B	13.7	0.248	0.000	0.0	D+	36.5	0.705	0.000	0.0
10	Fair Oaks Avenue / Tasman Drive	D	B	17.0	0.422	B-	19.2	0.516	B	17.0	0.422	0.000	0.0	B-	19.2	0.516	0.000	0.0
11	Caribbean Drive / Moffett Park Drive	D	B	12.5	0.419	C-	34.9	0.620	B	12.6	0.420	0.001	0.0	C-	34.9	0.620	0.000	0.0
12	Lawrence Expressway / Tasman Drive[1]	E	D+	36.5	0.583	D	50.8	0.642	D+	36.5	0.583	0.000	0.0	D	50.8	0.642	0.000	0.0

1 Mathilda / Java Street (#1) and Lawrence Expressway/ Tasman (#12) are CMP intersections with LOS E threshold.

2 Mathilda Avenue is a regional significant roadway with a LOS E threshold.

CONCLUSION

The proposed project will generate approximately 8 trips in the AM peak hour, and 2 trips in the PM peak hour, which are under VTA's 100-trip threshold to warrant a traffic impact analysis. The level of service analysis concluded that there will be a less than significant impact on the transportation network, compared to the previously completed 1992 EIR Addendum.

Sincerely,

Michael C. Mowery, P.E.
P.E. Certificate No. C66353

Attachments:
A – Trip Generation Information
B – LOS Analysis Sheets
C – Queue Analysis

Attachment A

	SMaRT Station											
	In				Outbound				Total			
	Trucks	Public Drop-off	Employees	Total	Trucks	Public Drop-off	Employees	Total	Trucks	Public Drop-off	Employees	Total
5:00 AM	5	0	60	65	5	0	0	5	10	0	60	70
6:00 AM	9	0	20	29	9	0	0	9	18	0	20	38
7:00 AM	14	0	15	29	14	0	0	14	28	0	15	43
8:00 AM	26	4	12	42	26	4	0	30	52	8	12	72
9:00 AM	32	15	0	47	32	15	0	47	64	30	0	94
10:00 AM	34	13	0	47	34	13	0	47	68	26	0	94
11:00 AM	35	15	0	50	35	15	0	50	70	30	0	100
12:00 PM	30	10	10	50	30	10	10	50	60	20	20	100
1:00 PM	20	10	0	30	20	10	60	90	40	20	60	120
2:00 PM	15	10	14	39	15	10	20	45	30	20	34	84
3:00 PM	9	4	0	13	9	4	15	28	18	8	15	41
4:00 PM	6	2	0	8	6	2	12	20	12	4	12	28
10:00 PM	0	0	0	0	0	0	14	14	0	0	14	14
Total	235	83	131	449	235	83	131	449	470	166	262	898

	SMaRT Truck Vol		Milpitas Trucks		
	Trucks	% Daily	In	Out	Total
5:00 AM	10	2%	1	1	1
6:00 AM	18	4%	1	1	3
7:00 AM	28	6%	2	2	4
8:00 AM	52	11%	4	4	8
9:00 AM	64	14%	5	5	10
10:00 AM	68	14%	5	5	10
11:00 AM	70	15%	5	5	10
12:00 PM	60	13%	4	4	9
1:00 PM	40	9%	3	3	6
2:00 PM	30	6%	2	2	4
3:00 PM	18	4%	1	1	3
4:00 PM	12	3%	1	1	2
Total	470	100%	35	35	70

Attachment B

Scenario Report

Scenario:	EIR Baseline + Current AM
Command:	Default Command
Volume:	Baseline AM
Geometry:	Baseline AM
Impact Fee:	Default Impact Fee
Trip Generation:	Baseline AM
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #1 Mathilda Ave / Lockheed Martin-Java Dr

Cycle (sec):	60	Critical Vol./Cap.(X):	0.346
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	46	Level Of Service:	A

Street Name:	Mathilda Ave						Lockheed Martin - Java Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	1 0	1	0 2	1 0	1	0 2	0 1	1	0 1	1 0
Volume Module:												
Base Vol:	103	217	108	25	194	9	166	363	440	211	132	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	103	217	108	25	194	9	166	363	440	211	132	4
Added Vol:	0	29	0	0	21	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	103	246	108	25	215	9	166	363	440	211	132	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	103	246	108	25	215	9	166	363	440	211	132	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	103	246	108	25	215	9	166	363	440	211	132	4
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	103	246	108	25	215	9	166	363	440	211	132	4
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.08	0.92	1.00	2.88	0.12	1.00	2.00	1.00	1.00	1.94	0.06
Final Sat.:	1650	3440	1510	1650	4751	199	1650	3300	1650	1650	3203	97
Capacity Analysis Module:												
Vol/Sat:	0.06	0.07	0.07	0.02	0.05	0.05	0.10	0.11	0.27	0.13	0.04	0.04
Crit Moves:	****			****			****			****		

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #2 Mathilda Ave / 5th Ave

Cycle (sec): 60 | Critical Vol./Cap.(X): 0.410
Loss Time (sec): 6 | Average Delay (sec/veh): xxxxxx
Optimal Cycle: 33 | Level Of Service: A

Street Name:	Mathilda Ave						5th Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ovl			Ovl			Include		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	2 1 0	1	0	2 1 0	1	0	1 0 1	1	0	0 1 0
Volume Module:												
Base Vol:	87	199	0	0	1132	138	190	0	276	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	87	199	0	0	1132	138	190	0	276	0	0	0
Added Vol:	0	29	0	0	21	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	87	228	0	0	1153	138	190	0	276	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	87	228	0	0	1153	138	190	0	276	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	87	228	0	0	1153	138	190	0	276	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	87	228	0	0	1153	138	190	0	276	0	0	0
Saturation Flow Module:												
Sat/Lane:	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	1.00	2.68	0.32	1.00	1.00	1.00	1.00	1.00	0.00
Final Sat.:	1725	5175	0	1725	4622	553	1725	1725	1725	1725	1725	0
Capacity Analysis Module:												
Vol/Sat:	0.05	0.04	0.00	0.00	0.25	0.25	0.11	0.00	0.16	0.00	0.00	0.00
Crit Moves:	****				****		****					

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #3 Mathilda Ave / Moffett Park Dr

Cycle (sec): 100 | Critical Vol./Cap.(X): 0.944
Loss Time (sec): 12 | Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 | Level Of Service: E

Street Name:	Mathilda Ave						Moffett Park Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Ovl			Include		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	2 1 0	1	0	2 1 0	1	0	1 0 2	0	1	0 0 1
Volume Module:												
Base Vol:	80	293	166	22	1570	96	11	29	741	413	175	17
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	80	293	166	22	1570	96	11	29	741	413	175	17
Added Vol:	0	29	0	0	21	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	80	322	166	22	1591	96	11	29	741	413	175	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	80	322	166	22	1591	96	11	29	741	413	175	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	80	322	166	22	1591	96	11	29	741	413	175	17
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	1.00	1.00
FinalVolume:	80	322	166	22	1591	96	11	29	815	413	175	17
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.83	0.17	1.00	1.00	2.00	0.70	0.30	1.00
Final Sat.:	1650	3300	1650	1650	4668	282	1650	1650	3300	1159	491	1650
Capacity Analysis Module:												
Vol/Sat:	0.05	0.10	0.10	0.01	0.34	0.34	0.01	0.02	0.25	0.36	0.36	0.01
Crit Moves:	****				****				****	****		

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #4 Mathilda Ave / SR 237 WB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.838
Loss Time (sec):	9	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	115	Level Of Service:	D

Street Name:	Mathilda Ave						SR 237 WB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 3	0 0	0	0 2	1 0	0	0 0	0 0	0	1 0	0 1
Volume Module:												
Base Vol:	101	554	0	0	2358	264	0	0	0	449	15	39
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	101	554	0	0	2358	264	0	0	0	449	15	39
Added Vol:	0	29	0	0	6	15	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	101	583	0	0	2364	279	0	0	0	449	15	39
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	101	583	0	0	2364	279	0	0	0	449	15	39
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	101	583	0	0	2364	279	0	0	0	449	15	39
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	101	583	0	0	2364	279	0	0	0	449	15	39
Saturation Flow Module:												
Sat/Lane:	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	0.00	2.68	0.32	0.00	0.00	0.00	0.97	0.03	1.00
Final Sat.:	1725	5175	0	0	4629	546	0	0	0	1669	56	1725
Capacity Analysis Module:												
Vol/Sat:	0.06	0.11	0.00	0.00	0.51	0.51	0.00	0.00	0.00	0.27	0.27	0.02
Crit Moves:	****				****					****		

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #5 Mathilda Ave / SR 237 EB Ramps

Cycle (sec):	120	Critical Vol./Cap.(X):	0.890
Loss Time (sec):	9	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	168	Level Of Service:	D

Street Name:	Mathild Ave						SR 237 EB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ovl			Include			Ovl			Include		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 3	0 1	1	0 2	0 0	1	1 0	0 1	0	0 0	0 0
Volume Module:												
Base Vol:	0	476	330	210	2855	0	168	0	73	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	476	330	210	2855	0	168	0	73	0	0	0
Added Vol:	0	8	0	0	6	0	21	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	484	330	210	2861	0	189	0	73	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	484	330	210	2861	0	189	0	73	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	484	330	210	2861	0	189	0	73	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	484	330	210	2861	0	208	0	73	0	0	0
Saturation Flow Module:												
Sat/Lane:	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	3.00	1.00	1.00	2.00	0.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	5175	1725	1725	3450	0	3450	0	1725	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.09	0.19	0.12	0.83	0.00	0.06	0.00	0.04	0.00	0.00	0.00
Crit Moves:	****				****		****					

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #6 Mathilda Ave / Ross Dr

Cycle (sec): 120 | Critical Vol./Cap.(X): 0.845
Loss Time (sec): 12 | Average Delay (sec/veh): xxxxxx
Optimal Cycle: 147 | Level Of Service: D

Street Name:	Mathilda Ave						Ross Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Ovl			Ovl		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	1 0	1	0 1	1 0	1	0 1	0 1	1	0 1	0 1
Volume Module:												
Base Vol:	61	661	222	147	2434	20	66	6	134	166	12	82
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	61	661	222	147	2434	20	66	6	134	166	12	82
Added Vol:	0	8	0	0	6	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	61	669	222	147	2440	20	66	6	134	166	12	82
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	61	669	222	147	2440	20	66	6	134	166	12	82
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	61	669	222	147	2440	20	66	6	134	166	12	82
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	61	669	222	147	2440	20	66	6	134	166	12	82
Saturation Flow Module:												
Sat/Lane:	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.25	0.75	1.00	1.98	0.02	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1725	3886	1289	1725	3422	28	1725	1725	1725	1725	1725	1725
Capacity Analysis Module:												
Vol/Sat:	0.04	0.17	0.17	0.09	0.71	0.71	0.04	0.00	0.08	0.10	0.01	0.05
Crit Moves:	****			****						****		

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #7 Borregas Ave / Caribbean Dr

Cycle (sec): 100 | Critical Vol./Cap.(X): 0.377
Loss Time (sec): 12 | Average Delay (sec/veh): xxxxxx
Optimal Cycle: 39 | Level Of Service: A

Street Name:	Borregas Ave						Caribbean Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Ovl			Ovl			Include			Include		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0 1	0	0 1	1	0 2	1 0	1	0 2	1 0
Volume Module:												
Base Vol:	6	1	296	28	4	8	15	1047	17	75	97	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	1	296	28	4	8	15	1047	17	75	97	6
Added Vol:	0	6	0	5	5	21	29	0	0	0	0	6
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	6	7	296	33	9	29	44	1047	17	75	97	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	6	7	296	33	9	29	44	1047	17	75	97	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	7	296	33	9	29	44	1047	17	75	97	12
PCE Adj:	1.03	1.00	1.00	1.02	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	6	7	296	34	9	29	44	1047	17	75	97	12
Saturation Flow Module:												
Sat/Lane:	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.46	0.54	1.00	0.79	0.21	1.00	1.00	2.95	0.05	1.00	2.67	0.33
Final Sat.:	796	929	1725	1355	370	1725	1725	5092	83	1725	4605	570
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.17	0.02	0.02	0.02	0.03	0.21	0.21	0.04	0.02	0.02
Crit Moves:			****					****		****		

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #8 Borregas Ave / Java Dr

Cycle (sec): 120 | Critical Vol./Cap.(X): 0.497
Loss Time (sec): 9 | Average Delay (sec/veh): xxxxxx
Optimal Cycle: 37 | Level Of Service: A

Street Name:	Borregas Ave						Java Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1! 0	1	0	1 1	0	1	0 1 0
Volume Module:												
Base Vol:	88	108	194	90	67	48	80	748	86	50	163	55
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	88	108	194	90	67	48	80	748	86	50	163	55
Added Vol:	0	0	0	5	0	0	0	0	0	0	0	6
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	88	108	194	95	67	48	80	748	86	50	163	61
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	88	108	194	95	67	48	80	748	86	50	163	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	88	108	194	95	67	48	80	748	86	50	163	61
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	88	108	194	95	67	48	80	748	86	50	163	61
Saturation Flow Module:												
Sat/Lane:	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.22	0.28	0.50	0.45	0.32	0.23	1.00	1.79	0.21	1.00	1.46	0.54
Final Sat.:	389	478	858	780	550	394	1725	3094	356	1725	2510	940
Capacity Analysis Module:												
Vol/Sat:	0.23	0.23	0.23	0.12	0.12	0.12	0.05	0.24	0.24	0.03	0.06	0.06
Crit Moves:	****						****			****		

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #9 Crossman Ave / Java Dr

Cycle (sec): 100 | Critical Vol./Cap.(X): 0.529
Loss Time (sec): 12 | Average Delay (sec/veh): xxxxxx
Optimal Cycle: 48 | Level Of Service: A

Street Name:	Corssman Ave						Java Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Ovl			Ovl		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1 0 1	1	0	1 0 1	1	0	2 0 1	1	0	2 0 1
Volume Module:												
Base Vol:	15	22	176	185	141	33	69	1196	162	66	178	37
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	22	176	185	141	33	69	1196	162	66	178	37
Added Vol:	0	0	0	0	0	0	0	5	0	0	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	22	176	185	141	33	69	1201	162	66	184	37
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	15	22	176	185	141	33	69	1201	162	66	184	37
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	15	22	176	185	141	33	69	1201	162	66	184	37
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	15	22	176	185	141	33	69	1201	162	66	184	37
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1650	1650	1650	1650	1650	1650	1650	3300	1650	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.11	0.11	0.09	0.02	0.04	0.36	0.10	0.04	0.06	0.02
Crit Moves:	****		****				****		****			

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #10 Fair Oaks Ave / TasmanDr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.800
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	114	Level Of Service:	C

Street Name:	Fair Oaks Ave						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Ovl		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	2	0 1	1 0	1	0 0	1 0	1	0 1	0 1
Volume Module:												
Base Vol:	78	204	359	287	1381	85	55	98	92	316	52	51
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	78	204	359	287	1381	85	55	98	92	316	52	51
Added Vol:	0	6	0	0	5	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	78	210	359	287	1386	85	55	98	92	316	52	51
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	78	210	359	287	1386	85	55	98	92	316	52	51
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	78	210	359	287	1386	85	55	98	92	316	52	51
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	78	210	359	316	1386	85	55	98	92	316	52	51
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	2.00	1.88	0.12	1.00	0.52	0.48	1.00	1.00	1.00
Final Sat.:	1650	3300	1650	3300	3109	191	1650	851	799	1650	1650	1650
Capacity Analysis Module:												
Vol/Sat:	0.05	0.06	0.22	0.10	0.45	0.45	0.03	0.12	0.12	0.19	0.03	0.03
Crit Moves:	****				****			****		****		

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #11 Carribean Dr / Moffett Park Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.796
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	112	Level Of Service:	C

Street Name:	Carribean Dr						Moffett Park Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ovl			Ovl			Ovl		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 3	1 0	1	0 3	0 1	1	0 0	0 1	0	1 0	0 1
Volume Module:												
Base Vol:	178	264	6	1	2204	7	15	0	567	10	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	178	264	6	1	2204	7	15	0	567	10	0	0
Added Vol:	0	6	0	0	5	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	178	270	6	1	2209	7	15	0	567	10	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	178	270	6	1	2209	7	15	0	567	10	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	178	270	6	1	2209	7	15	0	567	10	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	178	270	6	1	2209	7	15	0	567	10	0	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.91	0.09	1.00	3.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1650	6457	143	1650	4950	1650	1650	0	1650	1650	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.11	0.04	0.04	0.00	0.45	0.00	0.01	0.00	0.34	0.01	0.00	0.00
Crit Moves:	****				****				****	****		

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #12 Lawrence Expy / Tasman Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.847
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	149	Level Of Service:	D

Street Name:	Lawrence Expy						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 3	0 1	1	0 1	1 0	1	0 1	1 0
Volume Module:												
Base Vol:	117	744	275	811	1738	114	113	295	141	483	217	188
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	117	744	275	811	1738	114	113	295	141	483	217	188
Added Vol:	0	6	0	0	5	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	117	750	275	811	1743	114	113	295	141	483	217	188
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	117	750	275	811	1743	114	113	295	141	483	217	188
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	117	750	275	811	1743	114	113	295	141	483	217	188
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.10	1.00	1.00	1.10	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	129	750	275	892	1743	114	113	295	141	483	217	188
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	1.00	1.35	0.65	1.00	1.07	0.93
Final Sat.:	3300	4950	1650	3300	4950	1650	1650	2233	1067	1650	1768	1532
Capacity Analysis Module:												
Vol/Sat:	0.04	0.15	0.17	0.27	0.35	0.07	0.07	0.13	0.13	0.29	0.12	0.12
Crit Moves:		****		****				****		****		

Scenario Report

Scenario:	EIR Baseline + Current PM
Command:	Default Command
Volume:	Baseline PM
Geometry:	Baseline PM
Impact Fee:	Default Impact Fee
Trip Generation:	Baseline PM
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #1 Mathilda Ave / Lockheed Martin-Java Dr

Cycle (sec):	60	Critical Vol./Cap.(X):	0.380
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	46	Level Of Service:	A

Street Name:	Mathilda Ave						Lockheed Martin - Java Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	1 0	1	0 2	1 0	1	0 2	0 1	1	0 1	1 0
Volume Module:												
Base Vol:	189	251	347	41	232	197	102	112	46	125	264	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	189	251	347	41	232	197	102	112	46	125	264	11
Added Vol:	0	6	0	0	14	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	189	257	347	41	246	197	102	112	46	125	264	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	189	257	347	41	246	197	102	112	46	125	264	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	189	257	347	41	246	197	102	112	46	125	264	11
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	189	257	347	41	246	197	102	112	46	125	264	11
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.92	0.08
Final Sat.:	1650	3300	1650	1650	3300	1650	1650	3300	1650	1650	3168	132
Capacity Analysis Module:												
Vol/Sat:	0.11	0.08	0.21	0.02	0.07	0.12	0.06	0.03	0.03	0.08	0.08	0.08
Crit Moves:			****	****			****				****	

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #2 Mathilda Ave / 5th Ave

Cycle (sec):	60	Critical Vol./Cap.(X):	0.295
Loss Time (sec):	6	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	33	Level Of Service:	A

Street Name:	Mathilda Ave						5th Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ovl			Ovl			Include		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	1 0	1	0 2	1 0	1	0 1	0 1	1	0 0	1 0
Volume Module:												
Base Vol:	287	1348	0	0	197	221	116	0	81	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	287	1348	0	0	197	221	116	0	81	0	0	0
Added Vol:	0	6	0	0	14	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	287	1354	0	0	211	221	116	0	81	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	287	1354	0	0	211	221	116	0	81	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	287	1354	0	0	211	221	116	0	81	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	287	1354	0	0	211	221	116	0	81	0	0	0
Saturation Flow Module:												
Sat/Lane:	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Final Sat.:	1725	5175	0	1725	3450	1725	1725	1725	1725	1725	1725	0
Capacity Analysis Module:												
Vol/Sat:	0.17	0.26	0.00	0.00	0.06	0.13	0.07	0.00	0.05	0.00	0.00	0.00
Crit Moves:	****				****		****					

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #3 Mathilda Ave / Moffett Park Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.792
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	110	Level Of Service:	C

Street Name:	Mathilda Ave						Moffett Park Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Ovl			Include		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	1 0	1	0 2	1 0	1	0 1	0 2	0	1 0	0 1
Volume Module:												
Base Vol:	997	1495	780	8	206	19	0	37	44	116	77	21
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	997	1495	780	8	206	19	0	37	44	116	77	21
Added Vol:	0	6	0	0	14	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	997	1501	780	8	220	19	0	37	44	116	77	21
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	997	1501	780	8	220	19	0	37	44	116	77	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	997	1501	780	8	220	19	0	37	44	116	77	21
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	1.00	1.00
FinalVolume:	997	1501	780	8	220	19	0	37	48	116	77	21
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.76	0.24	1.00	1.00	2.00	0.60	0.40	1.00
Final Sat.:	1650	3300	1650	1650	4556	394	1650	1650	3300	992	658	1650
Capacity Analysis Module:												
Vol/Sat:	0.60	0.45	0.47	0.00	0.05	0.05	0.00	0.02	0.01	0.12	0.12	0.01
Crit Moves:	****				****			****		****		

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #4 Mathilda Ave / SR 237 WB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.253
Loss Time (sec):	9	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	36	Level Of Service:	A

Street Name:	Mathilda Ave						SR 237 WB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 3	0 0	0	0 2	1 0	0	0 0	0 0	0	1 0	0 1
Volume Module:												
Base Vol:	85	384	0	0	386	33	0	0	0	206	1	195
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	85	384	0	0	386	33	0	0	0	206	1	195
Added Vol:	0	6	0	0	4	10	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	85	390	0	0	390	43	0	0	0	206	1	195
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	85	390	0	0	390	43	0	0	0	206	1	195
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	85	390	0	0	390	43	0	0	0	206	1	195
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	85	390	0	0	390	43	0	0	0	206	1	195
Saturation Flow Module:												
Sat/Lane:	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	0.00	2.70	0.30	0.00	0.00	0.00	0.99	0.01	1.00
Final Sat.:	1725	5175	0	0	4661	514	0	0	0	1717	8	1725
Capacity Analysis Module:												
Vol/Sat:	0.05	0.08	0.00	0.00	0.08	0.08	0.00	0.00	0.00	0.12	0.12	0.11
Crit Moves:	****				****						****	

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #5 Mathilda Ave / SR 237 EB Ramps

Cycle (sec):	120	Critical Vol./Cap.(X):	0.845
Loss Time (sec):	9	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	120	Level Of Service:	D

Street Name:	Mathild Ave						SR 237 EB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ovl			Include			Ovl			Include		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 3	0 1	1	0 2	0 0	1	1 0	0 1	0	0 0	0 0
Volume Module:												
Base Vol:	0	2742	493	63	515	0	870	0	50	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2742	493	63	515	0	870	0	50	0	0	0
Added Vol:	0	2	0	0	4	0	4	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2744	493	63	519	0	874	0	50	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	2744	493	63	519	0	874	0	50	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2744	493	63	519	0	874	0	50	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	2744	493	63	519	0	961	0	50	0	0	0
Saturation Flow Module:												
Sat/Lane:	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	3.00	1.00	1.00	2.00	0.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	5175	1725	1725	3450	0	3450	0	1725	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.53	0.29	0.04	0.15	0.00	0.28	0.00	0.03	0.00	0.00	0.00
Crit Moves:		****		****			****					

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #6 Mathilda Ave / Ross Dr

Cycle (sec):	120	Critical Vol./Cap.(X):	0.746
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	90	Level Of Service:	C

Street Name:	Mathilda Ave						Ross Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Ovl			Ovl		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	1 0	1	0 1	1 0	1	0 1	0 1	1	0 1	0 1
Volume Module:												
Base Vol:	96	3210	106	56	553	78	40	4	36	125	21	151
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	96	3210	106	56	553	78	40	4	36	125	21	151
Added Vol:	0	2	0	0	4	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	96	3212	106	56	557	78	40	4	36	125	21	151
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	96	3212	106	56	557	78	40	4	36	125	21	151
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	96	3212	106	56	557	78	40	4	36	125	21	151
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	96	3212	106	56	557	78	40	4	36	125	21	151
Saturation Flow Module:												
Sat/Lane:	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.90	0.10	1.00	1.75	0.25	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1725	5010	165	1725	3026	424	1725	1725	1725	1725	1725	1725
Capacity Analysis Module:												
Vol/Sat:	0.06	0.64	0.64	0.03	0.18	0.18	0.02	0.00	0.02	0.07	0.01	0.09
Crit Moves:		****		****						****		

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #7 Borregas Ave / Caribbean Dr

Cycle (sec): 100 | Critical Vol./Cap.(X): 0.331
Loss Time (sec): 12 | Average Delay (sec/veh): xxxxxx
Optimal Cycle: 39 | Level Of Service: A

Street Name:	Borregas Ave						Caribbean Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Ovl			Ovl			Include			Include		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	1	0	0	1	0	1	0	2	1	0	1	0	2	1	0
Volume Module:												
Base Vol:	7	12	41	11	13	6	18	153	14	485	1175	24
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	7	12	41	11	13	6	18	153	14	485	1175	24
Added Vol:	0	1	0	3	3	14	6	0	0	0	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	7	13	41	14	16	20	24	153	14	485	1175	25
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	7	13	41	14	16	20	24	153	14	485	1175	25
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	7	13	41	14	16	20	24	153	14	485	1175	25
PCE Adj:	1.05	1.00	1.00	1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	7	13	41	15	16	20	24	153	14	485	1175	25
Saturation Flow Module:												
Sat/Lane:	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.35	0.65	1.00	0.47	0.53	1.00	1.00	2.75	0.25	1.00	2.94	0.06
Final Sat.:	604	1121	1725	805	920	1725	1725	4741	434	1725	5067	108
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.02	0.02	0.02	0.01	0.01	0.03	0.03	0.28	0.23	0.23
Crit Moves:				****			****			****		

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #8 Borregas Ave / Java Dr

Cycle (sec): 120 | Critical Vol./Cap.(X): 0.393
Loss Time (sec): 9 | Average Delay (sec/veh): xxxxxx
Optimal Cycle: 36 | Level Of Service: A

Street Name:	Borregas Ave						Java Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1!	0	0	0	0	1!	0	0	1	0	1	1	1	0
Volume Module:												
Base Vol:	75	139	47	66	142	62	20	109	53	191	650	118
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	75	139	47	66	142	62	20	109	53	191	650	118
Added Vol:	0	0	0	3	0	0	0	0	0	0	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	75	139	47	69	142	62	20	109	53	191	650	119
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	75	139	47	69	142	62	20	109	53	191	650	119
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	75	139	47	69	142	62	20	109	53	191	650	119
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	75	139	47	69	142	62	20	109	53	191	650	119
Saturation Flow Module:												
Sat/Lane:	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.29	0.53	0.18	0.25	0.52	0.23	1.00	1.35	0.65	1.00	1.69	0.31
Final Sat.:	496	919	311	436	897	392	1725	2321	1129	1725	2916	534
Capacity Analysis Module:												
Vol/Sat:	0.15	0.15	0.15	0.16	0.16	0.16	0.01	0.05	0.05	0.11	0.22	0.22
Crit Moves:					****			****				****

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #9 Crossman Ave / Java Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.453
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 46 Level Of Service: A

Street Name:	Corssman Ave						Java Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Ovl			Ovl		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	0 1	1	0 1	0 1	1	0 2	0 1	1	0 2	0 1
Volume Module:												
Base Vol:	10	15	10	37	63	108	57	134	24	235	1235	428
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	15	10	37	63	108	57	134	24	235	1235	428
Added Vol:	0	0	0	0	0	0	0	3	0	0	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	15	10	37	63	108	57	137	24	235	1236	428
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	15	10	37	63	108	57	137	24	235	1236	428
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	15	10	37	63	108	57	137	24	235	1236	428
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	15	10	37	63	108	57	137	24	235	1236	428
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1650	1650	1650	1650	1650	1650	1650	3300	1650	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.01	0.02	0.04	0.07	0.03	0.04	0.01	0.14	0.37	0.26
Crit Moves:	****				****		****				****	

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #10 Fair Oaks Ave / TasmanDr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.596
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 56 Level Of Service: A

Street Name:	Fair Oaks Ave						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Ovl		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	2	0 1	1 0	1	0 0	1 0	1	0 1	0 1
Volume Module:												
Base Vol:	207	1373	263	28	136	24	73	30	34	217	77	176
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	207	1373	263	28	136	24	73	30	34	217	77	176
Added Vol:	0	1	0	0	3	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	207	1374	263	28	139	24	73	30	34	217	77	176
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	207	1374	263	28	139	24	73	30	34	217	77	176
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	207	1374	263	28	139	24	73	30	34	217	77	176
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	207	1374	263	31	139	24	73	30	34	217	77	176
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	2.00	1.71	0.29	1.00	0.47	0.53	1.00	1.00	1.00
Final Sat.:	1650	3300	1650	3300	2814	486	1650	773	877	1650	1650	1650
Capacity Analysis Module:												
Vol/Sat:	0.13	0.42	0.16	0.01	0.05	0.05	0.04	0.04	0.04	0.13	0.05	0.11
Crit Moves:		****		****				****		****		

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #11 Carribean Dr / Moffett Park Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.488
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	49	Level Of Service:	A

Street Name:	Carribean Dr						Moffett Park Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ovl			Ovl			Ovl		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 3	1 0	1	0 3	0 1	0	1 0	1 0	0	1 0	0 1
Volume Module:												
Base Vol:	627	2227	53	3	200	8	14	7	86	3	54	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	627	2227	53	3	200	8	14	7	86	3	54	1
Added Vol:	0	1	0	0	3	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	627	2228	53	3	203	8	14	7	86	3	54	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	627	2228	53	3	203	8	14	7	86	3	54	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	627	2228	53	3	203	8	14	7	86	3	54	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	627	2228	53	3	203	8	14	7	86	3	54	1
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.91	0.09	1.00	3.00	1.00	0.26	0.74	1.00	0.05	0.95	1.00
Final Sat.:	1650	6447	153	1650	4950	1650	432	1218	1650	87	1563	1650
Capacity Analysis Module:												
Vol/Sat:	0.38	0.35	0.35	0.00	0.04	0.00	0.03	0.01	0.05	0.03	0.03	0.00
Crit Moves:	****				****		****				****	

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #12 Lawrence Expy / Tasman Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.491
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	46	Level Of Service:	A

Street Name:	Lawrence Expy						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 3	0 1	1	0 1	1 0	1	0 1	1 0
Volume Module:												
Base Vol:	81	1377	358	24	510	209	149	273	73	142	147	189
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	81	1377	358	24	510	209	149	273	73	142	147	189
Added Vol:	0	1	0	0	3	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	81	1378	358	24	513	209	149	273	73	142	147	189
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	81	1378	358	24	513	209	149	273	73	142	147	189
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	81	1378	358	24	513	209	149	273	73	142	147	189
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.10	1.00	1.00	1.10	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	89	1378	358	26	513	209	149	273	73	142	147	189
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	1.00	1.58	0.42	1.00	1.00	1.00
Final Sat.:	3300	4950	1650	3300	4950	1650	1650	2604	696	1650	1650	1650
Capacity Analysis Module:												
Vol/Sat:	0.03	0.28	0.22	0.01	0.10	0.13	0.09	0.10	0.10	0.09	0.09	0.11
Crit Moves:		****			****			****				****

Scenario Report

Scenario:	EIR Baseline + Current + Milpitas AM
Command:	Default Command
Volume:	Baseline AM
Geometry:	Baseline AM
Impact Fee:	Default Impact Fee
Trip Generation:	Baseline + Milpitas AM
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #1 Mathilda Ave / Lockheed Martin-Java Dr

Cycle (sec):	60	Critical Vol./Cap.(X):	0.346
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	46	Level Of Service:	A

Street Name:	Mathilda Ave						Lockheed Martin - Java Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	1 0	1	0 2	1 0	1	0 2	0 1	1	0 1	1 0
Volume Module:												
Base Vol:	103	217	108	25	194	9	166	363	440	211	132	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	103	217	108	25	194	9	166	363	440	211	132	4
Added Vol:	0	29	0	0	21	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	103	246	108	25	215	9	166	363	440	211	132	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	103	246	108	25	215	9	166	363	440	211	132	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	103	246	108	25	215	9	166	363	440	211	132	4
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	103	246	108	25	215	9	166	363	440	211	132	4
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.08	0.92	1.00	2.88	0.12	1.00	2.00	1.00	1.00	1.94	0.06
Final Sat.:	1650	3440	1510	1650	4751	199	1650	3300	1650	1650	3203	97
Capacity Analysis Module:												
Vol/Sat:	0.06	0.07	0.07	0.02	0.05	0.05	0.10	0.11	0.27	0.13	0.04	0.04
Crit Moves:	****			****			****			****		

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #2 Mathilda Ave / 5th Ave

Cycle (sec): 60 Critical Vol./Cap.(X): 0.410
Loss Time (sec): 6 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 33 Level Of Service: A

Street Name:	Mathilda Ave						5th Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ovl			Ovl			Include		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	1 0	1	0 2	1 0	1	0 1	0 1	1	0 0	1 0
Volume Module:												
Base Vol:	87	199	0	0	1132	138	190	0	276	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	87	199	0	0	1132	138	190	0	276	0	0	0
Added Vol:	0	29	0	0	21	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	87	228	0	0	1153	138	190	0	276	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	87	228	0	0	1153	138	190	0	276	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	87	228	0	0	1153	138	190	0	276	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	87	228	0	0	1153	138	190	0	276	0	0	0
Saturation Flow Module:												
Sat/Lane:	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	1.00	2.68	0.32	1.00	1.00	1.00	1.00	1.00	0.00
Final Sat.:	1725	5175	0	1725	4622	553	1725	1725	1725	1725	1725	0
Capacity Analysis Module:												
Vol/Sat:	0.05	0.04	0.00	0.00	0.25	0.25	0.11	0.00	0.16	0.00	0.00	0.00
Crit Moves:	****				****		****					

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #3 Mathilda Ave / Moffett Park Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.944
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: E

Street Name:	Mathilda Ave						Moffett Park Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Ovl			Include		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	1 0	1	0 2	1 0	1	0 1	0 2	0	1 0	0 1
Volume Module:												
Base Vol:	80	293	166	22	1570	96	11	29	741	413	175	17
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	80	293	166	22	1570	96	11	29	741	413	175	17
Added Vol:	0	29	0	0	21	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	80	322	166	22	1591	96	11	29	741	413	175	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	80	322	166	22	1591	96	11	29	741	413	175	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	80	322	166	22	1591	96	11	29	741	413	175	17
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	1.00	1.00
FinalVolume:	80	322	166	22	1591	96	11	29	815	413	175	17
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.83	0.17	1.00	1.00	2.00	0.70	0.30	1.00
Final Sat.:	1650	3300	1650	1650	4668	282	1650	1650	3300	1159	491	1650
Capacity Analysis Module:												
Vol/Sat:	0.05	0.10	0.10	0.01	0.34	0.34	0.01	0.02	0.25	0.36	0.36	0.01
Crit Moves:	****				****				****	****		

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #4 Mathilda Ave / SR 237 WB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.838
Loss Time (sec):	9	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	115	Level Of Service:	D

Street Name:	Mathilda Ave						SR 237 WB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 3	0 0	0	0 2	1 0	0	0 0	0 0	0	1 0	0 1
Volume Module:												
Base Vol:	101	554	0	0	2358	264	0	0	0	449	15	39
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	101	554	0	0	2358	264	0	0	0	449	15	39
Added Vol:	0	29	0	0	6	15	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	101	583	0	0	2364	279	0	0	0	449	15	39
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	101	583	0	0	2364	279	0	0	0	449	15	39
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	101	583	0	0	2364	279	0	0	0	449	15	39
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	101	583	0	0	2364	279	0	0	0	449	15	39
Saturation Flow Module:												
Sat/Lane:	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	0.00	2.68	0.32	0.00	0.00	0.00	0.97	0.03	1.00
Final Sat.:	1725	5175	0	0	4629	546	0	0	0	1669	56	1725
Capacity Analysis Module:												
Vol/Sat:	0.06	0.11	0.00	0.00	0.51	0.51	0.00	0.00	0.00	0.27	0.27	0.02
Crit Moves:	****				****					****		

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #5 Mathilda Ave / SR 237 EB Ramps

Cycle (sec):	120	Critical Vol./Cap.(X):	0.890
Loss Time (sec):	9	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	168	Level Of Service:	D

Street Name:	Mathild Ave						SR 237 EB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ovl			Include			Ovl			Include		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 3	0 1	1	0 2	0 0	1	1 0	0 1	0	0 0	0 0
Volume Module:												
Base Vol:	0	476	330	210	2855	0	168	0	73	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	476	330	210	2855	0	168	0	73	0	0	0
Added Vol:	0	8	0	0	6	0	21	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	484	330	210	2861	0	189	0	73	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	484	330	210	2861	0	189	0	73	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	484	330	210	2861	0	189	0	73	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	484	330	210	2861	0	208	0	73	0	0	0
Saturation Flow Module:												
Sat/Lane:	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	3.00	1.00	1.00	2.00	0.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	5175	1725	1725	3450	0	3450	0	1725	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.09	0.19	0.12	0.83	0.00	0.06	0.00	0.04	0.00	0.00	0.00
Crit Moves:	****				****		****					

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #6 Mathilda Ave / Ross Dr

Cycle (sec): 120 Critical Vol./Cap.(X): 0.845
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 147 Level Of Service: D

Street Name:	Mathilda Ave						Ross Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Ovl			Ovl		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	1 0	1	0 1	1 0	1	0 1	0 1	1	0 1	0 1
Volume Module:												
Base Vol:	61	661	222	147	2434	20	66	6	134	166	12	82
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	61	661	222	147	2434	20	66	6	134	166	12	82
Added Vol:	0	8	0	0	6	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	61	669	222	147	2440	20	66	6	134	166	12	82
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	61	669	222	147	2440	20	66	6	134	166	12	82
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	61	669	222	147	2440	20	66	6	134	166	12	82
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	61	669	222	147	2440	20	66	6	134	166	12	82
Saturation Flow Module:												
Sat/Lane:	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.25	0.75	1.00	1.98	0.02	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1725	3886	1289	1725	3422	28	1725	1725	1725	1725	1725	1725
Capacity Analysis Module:												
Vol/Sat:	0.04	0.17	0.17	0.09	0.71	0.71	0.04	0.00	0.08	0.10	0.01	0.05
Crit Moves:	****				****					****		

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #7 Borregas Ave / Caribbean Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.377
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 39 Level Of Service: A

Street Name:	Borregas Ave						Caribbean Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Ovl			Ovl			Include			Include		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 1	0	0 1	0 1	0	0 1	1	0 2	1 0	1	0 2	1 0
Volume Module:												
Base Vol:	6	1	296	28	4	8	15	1047	17	75	97	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	1	296	28	4	8	15	1047	17	75	97	6
Added Vol:	0	6	0	9	5	21	29	0	0	0	0	10
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	6	7	296	37	9	29	44	1047	17	75	97	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	6	7	296	37	9	29	44	1047	17	75	97	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	7	296	37	9	29	44	1047	17	75	97	16
PCE Adj:	1.03	1.00	1.00	1.02	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	6	7	296	38	9	29	44	1047	17	75	97	16
Saturation Flow Module:												
Sat/Lane:	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.46	0.54	1.00	0.80	0.20	1.00	1.00	2.95	0.05	1.00	2.58	0.42
Final Sat.:	796	929	1725	1387	338	1725	1725	5092	83	1725	4442	733
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.17	0.03	0.03	0.02	0.03	0.21	0.21	0.04	0.02	0.02
Crit Moves:			****					****		****		

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #8 Borregas Ave / Java Dr

Cycle (sec): 120 Critical Vol./Cap.(X): 0.497
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 37 Level Of Service: A

Street Name:	Borregas Ave						Java Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1! 0	1	0	1 1	0	1	0 1 0
Volume Module:												
Base Vol:	88	108	194	90	67	48	80	748	86	50	163	55
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	88	108	194	90	67	48	80	748	86	50	163	55
Added Vol:	0	0	0	5	0	0	0	0	0	0	0	6
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	88	108	194	95	67	48	80	748	86	50	163	61
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	88	108	194	95	67	48	80	748	86	50	163	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	88	108	194	95	67	48	80	748	86	50	163	61
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	88	108	194	95	67	48	80	748	86	50	163	61
Saturation Flow Module:												
Sat/Lane:	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.22	0.28	0.50	0.45	0.32	0.23	1.00	1.79	0.21	1.00	1.46	0.54
Final Sat.:	389	478	858	780	550	394	1725	3094	356	1725	2510	940
Capacity Analysis Module:												
Vol/Sat:	0.23	0.23	0.23	0.12	0.12	0.12	0.05	0.24	0.24	0.03	0.06	0.06
Crit Moves:	****						****			****		

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #9 Crossman Ave / Java Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.529
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 48 Level Of Service: A

Street Name:	Corssman Ave						Java Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Ovl			Ovl		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	1 0 1	1	0	1 0 1	1	0	2 0 1	1	0	2 0 1
Volume Module:												
Base Vol:	15	22	176	185	141	33	69	1196	162	66	178	37
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	22	176	185	141	33	69	1196	162	66	178	37
Added Vol:	0	0	0	0	0	0	0	5	0	0	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	22	176	185	141	33	69	1201	162	66	184	37
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	15	22	176	185	141	33	69	1201	162	66	184	37
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	15	22	176	185	141	33	69	1201	162	66	184	37
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	15	22	176	185	141	33	69	1201	162	66	184	37
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1650	1650	1650	1650	1650	1650	1650	3300	1650	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.11	0.11	0.09	0.02	0.04	0.36	0.10	0.04	0.06	0.02
Crit Moves:	****		****				****		****			

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #10 Fair Oaks Ave / TasmanDr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.800
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	114	Level Of Service:	C

Street Name:	Fair Oaks Ave						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Ovl		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2	0 1	2	0 1	1 0	1	0 0	1 0	1	0 1	0 1
Volume Module:												
Base Vol:	78	204	359	287	1381	85	55	98	92	316	52	51
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	78	204	359	287	1381	85	55	98	92	316	52	51
Added Vol:	0	6	0	0	5	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	78	210	359	287	1386	85	55	98	92	316	52	51
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	78	210	359	287	1386	85	55	98	92	316	52	51
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	78	210	359	287	1386	85	55	98	92	316	52	51
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	78	210	359	316	1386	85	55	98	92	316	52	51
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	2.00	1.88	0.12	1.00	0.52	0.48	1.00	1.00	1.00
Final Sat.:	1650	3300	1650	3300	3109	191	1650	851	799	1650	1650	1650
Capacity Analysis Module:												
Vol/Sat:	0.05	0.06	0.22	0.10	0.45	0.45	0.03	0.12	0.12	0.19	0.03	0.03
Crit Moves:	****				****			****		****		

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #11 Carribean Dr / Moffett Park Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.797
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	112	Level Of Service:	C

Street Name:	Carribean Dr						Moffett Park Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ovl			Ovl			Ovl		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	3	1 0	1 0	3	0 1	1	0 0	0 1	0	1 0	0 1
Volume Module:												
Base Vol:	178	264	6	1	2204	7	15	0	567	10	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	178	264	6	1	2204	7	15	0	567	10	0	0
Added Vol:	0	10	0	0	9	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	178	274	6	1	2213	7	15	0	567	10	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	178	274	6	1	2213	7	15	0	567	10	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	178	274	6	1	2213	7	15	0	567	10	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	178	274	6	1	2213	7	15	0	567	10	0	0
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.91	0.09	1.00	3.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1650	6459	141	1650	4950	1650	1650	0	1650	1650	0	1650
Capacity Analysis Module:												
Vol/Sat:	0.11	0.04	0.04	0.00	0.45	0.00	0.01	0.00	0.34	0.01	0.00	0.00
Crit Moves:	****				****				****	****		

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #12 Lawrence Expy / Tasman Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.847
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	149	Level Of Service:	D

Street Name:	Lawrence Expy						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0 3	0 1	2	0 3	0 1	1	0 1	1 0	1	0 1	1 0
Volume Module:												
Base Vol:	117	744	275	811	1738	114	113	295	141	483	217	188
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	117	744	275	811	1738	114	113	295	141	483	217	188
Added Vol:	0	6	0	1	5	0	0	0	0	0	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	117	750	275	812	1743	114	113	295	141	483	217	189
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	117	750	275	812	1743	114	113	295	141	483	217	189
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	117	750	275	812	1743	114	113	295	141	483	217	189
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.10	1.00	1.00	1.10	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	129	750	275	893	1743	114	113	295	141	483	217	189
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	1.00	1.35	0.65	1.00	1.07	0.93
Final Sat.:	3300	4950	1650	3300	4950	1650	1650	2233	1067	1650	1764	1536
Capacity Analysis Module:												
Vol/Sat:	0.04	0.15	0.17	0.27	0.35	0.07	0.07	0.13	0.13	0.29	0.12	0.12
Crit Moves:		****		****				****		****		

Scenario Report

Scenario:	EIR Baseline + Current + Milpitas PM
Command:	Default Command
Volume:	Baseline PM
Geometry:	Baseline AM
Impact Fee:	Default Impact Fee
Trip Generation:	Baseline + Milpitas PM
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #1 Mathilda Ave / Lockheed Martin-Java Dr

Cycle (sec):	60	Critical Vol./Cap.(X):	0.380
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	46	Level Of Service:	A

Street Name:	Mathilda Ave						Lockheed Martin - Java Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ovl			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	1 0	1	0 2	1 0	1	0 2	0 1	1	0 1	1 0
Volume Module:												
Base Vol:	189	251	347	41	232	197	102	112	46	125	264	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	189	251	347	41	232	197	102	112	46	125	264	11
Added Vol:	0	6	0	0	14	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	189	257	347	41	246	197	102	112	46	125	264	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	189	257	347	41	246	197	102	112	46	125	264	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	189	257	347	41	246	197	102	112	46	125	264	11
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	189	257	347	41	246	197	102	112	46	125	264	11
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.92	0.08
Final Sat.:	1650	3300	1650	1650	3300	1650	1650	3300	1650	1650	3168	132
Capacity Analysis Module:												
Vol/Sat:	0.11	0.08	0.21	0.02	0.07	0.12	0.06	0.03	0.03	0.08	0.08	0.08
Crit Moves:			****	****			****				****	

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #2 Mathilda Ave / 5th Ave

Cycle (sec):	60	Critical Vol./Cap.(X):	0.295
Loss Time (sec):	6	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	33	Level Of Service:	A

Street Name:	Mathilda Ave						5th Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ovl			Ovl			Include		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	1 0	1	0 2	1 0	1	0 1	0 1	1	0 0	1 0
Volume Module:												
Base Vol:	287	1348	0	0	197	221	116	0	81	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	287	1348	0	0	197	221	116	0	81	0	0	0
Added Vol:	0	6	0	0	14	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	287	1354	0	0	211	221	116	0	81	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	287	1354	0	0	211	221	116	0	81	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	287	1354	0	0	211	221	116	0	81	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	287	1354	0	0	211	221	116	0	81	0	0	0
Saturation Flow Module:												
Sat/Lane:	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Final Sat.:	1725	5175	0	1725	3450	1725	1725	1725	1725	1725	1725	0
Capacity Analysis Module:												
Vol/Sat:	0.17	0.26	0.00	0.00	0.06	0.13	0.07	0.00	0.05	0.00	0.00	0.00
Crit Moves:	****				****		****					

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #3 Mathilda Ave / Moffett Park Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.792
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	110	Level Of Service:	C

Street Name:	Mathilda Ave						Moffett Park Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Ovl			Include		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	1 0	1	0 2	1 0	1	0 1	0 2	0	1 0	0 1
Volume Module:												
Base Vol:	997	1495	780	8	206	19	0	37	44	116	77	21
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	997	1495	780	8	206	19	0	37	44	116	77	21
Added Vol:	0	6	0	0	14	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	997	1501	780	8	220	19	0	37	44	116	77	21
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	997	1501	780	8	220	19	0	37	44	116	77	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	997	1501	780	8	220	19	0	37	44	116	77	21
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	1.00	1.00
FinalVolume:	997	1501	780	8	220	19	0	37	48	116	77	21
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.76	0.24	1.00	1.00	2.00	0.60	0.40	1.00
Final Sat.:	1650	3300	1650	1650	4556	394	1650	1650	3300	992	658	1650
Capacity Analysis Module:												
Vol/Sat:	0.60	0.45	0.47	0.00	0.05	0.05	0.00	0.02	0.01	0.12	0.12	0.01
Crit Moves:	****				****			****		****		

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #4 Mathilda Ave / SR 237 WB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.253
Loss Time (sec):	9	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	36	Level Of Service:	A

Street Name:	Mathilda Ave						SR 237 WB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 3	0 0	0	0 2	1 0	0	0 0	0 0	0	1 0	0 1
Volume Module:												
Base Vol:	85	384	0	0	386	33	0	0	0	206	1	195
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	85	384	0	0	386	33	0	0	0	206	1	195
Added Vol:	0	6	0	0	4	10	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	85	390	0	0	390	43	0	0	0	206	1	195
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	85	390	0	0	390	43	0	0	0	206	1	195
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	85	390	0	0	390	43	0	0	0	206	1	195
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	85	390	0	0	390	43	0	0	0	206	1	195
Saturation Flow Module:												
Sat/Lane:	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	0.00	2.70	0.30	0.00	0.00	0.00	0.99	0.01	1.00
Final Sat.:	1725	5175	0	0	4661	514	0	0	0	1717	8	1725
Capacity Analysis Module:												
Vol/Sat:	0.05	0.08	0.00	0.00	0.08	0.08	0.00	0.00	0.00	0.12	0.12	0.11
Crit Moves:	****				****						****	

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #5 Mathilda Ave / SR 237 EB Ramps

Cycle (sec):	120	Critical Vol./Cap.(X):	0.845
Loss Time (sec):	9	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	120	Level Of Service:	D

Street Name:	Mathild Ave						SR 237 EB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ovl			Include			Ovl			Include		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0 3	0 1	1	0 2	0 0	1	1 0	0 1	0	0 0	0 0
Volume Module:												
Base Vol:	0	2742	493	63	515	0	870	0	50	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2742	493	63	515	0	870	0	50	0	0	0
Added Vol:	0	2	0	0	4	0	4	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2744	493	63	519	0	874	0	50	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	2744	493	63	519	0	874	0	50	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2744	493	63	519	0	874	0	50	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.10	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	2744	493	63	519	0	961	0	50	0	0	0
Saturation Flow Module:												
Sat/Lane:	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	3.00	1.00	1.00	2.00	0.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	5175	1725	1725	3450	0	3450	0	1725	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.53	0.29	0.04	0.15	0.00	0.28	0.00	0.03	0.00	0.00	0.00
Crit Moves:		****		****			****					

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #6 Mathilda Ave / Ross Dr

Cycle (sec):	120	Critical Vol./Cap.(X):	0.746
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	90	Level Of Service:	C

Street Name:	Mathilda Ave						Ross Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Ovl			Ovl		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	1 0	1	0 1	1 0	1	0 1	0 1	1	0 1	0 1
Volume Module:												
Base Vol:	96	3210	106	56	553	78	40	4	36	125	21	151
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	96	3210	106	56	553	78	40	4	36	125	21	151
Added Vol:	0	2	0	0	4	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	96	3212	106	56	557	78	40	4	36	125	21	151
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	96	3212	106	56	557	78	40	4	36	125	21	151
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	96	3212	106	56	557	78	40	4	36	125	21	151
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	96	3212	106	56	557	78	40	4	36	125	21	151
Saturation Flow Module:												
Sat/Lane:	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.90	0.10	1.00	1.75	0.25	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1725	5010	165	1725	3026	424	1725	1725	1725	1725	1725	1725
Capacity Analysis Module:												
Vol/Sat:	0.06	0.64	0.64	0.03	0.18	0.18	0.02	0.00	0.02	0.07	0.01	0.09
Crit Moves:		****		****						****		

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #7 Borregas Ave / Caribbean Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.331
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 39 Level Of Service: A

Street Name:	Borregas Ave						Caribbean Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Ovl			Ovl			Include			Include		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	1	0	0	1	0	1	0	2	1	0	1	0	2	1	0
Volume Module:												
Base Vol:	7	12	41	11	13	6	18	153	14	485	1175	24
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	7	12	41	11	13	6	18	153	14	485	1175	24
Added Vol:	0	1	0	4	3	14	6	0	0	0	0	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	7	13	41	15	16	20	24	153	14	485	1175	26
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	7	13	41	15	16	20	24	153	14	485	1175	26
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	7	13	41	15	16	20	24	153	14	485	1175	26
PCE Adj:	1.05	1.00	1.00	1.04	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	7	13	41	16	16	20	24	153	14	485	1175	26
Saturation Flow Module:												
Sat/Lane:	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.35	0.65	1.00	0.48	0.52	1.00	1.00	2.75	0.25	1.00	2.94	0.06
Final Sat.:	604	1121	1725	835	890	1725	1725	4741	434	1725	5063	112
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.02	0.02	0.02	0.01	0.01	0.03	0.03	0.28	0.23	0.23
Crit Moves:				****			****			****		

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #8 Borregas Ave / Java Dr

Cycle (sec): 120 Critical Vol./Cap.(X): 0.393
Loss Time (sec): 9 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 36 Level Of Service: A

Street Name:	Borregas Ave						Java Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1!	0	0	0	0	1!	0	0	1	0	1	1	1	0
Volume Module:												
Base Vol:	75	139	47	66	142	62	20	109	53	191	650	118
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	75	139	47	66	142	62	20	109	53	191	650	118
Added Vol:	0	0	0	3	0	0	0	0	0	0	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	75	139	47	69	142	62	20	109	53	191	650	119
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	75	139	47	69	142	62	20	109	53	191	650	119
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	75	139	47	69	142	62	20	109	53	191	650	119
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	75	139	47	69	142	62	20	109	53	191	650	119
Saturation Flow Module:												
Sat/Lane:	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725	1725
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.29	0.53	0.18	0.25	0.52	0.23	1.00	1.35	0.65	1.00	1.69	0.31
Final Sat.:	496	919	311	436	897	392	1725	2321	1129	1725	2916	534
Capacity Analysis Module:												
Vol/Sat:	0.15	0.15	0.15	0.16	0.16	0.16	0.01	0.05	0.05	0.11	0.22	0.22
Crit Moves:					****			****				****

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #9 Crossman Ave / Java Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.453
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	46	Level Of Service:	A

Street Name:	Corssman Ave						Java Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Ovl			Ovl		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 1	0 1	1	0 1	0 1	1	0 2	0 1	1	0 2	0 1
Volume Module:												
Base Vol:	10	15	10	37	63	108	57	134	24	235	1235	428
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	15	10	37	63	108	57	134	24	235	1235	428
Added Vol:	0	0	0	0	0	0	0	3	0	0	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	15	10	37	63	108	57	137	24	235	1236	428
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	15	10	37	63	108	57	137	24	235	1236	428
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	15	10	37	63	108	57	137	24	235	1236	428
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	15	10	37	63	108	57	137	24	235	1236	428
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1650	1650	1650	1650	1650	1650	1650	3300	1650	1650	3300	1650
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.01	0.02	0.04	0.07	0.03	0.04	0.01	0.14	0.37	0.26
Crit Moves:	****				****		****				****	

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #10 Fair Oaks Ave / TasmanDr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.596
Loss Time (sec):	12	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	56	Level Of Service:	A

Street Name:	Fair Oaks Ave						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Include			Include			Ovl		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0 2	0 1	2	0 1	1 0	1	0 0	1 0	1	0 1	0 1
Volume Module:												
Base Vol:	207	1373	263	28	136	24	73	30	34	217	77	176
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	207	1373	263	28	136	24	73	30	34	217	77	176
Added Vol:	0	1	0	0	3	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	207	1374	263	28	139	24	73	30	34	217	77	176
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	207	1374	263	28	139	24	73	30	34	217	77	176
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	207	1374	263	28	139	24	73	30	34	217	77	176
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.10	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	207	1374	263	31	139	24	73	30	34	217	77	176
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	2.00	1.71	0.29	1.00	0.47	0.53	1.00	1.00	1.00
Final Sat.:	1650	3300	1650	3300	2814	486	1650	773	877	1650	1650	1650
Capacity Analysis Module:												
Vol/Sat:	0.13	0.42	0.16	0.01	0.05	0.05	0.04	0.04	0.04	0.13	0.05	0.11
Crit Moves:		****		****				****		****		

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #11 Carribean Dr / Moffett Park Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.488
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 49 Level Of Service: A

Street Name:	Carribean Dr						Moffett Park Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Ovl			Ovl			Ovl		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1	0	3	1	0	1	0	1	0	1	0	1
Volume Module:												
Base Vol:	627	2227	53	3	200	8	14	7	86	3	54	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	627	2227	53	3	200	8	14	7	86	3	54	1
Added Vol:	0	2	0	0	4	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	627	2229	53	3	204	8	14	7	86	3	54	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	627	2229	53	3	204	8	14	7	86	3	54	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	627	2229	53	3	204	8	14	7	86	3	54	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	627	2229	53	3	204	8	14	7	86	3	54	1
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.91	0.09	1.00	3.00	1.00	0.26	0.74	1.00	0.05	0.95	1.00
Final Sat.:	1650	6447	153	1650	4950	1650	432	1218	1650	87	1563	1650
Capacity Analysis Module:												
Vol/Sat:	0.38	0.35	0.35	0.00	0.04	0.00	0.03	0.01	0.05	0.03	0.03	0.00
Crit Moves:	****				****		****				****	

Level Of Service Computation Report
Circular 212 Operations Method (Future Volume Alternative)

Intersection #12 Lawrence Expy / Tasman Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.491
Loss Time (sec): 12 Average Delay (sec/veh): xxxxxx
Optimal Cycle: 46 Level Of Service: A

Street Name:	Lawrence Expy						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Include			Include		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2	0	3	0	1	2	0	3	0	1	1	0	1	0	1	0
Volume Module:												
Base Vol:	81	1377	358	24	510	209	149	273	73	142	147	189
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	81	1377	358	24	510	209	149	273	73	142	147	189
Added Vol:	0	1	0	0	3	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	81	1378	358	24	513	209	149	273	73	142	147	189
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	81	1378	358	24	513	209	149	273	73	142	147	189
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	81	1378	358	24	513	209	149	273	73	142	147	189
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.10	1.00	1.00	1.10	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	89	1378	358	26	513	209	149	273	73	142	147	189
Saturation Flow Module:												
Sat/Lane:	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650	1650
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	1.00	1.58	0.42	1.00	1.00	1.00
Final Sat.:	3300	4950	1650	3300	4950	1650	1650	2604	696	1650	1650	1650
Capacity Analysis Module:												
Vol/Sat:	0.03	0.28	0.22	0.01	0.10	0.13	0.09	0.10	0.10	0.09	0.09	0.11
Crit Moves:		****			****			****				****

City of Sunnyvale
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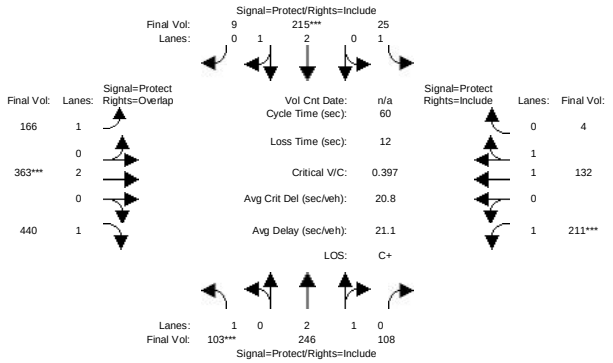
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current AM

Intersection #1: Mathilda Ave / Lockheed Martin-Java Dr



Street Name:	Mathilda Ave						Lockheed Martin - Java Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	103	217	108	25	194	9	166	363	440	211	132	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	103	217	108	25	194	9	166	363	440	211	132	4
Added Vol:	0	29	0	0	21	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	103	246	108	25	215	9	166	363	440	211	132	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	103	246	108	25	215	9	166	363	440	211	132	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	103	246	108	25	215	9	166	363	440	211	132	4
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	103	246	108	25	215	9	166	363	440	211	132	4
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.87	0.87	0.95	0.90	0.90	0.95	0.95	0.85	0.95	0.95	0.95
Lanes:	1.00	2.08	0.92	1.00	2.88	0.12	1.00	2.00	1.00	1.00	1.94	0.06
Final Sat.:	1805	3439	1510	1805	4949	207	1805	3610	1615	1805	3490	106
Capacity Analysis Module:												
Vol/Sat:	0.06	0.07	0.07	0.01	0.04	0.04	0.09	0.10	0.27	0.12	0.04	0.04
Crit Moves:	****				****			****		****		
Green/Cycle:	0.13	0.18	0.18	0.12	0.17	0.17	0.21	0.23	0.36	0.27	0.30	0.30
Volume/Cap:	0.43	0.41	0.41	0.11	0.26	0.26	0.45	0.43	0.75	0.43	0.13	0.13
Delay/Veh:	25.3	22.3	22.3	23.6	21.9	21.9	21.6	20.0	22.0	18.7	15.5	15.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	25.3	22.3	22.3	23.6	21.9	21.9	21.6	20.0	22.0	18.7	15.5	15.5
LOS by Move:	C	C+	C+	C	C+	C+	C+	C+	C+	B-	B	B
HCM2kAvgQ:	2	2	2	0	2	2	3	3	9	3	1	1

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
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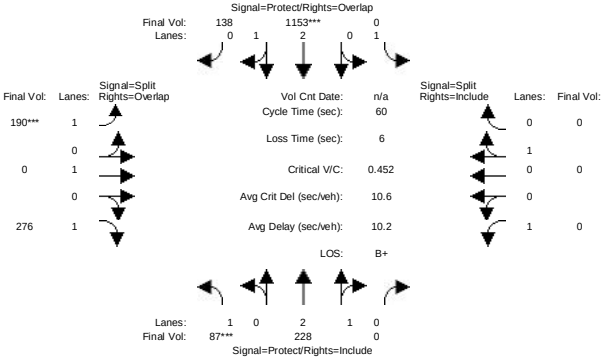
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current AM

Intersection #2: Mathilda Ave / 5th Ave



Street Name:	Mathilda Ave						5th Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	87	199	0	0	1132	138	190	0	276	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	87	199	0	0	1132	138	190	0	276	0	0	0
Added Vol:	0	29	0	0	21	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	87	228	0	0	1153	138	190	0	276	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	87	228	0	0	1153	138	190	0	276	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	87	228	0	0	1153	138	190	0	276	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	87	228	0	0	1153	138	190	0	276	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	0.91	1.00	0.90	0.90	0.95	1.00	0.85	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	1.00	2.68	0.32	1.00	1.00	1.00	1.00	1.00	0.00
Final Sat.:	1805	5187	0	1900	4558	546	1805	1900	1615	1900	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.05	0.04	0.00	0.00	0.25	0.25	0.11	0.00	0.17	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green/Cycle:	0.12	0.67	0.00	0.00	0.55	0.78	0.23	0.00	0.35	0.00	0.00	0.00
Volume/Cap:	0.41	0.07	0.00	0.00	0.46	0.32	0.46	0.00	0.49	0.00	0.00	0.00
Delay/Veh:	25.9	3.4	0.0	0.0	8.1	1.9	20.7	0.0	16.1	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	25.9	3.4	0.0	0.0	8.1	1.9	20.7	0.0	16.1	0.0	0.0	0.0
LOS by Move:	C	A	A	A	A	A	C+	A	B	A	A	A
HCM2kAvgQ:	1	1	0	0	5	3	4	0	5	0	0	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
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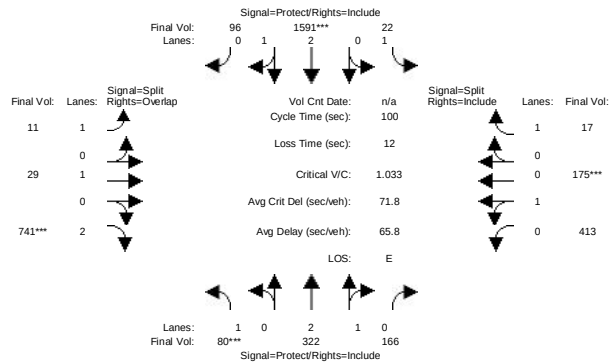
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current AM

Intersection #3: Mathilda Ave / Moffett Park Dr



Street Name:	Mathilda Ave						Moffett Park Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	80	293	166	22	1570	96	11	29	741	413	175	17
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	80	293	166	22	1570	96	11	29	741	413	175	17
Added Vol:	0	29	0	0	21	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	80	322	166	22	1591	96	11	29	741	413	175	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	80	322	166	22	1591	96	11	29	741	413	175	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	80	322	166	22	1591	96	11	29	741	413	175	17
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	80	322	166	22	1591	96	11	29	741	413	175	17
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.86	0.86	0.95	0.90	0.90	0.95	1.00	0.75	0.97	0.97	0.85
Lanes:	1.00	2.00	1.00	1.00	2.83	0.17	1.00	1.00	2.00	0.70	0.30	1.00
Final Sat.:	1805	3282	1641	1805	4848	293	1805	1900	2842	1289	546	1615
Capacity Analysis Module:												
Vol/Sat:	0.04	0.10	0.10	0.01	0.33	0.33	0.01	0.02	0.26	0.32	0.32	0.01
Crit Moves:	****				****				****		****	
Green/Cycle:	0.07	0.23	0.23	0.16	0.32	0.32	0.18	0.18	0.25	0.31	0.31	0.31
Volume/Cap:	0.63	0.43	0.44	0.08	1.04	1.04	0.03	0.08	1.03	1.04	1.04	0.03
Delay/Veh:	55.3	33.3	33.4	36.0	66.4	66.4	33.5	33.9	77.6	82.0	82.0	24.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	55.3	33.3	33.4	36.0	66.4	66.4	33.5	33.9	77.6	82.0	82.0	24.1
LOS by Move:	E+	C-	C-	D+	E	E	C-	C-	E-	F	F	C
HCM2kAvgQ:	3	5	5	1	25	25	0	1	20	26	26	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
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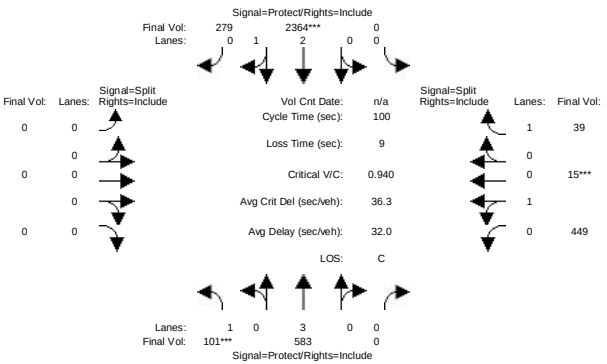
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current AM

Intersection #4: Mathilda Ave / SR 237 WB Ramps



Street Name:	Mathilda Ave						SR 237 WB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	101	554	0	0	2358	264	0	0	0	449	15	39
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	101	554	0	0	2358	264	0	0	0	449	15	39
Added Vol:	0	29	0	0	6	15	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	101	583	0	0	2364	279	0	0	0	449	15	39
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	101	583	0	0	2364	279	0	0	0	449	15	39
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	101	583	0	0	2364	279	0	0	0	449	15	39
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	101	583	0	0	2364	279	0	0	0	449	15	39
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	1.00	1.00	0.90	0.90	1.00	1.00	1.00	0.87	0.87	0.85
Lanes:	1.00	3.00	0.00	0.00	2.68	0.32	0.00	0.00	0.00	0.97	0.03	1.00
Final Sat.:	1805	5187	0	0	4565	539	0	0	0	1592	53	1615
Capacity Analysis Module:												
Vol/Sat:	0.06	0.11	0.00	0.00	0.52	0.52	0.00	0.00	0.00	0.28	0.28	0.02
Crit Moves:	****				****						****	
Green/Cycle:	0.07	0.61	0.00	0.00	0.54	0.54	0.00	0.00	0.00	0.30	0.30	0.30
Volume/Cap:	0.80	0.18	0.00	0.00	0.95	0.95	0.00	0.00	0.00	0.95	0.95	0.08
Delay/Veh:	74.9	8.4	0.0	0.0	30.1	30.1	0.0	0.0	0.0	63.5	63.5	25.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	74.9	8.4	0.0	0.0	30.1	30.1	0.0	0.0	0.0	63.5	63.5	25.5
LOS by Move:	E	A	A	A	C	C	A	A	A	E	E	C
HCM2kAvgQ:	3	3	0	0	27	27	0	0	0	19	19	1

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
097318106

Level Of Service Computation Report
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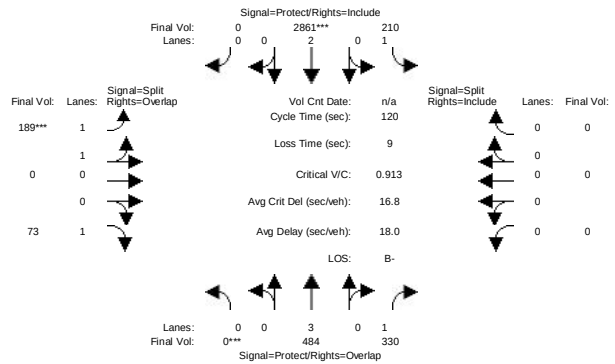
EIR Baseline + Current AM

Intersection #5: Mathilda Ave / SR 237 EB Ramps



Street Name:	Mathild Ave						SR 237 EB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	476	330	210	2855	0	168	0	73	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	476	330	210	2855	0	168	0	73	0	0	0
Added Vol:	0	8	0	0	6	0	21	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	484	330	210	2861	0	189	0	73	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	484	330	210	2861	0	189	0	73	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	484	330	210	2861	0	189	0	73	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	484	330	210	2861	0	189	0	73	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.91	0.85	0.95	0.95	1.00	0.95	1.00	0.85	1.00	1.00	1.00
Lanes:	0.00	3.00	1.00	1.00	2.00	0.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	5187	1615	1805	3610	0	3618	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.09	0.20	0.12	0.79	0.00	0.05	0.00	0.05	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green/Cycle:	0.00	0.54	0.54	0.31	0.84	0.00	0.08	0.00	0.08	0.00	0.00	0.00
Volume/Cap:	0.00	0.17	0.38	0.38	0.94	0.00	0.63	0.00	0.54	0.00	0.00	0.00
Delay/Veh:	0.0	14.3	16.5	33.2	14.1	0.0	57.3	0.0	57.3	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	14.3	16.5	33.2	14.1	0.0	57.3	0.0	57.3	0.0	0.0	0.0
LOS by Move:	A	B	B	C-	B	A	E+	A	E+	A	A	A
HCM2kAvgQ:	0	3	7	6	41	0	4	0	3	0	0	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
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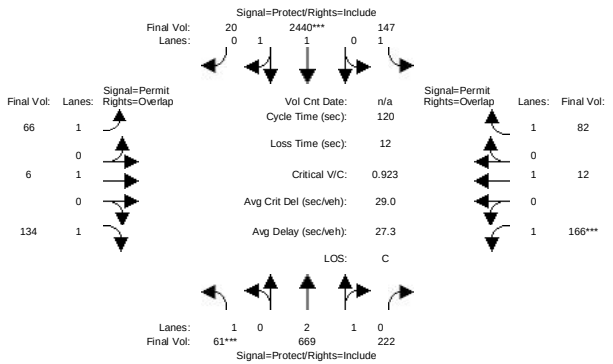
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current AM

Intersection #6: Mathilda Ave / Ross Dr



Street Name:	Mathilda Ave						Ross Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	61	661	222	147	2434	20	66	6	134	166	12	82
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	61	661	222	147	2434	20	66	6	134	166	12	82
Added Vol:	0	8	0	0	6	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	61	669	222	147	2440	20	66	6	134	166	12	82
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	61	669	222	147	2440	20	66	6	134	166	12	82
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	61	669	222	147	2440	20	66	6	134	166	12	82
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	61	669	222	147	2440	20	66	6	134	166	12	82
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.88	0.88	0.95	0.95	0.95	0.76	1.00	0.85	0.76	1.00	0.85
Lanes:	1.00	2.25	0.75	1.00	1.98	0.02	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3751	1245	1805	3577	29	1442	1900	1615	1452	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.03	0.18	0.18	0.08	0.68	0.68	0.05	0.00	0.08	0.11	0.01	0.05
Crit Moves:	****				****					****		
Green/Cycle:	0.06	0.53	0.53	0.24	0.72	0.72	0.12	0.12	0.18	0.12	0.12	0.37
Volume/Cap:	0.58	0.33	0.33	0.33	0.95	0.95	0.38	0.03	0.46	0.95	0.05	0.14
Delay/Veh:	62.9	15.9	15.9	37.8	23.0	23.0	50.0	46.6	45.3	104.6	46.8	25.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	62.9	15.9	15.9	37.8	23.0	23.0	50.0	46.6	45.3	104.6	46.8	25.6
LOS by Move:	E	B	B	D+	C	C	D	D	D	F	D	C
HCM2kAvgQ:	3	7	7	4	41	41	3	0	5	9	0	2

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
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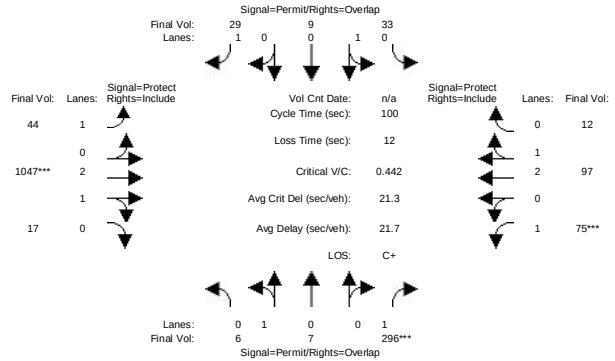
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current AM

Intersection #7: Borregas Ave / Caribbean Dr



Street Name:	Borregas Ave						Caribbean Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	6	1	296	28	4	8	15	1047	17	75	97	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	1	296	28	4	8	15	1047	17	75	97	6
Added Vol:	0	6	0	5	5	21	29	0	0	0	0	6
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	6	7	296	33	9	29	44	1047	17	75	97	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	6	7	296	33	9	29	44	1047	17	75	97	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	7	296	33	9	29	44	1047	17	75	97	12
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	6	7	296	33	9	29	44	1047	17	75	97	12
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.94	0.94	0.85	0.83	0.83	0.85	0.95	0.91	0.91	0.95	0.90	0.90
Lanes:	0.46	0.54	1.00	0.79	0.21	1.00	1.00	2.95	0.05	1.00	2.67	0.33
Final Sat.:	826	964	1615	1241	338	1615	1805	5094	83	1805	4542	562
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.18	0.03	0.03	0.02	0.02	0.21	0.21	0.04	0.02	0.02
Crit Moves:			****					****		****		
Green/Cycle:	0.26	0.26	0.35	0.26	0.26	0.49	0.23	0.47	0.47	0.09	0.33	0.33
Volume/Cap:	0.03	0.03	0.52	0.10	0.10	0.04	0.11	0.44	0.44	0.44	0.06	0.06
Delay/Veh:	27.9	27.9	26.7	28.5	28.5	13.4	30.5	18.1	18.1	44.7	23.0	23.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.9	27.9	26.7	28.5	28.5	13.4	30.5	18.1	18.1	44.7	23.0	23.0
LOS by Move:	C	C	C	C	C	B	C	B-	B-	D	C	C
HCM2kAvgQ:	0	0	7	1	1	0	1	8	8	3	1	1

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
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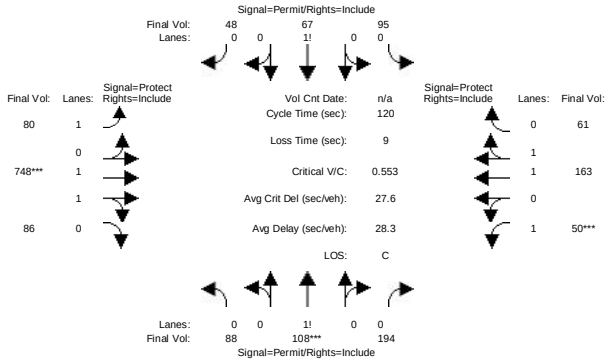
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current AM

Intersection #8: Borregas Ave / Java Dr



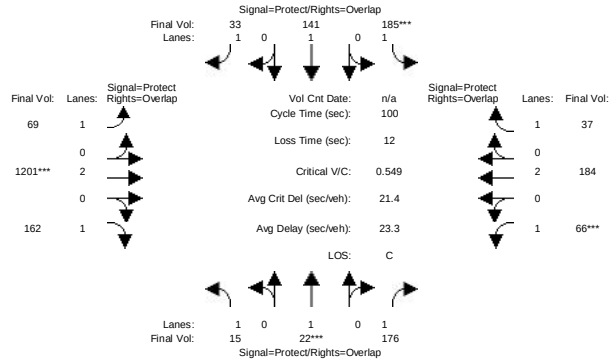
Street Name:	Borregas Ave						Java Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	88	108	194	90	67	48	80	748	86	50	163	55
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	88	108	194	90	67	48	80	748	86	50	163	55
Added Vol:	0	0	0	5	0	0	0	0	0	0	0	6
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	88	108	194	95	67	48	80	748	86	50	163	61
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	88	108	194	95	67	48	80	748	86	50	163	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	88	108	194	95	67	48	80	748	86	50	163	61
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	88	108	194	95	67	48	80	748	86	50	163	61
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.82	0.82	0.82	0.66	0.66	0.66	0.95	0.94	0.94	0.95	0.91	0.91
Lanes:	0.22	0.28	0.50	0.45	0.32	0.23	1.00	1.79	0.21	1.00	1.46	0.54
Final Sat.:	353	433	779	565	398	285	1805	3189	367	1805	2519	943
Capacity Analysis Module:												
Vol/Sat:	0.25	0.25	0.25	0.17	0.17	0.17	0.04	0.23	0.23	0.03	0.06	0.06
Crit Moves:		****						****		****		
Green/Cycle:	0.45	0.45	0.45	0.45	0.45	0.45	0.20	0.42	0.42	0.06	0.28	0.28
Volume/Cap:	0.56	0.56	0.56	0.38	0.38	0.38	0.22	0.56	0.56	0.47	0.23	0.23
Delay/Veh:	25.5	25.5	25.5	22.5	22.5	22.5	40.8	26.8	26.8	58.1	33.2	33.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	25.5	25.5	25.5	22.5	22.5	22.5	40.8	26.8	26.8	58.1	33.2	33.2
LOS by Move:	C	C	C	C+	C+	C+	D	C	C	E+	C-	C-
HCM2kAvgQ:	11	11	11	5	5	5	2	12	12	2	3	3

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
097318106

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current AM

Intersection #9: Crossman Ave / Java Dr



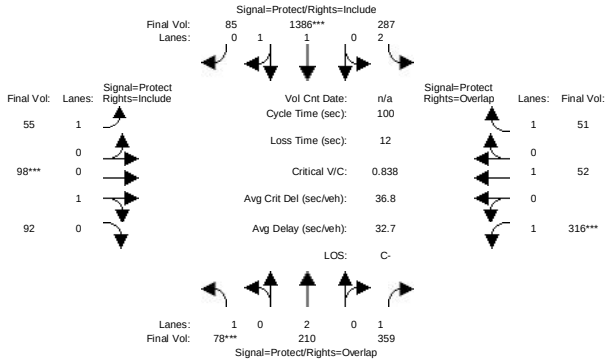
Street Name:	Corssman Ave						Java Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	15	22	176	185	141	33	69	1196	162	66	178	37
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	22	176	185	141	33	69	1196	162	66	178	37
Added Vol:	0	0	0	0	0	0	0	5	0	0	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	22	176	185	141	33	69	1201	162	66	184	37
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	15	22	176	185	141	33	69	1201	162	66	184	37
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	15	22	176	185	141	33	69	1201	162	66	184	37
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	15	22	176	185	141	33	69	1201	162	66	184	37
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	1.00	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	1900	1615	1805	1900	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.11	0.10	0.07	0.02	0.04	0.33	0.10	0.04	0.05	0.02
Crit Moves:		****		****				****		****		
Green/Cycle:	0.11	0.10	0.17	0.17	0.16	0.41	0.25	0.54	0.65	0.07	0.36	0.53
Volume/Cap:	0.08	0.12	0.64	0.61	0.47	0.05	0.15	0.61	0.15	0.52	0.14	0.04
Delay/Veh:	40.1	41.2	43.7	42.3	39.5	17.8	29.2	16.2	6.8	48.8	21.6	11.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	40.1	41.2	43.7	42.3	39.5	17.8	29.2	16.2	6.8	48.8	21.6	11.4
LOS by Move:	D	D	D	D	D	B	C	B	A	D	C+	B+
HCM2kAvgQ:	0	1	6	6	4	1	2	13	2	2	2	1

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
097318106

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current AM

Intersection #10: Fair Oaks Ave / TasmanDr



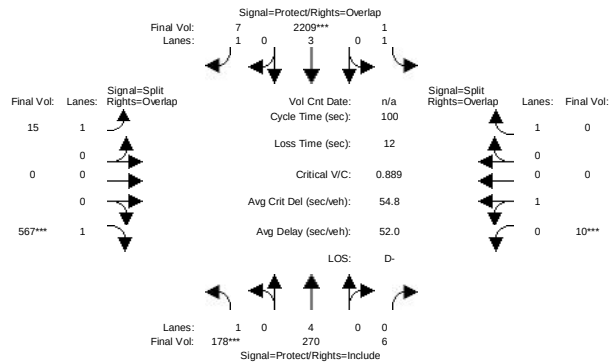
Street Name:	Fair Oaks Ave						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	78	204	359	287	1381	85	55	98	92	316	52	51
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	78	204	359	287	1381	85	55	98	92	316	52	51
Added Vol:	0	6	0	0	5	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	78	210	359	287	1386	85	55	98	92	316	52	51
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	78	210	359	287	1386	85	55	98	92	316	52	51
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	78	210	359	287	1386	85	55	98	92	316	52	51
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	78	210	359	287	1386	85	55	98	92	316	52	51
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.92	0.94	0.94	0.95	0.93	0.93	0.95	1.00	0.85
Lanes:	1.00	2.00	1.00	2.00	1.88	0.12	1.00	0.52	0.48	1.00	1.00	1.00
Final Sat.:	1805	3610	1615	3502	3371	207	1805	908	853	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.04	0.06	0.22	0.08	0.41	0.41	0.03	0.11	0.11	0.18	0.03	0.03
Crit Moves:	****				****			****		****		
Green/Cycle:	0.07	0.30	0.51	0.25	0.48	0.48	0.14	0.13	0.13	0.20	0.19	0.44
Volume/Cap:	0.62	0.19	0.44	0.33	0.86	0.86	0.22	0.86	0.86	0.86	0.14	0.07
Delay/Veh:	54.1	25.9	16.0	31.1	27.5	27.5	39.0	69.4	69.4	56.1	33.6	16.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.1	25.9	16.0	31.1	27.5	27.5	39.0	69.4	69.4	56.1	33.6	16.1
LOS by Move:	D-	C	B	C	C	C	D+	E	E	E+	C-	B
HCM2kAvgQ:	3	3	7	4	22	22	2	8	8	10	1	1

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
097318106

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current AM

Intersection #11: Carribean Dr / Moffett Park Dr



Street Name:	Carribean Dr						Moffett Park Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	178	264	6	1	2204	7	15	0	567	10	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	178	264	6	1	2204	7	15	0	567	10	0	0
Added Vol:	0	6	0	0	5	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	178	270	6	1	2209	7	15	0	567	10	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	178	270	6	1	2209	7	15	0	567	10	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	178	270	6	1	2209	7	15	0	567	10	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	178	270	6	1	2209	7	15	0	567	10	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	0.91	0.95	0.91	0.85	0.95	1.00	0.85	0.95	1.00	1.00
Lanes:	1.00	3.91	0.09	1.00	3.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1805	6745	150	1805	5187	1615	1805	0	1615	1809	0	1900
Capacity Analysis Module:												
Vol/Sat:	0.10	0.04	0.04	0.00	0.43	0.00	0.01	0.00	0.35	0.01	0.00	0.00
Crit Moves:	****				****				****	****		
Green/Cycle:	0.10	0.31	0.31	0.22	0.43	0.68	0.25	0.00	0.35	0.10	0.00	0.00
Volume/Cap:	1.00	0.13	0.13	0.00	1.00	0.01	0.03	0.00	1.00	0.06	0.00	0.00
Delay/Veh:	111.1	24.8	24.8	30.7	46.7	5.1	28.1	0.0	69.0	40.9	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	111.1	24.8	24.8	30.7	46.7	5.1	28.1	0.0	69.0	40.9	0.0	0.0
LOS by Move:	F	C	C	C	D	A	C	A	E	D	A	A
HCM2kAvgQ:	10	2	2	0	32	0	0	0	24	0	0	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
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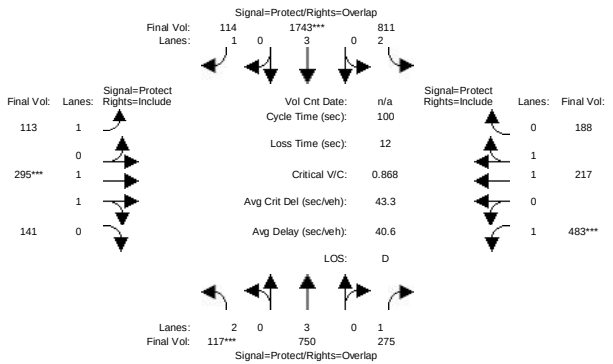
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current AM

Intersection #12: Lawrence Expy / Tasman Dr



Street Name:	Lawrence Expy						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	117	744	275	811	1738	114	113	295	141	483	217	188
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	117	744	275	811	1738	114	113	295	141	483	217	188
Added Vol:	0	6	0	0	5	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	117	750	275	811	1743	114	113	295	141	483	217	188
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	117	750	275	811	1743	114	113	295	141	483	217	188
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	117	750	275	811	1743	114	113	295	141	483	217	188
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	117	750	275	811	1743	114	113	295	141	483	217	188
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.91	0.85	0.95	0.90	0.90	0.95	0.88	0.88
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	1.00	1.35	0.65	1.00	1.07	0.93
Final Sat.:	3502	5187	1615	3502	5187	1615	1805	2325	1111	1805	1799	1558
Capacity Analysis Module:												
Vol/Sat:	0.03	0.14	0.17	0.23	0.34	0.07	0.06	0.13	0.13	0.27	0.12	0.12
Crit Moves:	****				****			****		****		
Green/Cycle:	0.07	0.17	0.47	0.27	0.37	0.53	0.16	0.14	0.14	0.30	0.28	0.28
Volume/Cap:	0.48	0.85	0.36	0.85	0.90	0.13	0.39	0.90	0.90	0.90	0.44	0.44
Delay/Veh:	46.2	48.1	17.4	41.8	36.0	11.8	38.5	62.2	62.2	52.1	30.1	30.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.2	48.1	17.4	41.8	36.0	11.8	38.5	62.2	62.2	52.1	30.1	30.1
LOS by Move:	D	D	B	D	D+	B+	D+	E	E	D-	C	C
HCM2kAvgQ:	2	11	5	15	22	2	3	7	7	18	6	6

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
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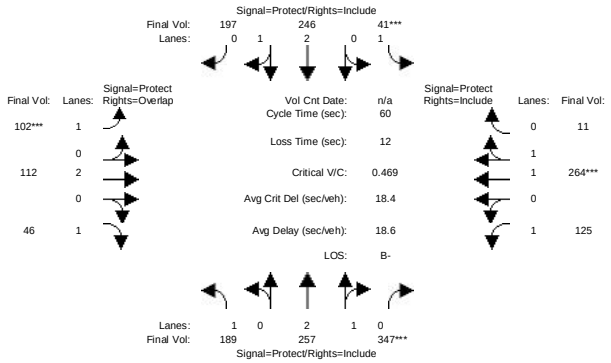
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current PM

Intersection #1: Mathilda Ave / Lockheed Martin-Java Dr



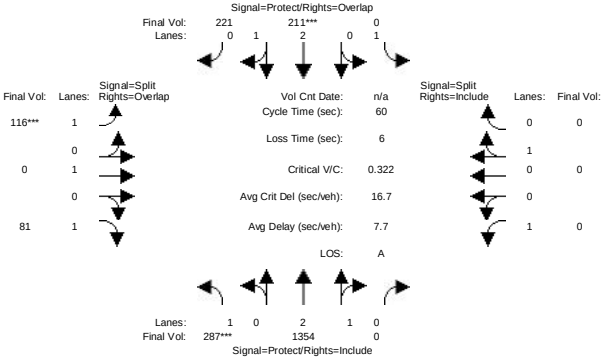
Street Name:	Mathilda Ave						Lockheed Martin - Java Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	189	251	347	41	232	197	102	112	46	125	264	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	189	251	347	41	232	197	102	112	46	125	264	11
Added Vol:	0	6	0	0	14	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	189	257	347	41	246	197	102	112	46	125	264	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	189	257	347	41	246	197	102	112	46	125	264	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	189	257	347	41	246	197	102	112	46	125	264	11
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	189	257	347	41	246	197	102	112	46	125	264	11
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.83	0.83	0.95	0.85	0.85	0.95	0.95	0.85	0.95	0.94	0.94
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.92	0.08
Final Sat.:	1805	3161	1580	1805	3226	1613	1805	3610	1615	1805	3445	144
Capacity Analysis Module:												
Vol/Sat:	0.10	0.08	0.22	0.02	0.08	0.12	0.06	0.03	0.03	0.07	0.08	0.08
Crit Moves:			****	****			****				****	
Green/Cycle:	0.21	0.40	0.40	0.12	0.30	0.30	0.12	0.17	0.38	0.12	0.17	0.17
Volume/Cap:	0.49	0.20	0.55	0.19	0.25	0.40	0.48	0.19	0.08	0.59	0.46	0.46
Delay/Veh:	21.8	11.8	14.4	24.4	15.8	16.8	26.6	21.7	11.9	29.7	23.1	23.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.8	11.8	14.4	24.4	15.8	16.8	26.6	21.7	11.9	29.7	23.1	23.1
LOS by Move:	C+	B+	B	C	B	B	C	C+	B+	C	C	C
HCM2kAvgQ:	3	2	5	1	2	4	2	1	1	2	2	2

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
097318106

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current PM

Intersection #2: Mathilda Ave / 5th Ave



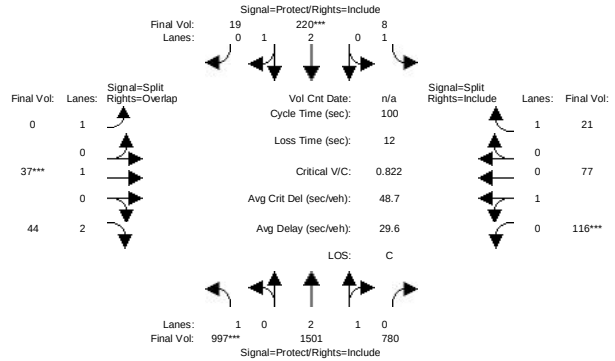
Street Name:	Mathilda Ave						5th Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	287	1348	0	0	197	221	116	0	81	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	287	1348	0	0	197	221	116	0	81	0	0	0
Added Vol:	0	6	0	0	14	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	287	1354	0	0	211	221	116	0	81	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	287	1354	0	0	211	221	116	0	81	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	287	1354	0	0	211	221	116	0	81	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	287	1354	0	0	211	221	116	0	81	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	0.91	1.00	0.84	0.84	0.95	1.00	0.85	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Final Sat.:	1805	5187	0	1900	3192	1596	1805	1900	1615	1900	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.16	0.26	0.00	0.00	0.07	0.14	0.06	0.00	0.05	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green/Cycle:	0.49	0.70	0.00	0.00	0.21	0.41	0.20	0.00	0.69	0.00	0.00	0.00
Volume/Cap:	0.32	0.37	0.00	0.00	0.32	0.34	0.32	0.00	0.07	0.00	0.00	0.00
Delay/Veh:	9.3	3.7	0.0	0.0	20.4	12.5	21.0	0.0	3.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.3	3.7	0.0	0.0	20.4	12.5	21.0	0.0	3.0	0.0	0.0	0.0
LOS by Move:	A	A	A	A	C+	B	C+	A	A	A	A	A
HCM2kAvgQ:	3	4	0	0	2	3	2	0	1	0	0	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
097318106

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current PM

Intersection #3: Mathilda Ave / Moffett Park Dr



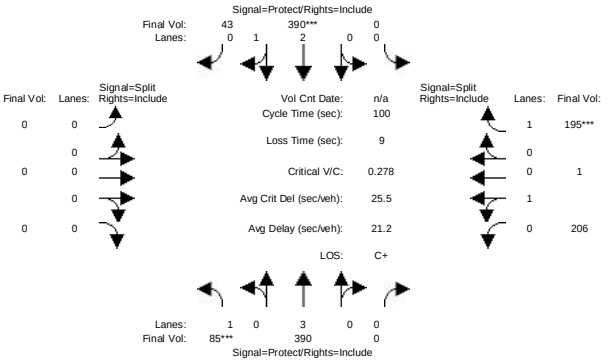
Street Name:	Mathilda Ave						Moffett Park Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	997	1495	780	8	206	19	0	37	44	116	77	21
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	997	1495	780	8	206	19	0	37	44	116	77	21
Added Vol:	0	6	0	0	14	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	997	1501	780	8	220	19	0	37	44	116	77	21
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	997	1501	780	8	220	19	0	37	44	116	77	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	997	1501	780	8	220	19	0	37	44	116	77	21
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	997	1501	780	8	220	19	0	37	44	116	77	21
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.86	0.86	0.95	0.90	0.90	1.00	1.00	0.75	0.97	0.97	0.85
Lanes:	1.00	2.00	1.00	1.00	2.76	0.24	1.00	1.00	2.00	0.60	0.40	1.00
Final Sat.:	1805	3282	1641	1805	4717	407	1900	1900	2842	1109	736	1615
Capacity Analysis Module:												
Vol/Sat:	0.55	0.46	0.48	0.00	0.05	0.05	0.00	0.02	0.02	0.10	0.10	0.01
Crit Moves:	****				****			****		****		
Green/Cycle:	0.57	0.59	0.59	0.09	0.10	0.10	0.00	0.10	0.67	0.11	0.11	0.11
Volume/Cap:	0.97	0.78	0.81	0.05	0.47	0.47	0.00	0.19	0.02	0.97	0.97	0.12
Delay/Veh:	40.7	17.3	18.3	42.1	43.2	43.2	0.0	41.8	5.5	98.1	98.1	40.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	40.7	17.3	18.3	42.1	43.2	43.2	0.0	41.8	5.5	98.1	98.1	40.6
LOS by Move:	D	B	B-	D	D	D	A	D	A	F	F	D
HCM2kAvgQ:	34	20	22	0	3	3	0	1	0	10	10	1

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
097318106

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current PM

Intersection #4: Mathilda Ave / SR 237 WB Ramps



Street Name:	Mathilda Ave						SR 237 WB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	85	384	0	0	386	33	0	0	0	206	1	195
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	85	384	0	0	386	33	0	0	0	206	1	195
Added Vol:	0	6	0	0	4	10	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	85	390	0	0	390	43	0	0	0	206	1	195
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	85	390	0	0	390	43	0	0	0	206	1	195
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	85	390	0	0	390	43	0	0	0	206	1	195
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	85	390	0	0	390	43	0	0	0	206	1	195
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	1.00	1.00	0.90	0.90	1.00	1.00	1.00	0.92	0.92	0.85
Lanes:	1.00	3.00	0.00	0.00	2.70	0.30	0.00	0.00	0.00	0.99	0.01	1.00
Final Sat.:	1805	5187	0	0	4602	507	0	0	0	1745	8	1615
Capacity Analysis Module:												
Vol/Sat:	0.05	0.08	0.00	0.00	0.08	0.08	0.00	0.00	0.00	0.12	0.12	0.12
Crit Moves:	****				****							****
Green/Cycle:	0.17	0.47	0.00	0.00	0.31	0.31	0.00	0.00	0.00	0.44	0.44	0.44
Volume/Cap:	0.28	0.16	0.00	0.00	0.28	0.28	0.00	0.00	0.00	0.27	0.27	0.28
Delay/Veh:	36.7	14.9	0.0	0.0	26.5	26.5	0.0	0.0	0.0	18.3	18.3	18.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.7	14.9	0.0	0.0	26.5	26.5	0.0	0.0	0.0	18.3	18.3	18.4
LOS by Move:	D+	B	A	A	C	C	A	A	A	B-	B-	B-
HCM2kAvgQ:	2	2	0	0	4	4	0	0	0	4	4	4

Note: Queue reported is the number of cars per lane.

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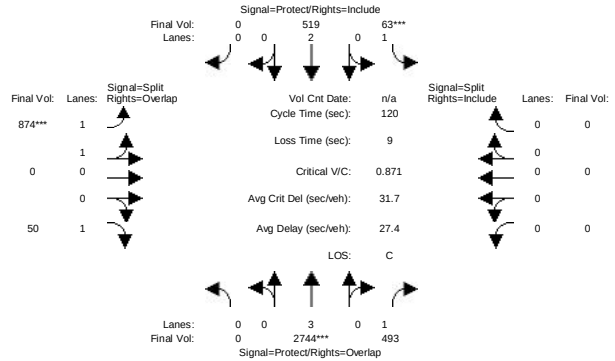
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current PM

Intersection #5: Mathilda Ave / SR 237 EB Ramps



Street Name:	Mathild Ave						SR 237 EB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	2742	493	63	515	0	870	0	50	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2742	493	63	515	0	870	0	50	0	0	0
Added Vol:	0	2	0	0	4	0	4	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2744	493	63	519	0	874	0	50	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	2744	493	63	519	0	874	0	50	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2744	493	63	519	0	874	0	50	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	2744	493	63	519	0	874	0	50	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.91	0.85	0.95	0.95	1.00	0.95	1.00	0.85	1.00	1.00	1.00
Lanes:	0.00	3.00	1.00	1.00	2.00	0.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	5187	1615	1805	3610	0	3618	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.53	0.31	0.03	0.14	0.00	0.24	0.00	0.03	0.00	0.00	0.00
Crit Moves:		****		****			****					
Green/Cycle:	0.00	0.59	0.59	0.06	0.65	0.00	0.27	0.00	0.27	0.00	0.00	0.00
Volume/Cap:	0.00	0.89	0.51	0.60	0.22	0.00	0.89	0.00	0.11	0.00	0.00	0.00
Delay/Veh:	0.0	24.5	14.6	64.3	8.5	0.0	52.0	0.0	33.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	24.5	14.6	64.3	8.5	0.0	52.0	0.0	33.0	0.0	0.0	0.0
LOS by Move:	A	C	B	E	A	A	D-	A	C-	A	A	A
HCM2kAvgQ:	0	31	10	2	4	0	19	0	1	0	0	0

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
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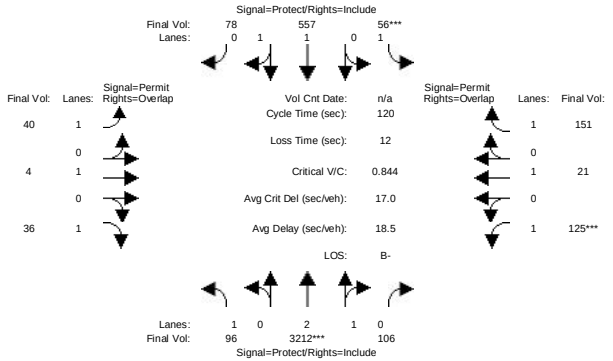
EIR Baseline + Current PM

Intersection #6: Mathilda Ave / Ross Dr



Street Name:	Mathilda Ave						Ross Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	96	3210	106	56	553	78	40	4	36	125	21	151
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	96	3210	106	56	553	78	40	4	36	125	21	151
Added Vol:	0	2	0	0	4	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	96	3212	106	56	557	78	40	4	36	125	21	151
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	96	3212	106	56	557	78	40	4	36	125	21	151
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	96	3212	106	56	557	78	40	4	36	125	21	151
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	96	3212	106	56	557	78	40	4	36	125	21	151
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	0.91	0.95	0.93	0.93	0.75	1.00	0.85	0.77	1.00	0.85
Lanes:	1.00	2.90	0.10	1.00	1.75	0.25	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	4996	165	1805	3110	435	1427	1900	1615	1455	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.05	0.64	0.64	0.03	0.18	0.18	0.03	0.00	0.02	0.09	0.01	0.09
Crit Moves:		****		****						****		
Green/Cycle:	0.20	0.74	0.74	0.06	0.60	0.60	0.10	0.10	0.30	0.10	0.10	0.16
Volume/Cap:	0.27	0.87	0.87	0.53	0.30	0.30	0.28	0.02	0.08	0.87	0.11	0.59
Delay/Veh:	41.3	13.4	13.4	60.0	11.5	11.5	51.2	48.8	30.5	91.8	49.5	50.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	41.3	13.4	13.4	60.0	11.5	11.5	51.2	48.8	30.5	91.8	49.5	50.7
LOS by Move:	D	B	B	E	B+	B+	D-	D	C	F	D	D
HCM2kAvgQ:	3	34	34	2	6	6	2	0	1	7	1	6

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
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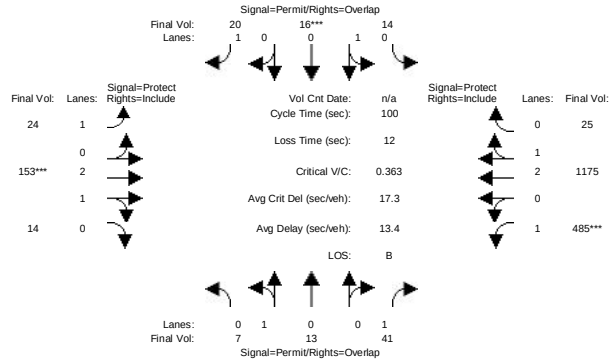
EIR Baseline + Current PM

Intersection #7: Borregas Ave / Caribbean Dr



Street Name:	Borregas Ave						Caribbean Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	7	12	41	11	13	6	18	153	14	485	1175	24
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	7	12	41	11	13	6	18	153	14	485	1175	24
Added Vol:	0	1	0	3	3	14	6	0	0	0	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	7	13	41	14	16	20	24	153	14	485	1175	25
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	7	13	41	14	16	20	24	153	14	485	1175	25
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	7	13	41	14	16	20	24	153	14	485	1175	25
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	7	13	41	14	16	20	24	153	14	485	1175	25
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.91	0.91	0.85	0.87	0.87	0.85	0.95	0.90	0.90	0.95	0.91	0.91
Lanes:	0.35	0.65	1.00	0.47	0.53	1.00	1.00	2.75	0.25	1.00	2.94	0.06
Final Sat.:	608	1129	1615	773	884	1615	1805	4690	429	1805	5064	108
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.03	0.02	0.02	0.01	0.01	0.03	0.03	0.27	0.23	0.23
Crit Moves:					****			****		****		
Green/Cycle:	0.10	0.10	0.78	0.10	0.10	0.28	0.18	0.10	0.10	0.68	0.60	0.60
Volume/Cap:	0.12	0.12	0.03	0.18	0.18	0.04	0.07	0.33	0.33	0.40	0.39	0.39
Delay/Veh:	41.3	41.3	2.5	41.8	41.8	26.2	34.1	42.2	42.2	7.2	10.5	10.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	41.3	41.3	2.5	41.8	41.8	26.2	34.1	42.2	42.2	7.2	10.5	10.5
LOS by Move:	D	D	A	D	D	C	C-	D	D	A	B+	B+
HCM2kAvgQ:	1	1	0	1	1	0	1	2	2	7	7	7

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
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097318106

Level Of Service Computation Report
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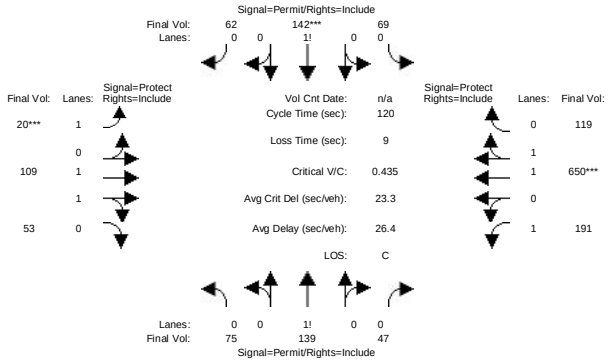
Intersection #8: Borregas Ave / Java Dr



Street Name:	Borregas Ave						Java Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	75	139	47	66	142	62	20	109	53	191	650	118
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	75	139	47	66	142	62	20	109	53	191	650	118
Added Vol:	0	0	0	3	0	0	0	0	0	0	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	75	139	47	69	142	62	20	109	53	191	650	119
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	75	139	47	69	142	62	20	109	53	191	650	119
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	75	139	47	69	142	62	20	109	53	191	650	119
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	75	139	47	69	142	62	20	109	53	191	650	119
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.80	0.80	0.80	0.83	0.83	0.83	0.95	0.90	0.90	0.95	0.93	0.93
Lanes:	0.29	0.53	0.18	0.25	0.52	0.23	1.00	1.35	0.65	1.00	1.69	0.31
Final Sat.:	438	812	274	397	818	357	1805	2310	1123	1805	2981	546
Capacity Analysis Module:												
Vol/Sat:	0.17	0.17	0.17	0.17	0.17	0.17	0.01	0.05	0.05	0.11	0.22	0.22
Crit Moves:					****			****			****	
Green/Cycle:	0.38	0.38	0.38	0.38	0.38	0.38	0.06	0.24	0.24	0.30	0.48	0.48
Volume/Cap:	0.45	0.45	0.45	0.45	0.45	0.45	0.19	0.20	0.20	0.35	0.45	0.45
Delay/Veh:	28.0	28.0	28.0	28.1	28.1	28.1	54.7	36.7	36.7	33.0	20.7	20.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.0	28.0	28.0	28.1	28.1	28.1	54.7	36.7	36.7	33.0	20.7	20.7
LOS by Move:	C	C	C	C	C	C	D-	D+	D+	C-	C+	C+
HCM2kAvgQ:	7	7	7	7	7	7	1	2	2	5	9	9

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
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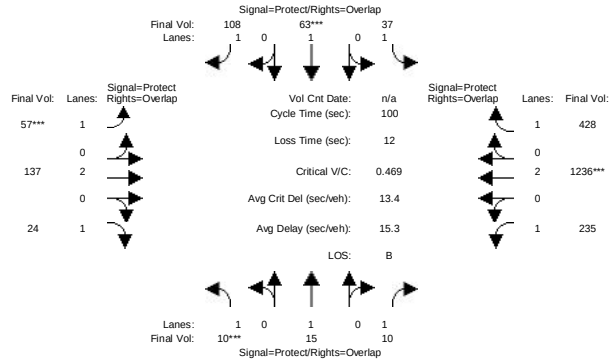
097318106

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current PM

Intersection #9: Crossman Ave / Java Dr



Street Name:	Corssman Ave						Java Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	10	15	10	37	63	108	57	134	24	235	1235	428
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	15	10	37	63	108	57	134	24	235	1235	428
Added Vol:	0	0	0	0	0	0	0	3	0	0	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	15	10	37	63	108	57	137	24	235	1236	428
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	15	10	37	63	108	57	137	24	235	1236	428
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	15	10	37	63	108	57	137	24	235	1236	428
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	15	10	37	63	108	57	137	24	235	1236	428
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	1.00	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	1900	1615	1805	1900	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.01	0.02	0.03	0.07	0.03	0.04	0.01	0.13	0.34	0.27
Crit Moves:	****				****		****				****	
Green/Cycle:	0.07	0.10	0.50	0.07	0.10	0.17	0.07	0.31	0.38	0.40	0.64	0.71
Volume/Cap:	0.08	0.08	0.01	0.29	0.33	0.39	0.45	0.12	0.04	0.32	0.53	0.37
Delay/Veh:	43.8	41.0	12.5	45.4	42.9	37.8	47.2	24.9	19.6	20.8	10.1	5.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.8	41.0	12.5	45.4	42.9	37.8	47.2	24.9	19.6	20.8	10.1	5.9
LOS by Move:	D	D	B	D	D	D+	D	C	B-	C+	B+	A
HCM2kAvgQ:	0	0	0	1	2	3	2	2	0	5	11	5

Note: Queue reported is the number of cars per lane.

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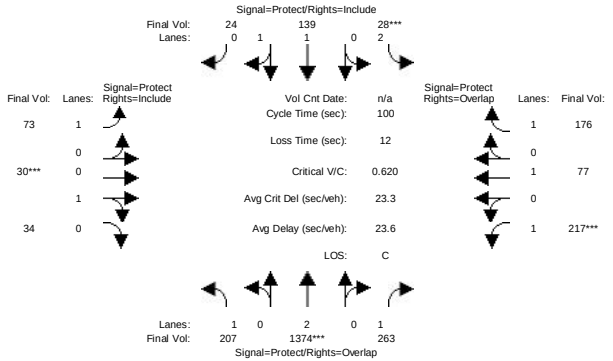
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current PM

Intersection #10: Fair Oaks Ave / TasmanDr



Street Name:	Fair Oaks Ave						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	207	1373	263	28	136	24	73	30	34	217	77	176
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	207	1373	263	28	136	24	73	30	34	217	77	176
Added Vol:	0	1	0	0	3	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	207	1374	263	28	139	24	73	30	34	217	77	176
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	207	1374	263	28	139	24	73	30	34	217	77	176
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	207	1374	263	28	139	24	73	30	34	217	77	176
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	207	1374	263	28	139	24	73	30	34	217	77	176
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.92	0.93	0.93	0.95	0.92	0.92	0.95	1.00	0.85
Lanes:	1.00	2.00	1.00	2.00	1.71	0.29	1.00	0.47	0.53	1.00	1.00	1.00
Final Sat.:	1805	3610	1615	3502	3011	520	1805	819	929	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.11	0.38	0.16	0.01	0.05	0.05	0.04	0.04	0.04	0.12	0.04	0.11
Crit Moves:		****		****				****		****		
Green/Cycle:	0.33	0.54	0.71	0.07	0.28	0.28	0.11	0.10	0.10	0.17	0.16	0.23
Volume/Cap:	0.35	0.71	0.23	0.11	0.16	0.16	0.37	0.37	0.37	0.71	0.25	0.47
Delay/Veh:	26.1	18.3	5.1	43.8	27.0	27.0	42.3	43.3	43.3	46.4	37.2	34.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	26.1	18.3	5.1	43.8	27.0	27.0	42.3	43.3	43.3	46.4	37.2	34.3
LOS by Move:	C	B-	A	D	C	C	D	D	D	D	D+	C-
HCM2kAvgQ:	5	17	3	0	2	2	2	2	2	6	2	5

Note: Queue reported is the number of cars per lane.

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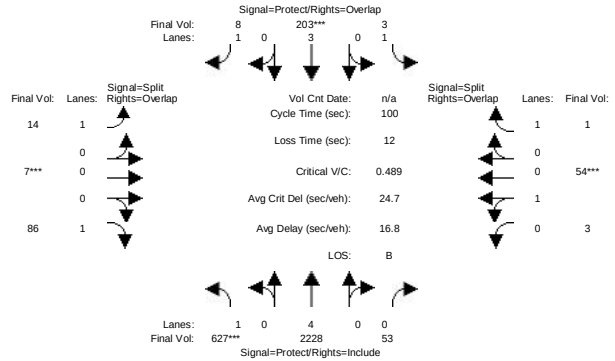
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current PM

Intersection #11: Carribean Dr / Moffett Park Dr



Street Name:	Carribean Dr						Moffett Park Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	627	2227	53	3	200	8	14	7	86	3	54	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	627	2227	53	3	200	8	14	7	86	3	54	1
Added Vol:	0	1	0	0	3	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	627	2228	53	3	203	8	14	7	86	3	54	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	627	2228	53	3	203	8	14	7	86	3	54	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	627	2228	53	3	203	8	14	7	86	3	54	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	627	2228	53	3	203	8	14	7	86	3	54	1
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	0.91	0.95	0.91	0.85	0.83	0.83	0.83	1.00	1.00	0.85
Lanes:	1.00	3.91	0.09	1.00	3.00	1.00	0.67	0.33	1.00	0.05	0.95	1.00
Final Sat.:	1805	6735	160	1805	5187	1615	1050	525	1575	100	1795	1615
Capacity Analysis Module:												
Vol/Sat:	0.35	0.33	0.33	0.00	0.04	0.00	0.01	0.01	0.05	0.03	0.03	0.00
Crit Moves:	****				****			****			****	
Green/Cycle:	0.58	0.56	0.56	0.12	0.10	0.20	0.10	0.10	0.68	0.10	0.10	0.22
Volume/Cap:	0.60	0.59	0.59	0.01	0.39	0.02	0.13	0.13	0.08	0.30	0.30	0.00
Delay/Veh:	14.5	14.6	14.6	38.9	42.6	32.2	41.1	41.1	5.4	42.7	42.7	30.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	14.5	14.6	14.6	38.9	42.6	32.2	41.1	41.1	5.4	42.7	42.7	30.5
LOS by Move:	B	B	B	D+	D	C-	D	D	A	D	D	C
HCM2kAvgQ:	13	13	13	0	3	0	1	1	1	2	2	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
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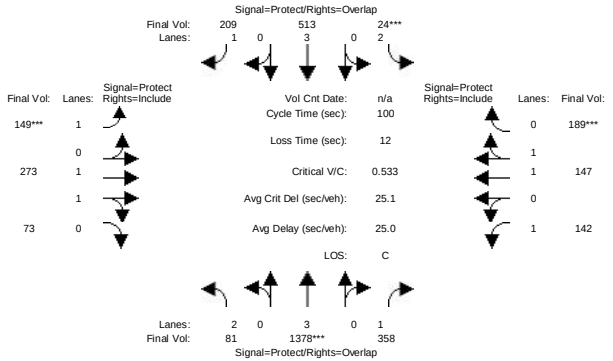
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current PM

Intersection #12: Lawrence Expy / Tasman Dr



Street Name:	Lawrence Expy						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	81	1377	358	24	510	209	149	273	73	142	147	189
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	81	1377	358	24	510	209	149	273	73	142	147	189
Added Vol:	0	1	0	0	3	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	81	1378	358	24	513	209	149	273	73	142	147	189
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	81	1378	358	24	513	209	149	273	73	142	147	189
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	81	1378	358	24	513	209	149	273	73	142	147	189
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	81	1378	358	24	513	209	149	273	73	142	147	189
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.91	0.85	0.95	0.92	0.92	0.95	0.87	0.87
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	1.00	1.58	0.42	1.00	1.00	1.00
Final Sat.:	3502	5187	1615	3502	5187	1615	1805	2757	737	1805	1653	1653
Capacity Analysis Module:												
Vol/Sat:	0.02	0.27	0.22	0.01	0.10	0.13	0.08	0.10	0.10	0.08	0.09	0.11
Crit Moves:		****		****			****					****
Green/Cycle:	0.22	0.47	0.62	0.07	0.31	0.46	0.14	0.19	0.19	0.15	0.20	0.20
Volume/Cap:	0.10	0.57	0.36	0.10	0.31	0.28	0.57	0.51	0.51	0.52	0.44	0.57
Delay/Veh:	31.2	19.8	9.6	43.7	26.2	17.0	42.9	36.8	36.8	40.8	35.5	37.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.2	19.8	9.6	43.7	26.2	17.0	42.9	36.8	36.8	40.8	35.5	37.5
LOS by Move:	C	B-	A	D	C	B	D	D+	D+	D	D+	D+
HCM2kAvgQ:	1	12	5	0	4	4	4	5	5	5	5	6

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
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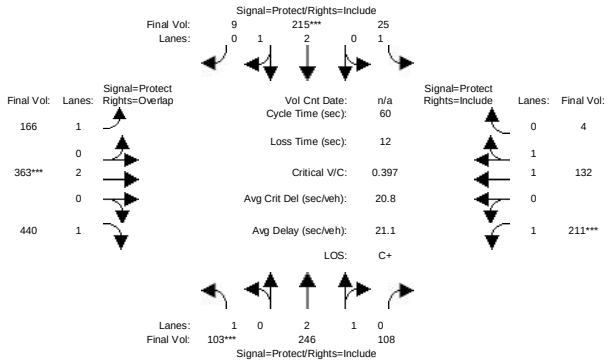
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current + Milpitas AM

Intersection #1: Mathilda Ave / Lockheed Martin-Java Dr



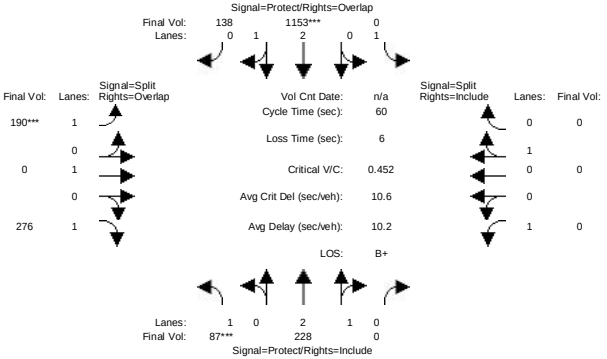
Street Name:	Mathilda Ave						Lockheed Martin - Java Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	103	217	108	25	194	9	166	363	440	211	132	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	103	217	108	25	194	9	166	363	440	211	132	4
Added Vol:	0	29	0	0	21	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	103	246	108	25	215	9	166	363	440	211	132	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	103	246	108	25	215	9	166	363	440	211	132	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	103	246	108	25	215	9	166	363	440	211	132	4
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	103	246	108	25	215	9	166	363	440	211	132	4
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.87	0.87	0.95	0.90	0.90	0.95	0.95	0.85	0.95	0.95	0.95
Lanes:	1.00	2.08	0.92	1.00	2.88	0.12	1.00	2.00	1.00	1.00	1.94	0.06
Final Sat.:	1805	3439	1510	1805	4949	207	1805	3610	1615	1805	3490	106
Capacity Analysis Module:												
Vol/Sat:	0.06	0.07	0.07	0.01	0.04	0.04	0.09	0.10	0.27	0.12	0.04	0.04
Crit Moves:	****				****			****		****		
Green/Cycle:	0.13	0.18	0.18	0.12	0.17	0.17	0.21	0.23	0.36	0.27	0.30	0.30
Volume/Cap:	0.43	0.41	0.41	0.11	0.26	0.26	0.45	0.43	0.75	0.43	0.13	0.13
Delay/Veh:	25.3	22.3	22.3	23.6	21.9	21.9	21.6	20.0	22.0	18.7	15.5	15.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	25.3	22.3	22.3	23.6	21.9	21.9	21.6	20.0	22.0	18.7	15.5	15.5
LOS by Move:	C	C+	C+	C	C+	C+	C+	C+	C+	B-	B	B
HCM2kAvgQ:	2	2	2	0	2	2	3	3	9	3	1	1

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
097318106

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current + Milpitas AM

Intersection #2: Mathilda Ave / 5th Ave



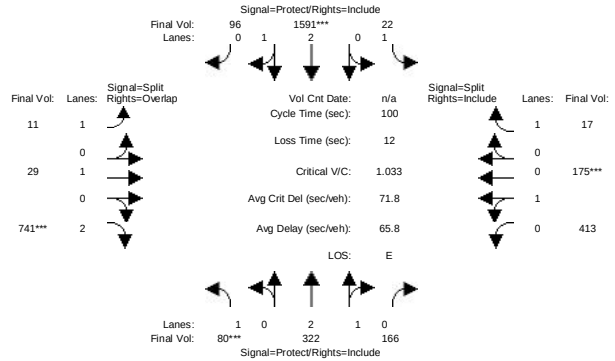
Street Name:	Mathilda Ave						5th Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	87	199	0	0	1132	138	190	0	276	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	87	199	0	0	1132	138	190	0	276	0	0	0
Added Vol:	0	29	0	0	21	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	87	228	0	0	1153	138	190	0	276	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	87	228	0	0	1153	138	190	0	276	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	87	228	0	0	1153	138	190	0	276	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	87	228	0	0	1153	138	190	0	276	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	0.91	1.00	0.90	0.90	0.95	1.00	0.85	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	1.00	2.68	0.32	1.00	1.00	1.00	1.00	1.00	0.00
Final Sat.:	1805	5187	0	1900	4558	546	1805	1900	1615	1900	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.05	0.04	0.00	0.00	0.25	0.25	0.11	0.00	0.17	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green/Cycle:	0.12	0.67	0.00	0.00	0.55	0.78	0.23	0.00	0.35	0.00	0.00	0.00
Volume/Cap:	0.41	0.07	0.00	0.00	0.46	0.32	0.46	0.00	0.49	0.00	0.00	0.00
Delay/Veh:	25.9	3.4	0.0	0.0	8.1	1.9	20.7	0.0	16.1	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	25.9	3.4	0.0	0.0	8.1	1.9	20.7	0.0	16.1	0.0	0.0	0.0
LOS by Move:	C	A	A	A	A	A	C+	A	B	A	A	A
HCM2kAvgQ:	1	1	0	0	5	3	4	0	5	0	0	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
097318106

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current + Milpitas AM

Intersection #3: Mathilda Ave / Moffett Park Dr



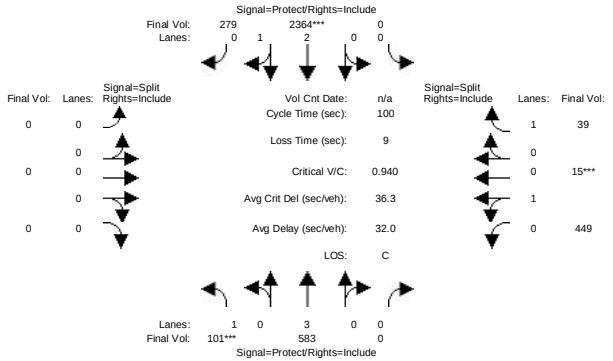
Street Name:	Mathilda Ave						Moffett Park Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	80	293	166	22	1570	96	11	29	741	413	175	17
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	80	293	166	22	1570	96	11	29	741	413	175	17
Added Vol:	0	29	0	0	21	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	80	322	166	22	1591	96	11	29	741	413	175	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	80	322	166	22	1591	96	11	29	741	413	175	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	80	322	166	22	1591	96	11	29	741	413	175	17
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	80	322	166	22	1591	96	11	29	741	413	175	17
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.86	0.86	0.95	0.90	0.90	0.95	1.00	0.75	0.97	0.97	0.85
Lanes:	1.00	2.00	1.00	1.00	2.83	0.17	1.00	1.00	2.00	0.70	0.30	1.00
Final Sat.:	1805	3282	1641	1805	4848	293	1805	1900	2842	1289	546	1615
Capacity Analysis Module:												
Vol/Sat:	0.04	0.10	0.10	0.01	0.33	0.33	0.01	0.02	0.26	0.32	0.32	0.01
Crit Moves:	****				****				****		****	
Green/Cycle:	0.07	0.23	0.23	0.16	0.32	0.32	0.18	0.18	0.25	0.31	0.31	0.31
Volume/Cap:	0.63	0.43	0.44	0.08	1.04	1.04	0.03	0.08	1.03	1.04	1.04	0.03
Delay/Veh:	55.3	33.3	33.4	36.0	66.4	66.4	33.5	33.9	77.6	82.0	82.0	24.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	55.3	33.3	33.4	36.0	66.4	66.4	33.5	33.9	77.6	82.0	82.0	24.1
LOS by Move:	E+	C-	C-	D+	E	E	C-	C-	E-	F	F	C
HCM2kAvgQ:	3	5	5	1	25	25	0	1	20	26	26	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
097318106

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current + Milpitas AM

Intersection #4: Mathilda Ave / SR 237 WB Ramps



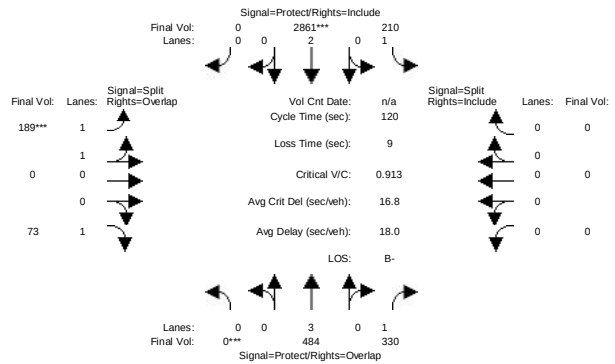
Street Name:	Mathilda Ave						SR 237 WB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	101	554	0	0	2358	264	0	0	0	449	15	39
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	101	554	0	0	2358	264	0	0	0	449	15	39
Added Vol:	0	29	0	0	6	15	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	101	583	0	0	2364	279	0	0	0	449	15	39
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	101	583	0	0	2364	279	0	0	0	449	15	39
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	101	583	0	0	2364	279	0	0	0	449	15	39
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	101	583	0	0	2364	279	0	0	0	449	15	39
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	1.00	1.00	0.90	0.90	1.00	1.00	1.00	0.87	0.87	0.85
Lanes:	1.00	3.00	0.00	0.00	2.68	0.32	0.00	0.00	0.00	0.97	0.03	1.00
Final Sat.:	1805	5187	0	0	4565	539	0	0	0	1592	53	1615
Capacity Analysis Module:												
Vol/Sat:	0.06	0.11	0.00	0.00	0.52	0.52	0.00	0.00	0.00	0.28	0.28	0.02
Crit Moves:	****				****						****	
Green/Cycle:	0.07	0.61	0.00	0.00	0.54	0.54	0.00	0.00	0.00	0.30	0.30	0.30
Volume/Cap:	0.80	0.18	0.00	0.00	0.95	0.95	0.00	0.00	0.00	0.95	0.95	0.08
Delay/Veh:	74.9	8.4	0.0	0.0	30.1	30.1	0.0	0.0	0.0	63.5	63.5	25.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	74.9	8.4	0.0	0.0	30.1	30.1	0.0	0.0	0.0	63.5	63.5	25.5
LOS by Move:	E	A	A	A	C	C	A	A	A	E	E	C
HCM2kAvgQ:	3	3	0	0	27	27	0	0	0	19	19	1

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
097318106

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current + Milpitas AM

Intersection #5: Mathilda Ave / SR 237 EB Ramps



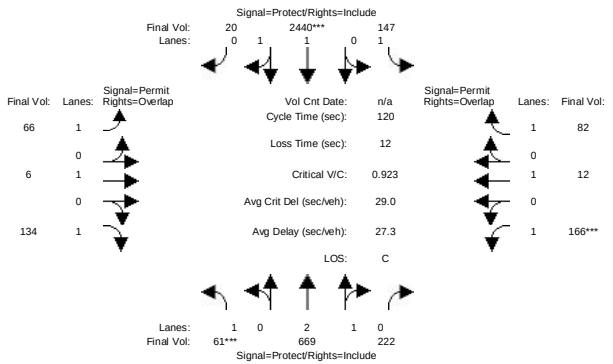
Street Name:	Mathild Ave						SR 237 EB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	476	330	210	2855	0	168	0	73	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	476	330	210	2855	0	168	0	73	0	0	0
Added Vol:	0	8	0	0	6	0	21	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	484	330	210	2861	0	189	0	73	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	484	330	210	2861	0	189	0	73	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	484	330	210	2861	0	189	0	73	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	484	330	210	2861	0	189	0	73	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.91	0.85	0.95	0.95	1.00	0.95	1.00	0.85	1.00	1.00	1.00
Lanes:	0.00	3.00	1.00	1.00	2.00	0.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	5187	1615	1805	3610	0	3618	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.09	0.20	0.12	0.79	0.00	0.05	0.00	0.05	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green/Cycle:	0.00	0.54	0.54	0.31	0.84	0.00	0.08	0.00	0.08	0.00	0.00	0.00
Volume/Cap:	0.00	0.17	0.38	0.38	0.94	0.00	0.63	0.00	0.54	0.00	0.00	0.00
Delay/Veh:	0.0	14.3	16.5	33.2	14.1	0.0	57.3	0.0	57.3	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	14.3	16.5	33.2	14.1	0.0	57.3	0.0	57.3	0.0	0.0	0.0
LOS by Move:	A	B	B	C-	B	A	E+	A	E+	A	A	A
HCM2kAvgQ:	0	3	7	6	41	0	4	0	3	0	0	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
097318106

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current + Milpitas AM

Intersection #6: Mathilda Ave / Ross Dr



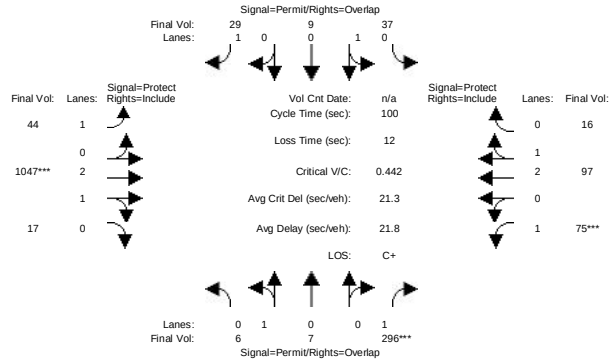
Street Name:	Mathilda Ave						Ross Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	61	661	222	147	2434	20	66	6	134	166	12	82
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	61	661	222	147	2434	20	66	6	134	166	12	82
Added Vol:	0	8	0	0	6	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	61	669	222	147	2440	20	66	6	134	166	12	82
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	61	669	222	147	2440	20	66	6	134	166	12	82
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	61	669	222	147	2440	20	66	6	134	166	12	82
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	61	669	222	147	2440	20	66	6	134	166	12	82
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.88	0.88	0.95	0.95	0.95	0.76	1.00	0.85	0.76	1.00	0.85
Lanes:	1.00	2.25	0.75	1.00	1.98	0.02	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	3751	1245	1805	3577	29	1442	1900	1615	1452	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.03	0.18	0.18	0.08	0.68	0.68	0.05	0.00	0.08	0.11	0.01	0.05
Crit Moves:	****				****					****		
Green/Cycle:	0.06	0.53	0.53	0.24	0.72	0.72	0.12	0.12	0.18	0.12	0.12	0.37
Volume/Cap:	0.58	0.33	0.33	0.33	0.95	0.95	0.38	0.03	0.46	0.95	0.05	0.14
Delay/Veh:	62.9	15.9	15.9	37.8	23.0	23.0	50.0	46.6	45.3	104.6	46.8	25.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	62.9	15.9	15.9	37.8	23.0	23.0	50.0	46.6	45.3	104.6	46.8	25.6
LOS by Move:	E	B	B	D+	C	C	D	D	D	F	D	C
HCM2kAvgQ:	3	7	7	4	41	41	3	0	5	9	0	2

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
097318106

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current + Milpitas AM

Intersection #7: Borregas Ave / Caribbean Dr



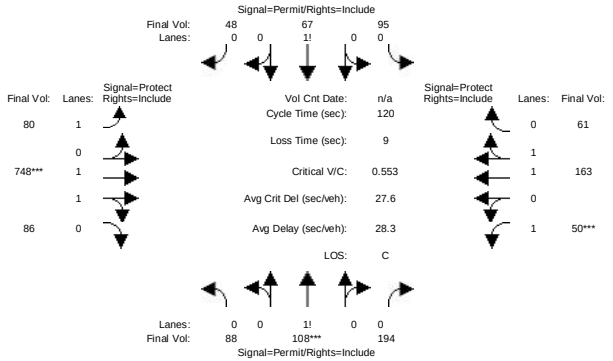
Street Name:	Borregas Ave						Caribbean Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	6	1	296	28	4	8	15	1047	17	75	97	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	1	296	28	4	8	15	1047	17	75	97	6
Added Vol:	0	6	0	9	5	21	29	0	0	0	0	10
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	6	7	296	37	9	29	44	1047	17	75	97	16
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	6	7	296	37	9	29	44	1047	17	75	97	16
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	7	296	37	9	29	44	1047	17	75	97	16
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	6	7	296	37	9	29	44	1047	17	75	97	16
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.94	0.94	0.85	0.82	0.82	0.85	0.95	0.91	0.91	0.95	0.89	0.89
Lanes:	0.46	0.54	1.00	0.80	0.20	1.00	1.00	2.95	0.05	1.00	2.58	0.42
Final Sat.:	825	963	1615	1256	306	1615	1805	5094	83	1805	4359	719
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.18	0.03	0.03	0.02	0.02	0.21	0.21	0.04	0.02	0.02
Crit Moves:			****					****		****		
Green/Cycle:	0.26	0.26	0.35	0.26	0.26	0.49	0.23	0.47	0.47	0.09	0.33	0.33
Volume/Cap:	0.03	0.03	0.52	0.11	0.11	0.04	0.11	0.44	0.44	0.44	0.07	0.07
Delay/Veh:	27.9	27.9	26.7	28.6	28.6	13.4	30.5	18.1	18.1	44.7	23.0	23.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.9	27.9	26.7	28.6	28.6	13.4	30.5	18.1	18.1	44.7	23.0	23.0
LOS by Move:	C	C	C	C	C	B	C	B-	B-	D	C	C
HCM2kAvgQ:	0	0	7	1	1	0	1	8	8	3	1	1

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
097318106

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current + Milpitas AM

Intersection #8: Borregas Ave / Java Dr



Street Name:	Borregas Ave						Java Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	88	108	194	90	67	48	80	748	86	50	163	55
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	88	108	194	90	67	48	80	748	86	50	163	55
Added Vol:	0	0	0	5	0	0	0	0	0	0	0	6
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	88	108	194	95	67	48	80	748	86	50	163	61
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	88	108	194	95	67	48	80	748	86	50	163	61
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	88	108	194	95	67	48	80	748	86	50	163	61
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	88	108	194	95	67	48	80	748	86	50	163	61
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.82	0.82	0.82	0.66	0.66	0.66	0.95	0.94	0.94	0.95	0.91	0.91
Lanes:	0.22	0.28	0.50	0.45	0.32	0.23	1.00	1.79	0.21	1.00	1.46	0.54
Final Sat.:	353	433	779	565	398	285	1805	3189	367	1805	2519	943
Capacity Analysis Module:												
Vol/Sat:	0.25	0.25	0.25	0.17	0.17	0.17	0.04	0.23	0.23	0.03	0.06	0.06
Crit Moves:		****						****		****		
Green/Cycle:	0.45	0.45	0.45	0.45	0.45	0.45	0.20	0.42	0.42	0.06	0.28	0.28
Volume/Cap:	0.56	0.56	0.56	0.38	0.38	0.38	0.22	0.56	0.56	0.47	0.23	0.23
Delay/Veh:	25.5	25.5	25.5	22.5	22.5	22.5	40.8	26.8	26.8	58.1	33.2	33.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	25.5	25.5	25.5	22.5	22.5	22.5	40.8	26.8	26.8	58.1	33.2	33.2
LOS by Move:	C	C	C	C+	C+	C+	D	C	C	E+	C-	C-
HCM2kAvgQ:	11	11	11	5	5	5	2	12	12	2	3	3

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
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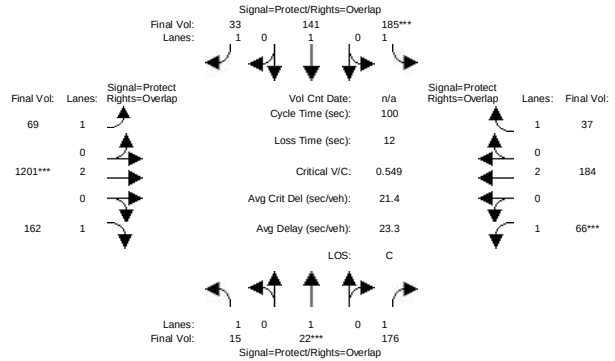
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current + Milpitas AM

Intersection #9: Crossman Ave / Java Dr



Street Name:	Corssman Ave						Java Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	15	22	176	185	141	33	69	1196	162	66	178	37
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	22	176	185	141	33	69	1196	162	66	178	37
Added Vol:	0	0	0	0	0	0	0	5	0	0	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	22	176	185	141	33	69	1201	162	66	184	37
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	15	22	176	185	141	33	69	1201	162	66	184	37
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	15	22	176	185	141	33	69	1201	162	66	184	37
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	15	22	176	185	141	33	69	1201	162	66	184	37
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	1.00	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	1900	1615	1805	1900	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.11	0.10	0.07	0.02	0.04	0.33	0.10	0.04	0.05	0.02
Crit Moves:		****		****				****		****		
Green/Cycle:	0.11	0.10	0.17	0.17	0.16	0.41	0.25	0.54	0.65	0.07	0.36	0.53
Volume/Cap:	0.08	0.12	0.64	0.61	0.47	0.05	0.15	0.61	0.15	0.52	0.14	0.04
Delay/Veh:	40.1	41.2	43.7	42.3	39.5	17.8	29.2	16.2	6.8	48.8	21.6	11.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	40.1	41.2	43.7	42.3	39.5	17.8	29.2	16.2	6.8	48.8	21.6	11.4
LOS by Move:	D	D	D	D	D	B	C	B	A	D	C+	B+
HCM2kAvgQ:	0	1	6	6	4	1	2	13	2	2	2	1

Note: Queue reported is the number of cars per lane.

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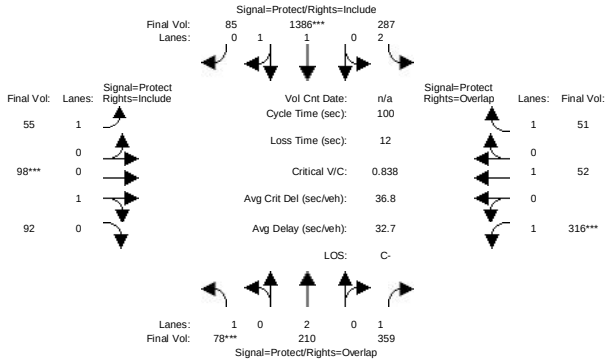
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current + Milpitas AM

Intersection #10: Fair Oaks Ave / TasmanDr



Street Name:	Fair Oaks Ave						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	78	204	359	287	1381	85	55	98	92	316	52	51
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	78	204	359	287	1381	85	55	98	92	316	52	51
Added Vol:	0	6	0	0	5	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	78	210	359	287	1386	85	55	98	92	316	52	51
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	78	210	359	287	1386	85	55	98	92	316	52	51
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	78	210	359	287	1386	85	55	98	92	316	52	51
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	78	210	359	287	1386	85	55	98	92	316	52	51
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.92	0.94	0.94	0.95	0.93	0.93	0.95	1.00	0.85
Lanes:	1.00	2.00	1.00	2.00	1.88	0.12	1.00	0.52	0.48	1.00	1.00	1.00
Final Sat.:	1805	3610	1615	3502	3371	207	1805	908	853	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.04	0.06	0.22	0.08	0.41	0.41	0.03	0.11	0.11	0.18	0.03	0.03
Crit Moves:	****				****					****		
Green/Cycle:	0.07	0.30	0.51	0.25	0.48	0.48	0.14	0.13	0.13	0.20	0.19	0.44
Volume/Cap:	0.62	0.19	0.44	0.33	0.86	0.86	0.22	0.86	0.86	0.86	0.14	0.07
Delay/Veh:	54.1	25.9	16.0	31.1	27.5	27.5	39.0	69.4	69.4	56.1	33.6	16.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	54.1	25.9	16.0	31.1	27.5	27.5	39.0	69.4	69.4	56.1	33.6	16.1
LOS by Move:	D-	C	B	C	C	C	D+	E	E	E+	C-	B
HCM2kAvgQ:	3	3	7	4	22	22	2	8	8	10	1	1

Note: Queue reported is the number of cars per lane.

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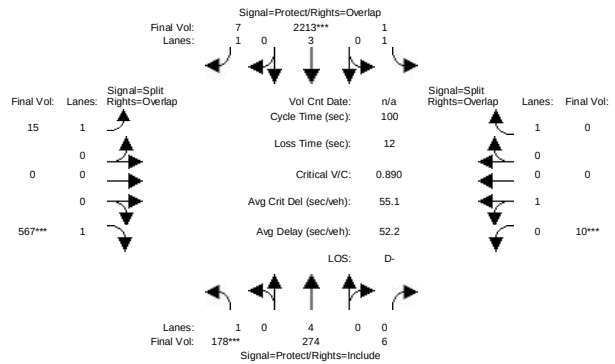
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current + Milpitas AM

Intersection #11: Carribean Dr / Moffett Park Dr



Street Name:	Carribean Dr						Moffett Park Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	178	264	6	1	2204	7	15	0	567	10	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	178	264	6	1	2204	7	15	0	567	10	0	0
Added Vol:	0	10	0	0	9	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	178	274	6	1	2213	7	15	0	567	10	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	178	274	6	1	2213	7	15	0	567	10	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	178	274	6	1	2213	7	15	0	567	10	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	178	274	6	1	2213	7	15	0	567	10	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	0.91	0.95	0.91	0.85	0.95	1.00	0.85	0.95	1.00	1.00
Lanes:	1.00	3.91	0.09	1.00	3.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Final Sat.:	1805	6747	148	1805	5187	1615	1805	0	1615	1809	0	1900
Capacity Analysis Module:												
Vol/Sat:	0.10	0.04	0.04	0.00	0.43	0.00	0.01	0.00	0.35	0.01	0.00	0.00
Crit Moves:	****				****				****	****		
Green/Cycle:	0.10	0.31	0.31	0.22	0.43	0.68	0.25	0.00	0.35	0.10	0.00	0.00
Volume/Cap:	1.00	0.13	0.13	0.00	1.00	0.01	0.03	0.00	1.00	0.06	0.00	0.00
Delay/Veh:	111.5	24.8	24.8	30.7	46.9	5.1	28.1	0.0	69.3	40.9	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	111.5	24.8	24.8	30.7	46.9	5.1	28.1	0.0	69.3	40.9	0.0	0.0
LOS by Move:	F	C	C	C	D	A	C	A	E	D	A	A
HCM2kAvgQ:	10	2	2	0	32	0	0	0	24	0	0	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
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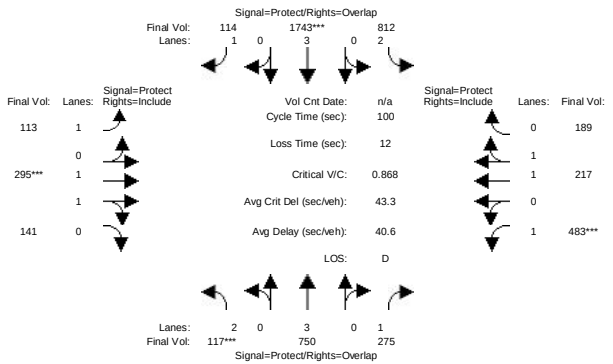
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current + Milpitas AM

Intersection #12: Lawrence Expy / Tasman Dr



Street Name:	Lawrence Expy						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	117	744	275	811	1738	114	113	295	141	483	217	188
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	117	744	275	811	1738	114	113	295	141	483	217	188
Added Vol:	0	6	0	1	5	0	0	0	0	0	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	117	750	275	812	1743	114	113	295	141	483	217	189
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	117	750	275	812	1743	114	113	295	141	483	217	189
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	117	750	275	812	1743	114	113	295	141	483	217	189
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	117	750	275	812	1743	114	113	295	141	483	217	189
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.91	0.85	0.95	0.90	0.90	0.95	0.88	0.88
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	1.00	1.35	0.65	1.00	1.07	0.93
Final Sat.:	3502	5187	1615	3502	5187	1615	1805	2325	1111	1805	1794	1563
Capacity Analysis Module:												
Vol/Sat:	0.03	0.14	0.17	0.23	0.34	0.07	0.06	0.13	0.13	0.27	0.12	0.12
Crit Moves:	****				****			****		****		
Green/Cycle:	0.07	0.17	0.47	0.27	0.37	0.53	0.16	0.14	0.14	0.30	0.28	0.28
Volume/Cap:	0.48	0.85	0.36	0.85	0.90	0.13	0.39	0.90	0.90	0.90	0.44	0.44
Delay/Veh:	46.2	48.2	17.4	41.8	36.0	11.8	38.5	62.2	62.2	52.1	30.1	30.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	46.2	48.2	17.4	41.8	36.0	11.8	38.5	62.2	62.2	52.1	30.1	30.1
LOS by Move:	D	D	B	D	D+	B+	D+	E	E	D-	C	C
HCM2kAvgQ:	2	11	5	15	22	2	3	7	7	18	6	6

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
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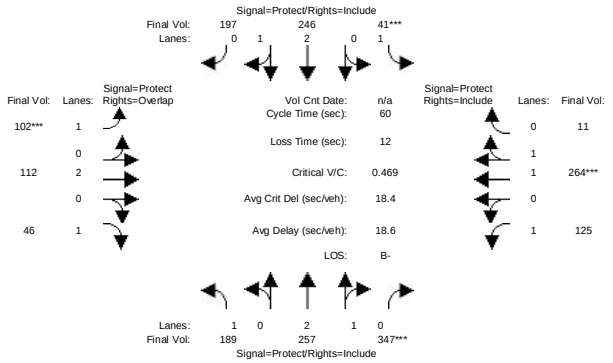
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current + Milpitas PM

Intersection #1: Mathilda Ave / Lockheed Martin-Java Dr



Street Name:	Mathilda Ave						Lockheed Martin - Java Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	189	251	347	41	232	197	102	112	46	125	264	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	189	251	347	41	232	197	102	112	46	125	264	11
Added Vol:	0	6	0	0	14	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	189	257	347	41	246	197	102	112	46	125	264	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	189	257	347	41	246	197	102	112	46	125	264	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	189	257	347	41	246	197	102	112	46	125	264	11
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	189	257	347	41	246	197	102	112	46	125	264	11
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.83	0.83	0.95	0.85	0.85	0.95	0.95	0.85	0.95	0.94	0.94
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	1.92	0.08
Final Sat.:	1805	3161	1580	1805	3226	1613	1805	3610	1615	1805	3445	144
Capacity Analysis Module:												
Vol/Sat:	0.10	0.08	0.22	0.02	0.08	0.12	0.06	0.03	0.03	0.07	0.08	0.08
Crit Moves:			****	****			****				****	
Green/Cycle:	0.21	0.40	0.40	0.12	0.30	0.30	0.12	0.17	0.38	0.12	0.17	0.17
Volume/Cap:	0.49	0.20	0.55	0.19	0.25	0.40	0.48	0.19	0.08	0.59	0.46	0.46
Delay/Veh:	21.8	11.8	14.4	24.4	15.8	16.8	26.6	21.7	11.9	29.7	23.1	23.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.8	11.8	14.4	24.4	15.8	16.8	26.6	21.7	11.9	29.7	23.1	23.1
LOS by Move:	C+	B+	B	C	B	B	C	C+	B+	C	C	C
HCM2kAvgQ:	3	2	5	1	2	4	2	1	1	2	2	2

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
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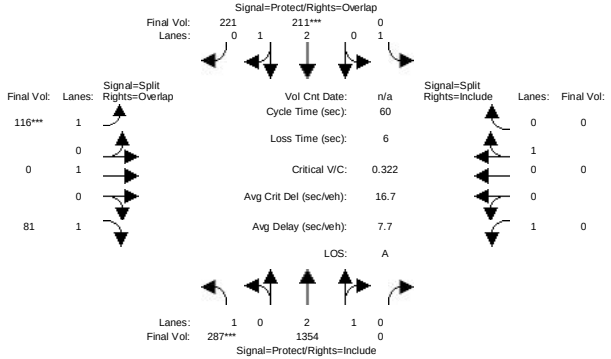
EIR Baseline + Current + Milpitas PM

Intersection #2: Mathilda Ave / 5th Ave



Street Name:	Mathilda Ave						5th Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	287	1348	0	0	197	221	116	0	81	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	287	1348	0	0	197	221	116	0	81	0	0	0
Added Vol:	0	6	0	0	14	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	287	1354	0	0	211	221	116	0	81	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	287	1354	0	0	211	221	116	0	81	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	287	1354	0	0	211	221	116	0	81	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	287	1354	0	0	211	221	116	0	81	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	0.91	1.00	0.84	0.84	0.95	1.00	0.85	1.00	1.00	1.00
Lanes:	1.00	3.00	0.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Final Sat.:	1805	5187	0	1900	3192	1596	1805	1900	1615	1900	1900	0
Capacity Analysis Module:												
Vol/Sat:	0.16	0.26	0.00	0.00	0.07	0.14	0.06	0.00	0.05	0.00	0.00	0.00
Crit Moves:	****				****		****					
Green/Cycle:	0.49	0.70	0.00	0.00	0.21	0.41	0.20	0.00	0.69	0.00	0.00	0.00
Volume/Cap:	0.32	0.37	0.00	0.00	0.32	0.34	0.32	0.00	0.07	0.00	0.00	0.00
Delay/Veh:	9.3	3.7	0.0	0.0	20.4	12.5	21.0	0.0	3.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.3	3.7	0.0	0.0	20.4	12.5	21.0	0.0	3.0	0.0	0.0	0.0
LOS by Move:	A	A	A	A	C+	B	C+	A	A	A	A	A
HCM2kAvgQ:	3	4	0	0	2	3	2	0	1	0	0	0

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
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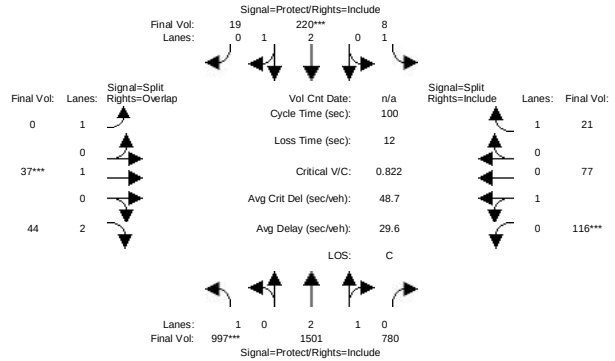
EIR Baseline + Current + Milpitas PM

Intersection #3: Mathilda Ave / Moffett Park Dr



Street Name:	Mathilda Ave						Moffett Park Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	997	1495	780	8	206	19	0	37	44	116	77	21
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	997	1495	780	8	206	19	0	37	44	116	77	21
Added Vol:	0	6	0	0	14	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	997	1501	780	8	220	19	0	37	44	116	77	21
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	997	1501	780	8	220	19	0	37	44	116	77	21
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	997	1501	780	8	220	19	0	37	44	116	77	21
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	997	1501	780	8	220	19	0	37	44	116	77	21
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.86	0.86	0.95	0.90	0.90	1.00	1.00	0.75	0.97	0.97	0.85
Lanes:	1.00	2.00	1.00	1.00	2.76	0.24	1.00	1.00	2.00	0.60	0.40	1.00
Final Sat.:	1805	3282	1641	1805	4717	407	1900	1900	2842	1109	736	1615
Capacity Analysis Module:												
Vol/Sat:	0.55	0.46	0.48	0.00	0.05	0.05	0.00	0.02	0.02	0.10	0.10	0.01
Crit Moves:	****				****			****		****		
Green/Cycle:	0.57	0.59	0.59	0.09	0.10	0.10	0.00	0.10	0.67	0.11	0.11	0.11
Volume/Cap:	0.97	0.78	0.81	0.05	0.47	0.47	0.00	0.19	0.02	0.97	0.97	0.12
Delay/Veh:	40.7	17.3	18.3	42.1	43.2	43.2	0.0	41.8	5.5	98.1	98.1	40.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	40.7	17.3	18.3	42.1	43.2	43.2	0.0	41.8	5.5	98.1	98.1	40.6
LOS by Move:	D	B	B-	D	D	D	A	D	A	F	F	D
HCM2kAvgQ:	34	20	22	0	3	3	0	1	0	10	10	1

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
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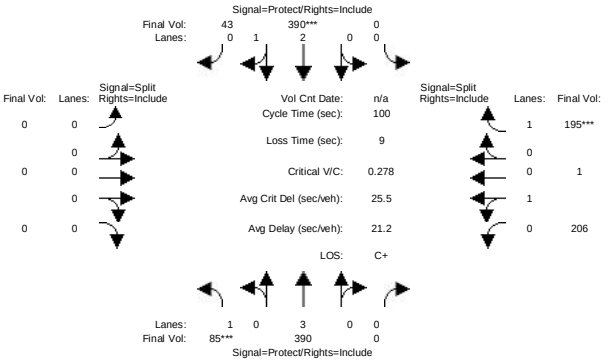
EIR Baseline + Current + Milpitas PM

Intersection #4: Mathilda Ave / SR 237 WB Ramps



Street Name:	Mathilda Ave						SR 237 WB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	85	384	0	0	386	33	0	0	0	206	1	195
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	85	384	0	0	386	33	0	0	0	206	1	195
Added Vol:	0	6	0	0	4	10	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	85	390	0	0	390	43	0	0	0	206	1	195
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	85	390	0	0	390	43	0	0	0	206	1	195
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	85	390	0	0	390	43	0	0	0	206	1	195
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	85	390	0	0	390	43	0	0	0	206	1	195
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	1.00	1.00	0.90	0.90	1.00	1.00	1.00	0.92	0.92	0.85
Lanes:	1.00	3.00	0.00	0.00	2.70	0.30	0.00	0.00	0.00	0.99	0.01	1.00
Final Sat.:	1805	5187	0	0	4602	507	0	0	0	1745	8	1615
Capacity Analysis Module:												
Vol/Sat:	0.05	0.08	0.00	0.00	0.08	0.08	0.00	0.00	0.00	0.12	0.12	0.12
Crit Moves:	****				****							****
Green/Cycle:	0.17	0.47	0.00	0.00	0.31	0.31	0.00	0.00	0.00	0.44	0.44	0.44
Volume/Cap:	0.28	0.16	0.00	0.00	0.28	0.28	0.00	0.00	0.00	0.27	0.27	0.28
Delay/Veh:	36.7	14.9	0.0	0.0	26.5	26.5	0.0	0.0	0.0	18.3	18.3	18.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	36.7	14.9	0.0	0.0	26.5	26.5	0.0	0.0	0.0	18.3	18.3	18.4
LOS by Move:	D+	B	A	A	C	C	A	A	A	B-	B-	B-
HCM2kAvgQ:	2	2	0	0	4	4	0	0	0	4	4	4

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
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Level Of Service Computation Report
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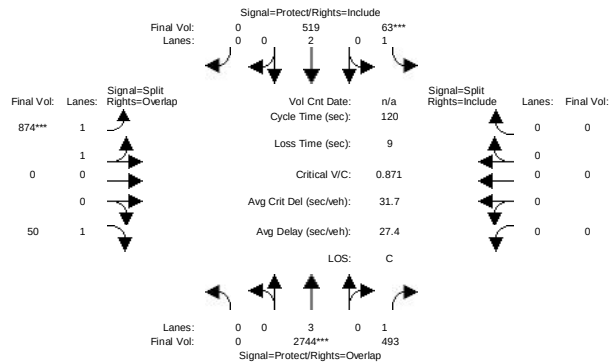
EIR Baseline + Current + Milpitas PM

Intersection #5: Mathilda Ave / SR 237 EB Ramps



Street Name:	Mathild Ave						SR 237 EB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	2742	493	63	515	0	870	0	50	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	2742	493	63	515	0	870	0	50	0	0	0
Added Vol:	0	2	0	0	4	0	4	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	2744	493	63	519	0	874	0	50	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	2744	493	63	519	0	874	0	50	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	2744	493	63	519	0	874	0	50	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	2744	493	63	519	0	874	0	50	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.91	0.85	0.95	0.95	1.00	0.95	1.00	0.85	1.00	1.00	1.00
Lanes:	0.00	3.00	1.00	1.00	2.00	0.00	2.00	0.00	1.00	0.00	0.00	0.00
Final Sat.:	0	5187	1615	1805	3610	0	3618	0	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.53	0.31	0.03	0.14	0.00	0.24	0.00	0.03	0.00	0.00	0.00
Crit Moves:		****		****			****					
Green/Cycle:	0.00	0.59	0.59	0.06	0.65	0.00	0.27	0.00	0.27	0.00	0.00	0.00
Volume/Cap:	0.00	0.89	0.51	0.60	0.22	0.00	0.89	0.00	0.11	0.00	0.00	0.00
Delay/Veh:	0.0	24.5	14.6	64.3	8.5	0.0	52.0	0.0	33.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	24.5	14.6	64.3	8.5	0.0	52.0	0.0	33.0	0.0	0.0	0.0
LOS by Move:	A	C	B	E	A	A	D-	A	C-	A	A	A
HCM2kAvgQ:	0	31	10	2	4	0	19	0	1	0	0	0

Note: Queue reported is the number of cars per lane.

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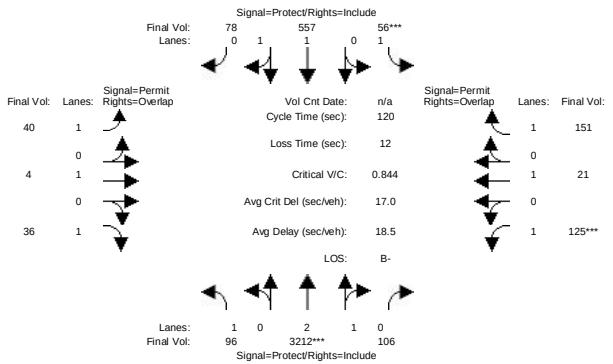
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current + Milpitas PM

Intersection #6: Mathilda Ave / Ross Dr



Street Name:	Mathilda Ave						Ross Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	96	3210	106	56	553	78	40	4	36	125	21	151
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	96	3210	106	56	553	78	40	4	36	125	21	151
Added Vol:	0	2	0	0	4	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	96	3212	106	56	557	78	40	4	36	125	21	151
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	96	3212	106	56	557	78	40	4	36	125	21	151
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	96	3212	106	56	557	78	40	4	36	125	21	151
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	96	3212	106	56	557	78	40	4	36	125	21	151
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	0.91	0.95	0.93	0.93	0.75	1.00	0.85	0.77	1.00	0.85
Lanes:	1.00	2.90	0.10	1.00	1.75	0.25	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	4996	165	1805	3110	435	1427	1900	1615	1455	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.05	0.64	0.64	0.03	0.18	0.18	0.03	0.00	0.02	0.09	0.01	0.09
Crit Moves:		****		****						****		
Green/Cycle:	0.20	0.74	0.74	0.06	0.60	0.60	0.10	0.10	0.30	0.10	0.10	0.16
Volume/Cap:	0.27	0.87	0.87	0.53	0.30	0.30	0.28	0.02	0.08	0.87	0.11	0.59
Delay/Veh:	41.3	13.4	13.4	60.0	11.5	11.5	51.2	48.8	30.5	91.8	49.5	50.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	41.3	13.4	13.4	60.0	11.5	11.5	51.2	48.8	30.5	91.8	49.5	50.7
LOS by Move:	D	B	B	E	B+	B+	D-	D	C	F	D	D
HCM2kAvgQ:	3	34	34	2	6	6	2	0	1	7	1	6

Note: Queue reported is the number of cars per lane.

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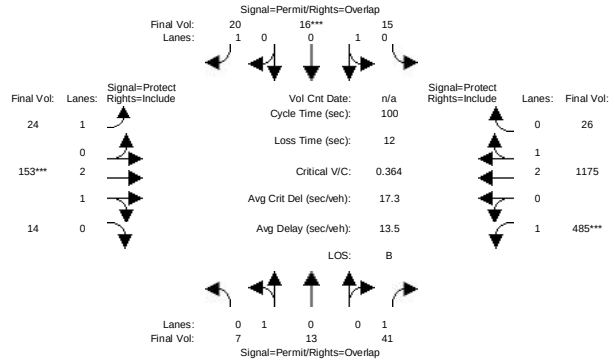
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current + Milpitas PM

Intersection #7: Borregas Ave / Caribbean Dr



Street Name:	Borregas Ave						Caribbean Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	7	12	41	11	13	6	18	153	14	485	1175	24
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	7	12	41	11	13	6	18	153	14	485	1175	24
Added Vol:	0	1	0	4	3	14	6	0	0	0	0	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	7	13	41	15	16	20	24	153	14	485	1175	26
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	7	13	41	15	16	20	24	153	14	485	1175	26
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	7	13	41	15	16	20	24	153	14	485	1175	26
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	7	13	41	15	16	20	24	153	14	485	1175	26
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.91	0.91	0.85	0.87	0.87	0.85	0.95	0.90	0.90	0.95	0.91	0.91
Lanes:	0.35	0.65	1.00	0.48	0.52	1.00	1.00	2.75	0.25	1.00	2.94	0.06
Final Sat.:	608	1129	1615	797	850	1615	1805	4690	429	1805	5059	112
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.03	0.02	0.02	0.01	0.01	0.03	0.03	0.27	0.23	0.23
Crit Moves:					****			****		****		
Green/Cycle:	0.10	0.10	0.78	0.10	0.10	0.28	0.18	0.10	0.10	0.68	0.60	0.60
Volume/Cap:	0.12	0.12	0.03	0.19	0.19	0.04	0.07	0.33	0.33	0.40	0.39	0.39
Delay/Veh:	41.3	41.3	2.5	41.8	41.8	26.2	34.1	42.2	42.2	7.2	10.5	10.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	41.3	41.3	2.5	41.8	41.8	26.2	34.1	42.2	42.2	7.2	10.5	10.5
LOS by Move:	D	D	A	D	D	C	C-	D	D	A	B+	B+
HCM2kAvgQ:	1	1	0	1	1	0	1	2	2	7	7	7

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
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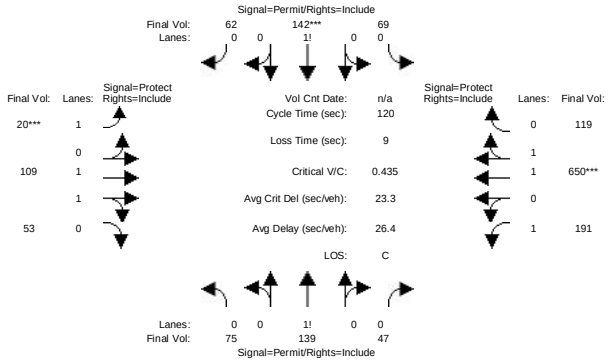
EIR Baseline + Current + Milpitas PM

Intersection #8: Borregas Ave / Java Dr



Street Name:	Borregas Ave						Java Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	75	139	47	66	142	62	20	109	53	191	650	118
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	75	139	47	66	142	62	20	109	53	191	650	118
Added Vol:	0	0	0	3	0	0	0	0	0	0	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	75	139	47	69	142	62	20	109	53	191	650	119
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	75	139	47	69	142	62	20	109	53	191	650	119
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	75	139	47	69	142	62	20	109	53	191	650	119
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	75	139	47	69	142	62	20	109	53	191	650	119
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.80	0.80	0.80	0.83	0.83	0.83	0.95	0.90	0.90	0.95	0.93	0.93
Lanes:	0.29	0.53	0.18	0.25	0.52	0.23	1.00	1.35	0.65	1.00	1.69	0.31
Final Sat.:	438	812	274	397	818	357	1805	2310	1123	1805	2981	546
Capacity Analysis Module:												
Vol/Sat:	0.17	0.17	0.17	0.17	0.17	0.17	0.01	0.05	0.05	0.11	0.22	0.22
Crit Moves:					****			****			****	
Green/Cycle:	0.38	0.38	0.38	0.38	0.38	0.38	0.06	0.24	0.24	0.30	0.48	0.48
Volume/Cap:	0.45	0.45	0.45	0.45	0.45	0.45	0.19	0.20	0.20	0.35	0.45	0.45
Delay/Veh:	28.0	28.0	28.0	28.1	28.1	28.1	54.7	36.7	36.7	33.0	20.7	20.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	28.0	28.0	28.0	28.1	28.1	28.1	54.7	36.7	36.7	33.0	20.7	20.7
LOS by Move:	C	C	C	C	C	C	D-	D+	D+	C-	C+	C+
HCM2kAvgQ:	7	7	7	7	7	7	1	2	2	5	9	9

Note: Queue reported is the number of cars per lane.

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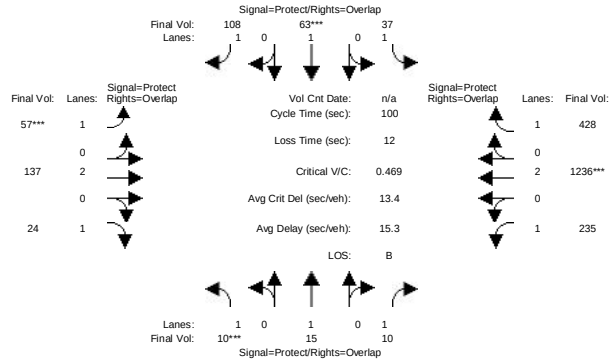
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current + Milpitas PM

Intersection #9: Crossman Ave / Java Dr



Street Name:	Corssman Ave						Java Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	10	15	10	37	63	108	57	134	24	235	1235	428
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	10	15	10	37	63	108	57	134	24	235	1235	428
Added Vol:	0	0	0	0	0	0	0	3	0	0	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	10	15	10	37	63	108	57	137	24	235	1236	428
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	15	10	37	63	108	57	137	24	235	1236	428
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	15	10	37	63	108	57	137	24	235	1236	428
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	10	15	10	37	63	108	57	137	24	235	1236	428
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	1.00	0.85	0.95	0.95	0.85	0.95	0.95	0.85
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1805	1900	1615	1805	1900	1615	1805	3610	1615	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.01	0.02	0.03	0.07	0.03	0.04	0.01	0.13	0.34	0.27
Crit Moves:	****				****		****				****	
Green/Cycle:	0.07	0.10	0.50	0.07	0.10	0.17	0.07	0.31	0.38	0.40	0.64	0.71
Volume/Cap:	0.08	0.08	0.01	0.29	0.33	0.39	0.45	0.12	0.04	0.32	0.53	0.37
Delay/Veh:	43.8	41.0	12.5	45.4	42.9	37.8	47.2	24.9	19.6	20.8	10.1	5.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.8	41.0	12.5	45.4	42.9	37.8	47.2	24.9	19.6	20.8	10.1	5.9
LOS by Move:	D	D	B	D	D	D+	D	C	B-	C+	B+	A
HCM2kAvgQ:	0	0	0	1	2	3	2	2	0	5	11	5

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
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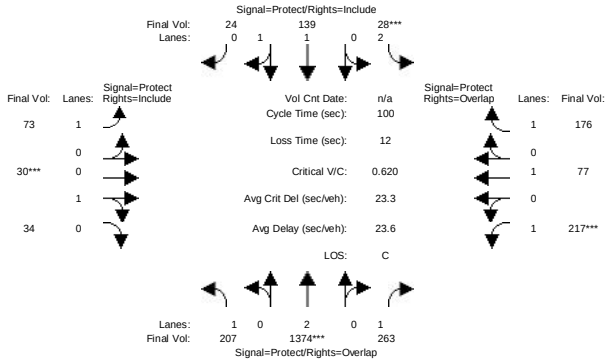
EIR Baseline + Current + Milpitas PM

Intersection #10: Fair Oaks Ave / TasmanDr



Street Name:	Fair Oaks Ave						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	207	1373	263	28	136	24	73	30	34	217	77	176
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	207	1373	263	28	136	24	73	30	34	217	77	176
Added Vol:	0	1	0	0	3	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	207	1374	263	28	139	24	73	30	34	217	77	176
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	207	1374	263	28	139	24	73	30	34	217	77	176
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	207	1374	263	28	139	24	73	30	34	217	77	176
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	207	1374	263	28	139	24	73	30	34	217	77	176
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.92	0.93	0.93	0.95	0.92	0.92	0.95	1.00	0.85
Lanes:	1.00	2.00	1.00	2.00	1.71	0.29	1.00	0.47	0.53	1.00	1.00	1.00
Final Sat.:	1805	3610	1615	3502	3011	520	1805	819	929	1805	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.11	0.38	0.16	0.01	0.05	0.05	0.04	0.04	0.04	0.12	0.04	0.11
Crit Moves:		****		****				****		****		
Green/Cycle:	0.33	0.54	0.71	0.07	0.28	0.28	0.11	0.10	0.10	0.17	0.16	0.23
Volume/Cap:	0.35	0.71	0.23	0.11	0.16	0.16	0.37	0.37	0.37	0.71	0.25	0.47
Delay/Veh:	26.1	18.3	5.1	43.8	27.0	27.0	42.3	43.3	43.3	46.4	37.2	34.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	26.1	18.3	5.1	43.8	27.0	27.0	42.3	43.3	43.3	46.4	37.2	34.3
LOS by Move:	C	B-	A	D	C	C	D	D	D	D	D+	C-
HCM2kAvgQ:	5	17	3	0	2	2	2	2	2	6	2	5

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
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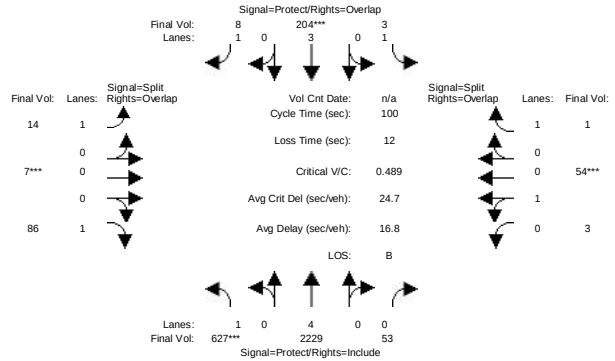
EIR Baseline + Current + Milpitas PM

Intersection #11: Carribean Dr / Moffett Park Dr



Street Name:	Carribean Dr						Moffett Park Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	627	2227	53	3	200	8	14	7	86	3	54	1
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	627	2227	53	3	200	8	14	7	86	3	54	1
Added Vol:	0	2	0	0	4	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	627	2229	53	3	204	8	14	7	86	3	54	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	627	2229	53	3	204	8	14	7	86	3	54	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	627	2229	53	3	204	8	14	7	86	3	54	1
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	627	2229	53	3	204	8	14	7	86	3	54	1
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	0.91	0.95	0.91	0.85	0.83	0.83	0.83	1.00	1.00	0.85
Lanes:	1.00	3.91	0.09	1.00	3.00	1.00	0.67	0.33	1.00	0.05	0.95	1.00
Final Sat.:	1805	6735	160	1805	5187	1615	1050	525	1575	100	1795	1615
Capacity Analysis Module:												
Vol/Sat:	0.35	0.33	0.33	0.00	0.04	0.00	0.01	0.01	0.05	0.03	0.03	0.00
Crit Moves:	****				****			****			****	
Green/Cycle:	0.58	0.56	0.56	0.12	0.10	0.20	0.10	0.10	0.68	0.10	0.10	0.22
Volume/Cap:	0.60	0.59	0.59	0.01	0.39	0.02	0.13	0.13	0.08	0.30	0.30	0.00
Delay/Veh:	14.5	14.6	14.6	38.9	42.7	32.2	41.1	41.1	5.4	42.7	42.7	30.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	14.5	14.6	14.6	38.9	42.7	32.2	41.1	41.1	5.4	42.7	42.7	30.5
LOS by Move:	B	B	B	D+	D	C-	D	D	A	D	D	C
HCM2kAvgQ:	13	13	13	0	3	0	1	1	1	2	2	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
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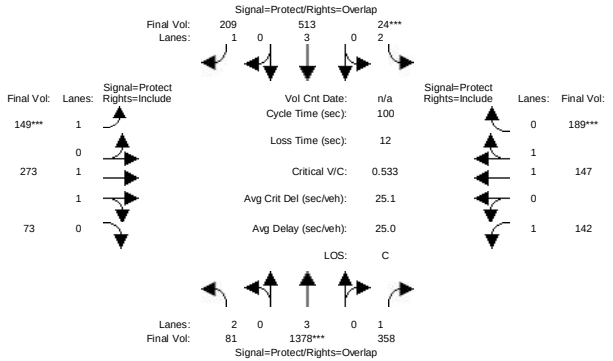
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
EIR Baseline + Current + Milpitas PM

Intersection #12: Lawrence Expy / Tasman Dr



Street Name:	Lawrence Expy						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	81	1377	358	24	510	209	149	273	73	142	147	189
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	81	1377	358	24	510	209	149	273	73	142	147	189
Added Vol:	0	1	0	0	3	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	81	1378	358	24	513	209	149	273	73	142	147	189
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	81	1378	358	24	513	209	149	273	73	142	147	189
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	81	1378	358	24	513	209	149	273	73	142	147	189
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	81	1378	358	24	513	209	149	273	73	142	147	189
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.91	0.85	0.95	0.92	0.92	0.95	0.87	0.87
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	1.00	1.58	0.42	1.00	1.00	1.00
Final Sat.:	3502	5187	1615	3502	5187	1615	1805	2757	737	1805	1653	1653
Capacity Analysis Module:												
Vol/Sat:	0.02	0.27	0.22	0.01	0.10	0.13	0.08	0.10	0.10	0.08	0.09	0.11
Crit Moves:		****		****			****					****
Green/Cycle:	0.22	0.47	0.62	0.07	0.31	0.46	0.14	0.19	0.19	0.15	0.20	0.20
Volume/Cap:	0.10	0.57	0.36	0.10	0.31	0.28	0.57	0.51	0.51	0.52	0.44	0.57
Delay/Veh:	31.2	19.8	9.6	43.7	26.2	17.0	42.9	36.8	36.8	40.8	35.5	37.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	31.2	19.8	9.6	43.7	26.2	17.0	42.9	36.8	36.8	40.8	35.5	37.5
LOS by Move:	C	B-	A	D	C	B	D	D+	D+	D	D+	D+
HCM2kAvgQ:	1	12	5	0	4	4	4	5	5	5	5	6

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
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Level Of Service Computation Report
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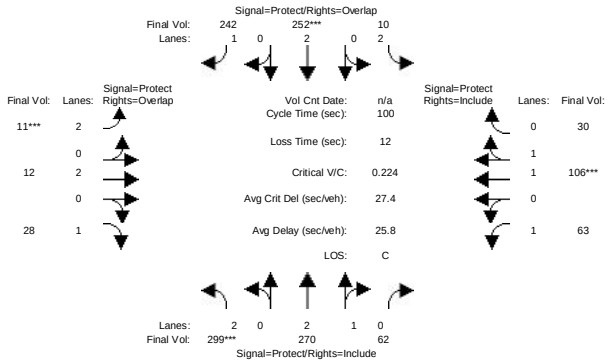
Intersection #1: Mathilda Ave / Lockheed Martin-Java Dr



Street Name:	Mathilda Ave						Lockheed Martin - Java Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	299	270	62	10	252	242	11	12	28	63	106	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	299	270	62	10	252	242	11	12	28	63	106	30
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	299	270	62	10	252	242	11	12	28	63	106	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	299	270	62	10	252	242	11	12	28	63	106	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	299	270	62	10	252	242	11	12	28	63	106	30
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	299	270	62	10	252	242	11	12	28	63	106	30
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.88	0.88	0.92	0.95	0.85	0.92	0.95	0.85	0.95	0.92	0.92
Lanes:	2.00	2.44	0.56	2.00	2.00	1.00	2.00	2.00	1.00	1.00	1.56	0.44
Final Sat.:	3502	4100	942	3502	3610	1615	3502	3610	1615	1805	2721	770
Capacity Analysis Module:												
Vol/Sat:	0.09	0.07	0.07	0.00	0.07	0.15	0.00	0.00	0.02	0.03	0.04	0.04
Crit Moves:	****				****		****				****	
Green/Cycle:	0.36	0.38	0.38	0.27	0.29	0.36	0.07	0.14	0.49	0.10	0.16	0.16
Volume/Cap:	0.24	0.17	0.17	0.01	0.24	0.41	0.04	0.02	0.04	0.36	0.24	0.24
Delay/Veh:	22.8	20.6	20.6	27.0	27.1	24.5	43.5	37.4	13.1	43.7	36.7	36.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	22.8	20.6	20.6	27.0	27.1	24.5	43.5	37.4	13.1	43.7	36.7	36.7
LOS by Move:	C+	C+	C+	C	C	C	D	D+	B	D	D+	D+
HCM2kAvgQ:	3	2	2	0	3	6	0	0	0	2	2	2

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
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Level Of Service Computation Report
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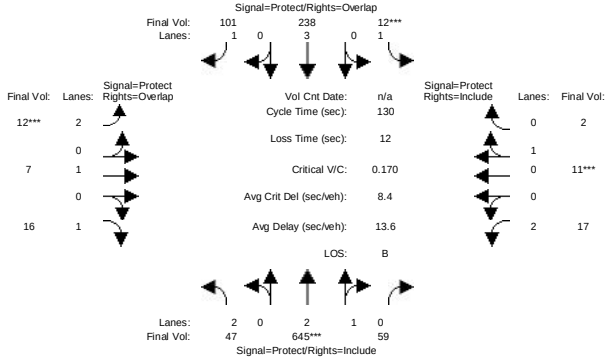
Intersection #2: Mathilda Ave / 5th Ave



Street Name:	Mathilda Ave						5th Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	47	645	59	12	238	101	12	7	16	17	11	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	47	645	59	12	238	101	12	7	16	17	11	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	47	645	59	12	238	101	12	7	16	17	11	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	47	645	59	12	238	101	12	7	16	17	11	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	47	645	59	12	238	101	12	7	16	17	11	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	47	645	59	12	238	101	12	7	16	17	11	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.90	0.90	0.95	0.91	0.85	0.92	1.00	0.85	0.92	0.98	0.98
Lanes:	2.00	2.75	0.25	1.00	3.00	1.00	2.00	1.00	1.00	2.00	0.85	0.15
Final Sat.:	3502	4691	429	1805	5187	1615	3502	1900	1615	3502	1571	286
Capacity Analysis Module:												
Vol/Sat:	0.01	0.14	0.14	0.01	0.05	0.06	0.00	0.00	0.01	0.00	0.01	0.01
Crit Moves:		****			****			****			****	
Green/Cycle:	0.32	0.72	0.72	0.05	0.46	0.51	0.05	0.08	0.40	0.05	0.08	0.08
Volume/Cap:	0.04	0.19	0.19	0.12	0.10	0.12	0.06	0.05	0.02	0.09	0.09	0.09
Delay/Veh:	30.5	5.8	5.8	59.2	20.1	16.7	58.5	55.7	23.9	58.7	56.1	56.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.5	5.8	5.8	59.2	20.1	16.7	58.5	55.7	23.9	58.7	56.1	56.1
LOS by Move:	C	A	A	E+	C+	B	E+	E+	C	E+	E+	E+
HCM2kAvgQ:	1	3	3	0	2	2	0	0	0	0	1	1

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
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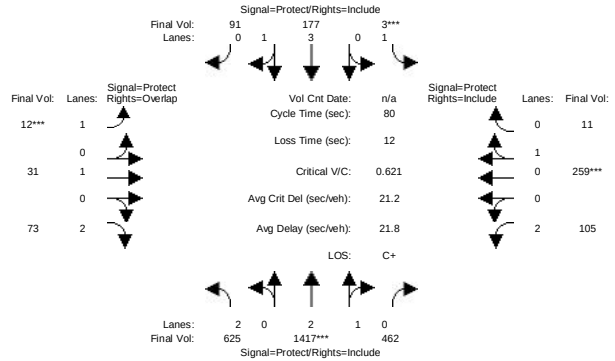
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Present Day AM

Intersection #3: Mathilda Ave / Moffett Park Dr



Street Name:	Mathilda Ave						Moffett Park Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	625	1417	462	3	177	91	12	31	73	105	259	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	625	1417	462	3	177	91	12	31	73	105	259	11
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	625	1417	462	3	177	91	12	31	73	105	259	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	625	1417	462	3	177	91	12	31	73	105	259	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	625	1417	462	3	177	91	12	31	73	105	259	11
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	625	1417	462	3	177	91	12	31	73	105	259	11
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.88	0.88	0.95	0.86	0.86	0.95	1.00	0.75	0.92	0.99	0.99
Lanes:	2.00	2.26	0.74	1.00	3.00	1.00	1.00	1.00	2.00	2.00	0.96	0.04
Final Sat.:	3502	3767	1228	1805	4922	1641	1805	1900	2842	3502	1812	77
Capacity Analysis Module:												
Vol/Sat:	0.18	0.38	0.38	0.00	0.04	0.06	0.01	0.02	0.03	0.03	0.14	0.14
Crit Moves:		****		****			****				****	
Green/Cycle:	0.34	0.49	0.49	0.09	0.24	0.24	0.09	0.16	0.50	0.11	0.19	0.19
Volume/Cap:	0.53	0.77	0.77	0.02	0.15	0.23	0.08	0.10	0.05	0.27	0.77	0.77
Delay/Veh:	21.7	18.3	18.3	33.4	24.2	24.7	33.7	28.8	10.3	32.8	40.9	40.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.7	18.3	18.3	33.4	24.2	24.7	33.7	28.8	10.3	32.8	40.9	40.9
LOS by Move:	C+	B-	B-	C-	C	C	C-	C	B+	C-	D	D
HCM2kAvgQ:	6	14	14	0	1	2	0	1	1	1	8	8

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
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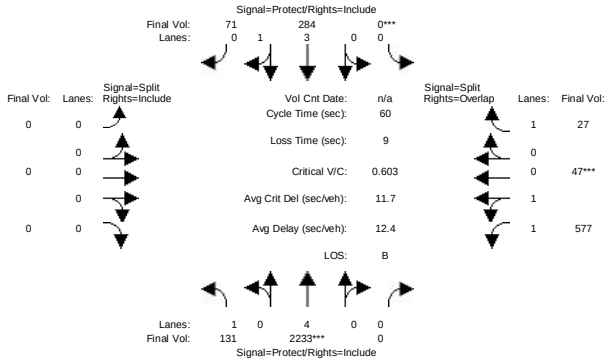
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Present Day AM

Intersection #4: Mathilda Ave / SR 237 WB Ramps



Street Name:	Mathilda Ave						SR 237 WB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	0	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	131	2233	0	0	284	71	0	0	0	577	47	27
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	131	2233	0	0	284	71	0	0	0	577	47	27
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	131	2233	0	0	284	71	0	0	0	577	47	27
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	131	2233	0	0	284	71	0	0	0	577	47	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	131	2233	0	0	284	71	0	0	0	577	47	27
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	131	2233	0	0	284	71	0	0	0	577	47	27
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	1.00	1.00	0.88	0.88	1.00	1.00	1.00	0.87	0.87	0.85
Lanes:	1.00	4.00	0.00	0.00	3.20	0.80	0.00	0.00	0.00	1.85	0.15	1.00
Final Sat.:	1805	6916	0	0	5367	1342	0	0	0	3046	248	1615
Capacity Analysis Module:												
Vol/Sat:	0.07	0.32	0.00	0.00	0.05	0.05	0.00	0.00	0.00	0.19	0.19	0.02
Crit Moves:		****		****							****	
Green/Cycle:	0.22	0.54	0.00	0.00	0.32	0.32	0.00	0.00	0.00	0.31	0.31	0.31
Volume/Cap:	0.33	0.60	0.00	0.00	0.17	0.17	0.00	0.00	0.00	0.60	0.60	0.05
Delay/Veh:	20.1	9.8	0.0	0.0	14.9	14.9	0.0	0.0	0.0	18.4	18.4	14.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	20.1	9.8	0.0	0.0	14.9	14.9	0.0	0.0	0.0	18.4	18.4	14.4
LOS by Move:	C+	A	A	A	B	B	A	A	A	B-	B-	B
HCM2kAvgQ:	2	8	0	0	1	1	0	0	0	6	6	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
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Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
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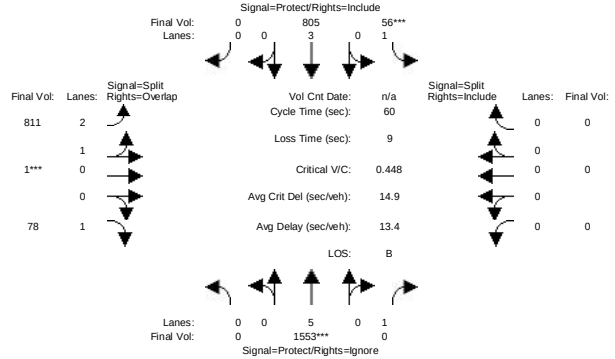
Intersection #5: Mathilda Ave / SR 237 EB Ramps



Street Name:	Mathild Ave						SR 237 EB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	1553	778	56	805	0	811	1	78	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1553	778	56	805	0	811	1	78	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1553	778	56	805	0	811	1	78	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1553	0	56	805	0	811	1	78	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1553	0	56	805	0	811	1	78	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1553	0	56	805	0	811	1	78	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.91	1.00	0.95	0.91	1.00	0.84	0.86	0.85	1.00	1.00	1.00
Lanes:	0.00	5.00	1.00	1.00	3.00	0.00	2.99	0.01	1.00	0.00	0.00	0.00
Final Sat.:	0	8645	1900	1805	5187	0	4766	6	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.18	0.00	0.03	0.16	0.00	0.17	0.17	0.05	0.00	0.00	0.00
Crit Moves:		****		****				****				
Green/Cycle:	0.00	0.38	0.00	0.12	0.49	0.00	0.36	0.36	0.36	0.00	0.00	0.00
Volume/Cap:	0.00	0.48	0.00	0.27	0.31	0.00	0.48	0.48	0.14	0.00	0.00	0.00
Delay/Veh:	0.0	14.3	0.0	24.8	9.2	0.0	15.2	15.2	13.2	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	14.3	0.0	24.8	9.2	0.0	15.2	15.2	13.2	0.0	0.0	0.0
LOS by Move:	A	B	A	C	A	A	B	B	B	A	A	A
HCM2kAvgQ:	0	5	0	1	3	0	4	4	1	0	0	0

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
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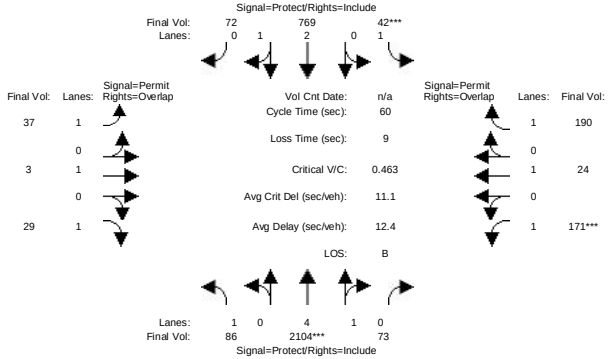
Intersection #6: Mathilda Ave / Ross Dr



Street Name:	Mathilda Ave						Ross Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	86	2104	73	42	769	72	37	3	29	171	24	190
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	86	2104	73	42	769	72	37	3	29	171	24	190
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	86	2104	73	42	769	72	37	3	29	171	24	190
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	86	2104	73	42	769	72	37	3	29	171	24	190
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	86	2104	73	42	769	72	37	3	29	171	24	190
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	86	2104	73	42	769	72	37	3	29	171	24	190
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	0.91	0.95	0.90	0.90	0.75	1.00	0.85	0.77	1.00	0.85
Lanes:	1.00	4.83	0.17	1.00	2.74	0.26	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	8313	288	1805	4681	438	1423	1900	1615	1457	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.05	0.25	0.25	0.02	0.16	0.16	0.03	0.00	0.02	0.12	0.01	0.12
Crit Moves:		****		****						****		
Green/Cycle:	0.25	0.50	0.50	0.12	0.36	0.36	0.23	0.23	0.49	0.23	0.23	0.35
Volume/Cap:	0.19	0.51	0.51	0.20	0.45	0.45	0.11	0.01	0.04	0.51	0.05	0.34
Delay/Veh:	17.7	10.1	10.1	24.4	14.7	14.7	18.3	17.7	8.1	21.3	18.0	14.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	17.7	10.1	10.1	24.4	14.7	14.7	18.3	17.7	8.1	21.3	18.0	14.8
LOS by Move:	B	B+	B+	C	B	B	B-	B	A	C+	B	B
HCM2kAvgQ:	1	6	6	1	4	4	1	0	0	3	0	3

Note: Queue reported is the number of cars per lane.

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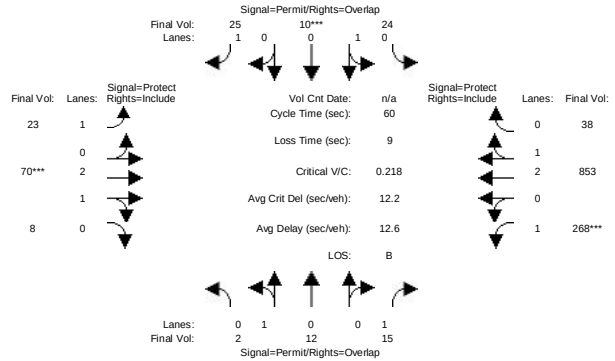
Intersection #7: Borregas Ave / Caribbean Dr



Street Name:	Borregas Ave						Caribbean Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	2	12	15	24	10	25	23	70	8	268	853	38
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	12	15	24	10	25	23	70	8	268	853	38
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	2	12	15	24	10	25	23	70	8	268	853	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	2	12	15	24	10	25	23	70	8	268	853	38
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2	12	15	24	10	25	23	70	8	268	853	38
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	2	12	15	24	10	25	23	70	8	268	853	38
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.97	0.85	0.83	0.83	0.85	0.95	0.90	0.90	0.95	0.90	0.90
Lanes:	0.14	0.86	1.00	0.71	0.29	1.00	1.00	2.69	0.31	1.00	2.87	0.13
Final Sat.:	264	1583	1615	1116	465	1615	1805	4585	524	1805	4936	220
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.01	0.02	0.02	0.02	0.01	0.02	0.02	0.15	0.17	0.17
Crit Moves:					****			****		****		
Green/Cycle:	0.17	0.17	0.68	0.17	0.17	0.44	0.28	0.17	0.17	0.52	0.41	0.41
Volume/Cap:	0.05	0.05	0.01	0.13	0.13	0.04	0.05	0.09	0.09	0.29	0.42	0.42
Delay/Veh:	21.1	21.1	3.0	21.5	21.5	9.5	16.0	21.2	21.2	8.4	12.9	12.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.1	21.1	3.0	21.5	21.5	9.5	16.0	21.2	21.2	8.4	12.9	12.9
LOS by Move:	C+	C+	A	C+	C+	A	B	C+	C+	A	B	B
HCM2kAvgQ:	0	0	0	1	1	0	0	1	1	3	5	5

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
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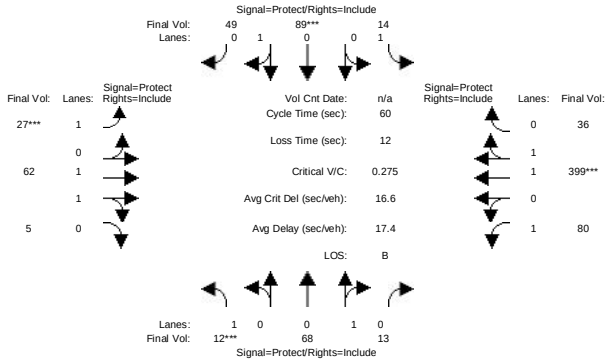
Intersection #8: Borregas Ave / Java Dr



Street Name:	Borregas Ave						Java Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	12	68	13	14	89	49	27	62	5	80	399	36
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	12	68	13	14	89	49	27	62	5	80	399	36
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	12	68	13	14	89	49	27	62	5	80	399	36
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	12	68	13	14	89	49	27	62	5	80	399	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	12	68	13	14	89	49	27	62	5	80	399	36
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	12	68	13	14	89	49	27	62	5	80	399	36
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.98	0.98	0.95	0.95	0.95	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	1.00	0.84	0.16	1.00	0.64	0.36	1.00	1.85	0.15	1.00	1.83	0.17
Final Sat.:	1805	1557	298	1805	1160	639	1805	3304	266	1805	3272	295
Capacity Analysis Module:												
Vol/Sat:	0.01	0.04	0.04	0.01	0.08	0.08	0.01	0.02	0.02	0.04	0.12	0.12
Crit Moves:	****				****		****				****	
Green/Cycle:	0.12	0.20	0.20	0.14	0.22	0.22	0.12	0.27	0.27	0.19	0.35	0.35
Volume/Cap:	0.06	0.22	0.22	0.06	0.35	0.35	0.13	0.07	0.07	0.23	0.35	0.35
Delay/Veh:	23.7	20.5	20.5	22.6	20.4	20.4	24.0	16.2	16.2	20.9	14.7	14.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.7	20.5	20.5	22.6	20.4	20.4	24.0	16.2	16.2	20.9	14.7	14.7
LOS by Move:	C	C+	C+	C+	C+	C+	C	B	B	C+	B	B
HCM2kAvgQ:	0	1	1	0	2	2	0	0	0	1	3	3

Note: Queue reported is the number of cars per lane.

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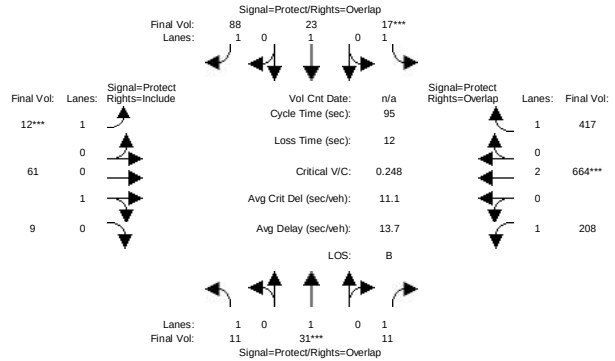
Intersection #9: Crossman Ave / Java Dr



Street Name:	Corssman Ave						Java Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	11	31	11	17	23	88	12	61	9	208	664	417
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	31	11	17	23	88	12	61	9	208	664	417
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	31	11	17	23	88	12	61	9	208	664	417
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	11	31	11	17	23	88	12	61	9	208	664	417
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	31	11	17	23	88	12	61	9	208	664	417
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	11	31	11	17	23	88	12	61	9	208	664	417
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	1.00	0.85	0.95	0.98	0.98	0.95	0.95	0.85
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	0.13	1.00	2.00	1.00
Final Sat.:	1805	1900	1615	1805	1900	1615	1805	1624	240	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.02	0.01	0.01	0.01	0.05	0.01	0.04	0.04	0.12	0.18	0.26
Crit Moves:		****		****			****				****	
Green/Cycle:	0.07	0.11	0.47	0.07	0.11	0.18	0.07	0.33	0.33	0.36	0.62	0.69
Volume/Cap:	0.08	0.16	0.01	0.13	0.12	0.30	0.09	0.11	0.11	0.32	0.30	0.37
Delay/Veh:	41.3	39.0	13.5	41.6	38.7	34.5	41.3	22.1	22.1	22.1	8.4	6.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	41.3	39.0	13.5	41.6	38.7	34.5	41.3	22.1	22.1	22.1	8.4	6.2
LOS by Move:	D	D	B	D	D+	C-	D	C+	C+	C+	A	A
HCM2kAvgQ:	0	1	0	1	1	2	0	1	1	4	5	5

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
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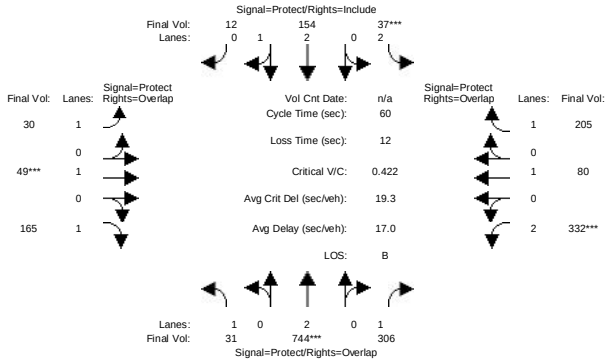
Intersection #10: Fair Oaks Ave / TasmanDr



Street Name:	Fair Oaks Ave						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	31	744	306	37	154	12	30	49	165	332	80	205
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	31	744	306	37	154	12	30	49	165	332	80	205
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	31	744	306	37	154	12	30	49	165	332	80	205
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	31	744	306	37	154	12	30	49	165	332	80	205
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	31	744	306	37	154	12	30	49	165	332	80	205
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	31	744	306	37	154	12	30	49	165	332	80	205
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.92	0.90	0.90	0.95	1.00	0.85	0.92	1.00	0.85
Lanes:	1.00	2.00	1.00	2.00	2.78	0.22	1.00	1.00	1.00	2.00	1.00	1.00
Final Sat.:	1805	3610	1615	3502	4759	371	1805	1900	1615	3502	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.02	0.21	0.19	0.01	0.03	0.03	0.02	0.03	0.10	0.09	0.04	0.13
Crit Moves:		****		****				****		****		
Green/Cycle:	0.19	0.35	0.52	0.12	0.28	0.28	0.14	0.17	0.36	0.16	0.19	0.31
Volume/Cap:	0.09	0.58	0.37	0.09	0.12	0.12	0.12	0.15	0.28	0.58	0.22	0.41
Delay/Veh:	20.0	16.5	8.9	23.8	16.3	16.3	23.0	21.6	13.9	24.8	20.7	16.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	20.0	16.5	8.9	23.8	16.3	16.3	23.0	21.6	13.9	24.8	20.7	16.9
LOS by Move:	B-	B	A	C	B	B	C	C+	B	C	C+	B
HCM2kAvgQ:	1	7	4	0	1	1	1	1	2	3	1	3

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
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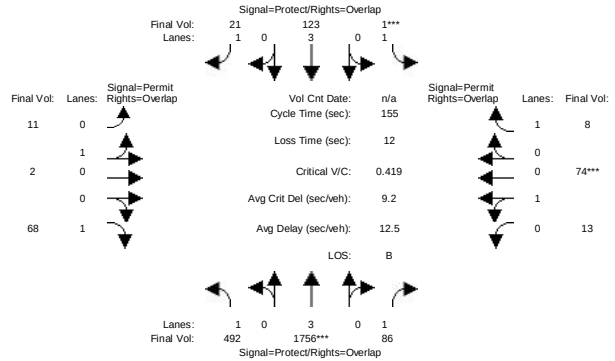
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Present Day AM

Intersection #11: Carribean Dr / Moffett Park Dr



Street Name:	Carribean Dr						Moffett Park Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	492	1756	86	1	123	21	11	2	68	13	74	8
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	492	1756	86	1	123	21	11	2	68	13	74	8
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	492	1756	86	1	123	21	11	2	68	13	74	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	492	1756	86	1	123	21	11	2	68	13	74	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	492	1756	86	1	123	21	11	2	68	13	74	8
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	492	1756	86	1	123	21	11	2	68	13	74	8
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	0.85	0.95	0.91	0.85	0.80	0.80	0.85	0.96	0.96	0.85
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	0.85	0.15	1.00	0.15	0.85	1.00
Final Sat.:	1805	5187	1615	1805	5187	1615	1288	234	1615	273	1551	1615
Capacity Analysis Module:												
Vol/Sat:	0.27	0.34	0.05	0.00	0.02	0.01	0.01	0.01	0.04	0.05	0.05	0.00
Crit Moves:		****		****							****	
Green/Cycle:	0.66	0.77	0.77	0.05	0.16	0.16	0.11	0.11	0.77	0.11	0.11	0.15
Volume/Cap:	0.41	0.44	0.07	0.01	0.15	0.08	0.08	0.08	0.05	0.44	0.44	0.03
Delay/Veh:	12.7	6.3	4.4	70.8	56.7	56.1	62.4	62.4	4.4	66.3	66.3	55.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	12.7	6.3	4.4	70.8	56.7	56.1	62.4	62.4	4.4	66.3	66.3	55.9
LOS by Move:	B	A	A	E	E+	E+	E	E	A	E	E	E+
HCM2kAvgQ:	11	10	1	0	2	1	1	1	1	4	4	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
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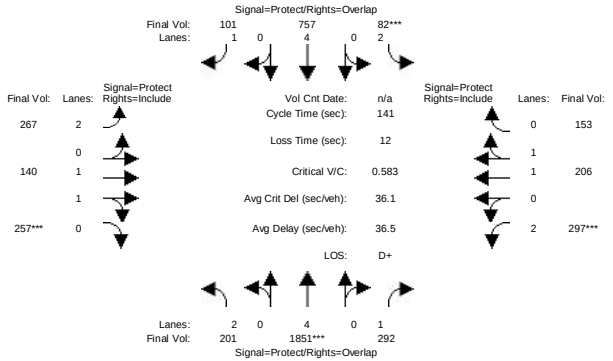
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Present Day AM

Intersection #12: Lawrence Expy / Tasman Dr



Street Name:	Lawrence Expy						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	201	1851	292	82	757	101	267	140	257	297	206	153
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	201	1851	292	82	757	101	267	140	257	297	206	153
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	201	1851	292	82	757	101	267	140	257	297	206	153
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	201	1851	292	82	757	101	267	140	257	297	206	153
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	201	1851	292	82	757	101	267	140	257	297	206	153
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	201	1851	292	82	757	101	267	140	257	297	206	153
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.86	0.86	0.92	0.89	0.89
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	1.00	1.00	2.00	1.15	0.85
Final Sat.:	3502	6916	1615	3502	6916	1615	3502	1630	1630	3502	1939	1440
Capacity Analysis Module:												
Vol/Sat:	0.06	0.27	0.18	0.02	0.11	0.06	0.08	0.09	0.16	0.08	0.11	0.11
Crit Moves:		****		****					****	****		
Green/Cycle:	0.17	0.45	0.60	0.05	0.33	0.50	0.17	0.27	0.27	0.14	0.24	0.24
Volume/Cap:	0.33	0.59	0.30	0.47	0.33	0.12	0.44	0.32	0.59	0.59	0.44	0.44
Delay/Veh:	51.4	29.0	14.1	67.2	35.6	18.7	52.9	41.5	46.3	58.3	46.0	46.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.4	29.0	14.1	67.2	35.6	18.7	52.9	41.5	46.3	58.3	46.0	46.0
LOS by Move:	D-	C	B	E	D+	B-	D-	D	D	E+	D	D
HCM2kAvgQ:	4	16	6	2	7	2	5	5	10	7	7	7

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
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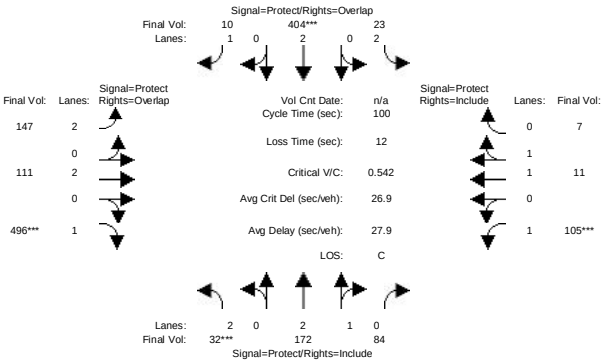
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Present Day PM

Intersection #1: Mathilda Ave / Lockheed Martin-Java Dr



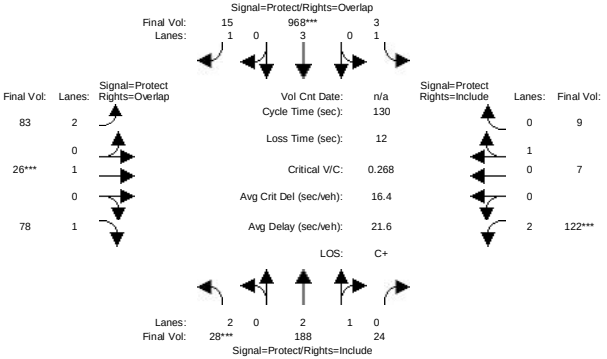
Street Name:	Mathilda Ave						Lockheed Martin - Java Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	32	172	84	23	404	10	147	111	496	105	11	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	32	172	84	23	404	10	147	111	496	105	11	7
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	32	172	84	23	404	10	147	111	496	105	11	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	32	172	84	23	404	10	147	111	496	105	11	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	32	172	84	23	404	10	147	111	496	105	11	7
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	32	172	84	23	404	10	147	111	496	105	11	7
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.87	0.87	0.92	0.95	0.85	0.92	0.95	0.85	0.95	0.89	0.89
Lanes:	2.00	2.02	0.98	2.00	2.00	1.00	2.00	2.00	1.00	1.00	1.22	0.78
Final Sat.:	3502	3314	1619	3502	3610	1615	3502	3610	1615	1805	2078	1322
Capacity Analysis Module:												
Vol/Sat:	0.01	0.05	0.05	0.01	0.11	0.01	0.04	0.03	0.31	0.06	0.01	0.01
Crit Moves:	****				****				****	****		
Green/Cycle:	0.07	0.17	0.17	0.12	0.22	0.46	0.24	0.47	0.54	0.12	0.35	0.35
Volume/Cap:	0.13	0.30	0.30	0.05	0.50	0.01	0.17	0.07	0.57	0.50	0.02	0.02
Delay/Veh:	43.9	36.3	36.3	39.0	34.5	14.4	30.1	14.4	16.0	43.5	21.5	21.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	43.9	36.3	36.3	39.0	34.5	14.4	30.1	14.4	16.0	43.5	21.5	21.5
LOS by Move:	D	D+	D+	D+	C-	B	C	B	B	D	C+	C+
HCM2kAvgQ:	0	2	2	0	6	0	2	1	10	3	0	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
097318106

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Present Day PM

Intersection #2: Mathilda Ave / 5th Ave



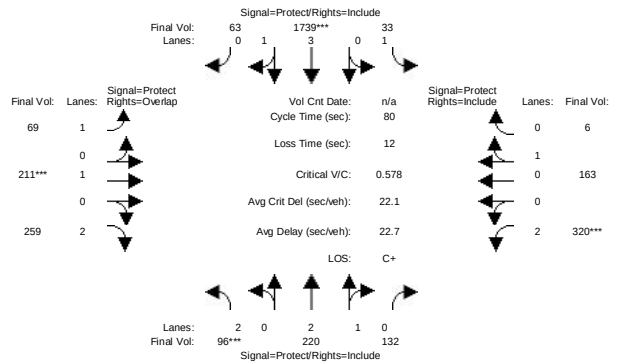
Street Name:	Mathilda Ave						5th Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	28	188	24	3	968	15	83	26	78	122	7	9
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	28	188	24	3	968	15	83	26	78	122	7	9
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	28	188	24	3	968	15	83	26	78	122	7	9
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	28	188	24	3	968	15	83	26	78	122	7	9
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	28	188	24	3	968	15	83	26	78	122	7	9
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	28	188	24	3	968	15	83	26	78	122	7	9
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.89	0.89	0.95	0.91	0.85	0.92	1.00	0.85	0.92	0.92	0.92
Lanes:	2.00	2.66	0.34	1.00	3.00	1.00	2.00	1.00	1.00	2.00	0.44	0.56
Final Sat.:	3502	4522	577	1805	5187	1615	3502	1900	1615	3502	761	979
Capacity Analysis Module:												
Vol/Sat:	0.01	0.04	0.04	0.00	0.19	0.01	0.02	0.01	0.05	0.03	0.01	0.01
Crit Moves:	****				****			****		****		
Green/Cycle:	0.05	0.42	0.42	0.29	0.65	0.74	0.08	0.08	0.13	0.12	0.12	0.12
Volume/Cap:	0.15	0.10	0.10	0.01	0.29	0.01	0.29	0.18	0.37	0.29	0.08	0.08
Delay/Veh:	59.0	23.1	23.1	32.7	9.6	4.6	56.7	56.7	52.7	52.3	51.3	51.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	59.0	23.1	23.1	32.7	9.6	4.6	56.7	56.7	52.7	52.3	51.3	51.3
LOS by Move:	E+	C	C	C-	A	A	E+	E+	D-	D-	D-	D-
HCM2kAvgQ:	1	2	2	0	6	0	2	1	3	2	1	1

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
097318106

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Present Day PM

Intersection #3: Mathilda Ave / Moffett Park Dr



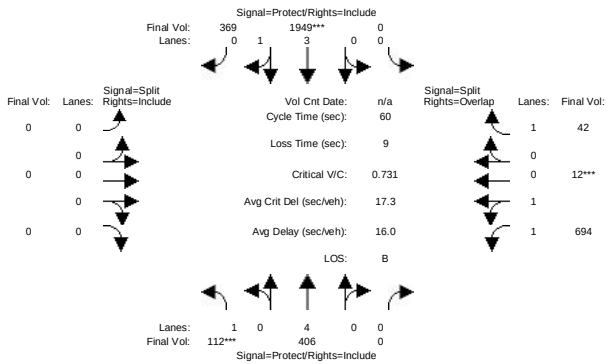
Street Name:	Mathilda Ave						Moffett Park Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	96	220	132	33	1739	63	69	211	259	320	163	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	96	220	132	33	1739	63	69	211	259	320	163	6
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	96	220	132	33	1739	63	69	211	259	320	163	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	96	220	132	33	1739	63	69	211	259	320	163	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	96	220	132	33	1739	63	69	211	259	320	163	6
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	96	220	132	33	1739	63	69	211	259	320	163	6
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.86	0.86	0.95	0.91	0.91	0.95	1.00	0.75	0.92	1.00	1.00
Lanes:	2.00	2.00	1.00	1.00	3.86	0.14	1.00	1.00	2.00	2.00	0.96	0.04
Final Sat.:	3502	3264	1632	1805	6641	241	1805	1900	2842	3502	1823	67
Capacity Analysis Module:												
Vol/Sat:	0.03	0.07	0.08	0.02	0.26	0.26	0.04	0.11	0.09	0.09	0.09	0.09
Crit Moves:	****				****			****		****		
Green/Cycle:	0.09	0.30	0.30	0.21	0.43	0.43	0.14	0.18	0.27	0.15	0.20	0.20
Volume/Cap:	0.31	0.22	0.27	0.09	0.61	0.61	0.28	0.61	0.34	0.61	0.46	0.46
Delay/Veh:	34.8	20.8	21.2	25.3	18.0	18.0	31.6	33.2	23.7	33.9	29.3	29.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	34.8	20.8	21.2	25.3	18.0	18.0	31.6	33.2	23.7	33.9	29.3	29.3
LOS by Move:	C-	C+	C+	C	B	B	C	C-	C	C-	C	C
HCM2kAvgQ:	1	2	3	1	9	9	2	6	3	5	4	4

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
097318106

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Present Day PM

Intersection #4: Mathilda Ave / SR 237 WB Ramps



Street Name:	Mathilda Ave						SR 237 WB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	0	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	112	406	0	0	1949	369	0	0	0	694	12	42
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	112	406	0	0	1949	369	0	0	0	694	12	42
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	112	406	0	0	1949	369	0	0	0	694	12	42
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	112	406	0	0	1949	369	0	0	0	694	12	42
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	112	406	0	0	1949	369	0	0	0	694	12	42
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	112	406	0	0	1949	369	0	0	0	694	12	42
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	1.00	1.00	0.89	0.89	1.00	1.00	1.00	0.86	0.86	0.85
Lanes:	1.00	4.00	0.00	0.00	3.36	0.64	0.00	0.00	0.00	1.97	0.03	1.00
Final Sat.:	1805	6916	0	0	5675	1075	0	0	0	3216	56	1615
Capacity Analysis Module:												
Vol/Sat:	0.06	0.06	0.00	0.00	0.34	0.34	0.00	0.00	0.00	0.22	0.22	0.03
Crit Moves:	****				****						****	
Green/Cycle:	0.12	0.57	0.00	0.00	0.45	0.45	0.00	0.00	0.00	0.28	0.28	0.28
Volume/Cap:	0.53	0.10	0.00	0.00	0.76	0.76	0.00	0.00	0.00	0.76	0.76	0.09
Delay/Veh:	27.6	6.0	0.0	0.0	15.0	15.0	0.0	0.0	0.0	23.5	23.5	15.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.6	6.0	0.0	0.0	15.0	15.0	0.0	0.0	0.0	23.5	23.5	15.9
LOS by Move:	C	A	A	A	B	B	A	A	A	C	C	B
HCM2kAvgQ:	2	1	0	0	10	10	0	0	0	8	8	1

Note: Queue reported is the number of cars per lane.

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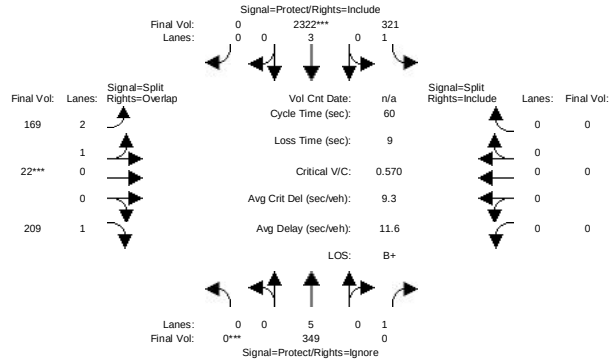
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Present Day PM

Intersection #5: Mathilda Ave / SR 237 EB Ramps



Street Name:	Mathild Ave						SR 237 EB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	349	628	321	2322	0	169	22	209	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	349	628	321	2322	0	169	22	209	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	349	628	321	2322	0	169	22	209	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	349	0	321	2322	0	169	22	209	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	349	0	321	2322	0	169	22	209	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	349	0	321	2322	0	169	22	209	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.91	1.00	0.95	0.91	1.00	0.91	0.94	0.85	1.00	1.00	1.00
Lanes:	0.00	5.00	1.00	1.00	3.00	0.00	2.66	0.34	1.00	0.00	0.00	0.00
Final Sat.:	0	8645	1900	1805	5187	0	4600	599	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.04	0.00	0.18	0.45	0.00	0.04	0.04	0.13	0.00	0.00	0.00
Crit Moves:	****				****			****				
Green/Cycle:	0.00	0.30	0.00	0.32	0.62	0.00	0.23	0.23	0.23	0.00	0.00	0.00
Volume/Cap:	0.00	0.13	0.00	0.55	0.72	0.00	0.16	0.16	0.57	0.00	0.00	0.00
Delay/Veh:	0.0	15.3	0.0	18.0	8.5	0.0	18.7	18.7	22.7	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	15.3	0.0	18.0	8.5	0.0	18.7	18.7	22.7	0.0	0.0	0.0
LOS by Move:	A	B	A	B	A	A	B-	B-	C+	A	A	A
HCM2kAvgQ:	0	1	0	5	11	0	1	1	4	0	0	0

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
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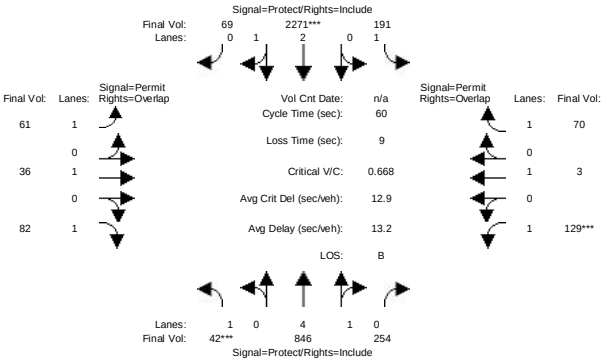
Intersection #6: Mathilda Ave / Ross Dr



Street Name:	Mathilda Ave						Ross Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	42	846	254	191	2271	69	61	36	82	129	3	70
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	42	846	254	191	2271	69	61	36	82	129	3	70
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	42	846	254	191	2271	69	61	36	82	129	3	70
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	42	846	254	191	2271	69	61	36	82	129	3	70
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	42	846	254	191	2271	69	61	36	82	129	3	70
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	42	846	254	191	2271	69	61	36	82	129	3	70
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.88	0.88	0.95	0.91	0.91	0.77	1.00	0.85	0.74	1.00	0.85
Lanes:	1.00	4.00	1.00	1.00	2.91	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	6674	1668	1805	5014	152	1457	1900	1615	1404	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.02	0.13	0.15	0.11	0.45	0.45	0.04	0.02	0.05	0.09	0.00	0.04
Crit Moves:	****				****					****		
Green/Cycle:	0.12	0.40	0.40	0.28	0.57	0.57	0.17	0.17	0.28	0.17	0.17	0.45
Volume/Cap:	0.20	0.32	0.38	0.38	0.80	0.80	0.25	0.11	0.18	0.55	0.01	0.10
Delay/Veh:	24.4	12.3	12.7	17.8	11.9	11.9	22.3	21.4	16.4	25.8	20.9	9.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	24.4	12.3	12.7	17.8	11.9	11.9	22.3	21.4	16.4	25.8	20.9	9.6
LOS by Move:	C	B	B	B	B+	B+	C+	C+	B	C	C+	A
HCM2kAvgQ:	1	3	4	3	13	13	1	1	1	3	0	1

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
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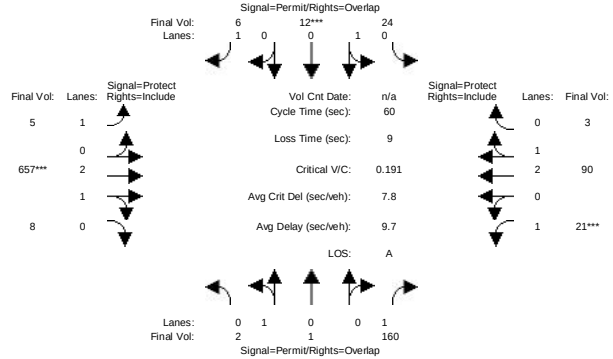
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Present Day PM

Intersection #7: Borregas Ave / Caribbean Dr



Street Name:	Borregas Ave						Caribbean Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	2	1	160	24	12	6	5	657	8	21	90	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	1	160	24	12	6	5	657	8	21	90	3
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	2	1	160	24	12	6	5	657	8	21	90	3
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	2	1	160	24	12	6	5	657	8	21	90	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2	1	160	24	12	6	5	657	8	21	90	3
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	2	1	160	24	12	6	5	657	8	21	90	3
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.89	0.89	0.85	0.84	0.84	0.85	0.95	0.91	0.91	0.95	0.91	0.91
Lanes:	0.67	0.33	1.00	0.67	0.33	1.00	1.00	2.96	0.04	1.00	2.90	0.10
Final Sat.:	1129	564	1615	1069	535	1615	1805	5114	62	1805	4995	166
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.10	0.02	0.02	0.00	0.00	0.13	0.13	0.01	0.02	0.02
Crit Moves:					****			****		****		
Green/Cycle:	0.17	0.17	0.28	0.17	0.17	0.45	0.28	0.57	0.57	0.12	0.40	0.40
Volume/Cap:	0.01	0.01	0.35	0.13	0.13	0.01	0.01	0.23	0.23	0.10	0.04	0.04
Delay/Veh:	20.9	20.9	17.6	21.5	21.5	9.2	15.5	6.5	6.5	23.9	10.9	10.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	20.9	20.9	17.6	21.5	21.5	9.2	15.5	6.5	6.5	23.9	10.9	10.9
LOS by Move:	C+	C+	B	C+	C+	A	B	A	A	C	B+	B+
HCM2kAvgQ:	0	0	2	1	1	0	0	2	2	0	0	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
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Level Of Service Computation Report
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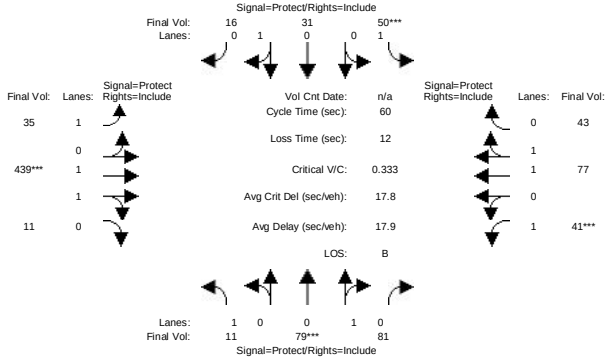
Intersection #8: Borregas Ave / Java Dr



Street Name:	Borregas Ave						Java Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	11	79	81	50	31	16	35	439	11	41	77	43
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	79	81	50	31	16	35	439	11	41	77	43
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	79	81	50	31	16	35	439	11	41	77	43
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	11	79	81	50	31	16	35	439	11	41	77	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	79	81	50	31	16	35	439	11	41	77	43
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	11	79	81	50	31	16	35	439	11	41	77	43
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.90	0.90
Lanes:	1.00	0.49	0.51	1.00	0.66	0.34	1.00	1.95	0.05	1.00	1.28	0.72
Final Sat.:	1805	867	889	1805	1189	614	1805	3508	88	1805	2191	1224
Capacity Analysis Module:												
Vol/Sat:	0.01	0.09	0.09	0.03	0.03	0.03	0.02	0.13	0.13	0.02	0.04	0.04
Crit Moves:		****		****				****		****		
Green/Cycle:	0.15	0.24	0.24	0.12	0.21	0.21	0.18	0.33	0.33	0.12	0.26	0.26
Volume/Cap:	0.04	0.38	0.38	0.24	0.12	0.12	0.11	0.38	0.38	0.19	0.13	0.13
Delay/Veh:	22.1	19.7	19.7	24.7	19.4	19.4	20.6	15.7	15.7	24.4	17.0	17.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	22.1	19.7	19.7	24.7	19.4	19.4	20.6	15.7	15.7	24.4	17.0	17.0
LOS by Move:	C+	B-	B-	C	B-	B-	C+	B	B	C	B	B
HCM2kAvgQ:	0	3	3	1	1	1	1	3	3	1	1	1

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
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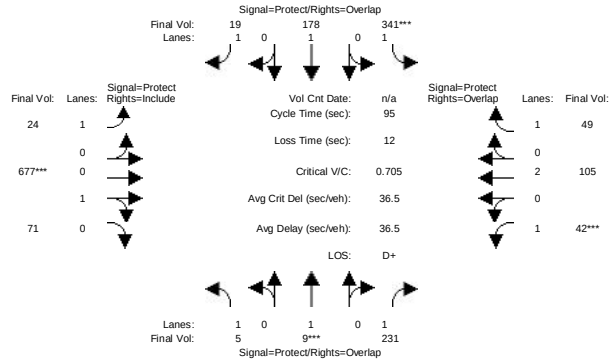
097318106

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Present Day PM

Intersection #9: Crossman Ave / Java Dr



Street Name:	Corssman Ave						Java Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	5	9	231	341	178	19	24	677	71	42	105	49
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	5	9	231	341	178	19	24	677	71	42	105	49
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	5	9	231	341	178	19	24	677	71	42	105	49
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	5	9	231	341	178	19	24	677	71	42	105	49
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	9	231	341	178	19	24	677	71	42	105	49
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	5	9	231	341	178	19	24	677	71	42	105	49
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	1.00	0.85	0.95	0.99	0.99	0.95	0.95	0.85
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.09	1.00	2.00	1.00
Final Sat.:	1805	1900	1615	1805	1900	1615	1805	1696	178	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.14	0.19	0.09	0.01	0.01	0.40	0.40	0.02	0.03	0.03
Crit Moves:		****		****				****		****		
Green/Cycle:	0.14	0.11	0.18	0.22	0.19	0.42	0.22	0.47	0.47	0.07	0.32	0.54
Volume/Cap:	0.02	0.05	0.80	0.85	0.48	0.03	0.06	0.85	0.85	0.32	0.09	0.06
Delay/Veh:	35.7	38.3	51.9	50.6	35.1	16.3	29.0	29.7	29.7	43.1	22.6	10.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	35.7	38.3	51.9	50.6	35.1	16.3	29.0	29.7	29.7	43.1	22.6	10.2
LOS by Move:	D+	D+	D-	D	D+	B	C	C	C	D	C+	B+
HCM2kAvgQ:	0	0	9	12	5	0	1	20	20	1	1	1

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
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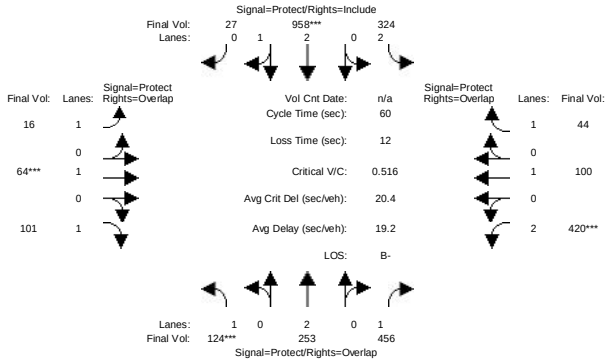
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Present Day PM

Intersection #10: Fair Oaks Ave / TasmanDr



Street Name:	Fair Oaks Ave						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	124	253	456	324	958	27	16	64	101	420	100	44
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	124	253	456	324	958	27	16	64	101	420	100	44
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	124	253	456	324	958	27	16	64	101	420	100	44
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	124	253	456	324	958	27	16	64	101	420	100	44
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	124	253	456	324	958	27	16	64	101	420	100	44
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	124	253	456	324	958	27	16	64	101	420	100	44
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.92	0.91	0.91	0.95	1.00	0.85	0.92	1.00	0.85
Lanes:	1.00	2.00	1.00	2.00	2.92	0.08	1.00	1.00	1.00	2.00	1.00	1.00
Final Sat.:	1805	3610	1615	3502	5025	142	1805	1900	1615	3502	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.28	0.09	0.19	0.19	0.01	0.03	0.06	0.12	0.05	0.03
Crit Moves:	****				****					****		
Green/Cycle:	0.12	0.26	0.45	0.18	0.32	0.32	0.15	0.17	0.28	0.20	0.22	0.39
Volume/Cap:	0.59	0.27	0.62	0.52	0.60	0.60	0.06	0.20	0.22	0.60	0.24	0.07
Delay/Veh:	29.5	18.1	14.1	23.1	17.9	17.9	21.9	21.9	16.7	23.3	19.8	11.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.5	18.1	14.1	23.1	17.9	17.9	21.9	21.9	16.7	23.3	19.8	11.4
LOS by Move:	C	B-	B	C	B	B	C+	C+	B	C	B-	B+
HCM2kAvgQ:	3	2	7	3	6	6	0	1	2	4	1	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
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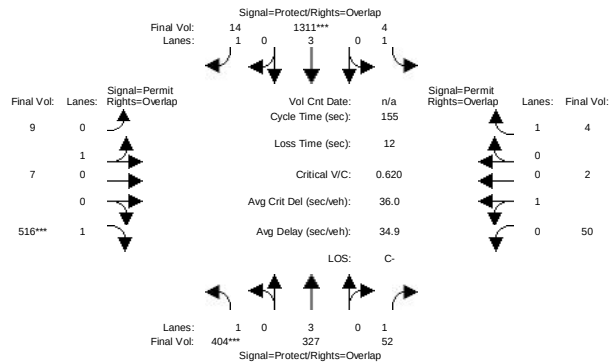
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Present Day PM

Intersection #11: Carribean Dr / Moffett Park Dr



Street Name:	Carribean Dr						Moffett Park Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	404	327	52	4	1311	14	9	7	516	50	2	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	404	327	52	4	1311	14	9	7	516	50	2	4
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	404	327	52	4	1311	14	9	7	516	50	2	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	404	327	52	4	1311	14	9	7	516	50	2	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	404	327	52	4	1311	14	9	7	516	50	2	4
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	404	327	52	4	1311	14	9	7	516	50	2	4
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	0.85	0.95	0.91	0.85	0.91	0.91	0.85	0.76	0.76	0.85
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	0.56	0.44	1.00	0.96	0.04	1.00
Final Sat.:	1805	5187	1615	1805	5187	1615	976	759	1615	1387	55	1615
Capacity Analysis Module:												
Vol/Sat:	0.22	0.06	0.03	0.00	0.25	0.01	0.01	0.01	0.32	0.04	0.04	0.00
Crit Moves:	****				****				****			
Green/Cycle:	0.36	0.45	0.45	0.32	0.41	0.41	0.15	0.15	0.52	0.15	0.15	0.47
Volume/Cap:	0.62	0.14	0.07	0.01	0.62	0.02	0.06	0.06	0.62	0.23	0.23	0.01
Delay/Veh:	42.6	24.9	24.1	36.3	37.0	27.5	56.0	56.0	28.2	58.1	58.1	21.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.6	24.9	24.1	36.3	37.0	27.5	56.0	56.0	28.2	58.1	58.1	21.8
LOS by Move:	D	C	C	D+	D+	C	E+	E+	C	E+	E+	C+
HCM2kAvgQ:	16	3	1	0	18	0	1	1	17	2	2	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
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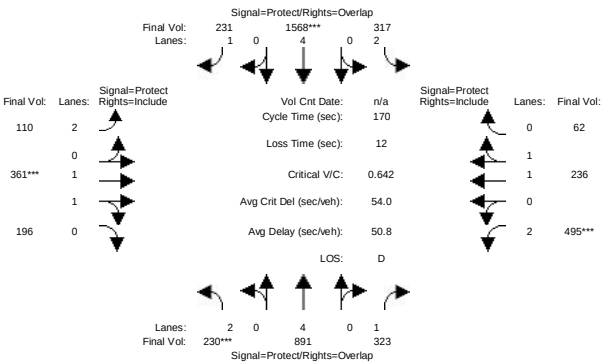
097318106

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Present Day PM

Intersection #12: Lawrence Expy / Tasman Dr



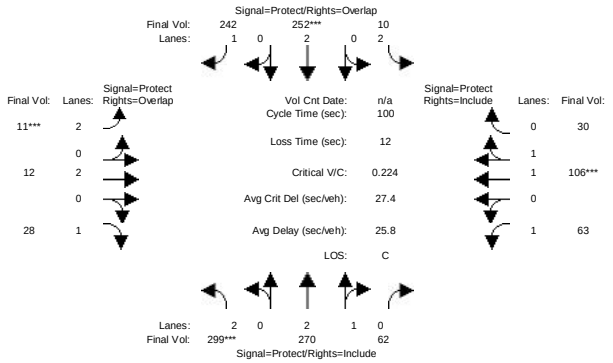
Street Name:	Lawrence Expy						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	230	891	323	317	1568	231	110	361	196	495	236	62
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	230	891	323	317	1568	231	110	361	196	495	236	62
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	230	891	323	317	1568	231	110	361	196	495	236	62
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	230	891	323	317	1568	231	110	361	196	495	236	62
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	230	891	323	317	1568	231	110	361	196	495	236	62
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	230	891	323	317	1568	231	110	361	196	495	236	62
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.90	0.90	0.92	0.92	0.92
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	1.30	0.70	2.00	1.58	0.42
Final Sat.:	3502	6916	1615	3502	6916	1615	3502	2216	1203	3502	2770	728
Capacity Analysis Module:												
Vol/Sat:	0.07	0.13	0.20	0.09	0.23	0.14	0.03	0.16	0.16	0.14	0.09	0.09
Crit Moves:	****				****				****		****	
Green/Cycle:	0.10	0.27	0.49	0.19	0.35	0.51	0.15	0.25	0.25	0.22	0.32	0.32
Volume/Cap:	0.64	0.48	0.41	0.48	0.64	0.28	0.20	0.64	0.64	0.64	0.27	0.27
Delay/Veh:	77.2	52.6	28.2	62.2	46.6	24.2	62.9	58.2	58.2	62.1	43.2	43.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	77.2	52.6	28.2	62.2	46.6	24.2	62.9	58.2	58.2	62.1	43.2	43.2
LOS by Move:	E-	D-	C	E	D	C	E	E+	E+	E	D	D
HCM2kAvgQ:	7	11	10	8	19	7	2	13	13	13	6	6

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
097318106

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Present Day + Milpitas AM

Intersection #1: Mathilda Ave / Lockheed Martin-Java Dr



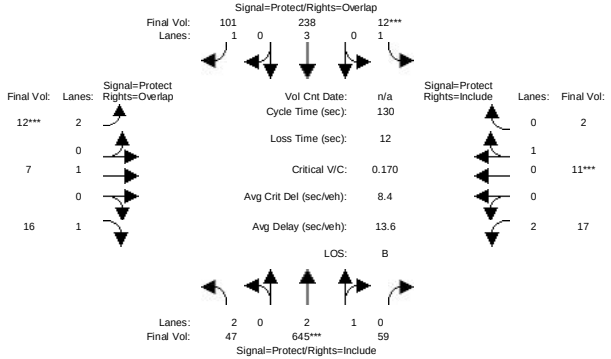
Street Name:	Mathilda Ave						Lockheed Martin - Java Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	299	270	62	10	252	242	11	12	28	63	106	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	299	270	62	10	252	242	11	12	28	63	106	30
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	299	270	62	10	252	242	11	12	28	63	106	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	299	270	62	10	252	242	11	12	28	63	106	30
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	299	270	62	10	252	242	11	12	28	63	106	30
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	299	270	62	10	252	242	11	12	28	63	106	30
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.88	0.88	0.92	0.95	0.85	0.92	0.95	0.85	0.95	0.92	0.92
Lanes:	2.00	2.44	0.56	2.00	2.00	1.00	2.00	2.00	1.00	1.00	1.56	0.44
Final Sat.:	3502	4100	942	3502	3610	1615	3502	3610	1615	1805	2721	770
Capacity Analysis Module:												
Vol/Sat:	0.09	0.07	0.07	0.00	0.07	0.15	0.00	0.00	0.02	0.03	0.04	0.04
Crit Moves:	****				****		****				****	
Green/Cycle:	0.36	0.38	0.38	0.27	0.29	0.36	0.07	0.14	0.49	0.10	0.16	0.16
Volume/Cap:	0.24	0.17	0.17	0.01	0.24	0.41	0.04	0.02	0.04	0.36	0.24	0.24
Delay/Veh:	22.8	20.6	20.6	27.0	27.1	24.5	43.5	37.4	13.1	43.7	36.7	36.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	22.8	20.6	20.6	27.0	27.1	24.5	43.5	37.4	13.1	43.7	36.7	36.7
LOS by Move:	C+	C+	C+	C	C	C	D	D+	B	D	D+	D+
HCM2kAvgQ:	3	2	2	0	3	6	0	0	0	2	2	2

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
097318106

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Present Day + Milpitas AM

Intersection #2: Mathilda Ave / 5th Ave



Street Name:	Mathilda Ave						5th Ave					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	47	645	59	12	238	101	12	7	16	17	11	2
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	47	645	59	12	238	101	12	7	16	17	11	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	47	645	59	12	238	101	12	7	16	17	11	2
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	47	645	59	12	238	101	12	7	16	17	11	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	47	645	59	12	238	101	12	7	16	17	11	2
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	47	645	59	12	238	101	12	7	16	17	11	2
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.90	0.90	0.95	0.91	0.85	0.92	1.00	0.85	0.92	0.98	0.98
Lanes:	2.00	2.75	0.25	1.00	3.00	1.00	2.00	1.00	1.00	2.00	0.85	0.15
Final Sat.:	3502	4691	429	1805	5187	1615	3502	1900	1615	3502	1571	286
Capacity Analysis Module:												
Vol/Sat:	0.01	0.14	0.14	0.01	0.05	0.06	0.00	0.00	0.01	0.00	0.01	0.01
Crit Moves:		****		****			****				****	
Green/Cycle:	0.32	0.72	0.72	0.05	0.46	0.51	0.05	0.08	0.40	0.05	0.08	0.08
Volume/Cap:	0.04	0.19	0.19	0.12	0.10	0.12	0.06	0.05	0.02	0.09	0.09	0.09
Delay/Veh:	30.5	5.8	5.8	59.2	20.1	16.7	58.5	55.7	23.9	58.7	56.1	56.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	30.5	5.8	5.8	59.2	20.1	16.7	58.5	55.7	23.9	58.7	56.1	56.1
LOS by Move:	C	A	A	E+	C+	B	E+	E+	C	E+	E+	E+
HCM2kAvgQ:	1	3	3	0	2	2	0	0	0	0	1	1

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
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Level Of Service Computation Report
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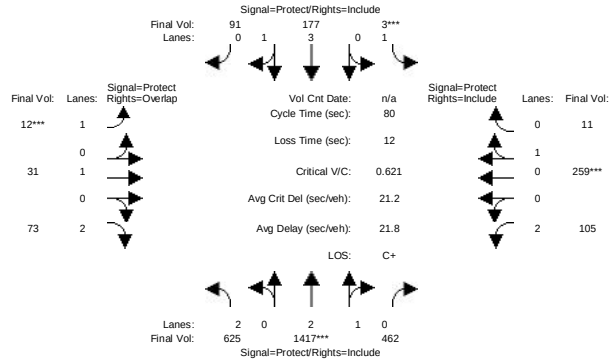
Intersection #3: Mathilda Ave / Moffett Park Dr



Street Name:	Mathilda Ave						Moffett Park Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	625	1417	462	3	177	91	12	31	73	105	259	11
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	625	1417	462	3	177	91	12	31	73	105	259	11
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	625	1417	462	3	177	91	12	31	73	105	259	11
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	625	1417	462	3	177	91	12	31	73	105	259	11
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	625	1417	462	3	177	91	12	31	73	105	259	11
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	625	1417	462	3	177	91	12	31	73	105	259	11
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.88	0.88	0.95	0.86	0.86	0.95	1.00	0.75	0.92	0.99	0.99
Lanes:	2.00	2.26	0.74	1.00	3.00	1.00	1.00	1.00	2.00	2.00	0.96	0.04
Final Sat.:	3502	3767	1228	1805	4922	1641	1805	1900	2842	3502	1812	77
Capacity Analysis Module:												
Vol/Sat:	0.18	0.38	0.38	0.00	0.04	0.06	0.01	0.02	0.03	0.03	0.14	0.14
Crit Moves:		****		****			****				****	
Green/Cycle:	0.34	0.49	0.49	0.09	0.24	0.24	0.09	0.16	0.50	0.11	0.19	0.19
Volume/Cap:	0.53	0.77	0.77	0.02	0.15	0.23	0.08	0.10	0.05	0.27	0.77	0.77
Delay/Veh:	21.7	18.3	18.3	33.4	24.2	24.7	33.7	28.8	10.3	32.8	40.9	40.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.7	18.3	18.3	33.4	24.2	24.7	33.7	28.8	10.3	32.8	40.9	40.9
LOS by Move:	C+	B-	B-	C-	C	C	C-	C	B+	C-	D	D
HCM2kAvgQ:	6	14	14	0	1	2	0	1	1	1	8	8

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
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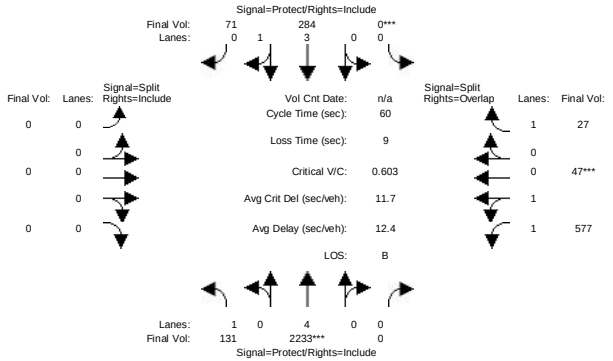
Intersection #4: Mathilda Ave / SR 237 WB Ramps



Street Name:	Mathilda Ave						SR 237 WB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	0	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	131	2233	0	0	284	71	0	0	0	577	47	27
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	131	2233	0	0	284	71	0	0	0	577	47	27
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	131	2233	0	0	284	71	0	0	0	577	47	27
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	131	2233	0	0	284	71	0	0	0	577	47	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	131	2233	0	0	284	71	0	0	0	577	47	27
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	131	2233	0	0	284	71	0	0	0	577	47	27
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	1.00	1.00	0.88	0.88	1.00	1.00	1.00	0.87	0.87	0.85
Lanes:	1.00	4.00	0.00	0.00	3.20	0.80	0.00	0.00	0.00	1.85	0.15	1.00
Final Sat.:	1805	6916	0	0	5367	1342	0	0	0	3046	248	1615
Capacity Analysis Module:												
Vol/Sat:	0.07	0.32	0.00	0.00	0.05	0.05	0.00	0.00	0.00	0.19	0.19	0.02
Crit Moves:		****		****							****	
Green/Cycle:	0.22	0.54	0.00	0.00	0.32	0.32	0.00	0.00	0.00	0.31	0.31	0.31
Volume/Cap:	0.33	0.60	0.00	0.00	0.17	0.17	0.00	0.00	0.00	0.60	0.60	0.05
Delay/Veh:	20.1	9.8	0.0	0.0	14.9	14.9	0.0	0.0	0.0	18.4	18.4	14.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	20.1	9.8	0.0	0.0	14.9	14.9	0.0	0.0	0.0	18.4	18.4	14.4
LOS by Move:	C+	A	A	A	B	B	A	A	A	B-	B-	B
HCM2kAvgQ:	2	8	0	0	1	1	0	0	0	6	6	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
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Level Of Service Computation Report
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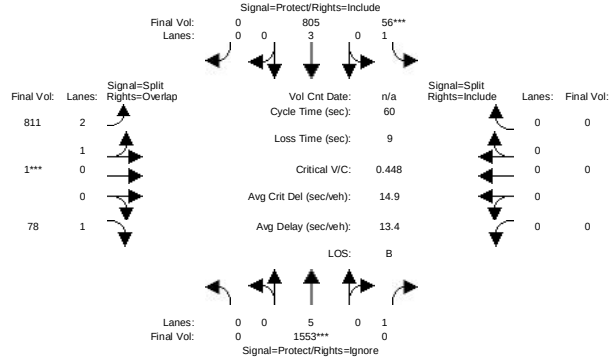
Intersection #5: Mathilda Ave / SR 237 EB Ramps



Street Name:	Mathild Ave						SR 237 EB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	1553	778	56	805	0	811	1	78	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1553	778	56	805	0	811	1	78	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1553	778	56	805	0	811	1	78	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1553	0	56	805	0	811	1	78	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1553	0	56	805	0	811	1	78	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1553	0	56	805	0	811	1	78	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.91	1.00	0.95	0.91	1.00	0.84	0.86	0.85	1.00	1.00	1.00
Lanes:	0.00	5.00	1.00	1.00	3.00	0.00	2.99	0.01	1.00	0.00	0.00	0.00
Final Sat.:	0	8645	1900	1805	5187	0	4766	6	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.18	0.00	0.03	0.16	0.00	0.17	0.17	0.05	0.00	0.00	0.00
Crit Moves:		****		****				****				
Green/Cycle:	0.00	0.38	0.00	0.12	0.49	0.00	0.36	0.36	0.36	0.00	0.00	0.00
Volume/Cap:	0.00	0.48	0.00	0.27	0.31	0.00	0.48	0.48	0.14	0.00	0.00	0.00
Delay/Veh:	0.0	14.3	0.0	24.8	9.2	0.0	15.2	15.2	13.2	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	14.3	0.0	24.8	9.2	0.0	15.2	15.2	13.2	0.0	0.0	0.0
LOS by Move:	A	B	A	C	A	A	B	B	B	A	A	A
HCM2kAvgQ:	0	5	0	1	3	0	4	4	1	0	0	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
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Level Of Service Computation Report
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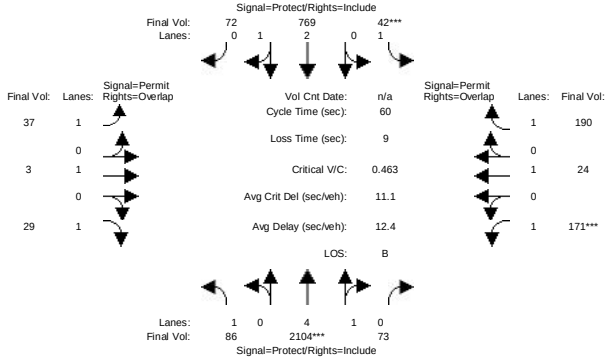
Intersection #6: Mathilda Ave / Ross Dr



Street Name:	Mathilda Ave						Ross Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	86	2104	73	42	769	72	37	3	29	171	24	190
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	86	2104	73	42	769	72	37	3	29	171	24	190
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	86	2104	73	42	769	72	37	3	29	171	24	190
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	86	2104	73	42	769	72	37	3	29	171	24	190
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	86	2104	73	42	769	72	37	3	29	171	24	190
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	86	2104	73	42	769	72	37	3	29	171	24	190
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	0.91	0.95	0.90	0.90	0.75	1.00	0.85	0.77	1.00	0.85
Lanes:	1.00	4.83	0.17	1.00	2.74	0.26	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	8313	288	1805	4681	438	1423	1900	1615	1457	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.05	0.25	0.25	0.02	0.16	0.16	0.03	0.00	0.02	0.12	0.01	0.12
Crit Moves:		****		****						****		
Green/Cycle:	0.25	0.50	0.50	0.12	0.36	0.36	0.23	0.23	0.49	0.23	0.23	0.35
Volume/Cap:	0.19	0.51	0.51	0.20	0.45	0.45	0.11	0.01	0.04	0.51	0.05	0.34
Delay/Veh:	17.7	10.1	10.1	24.4	14.7	14.7	18.3	17.7	8.1	21.3	18.0	14.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	17.7	10.1	10.1	24.4	14.7	14.7	18.3	17.7	8.1	21.3	18.0	14.8
LOS by Move:	B	B+	B+	C	B	B	B-	B	A	C+	B	B
HCM2kAvgQ:	1	6	6	1	4	4	1	0	0	3	0	3

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
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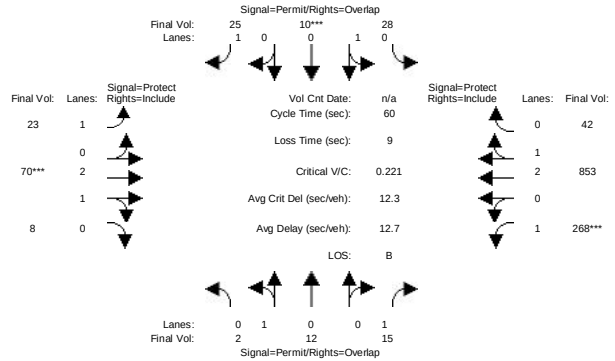
Present Day + Milpitas AM

Intersection #7: Borregas Ave / Caribbean Dr



Street Name:	Borregas Ave						Caribbean Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	2	12	15	24	10	25	23	70	8	268	853	38
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	12	15	24	10	25	23	70	8	268	853	38
Added Vol:	0	0	0	4	0	0	0	0	0	0	0	4
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	2	12	15	28	10	25	23	70	8	268	853	42
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	2	12	15	28	10	25	23	70	8	268	853	42
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2	12	15	28	10	25	23	70	8	268	853	42
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	2	12	15	28	10	25	23	70	8	268	853	42
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.97	0.85	0.82	0.82	0.85	0.95	0.90	0.90	0.95	0.90	0.90
Lanes:	0.14	0.86	1.00	0.74	0.26	1.00	1.00	2.69	0.31	1.00	2.86	0.14
Final Sat.:	264	1583	1615	1147	410	1615	1805	4585	524	1805	4909	242
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.01	0.02	0.02	0.02	0.01	0.02	0.02	0.15	0.17	0.17
Crit Moves:					****			****		****		
Green/Cycle:	0.17	0.17	0.68	0.17	0.17	0.44	0.27	0.17	0.17	0.52	0.41	0.41
Volume/Cap:	0.05	0.05	0.01	0.15	0.15	0.04	0.05	0.09	0.09	0.29	0.43	0.43
Delay/Veh:	21.1	21.1	3.0	21.6	21.6	9.5	16.0	21.2	21.2	8.4	12.8	12.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	21.1	21.1	3.0	21.6	21.6	9.5	16.0	21.2	21.2	8.4	12.8	12.8
LOS by Move:	C+	C+	A	C+	C+	A	B	C+	C+	A	B	B
HCM2kAvgQ:	0	0	0	1	1	0	0	1	1	3	5	5

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
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Level Of Service Computation Report
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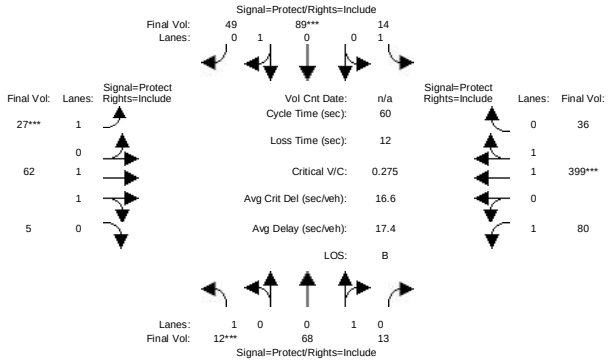
Present Day + Milpitas AM

Intersection #8: Borregas Ave / Java Dr



Street Name:	Borregas Ave						Java Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	12	68	13	14	89	49	27	62	5	80	399	36
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	12	68	13	14	89	49	27	62	5	80	399	36
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	12	68	13	14	89	49	27	62	5	80	399	36
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	12	68	13	14	89	49	27	62	5	80	399	36
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	12	68	13	14	89	49	27	62	5	80	399	36
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	12	68	13	14	89	49	27	62	5	80	399	36
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.98	0.98	0.95	0.95	0.95	0.95	0.94	0.94	0.95	0.94	0.94
Lanes:	1.00	0.84	0.16	1.00	0.64	0.36	1.00	1.85	0.15	1.00	1.83	0.17
Final Sat.:	1805	1557	298	1805	1160	639	1805	3304	266	1805	3272	295
Capacity Analysis Module:												
Vol/Sat:	0.01	0.04	0.04	0.01	0.08	0.08	0.01	0.02	0.02	0.04	0.12	0.12
Crit Moves:	****				****		****				****	
Green/Cycle:	0.12	0.20	0.20	0.14	0.22	0.22	0.12	0.27	0.27	0.19	0.35	0.35
Volume/Cap:	0.06	0.22	0.22	0.06	0.35	0.35	0.13	0.07	0.07	0.23	0.35	0.35
Delay/Veh:	23.7	20.5	20.5	22.6	20.4	20.4	24.0	16.2	16.2	20.9	14.7	14.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	23.7	20.5	20.5	22.6	20.4	20.4	24.0	16.2	16.2	20.9	14.7	14.7
LOS by Move:	C	C+	C+	C+	C+	C+	C	B	B	C+	B	B
HCM2kAvgQ:	0	1	1	0	2	2	0	0	0	1	3	3

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
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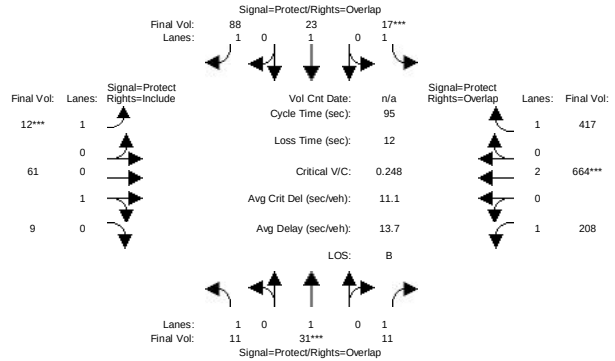
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Present Day + Milpitas AM

Intersection #9: Crossman Ave / Java Dr



Street Name:	Corssman Ave						Java Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	11	31	11	17	23	88	12	61	9	208	664	417
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	31	11	17	23	88	12	61	9	208	664	417
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	31	11	17	23	88	12	61	9	208	664	417
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	11	31	11	17	23	88	12	61	9	208	664	417
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	31	11	17	23	88	12	61	9	208	664	417
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	11	31	11	17	23	88	12	61	9	208	664	417
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	1.00	0.85	0.95	0.98	0.98	0.95	0.95	0.85
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.87	0.13	1.00	2.00	1.00
Final Sat.:	1805	1900	1615	1805	1900	1615	1805	1624	240	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.01	0.02	0.01	0.01	0.01	0.05	0.01	0.04	0.04	0.12	0.18	0.26
Crit Moves:		****		****			****				****	
Green/Cycle:	0.07	0.11	0.47	0.07	0.11	0.18	0.07	0.33	0.33	0.36	0.62	0.69
Volume/Cap:	0.08	0.16	0.01	0.13	0.12	0.30	0.09	0.11	0.11	0.32	0.30	0.37
Delay/Veh:	41.3	39.0	13.5	41.6	38.7	34.5	41.3	22.1	22.1	22.1	8.4	6.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	41.3	39.0	13.5	41.6	38.7	34.5	41.3	22.1	22.1	22.1	8.4	6.2
LOS by Move:	D	D	B	D	D+	C-	D	C+	C+	C+	A	A
HCM2kAvgQ:	0	1	0	1	1	2	0	1	1	4	5	5

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
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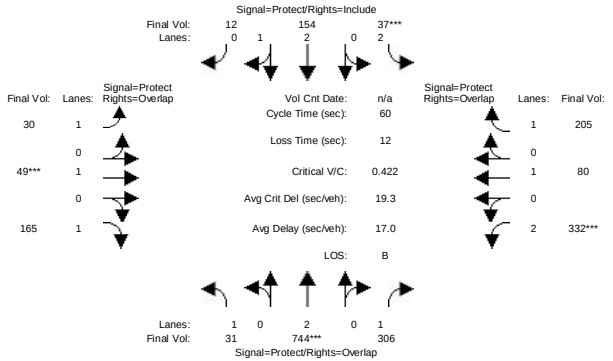
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Present Day + Milpitas AM

Intersection #10: Fair Oaks Ave / TasmanDr



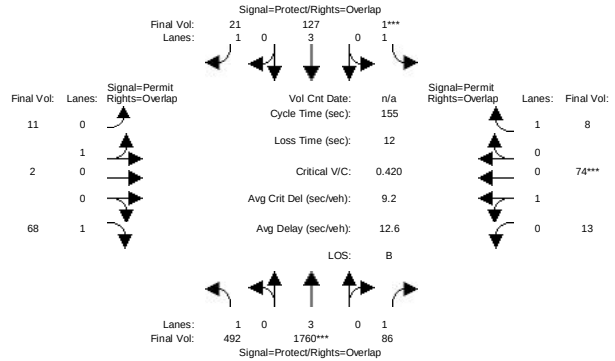
Street Name:	Fair Oaks Ave						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	31	744	306	37	154	12	30	49	165	332	80	205
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	31	744	306	37	154	12	30	49	165	332	80	205
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	31	744	306	37	154	12	30	49	165	332	80	205
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	31	744	306	37	154	12	30	49	165	332	80	205
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	31	744	306	37	154	12	30	49	165	332	80	205
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	31	744	306	37	154	12	30	49	165	332	80	205
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.92	0.90	0.90	0.95	1.00	0.85	0.92	1.00	0.85
Lanes:	1.00	2.00	1.00	2.00	2.78	0.22	1.00	1.00	1.00	2.00	1.00	1.00
Final Sat.:	1805	3610	1615	3502	4759	371	1805	1900	1615	3502	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.02	0.21	0.19	0.01	0.03	0.03	0.02	0.03	0.10	0.09	0.04	0.13
Crit Moves:		****		****				****		****		
Green/Cycle:	0.19	0.35	0.52	0.12	0.28	0.28	0.14	0.17	0.36	0.16	0.19	0.31
Volume/Cap:	0.09	0.58	0.37	0.09	0.12	0.12	0.12	0.15	0.28	0.58	0.22	0.41
Delay/Veh:	20.0	16.5	8.9	23.8	16.3	16.3	23.0	21.6	13.9	24.8	20.7	16.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	20.0	16.5	8.9	23.8	16.3	16.3	23.0	21.6	13.9	24.8	20.7	16.9
LOS by Move:	B-	B	A	C	B	B	C	C+	B	C	C+	B
HCM2kAvgQ:	1	7	4	0	1	1	1	1	2	3	1	3

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
097318106

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Present Day + Milpitas AM

Intersection #11: Carribean Dr / Moffett Park Dr



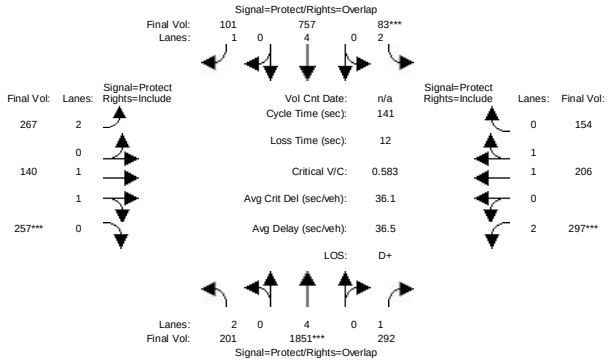
Street Name:	Carribean Dr						Moffett Park Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	492	1756	86	1	123	21	11	2	68	13	74	8
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	492	1756	86	1	123	21	11	2	68	13	74	8
Added Vol:	0	4	0	0	4	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	492	1760	86	1	127	21	11	2	68	13	74	8
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	492	1760	86	1	127	21	11	2	68	13	74	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	492	1760	86	1	127	21	11	2	68	13	74	8
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	492	1760	86	1	127	21	11	2	68	13	74	8
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	0.85	0.95	0.91	0.85	0.80	0.80	0.85	0.96	0.96	0.85
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	0.85	0.15	1.00	0.15	0.85	1.00
Final Sat.:	1805	5187	1615	1805	5187	1615	1288	234	1615	273	1551	1615
Capacity Analysis Module:												
Vol/Sat:	0.27	0.34	0.05	0.00	0.02	0.01	0.01	0.01	0.04	0.05	0.05	0.00
Crit Moves:		****		****							****	
Green/Cycle:	0.66	0.77	0.77	0.05	0.16	0.16	0.11	0.11	0.77	0.11	0.11	0.15
Volume/Cap:	0.41	0.44	0.07	0.01	0.16	0.08	0.08	0.08	0.05	0.44	0.44	0.03
Delay/Veh:	12.7	6.3	4.4	70.8	56.7	56.1	62.4	62.4	4.4	66.3	66.3	55.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	12.7	6.3	4.4	70.8	56.7	56.1	62.4	62.4	4.4	66.3	66.3	55.9
LOS by Move:	B	A	A	E	E+	E+	E	E	A	E	E	E+
HCM2kAvgQ:	11	10	1	0	2	1	1	1	1	4	4	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
097318106

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Present Day + Milpitas AM

Intersection #12: Lawrence Expy / Tasman Dr



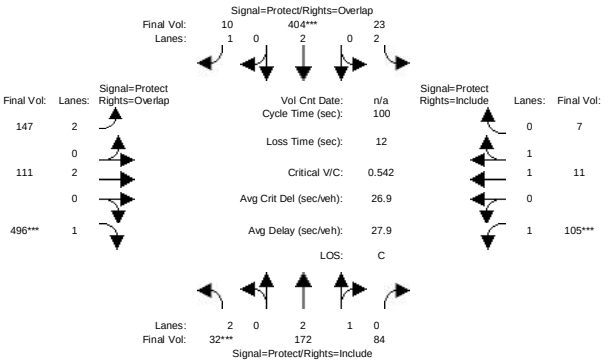
Street Name:	Lawrence Expy						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	201	1851	292	82	757	101	267	140	257	297	206	153
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	201	1851	292	82	757	101	267	140	257	297	206	153
Added Vol:	0	0	0	1	0	0	0	0	0	0	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	201	1851	292	83	757	101	267	140	257	297	206	154
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	201	1851	292	83	757	101	267	140	257	297	206	154
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	201	1851	292	83	757	101	267	140	257	297	206	154
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	201	1851	292	83	757	101	267	140	257	297	206	154
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.86	0.86	0.92	0.89	0.89
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	1.00	1.00	2.00	1.14	0.86
Final Sat.:	3502	6916	1615	3502	6916	1615	3502	1630	1630	3502	1934	1445
Capacity Analysis Module:												
Vol/Sat:	0.06	0.27	0.18	0.02	0.11	0.06	0.08	0.09	0.16	0.08	0.11	0.11
Crit Moves:		****		****					****	****		
Green/Cycle:	0.17	0.45	0.60	0.05	0.33	0.50	0.17	0.27	0.27	0.14	0.24	0.24
Volume/Cap:	0.33	0.59	0.30	0.48	0.33	0.12	0.44	0.32	0.59	0.59	0.44	0.44
Delay/Veh:	51.4	29.0	14.1	67.3	35.6	18.7	52.9	41.5	46.3	58.3	46.0	46.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.4	29.0	14.1	67.3	35.6	18.7	52.9	41.5	46.3	58.3	46.0	46.0
LOS by Move:	D-	C	B	E	D+	B-	D-	D	D	E+	D	D
HCM2kAvgQ:	4	16	6	2	7	2	5	5	10	7	7	7

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
097318106

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Present Day + Milpitas PM

Intersection #1: Mathilda Ave / Lockheed Martin-Java Dr

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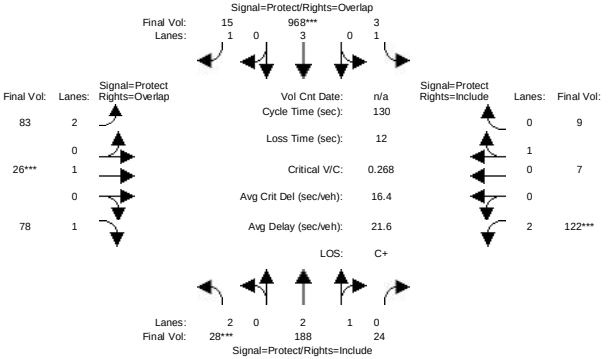
Street Name:           Mathilda Ave              Lockheed Martin - Java Dr
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      32  172    84    23  404    10   147  111   496   105   11     7
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   32  172    84    23  404    10   147  111   496   105   11     7
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   32  172    84    23  404    10   147  111   496   105   11     7
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    32  172    84    23  404    10   147  111   496   105   11     7
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   32  172    84    23  404    10   147  111   496   105   11     7
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   32  172    84    23  404    10   147  111   496   105   11     7
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.92 0.87  0.87  0.92 0.95  0.85  0.92 0.95  0.85  0.95 0.89  0.89
Lanes:       2.00 2.02  0.98  2.00 2.00  1.00  2.00 2.00  1.00  1.00 1.22  0.78
Final Sat.:  3502 3314  1619  3502 3610  1615  3502 3610  1615  1805 2078  1322
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01 0.05  0.05  0.01 0.11  0.01  0.04 0.03  0.31  0.06 0.01  0.01
Crit Moves:  ****                ****                     ****  ****
Green/Cycle: 0.07 0.17  0.17  0.12 0.22  0.46  0.24 0.47  0.54  0.12 0.35  0.35
Volume/Cap:  0.13 0.30  0.30  0.05 0.50  0.01  0.17 0.07  0.57  0.50 0.02  0.02
Delay/Veh:   43.9 36.3  36.3  39.0 34.5  14.4  30.1 14.4  16.0  43.5 21.5  21.5
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  43.9 36.3  36.3  39.0 34.5  14.4  30.1 14.4  16.0  43.5 21.5  21.5
LOS by Move:    D   D+    D+    D+   C-     B     C    B     B     D   C+    C+
HCM2kAvgQ:      0    2     2     0    6     0     2    1    10     3    0     0
Note: Queue reported is the number of cars per lane.
```


City of Sunnyvale
Sunnyvale SMaRT Station
097318106

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Present Day + Milpitas PM

Intersection #2: Mathilda Ave / 5th Ave




```
Street Name:           Mathilda Ave                      5th Ave
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Min. Green:     7   10    10     7   10    10     7   10    10     7   10    10
Y+R:          4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0   4.0  4.0   4.0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      28  188    24     3  968    15    83   26    78   122    7     9
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   28  188    24     3  968    15    83   26    78   122    7     9
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   28  188    24     3  968    15    83   26    78   122    7     9
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    28  188    24     3  968    15    83   26    78   122    7     9
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   28  188    24     3  968    15    83   26    78   122    7     9
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   28  188    24     3  968    15    83   26    78   122    7     9
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.92 0.89  0.89  0.95 0.91  0.85  0.92 1.00  0.85  0.92 0.92  0.92
Lanes:       2.00 2.66  0.34  1.00 3.00  1.00  2.00 1.00  1.00  2.00 0.44  0.56
Final Sat.:  3502 4522   577  1805 5187  1615  3502 1900  1615  3502  761   979
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.01 0.04  0.04  0.00 0.19  0.01  0.02 0.01  0.05  0.03 0.01  0.01
Crit Moves:  ****                ****                     ****        ****
Green/Cycle: 0.05 0.42  0.42  0.29 0.65  0.74  0.08 0.08  0.13  0.12 0.12  0.12
Volume/Cap:  0.15 0.10  0.10  0.01 0.29  0.01  0.29 0.18  0.37  0.29 0.08  0.08
Delay/Veh:   59.0 23.1  23.1  32.7  9.6   4.6  56.7 56.7  52.7  52.3 51.3  51.3
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  59.0 23.1  23.1  32.7  9.6   4.6  56.7 56.7  52.7  52.3 51.3  51.3
LOS by Move:   E+    C     C    C-    A     A    E+   E+    D-    D-   D-    D-
HCM2kAvgQ:      1    2     2     0    6     0     2    1     3     2    1     1
Note: Queue reported is the number of cars per lane.
```


City of Sunnyvale
Sunnyvale SMaRT Station
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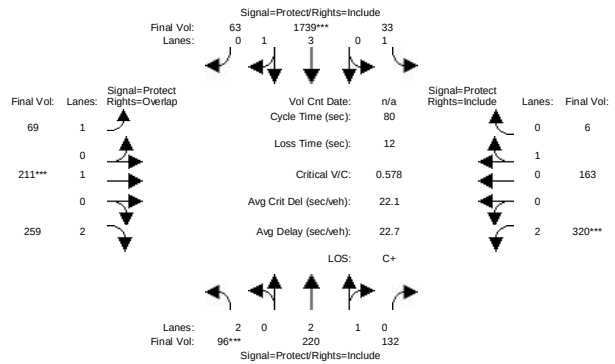
Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Present Day + Milpitas PM

Intersection #3: Mathilda Ave / Moffett Park Dr



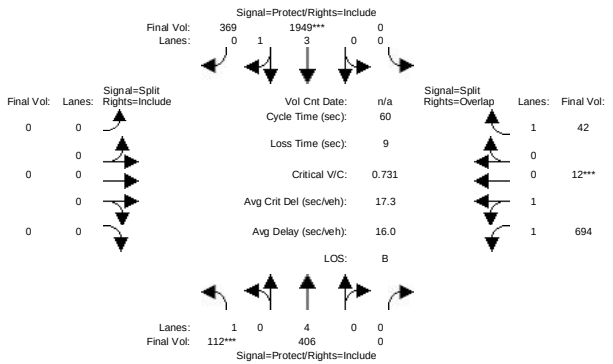
Street Name:	Mathilda Ave						Moffett Park Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	96	220	132	33	1739	63	69	211	259	320	163	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	96	220	132	33	1739	63	69	211	259	320	163	6
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	96	220	132	33	1739	63	69	211	259	320	163	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	96	220	132	33	1739	63	69	211	259	320	163	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	96	220	132	33	1739	63	69	211	259	320	163	6
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	96	220	132	33	1739	63	69	211	259	320	163	6
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.86	0.86	0.95	0.91	0.91	0.95	1.00	0.75	0.92	1.00	1.00
Lanes:	2.00	2.00	1.00	1.00	3.86	0.14	1.00	1.00	2.00	2.00	0.96	0.04
Final Sat.:	3502	3264	1632	1805	6641	241	1805	1900	2842	3502	1823	67
Capacity Analysis Module:												
Vol/Sat:	0.03	0.07	0.08	0.02	0.26	0.26	0.04	0.11	0.09	0.09	0.09	0.09
Crit Moves:	****				****			****		****		
Green/Cycle:	0.09	0.30	0.30	0.21	0.43	0.43	0.14	0.18	0.27	0.15	0.20	0.20
Volume/Cap:	0.31	0.22	0.27	0.09	0.61	0.61	0.28	0.61	0.34	0.61	0.46	0.46
Delay/Veh:	34.8	20.8	21.2	25.3	18.0	18.0	31.6	33.2	23.7	33.9	29.3	29.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	34.8	20.8	21.2	25.3	18.0	18.0	31.6	33.2	23.7	33.9	29.3	29.3
LOS by Move:	C-	C+	C+	C	B	B	C	C-	C	C-	C	C
HCM2kAvgQ:	1	2	3	1	9	9	2	6	3	5	4	4

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
097318106

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Present Day + Milpitas PM

Intersection #4: Mathilda Ave / SR 237 WB Ramps



Street Name:	Mathilda Ave						SR 237 WB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	0	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	112	406	0	0	1949	369	0	0	0	694	12	42
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	112	406	0	0	1949	369	0	0	0	694	12	42
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	112	406	0	0	1949	369	0	0	0	694	12	42
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	112	406	0	0	1949	369	0	0	0	694	12	42
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	112	406	0	0	1949	369	0	0	0	694	12	42
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	112	406	0	0	1949	369	0	0	0	694	12	42
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	1.00	1.00	0.89	0.89	1.00	1.00	1.00	0.86	0.86	0.85
Lanes:	1.00	4.00	0.00	0.00	3.36	0.64	0.00	0.00	0.00	1.97	0.03	1.00
Final Sat.:	1805	6916	0	0	5675	1075	0	0	0	3216	56	1615
Capacity Analysis Module:												
Vol/Sat:	0.06	0.06	0.00	0.00	0.34	0.34	0.00	0.00	0.00	0.22	0.22	0.03
Crit Moves:	****				****						****	
Green/Cycle:	0.12	0.57	0.00	0.00	0.45	0.45	0.00	0.00	0.00	0.28	0.28	0.28
Volume/Cap:	0.53	0.10	0.00	0.00	0.76	0.76	0.00	0.00	0.00	0.76	0.76	0.09
Delay/Veh:	27.6	6.0	0.0	0.0	15.0	15.0	0.0	0.0	0.0	23.5	23.5	15.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	27.6	6.0	0.0	0.0	15.0	15.0	0.0	0.0	0.0	23.5	23.5	15.9
LOS by Move:	C	A	A	A	B	B	A	A	A	C	C	B
HCM2kAvgQ:	2	1	0	0	10	10	0	0	0	8	8	1

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
097318106

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
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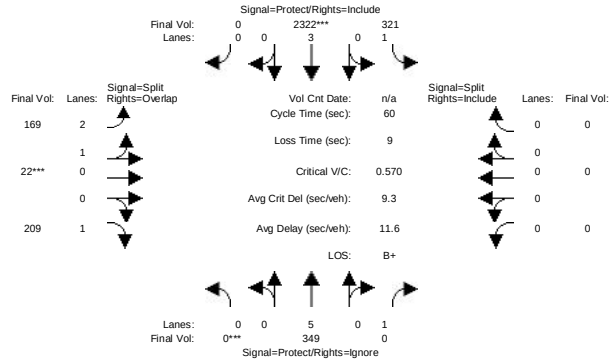
Intersection #5: Mathilda Ave / SR 237 EB Ramps



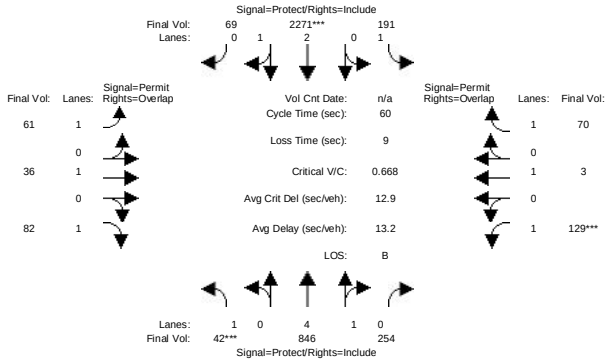
Street Name:	Mathild Ave						SR 237 EB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	0	349	628	321	2322	0	169	22	209	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	349	628	321	2322	0	169	22	209	0	0	0
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	349	628	321	2322	0	169	22	209	0	0	0
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	349	0	321	2322	0	169	22	209	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	349	0	321	2322	0	169	22	209	0	0	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	349	0	321	2322	0	169	22	209	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.91	1.00	0.95	0.91	1.00	0.91	0.94	0.85	1.00	1.00	1.00
Lanes:	0.00	5.00	1.00	1.00	3.00	0.00	2.66	0.34	1.00	0.00	0.00	0.00
Final Sat.:	0	8645	1900	1805	5187	0	4600	599	1615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.04	0.00	0.18	0.45	0.00	0.04	0.04	0.13	0.00	0.00	0.00
Crit Moves:	****				****			****				
Green/Cycle:	0.00	0.30	0.00	0.32	0.62	0.00	0.23	0.23	0.23	0.00	0.00	0.00
Volume/Cap:	0.00	0.13	0.00	0.55	0.72	0.00	0.16	0.16	0.57	0.00	0.00	0.00
Delay/Veh:	0.0	15.3	0.0	18.0	8.5	0.0	18.7	18.7	22.7	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	15.3	0.0	18.0	8.5	0.0	18.7	18.7	22.7	0.0	0.0	0.0
LOS by Move:	A	B	A	B	A	A	B-	B-	C+	A	A	A
HCM2kAvgQ:	0	1	0	5	11	0	1	1	4	0	0	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
097318106

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Present Day + Milpitas PM

Intersection #6: Mathilda Ave / Ross Dr



Street Name:	Mathilda Ave						Ross Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	42	846	254	191	2271	69	61	36	82	129	3	70
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	42	846	254	191	2271	69	61	36	82	129	3	70
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	42	846	254	191	2271	69	61	36	82	129	3	70
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	42	846	254	191	2271	69	61	36	82	129	3	70
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	42	846	254	191	2271	69	61	36	82	129	3	70
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	42	846	254	191	2271	69	61	36	82	129	3	70
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.88	0.88	0.95	0.91	0.91	0.77	1.00	0.85	0.74	1.00	0.85
Lanes:	1.00	4.00	1.00	1.00	2.91	0.09	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	1805	6674	1668	1805	5014	152	1457	1900	1615	1404	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.02	0.13	0.15	0.11	0.45	0.45	0.04	0.02	0.05	0.09	0.00	0.04
Crit Moves:	****				****					****		
Green/Cycle:	0.12	0.40	0.40	0.28	0.57	0.57	0.17	0.17	0.28	0.17	0.17	0.45
Volume/Cap:	0.20	0.32	0.38	0.38	0.80	0.80	0.25	0.11	0.18	0.55	0.01	0.10
Delay/Veh:	24.4	12.3	12.7	17.8	11.9	11.9	22.3	21.4	16.4	25.8	20.9	9.6
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	24.4	12.3	12.7	17.8	11.9	11.9	22.3	21.4	16.4	25.8	20.9	9.6
LOS by Move:	C	B	B	B	B+	B+	C+	C+	B	C	C+	A
HCM2kAvgQ:	1	3	4	3	13	13	1	1	1	3	0	1

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
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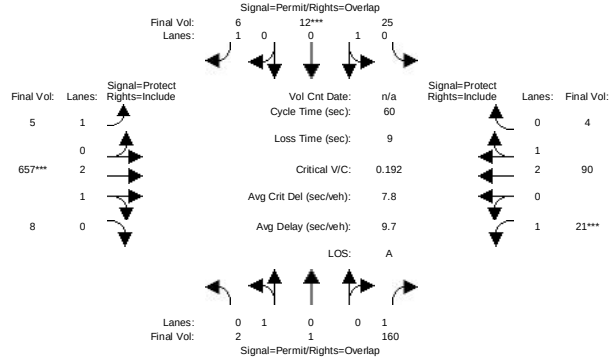
Present Day + Milpitas PM

Intersection #7: Borregas Ave / Caribbean Dr



Street Name:	Borregas Ave						Caribbean Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	10	10	10	10	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	2	1	160	24	12	6	5	657	8	21	90	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	1	160	24	12	6	5	657	8	21	90	3
Added Vol:	0	0	0	1	0	0	0	0	0	0	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	2	1	160	25	12	6	5	657	8	21	90	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	2	1	160	25	12	6	5	657	8	21	90	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2	1	160	25	12	6	5	657	8	21	90	4
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	2	1	160	25	12	6	5	657	8	21	90	4
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.89	0.89	0.85	0.84	0.84	0.85	0.95	0.91	0.91	0.95	0.90	0.90
Lanes:	0.67	0.33	1.00	0.68	0.32	1.00	1.00	2.96	0.04	1.00	2.87	0.13
Final Sat.:	1129	564	1615	1080	518	1615	1805	5114	62	1805	4936	219
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.10	0.02	0.02	0.00	0.00	0.13	0.13	0.01	0.02	0.02
Crit Moves:					****			****		****		
Green/Cycle:	0.17	0.17	0.28	0.17	0.17	0.45	0.28	0.57	0.57	0.12	0.40	0.40
Volume/Cap:	0.01	0.01	0.35	0.14	0.14	0.01	0.01	0.23	0.23	0.10	0.05	0.05
Delay/Veh:	20.9	20.9	17.6	21.6	21.6	9.2	15.5	6.5	6.5	23.9	10.9	10.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	20.9	20.9	17.6	21.6	21.6	9.2	15.5	6.5	6.5	23.9	10.9	10.9
LOS by Move:	C+	C+	B	C+	C+	A	B	A	A	C	B+	B+
HCM2kAvgQ:	0	0	2	1	1	0	0	2	2	0	0	0

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
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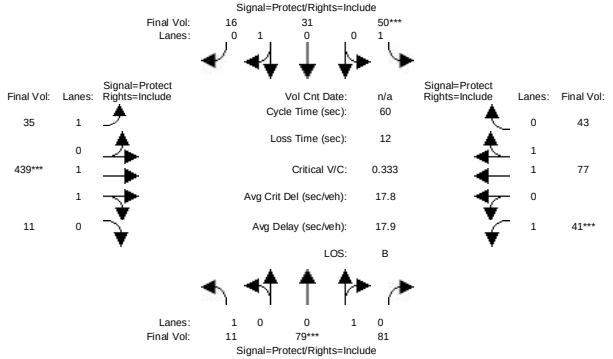
Intersection #8: Borregas Ave / Java Dr



Street Name:	Borregas Ave						Java Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	11	79	81	50	31	16	35	439	11	41	77	43
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	79	81	50	31	16	35	439	11	41	77	43
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	79	81	50	31	16	35	439	11	41	77	43
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	11	79	81	50	31	16	35	439	11	41	77	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	79	81	50	31	16	35	439	11	41	77	43
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	11	79	81	50	31	16	35	439	11	41	77	43
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.92	0.92	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.90	0.90
Lanes:	1.00	0.49	0.51	1.00	0.66	0.34	1.00	1.95	0.05	1.00	1.28	0.72
Final Sat.:	1805	867	889	1805	1189	614	1805	3508	88	1805	2191	1224
Capacity Analysis Module:												
Vol/Sat:	0.01	0.09	0.09	0.03	0.03	0.03	0.02	0.13	0.13	0.02	0.04	0.04
Crit Moves:		****		****				****		****		
Green/Cycle:	0.15	0.24	0.24	0.12	0.21	0.21	0.18	0.33	0.33	0.12	0.26	0.26
Volume/Cap:	0.04	0.38	0.38	0.24	0.12	0.12	0.11	0.38	0.38	0.19	0.13	0.13
Delay/Veh:	22.1	19.7	19.7	24.7	19.4	19.4	20.6	15.7	15.7	24.4	17.0	17.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	22.1	19.7	19.7	24.7	19.4	19.4	20.6	15.7	15.7	24.4	17.0	17.0
LOS by Move:	C+	B-	B-	C	B-	B-	C+	B	B	C	B	B
HCM2kAvgQ:	0	3	3	1	1	1	1	3	3	1	1	1

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
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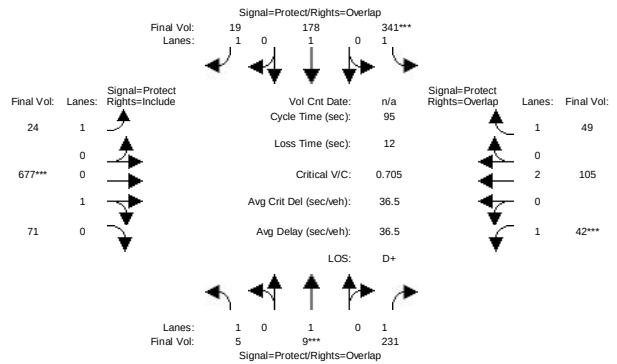
Present Day + Milpitas PM

Intersection #9: Crossman Ave / Java Dr



Street Name:	Corssman Ave						Java Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	5	9	231	341	178	19	24	677	71	42	105	49
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	5	9	231	341	178	19	24	677	71	42	105	49
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	5	9	231	341	178	19	24	677	71	42	105	49
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	5	9	231	341	178	19	24	677	71	42	105	49
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	5	9	231	341	178	19	24	677	71	42	105	49
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	5	9	231	341	178	19	24	677	71	42	105	49
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	1.00	0.85	0.95	1.00	0.85	0.95	0.99	0.99	0.95	0.95	0.85
Lanes:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.09	1.00	2.00	1.00
Final Sat.:	1805	1900	1615	1805	1900	1615	1805	1696	178	1805	3610	1615
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.14	0.19	0.09	0.01	0.01	0.40	0.40	0.02	0.03	0.03
Crit Moves:		****		****				****		****		
Green/Cycle:	0.14	0.11	0.18	0.22	0.19	0.42	0.22	0.47	0.47	0.07	0.32	0.54
Volume/Cap:	0.02	0.05	0.80	0.85	0.48	0.03	0.06	0.85	0.85	0.32	0.09	0.06
Delay/Veh:	35.7	38.3	51.9	50.6	35.1	16.3	29.0	29.7	29.7	43.1	22.6	10.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	35.7	38.3	51.9	50.6	35.1	16.3	29.0	29.7	29.7	43.1	22.6	10.2
LOS by Move:	D+	D+	D-	D	D+	B	C	C	C	D	C+	B+
HCM2kAvgQ:	0	0	9	12	5	0	1	20	20	1	1	1

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
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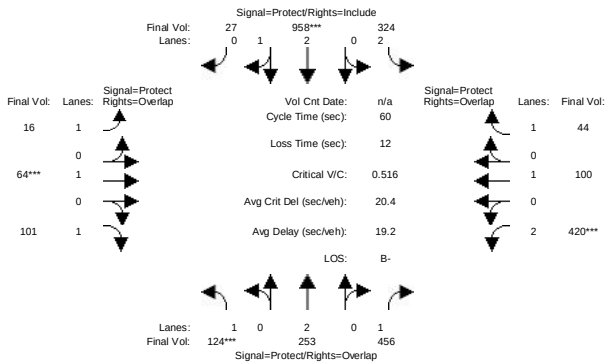
Present Day + Milpitas PM

Intersection #10: Fair Oaks Ave / TasmanDr



Street Name:	Fair Oaks Ave						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	124	253	456	324	958	27	16	64	101	420	100	44
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	124	253	456	324	958	27	16	64	101	420	100	44
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	124	253	456	324	958	27	16	64	101	420	100	44
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	124	253	456	324	958	27	16	64	101	420	100	44
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	124	253	456	324	958	27	16	64	101	420	100	44
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	124	253	456	324	958	27	16	64	101	420	100	44
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.85	0.92	0.91	0.91	0.95	1.00	0.85	0.92	1.00	0.85
Lanes:	1.00	2.00	1.00	2.00	2.92	0.08	1.00	1.00	1.00	2.00	1.00	1.00
Final Sat.:	1805	3610	1615	3502	5025	142	1805	1900	1615	3502	1900	1615
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.28	0.09	0.19	0.19	0.01	0.03	0.06	0.12	0.05	0.03
Crit Moves:	****				****				****		****	
Green/Cycle:	0.12	0.26	0.45	0.18	0.32	0.32	0.15	0.17	0.28	0.20	0.22	0.39
Volume/Cap:	0.59	0.27	0.62	0.52	0.60	0.60	0.06	0.20	0.22	0.60	0.24	0.07
Delay/Veh:	29.5	18.1	14.1	23.1	17.9	17.9	21.9	21.9	16.7	23.3	19.8	11.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	29.5	18.1	14.1	23.1	17.9	17.9	21.9	21.9	16.7	23.3	19.8	11.4
LOS by Move:	C	B-	B	C	B	B	C+	C+	B	C	B-	B+
HCM2kAvgQ:	3	2	7	3	6	6	0	1	2	4	1	0

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
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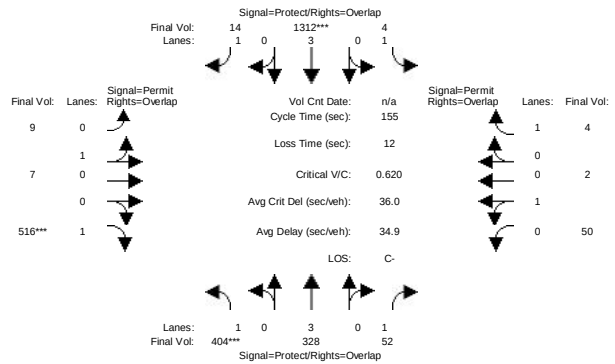
Present Day + Milpitas PM

Intersection #11: Carribean Dr / Moffett Park Dr



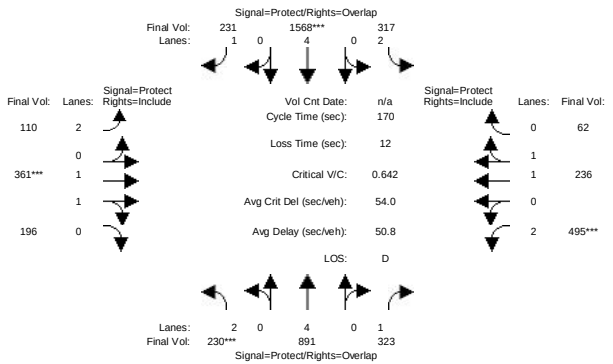
Street Name:	Carribean Dr						Moffett Park Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	10	10	10	10	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	404	327	52	4	1311	14	9	7	516	50	2	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	404	327	52	4	1311	14	9	7	516	50	2	4
Added Vol:	0	1	0	0	1	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	404	328	52	4	1312	14	9	7	516	50	2	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	404	328	52	4	1312	14	9	7	516	50	2	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	404	328	52	4	1312	14	9	7	516	50	2	4
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	404	328	52	4	1312	14	9	7	516	50	2	4
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.91	0.85	0.95	0.91	0.85	0.91	0.91	0.85	0.76	0.76	0.85
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	0.56	0.44	1.00	0.96	0.04	1.00
Final Sat.:	1805	5187	1615	1805	5187	1615	976	759	1615	1387	55	1615
Capacity Analysis Module:												
Vol/Sat:	0.22	0.06	0.03	0.00	0.25	0.01	0.01	0.01	0.32	0.04	0.04	0.00
Crit Moves:	****				****				****			
Green/Cycle:	0.36	0.45	0.45	0.32	0.41	0.41	0.15	0.15	0.51	0.15	0.15	0.47
Volume/Cap:	0.62	0.14	0.07	0.01	0.62	0.02	0.06	0.06	0.62	0.23	0.23	0.01
Delay/Veh:	42.7	24.9	24.1	36.3	37.0	27.4	56.1	56.1	28.2	58.1	58.1	21.8
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	42.7	24.9	24.1	36.3	37.0	27.4	56.1	56.1	28.2	58.1	58.1	21.8
LOS by Move:	D	C	C	D+	D+	C	E+	E+	C	E+	E+	C+
HCM2kAvgQ:	16	3	1	0	18	0	1	1	17	2	2	0

Note: Queue reported is the number of cars per lane.

City of Sunnyvale
Sunnyvale SMaRT Station
097318106

Level Of Service Computation Report
2000 HCM Operations (Future Volume Alternative)
Present Day + Milpitas PM

Intersection #12: Lawrence Expy / Tasman Dr



Street Name:	Lawrence Expy						Tasman Dr					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Min. Green:	7	10	10	7	10	10	7	10	10	7	10	10
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Volume Module:												
Base Vol:	230	891	323	317	1568	231	110	361	196	495	236	62
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	230	891	323	317	1568	231	110	361	196	495	236	62
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	230	891	323	317	1568	231	110	361	196	495	236	62
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	230	891	323	317	1568	231	110	361	196	495	236	62
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	230	891	323	317	1568	231	110	361	196	495	236	62
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	230	891	323	317	1568	231	110	361	196	495	236	62
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.85	0.92	0.91	0.85	0.92	0.90	0.90	0.92	0.92	0.92
Lanes:	2.00	4.00	1.00	2.00	4.00	1.00	2.00	1.30	0.70	2.00	1.58	0.42
Final Sat.:	3502	6916	1615	3502	6916	1615	3502	2216	1203	3502	2770	728
Capacity Analysis Module:												
Vol/Sat:	0.07	0.13	0.20	0.09	0.23	0.14	0.03	0.16	0.16	0.14	0.09	0.09
Crit Moves:	****				****				****		****	
Green/Cycle:	0.10	0.27	0.49	0.19	0.35	0.51	0.15	0.25	0.25	0.22	0.32	0.32
Volume/Cap:	0.64	0.48	0.41	0.48	0.64	0.28	0.20	0.64	0.64	0.64	0.27	0.27
Delay/Veh:	77.2	52.6	28.2	62.2	46.6	24.2	62.9	58.2	58.2	62.1	43.2	43.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	77.2	52.6	28.2	62.2	46.6	24.2	62.9	58.2	58.2	62.1	43.2	43.2
LOS by Move:	E-	D-	C	E	D	C	E	E+	E+	E	D	D
HCM2kAvgQ:	7	11	10	8	19	7	2	13	13	13	6	6

Note: Queue reported is the number of cars per lane.

Attachment C

Sunnyvale SMaRT Station Queuing Summary

Scenarios Analyzed	Turning Movement	Mathilda Ave																Java Dr						Fair Oaks Ave			Caribbean Dr						Lawrence Expy		
		Lockheed Martin Way #1			5th Ave #2			W Moffett Park Dr #3			WB SR-237 Ramps #4			EB SR-237 Ramps #5			Ross Dr #6			Borregas Ave #8			Crossman Ave #9			Tasman Dr #10			Borregas Ave #7			Moffett Park Dr #11			Tasman Dr #12		
		Link	AM	PM	Link	AM	PM	Link	AM	PM	Link	AM	PM	Link	AM	PM	Link	AM	PM	Link	AM	PM	Link	AM	PM	Link	AM	PM	Link	AM	PM	Link	AM	PM	Link	AM	PM
Present-Day Traffic	EBL	240	<25	47				320	<25	44							75	<25	30	180	<25	<25	180	<25	<25	150	<25	<25	100	<25	<25				350	130	61
	EBR	240	<25	260											<25	<25	35	<25	31				60	34	**507**	90	59	39				35	<25	**435**			
	WBL	315	44	76				270	36	121							35	**86**	**78**	400	30	<25	360	105	29	400	74	93	95	73	<25				420	173	315
	WBR										305	<25	<25				35	**71**	<25				320	124	<25							60	<25	<25			
	NBL	270	80	<25	400	<25	<25										130	34	<25	195	<25	<25				295	<25	81				690	266	397	220	101	172
	NBR	50	59	61										255	<25	<25							25	<25	**217**	295	90	184	45	<25	57	135	<25	34	190	151	**261**
	SBL	175	<25	<25	220	<25	<25	150	<25	<25							100	<25	67	275	<25	<25	110	<25	**309**	215	<25	69	95	<25	<25	200	<25	<25	210	60	195
	SBR	195	144	<25	210	50	<25																50	61	<25							90	<25	<25	195	56	166
Present-Day Plus Milpitas Truck Traffic	EBL	240	<25	47				320	<25	44							75	<25	30	180	<25	<25	180	<25	<25	150	<25	<25	100	<25	<25				350	130	61
	EBR	240	<25	260											<25	<25	35	<25	31				60	34	**507**	90	59	39				35	<25	**435**			
	WBL	315	44	76				270	36	121							35	**86**	**78**	400	30	<25	360	105	29	400	74	93	95	73	<25				420	173	315
	WBR										305	<25	<25				35	**71**	<25				320	124	<25							60	<25	<25			
	NBL	270	80	<25	400	<25	<25										130	34	<25	195	<25	<25				295	<25	81				690	266	397	220	101	172
	NBR	50	59	61										255	<25	<25							25	<25	**217**	295	90	184	45	<25	57	135	<25	34	190	151	**261**
	SBL	175	<25	<25	220	<25	<25	150	<25	<25							100	<25	67	275	<25	<25	110	<25	**309**	215	<25	69	95	<25	<25	200	<25	<25	210	61	195
	SBR	195	144	<25	210	50	<25																50	61	<25							90	<25	<25	195	56	166

Note: Locations where the queue length exceeds the link storage by 25 feet or more are shown in shaded cells.

EXHIBIT G:
HAZARDOUS WASTE EXCLUSION PROGRAM

EXHIBIT G
HAZARDOUS WASTE EXCLUSION PROGRAM

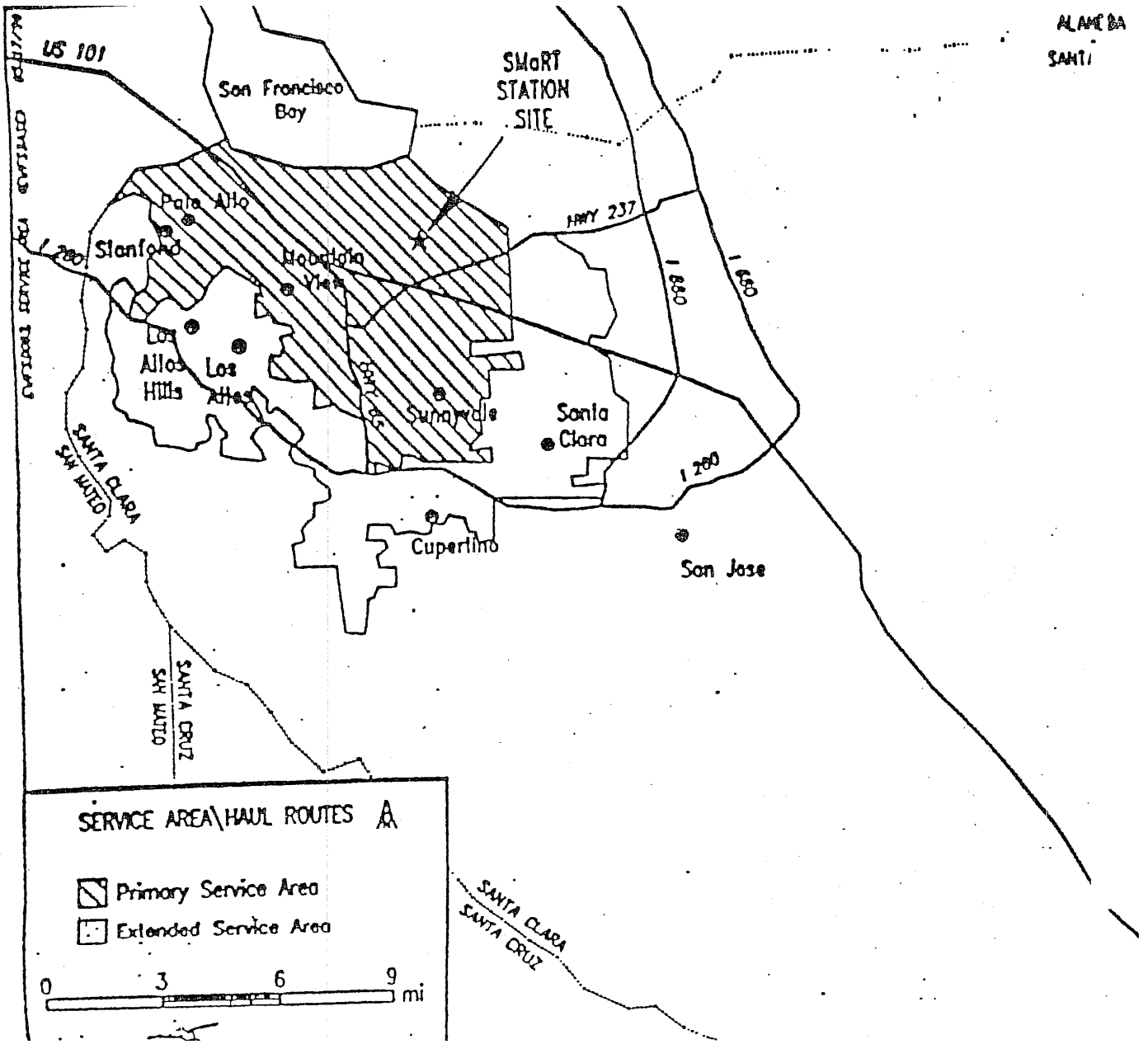


EXHIBIT G
HAZARDOUS WASTE EXCLUSION PROGRAM

Load Checking Procedure

All handling, storage, and disposal of hazardous wastes will be in conformance with the California Code of regulations Title 22, Chapter 12, Section 6626.10, et al. The load checking program includes the routine questioning of drivers, random inspection of vehicle loads, and inspection of suspicious loads. Under this program, drivers will be questioned about the contents of their load as they enter the facility and during the load check. The list of questions which will be asked of each driver appears in Attachment B.

Random inspections will be performed on a variety of different vehicle types that enter the facility. Checks will also be performed on those vehicles which are more likely to contain prohibited materials, based on past experience, waste source, or suspicious behavior of the driver. A minimum of six formal load checks will be performed each week. Two of the six vehicles will be of those transporting commercial waste, two will be of vehicles transporting industrial waste and one vehicle each of residential waste and publicly hauled waste. If staffing and the worklevel all, the frequency of inspections will be increased.

Vehicle load inspections will be performed uniformly, whether the inspection is random or at the discretion of the toll collector. The inspection will be performed using the following procedure:

1. Explain to the driver that an inspection of the load will be required to determine if prohibited materials are present.
2. If the driver refuses, let him or her know that the solid waste cannot be dumped at the SMaRT Station unless he/she cooperates with the load checking program. If the driver chooses to leave, the vehicle license plate number and company name will be recorded in the logbook.
3. The driver will be asked to dump the load into a window at a designated tipping area where the inspection will be performed. The load checking area will be separated from the regular tipping area.
4. The inspection will entail sifting through the waste with a rake or other handheld tools looking for the products contained in Attachment A Two samples from the load. The vehicle type, material found in the load, and the name of the person performing the inspection will be recorded on the load checking datasheet in Attachment C.
5. If no prohibited materials are found, the driver will be thanked for his or her cooperation and allowed to leave.
6. If any prohibited material is identified during the load check, the driver will be informed that the materials will not be accepted at the SMaRT Station, that the materials must be removed from the facility, and that arrangements for the proper disposal must be made.

EXHIBIT G
HAZARDOUS WASTE EXCLUSION PROGRAM

7. If prohibited materials are found, the inspector will, at a minimum, record the individual's name, license plate number, company name (if applicable) and type of waste found, in the logbook. If the material is suspected to possess an immediate danger to employees, its' users or the facility, the Public Safety Department's hazardous material response units and the Santa Clara County's Office of Environmental Health will be notified of the situation immediately.
8. Hazardous materials and other prohibited materials found during load checking will be returned to the driver for removal from the site or moved to the hazardous materials storage area. This decision will be made by the onsite supervisor.
9. After the load has been checked, the driver will be given a slip that has been signed by the inspector which must be returned to the toll booth.
10. In the event that an excessive amount of prohibited material is found in the load, or if the same user or generator has made repeated attempts to dispose of prohibited materials, the operator will notify the proper regulatory agencies about the incident(s). More stringent measures, such as civil or criminal penalties, will be pursued at the discretion of the City of Sunnyvale and/or Station Operator.
11. A log for the load check program will be retained onsite for 18 months.

Equipment operators will also be trained to recognize possible illegal waste containers and push them to an area out of the disposal traffic pattern for further examination.

Other employees who work in and around the public disposal area will be trained to recognize possible illegal waste containers and notify the load check team so that an inspection can be made. If any of the personnel observe unacceptable waste being unloaded, they will be trained to halt the unloading and summon the load check team for inspection of the load.

Storage of Prohibited Materials

The SMaRT Station is equipped with a hazardous material storage area which will be used for the temporary storage of prohibited materials recovered during the load check program. Caution will be used to make sure incompatible materials are not mixed together or stored next to each other. The storage area will be fenced and will be locked at all times unless an authorized SMaRT Station employee is present. Containers that will be used to store hazardous material will have secondary containment, security, ventilation, and fire-resistant construction. Incompatible waste will be segregated and separated storage partitions that are divided by double metal walls. This will prevent acids, bases, and flammable from coming in contact with each other. Containers will have a flammable bay where a fire extinguisher will be kept.

Materials that are not removed by the user or generator, or are abandoned by the unknown generator, will be removed from the Station by a hazardous waste hauling firm retained by the operator to collect, transport and dispose of all prohibited material.

EXHIBIT G
HAZARDOUS WASTE EXCLUSION PROGRAM

Hazardous materials collected by the SMaRT Station will be stored on the property for no longer than 90 days.

Employee Training

All SMaRT Station employees will be required to attend a training program that teaches them how to detect, recognize and handle hazardous and other prohibited materials.

The program will also teach them about emergency procedures, how to use equipment safely, and how to use the SMaRT Station's communication system. All employees will attend an annual review of the training program.

The load checking program will be performed by SMaRT Station employees that have taken and passed a 40-hour CAL-OSHA hazardous material training course. The program teaches them how to recognize and handle hazardous material.

SMaRT Station Record Keeping

The toll collector will maintain a logbook onsite to record all persons, companies, and vehicles that are found to bring hazardous, or other prohibited materials into the SMaRT Station. The license plate number, name, and company name of drivers who refuse to undergo load checking will also be recorded in the logbook.

The information in the logbook will be compiled into two lists that will be updated quarterly. The first will alphabetically list the names of all the individuals and companies that either refused to undergo a load check or were carrying hazardous or other prohibited materials. The second list will contain the license plate numbers in numerical sequence of vehicles whose drivers either refused to undergo a load check or were carrying hazardous or other prohibited waste. These lists will be useful tools for identifying repeat violators and enforcing the Hazardous Waste Exclusion Program. The report will also include information regarding the amount and type of hazardous material that was collected and rejected at the facility. Copies of this information will be kept onsite and will be sent to the Local Enforcement Agency for their records.

Records of employee training for hazardous material handling will also be retained at the SMaRT Station.

Protective Equipment

Employees that perform load checks will wear protective clothing including Tyvek suits, orange safety vests, hard hats, gloves, protective goggles, respirators, and boots. After each load check Tyvek suits will be disposed, and all other equipment will be cleaned.

EXHIBIT G
HAZARDOUS WASTE EXCLUSION PROGRAM

The facility will keep mitigation equipment, such as brooms, shovels, and absorbent, onsite for use of an emergency.

Emergency Plan with Government Agencies

A map of the SMaRT Station will be issued to the Sunnyvale Public Safety Department. The map will indicate where the hazardous material storage area is located, all roads to and inside the facility, and possible evacuation routes. The SMaRT Station will also have a map to the nearest hospital posted at the toll booth for use in the event of an emergency. An emergency evacuation plan for the facility will be modeled after the emergency evacuation plan that is being developed by the Sunnyvale Water Pollution Control Plant, which is located on the adjacent site. The emergency plan being developed for the Sunnyvale Water Pollution Control Plant is to guard against a possible leak of chlorine gas.

The SMaRT Station's emergency evacuation plan will be added as an addendum to this report when it is finalized.

Program Review

Load check records and operating experience will be reviewed quarterly for two

quarters, then semi-annually for one year, and annually thereafter. This review will focus on the following areas:

- Is the program working? Is less hazardous or designated material being foundover time?
- Is the program being implemented in a safe manner?
- Do drivers tend to cooperate, and if no, why not?
- Have any behavior patterns emerged that could be used to improve the program? For example, do drivers who answer "no" to all questions tend to be carrying hazardous or other prohibited materials more often than those who answer "yes"? These reviews will result in specific recommendations for changes in the program.
- Is more public education about the program needed?
- What types of waste are most commonly detected?
- What types of loads most commonly carry hazardous waste?
- How much waste is being rejected and what is the cost per ton of rejectedwaste?

EXHIBIT G
HAZARDOUS WASTE EXCLUSION PROGRAM

Attachment A
Generic Product Categories Potentially Containing Hazardous Waste

Product	**Potential Hazardous Constituent**
Paints and Allied Products	
Solvent-based paints	Solvents, heavy metals
Oil-based paints	Heavy metals
(Dried water-based paints are acceptable)	
Thinner	Solvents
Paint recovers	Solvents
Pesticides	
Insecticides	Solvents & toxic hydrocarbons
Fungicides	
Rodenticides	
Herbicides	
Molluscicides	
Automotive Products	
Batteries	Heavy metals, acids
Coolant	Ethylene glycol
Lubricating oils	Solvents, heavy metals
Degreasers	Solvents
Household Cleaners and polishes Cleaners	
Cleaners	Solvents, acids, bases
Drain openers	Solvents, acids, bases
Detergents	Solvents, bases
Polishes, waxes	Solvents, acids
Glues and Solvents	Solvents
Glue	Solvents
Solvents	
Treated Wood	Pentachlorophenol, dioxins

EXHIBIT G
HAZARDOUS WASTE EXCLUSION PROGRAM

Product	**Potential Hazardous Constituent**
Demolition Debris	
Floor tile, linoleum	Asbestos
Roofing materials	Asbestos
Ripe/duct insulation	Asbestos
Ceiling tiles	Asbestos
Excavated Soils	Solvents, fuel oil
	Pesticides, some metals
Mercury-Containing Items	
Universal Waste	
Electronic device	
Fluorescent lamps and tubes	
Compressed gas cylinders	
Home generated needles and sharps	
Nonempty aerosol cans that contain hazardous materials	

Attachment 8
Hazardous Waste Exclusion Program Questions

If a "yes" response is received to any of the following questions, the toll collector or inspector must determine the source of the load.

1. Are you carrying any paint, thinners, or solvents?
2. Are you carrying any automotive waste oils, coolant fluid, or batteries?
3. Are you carrying any household cleaners, polishes, or waxes?
4. Are you carrying any pesticides, e.g., snail or slug bait, rat killer, insecticides, orfungicides?
5. Are you carrying any treated wood or contaminated soil?
6. Are you carrying any floor tiles, pipe/duct insulation, ceiling tiles, or roofing materials?
7. Are you carrying any medical waste? Any red bag wastes? Any dead animals?
8. Are you carrying any universal waste?

EXHIBIT G
HAZARDOUS WASTE EXCLUSION PROGRAM

Attachment C
SMaRT Station Hazardous Waste Exclusion Program

Date: _____ Sheet Control Number: _____

Type of Vehicle: _____ Vehicle License Plate #: _____

Driver's Name: _____ Driver's License #: _____

Transport Company: _____

Source(s) or Origin of Load: _____

Description of Material Checked

_____

_____

_____

Prohibited Materials Found

_____

_____

_____

Course of Action Taken

_____

_____

_____

_____

_____
Inspector's Signature and ID#

EXHIBIT H:
FACILITY EQUIPMENT

EXHIBIT H
FACILITY EQUIPMENT

Equip. No.	System	Description	Electrical Connection	Additional Equipment	Owner
C-100	MSW	Walking Floor - Keith		Hydraulic Pump	City of Sunnyvale
C-101	MSW	72" Double Beaded Steel Inclined Infeed Conveyor			City of Sunnyvale
C-102	MSW	60" Flat Slider Pre-Sort Conveyor			City of Sunnyvale
C-103	MSW	60" Roller Chain Belt Trommel Overs Conveyor			City of Sunnyvale
C-104	MSW	60" Flat Slider Trommel Post Sort Conveyor			City of Sunnyvale
C-105	MSW	60" Trough Slider Trommel Unders Conveyor			City of Sunnyvale
C-106	MSW	60" Trough Slider Trommel Middlings Conveyor			City of Sunnyvale
C-200	MSW	Walking Floor - Keith		Hydraulic Pump	City of Sunnyvale
C-201	MSW	72" Double Beaded Steel Inclined Infeed Conveyor			City of Sunnyvale
C-202	MSW	60" Flat Slider Pre-Sort Conveyor			City of Sunnyvale
C-203	MSW	60" Roller Chain Belt Trommel Overs Conveyor			City of Sunnyvale
C-204	MSW	60" Flat Slider Trommel Post Sort Conveyor			City of Sunnyvale
C-205	MSW	60" Trough Slider Trommel Unders Conveyor			City of Sunnyvale
C-206	MSW	60" Trough Slider Trommel Middlings Conveyor			City of Sunnyvale
C-400	MSW	48" Flat Slider Trash Transfer Conveyor			City of Sunnyvale
C-401	MSW	48" Roller Chain Belt Trash Transfer Conveyor			City of Sunnyvale
C-402	MSW	48" Trough Slider Trash Transfer Conveyor			City of Sunnyvale
C-500	MSW	48" Trough Idler >2" Organics Transfer Conveyor			City of Sunnyvale
C-501	MSW	36" Trough Idler >2" Organics Transfer Conveyor			City of Sunnyvale
C-502	MSW	36" Trough Idler >2" Organics Transfer Conveyor			City of Sunnyvale
C-505	MSW	Ferrous Transfer Conveyor			City of Sunnyvale
C-601	MSW	72" Trough Idler Trash Transfer Conveyor			City of Sunnyvale
C-602	MSW	72" Trough Idler Trash Transfer Conveyor			City of Sunnyvale
C-602E	MSW	72" Trough Idler Trash Transfer Conveyor			City of Sunnyvale
C-700	MSW	60" Steel Pan Bulky Plastic Transfer Conveyor			City of Sunnyvale
C-701	MSW	60" Steel Pan Bulky Residue Transfer Conveyor			City of Sunnyvale
C-702	MSW	60" Steel Pan Wood Transfer Conveyor			City of Sunnyvale
C-703	MSW	60" Steel Pan Bulky Metal Transfer Conveyor			City of Sunnyvale
C-704	MSW	60" Flat Slider OCC Transfer Conveyor			City of Sunnyvale
C-705	MSW	60" Flat Slider OCC Transfer Conveyor			City of Sunnyvale
C-706	MSW	60" Roller Chain Belt >9" Transfer Conveyor			City of Sunnyvale
C-707	MSW	60" Flat Slider >9" Transfer Conveyor			City of Sunnyvale
C-711	MSW	60" Flat Slider Sorting Conveyor			City of Sunnyvale
C-712	MSW	60" Flat Slider Sorting Conveyor			City of Sunnyvale
C-717	MSW	36" Roller Chain Belt PET Transfer Conveyor			City of Sunnyvale
C-718	MSW	48" Trough Slider >5" Transfer Conveyor			City of Sunnyvale
C-719	MSW	48" Trough Slider >5" Transfer Conveyor			City of Sunnyvale
C-720	MSW	V-701 Unders Transfer 36" Slider Conveyor			City of Sunnyvale
C-721	MSW	V-701 Overs Transfer 36" Slider Conveyor			City of Sunnyvale
C-722	MSW	Mixed Paper Transfer 60" Trough Slider Conveyor			City of Sunnyvale
C-723	MSW	OCC Walking Floor - Hallco		Hydraulic Pump and Door Hoists	City of Sunnyvale
C-724	MSW	OCC Walking Floor - Hallco		Hydraulic Pump and Door Hoists	City of Sunnyvale
C-725	MSW	Mixed Paper Walking Floor - Hallco		Hydraulic Pump and Door Hoists	City of Sunnyvale
C-726	MSW	Ferrous Walking Floor - Hallco		Hydraulic Pump and Door Hoists	City of Sunnyvale
	MSW	Bin Door Hoists			City of Sunnyvale
C-727	MSW	36" Trough Slider V-701 Overs Transfer Conveyor			City of Sunnyvale
C-729	MSW	24" Roller Chain Belt Containers Transfer Conveyor			City of Sunnyvale
C-730	MSW	24" Flat Slider Aluminum QC Sort Conveyor			City of Sunnyvale
C-731	MSW	48" Flat Slider >9" Transfer Conveyor			City of Sunnyvale
C-800	MSW	72" Roller Chain Belt Baler Feed Conveyor			City of Sunnyvale

EXHIBIT H
FACILITY EQUIPMENT

Equip. No.	System	Description	Electrical Connection	Additional Equipment	Owner
C-801	MSW	72" Roller Chain Belt Baler Feed Conveyor			City of Sunnyvale
C-803	MSW	Minus 2" Organics Transfer Conveyor			BCWS Financed as part of 2014 Contract option, City owned as soon as it was installed
C-804	MSW	Minus 2" Organics Transfer Conveyor			BCWS Financed as part of 2014 Contract option, City owned as soon as it was installed
C-805	MSW	Minus 2" Organics Transfer Conveyor			BCWS Financed as part of 2014 Contract option, City owned as soon as it was installed
HPU - MRF Fines	MSW	Minus 2" Hydraulic Power Unit for walking floor trailers		Laser height sensors	BCWS Financed as part of 2014 Contract option, City owned as soon as it was installed
C-001	MSW	Trash Transfer Conveyor			BCWS Financed as part of 2014 Contract option, City owned as soon as it was installed
C-003	MSW	Containers Transfer Conveyor			BCWS Financed as part of 2014 Contract option, City owned as soon as it was installed
C-004	MSW	>5" Unders Transfer Conveyor			BCWS Financed as part of 2014 Contract option, City owned as soon as it was installed
C-005	MSW	>9" Unders Transfer Conveyor			BCWS Financed as part of 2014 Contract option, City owned as soon as it was installed
C-007	MSW	Containers Transfer Conveyor			BCWS Financed as part of 2014 Contract option, City owned as soon as it was installed
C-010	MSW	Bulky Residue from Pre-Sort Transfer Conveyor			BCWS Financed as part of 2014 Contract option, City owned as soon as it was installed
T-100	MSW	Trommel			City of Sunnyvale
T-200	MSW	Trommel			City of Sunnyvale
E-300	MSW	Electro Magnet			City of Sunnyvale
E-500	MSW	Electro Magnet			City of Sunnyvale
E-700	MSW	Electro Magnet			City of Sunnyvale
E-701	MSW	Electro Magnet			City of Sunnyvale
G-301	MSW	Eddy Current Separator			City of Sunnyvale
V-700	MSW	Primary Disc Screen Minus 5"			City of Sunnyvale
V-701	MSW	Secondary Disc Screen (polishing)			City of Sunnyvale
CP-002	MSW	CP Screens (2D/3D)			BCWS Financed as part of 2014 Contract option, City owned as soon as it was installed
CP-006	MSW	CP Screens (2D/3D)			BCWS Financed as part of 2014 Contract option, City owned as soon as it was installed
B-800	MSW	Gorilla 200T Baler Serial #8604			City of Sunnyvale
M-1	Recycling	Fiber Infeed Conveyor			City of Sunnyvale
M-2	Recycling	Fiber Sorting Line Conveyor			City of Sunnyvale
M-3	Recycling	Container Infeed Conveyor			City of Sunnyvale
E-4	Recycling	Trommel Magnet			City of Sunnyvale
M-5	Recycling	Air Classifier Conveyor (Lights)			City of Sunnyvale
E-6	Recycling	Air Classifier (Cyclone)			City of Sunnyvale
M-8	Recycling	Lights (Plastic/Aluminum) Sorting Line Conveyor			City of Sunnyvale
M-9	Recycling	Heavies Transfer Conveyor			City of Sunnyvale
M-10	Recycling	Heavies (Glass) Sorting Line Conveyor			City of Sunnyvale
M-11	Recycling	Baler Infeed Conveyor			City of Sunnyvale
M-12	Recycling	Ferrous Transfer Conveyor			City of Sunnyvale

EXHIBIT H
FACILITY EQUIPMENT

Equip. No.	System	Description	Electrical Connection	Additional Equipment	Owner
C-12	Recycling	Lights Transfer Conveyor			BCWS Financed as part of 2014 Contract option, City owned as soon as it was installed
C-13	Recycling	Lights Transfer Conveyor			BCWS Financed as part of 2014 Contract option, City owned as soon as it was installed
MSS-14	Recycling	Optical Sorter			BCWS Financed as part of 2014 Contract option, City owned as soon as it was installed
C-16	Recycling	PET QC From MSS Conveyor			BCWS Financed as part of 2014 Contract option, City owned as soon as it was installed
C-17	Recycling	HDPE QC From MSS Conveyor			BCWS Financed as part of 2014 Contract option, City owned as soon as it was installed
C-18	Recycling	HDPE QC From C-17 Conveyor			BCWS Financed as part of 2014 Contract option, City owned as soon as it was installed
C-19	Recycling	Residue From MSS Conveyor			BCWS Financed as part of 2014 Contract option, City owned as soon as it was installed
C-20	Recycling	Residue To Eddy Current Separator Conveyor			BCWS Financed as part of 2014 Contract option, City owned as soon as it was installed
B-22	Recycling	Blower			BCWS Financed as part of 2014 Contract option, City owned as soon as it was installed
C-22A	Recycling	Aluminum QC Conveyor			BCWS Financed as part of 2014 Contract option, City owned as soon as it was installed
C-23	Recycling	Fiber QC Sort Conveyor			BCWS Financed as part of 2014 Contract option, City owned as soon as it was installed
C-25	Recycling	Residue Sort Conveyor			BCWS Financed as part of 2014 Contract option, City owned as soon as it was installed
C-26	Recycling	Residue Transfer Conveyor			BCWS Financed as part of 2014 Contract option, City owned as soon as it was installed
G-300	Recycling	Eddy Current Separator			City of Sunnyvale
Air Compressor	Recycling	Kaeser CSD 75T			BCWS Financed as part of 2014 Contract option, City owned as soon as it was installed
	Recycling	Silos			City of Sunnyvale
	Recycling	Bin Door Hoists			City of Sunnyvale
Baler	Recycling	Harris Gorilla Serial 200S4-13/9			City of Sunnyvale
	Recycling	Truck Scale		Unattended Scale System	City of Sunnyvale
	Tip Floor	Loadout Top Load Conveyor			City of Sunnyvale
	Tip Floor	Loadout Compactor Feed Conveyor			City of Sunnyvale
	Tip Floor	Loadout Compactor			City of Sunnyvale
	Tip Floor	Loadout Emergency Generator			City of Sunnyvale
A1, A2, A8, A9	Foodscraps	In Feed Hooper and Augers	Variable Frequency Drive		Bay Counties Waste Services, Inc. / City of Sunnyvale will own as of 1/1/2022
A3	Foodscraps	Pre Shred Auger	Variable Frequency Drive		Bay Counties Waste Services, Inc. / City of Sunnyvale will own as of 1/1/2022
A4	Foodscraps	Shredtech E754 ST75	Variable Frequency Drive	Laser height sensor	Bay Counties Waste Services, Inc. / City of Sunnyvale will own as of 1/1/2022

EXHIBIT H
FACILITY EQUIPMENT

Equip. No.	System	Description	Electrical Connection	Additional Equipment	Owner
A5	Foodscraps	Post Shred Auger	Variable Frequency Drive		Bay Counties Waste Services, Inc. / City of Sunnyvale will own as of 1/1/2022
A6	Foodscraps	Pre Press Auger	Variable Frequency Drive		Bay Counties Waste Services, Inc. / City of Sunnyvale will own as of 1/1/2022
BioPress	Foodscraps	BioPress	Variable Frequency Drive	Laser height sensor	Bay Counties Waste Services, Inc. / City of Sunnyvale will own as of 1/1/2022
A7	Foodscraps	Post Press Auger	Variable Frequency Drive		Bay Counties Waste Services, Inc. / City of Sunnyvale will own as of 1/1/2022
Ramp	Foodscraps	Truck Ramp	None		Bay Counties Waste Services, Inc. / City of Sunnyvale will own as of 1/1/2022
Pumps	Foodscraps	Six Wilden Air Diaphragm Pumps	None		Bay Counties Waste Services, Inc. / City of Sunnyvale will own as of 1/1/2022
Pressure Washer	Foodscraps	Hotsy Pressure Washer	Circuit Breaker		Bay Counties Waste Services, Inc. / City of Sunnyvale will own as of 1/1/2022
Air Compressor	Foodscraps	Dual Ingersoll Rand Compressors	Circuit Breaker		Bay Counties Waste Services, Inc. / City of Sunnyvale will own as of 1/1/2022
Storage Tanks	Foodscraps	Three 5,000 gallon Poly storage tanks	None	Laser height sensor	Bay Counties Waste Services, Inc. / City of Sunnyvale will own as of 1/1/2022
Sweco Screen	Foodscraps	Sweco Screen for fines	Circuit Breaker		Bay Counties Waste Services, Inc. / City of Sunnyvale will own as of 1/1/2022
Skids (3) and Sweco Container Room	Foodscraps	Skids (3) and Sweco Container Room			Bay Counties Waste Services, Inc. / City of Sunnyvale will own as of 1/1/2022
C-807	Yardwaste				BCWS Financed as part of 2014 Contract option, City owned as soon as it was installed
Chain Feed Conveyor	Yardwaste	Chain Conveyor			City of Sunnyvale
Jeffrey 47WBH	Yardwaste	Hammermill Grinder		Hydraulic Pump	BCWS Financed as part of 2014 Contract option, City owned as soon as it was installed
Product Conveyor	Yardwaste	Slider Belt			City of Sunnyvale
C-808	Yardwaste				BCWS Financed as part of 2014 Contract option, City owned as soon as it was installed
C-809	Yardwaste				BCWS Financed as part of 2014 Contract option, City owned as soon as it was installed
HPU - Greenwaste	MSW	Greenwaste Hydraulic Power Unit for walking floor trailers		Laser height sensors	BCWS Financed as part of 2014 Contract option, City owned as soon as it was installed
Dust Collector	Yardwaste	Mfr. Torit-Day			City of Sunnyvale
Electromagnet	Yardwaste	Dings Model 23T			City of Sunnyvale
MSW Pre-Sort room	Facility			HVAC Unit	City of Sunnyvale
MSW Post-Sort room	Facility			HVAC Unit	City of Sunnyvale
Sort station and equipment access platforms/railings	Facility				City of Sunnyvale

EXHIBIT H
FACILITY EQUIPMENT

Equip. No.	System	Description	Electrical Connection	Additional Equipment	Owner
Lighting	Facility				City of Sunnyvale
Fire Supression/Alarm system	Facility				City of Sunnyvale
Structural Supports	Facility				City of Sunnyvale
Roof and Extrior building	Facility				City of Sunnyvale
Gutter System	Facility				City of Sunnyvale
Strom Drain System	Facility				City of Sunnyvale
Facility Flooring	Facility				City of Sunnyvale
Perimiter Fencing	Facility				City of Sunnyvale
Hazardous/Universal Waste/Oil Storage Facility	Facility				City of Sunnyvale
Irrigation System	Facility				City of Sunnyvale
Radiation System	Facility				City of Sunnyvale
Scale House	Facility				City of Sunnyvale
Truck Scales (3)	Facility	70' Concrete Deck			City of Sunnyvale
Main Electrical Switch Gear	Facility				City of Sunnyvale
MCC Panels	Facility				City of Sunnyvale
Water/sewage pipe	Facility				City of Sunnyvale
CRV Buyback scale/facility	Facility				City of Sunnyvale
Office/Conference Room/Break Room/Restrooms	Facility				City of Sunnyvale
Fuel Tanks (2)	Facility				City of Sunnyvale
Underground Oil Storage Tank	Facility				City of Sunnyvale
Mist System	Facility				City of Sunnyvale

EXHIBIT H
FACILITY EQUIPMENT

Equip. No.	System	Description	Electrical Connection	Additional Equipment	Non-Routine Maintenance Example
C-601	MSW	72" Trough Idler Trash Transfer Conveyor			Replacement of belt
T-100	MSW	Trommel			Repair or replacement of the concrete
T-200	MSW	Trommel			Repair or replacement of the concrete
G-301	MSW	Eddy Current Separator			Repair or replacement of Rotor
B-800	MSW	Gorilla 200T Baler Serial #8604			Programming and logic repair, complex diagnosis
MSS-14	Recycling	Optical Sorter			Programming and logic repair, complex diagnosis
G-300	Recycling	Eddy Current Separator			Repair or replacement of Rotor
Air Compressor	Recycling	Kaeser CSD 75T			We are not certified to do any maintenance on this item. All repairs and maintenance are non-routine aside from cleaning
Baler	Recycling	Harris Gorilla Serial 200S4-13/9			Programming and logic repair, complex diagnosis
	Recycling	Truck Scale		Unattended Scale System	We are not certified to do any maintenance on this item. All repairs and maintenance are non-routine.
Loadout Compactor	Tip Floor	Amfab TP-500			Cylinder repair or replacement, and Programming and logic repair, complex diagnosis
	Tip Floor	Loadout Emergency Generator			We are not certified to do any maintenance on this item. All repairs and maintenance are non-routine aside from cleaning and oil changes
Fire Supression/Alarm system	Facility				We are not certified to do any maintenance on this item. All repairs and maintenance are non-routine aside from cleaning
Structural Supports	Facility				All maintenance is non-routine.
Roof and Extrior building	Facility				All maintenance is non-routine aside from cleaning the building exterior.
Gutter System	Facility				All maintenance is non-routine, aside from cleaning
Strom Drain System	Facility				All maintenance is non-routine.
Facility Flooring	Facility				All maintenance is non-routine, aside from cleaning
Asphalt Roadways	Facility				All maintenance is non-routine, aside from cleaning
Perimiter Fencing	Facility				Landscapers handle this item
Hazardous/Universal Waste/Oil Storage Facility	Facility				All maintenance is non-routine aside from cleaning and replacing liners.
Irrigation System	Facility				Landscapers handle this item
Radiation System	Facility				We are not certified to do any maintenance on this item. All repairs and maintenance is non-routine aside from cleaning
Truck Scales (3)	Facility	70' Concrete Deck			All maintenance is non-routine, aside from cleaning
Main Electrical Switch Gear / Main Electric Room	Facility				We are not certified to do any maintenance on this item. All repairs and maintenance is non-routine.

EXHIBIT H
FACILITY EQUIPMENT

Equip. No.	System	Description	Electrical Connection	Additional Equipment	Non-Routine Maintenance Example
MCC Panels	Facility				Any major repair outside of accessable cleaning, thermographic imaging, and megging.
Water/sewage pipe, Water heater	Facility				All maintenance is non-routine.
Fuel Tanks (2)	Facility				All maintenance is non-routine.
Underground Oil Storage Tank	Facility				All maintenance is non-routine.
Underground Oil Storage Tank	Facility				All maintenance is non-routine.
HVAc System	Facility				We are not certified to do any maintenance on this item.

EXHIBIT H
FACILITY EQUIPMENT

Existing and New Equipment to be Furnished and Owned by Contractor

Identify existing and new equipment to be used during the extension period. Also presented on the Depreciation Schedule Cost Form Exhibit

Equipment	Existing	Proposed New	Manufacturer	Model #
Transfer Operations				
Tractors	2	10	Peterbilt	567
Trailers	4	10	Peerless	
Roll-offs	1	1	Peterbilt	
4 cubic yard bins	2	0	Consolidate Fabricators	
6 cubic yard bins	0	0	Consolidate Fabricators	
Tipping Floor Operations				
Loader	0	1	Catepillar	950H
Loader (used)	1	0	Catepillar	950
Forklift	0	1	BYD (Electric)	8k
4 cubic yard bins	0	2	Consolidate Fabricators	
6 cubic yard bins	6	6	Consolidate Fabricators	
30 yard roll-off Bin	0	10	Consolidate Fabricators	
40 yard roll-off Bin	0	2	Consolidate Fabricators	
MSW Processing				
Escavator	1	0	Catepillar	320
Forklift	0	1	BYD (Electric Clamp)	6k
Forklift	0	1	BYD Forks(Electric)	6k
Forklift (Used)	1	0	Caterpillar	8k
Skid Steer	0	1	Caterpillar	246B
4 cubic yard bins	0	8	Consolidate Fabricators	
6 cubic yard bins	0	8	Consolidate Fabricators	
30 yard roll-off Bin	0	3	Consolidate Fabricators	
Buyback/Dropoff Center				
6 cubic yard humpback bins	0	15	Consolidate Fabricators	
Yardwaste Operations				
Loader	0	1	Catepillar	926M
4 cubic yard bins	0	4	Consolidate Fabricators	
Source Separated Recyclables Processing				
Loader	0	1	Catepillar	906
Forklift	0	1	BYD (Electric Clamps)	6k
Forklift	0	1	BYD- Forks (Electric)	8k
Forklift (Used)	1	0	Clamp	6k
4 cubic yard bins	3	8	Consolidate Fabricators	
30 yard roll-off Bin	0	6	Consolidate Fabricators	
SMaRT Station Grounds				
Street Sweeper (used)	0	1	Elgin	Crosswind
Maintenance				
Boom Lift- Small	0	0		
Boom Lift- Large	1	0		
Scissor Lift- Small	0	2		
Scissor Lift- Large	1	0		
Pressure Washer	1	0		
Generators	3	0		
Scalehouse				
Admin				
Pickup Trucks	1	2		

EXHIBIT I:
ORGANICS PROCESSING

Z-Best

Acceptable Material	Contamination Limit	Maximum Size
Yard Trimmings Processed	1%	5 inch
Yard Trimmings Unprocessed	1%	N/A
MRF Fines	25%	2 inch
Food Soiled Paper	30%	5 inch
Food Scraps	10%	5 inch

Sustainable Organic Solutions (SOS)

Source Seperated Food Scraps Processed into food mash at the SMaRT.

EXHIBIT J:
OPERATING PROCEDURES AND STANDARDS

EXHIBIT J
OPERATING PROCEDURES AND STANDARDS

1. **Signs.** The City will post easily-readable signs at the entrance to the Station detailing the regulations which must be followed by vehicles entering the station, indicating the hours of operation, the types of waste and Recyclable Materials accepted, the rates charged, and a local telephone number to call for information or in case of emergency. Contractor shall maintain and repair these and other on-site signs. Contractor shall not post any signs without the prior written consent of the City. Contractor shall install and maintain signage at the Station giving members of the public appropriate information about the location and operation of the Buyback/Drop-off Center, and may install other signage as needed, providing the text of the signage is approved by City prior to its being installed.

2. **Traffic Control.** Contractor shall be responsible for the safe control and direction of traffic once it enters the Station Site. Contractor shall make optimal use of queuing lanes and unloading spaces and shall operate and park vehicles so as not to impede on-site traffic.

3. **Floor Operation and Transfer Loading.** The depth and breadth of Municipal Solid Waste on the Station floor shall not reach a point where unloading by users is hampered. Municipal Solid Waste shall be loaded into transfer trailers so the gross weight of the transfer tractor and trailer does not exceed weight limitations for streets or highways established by the public agency or agencies having jurisdiction therefore. At least once during each 24 hour period, the Station floor will be completely cleared of all solid waste. Contractor may accomplish this in phases, in a written plan approved by City.

4. **Control of Litter and Blowing Debris.** Contractor shall collect litter daily (1) all areas within the Station Site and (2) areas outside the perimeter fence adjacent to the Station. Contractor shall sweep daily (1) all areas within the Station Site, and (2) Carl Road east of Borregas Avenue. In addition, Contractor shall police at least three times weekly the street frontages abutting the Site (i.e., Borregas Avenue from Carl Road to Moffett Park Drive; Mathilda Avenue from Highway 237 to Caribbean Drive and Caribbean Drive from the north end of Mathilda Avenue to Highway 237), collecting all litter along these streets. Contractor shall also collect debris in these areas at the request of City or members of the public. Materials so collected shall be disposed of at the Station.

5. **Vector Control.** Contractor shall conduct the operation of the Station in such a manner as to ensure that conditions are unfavorable for production of rodents, insects and other vectors. In the event that vector activity becomes apparent to the Local Enforcement Agency or the City, supplemental vector control measures shall be initiated by Contractor, as directed by the Local Enforcement Agency and/or the City. All vector control measures initiated by Contractor shall comply with the City's Integrated Pest Management Policy.

6. **Odor, Dust and Noise Control.** Contractor shall control odor and dust at the Station by use of installed dust control systems and odor control programs, as described in the FEIR. Contractor shall operate its equipment within limits of applicable noise regulations.

7. **Fire Control.** Contractor shall provide all necessary and appropriate fire control equipment. Contractor has submitted a fire control/handling plan for the Station. City will review any updates to the plan as needed .

EXHIBIT J
OPERATING PROCEDURES AND STANDARDS

8. **Weighing.** Contractor shall weigh and record all inbound loads of Materials delivered by the City, the other Partner Agencies, their respective Designated Haulers and by any other municipalities or their Designated Haulers. Contractor shall calculate the weight of Publicly Hauled Waste by determining the volume of vehicles delivering such waste and applying the conversion factors in Exhibit M, except that Publicly Hauled Waste customers delivering 12 cubic yards or more in a single transaction must be weighed. Contractor shall also weigh and record each outbound load (including MSW bound for Disposal Site, Recyclable Materials bound for market, e-waste, etc.) as it leaves the Station. All scales and weighing equipment shall be kept in good and accurate condition operating at the standards of accuracy and reliability specified in Title 4 California Code of Regulations Division 9. Contractor shall request that the California Department of Food and Agriculture, Division of Measurement Standards, inspect all scales and weighing equipment at least once per year. In addition, Contractor shall check the accuracy of scales using appropriate methods (for example by weighing the same load on two scales) when requested by the City, but not more than once per week.

   If a scale or weighing equipment is found to be measuring inaccurately and the errors are outside the tolerances allowed in Title 4 California Code of Regulations, Division 9, Contractor will promptly repair or recalibrate it so that it does operate accurately.

   Vehicles delivering Recyclable Materials collected through curbside and other programs shall be weighed so that the weight of each separated compartment of materials (e.g., commingled containers, mixed paper newspaper) is separately measured and recorded. This will be accomplished by multiple weighings, after the vehicle has unloaded each separate compartment of material. If a predetermined tare weight for each vehicle is used in this process, the last material unloaded will be newspaper or whatever is the lowest unit-value material. At City's request, Contractor shall sort representative samples of materials to determine their actual material-by-material composition.

9. **Establishment of Vehicles' Tare Weights.** Contractor has provided the City with a copy of its standard methodology for determining tare. Contractor shall modify its standard methodology if requested to do so by City Partner.

   The tare weight of each vehicle shall be recorded by Owner (i.e., City, hauler or Contractor) and vehicle number and the tare weights of all vehicles will be furnished to the City within thirty (30) days after each vehicle is weighed. Contractor shall be responsible for coordinating the weighing of vehicles with City and the other Partner Agencies and their Designated Haulers.

   When additional or replacement vehicles are placed into service by the City, the other Partner Agencies or their Designated Haulers, or the Contractor and when the City or other Partner Agencies change their Designated Haulers, Contractor shall promptly weigh such additional and replacement vehicles and the vehicles of the new Designated Hauler and provide the tare weights to the City within thirty (30) days after the vehicles are weighed.

EXHIBIT J
OPERATING PROCEDURES AND STANDARDS

All weighing shall be conducted at the Station by a certified weighmaster. Weighing shall be conducted in accordance with Contractor's standard methodology, in the form approved by the City.

Contractor shall have the right to conduct random re-weighing of all vehicles, provided that re-weighing of any vehicles shall occur no more than twice a year. All vehicles delivering Municipal Solid Waste or Recyclable Materials to the Station or delivering Municipal Solid Waste to the Disposal Facility shall be reweighed by Contractor, following the City approved methodology, at six (6) month intervals. In addition, any specific vehicle shall be reweighed by Contractor at City's request, within one (1) week after City delivers a written request to do so. Adjusted tare weights shall be furnished to the City within thirty (30) days after re-weighing.

10. **Cubic Yard - Ton Conversions.** If the scales and weighing equipment are temporarily out of service, Contractor shall:

    1. for collection vehicles owned by Designated Haulers, use the average Tons recorded for each vehicle for its three deliveries immediately preceding the outage;

    2. for debris boxes, use the rated capacity of the box in cubic yards multiplied by the yards to tons factor for miscellaneous Publicly Hauled Waste on Exhibit M; and

    3. for Publicly Hauled Waste, Contractor shall measure and record the amount of such waste in cubic yards. Cubic yards shall be converted to Tons for purposes of payments due under Articles 6 and 7 by utilizing the conversion factors set forth in Exhibit M.

    Contractor shall arrange for scales to be repaired or temporary substitute scales to be used as soon as possible and, in any event, within forty-eight (48) hours after the failure of the permanent scales.

11. **Personnel.** There will be at least one employee of Contractor physically in attendance at the Station at all times, whether or not the Station is operating, or open. Contractor may provide subcontracted security during hours when the Station is not staffed by its employees if approved by City. Any employee or subcontractor on site during non-operating hours will make regular observations of all facility areas.

    During the hours of 5 a.m. to 7 p.m., five (5) days a week, Monday – Friday, there will be a Station Manager or lead worker who is the representative of Contractor on-site, excluding holidays. On Saturday and Sunday 8 a.m. to 5 p.m., there will be a Station Manager or lead worker who is the representative of Contractor on-site, excluding holidays. City will be informed of his/her name. At all other times, there will be a supervisory employee designated as emergency coordinator who will be on-call. Employees who are on-site (and the City) will be instructed on how to contact this emergency coordinator.

    When the Station is operating outside of the regular operating hours, there will be a night supervisor on-site. If there is more than one employee on-site, one will be in charge and employees (and the City) will be informed as to the chain of command.

EXHIBIT J
OPERATING PROCEDURES AND STANDARDS

There will be at least one employee of Contractor responsible for storm water management at the Station, who is a qualified storm water pollution prevention plan practitioner. City will be informed of his/her name. The Contractor's storm water employee will implement day-to-day storm water best management practices and record keeping at the Station, as provided in the Storm Water Pollution Prevention Plan document for the Station, as amended at any time. The Storm Water Pollution Prevention Plan document is on file with the City and available for review upon request.

12. **Training of Personnel.** Contractor shall provide adequate operational, safety and compliance training for all of its employees who are involved in performing and supervising operations at the Station. All such personnel shall be trained in the identification and proper handling and disposal of Hazardous and Medical Wastes as required by the Hazardous Waste Exclusion Program (HWEP). Personnel training will comply with all applicable laws, regulations and permits governing Station operations. Contractor will also provide adequate storm water management training, as provided for and described in the Storm Water Pollution Prevention Plan document for the Station, as continually amended, on file with City.

13. **Equipment.**

A. General. All equipment shall comply with all applicable federal, state, and local laws, including (1) U.S. Department of Transportation: Federal Motor Vehicle Safety Standards; Federal Motor Carrier Safety Regulations; Interstate Motor Carrier Noise Emissions Standards, (2) U.S. Environmental Protection Agency: Control of Air Pollution from New Motor Vehicles and New Motor Vehicle Engines, and (3) Bay Area Air Quality Management District.

B. Tractors and Trailers. All tractors and transfer trailers (individually and in combination) shall comply with the laws described in subsection A. Tractors and transfer trailers shall be painted in a uniform color scheme approved by the City of Sunnyvale and shall prominently display a SMaRT Station service mark (logo), the design and placement of which are subject to City approval.

C. Between October 1 and December 1, 2021 Contractor shall submit to City a list of the equipment it proposes to use at the Station and in delivering Municipal Solid Waste to the Disposal Facility.

D. Contractor shall furnish backup, substitute or replacement equipment necessary to continue uninterrupted operations, maintenance, transfer and disposal when equipment regularly in service is inoperable or unavailable.

E. All loaded transfer trailers must be parked on the tipping floor.

F. Contractor shall use blade guards and rubber tires on all mobile equipment operated in and around the Station and shall use due care in their operation of equipment to avoid damaging the tipping floors and Station pavement.

14. **Cleaning and Maintenance.**

A. General. Contractor shall maintain all properties, facilities and equipment used in providing service under this Agreement in a safe, clean, neat and operable condition at all times.

EXHIBIT J
OPERATING PROCEDURES AND STANDARDS

B. Cleaning. Tractors, transfer trailers and other rolling stock shall be kept clean, shall be thoroughly washed on the exterior at least once every week and thoroughly cleaned with pressurized hot water at least once per year. Rolling stock used at the facility, such as loaders and forklifts may be cleaned on the tipping floor, with wash water drained to tipping floor sump. Cleaning of tractors and trailers shall be performed at a location off-site.

Building office areas shall be cleaned daily. Work areas within buildings and structures shall be swept daily and vacuumed daily and floors washed twice a week. Deep cleaning of the bathroom and kitchen floors and counters shall be conducted on a quarterly basis.

All areas within the Station work areas shall be cleaned of spillage and swept on a daily basis. Dust and debris shall be removed daily from stationery equipment and rolling stock. The refuse transfer truck loading area shall be cleaned and swept during and at the end of each operating day. Facility roadways, outside work areas and parking areas shall be cleaned and swept daily.

Municipal Solid Waste may not be left on the tipping floor for more than 24 hours.

Municipal Solid Waste (other than Recyclable Materials) shall be removed to the Disposal Facility within 48 hours after its delivery to the Station. Municipal Solid Waste shall not be burned or buried at the Station Site. Wastes shall not be disposed of into storm drains or into sanitary sewers without proper pretreatment meeting the requirements of the Sunnyvale Industrial Waste Program.

The transfer building(s) shall be thoroughly cleaned with pressurized hot water at least once per year and one month prior to expiration of the Term of this Agreement. Contractor shall follow best management practices (BMP) to prevent wash water from reaching storm drains.

All roof gutters and downspouts will be cleaned of debris as needed to ensure proper functionality, but not less than twice annually.

C. Painting. Vehicles shall be repainted and/or refurbished so that they present an acceptable appearance in the opinion of the City's Public Works Director.

All surfaces on the interior of all buildings and structures shall be repainted or refurbished by Contractor so that they present an acceptable appearance in the opinion of the City's Environmental Services Director, provided that painting will not be required more often than once every four years. The type of paint, color and method of application shall be submitted to the City for review and approval prior to commencement of repainting work.

D. Maintenance and Repair; Alterations.

1. City's Obligations. Subject to Section 20, City shall maintain in good condition the roofs, structural portions and exterior walls (but not plate glass, glass windows, window frames, doors and door frames, which are the responsibility of Contractor), and paved exterior areas, unless such maintenance and repair becomes necessary in whole or in part due to acts of Contractor, in which case Contractor shall pay City the reasonable

EXHIBIT J
OPERATING PROCEDURES AND STANDARDS

cost of such maintenance. City shall regularly maintain (e.g. water, weed, prune and repair) all landscaped areas within the Station Site. City shall repair or replace, if and when necessary, the tipping floor.

2. Contractor's Obligations. Subject to Section 20, Contractor shall keep and maintain in good, clean, safe condition and repair the Station building, appurtenances and every part thereof, including without limitation the stationary equipment, such as conveyors and below grade conveyor pits, compactors, trommels, balers, shredders and screens; plumbing and sewage facilities; mechanical, electrical, lighting, heating, ventilating and air conditioning systems; fire and dust suppression systems; fuel storage and dispensing facilities; weigh scales, scale house, fencing, drains and drainage control systems, and all personal property furnished by Contractor including vehicles.

   Contractor shall perform periodic maintenance on all equipment, in accordance with applicable manufacturer's specifications and schedules and so as to maintain in force any manufacturer's/vendor's warranties. City will assist Contractor in securing manufacturer's/vendor's repair and replacement of equipment due under warranties (if any) provided to City in connection with the purchase of such equipment which Contractor is required to maintain and repair.

   Contractor shall also repair any damage to any facilities and equipment in a timely manner, whether owned by it or City, caused by the actions of its employees, subcontractors, customers or other agents. Contractor is solely responsible for the cost of repairs/replacement of City equipment caused by Contractor's failure to properly maintain equipment in accordance with manufacturer specifications. Contractor shall replace all plant materials (trees, bushes, etc.) which are damaged or killed by Contractor's operations with plant materials of the same type, unless a different type is approved in advance by the City. All completed replanting shall be approved by the Recycling Manager.

   Contractor shall be responsible for securing replacement parts (and for maintaining an inventory of spare parts as agreed on with City) for all equipment and for Station systems and facilities which it is required to maintain and repair. City will reimburse Contractor for the out-of-pocket cost of replacement of wear parts used for stationary equipment owned by City listed in Exhibit H-1. The cost of all other replacement parts, including those for equipment furnished by Contractor and for Station systems and facilities, will be borne by Contractor and is therefore included in the compensation provided under Article 5. The cost of all labor required for maintenance and repair performed by Contractor will be borne by Contractor and is included in the compensation provided under Article 5. However, City is responsible for certain costs for repair of large specialty equipment, as described in Exhibit H-1, or specific equipment, may be mutually identified by the City and the Contractor and approved in writing, where the City has the option to solicit bids, manage and pay for major repairs of these equipment. At the City's discretion, City may reimburse Contractor the cost of parts and labor for a qualified professional firm to rebuild certain equipment and/or components rather than replace with new.

EXHIBIT J
OPERATING PROCEDURES AND STANDARDS

Contractor shall not make any alterations to the Station or to facilities or equipment owned by City without City's prior written consent. In order to obtain such consent, Contractor shall submit plans and specifications, or other form of description as required by City, to City prior to commencing any alteration. If Contractor performs any alteration work prior to receiving City approval, City may require Contractor to remove all such work at Contractor's sole expense and restore the Station, facility or equipment to its prior condition.

E. Wastewater Disposal. If the wastewater collected in the Station's sumps (from Municipal Solid Waste, wash-down operations, etc.) does not meet the standards for discharge to the Sunnyvale Water Pollution Control Plant, it must be taken to another facility. Contractor shall be responsible for periodic pumping of collected wastewater by a pumping truck, its transport offsite and proper disposal in accordance with applicable regulations. The Contractor shall be responsible for the cost of pumping, transport and proper treatment and/or disposal. Should the wastewater collected in the Station's sumps meet the standards for discharge to the Sunnyvale Water Pollution Control Plant, it will be allowable to discharge to the Facility.

15. **Complaints about Operation of Transfer Station.** All complaints about the operation or maintenance of the Station shall be directed to the person designated as Station Manager by Contractor. Such complaints shall not be directed by Contractor to City. The Station Manager shall compile a log of all complaints brought to his or her attention or that of his or her staff, indicating the date and time the complaint was received; the name, address and telephone number of the party making the complaint; and the action taken to correct or modify the situation complained of. Each month Contractor shall send to City a copy of the log of complaints for the previous month.

16. **Tours of Transfer Station.** Upon reasonable request of City, Contractor shall provide tours of the Station. Such tours shall not unreasonably disrupt Station operations. Contractor shall not be required to conduct such tours more frequently than once per week. City shall not be charged for labor, overhead, overtime, or any other costs associated with any such tours.

17. **Brochures and Written Material.** All written material prepared for distribution by Contractor regarding the Station shall be approved by City prior to its distribution.

18. **Customer Courtesy.** Contractor shall train its employees in Customer courtesy and shall prohibit the use of loud or profane language. If any employee is found to be discourteous or not to be performing services in the manner required by this Agreement, Contractor shall take all necessary corrective measures including, but not limited to, transfer, discipline, or termination.

19. **Destruction of Premises.** If the Station is totally or partially destroyed from a risk covered by insurance in effect at the time, City shall restore the Station to substantially the same condition as it was in immediately before destruction, provided that City's obligation hereunder is limited to the amount of insurance proceeds it receives. Such destruction shall not terminate this Agreement.

If the Station is totally or partially destroyed by a risk not covered by insurance then in effect, City shall have the election to terminate this Agreement or to restore the premises, such election to be made within a reasonable time after the destruction occurs.

EXHIBIT J
OPERATING PROCEDURES AND STANDARDS

20. **Use of Premises.** Contractor shall use the Station and Station Site only for the operations described under this Agreement and for directly related support purposes.

21. **Spill Response Plan.** Contractor shall prepare a Spill Prevention, Containment and Countermeasure (SPCC) Plan in accordance with 40 CFR 112. Contractor shall also provide kits for cleanup of spills of hazardous materials, including used motor oil, on the Station Site. Contractor shall implement the Spill Response component of the Hazardous Waste Exclusion Program set out as Exhibit G to this Agreement.

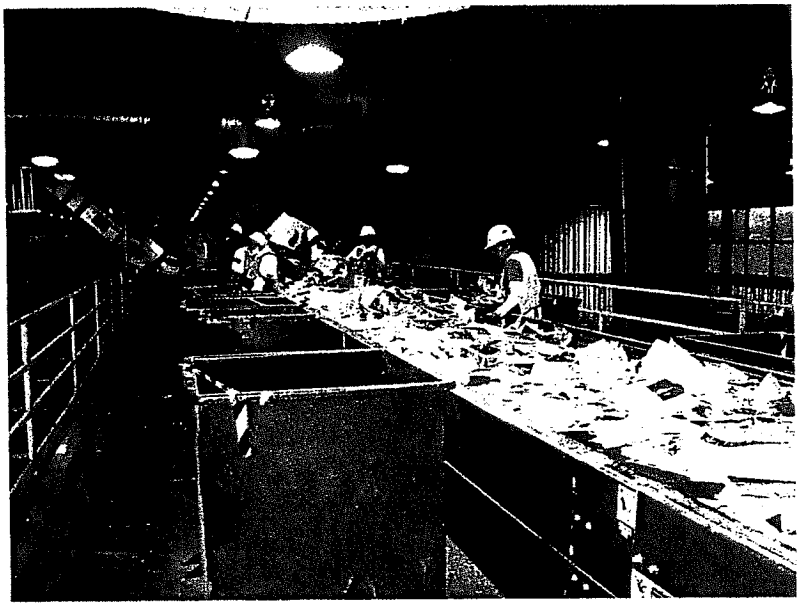
22. **Hazardous Materials.** Contractor shall obtain proper permits and registrations (including EPA ID number) required to perform its obligations under this Agreement, and the Hazardous Waste Exclusion Program.

23. **Site Security Cameras.** Contractor shall be responsible for replacing site security cameras and for installing any additional cameras necessary to assure adequate site security.

24. **Green Business Certification.** The SMaRT Station administration building was certified as a Green Business in 2010 and as a result, City and Contractor staff is required to meet general environmental practices and targeted resource conservation and pollution prevention measures. Once every five years a re-certification process will be conducted by the City and Contractor shall cooperate.

EXHIBIT K:
SOURCE SEPARATED RECYCLABLES COMPOSITION SORTS

Final Report | **May 2003**



Waste Characterization Methodology for Determining Allocation of Curbside Recycling Revenues

City of Sunnyvale

Presented to | **Mark Bowers, Solid Waste Program Manager**
Department of Public Works/Solid Waste Division
City of Sunnyvale
456 W. Olive Avenue
Sunnyvale, CA 94086

Presented by | **Brown, Vence & Associates**
65 Battery Street, Suite 200
San Francisco, CA 94111

Table of Contents

Section 1
Introduction

Brown, Vence and Associates (BVA) was retained by the City of Sunnyvale (Sunnyvale) in association with the Cities of Mountain View and Palo Alto to conduct a Study to develop a waste characterization methodology for source-separated recyclables. This methodology will be used in the process of allocating SMaRT Station ® revenues to each of the cities in accordance with the Memorandum of Understanding, and the Revenue Allocation Methodology approved by the Cities in January, 2002 (See Appendix E). The Study included:

- Meeting with the cities and haulers to collect data and discuss field sampling logistics
- Developing a comprehensive composition analysis methodology
- Preparing a training manual for future characterizations to be performed by SMaRT Station contractor
- Providing training to the staff and contractor during the field sampling
- Conducting field sampling
- Analyzing and presenting the results

The purpose of the study was to develop and implement a waste characterization methodology to determine the amounts and concentrations of each curbside material delivered to the SMaRT Station by each of the two cities.

BVA conducted the Study in three phases: initial planning, field sampling analyses, and report preparation. Initial planning occurred prior to the field sampling analyses in February and early March 2003. We held a kick-off meeting at the SMaRT Station with Sunnyvale Staff and the Contract Operator. BVA also met with Green Team/Zanker (GTZ) to discuss the overall Study approach, collect relevant data, and make contacts. A follow-up meeting was held with both cities and their haulers; Specialty Solid Waste & Recycling (Specialty) for Sunnyvale and Foothill Disposal Company (Foothill) for Mt View. During this initial planning phase a draft methodology and training manual were developed. In addition, all logistics for the field sampling phase were performed.

Section 1

BVA conducted the actual field sampling analyses from March 22, 2003 through April 4, 2003, collecting a total of 40 samples from both cities. Materials were characterized during the field sampling using randomly pre-selected loads. These loads were sorted and processed by individual truck compartment using the SMaRT Station's curbside processing equipment and GTZ's normal processing staff. Details to the exact methodology are included in the following report sections.

Data collected during the field sampling analyses were sorted and summarized by city, load type, and truck compartment. Statistics were applied to the results to calculate the mean, standard deviation, and margins of error at a 90-percent confidence level for each of the curbside materials collected.

The report describes each of the initial planning, field sampling analyses, and report phases through the supporting procedures and findings. Section 2 discusses the Study's procedures, and Section 3 presents the findings of the Study, including all pertinent tables and statistics. Appendix A contains the methodology and Appendix B includes a step-by-step training manual.

Section 2
Study Procedures

Brown, Vence and Associates (BVA) followed the Methodology and Training Manual procedures described within this report in conducting the Study. We have highlighted specific procedure details developed in particular for the Study and Field Sampling Analyses conducted over the period of February through April 2003 in this section.

2.1 Phase I: Initial Planning

Sampling Plan

As discussed, a total of 40 samples, 20 samples for Sunnyvale and 20 samples for Mt View were selected. Next, a selection of the type of routes to be sampled for each city was performed. Specialty runs three types of routes for Sunnyvale. These three routes to divide the sampling across include; (1) single-family residential (SF), (2) multi-family residential (MF) and, (3) schools/City Hall. Foothill runs three types of routes for Mt View. These three routes to divide the sampling across include; (1) residential, (2) commercial and, (3) OCC. Specialty runs a total of 32 routes to cover the entire city of Sunnyvale, while Foothill runs 68 routes to cover the entire city of Mt View. To calculate the number of samples required by route type, the total number of a specific route type was divided into the total routes for each individual city. The number of routes by city, route type, percentage of routes and number of samples required by route is shown in Table 2-1.

Schedule

A schedule was developed to allow, as best possible, uninterrupted curbside processing operations at the SMaRT Station. The schedule also had to cover each day of the week (Monday through Friday) collection occurred equally. The schedule also took into account each hauler's route list and geographic representation. Routes were then selected randomly for each day from this list. As discussed, loads were held overnight from the previous day's collection activities and delivered to the SMaRT Station between 5:00 am and 8:00 am

each day (except for the initial day when all loads were scheduled an hour later to take into account training and start-up activities). In a meeting with cities haulers, it was decided that Specialty would take the earliest and latest deliveries of the day, while Foothill took the two mid-time deliveries. The actual delivery schedule is shown in Table 2-2.

Table 2-1 | Route Sampling Plan

City/Route	Number of Routes	Percentage by Routes	Number of Samples
Sunnyvale			
SF Residential	25	78%	15
MF Residential	6	19%	4
Schools/City Hall	1	3%	1
Totals	**32**	**100%**	**20**
Mt View			
Residential	41	60%	12
Commercial	20	29%	6
OCC	7	10%	2
Totals	**68**	**100%**	**20**

Table 2-2 | Study Route Delivery Schedule

Materials Collected on:	Fri 3/21	Mon 3/24	Tue 3/25	Wed 3/26	Thu 3/27	Fri 3/28	Mon 3/31	Tue 4/1	Wed 4/2	Thu 4/3
Delivered to SMaRT on:	**Sat 3/22**	**Tue 3/25**	**Wed 3/26**	**Thu 3/27**	**Fri 3/28**	**Sat 3/29**	**Tue 4/1**	**Wed 4/2**	**Thu 4/3**	**Fri 4/4**
5:00 AM		Specialty SF - 703	Specialty SF - 704	Specialty SF - 701	Specialty SF - 702	Specialty SF - 701	Specialty SF - 704	Specialty SF - 705	Specialty SF - 702	Specialty SF - 701
5:30 AM		Foothill COM - 11134		Foothill COM - 11139		Foothill COM - 11102		Foothill COM - 11139	Foothill COM - 11155	Foothill COM - 11102
6:00 AM	Specialty SF - 702		Foothill RES - 15096		Foothill RES - 15097		Foothill RES - 15097			
7:00 AM	Foothill OCC - 18	Foothill RES - 15097	Foothill RES - 15095	Foothill RES - 15098	Foothill RES - 15095	Foothill RES - 15098	Foothill OCC - 18	Foothill RES - 15098	Foothill RES - 15095	Foothill RES - 15096
8:00 AM	Foothill RES - 15096	Specialty SF - 705	Specialty 615	Specialty MF - 706**	Specialty SF - 704	Specialty SF - 705	Specialty MF - 707	Specialty SF - 701	Specialty SF - 703	Specialty MF - 706**
9:00 AM	Specialty MF - 706									

Equipment and Crew Preparation

Prior to the actual field sampling analyses, we met with the cities, their haulers and the contract operator, GTZ. The haulers, with support from their cities agreed to the schedule described above. GTZ agreed to make available all crew and equipment normally used in their day-to-day curbside processing operations. The crew for the initial Study consisted of approximately 36 personnel including approximately 17 curbside line sorters, 15 commercial line sorters, two rolling stock (forklift and front-end loader) operators, one part-time baler operator, and one floor manager. The normal truck-scale assistant was not usually on duty during our Study (the floor manager recorded scale weights). Equipment supplied by GTZ included at least two forklifts, a front-end loader, and various bins and containers to collect and store samples. Additional BVA supplied: a laptop computer to log all information from the study, flagging tape, three ½-gallon containers to collect liquids, permanent markers, duct tape, and notebooks. Personal safety equipment such as hardhats, safety vests, goggles,

earplugs etc were supplied by the contractor's crew for the crew (this is equipment that they use on a daily basis to perform their job).

2.2 Phase II: Field Sampling Analyses

Equipment Setup

Equipment setup was performed at the beginning of each and every day sampling was to occur. Setup included:

- Setting up the table and chair for the laptop computer and BVA data entry personnel near the platform scale, but out of the way of the facility operations.
- Starting up the laptop computer and readying the blank sample sheets for each day of testing (2 sheets for each city; 4 sheets total).
- Sweeping and cleaning up around the platform and truck scale area; zeroing out the scale
- Tape off areas on sorting platforms that sorters should not sort into; for container line tape one strip of caution tape across all normal bunker openings; for fiber line put caution tape over bunker chutes not in use (third and fourth bunker from in-feed, these will be used for storage).
- Check all lines to see if clear of all materials including all in-feeds, conveyor systems, sorting line containers, floor bins, bunker areas.
- Have crew clean up and sweep around all conveyor systems.
- Check tare weights on all containers and bins; apply duct tape to containers/bins and add with permanent marker the first letter of the day of sampling and the tare of the container/bin.
- Ensure that if bales are located on the balers, the last bale is marked to designate where the study loads will begin.
- Place three (3) extra bins for sort under/adjacent to the containers sorting line; these bins include: (1) aluminum cans, (2) PET, and (3) HDPE.
- Tie off residue screening material at bottom from air classification system; not much residue is gathered per run and can easily be untied and emptied into a small container at the end of each run.

Sampling Procedures

Field sampling began on Saturday March 22nd and ran through Friday April 4th. Sampling was conducted on Tuesdays through Saturdays for the two-week period; a total of 10 sampling days. Sampling began most all days (except the first) at 5:00 am and continued until all 4 samples for the day were processed. Sampling continued each day until approximately 10am to 11am. BVA found that this did not interfere much with normal curbside vehicle unloading and processing patterns.

Detailed sampling procedures are included in the Training Manual in Appendix B. A copy of this document is provided in Spanish in Appendix C. We have included a copy of our daily hand-written field notes in Appendix D.

As can be expected, some variations to the normal sampling procedures occurred throughout the Field Study period. These included:

- On March 22nd, first day of the sort, contract sorting team utilized more than the normal allotment of sorters for approximately the first 5 minutes of the first two loads (one Sunnyvale, the other Mt View).
- On March 26th, first Specialty truck's compactor unit froze; the first Foothill load was processed in its place (then the Specialty load was dumped and processed); during the same day, a container of HDPE was dumped before weighing occurred; a comparable amount was measured, weighed and added to the load.
- On March 28th, the first Foothill load was delivered using a 2-compartment truck instead of the usual 3-compartment truck; Foothill explained that the selected route is a normal Thursday route in which they use a smaller truck to access more difficult/narrower customer routes.
- On April 1st, a customer's broken toter was found in the first Foothill load in the newspaper compartment; the container was weighed as residue; a third and new forklift driver was introduced to the Study this day; he brought several containers of previously weighed materials to the scales to be weighed and recorded; these erroneous container weights were not entered into the spreadsheet (however one container needed backing out

of the spreadsheet); three forklift drivers is too many for the sort (2 is perfect).

- On April 3rd, the first Specialty truck dumped only half of its container load for processing; the remainder of the load which was stuck in the compartment was later dumped onto the tip floor and then transferred back for processing; no final tare weight for this vehicle was recorded; the final tare weight was calculated by subtracting the weight of material dumped onto the floor from the truck's final weight.

2.3 Phase III: Report Preparation

Review and Reconcile Data

All data was entered directly into an Microsoft Excel spreadsheet on the laptop computer in the field during the Study. All data was error checked after each route was sampled to check for shrinkage and possible errors. In addition, all data was checked and reconciled at the end of the Study as well.

Generate Statistics and Summary Tables

Tables were generated by city, by load type and by truck compartment type. All data was reported in weight (lbs) and percentage. A summary table was developed by aggregating material type for all loads from each city for statistical analysis. The mean, standard deviation and margin of error at a 90% confidence level was computed for each material type. To calculate the composition between the two cities, a weighting of the loads by number sampled of each type to the amount normally delivered over the two-week sampling period was conducted. Results are provided in Section 3 of the report.

Report of Procedures and Findings

This report represents the documentation of procedures prepared containing sufficient detail so that a person familiar with the design of the SMaRT Station, and a copy of the Methodology and Training Manual included in this report could replicate the Study. The report includes comments on aspects of the Study that presented special difficulties or would be difficult to replicate, and a written explanation of the findings shown in the summary tables.

Section 3
Findings

This section describes the Study's findings through presentation and discussion of resultant tables. The total weights and percentages of each material component for all 20 samples per city and by truck compartment were first accumulated. Next, tables were developed to summarize samples from "like" routes for each city. This included addressing: 1) residential and 2) schools/City Hall routes for the City of Sunnyvale and 1) residential 2) commercial and 3) OCC routes for the City of Mountain View. We also summarized data on Sunnyvale's residential routes by single-family and multi-family routes. Next an over all composition summary and statistical analysis was applied to the average percent composition by material type for each city. The analysis included calculating the mean, standard deviation and margin of error for each material. In addition to the tables presented in this section, Appendix F contains support calculations and tables.

3.1 Sunnyvale

Table 3-1 presents a summary of the average percent composition by material type and truck compartment (commingled containers and fiber compartments) from the 20 samples analyzed for the City of Sunnyvale during the Study. This table shows that for the residential routes, the largest component in the commingled containers truck compartment was mixed glass at 37.4% and in the fiber truck compartment, old newspaper at 86.5%. This table also shows that for the schools/city hall routes, the largest component in the commingled containers truck compartment was tin cans at 31.1% and in the fiber truck compartment, old corrugated cardboard at 100%.

3.2 Mountain View

Table 3-2 presents a summary of the average percent composition by material type and truck compartment (commingled containers, newspaper and mixed paper compartments) from the 20 samples analyzed for the City of Mountain View during the Study. This table shows that for the residential routes, the

largest component in the commingled containers truck compartment was mixed glass at 35.2%, the largest component in the newspaper truck compartment was old newspaper at 97.6%, and the mixed paper truck compartment, mixed paper at 99.0%. This table also shows that for the commercial routes, the largest component in the single truck compartment was mixed paper at 68.2%. For the OCC routes, OCC made up an average of 97% of the truck's load, the remainder was classified as residue.

3.3 Statistical Analyses

Table 3-3 presents a statistical analysis of the percent composition by component for each city. The analysis included development of the mean, standard deviation and margin of error at a 90% confidence level. For Sunnyvale, most all components had a margin of error of 1% or less except for ONP and mixed paper. The margin of errors for these components was 5.6% and 8.1% respectively. The higher margin of error for these two components was due to the one different type of load, the schools/City Hall load which had 0% ONP and 97.3% mixed paper (very different from Sunnyvale's residential routes).

For Mountain View, most components had a margin of error of 1% or less except for ONP, OCC and mixed paper. The margin of errors for these components was 5.2%, 8.1% and 11.9% respectively. The higher margin of error for these fiber components was due to statistically analyzing the mixture of commercial and OCC routes with those of the residential. The commercial and OCC routes had a much higher concentration of fibers.

Table 3-1 | Sunnyvale Summary by Route Type

	Residential Route Totals	Schools/ City Hall Route Totals
Characterization by Percentage		
Commingled Containers	**Ave (%)**	**Ave (%)**
Tin Cans	8.2%	31.1%
PET	6.8%	11.1%
HDPE - Mix	7.9%	12.2%
Aluminum Cans	2.3%	7.8%
Glass Bottles - Clear	10.3%	6.7%
Glass Bottles - Green	9.9%	0.0%
Glass Bottles - Brown	4.5%	0.0%
Glass Bottles - Mix	37.4%	0.0%
Liquid	0.4%	3.3%
Residue	11.1%	10.0%
Shrinkage	1.1%	17.8%
Total Container Compartment	100.0%	100.0%
Fiber	**Ave (%)**	**Ave (%)**
Old Newspaper	86.5%	0.0%
Mixed Paper	6.0%	100.3%
Old Corrugated Cardboard	6.0%	0.0%
Tin Cans	0.1%	0.0%
PET	0.1%	0.0%
HDPE - Mix	0.1%	0.0%
Aluminum Cans	0.0%	0.0%
Glass Bottles - Clear	0.0%	0.0%
Glass Bottles - Green	0.0%	0.0%
Glass Bottles - Brown	0.0%	0.0%
Glass Bottles - Mix	0.3%	0.0%
Liquid	0.0%	0.0%
Residue	0.4%	0.0%
Shrinkage	0.5%	-0.3%
Total Fiber Compartment	100.0%	100.0%

Section 3

Table 3-2 | Mountain View Summary by Route Type

	Residential Route Totals	Commercial Route Totals	OCC Route Totals
Characterization by Percentage			
Commingled Containers	**Ave (%)**	**Ave (%)**	**Ave (%)**
Tin Cans	6.9%	n/a	n/a
PET	6.3%	n/a	n/a
HDPE - Natural	0.0%	n/a	n/a
HDPE - Color	0.0%	n/a	n/a
HDPE - Mix	6.4%	n/a	n/a
Aluminum Cans	1.9%	n/a	n/a
Scrap Metal	0.0%	n/a	n/a
Glass Bottles - Clear	10.7%	n/a	n/a
Glass Bottles - Green	13.6%	n/a	n/a
Glass Bottles - Brown	5.7%	n/a	n/a
Glass Bottles - Mix	35.2%	n/a	n/a
Liquid	0.3%	n/a	n/a
Residue	11.7%	n/a	n/a
Shrinkage	1.2%	n/a	n/a
Total Container Compartment	100.0%	n/a	n/a
Newspaper/Single Compartment	**Ave (%)**	**Ave (%)**	**Ave (%)**
Old Newspaper	97.6%	0.0%	0.0%
Mixed Paper	2.5%	68.2%	0.0%
Old Corrugated Cardboard	0.0%	20.4%	97.0%
Tin Cans	0.0%	0.8%	0.0%
PET	0.0%	0.3%	0.0%
HDPE - Natural	0.0%	0.0%	0.0%
HDPE - Color	0.0%	0.0%	0.0%
HDPE - Mix	0.0%	0.3%	0.0%
Aluminum Cans	0.0%	0.3%	0.0%
Scrap Metal	0.0%	0.0%	0.0%
Glass Bottles - Clear	0.0%	0.0%	0.0%
Glass Bottles - Green	0.0%	0.0%	0.0%
Glass Bottles - Brown	0.0%	0.0%	0.0%
Glass Bottles - Mix	0.0%	2.2%	0.0%
Liquid	0.0%	0.0%	0.0%
Residue	0.2%	7.5%	3.3%
Shrinkage	-0.4%	0.0%	-0.3%
Total Newspaper Compartment	100.0%	100.0%	100.0%

Table 3-2 | Mountain View Summary by Route Type (Continued)

	Residential Route Totals	Commercial Route Totals	OCC Route Totals
Mixed Paper	**Ave (%)**	**Ave (%)**	**Ave (%)**
Old Newspaper	0.0%	n/a	n/a
Mixed Paper	99.0%	n/a	n/a
Old Corrugated Cardboard	0.0%	n/a	n/a
Tin Cans	0.0%	n/a	n/a
PET	0.0%	n/a	n/a
HDPE - Natural	0.0%	n/a	n/a
HDPE - Color	0.0%	n/a	n/a
HDPE - Mix	0.0%	n/a	n/a
Aluminum Cans	0.0%	n/a	n/a
Scrap Metal	0.0%	n/a	n/a
Glass Bottles - Clear	0.0%	n/a	n/a
Glass Bottles - Green	0.0%	n/a	n/a
Glass Bottles - Brown	0.0%	n/a	n/a
Glass Bottles - Mix	0.0%	n/a	n/a
Liquid	0.0%	n/a	n/a
Residue	0.0%	n/a	n/a
Shrinkage	1.0%	n/a	n/a
Total Mixed Paper Compartment	100.0%	n/a	n/a

Table 3-3 | Study Summary With Statistics

City of Sunnyvale

Hauler:	SPECIALTY	SPECIALTY	SPECIALTY	SPECIALTY	SPECIALTY	SPECIALTY	SPECIALTY	SPECIALTY	SPECIALTY	SPECIALTY	SPECIALTY	SPECIALTY	SPECIALTY	SPECIALTY	SPECIALTY	SPECIALTY	SPECIALTY	SPECIALTY	SPECIALTY	SPECIALTY	SPECIALTY			
Date:	3/22/03	3/22/03	3/25/03	3/25/03	3/26/03	3/26/03	3/27/03	3/27/03	3/28/03	3/28/03	3/29/03	3/29/03	4/1/03	4/1/03	4/2/03	4/2/03	4/3/03	4/3/03	4/4/03	4/4/03				
Truck #:	712	703	713	715	714	703	711	701	712	714	711	715	714	702	715	711	712	713	711	703				
Route #:	702	706	703	705	704	615	701	706	702	704	701	705	704	707	705	701	702	703	701	706				
SMaRT #:	385	390	386	383	387	390	384	388	385	387	384	383	387	389	383	384	385	386	384	390	Average	Standard	Margin of	
Load Type:	SF Residential	MF Residential	SF Residential	SF Residential	SF Residential	Schools/City	SF Residential	MF Residential	SF Residential	SF Residential	SF Residential	SF Residential	SF Residential	MF Residential	SF Residential	SF Residential	SF Residential	SF Residential	SF Residential	MF Residential	(Mean)	Deviation	Error	
Old Newspaper	55.3%	57.8%	49.3%	45.6%	56.8%	0.0%	58.6%	67.1%	60.1%	61.3%	59.4%	59.8%	67.3%	62.6%	56.9%	50.6%	61.0%	50.3%	63.5%	59.6%	56.1%	14.4%	5.6%	
Mixed Paper	5.5%	4.8%	4.4%	4.7%	3.5%	97.3%	2.9%	4.8%	2.6%	2.4%	3.5%	3.0%	7.0%	4.9%	3.7%	3.7%	3.2%	3.1%	3.2%	6.4%	8.8%	20.9%	8.1%	
Old Corrugated Cardboard	5.0%	0.6%	8.9%	7.1%	3.2%	0.0%	4.0%	1.2%	4.7%	5.1%	4.7%	4.1%	7.9%	1.2%	5.2%	4.6%	4.5%	2.6%	3.8%	1.2%	4.8%	2.4%	0.9%	
Tin Cans	2.9%	1.7%	2.8%	4.5%	3.2%	0.9%	2.7%	1.8%	2.6%	2.9%	3.0%	3.5%	1.7%	1.5%	2.9%	2.7%	2.5%	2.8%	2.5%	2.8%	2.6%	0.8%	0.3%	
PET	2.5%	1.3%	3.2%	3.4%	2.8%	0.3%	2.4%	1.4%	2.3%	2.2%	2.5%	2.1%	1.3%	1.2%	2.8%	2.7%	2.0%	2.3%	2.1%	2.1%	2.1%	0.7%	0.3%	
HDPE - Natural	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
HDPE - Color	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
HDPE - Mix	3.0%	3.0%	3.4%	4.0%	2.4%	0.4%	2.3%	2.9%	2.4%	2.3%	2.4%	2.7%	0.9%	3.1%	2.5%	3.0%	1.8%	2.1%	2.3%	2.7%	2.5%	0.5%	0.3%	
Aluminum Cans	0.9%	0.4%	0.8%	0.9%	0.7%	0.2%	0.8%	0.3%	0.9%	0.9%	0.9%	0.9%	0.5%	0.7%	0.9%	1.1%	1.0%	0.8%	0.7%	0.3%	0.7%	0.2%	0.1%	
Scrap Metal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Glass Bottles - Clear	3.9%	3.1%	4.2%	4.4%	3.3%	0.2%	2.9%	2.5%	3.8%	3.0%	3.3%	3.9%	2.3%	2.9%	3.3%	3.5%	2.8%	3.3%	2.6%	3.4%	3.1%	0.9%	0.3%	
Glass Bottles - Green	3.9%	2.9%	1.5%	2.9%	3.4%	0.0%	3.7%	2.5%	4.8%	3.5%	3.9%	3.6%	1.2%	2.1%	2.7%	3.9%	2.8%	4.3%	2.9%	2.9%	3.0%	1.1%	0.4%	
Glass Bottles - Brown	1.9%	1.3%	1.6%	1.9%	1.6%	0.0%	1.2%	1.4%	1.3%	1.2%	1.6%	1.3%	0.9%	1.8%	1.7%	1.8%	1.0%	1.4%	1.0%	1.5%	1.4%	0.4%	0.3%	
Glass Bottles - Mix	10.7%	6.0%	15.9%	15.5%	12.6%	0.0%	15.3%	8.2%	12.1%	11.7%	11.9%	11.4%	7.9%	9.6%	13.4%	18.7%	13.7%	13.9%	11.9%	8.9%	11.4%	3.9%	1.6%	
Liquid	0.1%	0.1%	0.2%	0.1%	0.2%	0.1%	0.1%	0.2%	0.1%	0.0%	0.1%	0.1%	0.2%	0.1%	0.1%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	
Residue	3.9%	6.3%	4.5%	4.1%	3.3%	0.3%	3.6%	4.0%	2.8%	2.8%	3.0%	3.2%	1.5%	6.0%	3.6%	3.9%	3.1%	3.4%	3.2%	4.9%	3.8%	1.3%	0.5%	
Shrinkage	0.8%	0.5%	-0.7%	0.8%	3.0%	0.3%	-0.4%	1.9%	-0.6%	0.7%	-0.2%	0.7%	-0.6%	2.4%	0.4%	1.4%	0.1%	0.7%	0.3%	1.2%	0.6%	1.0%	0.4%	
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	n/a	n/a	

City of Mountain View

Hauler:	FOOTHILL	FOOTHILL	FOOTHILL	FOOTHILL	FOOTHILL	FOOTHILL	FOOTHILL	FOOTHILL	FOOTHILL	FOOTHILL	FOOTHILL	FOOTHILL	FOOTHILL	FOOTHILL	FOOTHILL	FOOTHILL	FOOTHILL	FOOTHILL	FOOTHILL	FOOTHILL			
Date:	3/22/03	3/25/03	3/26/03	3/26/03	3/27/03	3/28/03	3/28/03	3/29/03	4/1/03	4/2/03	4/3/03	4/4/03	3/25/03	3/27/03	3/29/03	4/2/03	4/3/03	4/4/03	3/22/03	4/1/03			
Truck #:	15096	15097	15096	15095	15098	15067	15095	15098	15098	15098	15095	15096	11134	11139	11102	11139	11155	11102	18	11004			
Route #:	15098	15097	15096	15095	15098	15097	15095	15098	15097	15096	15095	15096	11134	11139	11102	11139	11155	11102	18	18			
SMaRT #:	168	169	168	390	170	175	167	170	169	170	167	168	161	162	159	162	372	158	118	118	Average	Standard	Margin of	
Load Type:	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Commercial	Commercial	Commercial	Commercial	Commercial	Commercial	OCC	OCC	(Mean)	Deviation	Error	
Old Newspaper	31.3%	24.8%	28.5%	21.6%	28.7%	26.3%	20.7%	25.2%	19.2%	31.8%	21.1%	32.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	18.6%	13.5%	5.2%	
Mixed Paper	48.8%	50.8%	46.7%	48.9%	45.2%	49.7%	51.7%	48.6%	49.9%	45.4%	53.7%	44.1%	66.1%	65.1%	69.9%	83.2%	39.5%	35.0%	0.0%	0.0%	48.0%	21.0%	8.1%	
Old Corrugated Cardboard	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	18.5%	14.0%	15.4%	6.5%	50.8%	43.4%	98.6%	94.8%	17.1%	30.9%	11.9%	
Tin Cans	1.8%	1.8%	1.9%	1.5%	1.9%	1.2%	1.8%	1.8%	1.8%	1.8%	1.8%	2.0%	0.1%	0.1%	1.6%	0.0%	0.1%	3.1%	0.0%	0.0%	1.3%	0.9%	0.3%	
PET	1.3%	1.8%	1.4%	1.7%	1.5%	1.9%	1.9%	1.5%	1.6%	1.5%	1.6%	1.5%	1.0%	0.1%	0.3%	0.1%	0.2%	0.7%	0.0%	0.0%	1.1%	0.7%	0.3%	
HDPE - Natural	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
HDPE - Color	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
HDPE - Mix	1.4%	1.4%	0.9%	1.6%	1.5%	1.8%	2.0%	1.6%	1.8%	1.5%	1.8%	1.9%	0.2%	0.2%	0.5%	0.1%	0.1%	1.1%	0.0%	0.0%	1.1%	0.8%	0.3%	
Aluminum Cans	0.6%	0.7%	0.4%	0.4%	0.5%	0.5%	0.4%	0.5%	0.5%	0.5%	0.6%	0.4%	0.2%	0.1%	0.0%	0.6%	0.1%	0.3%	0.0%	0.0%	0.4%	0.2%	0.1%	
Scrap Metal	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
Glass Bottles - Clear	2.7%	3.0%	2.3%	2.3%	3.0%	2.6%	2.9%	3.1%	3.2%	2.5%	2.2%	2.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.8%	0.9%	0.3%	
Glass Bottles - Green	3.8%	4.0%	3.5%	3.7%	3.6%	2.6%	3.8%	4.0%	3.0%	3.2%	3.1%	3.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.8%	1.4%	0.5%	
Glass Bottles - Brown	1.3%	1.2%	1.3%	1.9%	1.3%	1.5%	1.5%	1.4%	2.1%	1.3%	1.2%	1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.1%	1.8%	0.7%	
Glass Bottles - Mix	7.4%	7.4%	9.2%	12.4%	8.5%	7.7%	10.2%	8.0%	12.6%	6.1%	9.0%	7.2%	3.9%	0.5%	3.8%	1.1%	2.6%	2.8%	0.0%	0.0%	6.9%	3.8%	1.5%	
Liquid	0.1%	0.1%	0.1%	0.1%	0.1%	0.2%	0.1%	0.0%	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	
Residue	1.9%	2.8%	2.7%	3.3%	3.3%	4.0%	2.7%	3.5%	4.0%	2.6%	3.2%	2.9%	9.9%	0.0%	8.6%	8.1%	6.8%	13.6%	1.8%	5.4%	4.5%	3.3%	1.3%	
Shrinkage	0.7%	0.2%	1.1%	0.5%	0.9%	-0.1%	0.5%	0.7%	0.2%	1.6%	0.7%	0.6%	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	-0.4%	0.0%	0.4%	0.5%	0.2%	
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	n/a	n/a	

Appendix A

Methodology

Methodology

Introduction

The following methodology was developed to address characterization of the source separated recyclable materials stream that is currently collected by the franchised haulers for the cities of Sunnyvale and Mountain View and delivered to the SMaRT Station (Facility) for processing.

Sunnyvale utilizes a curbside processing system at the Facility to receive, process, and separate out recyclable materials for market from source separated and commingled recyclables. These recyclables are set out at the curb by Mountain View and Sunnyvale participants. Palo Alto does not use the Facility's curbside processing system as it currently utilizes a processing system located at the Palo Alto Landfill.

Background Information

Current Collection System

Sunnyvale's and Mountain View's contract solid waste haulers, Specialty Solid Waste and Recycling (Specialty), and Foothill Disposal (Foothill), respectively, deliver materials picked-up curbside from residential and commercial (only Mountain View) sources to the Facility five days per week. A breakdown by each city follows.

Sunnyvale

Specialty's vehicles collect the following loads throughout Sunnyvale using two-compartment vehicles.

- Five (5) Single-Family (SF) residential routes each day, Monday through Friday
- One (1) Multi-Family (MF) residential route each day, Monday through Friday

- One (1) additional Multi-Family residential route on Mondays
- One (1) miscellaneous route for schools/City Hall on Tuesdays

This totals to thirty-two (32) routes per week to cover the entire city. One of the vehicle's compartments contains mixed fibers (newspaper, mixed paper, and cardboard), the other, mixed containers (tin cans, PET, HDPE, aluminum cans, and glass bottles). Both compartments contain some residue, including liquids from closed-top bottles (the fibers compartment usually contains a small amount of containers).

Mountain View

Foothill's vehicles collect the following loads throughout Mountain View using a mixture of three-compartment and one-compartment vehicles.

- Four (4) residential routes each day, Monday through Friday, over a two-week period (bi-weekly) to cover the entire city
- One (1) additional residential route every other Thursday
- Four (4) commingled commercial routes each day, Monday through Friday
- One (1) commercial old corrugated cardboard (OCC) route each day, Monday through Friday
- One additional commercial OCC route on Monday and Wednesday.

This totals to sixty-eight (68) routes over a two-week period to cover the entire city. The three-compartment vehicles collect commingled containers (tin cans, PET, HDPE, aluminum cans, and glass bottles) in one compartment, mixed paper in a second compartment, and newspapers (newspapers and mixed paper) in the third compartment. The container's compartment contains some residue, including liquids from closed-top bottles. The newspaper compartment also contains some residue as well as some miscellaneous containers. The one-compartment commercial vehicles collect a mix of OCC, mixed paper, and commingled containers; they also contain some residue. The one compartment OCC vehicles collect OCC and contain some level of residue.

A flow chart of the collection systems for each city is shown in Figures 1 and 2.

Figure 1 | City of Sunnyvale – Collection System

CITY OF SUNNYVALE

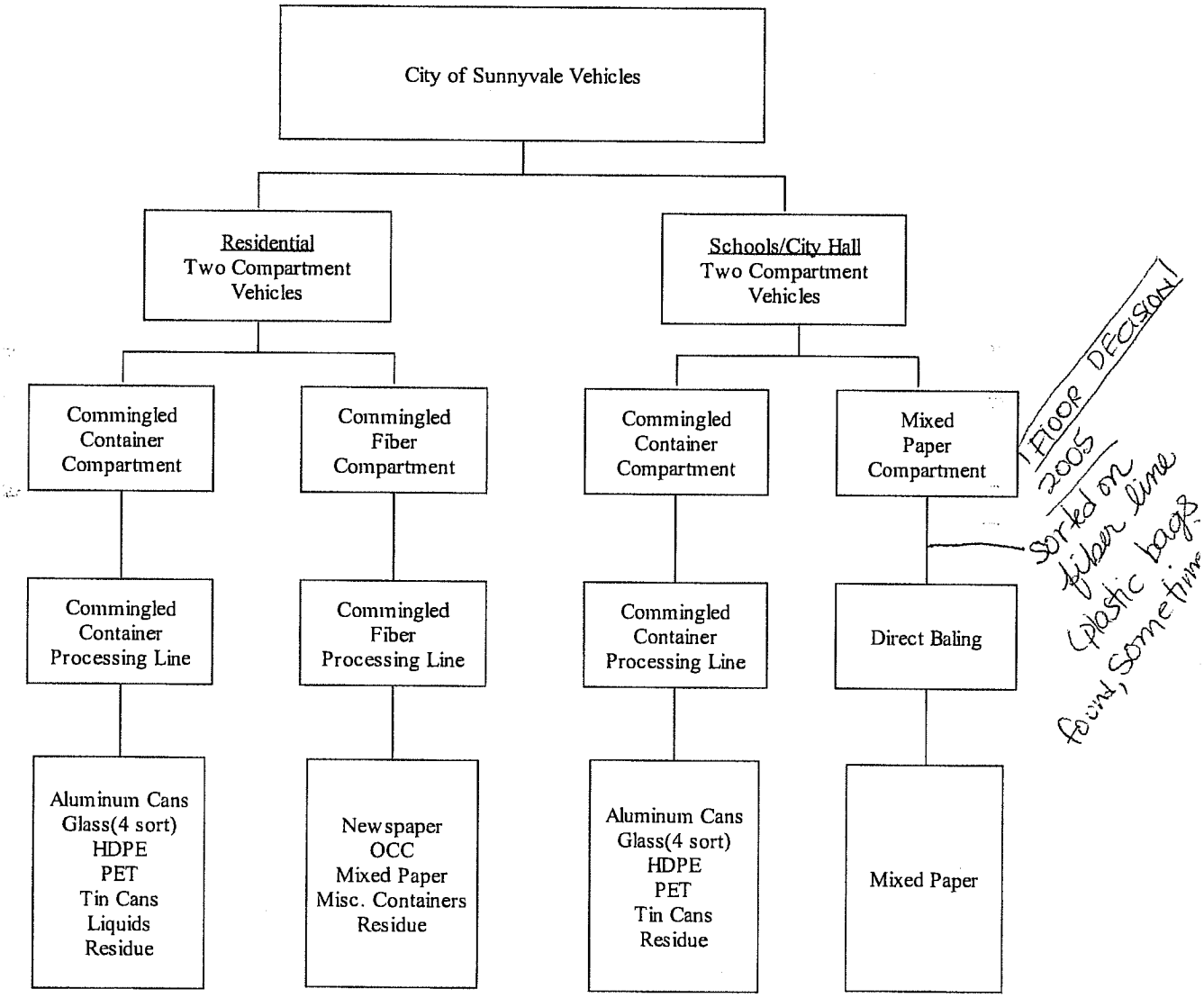


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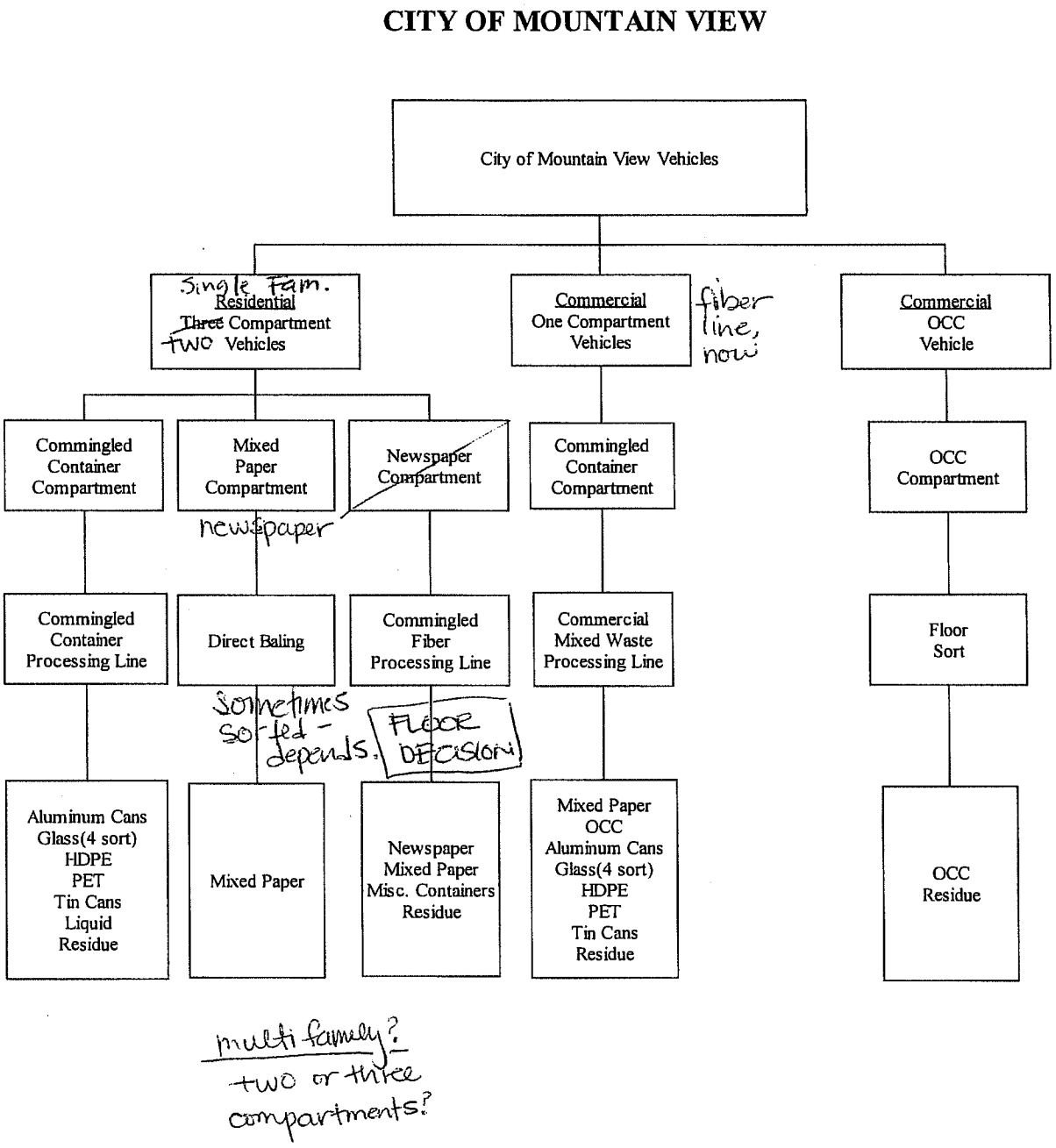
Figure 2 | City of Mountain View – Collection System



Processing System

Once the materials are delivered to the Facility, the contract operator, Green Team/Zanker (GTZ) uses three separate processing lines to sort materials; these include the curbside recyclables fiber line, the curbside recyclables container line, and the mixed commercial material processing line from the original NRT processing system. Once materials are processed, they are commingled into like material types for consolidation, delivery and sales to market.

Physical Work Area

The area adjacent to the processing lines is limited. The bulk of the area is used for receiving, weighing, and unloading of materials from the curbside collection vehicles. There is a small area adjacent to the lines that contain a platform scale and some available space between the scale and the balers for staging materials for weighing.

Equipment

Most equipment used for this study can be supplied by the Facility, including containers, bins, balers (one connected each to the fiber line and one to the commercial line), forklifts, front-end loaders, radios, the truck scale, and the platform scale. Additional items needed to be supplied outside the Facility include: a laptop computer to log all information from the study, flagging tape, three ½-gallon containers to collect liquids, permanent markers, duct tape, and notebooks. Personal safety equipment such as hardhats, safety vests, goggles, earplugs, etc are supplied by the contractor's crew (this is equipment that they use on a daily basis to perform their jobs).

Contract Operator

The GTZ contract operator's team is assumed available each and every day of the sort. The team consisted of approximately 36 personnel including approximately 17 curbside line sorter sorters, 15 commercial line sorters, two rolling stock (forklift and front-end loader) operators, one part-time baler operator,

and one floor manager. The normal truck-scale assistant was not usually on duty during our Study (the floor manager recorded scale weights).

Study Methodology

There are many steps involved in performing a study of the source separated materials composition from each of the cities. Each step is outlined below by section.

Determination of Number of Samples

The determination of the number of samples to sort is best derived through experience and available reference information. A quantitative method is not available to determine the appropriate numbers of samples to test in a materials sort of the kind required for the cities of Sunnyvale and Mountain View. The California Integrated Waste Management Board (CIWMB) provides guidelines with reference to number of samples recommended for waste characterization studies. The suggested number of samples ranges from 20-40 with a minimum weight of 200 tons varying according to residential, commercial and industrial loads. Please see www.ciwmb.ca.gov/WasteCHar/YourData.htm for further details. It should also be recognized that the stream of materials requiring sorting for this study is recyclables and not waste. However, these are the best guidelines available in the California Solid Waste industry. Combining this with BVA's past experience in material characterization sorts, we suggest that a minimum of 20 samples per city should be analyzed. For the sampling of two cities, a total of 40 samples should be taken. Sampling a total of 40 loads equates to a representation of 40% of the total loads covering the entire population of both cities (100 loads total). This is considered to be significant representation for the study.

Sample Selection

The total number of loads or routes it takes for Sunnyvale and Mountain View contract collectors to cover the entire area of the cities is 100. This is an accumulation of residential and commercial (Mt. View only) loads throughout both cities. It is important when conducting sample selection to have equal geographic as well as economic representation of each of these waste

generators. For example, a waste load from an affluent and less populated neighborhood may have a different composition than that of a less affluent and high density area. To ensure that the sampling is not skewed by over or under representation from any one area, discussion of logistics with the haulers to select the preferred routes for sampling and a few alternatives in case additional loads are needed. A random selection process should be used whenever it is possible (after geographic and sector type issues are considered).

To select samples a list of the number of samples required by route type for each city must first be developed. To determine the number of samples required by route type, the total number of routes of a certain type (for example Multi-Family Residential) is divided into the total number of routes in a particular city; this yields a percentage or share of the routes to be sampled. For example, the City of Sunnyvale runs a total of 6 Multi-Family Residential routes per week as part of a total of 32 total routes per week. This equates to approximately 19% of the routes conducted by the City. For a total sample amount of 20 for the city, 19% represents approximately 4 samples that need to be taken from Multi-Family Residential type routes. Table 1 shows the number of samples required by route type and by city for the Study.

After this list is developed, a meeting with the contract haulers from each city is required. In this meeting, the contract hauler should provide a list of when each of these route types is scheduled, associated route numbers, and a map to reference where each route is geographically collected. Using the route list, map and the number of samples by route type, potential routes for sampling should be accumulated. To finalize the routes a random number generator should be used for prioritization. For example, if there are three routes to choose from on a particular day use the random number generator to select from 1 to 3. The first number that is generated is applied to the first route, the second to the second route on the list and likewise with the third route. So if the numbers from the random number generator came up in order 3, 1 and 2, the second route number on the list would be of first priority to sample, the third route of second priority and so on. From this exercise a list showing the preferred routes for sampling

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each day should be generated. The actual route list schedule for the field sampling analysis portion of the Study is shown in Table 2.

Table 1 | Number of Samples by City and Route Type

City/Route	Number of Routes	Percentage by Routes	Number of Samples
Sunnyvale			
SF Residential	25	78%	15
MF Residential	6	19%	4
Schools/City Hall	1	3%	1
Totals	**32**	**100%**	**20**
Mt View			
Residential	41	60%	12
Commercial	20	29%	6
OCC	7	10%	2
Totals	**68**	**100%**	**20**

Table 2 | Study Route List Schedule

Materials Collected on:	Fri 3/21	Mon 3/24	Tue 3/25	Wed 3/26	Thu 3/27	Fri 3/28	Mon 3/31	Tue 4/1	Wed 4/2	Thu 4/3
Delivered to SMaRT on:	Sat 3/22	Tue 3/25	Wed 3/26	Thu 3/27	Fri 3/28	Sat 3/29	Tue 4/1	Wed 4/2	Thu 4/3	Fri 4/4
5:00 AM		Specialty SF - 703	Specialty SF - 704	Specialty SF - 701	Specialty SF - 702	Specialty SF - 701	Specialty SF - 704	Specialty SF - 705	Specialty SF - 702	Specialty SF - 701
5:30 AM		Foothill COM - 11134		Foothill COM - 11139		Foothill COM - 11102		Foothill COM - 11139	Foothill COM - 11155	Foothill COM - 11102
6:00 AM	Specialty SF - 702		Foothill RES - 15096		Foothill RES - 15097		Foothill RES - 15097			
7:00 AM	Foothill OCC - 18	Foothill RES - 15097	Foothill RES - 15095	Foothill RES - 15098	Foothill RES - 15095	Foothill RES - 15098	Foothill OCC - 18	Foothill RES - 15098	Foothill RES - 15095	Foothill RES - 15096
8:00 AM	Foothill RES - 15096	Specialty SF - 705	Specialty - 615	Specialty MF - 706**	Specialty SF - 704	Specialty SF - 705	Specialty MF - 707	Specialty SF - 701	Specialty SF - 703	Specialty MF - 706**
9:00 AM	Specialty MF - 706									

Vehicle Capture Logistics

At the pre-sort meeting with the haulers, as discussed above, a methodology to capture the vehicles must be discussed. In order to keep consistent samples for the study and to minimize interference with day-to-day operations, the haulers should be required to hold the loads overnight and deliver the loads for sorting the following morning. The preferred routes to sample should be determined by the route, vehicle, and SMaRT numbers. The haulers should be informed a week in advance, or earlier if possible, regarding the schedule to hold their loads overnight, if needed. To ensure that desired loads are not dumped, the scale house operator should have a list of the vehicles that are not allowed to dump during the previous day (targeted loads for sampling). As a cross-check, vehicles should be identified prior to unloading in the receiving area. If by chance a vehicle load is missed, a make-up load would need to be scheduled.

Sampling Team

The sampling team should consist of three participants: 1) city representation, 2) the contract processor (GTZ in this instance); and 3) the Study management team (BVA in this instance). The following illustrates each party's roles and responsibilities:

City Representative(s)

The cities representative(s) should be on-site during the field characterization to monitor ongoing activities as well as train for future efforts in replicating the process. Additional responsibilities include: overall management of the project, coordination with the haulers, Specialty and Foothill, and the contract processor, GTZ, and assistance with equipment and information as needed.

Contract Processor (GTZ)

The SMaRT Station contract processor (GTZ for this initial Study) should provide the day-to-day operations crew. The crew for the initial Study consisted of approximately 36 personnel including approximately 17 curbside line sorters, 15 commercial line sorters, two rolling stock (forklift and front-end loader) operators, one part-time baler operator, and one floor manager. The normal truck-scale assistant was not usually on duty during our Study (the floor manager recorded scale weights). The Study should be conducted using the same number and type of sorters as under normal operations. It is important that the sampling process be as representative of a normal or typical daily sort, as possible. Contractor management should also be available for supervision, equipment and information, as needed.

Study Management (BVA)

The Study Management Team (BVA in this Study) should be responsible for developing the methodology, providing the training manuals and conducting a training session, managing and running the sort, collecting and aggregating the data, performing a QA/QC check on all data, developing a statistical analysis, and linking the data spreadsheet to Sunnyvale's proration spreadsheets.

During the field sampling study, the Management Team should provide three to four field managers to assist in training the workers. They should make every attempt to not only help them conduct their part of the work successfully, but to help them understand why it is important to conduct the study in a certain manner. Each of the field managers should have at least a fundamental understanding of the Spanish language.

Schedule for Sampling Team

The greatest factor in preparing the schedule is to ensure that the sort does not interfere with day-to-day operations of the facility. With this in mind, the sampling team should conduct the sorts early in the morning, preferably beginning at approximately 5 am in the morning. The sample loads should be scheduled from the prior day pick up. For example Friday's loads should be delivered, sorted and weighed on Saturday. Thus, all the sample loads should be from collection routes running Monday through Friday. Plans should be made to sort 4 samples a day over a 10-day period for a total of 40 samples (fewer sorts per day over a longer period is acceptable, as long as they are divided across the weekdays equitably.

Training for Sampling Team

The sampling team should receive appropriate training. The majority of training should be provided during the actual field sampling study. Training materials should be distributed to all personnel prior to the scheduled field study. These materials should be developed in English as well as Spanish. The English and Spanish versions of the Training Manual are included in Appendix B of this report. On the first day of the field study, management staff should review these training materials with the sort team in both English and Spanish prior to commencement of the sort. Additional processing time may be needed on the first day of the sort to acclimate personnel to the difference in procedures. City representative(s) should also participate in the on-site training to understand the required management for future materials sorts.

Maintaining Ongoing Operations

As mentioned above, the sort should be conducted during the non-operational hours of the source separated processing system to ensure that ongoing operations of the Facility are undisturbed.

Receiving Vehicles and Floor Handling

Vehicles should be received and weighed and a total vehicle/load weight recorded. Materials from the first compartment should then be dumped onto the floor or directly onto the processing system in-feed conveyor. The vehicle should then be re-weighed to record the remaining vehicle weight; a simple subtraction will yield the individual compartment weight. The second compartment (if a 2- or 3- compartment vehicle) should then be emptied onto the floor and then the vehicle re-weighed to record a total weight for that second compartment. The third compartment (if a 3-compartment vehicle) should then be emptied onto the floor and then the vehicle re-weighed to record a total weight for that third compartment. All materials must be kept segregated using placement and flagging tape as necessary prior to sort and weighing to ensure the materials are not contaminated.

By compartment, materials should be processed over the three processing lines described previously, commingled containers over the curbside containers processing line, commingled fibers over the fibers processing line and fully commingled recyclables over the older mixed commercial materials processing line. Some materials, such as newspaper from Mountain View should only need to be "cleaned-up" using a negative sort to pull out mixed paper contaminants. Other materials, such as mixed paper from Mountain View should not need to be processed over a line at all, only weighed and baled.

Fiber Line Sorting

The normal curbside processing system with the normal allotment of crew should be used for sorting the fiber type materials from each of the loads (from individual truck compartments). The crew should consist of approximately 7 sorters, including the line operator. Loads of mixed fiber materials can contain old newspaper (ONP), old corrugated cardboard (OCC), mixed paper (MP), and

residue. These loads can also contain items such as cans, glass and plastic containers.

The mixed fiber loads should be pushed onto the in-feed conveyor and conveyed up to the overhead sorting platform. OCC and MP should be pulled out of the loads and dropped into bins (placed underneath the line inside the existing concrete bunkers). Containers, cans and refuse should be placed in small containers along-side the overhead sorting conveyor belt. ONP should be the only component left on the conveyor belt and should drop off the end of the conveyor into a large bin (placed inside the bunker). This ONP bin may fill two to three times during a normal compartment run. If this is the case, the line will need to be stopped for a few minutes will the bin is weighed, emptied and replaced in the bunker. Towards the end of a run, one of the managers must make sure that all materials are hand-swept onto the belt (the front-end loader cannot reach all materials with its large bucket) and that the line is clear (all materials ran through from the load). After the entire truck compartment's load is run through the system, the materials should be taken in the containers and bins (using a forklift) to the scale for weighing. Some clean-up of materials that fall outside of the bins will be necessary to make sure as much material as possible is put into the correct bins before weighing. Some materials, such as mixed paper from the Mt View residential route's mixed paper compartment can be baled directly. OCC from the Mt View OCC routes can be floor sorted for residue and then baled directly as well.

Commingled Container Line Sorting

The normal curbside processing system with the normal allotment of crew should be used for sorting the commingled container type materials from each of the loads (from individual truck compartments). The crew should consist of 6 sorters on the container line, 2 glass sorters and 2 pre-sort personnel, including the line operator. Loads of mixed containers can contain HDPE and PET plastic containers, aluminum and tin cans, glass bottles, liquids contained inside bottles and residue.

The commingled container loads should be pushed onto the in-feed conveyor and conveyed up to the overhead sorting platform. At the top of the platform, ferrous metals are pulled automatically with a ferrous magnet, a trommel screen is used to remove smaller residue and the light and heavier materials are separated with an air classifier (cyclone). The ferrous materials are automatically deposited in a bunker which needs to be emptied into wheeled-carts for transport and weighing at the end of the sort. The heavier material stream contains mostly glass bottles which are sorted by color, with mixed glass conveyed off the end of the belt. Each of these materials should be collected below the overhead sorting line in bins for weighing. In addition, the heavy materials line collects containers filled with liquids which need to be separated and carried to the scale for weighing (at the scale these containers are opened and the liquid is emptied into ½-gallon pitchers for weighing, the containers, which are mostly PET, are also weighed separately).

The lighter material stream contains plastic containers and aluminum cans. The plastic containers are sorted into two (2) fractions; HDPE colored/mixed, and PET. Each of these materials should be placed in small containers along-side the overhead sorting conveyor belt for collection and dumping into larger bins placed below the sorting platform. There should be three (3) additional bins placed under the platform for PET, HDPE, and aluminum cans. These larger bins are transported to the scales by a forklift for weighing at the end of the load's sort. Residue should be collected at several points throughout the processing line, including at the presort station, at the cyclone, at the end of the lighter fraction sort line and under the trommel.

Commercial Line Sorting

Loads from Mountain View's commercial curbside collection program should be unloaded on the Facility's main tipping floor, away from the curbside processing system. This material should be fed to the Facility's commercial processing line on a batch basis when no other waste is being processed. This should occur for the most part at the beginning of the sort day, when all equipment and bins are clean. All recovered materials such as OCC, MP, ONP, containers and scrap metals should be collected in bins and containers and weighed. The residue should not be weighed as it is too difficult to effectively capture in this system.

Residue amounts are instead calculated by subtracting the total weights of the recovered materials from the total truck load weights. The crew should consist of approximately 15 sorters including a manager.

Weighing of Samples

Approximately 20 to 40, 32-gallon and 50-gallon containers as well as 4-cubic yard 6-cubic yard bins are needed for collection of the sorted materials, and are provided by the contract processor, GTZ. At the beginning of each day, the containers and bins should be weighed on the platform scale and their tare weight tagged on the side of the container/bin using duct tape and a permanent marking pen. The markings should also contain the first-letter of the day of the week to ensure they are tared. The less bulky materials such as certain containers should be collected in the containers, the more bulky materials in bins. As mentioned previously, some materials such as mixed paper from the Mt View residential route's mixed paper compartment can be baled directly. OCC from the Mt View OCC routes can be floor sorted for residue and then baled directly as well.

Collection and Storage of Data

The data collected during the sort should be entered in MS Excel spreadsheets. Two separate types of spreadsheets were developed; one for Sunnyvale's loads, and one for Mountain View's loads to match their individual route and truck/compartment types. In addition, each sample/load should have its own sheet within the overall spreadsheet. The information should be stored on the laptop, as well as saved to a backup disc or CD at the end of each day. The on-site laptop should be protected by a plastic cover to ensure that material spillage does not affect the computer. A sample of the data collection spreadsheets are shown in Table 3 and Table 4.

Sample Shrinkage Checks

The information entered into the MS Excel spreadsheets is automatically totaled, so that comparisons between individual recyclable/residue components to the

Appendix A

initial total compartment weights can be made. Any shrinkage figures that appear to be out of the norm (above or below the average) for no reason should be checked during the sort to understand if and where a potential problem may exist. Some problems can be fixed using this tool. This in-field check is very important, as it is BVA's experience that errors can and do appear in the field. It is best if these errors can be found and corrected in the field.

Table 3 | Sunnyvale Sample Data Collection Form

Hauler:	SPECIALTY							
Date:								
Truck #:								
Load Type:								
Total Truck Wt.								
Wt. After 1st Unload		Compartment Type Unloaded:		Original Net Wt.	0	Total Sorted Wt.		Shrinkage%: #DIV/0!
Wt. After 2nd Unload		Compartment Type Unloaded:		Original Net Wt.	0	Total Sorted Wt.		Shrinkage%: #DIV/0!

Commingled Containers	Container 1 Tare	Container 1 Total	Container 2 Tare	Container 2 Total	Container 3 Tare	Container 3 Total	Container 4 Tare	Container 4 Total	Container 5 Tare	Container 5 Total	Container 6 Tare	Container 6 Total	Container 7 Tare	Container 7 Total
Tin Cans														
PET														
HDPE - Natural														
HDPE - Color														
HDPE - Mix														
Aluminum Cans														
Scrap Metal														
Glass Bottles - Clear														
Glass Bottles - Green														
Glass Bottles - Brown														
Glass Bottles - Mix														
Liquid														
Residue														

Fiber	Container 1 Tare	Container 1 Total	Container 2 Tare	Container 2 Total	Container 3 Tare	Container 3 Total	Container 4 Tare	Container 4 Total	Container 5 Tare	Container 5 Total	Container 6 Tare	Container 6 Total	Container 7 Tare	Container 7 Total
Old Newspaper														
Mixed Paper														
Old Corrugated Cardboard														
Residue														
Tin Cans														
PET														
HDPE - Natural														
HDPE - Color														
HDPE - Mix														
Aluminum Cans														
Scrap Metal														
Glass Bottles - Clear														
Glass Bottles - Green														
Glass Bottles - Brown														
Glass Bottles - Mix														
Liquid														

Table 4 | Mountain View Sample Data Collection Form

Hauler:	FOOTHILL												
Date:													
Truck #:													
Load Type:													
Total Truck Wt.													
Wt. After 1st Unload		Compartment Type Unloaded:		Original Net Wt.		0	Total Sorted Wt.		Shrinkage%:	#DIV/0!			
Wt. After 2nd Unload		Compartment Type Unloaded:		Original Net Wt.		0	Total Sorted Wt.		Shrinkage%:	#DIV/0!			
Wt. After 3rd Unload		Compartment Type Unloaded:		Original Net Wt.		0	Total Sorted Wt.		Shrinkage%:	#DIV/0!			

Commingled Containers	Container 1		Container 2		Container 3		Container 4		Container 5		Container 6		Container 7	
	Tare	Total	Tare	Total	Tare	Total	Tare	Total	Tare	Total	Tare	Total	Tare	Total
Tin Cans														
PET														
HDPE - Natural														
HDPE - Color														
HDPE - Mix														
Aluminum Cans														
Scrap Metal														
Glass Bottles - Clear														
Glass Bottles - Green														
Glass Bottles - Brown														
Glass Bottles - Mix														
Liquid														
Residue														

Newspaper	Container 1		Container 2		Container 3		Container 4		Container 5		Container 6		Container 7	
	Tare	Total	Tare	Total	Tare	Total	Tare	Total	Tare	Total	Tare	Total	Tare	Total
Old Newspaper														
Mixed Paper														
Old Corrugated Cardboard														
Residue														
Tin Cans														
PET														
HDPE - Natural														
HDPE - Color														
HDPE - Mix														
Aluminum Cans														
Scrap Metal														
Glass Bottles - Clear														
Glass Bottles - Green														
Glass Bottles - Brown														
Glass Bottles - Mix														
Liquid														

Mixed Paper	Container 1		Container 2		Container 3		Container 4		Container 5		Container 6		Container 7	
	Tare	Total	Tare	Total	Tare	Total	Tare	Total	Tare	Total	Tare	Total	Tare	Total
Old Newspaper														
Mixed Paper														
Old Corrugated Cardboard														
Residue														
Tin Cans														
PET														
HDPE - Natural														
HDPE - Color														
HDPE - Mix														
Aluminum Cans														
Scrap Metal														
Glass Bottles - Clear														
Glass Bottles - Green														
Glass Bottles - Brown														
Glass Bottles - Mix														
Liquid														

Single Compartment	Container 1		Container 2		Container 3		Container 4		Container 5		Container 6		Container 7	
	Tare	Total	Tare	Total	Tare	Total	Tare	Total	Tare	Total	Tare	Total	Tare	Total
Old Newspaper														
Mixed Paper														
Old Corrugated Cardboard														
Residue														
Tin Cans														
PET														

Cleaning and Purging Lines

After the materials for each sample have been processed over the line, the sampling team must make sure that the lines, containers and bins are cleared so that the next load is not contaminated. Areas around the line should be picked up and swept as necessary to maintain "cleanliness" in the area.

Management of City Staff and Contract Operator

The Contract Operator should supply the Management Team with a field manager to coordinate all operations, such truck receiving and weighing, sorting operations, forklift and front-end loader coordination, weighing operations, etc.

Summation and Statistical Analysis of Data

The data output from the sample sheets should be summarized showing material composition by CIty, route type (i.e., commercial, residential, etc.) and truck compartment type (incoming material stream). Statistical calculations should be made including the mean, standard deviation and the margin of error at a 90% confidence level.

City Spreadsheet Linkage

All relevant information gained during the field sampling and aggregated as described above, should be linked directly to Sunnyvale's spreadsheet for distribution of the representative share of revenues and costs between Mountain View and Sunnyvale.

Appendix B

Smart Station Source Separated Materials Characterization Study Training Manual English

Smart Station Source Separated Materials Characterization Study Training Manual

I. Introduction

The purpose of the study is to characterize the source separated materials delivered to the SMaRT Station to more effectively and consistently determine the allocation of revenues between the cities of Mountain View, Palo Alto and Sunnyvale.

II. Pre-Field Sort Preparations

Determination of Number of Samples

1. Use California Solid Waste Industry Guidelines to determine the number of samples as applicable (CIWMB recommends 15 to 50 samples depending on study and population type)
2. Based on the number and type of routes and total tonnage in 2003, 20 samples per city for a total of 40 samples were taken

Contract Hauler Coordination

A meeting with the contract haulers early in the process is necessary to ensure an effective and efficient study; outline the responsibilities of the contract hauler.

1. A list of routes with load type, pick-up day, route numbers, truck numbers, and SMaRT numbers should be collected
2. A map of all the routes showing geographical pickup areas by day is also needed
3. Management team and contract haulers will work to develop a chart of routes and days that need to be targeted for the study
4. Contract haulers and management team must work with vehicle drivers and scale house operators to ensure that the collection vehicle is the

correct route, the delivery time is accurate, and that vehicles use proper weighing procedures

Sample Selection

1. Crucial to have a representative and directly proportional sampling of the normal truck routes in both the cities
2. Review each hauler's route lists and maps showing number of normal routes including the type (e.g. residential, commercial, OCC) and geographical coverage
3. Calculate the number of sample loads by generator type through understanding the percentage of each route types. For example, if a city has 100 total routes and 45 are residential, 45% of the sample load should be residential loads. Using the base case of 20 loads, 45% would equal 9 residential routes; some rounding of these calculations will be necessary as a "whole" number for sampling is needed (e.g. for Sunnyvale's MF loads, approximately 19% of the 20 total samples was calculated to be 3.75 samples required, since this is not possible, the 3.75 was rounded to the "whole" number of 4)
4. Randomly select the daily loads that are of the number and type required (see above) and that give geographic representation; the random selection is conducted as follows:

   Route maps are collected from each hauler; the haulers cover a different geographical area each day. If two residential routes are required from an area that has 6 running that same day, two must be selected randomly. To do this, take the daily list of routes and route numbers, note a 1 to 6 next to each of the six route numbers for that day. Use the random number generator in MS Excel. The function is called RAND. If there are 6 possible route selections multiply the random number generator number by 6 (i.e. =RAND*6). Make sure you format the cell referenced to zero decimal places. The random number generator will pick one of the routes 1 to 6 for you. For the second choice, simply recalculate in MS Excel by hitting F9; it will yield the second random choice.

Sample Logistics

Management team, sorting crew, and contractor must have an initial meeting to determine the best plan of action to most effectively minimize the impact to daily operations. Suggested sampling logistics include:

1. Two weeks (10 business days) to conduct sampling of 40 loads; average of 4 loads per day
2. Estimated one hour per load for sorting, weighing and recording
3. Coordination with contract haulers to hold loads overnight and deliver them the next morning, if needed
4. Study samples should be scheduled for delivery before normal day-to-day operations begin

Assemble Team

1. Team should consist of the same number of sorters that perform day-to-day operations, preferably the team that performs this function on a daily basis
2. Team should be scheduled and assembled through discussions with managing representative for the contract processor; contract manager needs to assign one responsible manager from their crew for all direct coordination on a daily basis
3. Three managers are required in the following positions: 1) manage weighing and data entry at the scales, 2) manage operations on the floor, and 3) manage operations above on the sorting platforms

Sampling Team Training

1. Training materials should be distributed in both English and Spanish prior to training
2. One-half to one hour of time should be allocated to a training session on the first day of the sort

3. Sampling team will meet prior to the arrival of the first truck and receive training in both Spanish and English covering the following topics:
    a. Overview and purpose of the study
    b. Differences in study sort activities from normal daily sorting routine
    c. Review safety aspects involved in differing sorting activities

Equipment

The following equipment will be required during the sort:

- Sort lines
- Baler
- Containers
- Bin
- Gloves
- Safety vests
- Hard hats
- Flagging tape, duct tape, marking pens, clip boards, note paper, pens, pencils, scissors, stapler, etc.
- Other safety equipment, as needed
- Laptop computer with Excel spreadsheets

III. Field Sort

Pre-sort checklists for both the mixed containers and fiber processing lines are attached as tables 1 and 2, respectively.

General Preparations

At the beginning of each day, there are several tasks that must be accomplished prior to the receipt of the first load. These tasks are measures to ensure the accuracy of the study.

1. Set up table, plug in laptop computer, get note sheets ready on clip boards, etc. for the day
2. Zero out scale; clean around scale areas
3. Tape off areas on sorting platforms that sorters should not sort into; for container line tape one strip of caution tape across all normal bunker openings; for fiber line put caution tape over bunker chutes not in use (third and fourth bunker from in-feed, these will be used for storage)
4. Check all lines to see if clear including all in-feeds, conveyor systems, sorting line containers, floor bins, bunker areas
5. Have crew clean up and sweep around all conveyor systems
6. Check tare weights on all containers and bins; apply duct tape to containers/bins and add with permanent marker the first letter of the day and the tare of the container/bin
7. Ensure that if bales are located on the balers, the last bale is marked to designate where the study loads will begin
8. Place three (3) extra bins for sort under/adjacent to the containers sorting line; these bins include: (1) aluminum cans, (2) PET, and (3) HDPE.
9. Tie off residue screening material at bottom from air classification system; not much residue is gathered per run and can easily be untied and emptied into a small container at the end of each run

Appendix B

Vehicle Receiving and Weighing

1. Receiving and weighing of all vehicles is done in the same manner as performed on a daily basis
2. Entire vehicle will be weighed fully loaded, and weight recorded
3. Continue until all compartments are weighed, emptied and recorded
4. Final tare weight of vehicle will be taken and recorded
5. All weights are taken on the large in-floor truck scale (accuracy +/- 20lbs)

Collection and Storage of Data

1. Data collected in two Excel spreadsheets: one for each city 1) Sunnyvale and; 2) Mountain View
2. Each sample load has its own spreadsheet
3. Information to be stored in laptop and backup discs at the end of each sort day
4. Computer should be covered with plastic for protection from material spillage

Sample Shrinkage Checks

1. Spreadsheets will automatically total the shrinkage percentage once the sorted components have been weighed and recorded
2. Shrinkage figures that are roughly out of the norm and can't be explained will be checked at the end of each truck compartment run, with errors corrected as applicable
3. This "in-field" check allows for instant identification and possible correction of errors

Sorting Procedures

Materials will be sorted using three separate lines as in normal daily operations. The sorting procedures should replicate normal operations as close as possible including use of the same stationary and mobile equipment, use of the same number and types of personnel, etc.

Cleaning and Purging of the Lines

It is essential for the integrity of the study that the lines, bins, containers and working areas be cleaned and purged before commencement of each sort load. Managers should conduct a visual inspection prior to the start of each sampling load.

IV. Specialty (Sunnyvale) Vehicles

Specialty uses two compartment trucks for all source-separated collection routes including single-family residential, multi-family residential and city/schools. The truck compartments contain newspaper and containers.

Newspaper Compartment – Sorted Over Fiber Line

1. Fiber loads target to include old newspaper (ONP), old corrugated cardboard (OCC) and mixed paper. Other materials such as mixed containers and residue, which can be sorted into separate small containers next to the sort line, are often found in these loads.
2. Load are pushed onto the in-feed conveyor belt by a front-end loader and conveyed to the overhead sorting platform. Towards the end of a run, someone should be assigned to sweep the leftover materials onto the conveyor to ensure the entire load is processed (materials inaccessible by front-end loader).
3. OCC and mixed paper are first sorted off the line and deposited in bunker chutes, which contain one to two large bins for collection. Some materials fall on the floor and will need to be swept up and placed back into the appropriate bins at the end of the run.
4. ONP falls off the end of the conveyor into a large bin. Most likely the sort line will need to be stopped one to two times during the run when the large newspaper bin fills up. At this time, the bin should be weighed, recorded, dumped, and located back under the bunker chute to continue the sorting process.
5. As discussed, containers may also inadvertently be placed by residents into the fiber load and should be sorted off the line into containers located next to the sorters. This happens most frequently with the multi-family routes. Sorting crew members will need to separate the containers found in the fiber loads into the following classifications (this can be done on the floor area adjacent to the scale):
    - HDPE
    - PET
    - Mixed glass
    - Aluminum Cans
    - Tin
    - Residue

6. At the completion of the fiber line sort, sort crew members will need to sweep up materials that have fallen on the floor and place them into the appropriate bins.
7. All OCC, mixed paper bins and the separated containers must be weighed and recorded. Once all the materials are weighed, the shrinkage numbers should be examined to see if it appears the weights are reasonable.

Commingled Container Compartment – Sorted Over Containers Line

1. Commingled container loads can include mixed HDPE and PET plastic containers, aluminum and tin cans, glass bottles (clear, green, brown, and mixed), liquids (contained in bottles) and residue
2. Loads are pushed onto the in-feed conveyor belt by the front-end loader and conveyed to the overhead sorting platform. Towards the end of a run, someone should be assigned to sweep the leftover materials onto the conveyor to ensure the entire load is processed (materials inaccessible by front-end loader).
3. Commingled containers are conveyed through a trommel screen where small residue materials drop out into a small residue bin.
4. Materials pass under a magnet and collected ferrous metals are deposited into a cage-type bunker.
5. Materials pass through an air classifier (cyclone), where materials are divided by weight into a "heavies" component (mostly glass and liquid containing PET bottles) and a "lights" component (mostly plastic and aluminum containers).

Heavies

6. Sorters separate the glass by color (green, brown or amber, and clear) in to bins located below. The remaining glass (mixed color) will be conveyed off the end of the sort belt into a bin located below the platform
7. Additionally, PET bottles containing liquids are sorted into a separate container. Upon completion of the sort, the sort crew will need to empty

the liquid from the containers into separate pitchers. Both the empty PET containers and the liquid will need to be weighed and recorded.

Lights

8. The remaining materials are conveyed over the platform sort line and mixed HDPE, PET, and aluminum cans are sorted off the line and placed in containers next to the sorters.
9. Residue falls off the end of the line into a large bin.
10. During the run, as they fill, the small mixed HDPE, PET and aluminum can containers, located next to the sort belt will be dumped over the platform into large bins below. This is an area where safety is critical; sorters must be careful in dumping these containers and no personnel should be allowed under the sorting platform during a run. In addition, if possible, one extra person should be made available for dumping duties so as not to take away from normal sorting procedures.
11. Sorting crews will need to pick up inadvertently dropped materials around the bins and place them into the appropriate bins for weighing
12. The forklift driver will then pick up each of the container bins and have the bins weighed.
13. Additionally, sort crew will need to remove ferrous materials from caged bunker and place them into rolling carts to be transferred to the scales and weighed.
14. All containers and bins are to be weighed and recorded. Once all the materials are weighed, the shrinkage numbers should be examined to see if it appears the weights are reasonable (i.e. within study norms and are explainable).

V. Foothill (Mountain View) Vehicles

Foothill uses three compartment trucks for residential solid waste collection; these compartments contain: 1) mixed paper 2) ONP and; 3) commingled containers. Foothill does not distinguish between single-family or multi-family loads. Additionally, Foothill uses one compartment vehicles for collection of OCC and commercial routes. Each of these loads is handled differently.

Residential Vehicle Mixed Paper Compartment – No Sorting, Just Baled

Unlike Sunnyvale, the Mountain View collection program separates mixed paper from the ONP. Due to the curbside source separation, the handling of the compartment load is as follows:

1. Mixed paper compartment is dumped on the sorting floor.
2. Mixed paper is pushed into an empty bunker by the front-end loader where it is then baled, and the bales are weighed and recorded.

Residential Vehicle ONP Compartment - Sorted Over Fiber Line

1. ONP loads mostly ONP, some mixed paper and a small amount of mixed containers and residue.
2. Load are pushed onto the in-feed conveyor belt by a front-end loader and conveyed to the overhead sorting platform. Towards the end of a run, someone should be assigned to sweep the leftover materials onto the conveyor to ensure the entire load is processed (materials inaccessible by front-end loader).
3. Mixed paper is sorted off the line and deposited in a bunker chute, which contains one to two large bins for collection. Some materials fall on the floor and will need to be swept up and put back into the appropriate bins at the end of the run.
4. ONP falls off the end of the conveyor into a large bin. Most likely the sort line will need to be stopped one to two times during the run when the large newspaper bin fills up. At this time, the bin should be weighed,

recorded, dumped, and located back under the bunker chute to continue the sorting process.

5. As discussed, containers may also inadvertently be placed by residents into the ONP load and should be sorted off the line into containers located next to the sorters. Sorting crew members will need to separate the containers found in the fiber loads into the following classifications (this can be done after the run on the floor area adjacent to the scale):
   - HDPE
   - PET
   - Mixed glass
   - Aluminum Cans
   - Tin
   - Residue
6. At the completion of the ONP sort, sort crew members will need to sweep up materials inadvertently lying on the floor and place into the appropriate bins.
7. All ONP and mixed paper bins and the separated containers must be weighed and recorded. Once all the materials are weighed, the shrinkage numbers should be examined to see if it appears the weights are reasonable (i.e. within study norms and explainable).

Residential Vehicle Commingled Container Compartment - Sorted Over Containers Line

1. Commingled container loads can include mixed HDPE and PET plastic containers, aluminum and tin cans, glass bottles (clear, green, brown, and mixed), liquids (contained in bottles) and residue
2. Loads are pushed onto the in-feed conveyor belt by the front-end loader and conveyed to the overhead sorting platform. Towards the end of a run, someone should be assigned to sweep the leftover materials onto the conveyor to ensure the entire load is processed (materials inaccessible by front-end loader).
3. Commingled containers are conveyed through a trommel screen where small residue materials drop out into a small residue bin.
4. Materials pass under a magnet and collected ferrous metals are deposited into a cage-type bunker.

5. Materials pass through an air classifier (cyclone), where materials are divided by weight into a "heavies" component (mostly glass and liquid containing PET bottles) and a "lights" component (mostly plastic and aluminum containers).

Heavies

6. Sorters separate the glass by color (green, brown or amber, and clear) in to bins located below. The remaining glass (mixed color) will be conveyed off the end of the sort belt into a bin located below the platform
7. Additionally, PET bottles containing liquids are sorted into a separate container. Upon completion of the sort, the sort crew will need to empty the liquid from the containers into separate pitchers. Both the empty PET containers and the liquid will need to be weighed and recorded.

Lights

8. The remaining materials are conveyed over the platform sort line and mixed HDPE, PET, and aluminum cans are sorted off the line and placed in containers next to the sorters.
9. Residue falls off the end of the line into a large bin.
10. During the run, as they fill, the small mixed HDPE, PET and aluminum can containers, located next to the sort belt will be dumped over the platform into large bins below. This is an area where safety is critical; sorters must be careful in dumping these containers and no personnel should be allowed under the sorting platform during a run. In addition, if possible, one extra person should be made available for dumping duties so as not to take away from normal sorting procedures.
11. Sorting crews will need to pick up inadvertently dropped materials around the bins and place them into the appropriate bins for weighing
12. The forklift driver will then pick up each of the container bins and have the bins weighed.
13. Additionally, sort crew will need to remove ferrous materials from caged bunker and place them into rolling carts to be transferred to the scales and weighed.

14. All containers and bins are to be weighed and recorded. Once all the materials are weighed, the shrinkage numbers should be examined to see if it appears the weights are reasonable (i.e. within study norms and are explainable)

OCC Vehicle/Compartment

The single compartment OCC loads contain mostly OCC with some residue.

1. OCC compartment is dumped onto the floor.
2. Sorting crew separates out residues such as film plastics, etc. which are placed into a container and taken to the scales for weighing.
3. OCC is then pushed into an empty bunker by the front-end loader where it is baled. Bales are weighed and recorded.

Commercial Vehicle/Compartment

The single compartment commercial loads contain mostly mixed paper, cardboard and mixed containers, with some residue, and are sorted on the commercial line.

1. When commercial loads are scheduled, ensure there is a cleared area on the main tipping floor for the truck to dump.
2. Check the MRF commercial sort line to ensure that all containers and the conveyor are cleared from prior sorts.
3. Have the vehicle weigh on the in-floor truck scale fully loaded.
4. Accompany the truck to the main tipping floor and have them dump on to or as close to the in-feed conveyor (walking floor) if cleared and ready for sorting. If the in-feed is not readily available, have the vehicle dump its load in a clear area and mark the load with caution tape. Take care to ensure that it is not mixed with other loads on the tipping floor.
5. Inform the truck driver that they must re-weigh the vehicle after emptying the load.
6. The commercial load will be pushed onto the in-feed walking floor and conveyed through the commercial processing equipment (screens, sort line, etc.). OCC and mixed paper are picked off and deposited into chutes/bunkers for baling. Containers are also pulled off the line,

deposited into small containers and hand transferred to the scales for weighing at the end of the run. Materials that are not removed from the sort line are considered residue. This residue is not weighed. The amount of residue is calculated by subtracting the total weight of the recovered materials from that of the net truck compartment weight.

7. Once the sort is completed, sorters should separate containers in to the following categories:
   - HDPE
   - PET
   - Mixed glass
   - Aluminum Cans
   - Tin

   The container/bin filled with these materials are then weighed and recorded.

8. The OCC and mixed paper bunkers are run separately through the commercial baler. The bales are then weighed and recorded.
9. Shrinkage numbers should be analyzed at this time to see if the load seems reasonable
10. Residue from the commercial loads are not weighed. It is only calculated as accurate collection of residues is difficult with this processing line.

VI. Post-Field Sort Analysis

Aggregation of Data and Linkage to SMaRT Spreadsheet

1. Each individual data sheet (40 in total) will be aggregated and summarized in a final spreadsheet showing total weights and percentages by material type and truck compartment including residue and shrinkage.
2. Data will be aggregated by the six route types (3 per city) by truck compartment type.
3. Summarized spreadsheets will be provided for linkage to SMaRT Station materials reconciliation spreadsheet for representative distribution of revenues between the three cities.

Statistical Analysis of Data

The analysis will include calculations of the mean, standard deviation, and margin of error using a 90% confidence limit for each material type.

Table 1 | Recyclables Characterization Pre-Sort Checklist
Mixed Container Line

	Yes/No
Sorting deck clean	
Infeed area clean	
Bunkers taped off	
Ferrous (tin can) bunker clean	
Belts clean	
Containers/Bins emptied (see list below)	
Platform scale - Set Zero	
Container tare weights (see list below)	

	Size	Product	Tare weight (lbs)
Heavies Line - Floor	**4-yard**	**6**	
Pre-sort from belt	4-yard	Residue	
Under trommel	4-yard	3-Mix Glass	
Heavies sorting belt	4-yard	Flint glass	
Heavies sorting belt	4-yard	Brown glass	
Heavies sorting belt	4-yard	Green glass	
Heavies sorting belt - end	4-yard	3-Mix Glass	
Heavies Line - Sorting Deck	**32-gallon**	**3**	
Under trommel (on deck)	32-gallon	3-Mix Glass	
Next to sorters	32-gallon	recyclable containers with liquid	
Next to sorters	32-gallon	Residue	
Lights Line - Floor	**4-yard**	**4**	
Lights Line - Floor	**32-gallon**	**1**	
Cyclone	32-gallon	Residue	
Lights Line (floor behind sorters)	4-yard	PET	
Lights Line (floor behind sorters)	4-yard	HDPE	
Lights Line (floor behind sorters)	4-yard	Aluminum	
End of container line	4-yard	Residue	
Lights Line - Sorting Deck	**32-gallon**	**8**	
Sorting station	32-gallon	HDPE	No Tares Needed
Sorting station	32-gallon	HDPE	
Sorting station	32-gallon	PET	
Sorting station	32-gallon	PET	
Sorting station	32-gallon	Aluminum	
Sorting station	32-gallon	Aluminum	
Sorting station	32-gallon	Empty	
Sorting station	32-gallon	Empty	

Appendix B

Table 2 | Recyclables Characterization Pre-Sort Checklist
Fiber Line

	Yes/No
Sorting deck clean	
Infeed area clean	
Fiber bunkers clean	
Chutes not in use -- taped off	
Belts clean	
Containers/Bins emptied (see list below)	
Platform scale - Set Zero	
Container tare weights (see list below)	

	Size		Tare weight
Floor - Sunnyvale Fiber and Mountain View Newspaper Compartments	**6-yard 8-4 yard 1**		
Positive sort bunker	6-yard (2)	OCC	
Positive sort bunker	6-yard (2)	Mixed Paper	
Negative sort bunker	8-yard (1)	Newspaper	
Sorting Deck - Sunnyvale Fiber and Mountain View Newspaper Compartments	**32-gallon**	**8**	
Sorting station	32-gallon	Mixed Containers	No Tares Needed
Sorting station	32-gallon	Mixed Containers	
Sorting station	32-gallon	Mixed Containers	
Sorting station	32-gallon	Residue	
Sorting station	32-gallon	Residue	
Sorting station	32-gallon	Residue	
Sorting station	32-gallon	Empty	
Sorting station	32-gallon	Empty	

Table 3 | Recyclables Characterization Pre-Sort Checklist
MRF Line

	Yes/No
Sorting deck clean	
Infeed area clean	
Bunkers clean	
Belts clean	
Containers/Bins emptied (see list below)	
Platform scale - Set Zero	
Container tare weights (see list below)	

Bunkers - Two Required for Mixed Paper and OCC Materials -Feed Directly to Baler

Positive sort bunker	Live Floor Bunker	OCC
Positive sort bunker	Live Floor Bunker	Mixed Paper

Sorting Deck - Mt View Commercial Loads

	32-gallon	**11**	
Sorting station	Two 32-gallon	Tin	No Tares Needed
Sorting station	Two 32-gallon	PET	
Sorting station	Two 32-gallon	HDPE	
Sorting station	One 32-gallon	Aluminum	
Sorting station	Four 32-gallon	Mixed Glass	

Appendix C

Smart Station Source Separated Materials Characterization Study Training Manual Spanish

Manual de Capacitación para Estación *Smart* Caracterización de Materiales Separados

I. Introducción

El propósito del estudio es caracterizar los materiales separados en la fuente entregados a la Estación SMaRT para determinar más efectiva y consistentemente la asignación de ingresos entre las ciudades de Mountain View, Palo Alto y Sunnyvale.

II. Preparaciones para Clasificación Pre-Campo

Determinación del Número de Muestras

1. Emplear los Lineamientos de California para Residuos Sólidos Industriales para determinar el número de muestras conforme se aplican (CIWMB recomienda 15 a 50 muestras dependiendo del estudio y tipo de población).
2. Basado en el número y tipo de rutas y total de toneladas en 2003, se tomaron 20 muestras por ciudad para un total de 40 muestras.

Coordinación de Transportista Contratado

Es necesario tener una reunión con transportistas contratados al principio del proceso para asegurar un estudio efectivo y eficiente; resumir las responsabilidades del transportista contratado.

1. Se debe colectar una lista de rutas con tipo de cargamento, día para recoger, números de ruta, números de camión, y números SMaRT.
2. También se necesita un mapa de todas las rutas, por día, que exhiben las áreas geográficas en donde se recoge.
3. El equipo administrativo y transportistas contratados trabajarán para desarrollar una gráfica de rutas y días que se necesitan identificar para el estudio.
4. Los transportistas contratados y el equipo administrativo debe trabajar con los choferes de vehículos y operadores de la cabina de básculas para asegurar que el vehículo de colección es la ruta correcta, el tiempo

de entrega es preciso, y que los vehículos usan los procedimientos apropiados de báscula.

Selección Muestra

1. Es de gran importancia tener una muestra representante y directamente proporcional de las rutas normales de camiones en ambas ciudades.
2. Revisar las listas y mapas de las rutas de cada transportista exhibiendo el número de rutas normales incluyendo el tipo (p.ej., residencial, comercial, OCC) y cobertura geográfica.
3. Calcular el número de cargas muestras por tipo de generador entendiendo el porcentaje de cada tipo de ruta. Por ejemplo, si una ciudad tiene un total de 100 rutas y 45 de ellas son residenciales, 45% del cargamento muestra deben ser muestras residenciales. Usando el caso base de 20 cargamentos, 45% equivaldrían a 9 rutas residenciales, el redondeo de estos cálculos será necesario como un número "entero" de muestreo (p.ej., para cargamentos MF de Sunnyvale, aproximadamente 19% del total de las 20 muestras se calculo a 3.75 muestras que se requieren ya que esto no es posible, 3.75 se redondeo al numero "entero" 4).
4. Seleccionar aleatoriamente las cargas diarias que son del tipo y número que se requiere (ver párrafos anteriores) y que dan representación geográfica; la selección aleatoria se lleva a cabo de la siguiente manera:

   Los mapas de rutas se colectan de cada transportista; los transportistas cubren un área geográfica diferente cada día. Si se requieren dos rutas residenciales de un área que cuenta con 6 que corren el mismo día, se deben seleccionar dos de manera aleatoria. Para hacer esto, tomar la lista diaria de rutas y números de rutas poner un 1 a 6 enseguida de cada uno de los seis números de ruta para cada día. Usar el generador de numero aleatorio en *MS Excel.* A la función se le llama RAND. Si hay 6 posibles selecciones de rutas, multiplicar el numero aleatorio numero de generador por 6 (p.ej.,= RAND*6). Asegurarse de que formatea la celda referenciada a cero lugares decimales. El generador del número aleatorio seleccionará una de las rutas 1 a 6. Para la segunda opción, sencillamente volver

a calcular en *MS Excel* al presionar F9, le producirá la segunda opción aleatoria.

Logística de Muestreo

El equipo administrativo, equipo de clasificación, y contratista deben tener una reunión inicial para determinar el mejor plan de acción para reducir de manera mas efectiva el impacto de las operaciones diarias. La logística de muestreo que se sugiere incluye:

1. Dos semanas (10 días hábiles) para llevar a cabo el muestreo de 40 cargas; promedio de 4 cargas por día.
2. Se calcula una hora por carga para clasificar, pesar y registrar.
3. Coordinación con transportistas contratados para retener las cargas durante la noche y entregarlas a la siguiente mañana, si es necesario.
4. Las muestras de estudio se deben programar para entregarse antes de que empiecen las operaciones normales cotidianas.

Equipo de Ensamble

1. El equipo debe consistir del mismo numero de clasificadores que desempeñan las operaciones cotidianas, de preferencia el equipo que desempeña esta función a diario.
2. Se debe programar y organizar al equipo por medio de discusiones con el representante administrativo para el procesador del contrato; el administrador del contrato necesita asignar a un administrador responsable de su equipo para toda la coordinación diaria directa.
3. Se requieren tres gerentes en los puestos a continuación: 1) manejar el peso y datos de entrada en las básculas; 2) manejar operaciones en el piso, y 3) manejar operaciones arriba en las plataformas de clasificación.

Capacitación del Equipo de Muestreo

1. Los materiales para capacitación deben distribuirse en español e ingles antes de la capacitación,.

2. Se debe asignar de media a una hora a una sesión de capacitación el primer día de la clasificación.
3. El equipo de muestreo se reunirá antes de que llegue el primer camión y recibirá capacitación en español e ingles y se cubrirán los temas a continuación:
    a. Visión general y propósito del estudio
    b. Diferencias de estudio en actividades de clasificación de rutina normal de clasificación diaria;
    c. Revisar aspectos diarios de seguridad involucrados en actividades de clasificación que difieren.

Equipo

Durante la clasificación, se requerirá el equipo a continuación:

- Líneas para clasificar
- Embaladora
- Contenedores
- Charola
- Guantes
- Chalecos de seguridad
- Cascos
- Cinta baldosada, cinta aislante, plumas plumones, tablillas sujeta papel, hojas, plumas, lápices, tijeras, grapadora, etc.
- Otro equipo de seguridad, conforme se necesite
- Computadora portátil con hojas de trabajo Excel.

III. Capacitación en Campo

Las listas de verificación para pre-clasificar contenedores mixtos y líneas para procesado de fibra se anexan como tablas 1 y 2, respectivamente.

Preparaciones Generales

Al principio de cada día hay varias tareas que se deben llevar a cabo antes de recibir la primer carga. Estas tareas son medidas para asegurar la exactitud del estudio.

1. Montar la conexión para la computadora portátil, sacar las notas en las tablillas sujeta papeles, etc., para el día.
2. Poner la bascule en cero, limpiar el área alrededor de la bascula.
3. Encintar las áreas en la plataforma de clasificación en donde los clasificadores no deben clasificar, para línea de contenedor poner una tira de cinta de precaución sobre todas las aberturas normales de bunker; para linea de fibra poner cinta de precaucion sobre del alimentador, estos se usaran para almacenar).
4. Revisar todas las líneas para ver si están libres incluyendo todos los alimentadores, sistemas de transporte, contenedores en la línea de clasificación, charolas de piso, áreas de bunker.
5. Aquí el equipo limpia u barre alrededor de todos los sistemas de transporte.
6. Revisar basculas tara en todos los contenedores y charolas, aplicar cinta aislante a todos los contenedores / charolas y agregar marcador permanente la primera letra del día y la tara del contenedor / charola.
7. Asegurar que si las pacas se encuentran ubicadas en las embaladoras, la ultima paca esta marcada para especificar en donde empezaran las cargas de estudio.
8. Colocar tres (3) charolas extra para clasificar debajo / enseguida de la línea de clasificación de los contenedores, estas charolas incluyen: (1) latas de aluminio, (2) PET, y (3) HDPE.

9. Amarrar residuo de material filtrado en la parte de abajo del sistema de clasificación de aire; no se colecta demasiado residuo por corrida y se puede soltar fácilmente y vaciarse en pequeños contenedores al final de cada corrida.

Recepción y Peso del Vehículo

1. La recepción y peso de todos los vehículos se hace de la misma manera como se hace a diario
2. Todo el vehículo se pesa completamente cargado y se registra el peso.
3. Continuar hasta que se hayan pesado, vaciado y registrado todos los compartimientos,
4. Se tomara y registrara el peso final tara del vehículo.
5. Todos los pesos se hacen en la bascule grande de piso (exactitud +/- 20lbs)

Colección y Almacenamiento de Datos

1. Los datos colectados en dos hojas de trabajo de Excel: una para cada ciudad 1) Sunnyvale y; 2) Mountain View
2. Cada carga muestra cuenta con su propia hoja de trabajo
3. La información se va a almacenar en la computadora portátil y en discos de soporte al final de cada día de clasificación
4. La computadora se debe cubrir con plástico para protegerla del derrame de materiales

Revisiones de Reducción de Muestras

1. Las hojas de trabajo automáticamente sacaran un total del porcentaje de reducción una vez que los componentes han clasificados se han pesado y registrado
2. Las cantidades de reducción que están mas o menos fuera de la norma y no se pueden explicar se verificaran al final de cada corrida del compartimiento del camión, con errores corregidos conforme apliquen
3. Esta revisión "en campo" permite la identificación inmediata y posible corrección de errores.

Procedimientos para Clasificar

Los materiales serán sorteados usando tres líneas separadas como en las operaciones normales cotidianas. Los procedimientos de clasificación deben duplicar las operaciones normales tanto como sea posible incluyendo el uso del mismo equipo estacionario y móvil, uso del mismo numero y tipos de personal, etc.

Limpieza y Purga de Líneas

Es importante para la integridad del estudio que las líneas, charolas, contenedores y áreas de trabajo se limpien y purguen antes de empezar cada clasificación de carga. Los gerentes deben conducir una inspección visual antes de que empiece cada muestreo de carga.

IV. Vehículos de Especialidad (Sunnyvale)

La especialidad usa camiones de dos compartimientos para toda la colección de rutas de fuentes separadas incluyendo viviendas de una familia, viviendas de familias múltiples y ciudades / escuelas. Los compartimientos de los camiones contienen periódicos y contenedores.

Compartimiento para periódicos – Clasificado Sobre línea de Fibra

1. Las cargas de fibra se enfocan para incluir periódico viejo (ONP por sus siglas en ingles), cartón corrugado viejo (OCC por sus siglas en ingles) y papel mezclado. Otros materiales como contenedores y residuos mezclados, que se pueden clasificar en pequeños contenedores sorteados enseguida de la línea de clasificación, seguido se encuentran en estas cargas.
2. La carga se empuja hacia la banda transportadora para alimentar por cargador del frente hacia atrás y transportado a la plataforma para clasificación de excedentes. Hacia el final de la corrida, se debe asignar a alguien para barrer los materiales que sobran hacia la banda transportadora para asegurar que se procesa toda la carga (materiales inaccesibles por cargador frontal).
3. El *OCC* y el papel mezclado se clasifican primero fuera de la línea y se depositan en rampas de caída del bunker, que contienen de una a dos charolas grandes para colección. Algunos materiales caen en el piso y necesitaran barrerse y colocarse nuevamente en las charolas apropiadas al final de la corrida.
4. El *ONP* se cae al final de la banda transportadora a una charola grande. Es muy probable que la línea de clasificación se tenga que detener una o dos veces durante la corrida cuando se llene la charola grande para papel periódico. En ese momento la charola se debe pesar, registrar, verter y colocar de nuevo debajo de la rampa de caída del bunker para continuar con el proceso de clasificación.
5. Como se comentó, los contenedores también se pueden colocar inadvertidamente por los residentes en la carga de fibra y se deben clasificar fuera de la línea hacia contenedores ubicados enseguida de los clasificadores. Esto sucede frecuentemente con las rutas de viviendas

multifamiliares. Los miembros del equipo de clasificación necesitarán separar los contenedores que se encuentran en las cargas de fibra en las clasificaciones a continuación (esto se puede hacer en el área del piso enseguida de la báscula):

- HDPE
- PET
- Vidrio mezclado
- Latas de aluminio
- Estaño
- Residuo

6. Al terminar la clasificación de la línea de fibra, los miembros del equipo de clasificación necesitarán barrer los materiales que se han caído al suelo y colocarlos en las charolas correspondientes.
7. Todos los *OCC,* charolas con papel mezclado y contenedores separados se deben pesar y registrar. Una vez que se hayan pesado todos los materiales, se deben examinar los números de merma para ver si los pesos parecen ser razonables.

Compartimiento de Contenedor Mezclado – Clasificado Sobre línea de Contenedores

1. Las cargas de contenedor mezclado pueden incluir contenedores de plástico HDPE y PET mezclado, latas de aluminio y estaño, botellas de vidrio (transparentes, verdes, café y mezcladas), líquidos (contenidos en botellas) y residuos
2. Las cargas se empujan hacia la banda transportadora que se alimenta por el cargador frontal y se transporta a la plataforma de clasificación de arriba. Hacia el final de la corrida, se debe asignar a alguien para que barra los materiales restantes hacia la banda transportadora para asegurar que se procesa toda la carga (materiales inaccesibles por el cargador frontal).
3. Los contenedores mezclados se transportan a través de una pantalla *trommel* en donde los pequeños materiales residuales caen en una pequeña charola para residuo.
4. Los materiales pasan por un imán y los metales ferrosos que se colectan se depositan en un bunker tipo jaula.

Apéndice C

5. Los materiales pasan a través de un clasificador de aire (ciclón), en donde los materiales se dividen por peso en un componente de "pesados" (principalmente vidrio y botellas PET que contienen líquido) y componente "ligero" (principalmente contenedores de plástico y aluminio).

Pesados

6. Los clasificadores separan el vidrio por color (verde, café o ámbar y transparente) en charolas que se ubican debajo. El vidrio que queda (color mixto) se transportará fuera de la banda clasificadora hacia una charola que se encuentra debajo de la plataforma.
7. Además, las botellas *PET* que contienen líquidos se clasifican en un contenedor separado. Al terminar la clasificación, el equipo de clasificación necesitará vaciar el líquido de los contenedores en jarras separadas. Los contenedores *PET* vacíos y el líquido se necesitarán pesar y registrar.

Ligeros

8. El resto de los materiales se transportan a la línea de clasificación de la plataforma y los *HDPE, PET* y latas de aluminio mezcladas se clasifican fuera de la línea y se colocan en contenedores enseguida de los clasificadores.
9. El residuo cae al final de la línea en una charola grande.
10. Durante la corrida, conforme se van llenando, los contenedores de *HDPE, PET* y latas de aluminio pequeñas, que se encuentran enseguida de la banda clasificadora, estas se verterán sobre la plataforma hacia las charolas grandes que se encuentran debajo. Esta es un área en donde la seguridad es crítica, los clasificadores deben tener cuidado al verter estos contenedores y no se debe permitir a nadie del personal debajo de la plataforma de clasificación durante una corrida. Además, si es posible, debe estar una persona adicional disponible para las tareas de verter para no quitarle a los procedimientos normales de clasificación.
11. Los equipos de clasificadores tendrán que recoger materiales que se cayeron inadvertidamente alrededor de las charolas y colocarlos en las charolas apropiadas para pesarlos.

12. Entonces el chofer del montacargas recogerá cada una de las charolas del contenedor y hará que se pesen las charolas.
13. Además, el equipo clasificador necesitará eliminar los materiales ferrosos del bunker enjaulado y colocarlos en carretillas con ruedas para ser transferidos a las básculas y pesarse.
14. Se deben pesar y registrar todos los contenedores y charolas. Una vez pesados todos los materiales, se deben examinar los números de merma para ver si parece que los pesos son razonables (p.ej., dentro de las normas de estudio y se pueden explicar).

V. Vehículos Foothill (Mountain View)

Foothill emplea camiones de tres compartimientos para colección de residuos sólidos residenciales; estos compartimientos contienen: 1) papel mezclado 2) *ONP* y; 3) contenedores mezclados. Foothill no distingue entre cargas de viviendas de una familia o multifamiliares. Además, Foothill usa vehículos de un compartimiento para la colección de *OCC* y rutas comerciales. Cada una de estas cargas se maneja de manera diferente.

Compartimiento de Papel Mezclado de Vehículo Residencial – No se Clasifica, Solo se Embala

A diferencia de Sunnyvale, el programa de colección de Mountain View separa el papel mezclado del *ONP.* Debido a la fuente de separación en la banqueta, el manejo de la carga del compartimiento es el siguiente:

1. El compartimiento de papel mezclado se vierte en el piso de clasificación.
2. El papel mezclado se empuja a un bunker vacío por el cargador frontal en donde se embala, y las pacas se pesan y registran.

Vehículo Residencial *ONP* – Clasificado Sobre Línea de Fibra

1. Cargas *ONP* principalmente *ONP,* algo de papel mezclado y una pequeña cantidad de contenedores y residuo mezclado.
2. La carga se empuja hacia la banda transportadora alimentadora por el cargador frontal y se transporta a la plataforma de clasificación en lo alto. Hacia el final de una corrida, se debe asignar a alguien para que barra el material que queda hacia una banda transportadora para asegurar que toda la carga se procesa (materiales inaccesibles por el cargador frontal).
3. El papel mezclado se clasifica fuera de la línea y se deposita en la rampa de caída de un bunker, que contienen de una a dos charolas grandes para colección. Algunos materiales caen en el piso y al final de la corrida se necesitarán barrer y ponerse otra vez en contenedores apropiados.
4. El *ONP* se cae del final de la banda transportadora a una charola grande. Probablemente la línea de clasificación necesitará detenerse una o dos veces durante la corrida cuando se llena la charola grande para periódico. En este momento, la charola se debe pesar, registrar, verter y

colocarse de nuevo debajo de la rampa de caída del bunker para continuar el proceso de clasificación.

5. Como se comentó, los residentes también pueden colocar inadvertidamente los contenedores en la carga *ONP* y se deben clasificar fuera de la línea en contenedores que se encuentran enseguida de los clasificadores. Los miembros del equipo de clasificación necesitarán separar los contenedores encontrados en las cargas de fibra en las clasificaciones a continuación (esto se puede hacer después de la corrida en el área del piso enseguida de la báscula):
   - HDPE
   - PET
   - Vidrio mezclado
   - Latas de aluminio
   - Estaño
   - Residuo
6. Al terminar la clasificación *ONP,* los miembros del equipo de clasificación necesitarán barrer los materiales que inadvertidamente se cayeron al piso y colocarlos en las charolas correspondientes.
7. Todos los *ONP* y charolas con papel mezclado y contenedores separados deben pesarse y registrarse. Una vez pesados todos los materiales, se deben examinar los números de merma para ver si parece que los pesos son razonables (p.ej., dentro de las normas de estudio y explicables).

Compartimiento de Contenedor Mezclado de Vehículo Residencial – Clasificado Sobre Línea de Contenedores

1. Las cargas de contenedor mezclado pueden incluir contenedores de plástico *HDPE* y *PET* latas de aluminio y estaño, botellas de vidrio (transparentes, verdes, café y mixtas), líquidos (contenidos en botellas) y residuo.
2. Las cargas se empujan hacia la banda transportadora alimentadora por el cargador frontal y se transporta a la plataforma de clasificación en lo alto. Hacia el final de una corrida, se debe asignar a alguien para barrer

los materiales sobrantes a la banda transportadora para asegurar que se procesa toda la carga (materiales inaccesibles por el cargador frontal).

3. Los contenedores mezclados se transportan por una pantalla *trommel* en donde los materiales residuales pequeños caen a una charola para residuo pequeño.
4. Los materiales pasan por un imán y los metales ferrosos colectados se depositan en un bunker tipo jaula.
5. Los materiales pasan a través de un clasificador de aire (ciclón), en donde los materiales se dividen por peso en un componente de "pesados" (principalmente vidrio y botellas PET que contienen líquido) y componente "ligero" (principalmente contenedores de plástico y aluminio).

Pesados

6. Los clasificadores separan el vidrio por color (verde, café o ámbar y transparente) en charolas que se ubican debajo. El vidrio que queda (color mixto) se transportará fuera de la banda clasificadora hacia una charola que se encuentra debajo de la plataforma.
7. Además, las botellas *PET* que contienen líquidos se clasifican en un contenedor separado. Al terminar la clasificación, el equipo de clasificación necesitará vaciar el líquido de los contenedores en jarras separadas. Los contenedores *PET* vacíos y el líquido se necesitarán pesar y registrar.

Ligeros

8. El resto de los materiales se transportan a la línea de clasificación de la plataforma y los *HDPE, PET* y latas de aluminio mezcladas se clasifican fuera de la línea y se colocan en contenedores enseguida de los clasificadores.
9. El residuo cae al final de la línea en una charola grande.
10. Durante la corrida, conforme se van llenando, los contenedores de *HDPE, PET* y latas de aluminio pequeñas, que se encuentran enseguida de la banda clasificadora, estas se verterán sobre la plataforma hacia las charolas grandes que se encuentran debajo. Esta es un área en donde la seguridad es crítica, los clasificadores deben tener cuidado al verter

estos contenedores y no se debe permitir a nadie del personal debajo de la plataforma de clasificación durante una corrida. Además, si es posible, debe estar una persona adicional disponible para las tareas de verter para no quitarle a los procedimientos normales de clasificación.

11. Los equipos de clasificadores tendrán que recoger materiales que se cayeron inadvertidamente alrededor de las charolas y colocarlos en las charolas correspondientes para pesarlos.
12. El chofer del montacargas recogerá cada una de las charolas del contenedor y las charolas se pesaran.
13. Además, el equipo clasificador necesitará eliminar materiales ferrosos del bunker enjaulado y colocarlos en carretillas con ruedas para transferirlos a las básculas y pesarlos.
14. Se deben pesar y registrar todos los contenedores y charolas. Una vez pesados todos los materiales, se deben examinar todos los números de merma para ver si parece que los pesos son razonables (p.ej., dentro de las normas de estudio y si son explicables).

Vehículo / Compartimiento *OCC*

Las cargas *OCC* de compartimiento sencillo contienen principalmente cargas *OCC* con algo de residuo.

1. El compartimiento *OCC* se vierte al piso.
2. El equipo de clasificación separa el residuo como película de plástico, etc., el cual s coloca en un contenedor y se lleva a las básculas y se pesa.
3. El *OCC* se empuja entonces hacia un bunker vacío por el cargador frontal en donde se embala. Las pacas se pesan y registran.

Vehículo / Compartimiento Comercial

Las cargas comerciales de compartimiento sencillo contienen por lo general papel mezclado, cartón y mezcla de contenedores, con algo de residuo y se clasifican en la línea comercial.

Apéndice C

1. Cuando se programan cargas comerciales, asegurarse de que hay un área libre en el piso principal para vaciar para que vierta el camión.
2. Revisar la línea comercial de clasificación *MRF* para asegurar que todos los contenedores y la banda transportadora están libres de clasificaciones anteriores.
3. Pesar el vehículo completamente cargado en la báscula de piso para camiones.
4. Acompañar al camión al piso principal para verter y hacer que se vierta en o tan cerca como sea posible a la banda transportadora alimentadora (piso para caminar) si está libre y listo para clasificar. Si la alimentadora no está disponible, hacer que el vehículo vierta su carga en una área libre y marcar la carga con cinta de precaución. Asegúrese de que no se mezcle con otras cargas en el piso para verter.
5. Informar al chofer del camión que el vehículo se debe volver a pesar después de vaciar la carga.
6. La carga comercial se empujará hacia el piso en donde se alimenta y se transportará a través del equipo para proceso comercial (filtros, línea de clasificación, etc.). El *OCC* y papel mixto se recogen y se colocan en rampas de caída / búnkeres para ser embalado. Los contenedores también se sacan de la línea, se depositan en pequeños contenedores y se transfieren manualmente a las básculas para pesarse al final de la corrida. Los materiales que no se eliminan de la línea de clasificación se consideran residuos. Este residuo no se pesa. La cantidad de residuo se calcula al restar el peso total de los materiales recuperados del peso neto del compartimiento del camión.
7. Una vez terminada la clasificación, los clasificadores deben separar los contenedores en las categorías a continuación:
   - HDPE
   - PET
   - Vidrio mezclado
   - Latas de aluminio
   - Estaño

   Se pesa y registra el contenedor / charola lleno de estos materiales.
8. El *OCC* y búnkeres con papel mezclado se corren por separado a través de la embaladora comercial. Se pesan y registran las pacas.

9. En este momento se deben analizar los números de merma para ver si la carga parece ser razonable.
10. Los residuos de las cargas comerciales no se pesan. Solo se calcula como colección de residuos precisa es difícil con esta línea de procesado.

VI. Análisis de Clasificación Pos – Campo

Acumulación de Datos y Enlace a Hoja de Trabajo SMaRT

1. Cada hoja de datos (40 en total) se acumulará y sumará en una hoja de trabajo final que presenta los pesos y porcentajes totales por tipo de material y compartimiento de camión incluyendo residuo y merma.
2. Los datos se agregaran por los seis tipos de ruta de camión (3 por ciudad) por tipo de compartimiento de camión.
3. Se proporcionará el resumen de las hojas de trabajo para enlace a las hojas de trabajo de conciliación de materiales de la Estación SMaRT para distribución representativa de ingresos entre las tres ciudades.

Análisis Estadístico de Datos

El análisis incluirá cálculos de la media, desviación del estándar y margen de error usando un límite de confianza de 90% para cada tipo de material.

Tabla 1 | Lista de Verificación Pre – Clasificación para Caracterización de Reciclables Línea de Contenedor Mixto

	Si/No
Plataforma de clasificación limpia	
Area de alimentación limpia	
Bunkeres delimitados con cinta	
Ferrosos (lata de estaño) búnker limpio	
Bandas limpias	
Contenedores / Charolas limpias (ver lista a continuación)	
Báscula de plataforma - Programar a Cero	
Pesas tare de contenedor (ver lista a continuación)	

	Tamaño	Producto	Pesa tare (lbs)
Línea Pesados - Piso	**4-Yarda**	**6**	
Pre-clasificar de banda	4-Yarda	Residuo	
Bajo trommel	4-Yarda	3-Vidrio Mezclado	
Banda para clasificar pesados	4-Yarda	Pedernal de vidrio	
Banda para clasificar pesados	4-Yarda	Vidrio café	
Banda para clasificar pesados	4-Yarda	Vidrio verde	
Banda para clasificar pesados - fin	4-Yarda	3-Vidrio Mezclado	
Línea de Pesados - Plataforma de Clasificación	**32-galón**	**3**	
Bajo trommel (on deck)	32-galón	3-Vidrio Mezclado	
Enseguida de clasificadores	32-galón	contenedores reciclables con líquido	
Enseguida de clasificadores	32-galón	Residuo	
Línea para Ligeros - Piso	**4-Yarda**	**4**	
Línea para Ligeros - Piso	**32-galón**	**1**	
Ciclón	32-galón	Residuo	
Línea para Ligeros (piso detrás de clasificadores)	4-Yarda	PET	
Línea para Ligeros (piso detrás de clasificadores)	4-Yarda	HDPE	
Línea para Ligeros (piso detrás de clasificadores)	4-Yarda	Aluminio	
Fin de línea de contenedor	4-Yarda	Residuo	
Línea de Ligeros - Plataforma para Clasificación	**32-galón**	**8**	
Estación para clasificar	32-galón	HDPE	No Necesita Tara
Estación para clasificar	32-galón	HDPE	
Estación para clasificar	32-galón	PET	
Estación para clasificar	32-galón	PET	
Estación para clasificar	32-galón	Aluminio	
Estación para clasificar	32-galón	Aluminio	
Estación para clasificar	32-galón	Vacío	
Estación para clasificar	32-galón	Vacío	

Apéndice C

Tabla 2 | Caracterización de Reciclables Lista de Verificación Pre- Clasificación Línea de Fibra

	Sí/No
Plataforma de clasificación limpia	
Area alimentación limpia	
Bunkeres de fibra limpios	
Rampas de caída no en uso - delimitadas con cinta	
Bandas limpias	
Contenedores / Charolas vacías (ver lista a continuación)	
Báscula de plataforma - Programar a Cero	
Pesas tare de contenedor (ver lista a continuación)	

	Tamaño		Peso tare
Piso - Compartimientos para Fibra Sunnyvale y Periódico Mountain View	**6-yarda**	**4**	
	8-yarda	**1**	

Búnker para clasificación positiva	6-yarda (2)	OCC	
Búnker para clasificación positiva	6-yarda (2)	Papel Mezclado	
Búnker para clasificación negativa	8-yarda (1)	Periódico	

Plataforma para Clasificación - Compartimientos para Fibra Sunnyvale y Periódicos Mountain View	**32-galón**	**8**

Estación para clasificación	32-galón	Contenedores Mezclados	No se necesitan Tares
Estación para clasificación	32-galón	Contenedores Mezclados	
Estación para clasificación	32-galón	Contenedores Mezclados	
Estación para clasificación	32-galón	Residuo	
Estación para clasificación	32-galón	Residuo	
Estación para clasificación	32-galón	Residuo	
Estación para clasificación	32-galón	Vacío	
Estación para clasificación	32-galón	Vacío	

Tabla 3 | Caracterización de Reciclables Lista de Verificación Pre-Clasificación Línea MRF

	Si/No
Plataforma de Clasificación	
Area de alimentación limpia	
Bunkeres limpios	
Bandas limpias	
Contenedores / Charolas vacíos (ver lista a conEstañouación)	
Báscula de plataforma - Programarla a cero	
Pesas tare de contenedor (ver lista a conEstañouación)	

Bunkeres - Se Requieren Dos para Papel Mezclado y Materiales *OCC* - Alimentar Directamente a Embaladora

Búnker de clasificación positiva	Búnker de Piso Activo	OCC
Búnker de clasificación positiva	Búnker de Piso Activo	Papel Mezclado

Plataforma de Clasificación - Cargas Comerciales Mt View	**32-galón**	**11**
Estación de clasificación	Dos 32-galón	Estaño
Estación de clasificación	Dos 32-galón	PET
Estación de clasificación	Dos 32-galón	HDPE
Estación de clasificación	Uno 32-galón	Aluminio
Estación de clasificación	Cuatro	Vidrio Mezclado

Notes: Needed

Appendix D

Field Notes

Field Notes

Attached are notes taken by field staff throughout the waste characterization study. Please note that the small scale was not zeroed out on the first day of the sort as the crew was not able to clear the scale to read zero. We began with a tare of -8 on the first day of the study and, for consistency purposes, we used a tear of -8 throughout the study.

Sat 3/22

Specialty 1

Full array of sorters (too many) for ~5 min during start-up of Fiber sort

Foothill 1

OCC OK

Foothill 2

Full array of sorters (too many) for a 5 min during startup News sort

while one on specialty 2: 2/3 32 gal can full of aluminum dumped into full bin of PET – 2/3 - 32 gal can of alum weighed & added to

Specialty 2

7 oz

NOTE: SCALE WAS ORIGINALLY ZEROED OUT AT -8 LBS; WE KEPT -8 LBS AS A ZERO REFERENCE FOR CONSISTENCY THROUGHOUT THE STUDY

Other

Foothill 1 Cardboard Truck Load stuck

Baler down for ≈ 1 hour

Begin of sort - Note need 2nd eq. operator - calibration

Note need for ≈ 2 extra sorters on line

paper includes shredded!

March 25, 2003

ingle family multi

Specialty Load 1

Dumped a 2 cy of containers on wrong side → onto fiber directed floor
bucket loader moved it

7 sorters on fiber pulling OCC to bunkers + mixed to bunkers (newspaper and blue totes for residual + one open containers

6 sorters on containers

2 lbs HDPE were dumped into residual, so subtracted + corrected in HDPE

commercial

Foothill Load 1

We explained the study briefly to new comers
Emptied 25 gallons of containers before the start from totes
9 and 6 sorters (2 lines) pulling mixed + OCC off trash conveyor and
dropped one line to roll out bags + containers (into totes)
2nd line has chute in the middle for mixed paper
bales of OCC marked w/ yellow

commercial

Foothill Load 2

six people on plastic containers
milk cartons going to garbage since there's no cement mixer
- made sure they cleaned [illegible] under the ramp before weighing
an extra 2-3 lbs of the cans were separated from mixed paper during baling and added to tin cans before containers were weighed
paint cans? ½ gallon?
- adjustment was made for accurate reflect

single family

Specialty Load 2

6 people on containers
2 on bottles + 2 on front of line residual + 1 operator helping
Lots of glass splinters on belt after the 3 loads
Heavy HDPE - one whole dumpster had to be removed to continue 5-10 min delay

---

General Notes Starting on a slow Saturday helped ease the stress of training

We need to watch for
overflow on floor from commercial containers (non-study) being mixed
during clean-up w/ [illegible]

Beginning of Day - 16 oil cans
[illegible] of cans

March 26, 2003

Specialty Load 1

Load 1 broke down → Load 2 (Foothill 15096) will dump first
Load 1 went 2nd

Foothill Load 1

3 compactor trucks - mixed paper labeled directly w/ no sort
3 1/2 - 4 bales marked in yellow stripes

Foothill Load 2

Lost some liquid while backing off scale (1/2 gallon)
4 + 1/3 bales marked w/ an X
→ need to remember to clean up around the infeed of bail and add material to the infeed

Specialty Load 2

Containers from load only 2-3 cy (very small); lots of liquid spillage notice; ran over line and picked into small containers; not dumped into bins
One can of HPDE dumped before weighing; labeled
Comparable can to weigh (~10 lbs)

General Notes

Amie reweighed/traced the dumpsters at the first 3 are two lbs. less each
Make sure commercial loads come back for reweigh

March 27, 2003

Specialty Load 1

all fine with in-run

Foothill Load 1

late arrival by one hour
smooth entry + sort
asked workers to separate + consolidate containers before going downstairs
minimal residual of paper + containers on floor after sort (21
4 bales

Foothill Load 2

4 bales to be weighed during night shift and held over until Thurs. 3/28

Specialty Load 2

Difficulties dumping container load

General Notes

Weighed bales from Thursday on Friday

March 28, 2003

Tared the containers this AM → 1/2 hour time delay

Specialty Load 1

[illegible]

Foothill Load 1

usually a 3 compartment truck - came in 2 compartment
ran paper over the line to simulate normal reality
ensured that the ~~same~~ truck contained the correct route

Foothill Load 2

4 1/3 ~~3~~ bales

Specialty Load 2

smooth

General Notes

- glass shards on floor of infeed area is difficult to sweep, so it should be kept consistently glassy all day
- remember to clean the lost paper from under the infeed

March 29, 2003

Specialty Load 1

Foothill Load 1

4 bales of mixed paper 1 - Weighed 2 bales - Saturday
1 bale of OCC to be weighed on Mon./Tues.

Need to weigh at 2 bales MP & 1 bale OCC on Monday due to baler not able to get loads on Sat.

Foothill Load 2

Noticed during unload of MP compartment large amount of liquid from containers compartment poured into MP.

Specialty Load 2

General Notes

Retained Large News Bin - was 1772, now 1768

April 1, 2003

Specialty Load 1

Foothill Load 1

a broken toter container came in with the newspaper - it is recorded as residual (32 lbs) in this foothill load
numbers @ -10%. → concerned about mixed paper load
* mixed paper bin was weighed twice
* three mixed glass containers

Foothill Load 2

route # is ok - different truck # 11004
~~Alun~~
occ load → Residual was not weighed ± 4%.

Specialty Load 2

General Notes → discovered that forklift drivers were bringing double bins
→ Large news bin tared at 1770 today - visual inspection of inside shows lots of residue on bottom and mud splashed on side where forklift tires splash

April 2, 2003

Specialty Load 1

→ newspaperbin was 1st tared @ 1778 and then reweighed @ 1774

Foothill Load 1

4 1/2 Mixed Paper Bales ~~1 bale weighed on Wed.~~
1 OCC Bale - weighed on Wed.

Foothill Load 2

3 Mixed Paper Loads

Specialty Load 2

General Notes

→ raining - containers (large boxes) subject to H_2O weight (only first 10
→ materials may also be saturated (rain stopped by 6 AM) possible issue Thurs
→ spoke with Todd Stern regarding speeding up ~~to~~ turn around time by putting glasses in containment bins

April 3, 2003

Specialty Load 1

→ only dumped 1/2 the container load - need to weigh add'l materials
→ 1770 tare, 3262 total weight (1/2 container load)

Foothill Load 1

→ as usual, the "garbage cans" used on the line had to be emptied before load could begin (10 min process). this was not a problem as the supervisors had clean-up under control

→ as usual, supervisor instructed crew to sort containers on consolidate before bringing them downstairs for weighing. Aluminum was emptied on previous day into a dumpster for easier transport of larger quantity

Foothill Load 2

→ 2 gallon water drained while unloading
* only load where glass was brought in carts instead of bins

Specialty Load 2

General Notes

→ determinded by Sunnyvale staff to keep glass system as is and use the large boxes - revised throughout day
→ bin for mixed glass tared at 534 on Thurs has 5 lb of residue stuck on bottom and still there after first emptying
→ 20 - 40 lbs of glass cullet swept from floor at start before

April 4, 2003

Specialty Load 1

~40 min to run fiber load ± 5 min

→ containers line had a 5-10 min down-time in order to weigh + empty dumpsters for PET + HDPE for overflow

Foothill Load 1

6:46 AM - START OF ONP CLEAN-UP (MP & ECC)
7:04 AM - STOP " "

Foothill Load 2

7:31 AM - START CONTAINERS SORT
7:58 AM - END " "

Specialty Load 2

7:50 am - dumped fibers
7:54 am - start fiber line
8:42 am - STOP FIBER LINE
8:33 am - START CONTAINER LINE
8:53 am - STOP CONTAINER LINE

General Notes

1" Moderate rain fall; some lines w/ water
7 sorters on fiber line
6 Container sorters

Estimation: Coffeemate bottle is white PET not HDPE

Appendix E

Allocation Methodology

Methodology for allocation of revenues from the sale of recyclable materials delivered to the SMaRT Station®

January 10, 2002

Background

The June 9, 1992 Memorandum of Understanding (MOU) among the three participating agencies (Mountain View, Palo Alto and Sunnyvale) contains methodologies for allocating SMaRT Station expenses, revenues, debt service and waste disposal costs. The cities make quarterly payments to the SMaRT Station Fund based on a budget estimate. At the close of each fiscal year, actual revenues and expenses are reconciled and re-distributed in accordance with the MOU's allocation principles. The MOU calls for the cities to develop detailed procedures to implement the revenue allocation principles in the MOU. The cities of Sunnyvale and Mountain View began delivering source separated recyclable materials to the SMaRT Station on July 2, 2001.

Purpose

In accordance with the Memorandum of Understanding this document describes the methodology for the allocation of revenues from the sale of source separated recyclable materials at the SMaRT Station to the three Participating Agencies. The methodology applies to materials received beginning July 2001 and will be applied to the annual reconciliation performed for the year ending June 30, 2002. It will continue in force until modified or replaced.

Overview of Revenue Sources

Revenues are generated from the sale of recyclable materials. Revenues may include scrap value and applicable California Redemption Value (CRV). The State of California sets rates for CRV according to the program from which the material is generated. These rates vary for material from source separated collection programs, MRF collection programs and buyback programs. In accordance with the operating agreement, GreenTeam/Zanker markets recyclable materials and shares the revenue, or "negative revenue" (cost to recycle) with the cities. The share of revenue retained by the contractor increases as the achieved MSW diversion rate increases.

Revenue- Generating Recyclable Material Streams

MRF recovered materials are recyclable materials recovered by GreenTeam/Zanker from the municipal solid waste (MSW) delivered by the Participating Agencies. A tipping fee, currently $22.58 per ton, is paid to GreenTeam/Zanker for incoming MSW to the SMaRT Station. Revenues from the sale of MRF recovered materials are allocated on the basis of each city's percentage of incoming MSW to SMaRT (Operations Share).

Buyback materials are delivered directly to the SMaRT Station by customers who are reimbursed California Redemption Value (CRV). This material is separated by customers at the buyback center. There is no tipping fee paid for this incoming material. In accordance with State of California regulations, buyback transactions are tracked through the use of receipts and logs. Revenues from the sale of buyback materials are allocated on the basis of each city's percentage of incoming MSW to SMaRT (Operations Share).

Drop-off materials are delivered directly to the SMaRT Station for recycling by members of the general public. These materials may or may not have a CRV or scrap value, but are collected as a public service, and to provide additional diversion from the landfill. There is no tipping fee paid for this incoming material. Revenues from the sale of drop-off materials are allocated on the basis of each city's percentage of incoming MSW to SMaRT (Operations Share).

Source separated yard trimmings are yard waste materials separated by residents and collected by the Sunnyvale and Mountain View franchised haulers. A tipping fee, currently $22.58 per ton, is paid to GreenTeam/Zanker for this incoming material. Costs to recycle source separated yard trimmings materials are allocated on the basis of each city's share of incoming yard trimmings (Yard Waste Share).

Source-Separated recyclables are recyclable materials collected by the Mountain View and Sunnyvale franchised haulers. These include recyclables collected from residential (single and multi-family) and commercial source separated collection programs. There is no tipping fee paid for this incoming material. Since collection programs are not the same between cities and among each city's programs, material is received in

various degrees of separation. This material is further separated into sub-streams (such as aluminum cans, glass, etc...). Revenues from the sale of source separated recyclable materials are allocated on the basis of the quantity, type and grade, including degree of separation, of the incoming material stream (Source Separated Share). The quantity, type and grade of these materials are determined by periodic characterization studies performed on the incoming materials stream and by receiving records maintained by the contractor.

Processing of Materials for Sale to Markets

After each of these incoming streams (MRF, Drop-off, Buy-back and Source Separated Recyclables) is separated, like materials are combined for sale to end markets. This includes baling and/or combining together in containers for shipping. GreenTeam/Zanker markets the recyclable materials and collects the revenues from the buyers. GreenTeam/Zanker reimburses the cities' share as a credit on its monthly invoice, after the end of the month in which the material is sold.

Waste Characterization

The quantity, type and grade of the source separated materials is determined by periodic characterization studies performed on the incoming materials stream and by receiving records maintained by the contractor. The characterization study will be repeated every 6-9 months or after significant program or market changes indicate the need for a new study.

One load will be selected randomly for each city, representing each collection day. Each of these loads will be sorted separately using the curbside processing equipment. After sorting, each commodity will be weighed (including residue) and the results will be recorded and balanced to the total incoming material. A percentage for each commodity will be determined by dividing the total amount of each individual commodity by the total amount of the loads received.

Application of Revenue Sharing

Source-Separated Recyclables Recording: Net vehicle weights are measured at the main inbound scale at the SMaRT Station and a scale ticket is generated. All Source-separated recyclables are identified as "Curbside" at the main scale, and are tallied separately for tracking purposes.

Residential Source Separated Recyclables Collections

After the weight is recorded at the inbound scale, the driver off-loads used motor oil and the attendant records the gallons by truck. The drivers then proceeds to the curbside processing area where an attendant records the gross weight using the curbside scale. The attendant logs the vehicle weight after each material is unloaded to provide weights for each stream of material delivered (i.e. commingled containers, mixed paper, newspaper) for each vehicle trip.

Commercial Source Separated Recyclable Collections

The weights are recorded at the inbound scale. The driver then proceeds to the curbside processing area where an attendant records the gross weight using the curbside scale. The attendant logs the vehicle weight after each material is unloaded to provide weights for each stream of material delivered (i.e. commingled containers, mixed paper, newspaper) for each vehicle trip. Mountain View's single stream material may be tipped on the MSW tipping floor and sorted through the MRF.

The logs generated from the from the source separated recyclables delivered to the SMaRT Station are then transferred to a spreadsheet that will produce monthly totals by city and by stream of material delivered (Attachment 1 & 2).

Applying Characterization Percentages

The percentages derived from the characterization will be applied to incoming materials to determine revenue share (Attachment 3 & 4). For example, suppose Sunnyvale's characterization determines that the newspaper stream is comprised of 2% contamination and 98% news and incoming news for Sunnyvale's trucks has been recorded at 100 tons. Sunnyvale will receive revenues for 98 tons of news for the month.

Calculation of Revenue Share for Participating Agencies

Source-Separated recyclables revenue will be calculated on a monthly basis and booked to a separate revenue account. At the end of each fiscal year the revenues will be adjusted in accordance with the annual reconciliation using the attached worksheet (Attachment 5).

Example of calculation of revenue share by city:

The following is an example of allocating a single recyclable (glass) demonstrates the bookkeeping necessary to separate recyclables received from the MSW, Drop-off, Buy Back and source separated recyclable collections.

The following data is used for this example:

- Sunnyvale delivered 50% of the total MSW to SMaRT
- Mountain View delivered 25% of the total MSW to SMaRT
- Palo Alto delivered 25% of the total MSW to SMaRT
- 1,100 tons of glass were sold during the month
- 250 tons of glass were recorded in the source separated programs
- 150 tons of glass were recorded for Sunnyvale's source separated program (60%)
- 100 tons of glass were recorded for Mountain View's source separated program (40%)
- 100 tons of material were purchased at the buyback center

(Note: Assume the Cities receive 50% of the total revenue from the sale of recyclables).

Therefore, 1,100 total tons (-) 250 source separated tons = 850 tons of recyclable materials are from the MRF, drop-off and buyback.

Each material type will be distributed amongst the source separated, buyback, and MRF and drop-off categories. Each allocation will be made on the basis of this hierarchy:

	Tons	**Revenue**	**Average Revenue/Ton**
Total Tons	1100	$11,000	$10
- Total Source separated Tons	250	2,500	
= MRF Recovered, Drop-off and buyback	850	$8,500	

Source separated Revenue Share	Tons	Total	GT/Z Share	City
Sunnyvale	150	$ 1500	$ 750	$ 750
Mountain View	100	1000	500	500
Total	250	$ 2500	$1250	$1250

Buyback, Drop-off, MRF Revenue

Tons	Total	GT/Z Share	City Share
850	$ 8500	$4250	$4250

Buyback, Drop-off, MRF Revenue allocated based on "operations share"

		City Share
Sunnyvale	(50%)	$2125.00
Mountain View	(25%)	1062.50
Palo Alto	(25%)	1062.50
Total		$4250.00

Total Revenue Allocation:

	Sunnyvale	Mountain View	Palo Alto	GT/Z
Buyback, Drop-off, MRF	$2125.00	$1062.50	1062.50	4250.00
Source separated	750.00	500.00	0.00	1250.00
Total **$11,000**	**2875.00**	**1562.50**	**1062.50**	**5500.00**

Appendix F

Support Calculations/Tables

Sunnyvale Sampling Summary

GENERAL LOAD INFORMATION

	1	2	3	4	5	6
Hauler:	SPECIALTY	SPECIALTY	SPECIALTY	SPECIALTY	SPECIALTY	SPECIALTY
Date:	3/22/03	3/22/03	3/25/03	3/25/03	3/26/03	3/26/03
Truck #:	712	703	713	715	714	703
Route #:	702	706	703	705	704	615
SMaRT #:	385	390	386	383	387	390
Load Type:	SF Residential	MF Residential	SF Residential	SF Residential	SF Residential	Schools/City

CHARACTERIZATION BY WEIGHT

Commingled Containers	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)
Tin Cans	264	172	282	436	344	56
PET	226	132	326	316	282	20
HDPE - Mix	272	286	334	380	258	22
Aluminum Cans	84	40	80	78	76	14
Glass Bottles - Clear	352	330	432	438	354	12
Glass Bottles - Green	356	308	154	288	368	-
Glass Bottles - Brown	180	142	164	194	174	-
Glass Bottles - Mix	986	602	1,628	1,486	1,350	-
Liquid	10	10	20	14	24	6
Residue	342	582	422	378	342	18
Shrinkage	28	36	(2)	92	28	32
Total Container Compartment	3,100	2,640	3,840	4,100	3,600	180

Fiber	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)
Old Newspaper	5,106	7,162	5,056	4,552	6,094	-
Mixed Paper	504	502	450	466	372	5,836
Old Corrugated Cardboard	462	60	916	708	346	-
Residue	21	84	42	29	10	-
Tin Cans	2	7	4	26	1	-
PET	4	10	4	24	1	-
HDPE - Mix	2	28	12	22	2	-
Aluminum Cans	2	7	2	8	1	-
Glass Bottles - Clear	10	-	-	-	2	-
Glass Bottles - Green	-	-	-	-	-	-
Glass Bottles - Brown	-	-	-	-	-	-
Glass Bottles - Mix	-	34	6	62	-	-
Liquid	-	4	-	-	-	-
Shrinkage	27	22	(72)	(17)	292	(16)
Total Fiber Compartment	6,140	7,920	6,420	5,880	7,120	5,820

CHARACTERIZATION BY PERCENTAGE

Commingled Containers	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)
Tin Cans	8.5%	6.5%	7.3%	10.6%	9.6%	31.1%
PET	7.3%	5.0%	8.5%	7.7%	7.8%	11.1%
HDPE - Mix	8.8%	10.8%	8.7%	9.3%	7.2%	12.2%
Aluminum Cans	2.7%	1.5%	2.1%	1.9%	2.1%	7.8%
Glass Bottles - Clear	11.4%	12.5%	11.3%	10.7%	9.8%	6.7%
Glass Bottles - Green	11.5%	11.7%	4.0%	7.0%	10.2%	0.0%
Glass Bottles - Brown	5.8%	5.4%	4.3%	4.7%	4.8%	0.0%
Glass Bottles - Mix	31.8%	22.8%	42.4%	36.2%	37.5%	0.0%
Liquid	0.3%	0.4%	0.5%	0.3%	0.7%	3.3%
Residue	11.0%	22.0%	11.0%	9.2%	9.5%	10.0%
Shrinkage	0.9%	1.4%	-0.1%	2.2%	0.8%	17.8%
Total Container Compartment	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Fiber	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)
Old Newspaper	83.2%	90.4%	78.8%	77.4%	85.6%	0.0%
Mixed Paper	8.2%	6.3%	7.0%	7.9%	5.2%	100.3%
Old Corrugated Cardboard	7.5%	0.8%	14.3%	12.0%	4.9%	0.0%
Residue	0.3%	1.1%	0.7%	0.5%	0.1%	0.0%
Tin Cans	0.0%	0.1%	0.1%	0.4%	0.0%	0.0%
PET	0.1%	0.1%	0.1%	0.4%	0.0%	0.0%
HDPE - Mix	0.0%	0.4%	0.2%	0.4%	0.0%	0.0%
Aluminum Cans	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%
Glass Bottles - Clear	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
Glass Bottles - Green	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Glass Bottles - Brown	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Glass Bottles - Mix	0.0%	0.4%	0.1%	1.1%	0.0%	0.0%
Liquid	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
Shrinkage	0.4%	0.3%	-1.1%	-0.3%	4.1%	-0.3%
Total Fiber Compartment	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Sunnyvale Sampling Summary

GENERAL LOAD INFORMATION

	7	8	9	10	11	12
Hauler:	SPECIALTY	SPECIALTY	SPECIALTY	SPECIALTY	SPECIALTY	SPECIALTY
Date:	3/27/03	3/27/03	3/28/03	3/28/03	3/29/03	3/29/03
Truck #:	711	701	712	714	711	715
Route #:	701	706	702	704	701	705
SMaRT #:	384	388	385	387	384	383
Load Type:	SF Residential	MF Residential	SF Residential	SF Residential	SF Residential	SF Residential

CHARACTERIZATION BY WEIGHT

Commingled Containers	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)
Tin Cans	320	194	282	368	312	352
PET	284	164	244	272	254	204
HDPE - Mix	274	332	258	284	250	276
Aluminum Cans	98	30	100	110	92	84
Glass Bottles - Clear	346	312	414	376	338	396
Glass Bottles - Green	450	306	522	438	400	370
Glass Bottles - Brown	146	168	140	146	160	128
Glass Bottles - Mix	1,868	982	1,316	1,458	1,224	1,136
Liquid	12	20	16	-	8	10
Residue	418	496	290	342	298	288
Shrinkage	(76)	136	(62)	46	(16)	(4)
Total Container Compartment	4,140	3,140	3,520	3,840	3,320	3,240

Fiber	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)
Old Newspaper	7,158	8,290	6,532	7,692	6,132	6,078
Mixed Paper	350	591	286	300	364	304
Old Corrugated Cardboard	494	154	510	644	484	414
Residue	22	2	16	8	15	34
Tin Cans	4	7	1	-	2	8
PET	4	12	1	8	2	8
HDPE - Mix	4	27	-	-	1	4
Aluminum Cans	2	5	1	1	1	4
Glass Bottles - Clear	10	-	-	-	-	-
Glass Bottles - Green	-	-	1	-	-	-
Glass Bottles - Brown	-	-	-	-	-	-
Glass Bottles - Mix	-	36	-	4	6	24
Liquid	-	-	-	-	-	4
Shrinkage	32	98	(6)	44	(6)	78
Total Fiber Compartment	8,080	9,220	7,340	8,700	7,000	6,960

CHARACTERIZATION BY PERCENTAGE

Commingled Containers	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)
Tin Cans	7.7%	6.2%	8.0%	9.6%	9.4%	10.9%
PET	6.9%	5.2%	6.9%	7.1%	7.7%	6.3%
HDPE - Mix	6.6%	10.6%	7.3%	7.4%	7.5%	8.5%
Aluminum Cans	2.4%	1.0%	2.8%	2.9%	2.8%	2.6%
Glass Bottles - Clear	8.4%	9.9%	11.8%	9.8%	10.2%	12.2%
Glass Bottles - Green	10.9%	9.7%	14.8%	11.4%	12.0%	11.4%
Glass Bottles - Brown	3.5%	5.4%	4.0%	3.8%	4.8%	4.0%
Glass Bottles - Mix	45.1%	31.3%	37.4%	38.0%	36.9%	35.1%
Liquid	0.3%	0.6%	0.5%	0.0%	0.2%	0.3%
Residue	10.1%	15.8%	8.2%	8.9%	9.0%	8.9%
Shrinkage	-1.8%	4.3%	-1.8%	1.2%	-0.5%	-0.1%
Total Container Compartment	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Fiber	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)
Old Newspaper	88.6%	89.9%	89.0%	88.4%	87.6%	87.3%
Mixed Paper	4.3%	6.4%	3.9%	3.4%	5.2%	4.4%
Old Corrugated Cardboard	6.1%	1.7%	6.9%	7.4%	6.9%	5.9%
Residue	0.3%	0.0%	0.2%	0.1%	0.2%	0.5%
Tin Cans	0.0%	0.1%	0.0%	0.0%	0.0%	0.1%
PET	0.0%	0.1%	0.0%	0.1%	0.0%	0.1%
HDPE - Mix	0.0%	0.3%	0.0%	0.0%	0.0%	0.1%
Aluminum Cans	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Glass Bottles - Clear	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%
Glass Bottles - Green	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Glass Bottles - Brown	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Glass Bottles - Mix	0.0%	0.4%	0.0%	0.0%	0.1%	0.3%
Liquid	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Shrinkage	0.4%	1.1%	-0.1%	0.5%	-0.1%	1.1%
Total Fiber Compartment	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Sunnyvale Sampling Summary

GENERAL LOAD INFORMATION

	13	14	15	16	17	18
Hauler:	SPECIALTY	SPECIALTY	SPECIALTY	SPECIALTY	SPECIALTY	SPECIALTY
Date:	4/1/03	4/1/03	4/2/03	4/2/03	4/3/03	4/3/03
Truck #:	714	702	715	711	712	713
Route #:	704	707	705	701	702	703
SMaRT #:	387	389	383	384	385	386
Load Type:	SF Residential	MF Residential	SF Residential	SF Residential	SF Residential	SF Residential

CHARACTERIZATION BY WEIGHT

Commingled Containers	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)
Tin Cans	170	202	300	272	284	270
PET	126	162	288	272	226	236
HDPE - Mix	88	400	262	292	196	222
Aluminum Cans	44	88	90	106	108	82
Glass Bottles - Clear	230	400	350	354	298	342
Glass Bottles - Green	122	296	286	394	316	448
Glass Bottles - Brown	86	226	184	184	112	150
Glass Bottles - Mix	780	1,270	1,394	1,674	1,552	1,450
Liquid	16	8	12	16	10	14
Residue	130	718	341	370	328	348
Shrinkage	(72)	230	54	146	22	58
Total Container Compartment	1,720	4,000	3,560	4,080	3,452	3,620

Fiber	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)
Old Newspaper	6,622	8,652	6,062	5,124	6,986	6,208
Mixed Paper	686	678	392	374	360	322
Old Corrugated Cardboard	774	168	550	460	516	268
Residue	20	106	38	24	28	10
Tin Cans	-	12	12	2	2	2
PET	4	8	10	4	4	4
HDPE - Mix	1	30	6	6	4	2
Aluminum Cans	2	4	8	1	2	1
Glass Bottles - Clear	-	-	-	-	-	-
Glass Bottles - Green	-	-	-	-	-	-
Glass Bottles - Brown	-	-	-	-	-	-
Glass Bottles - Mix	1	58	30	8	4	6
Liquid	-	-	-	-	-	-
Shrinkage	11	104	(8)	(3)	(6)	18
Total Fiber Compartment	8,120	9,820	7,100	6,000	7,900	6,840

CHARACTERIZATION BY PERCENTAGE

Commingled Containers	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)
Tin Cans	9.9%	5.1%	8.4%	6.7%	8.2%	7.5%
PET	7.3%	4.1%	8.1%	6.7%	6.5%	6.5%
HDPE - Mix	5.1%	10.0%	7.4%	7.2%	5.7%	6.1%
Aluminum Cans	2.6%	2.2%	2.5%	2.6%	3.1%	2.3%
Glass Bottles - Clear	13.4%	10.0%	9.8%	8.7%	8.6%	9.4%
Glass Bottles - Green	7.1%	7.4%	8.0%	9.7%	9.2%	12.4%
Glass Bottles - Brown	5.0%	5.7%	5.2%	4.5%	3.2%	4.1%
Glass Bottles - Mix	45.3%	31.8%	39.2%	41.0%	45.0%	40.1%
Liquid	0.9%	0.2%	0.3%	0.4%	0.3%	0.4%
Residue	7.6%	18.0%	9.6%	9.1%	9.5%	9.6%
Shrinkage	-4.2%	5.8%	1.5%	3.6%	0.6%	1.6%
Total Container Compartment	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Fiber	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)
Old Newspaper	81.6%	88.1%	85.4%	85.4%	88.4%	90.8%
Mixed Paper	8.4%	6.9%	5.5%	6.2%	4.6%	4.7%
Old Corrugated Cardboard	9.5%	1.7%	7.7%	7.7%	6.5%	3.9%
Residue	0.2%	1.1%	0.5%	0.4%	0.4%	0.1%
Tin Cans	0.0%	0.1%	0.2%	0.0%	0.0%	0.0%
PET	0.0%	0.1%	0.1%	0.1%	0.1%	0.1%
HDPE - Mix	0.0%	0.3%	0.1%	0.1%	0.1%	0.0%
Aluminum Cans	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%
Glass Bottles - Clear	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Glass Bottles - Green	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Glass Bottles - Brown	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Glass Bottles - Mix	0.0%	0.6%	0.4%	0.1%	0.1%	0.1%
Liquid	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Shrinkage	0.1%	1.1%	-0.1%	-0.1%	-0.1%	0.3%
Total Fiber Compartment	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Sunnyvale Sampling Summary

GENERAL LOAD INFORMATION

	19	20
Hauler:	SPECIALTY	SPECIALTY
Date:	4/4/03	4/4/03
Truck #:	711	703
Route #:	701	706
SMaRT #:	384	390
Load Type:	SF Residential	MF Residential

Summaries By Route Type

CHARACTERIZATION BY WEIGHT

Commingled Containers	Total (lbs)	Total (lbs)	SF Route Totals Ave(lbs)	MF Route Totals Ave(lbs)	Residential Route Totals Ave(lbs)	Schools/ City Hall Route Totals Ave(lbs)
Tin Cans	338	242	306	203	284	56
PET	286	200	256	165	237	20
HDPE - Mix	316	252	264	318	275	22
Aluminum Cans	100	32	89	48	80	14
Glass Bottles - Clear	356	370	358	353	357	12
Glass Bottles - Green	400	318	354	307	344	-
Glass Bottles - Brown	136	160	152	174	157	-
Glass Bottles - Mix	1,628	872	1,395	932	1,298	-
Liquid	8	8	13	12	12	6
Residue	434	464	338	565	386	18
Shrinkage	(2)	82	16	121	38	32
Total Container Compartment	4,000	3,000	3,542	3,195	3,469	180

Fiber	Total (lbs)	Total (lbs)	Ave(lbs)	Ave(lbs)	Ave(lbs)	Ave(lbs)
Old Newspaper	8,738	6,508	6,276	7653	6,566	-
Mixed Paper	438	922	398	673	456	5,836
Old Corrugated Cardboard	522	136	538	130	452	-
Residue	10	76	22	67	31	-
Tin Cans	2	60	4	21	8	-
PET	2	24	6	14	7	-
HDPE - Mix	4	48	5	33	11	-
Aluminum Cans	-	-	2	4	3	-
Glass Bottles - Clear	-	-	1	0	1	-
Glass Bottles - Green	-	-	0	0	0	-
Glass Bottles - Brown	-	-	-	0	-	-
Glass Bottles - Mix	6	102	10	58	20	-
Liquid	-	-	0	1	0	-
Shrinkage	39	45	28	67	36	(16)
Total Fiber Compartment	9,760	7,920	7,291	8,720	7,592	5,820

CHARACTERIZATION BY PERCENTAGE

Commingled Containers	Total (%)	Total (%)	Ave(%)	Ave(%)	Ave(%)	Ave(%)
Tin Cans	8.5%	8.1%	8.6%	6.3%	8.2%	31.1%
PET	7.2%	6.7%	7.2%	5.1%	6.8%	11.1%
HDPE - Mix	7.9%	8.4%	7.5%	9.9%	7.9%	12.2%
Aluminum Cans	2.5%	1.1%	2.5%	1.5%	2.3%	7.8%
Glass Bottles - Clear	8.9%	12.3%	10.1%	11.0%	10.3%	6.7%
Glass Bottles - Green	10.0%	10.6%	10.0%	9.6%	9.9%	0.0%
Glass Bottles - Brown	3.4%	5.3%	4.3%	5.4%	4.5%	0.0%
Glass Bottles - Mix	40.7%	29.1%	39.4%	29.2%	37.4%	0.0%
Liquid	0.2%	0.3%	0.4%	0.4%	0.4%	3.3%
Residue	10.9%	15.5%	9.5%	17.7%	11.1%	10.0%
Shrinkage	-0.1%	2.7%	0.5%	3.8%	1.1%	17.8%
Total Container Compartment	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Fiber	Total (%)	Total (%)	Ave(%)	Ave(%)	Ave(%)	Ave(%)
Old Newspaper	89.5%	82.2%	86.1%	87.8%	86.5%	0.0%
Mixed Paper	4.5%	11.6%	5.5%	7.7%	6.0%	100.3%
Old Corrugated Cardboard	5.3%	1.7%	7.4%	1.5%	6.0%	0.0%
Residue	0.1%	1.0%	0.3%	0.8%	0.4%	0.0%
Tin Cans	0.0%	0.8%	0.1%	0.2%	0.1%	0.0%
PET	0.0%	0.3%	0.1%	0.2%	0.1%	0.0%
HDPE - Mix	0.0%	0.6%	0.1%	0.4%	0.1%	0.0%
Aluminum Cans	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Glass Bottles - Clear	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Glass Bottles - Green	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Glass Bottles - Brown	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Glass Bottles - Mix	0.1%	1.3%	0.1%	0.7%	0.3%	0.0%
Liquid	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Shrinkage	0.4%	0.6%	0.4%	0.8%	0.5%	-0.3%
Total Fiber Compartment	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Mountain View Sampling Summary

GENERAL LOAD INFORMATION

	1	2	3	4	5	6	7	8
Hauler:	FOOTHILL	FOOTHILL	FOOTHILL	FOOTHILL	FOOTHILL	FOOTHILL	FOOTHILL	FOOTHILL
Date:	3/22/03	3/25/03	3/26/03	3/26/03	3/27/03	3/28/03	3/28/03	3/29/03
Truck #:	15096	15097	15096	15095	15098	15067	15095	15098
Route #:	15096	15097	15096	15095	15098	15097	15095	15098
SMaRT #:	168	169	168	390	170	175	167	170
Load Type:	Residential	Residential	Residential	Residential	Residential	Residential	Residential	Residential

CHARACTERIZATION BY WEIGHT

Commingled Containers	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)
Tin Cans	204	172	298	234	264	76	264	230
PET	154	182	218	266	202	122	278	218
HDPE - Mix	166	148	146	258	212	118	290	256
Aluminum Cans	72	70	68	66	68	32	60	66
Glass Bottles - Clear	310	312	360	362	410	182	422	444
Glass Bottles - Green	434	414	554	590	496	170	526	566
Glass Bottles - Brown	148	128	208	298	178	100	224	206
Glass Bottles - Mix	850	766	1,440	1,950	1,164	500	1,488	1,140
Liquid	11	8	8	10	16	10	16	6
Residue	216	270	416	520	450	236	390	494
Shrinkage	55	70	144	86	(40)	(26)	82	(6)
Total Container Compartment	2,620	2,540	3,860	4,640	3,420	1,520	4,040	3,620

Newspaper/Single Compartment	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)
Old Newspaper	3,602	2,582	4,468	3,416	3,948	1,714	3,030	3,604
Mixed Paper	94	58	76	108	100	-	44	128
Old Corrugated Cardboard	-	-	-	-	-	-	-	-
Tin Cans	-	10	-	0	-	1	-	-
PET	-	2	1	2	1	1	-	-
HDPE - Mix	-	-	1	2	1	1	-	0
Aluminum Cans	-	2	1	0	1	-	-	-
Glass Bottles - Clear	-	-	-	1	2	-	-	-
Glass Bottles - Green	-	-	-	-	-	-	-	-
Glass Bottles - Brown	-	-	-	-	-	-	-	-
Glass Bottles - Mix	-	-	-	-	-	-	-	-
Liquid	-	-	-	-	-	-	-	-
Residue	1	1	10	-	6	24	2	2
Shrinkage	(37)	(95)	(16)	(89)	43	21	(56)	26
Total Newspaper Compartment	3,660	2,560	4,540	3,440	4,100	1,760	3,020	3,760

Mixed Paper	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)
Old Newspaper	-	-	-	-	-	-	-	-
Mixed Paper	5,182	5,210	7,240	7,616	6,122	3,240	7,528	6,814
Old Corrugated Cardboard	-	-	-	-	-	-	-	-
Residue	-	-	-	-	-	-	-	-
Shrinkage	58	50	40	84	118	-	52	86
Total Mixed Paper Compartment	5,240	5,260	7,280	7,700	6,240	3,240	7,580	6,900

CHARACTERIZATION BY PERCENTAGE

Commingled Containers	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)
Tin Cans	7.8%	6.8%	7.7%	5.0%	7.7%	5.0%	6.5%	6.4%
PET	5.9%	7.2%	5.6%	5.7%	5.9%	8.0%	6.9%	6.0%
HDPE - Mix	6.3%	5.8%	3.8%	5.6%	6.2%	7.8%	7.2%	7.1%
Aluminum Cans	2.7%	2.8%	1.8%	1.4%	2.0%	2.1%	1.5%	1.8%
Glass Bottles - Clear	11.8%	12.3%	9.3%	7.8%	12.0%	12.0%	10.4%	12.3%
Glass Bottles - Green	16.6%	16.3%	14.4%	12.7%	14.5%	11.2%	13.0%	15.6%
Glass Bottles - Brown	5.6%	5.0%	5.4%	6.4%	5.2%	6.6%	5.5%	5.7%
Glass Bottles - Mix	32.4%	30.2%	37.3%	42.0%	34.0%	32.9%	36.8%	31.5%
Liquid	0.4%	0.3%	0.2%	0.2%	0.5%	0.7%	0.4%	0.2%
Residue	8.2%	10.6%	10.8%	11.2%	13.2%	15.5%	9.7%	13.6%
Shrinkage	2.1%	2.8%	3.7%	1.9%	-1.2%	-1.7%	2.0%	-0.2%
Total Container Compartment	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Newspaper/Single Compartment	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)
Old Newspaper	98.4%	100.9%	98.4%	99.3%	96.3%	97.4%	100.3%	95.9%
Mixed Paper	2.6%	2.3%	1.7%	3.1%	2.4%	0.0%	1.5%	3.4%
Old Corrugated Cardboard	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Tin Cans	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
PET	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
HDPE - Mix	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%
Aluminum Cans	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Glass Bottles - Clear	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Glass Bottles - Green	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Glass Bottles - Brown	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Glass Bottles - Mix	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Liquid	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Residue	0.0%	0.0%	0.2%	0.0%	0.1%	1.4%	0.1%	0.1%
Shrinkage	-1.0%	-3.7%	-0.4%	-2.6%	1.0%	1.2%	-1.9%	0.7%
Total Newspaper Compartment	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Mixed Paper	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)
Old Newspaper	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Mixed Paper	98.9%	99.0%	99.5%	98.9%	98.1%	100.0%	99.3%	98.8%
Old Corrugated Cardboard	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Residue	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Shrinkage	1.1%	1.0%	0.5%	1.1%	1.9%	0.0%	0.7%	1.2%
Total Mixed Paper Compartment	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Mountain View Sampling Summary

GENERAL LOAD INFORMATION

	9	10	11	12	13	14	15	16
Hauler:	FOOTHILL	FOOTHILL	FOOTHILL	FOOTHILL	FOOTHILL	FOOTHILL	FOOTHILL	FOOTHILL
Date:	4/1/03	4/2/03	4/3/03	4/4/03	3/25/03	3/27/03	3/29/03	4/2/03
Truck #:	15098	15098	15095	15096	11134	11139	11102	11139
Route #:	15097	15098	15095	15096	11134	11139	11102	11139
SMaRT #:	169	170	167	168	161	162	158	162
Load Type:	Residential	Residential	Residential	Residential	Commercial	Commercial	Commercial	Commercial

CHARACTERIZATION BY WEIGHT

Commingled Containers	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)
Tin Cans	236	214	258	262	n/a	n/a	n/a	n/a
PET	204	172	238	204	n/a	n/a	n/a	n/a
HDPE - Mix	226	178	258	250	n/a	n/a	n/a	n/a
Aluminum Cans	64	62	82	56	n/a	n/a	n/a	n/a
Glass Bottles - Clear	410	296	314	390	n/a	n/a	n/a	n/a
Glass Bottles - Green	384	380	448	402	n/a	n/a	n/a	n/a
Glass Bottles - Brown	260	154	172	172	n/a	n/a	n/a	n/a
Glass Bottles - Mix	1,588	712	1,298	962	n/a	n/a	n/a	n/a
Liquid	10	16	8	10	n/a	n/a	n/a	n/a
Residue	468	300	454	384	n/a	n/a	n/a	n/a
Shrinkage	(50)	(4)	50	108	n/a	n/a	n/a	n/a
Total Container Compartment	3,800	2,480	3,580	3,200	n/a	n/a	n/a	n/a

Newspaper/Single Compartment	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)
Old Newspaper	2,438	3,738	3,054	4,274	-	-	-	-
Mixed Paper	54	92	56	218	2,010	4,902	4,584	6,572
Old Corrugated Cardboard	-	-	-	-	566	807	1,008	514
Tin Cans	-	-	1	-	4	8	102	2
PET	0	-	-	1	30	8	18	10
HDPE - Mix	-	-	-	-	6	10	32	4
Aluminum Cans	0	-	-	-	6	4	2	72
Glass Bottles - Clear	-	-	-	-	-	-	-	-
Glass Bottles - Green	-	-	-	-	-	-	-	-
Glass Bottles - Brown	-	-	-	-	-	-	-	-
Glass Bottles - Mix	4	-	-	1	118	28	234	88
Liquid	-	-	-	-	-	-	-	-
Residue	38	4	2	4	300	-	580	638
Shrinkage	86	66	(53)	(58)	-	(7)	-	-
Total Newspaper Compartment	2,620	3,900	3,060	4,440	3,040	5,760	6,560	7,900

Mixed Paper	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)
Old Newspaper	-	-	-	-	n/a	n/a	n/a	n/a
Mixed Paper	6,272	5,252	7,710	5,656	n/a	n/a	n/a	n/a
Old Corrugated Cardboard	-	-	-	-	n/a	n/a	n/a	n/a
Residue	-	-	-	-	n/a	n/a	n/a	n/a
Shrinkage	(12)	128	110	24	n/a	n/a	n/a	n/a
Total Mixed Paper Compartment	6,260	5,380	7,820	5,680	n/a	n/a	n/a	n/a

CHARACTERIZATION BY PERCENTAGE

Commingled Containers	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)
Tin Cans	6.2%	8.6%	7.2%	8.2%	n/a	n/a	n/a	n/a
PET	5.4%	6.9%	6.6%	6.4%	n/a	n/a	n/a	n/a
HDPE - Mix	5.9%	7.2%	7.2%	7.8%	n/a	n/a	n/a	n/a
Aluminum Cans	1.7%	2.5%	2.3%	1.8%	n/a	n/a	n/a	n/a
Glass Bottles - Clear	10.8%	11.9%	8.8%	12.2%	n/a	n/a	n/a	n/a
Glass Bottles - Green	10.1%	15.3%	12.5%	12.6%	n/a	n/a	n/a	n/a
Glass Bottles - Brown	6.8%	6.2%	4.8%	5.4%	n/a	n/a	n/a	n/a
Glass Bottles - Mix	41.8%	28.7%	36.3%	30.1%	n/a	n/a	n/a	n/a
Liquid	0.3%	0.6%	0.2%	0.3%	n/a	n/a	n/a	n/a
Residue	12.3%	12.1%	12.7%	12.0%	n/a	n/a	n/a	n/a
Shrinkage	-1.3%	-0.2%	1.4%	3.4%	n/a	n/a	n/a	n/a
Total Container Compartment	100.0%	100.0%	100.0%	100.0%	n/a	n/a	n/a	n/a

Newspaper/Single Compartment	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)
Old Newspaper	93.1%	95.8%	99.8%	96.3%	0.0%	0.0%	0.0%	0.0%
Mixed Paper	2.1%	2.4%	1.8%	4.9%	66.1%	85.1%	69.9%	83.2%
Old Corrugated Cardboard	0.0%	0.0%	0.0%	0.0%	18.6%	14.0%	15.4%	6.5%
Tin Cans	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%	1.6%	0.0%
PET	0.0%	0.0%	0.0%	0.0%	1.0%	0.1%	0.3%	0.1%
HDPE - Mix	0.0%	0.0%	0.0%	0.0%	0.2%	0.2%	0.5%	0.1%
Aluminum Cans	0.0%	0.0%	0.0%	0.0%	0.2%	0.1%	0.0%	0.9%
Glass Bottles - Clear	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Glass Bottles - Green	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Glass Bottles - Brown	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Glass Bottles - Mix	0.2%	0.0%	0.0%	0.0%	3.9%	0.5%	3.6%	1.1%
Liquid	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Residue	1.5%	0.1%	0.1%	0.1%	9.9%	0.0%	8.8%	8.1%
Shrinkage	3.3%	1.7%	-1.7%	-1.3%	0.0%	-0.1%	0.0%	0.0%
Total Newspaper Compartment	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Mixed Paper	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)	Total (%)
Old Newspaper	0.0%	0.0%	0.0%	0.0%	n/a	n/a	n/a	n/a
Mixed Paper	100.2%	97.6%	98.6%	99.6%	n/a	n/a	n/a	n/a
Old Corrugated Cardboard	0.0%	0.0%	0.0%	0.0%	n/a	n/a	n/a	n/a
Residue	0.0%	0.0%	0.0%	0.0%	n/a	n/a	n/a	n/a
Shrinkage	-0.2%	2.4%	1.4%	0.4%	n/a	n/a	n/a	n/a
Total Mixed Paper Compartment	100.0%	100.0%	100.0%	100.0%	n/a	n/a	n/a	n/a

Mountain View Sampling Summary

GENERAL LOAD INFORMATION

	17	18	19	20
Hauler:	FOOTHILL	FOOTHILL	FOOTHILL	FOOTHILL
Date:	4/3/03	4/4/03	3/22/03	4/1/03
Truck #:	11155	11102	18	11004
Route #:	11155	11102	18	18
SMaRT #:	172	158	118	118
Load Type:	Commercial	Commercial	OCC	OCC

Summaries By Route Type

CHARACTERIZATION BY WEIGHT

Commingled Containers	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Residential Route Totals Ave (lbs)	Commercial Route Totals Ave (lbs)	OCC Route Totals Ave (lbs)
Tin Cans	n/a	n/a	n/a	n/a	226	n/a	n/a
PET	n/a	n/a	n/a	n/a	205	n/a	n/a
HDPE - Mix	n/a	n/a	n/a	n/a	209	n/a	n/a
Aluminum Cans	n/a	n/a	n/a	n/a	64	n/a	n/a
Glass Bottles - Clear	n/a	n/a	n/a	n/a	351	n/a	n/a
Glass Bottles - Green	n/a	n/a	n/a	n/a	447	n/a	n/a
Glass Bottles - Brown	n/a	n/a	n/a	n/a	187	n/a	n/a
Glass Bottles - Mix	n/a	n/a	n/a	n/a	1,155	n/a	n/a
Liquid	n/a	n/a	n/a	n/a	11	n/a	n/a
Residue	n/a	n/a	n/a	n/a	383	n/a	n/a
Shrinkage	n/a	n/a	n/a	n/a	39	n/a	n/a
Total Container Compartment	n/a	n/a	n/a	n/a	3,277	n/a	n/a

Newspaper/Single Compartment	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Ave (lbs)	Ave (lbs)	Ave (lbs)
Old Newspaper	-	-	-	-	3,322	-	-
Mixed Paper	1,160	1,442	-	-	86	3,445	-
Old Corrugated Cardboard	1,494	1,790	9,628	6,432	-	1,030	8,030
Tin Cans	2	126	-	-	1	41	-
PET	6	30	-	-	1	17	-
HDPE - Mix	4	44	-	-	0	17	-
Aluminum Cans	4	12	-	-	0	17	-
Glass Bottles - Clear	-	-	-	-	0	-	-
Glass Bottles - Green	-	-	-	-	-	-	-
Glass Bottles - Brown	-	-	-	-	-	-	-
Glass Bottles - Mix	76	116	-	-	0	110	-
Liquid	-	-	-	-	-	-	-
Residue	194	560	174	368	8	379	271
Shrinkage	-	-	(42)	-	(14)	(1)	(21)
Total Newspaper Compartment	2,940	4,120	9,760	6,800	3,405	5,053	8,280

Mixed Paper	Total (lbs)	Total (lbs)	Total (lbs)	Total (lbs)	Ave (lbs)	Ave (lbs)	Ave (lbs)
Old Newspaper	n/a	n/a	n/a	n/a	-	n/a	n/a
Mixed Paper	n/a	n/a	n/a	n/a	6,154	n/a	n/a
Old Corrugated Cardboard	n/a	n/a	n/a	n/a	-	n/a	n/a
Residue	n/a	n/a	n/a	n/a	-	n/a	n/a
Shrinkage	n/a	n/a	n/a	n/a	62	n/a	n/a
Total Mixed Paper Compartment	n/a	n/a	n/a	n/a	6,215	n/a	n/a

CHARACTERIZATION BY PERCENTAGE

Commingled Containers	Total (%)	Total (%)	Total (%)	Total (%)	Ave (%)	Ave (%)	Ave (%)
Tin Cans	n/a	n/a	n/a	n/a	6.9%	n/a	n/a
PET	n/a	n/a	n/a	n/a	6.3%	n/a	n/a
HDPE - Mix	n/a	n/a	n/a	n/a	6.4%	n/a	n/a
Aluminum Cans	n/a	n/a	n/a	n/a	1.9%	n/a	n/a
Glass Bottles - Clear	n/a	n/a	n/a	n/a	10.7%	n/a	n/a
Glass Bottles - Green	n/a	n/a	n/a	n/a	13.6%	n/a	n/a
Glass Bottles - Brown	n/a	n/a	n/a	n/a	5.7%	n/a	n/a
Glass Bottles - Mix	n/a	n/a	n/a	n/a	35.2%	n/a	n/a
Liquid	n/a	n/a	n/a	n/a	0.3%	n/a	n/a
Residue	n/a	n/a	n/a	n/a	11.7%	n/a	n/a
Shrinkage	n/a	n/a	n/a	n/a	1.2%	n/a	n/a
Total Container Compartment	n/a	n/a	n/a	n/a	100.0%	n/a	n/a

Newspaper/Single Compartment	Total (%)	Total (%)	Total (%)	Total (%)	Ave (%)	Ave (%)	Ave (%)
Old Newspaper	0.0%	0.0%	0.0%	0.0%	97.6%	0.0%	0.0%
Mixed Paper	39.5%	35.0%	0.0%	0.0%	2.5%	68.2%	0.0%
Old Corrugated Cardboard	50.8%	43.4%	98.6%	94.6%	0.0%	20.4%	97.0%
Tin Cans	0.1%	3.1%	0.0%	0.0%	0.0%	0.8%	0.0%
PET	0.2%	0.7%	0.0%	0.0%	0.0%	0.3%	0.0%
HDPE - Mix	0.1%	1.1%	0.0%	0.0%	0.0%	0.3%	0.0%
Aluminum Cans	0.1%	0.3%	0.0%	0.0%	0.0%	0.3%	0.0%
Glass Bottles - Clear	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Glass Bottles - Green	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Glass Bottles - Brown	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Glass Bottles - Mix	2.6%	2.8%	0.0%	0.0%	0.0%	2.2%	0.0%
Liquid	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Residue	6.6%	13.6%	1.8%	5.4%	0.2%	7.5%	3.3%
Shrinkage	0.0%	0.0%	-0.4%	0.0%	-0.4%	0.0%	-0.3%
Total Newspaper Compartment	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Mixed Paper	Total (%)	Total (%)	Total (%)	Total (%)	Ave (%)	Ave (%)	Ave (%)
Old Newspaper	n/a	n/a	n/a	n/a	0.0%	n/a	n/a
Mixed Paper	n/a	n/a	n/a	n/a	99.0%	n/a	n/a
Old Corrugated Cardboard	n/a	n/a	n/a	n/a	0.0%	n/a	n/a
Residue	n/a	n/a	n/a	n/a	0.0%	n/a	n/a
Shrinkage	n/a	n/a	n/a	n/a	1.0%	n/a	n/a
Total Mixed Paper Compartment	n/a	n/a	n/a	n/a	100.0%	n/a	n/a

EXHIBIT L:
RADIATION MONITORING

EXHIBIT L

STANDARD OPERATION PROCEDURES

FOR THE DETECTION AND MANAGEMENT

OF RADIOACTIVE MATERIALS

AT THE

SUNNYVALE MATERIALS RECOVERY AND TRANSFER STATION

OVERVIEW

The State of California is considering two bills that would make radiation monitoring a requirement at State authorized landfills. Although this will not directly affect materials recovery facilities, like the Sunnyvale Materials Recovery and Transfer Station (SMaRT Station), it does mean that trash that is transferred from the SMaRT Station to Kirby Canyon or any other landfill will be monitored for radioactivity. Installation of a radiation monitoring system would allow the SMaRT Station to identify whether any incoming loads contained radioactive materials, make appropriate decisions regarding disposition, present records in case of liability claims, and protect workers. Metals from the SMaRT Station also are recovered and sent on to local metal recyclers with gate radiation detectors. A radiation monitoring system would help the SMaRT Station also avoid sending radioactive metals on to these facilities.

Knowing the amount of radiation in incoming loads of waste will give the SMaRT Station operators confidence that the workers are not being exposed to radiation. Workers may be in the proximity of materials contaminated by persons who received nuclear medical treatment. Fortunately, the radioactivity in these materials is short-lived and relatively harmless.[1] It would be only under unusual circumstances that materials from residences would contain harmful levels of radiation.

Although installation of radiation detection equipment may produce intermittent impacts at the SMaRT Station, it will allow managers to protect workers, identify loads containing radioactive materials, and make informed decisions regarding their disposition.

[1] See the following documents for US NRC Release Procedures for Patients that have received nuclear medicine treatment: US Nuclear Regulatory Guide 8.39, "Release of Patients Administered Radioactive Materials," and Appendix U in NRC's NUREG-1556, Volume 9 "Consolidated Guidance About Materials Licenses: Program-Specific Guidance About Medical Use Licenses,"

INTRODUCTION

The SMaRT Station receives refuse from three San Francisco Bay Area cities, Sunnyvale, Mountain View, and Palo Alto. The 110,000 square foot facility processes around 1,100 tons of refuse per day. Around 175 trucks make deliveries to the SMaRT Station each day and 40 trucks take garbage that cannot be recycled to the Kirby Canyon landfill. The facility is operated by GreenTeam/Zanker, who employs 70+ sorters on 3 sort lines to separate paper, glass, and plastic. Concrete, wood, and scrap metal are sorted by hand on the tipping floor. The SMaRT Station also prepares materials for market and yard waste for composting. All types of industrial vehicles participate in this process: 18-wheel transfer trucks, rear, front, and side-loading refuse, yard waste and recycling trucks, and roll-off trucks. The public also brings waste to the facility's drop-off center in all types of vehicles. In addition, the SMaRT Station receives treated medical waste from the Stanford University Medical Center for transfer to Kirby Canyon landfill.

Over the years, odd things have passed through the SMaRT Station, including goat heads and fake grenades. To date, the SMaRT Station is aware of only one incident in which radioactive materials have entered the facility. A load of scrap metal sent from the SMaRT Station to SimsMetals, a local metal recycler, was returned after Sims gate monitors detected radioactivity in the load. The source was an aircraft dial that was received at the SMaRT Station from an unidentified source. Other types of radioactive materials may have passed through the SMaRT Station undetected by either the SMaRT Station or Kirby Canyon landfill neither of which has monitored waste for radiation until now. As of this writing, the Kirby Canyon landfill does not monitor incoming loads for radioactivity.

Radiation Monitoring Equipment

The SMaRT Station monitors radioactive materials at the incoming scales using two sets of fixed plastic scintillation detectors manufactured by Ludlum Measurements, Inc. Each pair of detectors is connected to a microprocessor that provides continuous monitoring of background radiation and automatic adjustment of alarm setting to compensate for background fluctuations. The system includes a microprocessor with an analog meter, indicator lights for power, alarms, checking, and overspeed, and control buttons. The system is equipped with a date/time printer, red alarm strobe, cables, and a check source. A portable survey meter will be used to identify the general location of radioactive materials in incoming loads. A hand-held radioisotope analyzer will then be used to identify the isotope in order to assist in making a decision as to handling and ultimate disposition of the material.

Recordkeeping

The SMaRT Station maintains a daily operation log for the radiation monitoring system. The log will record the daily check of the system, daily readings of the background radiation levels, and records of any detection at or above Action Level One. The SMaRT Station will maintain records of each incident on a Vehicle Survey Form. Information regarding an incident will be recorded in the daily log book and on the Vehicle Survey Form. Completed Vehicle Survey Forms will be stored in the SMaRT STATION SAFETY FILES. See Appendix E for Vehicle Survey Instructions and a model of the Vehicle Survey Form. Training records for SMaRT Station staff that carry out this SOP will be stored in the SMaRT STATION SAFETY FILES.

Training

SMaRT Station personnel who carry out the SOP will be provided with a copy of the SOP and training specific to their responsibilities.

SOP Revision

This SOP should be reviewed and revised periodically. At a minimum, revisions should be made when any of the following occurs:

- New policies or regulations governing the monitoring or disposal of radioactive material are implemented by the State or Federal government.
- The SOP is ineffective during an incident.
- The facility operation changes causing interference with the current plan.
- New monitoring equipment is installed.
- Contacts change in the State Radiological Health Branch, City staff and contractor staff at the SMaRT Station, and City Hazardous Materials Coordinator.

STANDARD OPERATING PROCEDURE

Scalehouse operators must be familiar with the operation of the radiation monitoring equipment (See Appendix A), daily source checks and log procedures (Appendix B), calibration (Appendix C), and the following information and procedures.

Detection of Radiation and Response

Radiation levels above background have been detected when the microprocessor in the scalehouse is emitting an audible tone and its red alarm indicator light is blinking (see Figure 1).

Figure 1: Detector and microprocessor.

Logging Alarms

All excursions over Action Level One should be logged. Use the date/time printer in the scalehouse to log the radiation level (see Figure 2). Describe the incident in the Daily Log.

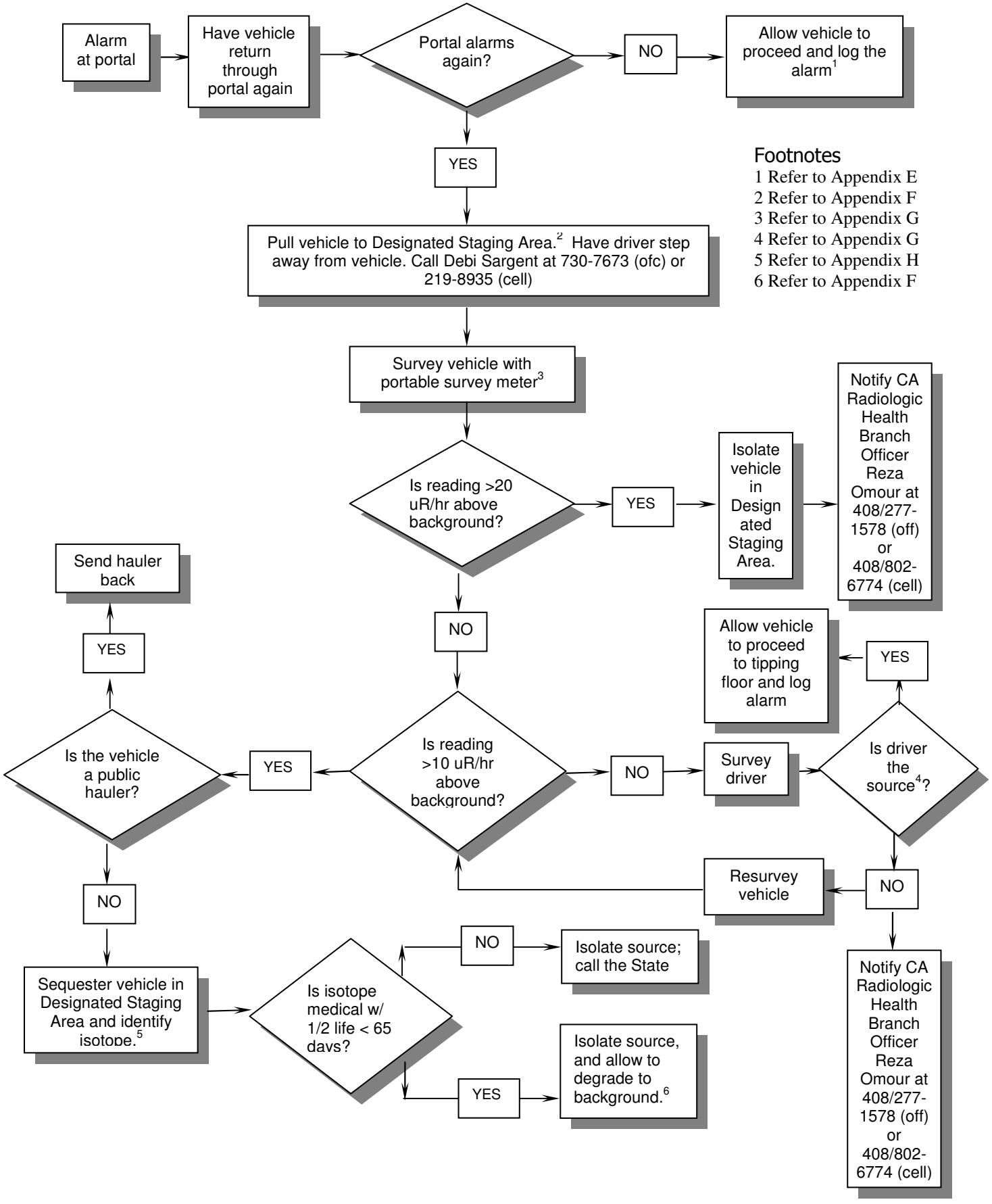
Action Levels

An Action Level is an amount of radiation indicating the need to take specific actions. Because background radiation fluctuates, action levels are set relative to the background. Action Level One is set at 10uR/hr above background, and Action Level Two is set at 20uR/hr above background. [2].

The SMaRT Station uses two actions levels, each requiring different response actions. The system will alarm at Action Level One. When the alarm is triggered, the amount of radiation is at least 10 uR/hr above the background level. Average background levels will be mounted on the system display in the scalehouse. (Background at the SMaRT Station was found to be between 10uR/hr and 12uR/hr based on the procedures and data in Appendix C.)

[2] The Ludlum Model 3500 Series microprocessors continuously monitor background radiation and automatically adjust a user-determined alarm setting (in our case 10uR/hr above background) to compensate for the changes in the background. The system also accounts for the shielding affect as a vehicle passes in front of the detectors. The system first establishes the new background level, compares each individual reading against the non-vehicle background, then against the vehicle background. If any readings exceed the adjusted alarm set-point, they are then further analyzed to determine if there is a potential source in the load.

Scalehouse Alarm Protocol



Footnotes
1 Refer to Appendix E
2 Refer to Appendix F
3 Refer to Appendix G
4 Refer to Appendix G
5 Refer to Appendix H
6 Refer to Appendix F

Action Level One

Action level one occurs when a radiation monitor (with an alarm set point of 10uR/hr above background) alarms indicating the potential presence of RAM in the waste load.

Action Level One Response

Take the following actions for a vehicle that has triggered the alarm:

1. Direct the vehicle to slowly pass by the detectors a second time.
2. If the radiation monitor does not alarm on the second pass, allow the vehicle to proceed and log the alarm.
3. If the radiation monitor alarms on the second pass, take the following actions:
   - move the vehicle to the Designated Staging Area (See Appendix E)
   - have the driver stand 50 feet away from the vehicle
   - Call Debi Sargent at 730-7673 (office) or 408/219-8935 (cellular). If you cannot reach Debi Sargent, call Rich Gurney at 730-7277.
4. Survey the vehicle body and cab as described in Appendix G.
5. If the vehicle survey produces readings greater than 20uR/hr, sequester the vehicle in the Designated Staging Area.
   - Proceed with Action Level Two response
   - Call the State Radiological Health Branch Officer in San Jose, Reza Omour, at 408/277-1578 (office) or 408/802-6774 (cellular).
6. If the vehicle survey produces readings less than 10uR/hr, survey the driver at a distance of 50 feet from the vehicle.
   - If the driver is the source of the radiation, check to see if he/she had a recent treatment with nuclear medicine.
   - If so, allow the truck to proceed.
   - If the driver is not the source of radiation, re-survey the truck. If the truck radiation levels are now at or below background, the truck may proceed as normal.
7. If the vehicle survey produces readings less than 20uR/hr but greater than 10uR/hr, do one of the following:
   - For public haulers, send the vehicle back its point of origin to determine the source of the radiation.
   - For all other vehicles, allow the vehicle to remain in the Designated Staging Area and identify the isotope present following the procedures in Appendix G.

Sequester of a Medical Isotope-Contaminated load

To be sequestered at the SMaRT Station (qualify for disposal), the identified radioisotope must meet the following conditions:

- Produce a detected dose rate less than Action Level Two
- Exist as a medical isotope in the MCA spectrometer library with a half-life less than 65 days (see Appendix J: Radioisotope Libraries and Classification).

[In PA no modeling is necessary to support the disposal of medically contaminated waste at landfills. The vast majority of nuclear medicine and radiotherapy patients are administered radionuclide in the less than 65 day decay category and their excreta is disposed in the sanitary sewer system as permitted by State and Federal law. The small amount of patient-contaminated medical waste will be well under these levels and at landfill facilities should cause no problems or concern.]

Rejection of the Waste load

If the SMaRT Station rejects the load, the following steps are taken:

Survey the entire vehicle to determine radiation field about the truck (see Appendix F for survey forms)

Contact the appropriate CADHS official and notify them of your intentions to reject a load.

[In PA they fax a truck survey form to the State and request that they fax back to the Station, a signed DOT Exemption Form for the vehicle so the vehicle can transport the material to an appropriate facility.

In PA, if the driver leaves the vehicle without a DOT exemption form and before RAM can be evaluated, contact the PA State Police and provide them with any information you may have on the vehicle such as make, model, color, company name, license plate number, time left and the direction in which the vehicle was traveling and, if possible, the intended destination. This is to ensure that the driver does not dispose of the contaminated waste improperly. Notify the appropriate DEP Area Health Physicist listed in Appendix I and alert that individual of the situation.]

Appendix A - RADIATION MONITORING EQUIPMENT

Appendix B - CALIBRATION LOG

Appendix C - DAILY ACTIVITIES

SOURCE CHECKS AND DAILY LOG

Appendix D - DETEMINATION OF UNSHIELDED BACKGROUND RADIATION

Appendix E - LOGGING ALARMS

Appendix F - DESIGNATED STAGING AREA

Appendix G - VEHICLE SURVEY PROCEDURE

Appendix H - RADIOISOTOPE IDENTIFICATION PROCEDURE

Appendix I - VISUAL CUES: RADIOACTIVE ITEMS & SYMBOLS

Appendix J - CONTACTS

Appendix K - RADIOISOTOPE LIBRARIES AND CLASSIFICATION

Appendix E - LOGGING ALARMS

Alarm Log

Name:	Date:
Facility:	Time:

Vehicle Data	Driver Data
Registration:	Name:
Make/Model:	License (# and St)
Year:	Employer:
Color:	Insurance:
No. of doors:	

DESCRIPTION OF OCCURRENCE

Attach readout from gate monitor.

Distinguishing Marks on Vehicle (Commercial name, graffiti, damage, load cover, cap or enclosure for truck bed, etc.)

Appendix F - DESIGNATED STAGING AREA

- Remove driver and all other personnel at least 50 feet from the vehicle.
- Use the GMSM to establish an exclusion boundary based on a detected dose rate of 2mrem/hr. Place a rope and signs at this boundary.
- Physically secure the load or maintain it under surveillance while it remains at the facility.
- Contact the individual responsible for supervising response to alarms at the facility.
- Contact the appropriate Local or State Health Physicist for approvals.
- If isolating medical waste with isotopes of less than or equal to 65 days . . .

Appendix G - VEHICLE SURVEY PROCEDURE

Portable Survey Meter Use and Procedures

Survey the Truck

1. Move driver at least 50 feet away from vehicle during survey.
2. Turn meter ON.
3. Check BATTERY condition. If battery is not charged, replace battery before proceeding.
4. Set scale for x100
5. Turn on Audible speaker.
6. Check probe function:
- Hold probe against CHECK SOURCE on side of meter
- Reading should match that on the calibration label.
7. Establish BACKGROUND radiation level
    - Hold probe away from meter
    - Note background radiation level
    - Record background reading on Survey Form.
8. Scan the vehicle:
    - Hold meter within 5 cm (2 inches) of surface.
    - Move the meter slowly on each side, front, rear, and inside cab of truck.
9. If any readings are more than 10uR/hr over the background level, the vehicle should be considered a possible radiation source.
    - Mark hot spots with chalk.
    - If the counts vary wildly at a certain spot, hover over that spot until the counts stabilize and determine whether the reading is above background.
    - Record readings on Vehicle Survey Form.
10. Compare survey readings to the Action Levels (see Scalehouse Alarm Protocol Flowchart).

Survey the Driver

11. Scan the driver and any passenger:
    - Hold meter within 5 cm (2 inches) of surface.
    - Move the meter slowly by driver's clothing, hands, shoes, face, and hair.
12. If the driver or passenger shows readings more than 10uR/hr over the background level, ask whether either has undergone recent nuclear medical treatment.
    - If either has, allow the driver and vehicle to proceed.
    - If none has, notify the local CA Radiologic Health Branch Officer Reza Omour at 408/277-1578 (office) or 408/802-6774 (cellular).
13. Record readings on Vehicle Survey Form.

Vehicle Survey Form

Surveyor Name:	Date:
Facility:	Time:

Vehicle Diagram (front, rear, side, as applicable)
(Sketch in vehicle diagram and mark the locations measured and the readings.)

Survey Instrument
Meter Used:
Meter Settings:
Background Readings:

DESCRIPTION OF OCCURRENCE

Waste was (Circle one): Rejected Processed Disposed

Vehicle Transporter/Supplier/Handler
Name:
Address:
Phone:
Vehicle ID and License Number:

Appendix I - VISUAL CUES: RADIOACTIVE ITEMS & SYMBOLS

Fiestaware and Vaseline Glass

Uranium compounds have been used for centuries to color glass. A 2,000 year old sample of yellow glass found near Naples, Italy contains uranium oxide. Uranium trioxide (UO_3) is an orange powder and has been used in the manufacture of Fiestaware plates. Other uranium compounds have also been used to make Vaseline glass and glazes. The uranium within these items is radioactive and should be treated with care.
http://education.jlab.org/itselemental/ele092.html

Figure 1: Fiestaware[3]

Figure 1: Vaseline Glass[4]

[3] Source: http://www.dangerouslaboratories.org/rglass.html
[4] Source: http://www.dangerouslaboratories.org/rglass.html

Ionization Smoke Alarms

Two types of smoke detectors are ionization and photoelectric detectors. Ionization smoke detectors use an ionization chamber and a source of ionizing radiation to detect smoke. This type of smoke detector is more common because it is inexpensive and better at detecting the smaller amounts of smoke produced by flaming fires. Inside ionization detector is a small amount (perhaps 1/5000th of a gram) of americium-241. The radioactive element americium has a half-life of 432 years, and is a good source of alpha particles and gamma rays or photons.

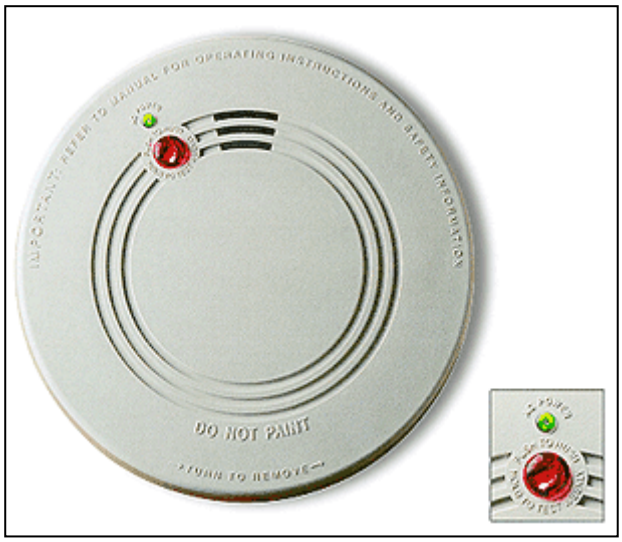


Figure 3: Ionization Smoke Detector[5]

Another way to talk about the amount of americium in the detector is to say that a typical detector contains 0.9 micro curie of americium-241. A curie is a unit of measure for nuclear material. If you are holding a curie of something in your hand, you are
holding an amount of material that undergoes 37,000,000,000 nuclear transformations per second. Generally, that means that 37 billion atoms in the sample are decaying and emitting a particle of nuclear radiation (such as an alpha particle) per second. One gram of the element radium generates approximately 1 curie of activity (Marie Curie, the woman after whom the curie is named, did much of her research using radium).[6]

[5] Source: http://info.load-otea.hrdc-drhc.gc.ca/fire_prevention/bulletins/smoke.shtml
[6] Source: http://home.howstuffworks.com/smoke2.htm

Luminous Dials on Aircraft Gauges and Household Appliances

Many older flight instruments have radium activated luminous markings. Although the external radiation hazard due to normal handling of these instruments is negligible, repair of them presents a potential health problem. The self luminous material, generally found on dial faces and pointers and adjacent to or on switches, tends to flake with age. When an instrument is damaged or dismantled, particles of the radium paint can be ingested, inhaled, or absorbed through a break in the skin. Ingestion can occur following accumulation of radioactive material on the hands, cigarettes, and food. Benefits derived from use of radium activated luminous dials rarely warrant the health hazards involved in reconditioning the dial faces. Though many of the dials have long since lost their light emitting property, the radium is still present.[7]

Figure 4: Luminous Dials on Aircraft and Household Equipment[8]

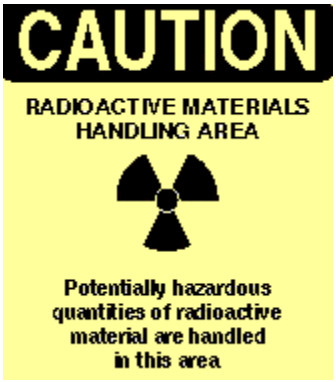
Density Gauges

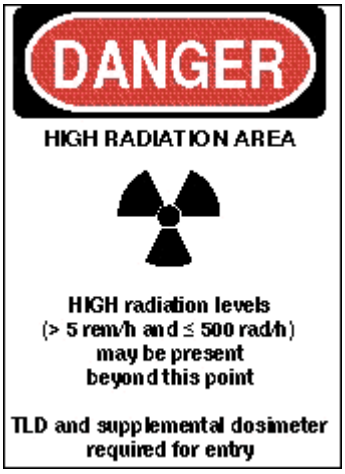
[7] http://www2.faa.gov/avr/aam/3910-3a.htm

[8] Sources: www.aviation-antiques.com/instruments-4.html and www.radioattic.com/attics/hartman.htm

Radiation Signs

This symbol is called a tri-foil and it is the international symbol for radiation. The symbol can be magenta or black, on a yellow background. This sign is posted where radioactive materials are handled, or where radiation-producing equipment is used. This sign is used as a warning to protect people from being exposed to radioactivity. Be alert for this symbol in a load that has triggered the radiation detection alarm.





http://www.epa.gov/radiation/students/symbols.html

The following list is from IEM's website

Fertilizers
Vermiculite
Gas Lantern Mantles
Thickness Gauges
Voltage Gauges and Current Surge Protectors
Spark Plug Gap Irradiators
Fluorescent lamps
Electric Blanket Thermostats
Exit Signs
Military Applications
Cardiac pacemakers
Static eliminators
Tobacco products

Salt Substitutes
Lightning Rods
Mettler Balances
Radioluminescent gauges for aircraft
Clock dials
Pull chains on light bulbs
Switches
Chamber pot lids
Doorknobs
Religious statuary
Telephone dials
Fishing lures
Markers at military bases to assist movement during blackout periods
Optical lenses
High quality lenses (night sights for military applications)
35 mm camera lenses
Welding rods
Rocket nozzles
Lighting filaments
Black ceramic spot plates to visualize light-colored precipitates and porcelain dentures
Cloisonné jewelry (orange coloring)
Kaolin (used in many magazines to produce a high gloss appearance)
Kaopectate (anti-diarrhea medication)
Cat litter

Appendix J - CONTACTS

The City of Sunnyvale person responsible for the implementation of the Action Plan is **Chris Lehon**, the Contract Administrator for the SMaRT Station operator.

- Office 408/730-7715

The City of Sunnyvale backup person in case Chris Lehon is not available is **David Kruger**, the Solid Waste Division Manager for the City of Sunnyvale.

- Office 408/730-7711

The BCWS person responsible for the implementation of the Action Plan is **Jeff Nabhan**, the Facility Manager of BCWS, operator of the SMaRT Station operations.

- Office 408/752-2795
- Cellular 408/687-1074

The BCWS, Health, and Safety Manager is **Maira Simone**.

- Office 408/752-8530
- Cellular 408/590-4760

The City of Sunnyvale Hazardous Materials Inspector is **Rick Miller**.

- Office 408/730-7218

The State contact for the radiation monitoring at the SMaRT Station is the San Jose Office Chief of the Department of Health Services Radiologic Health Branch:

- Office 408/277-1578

EXHIBIT M:
VOLUME-TO-WEIGHT CONVERSION FACTORS – INBOUND AND OUTBOUND

EXHIBIT M
VOLUME-TO-WEIGHT CONVERSION FACTORS – INBOUND AND OUTBOUND

Bay Counties may conduct an audit before January 1, 2022 on all inbound and outbound vehicles that have deposited materials at the SMaRT Station. The total tons, by stream and material type will be recorded, and used to calculate the estimated conversion of tons of material to volumes of cubic yard. These conversions will be used to estimate the total diversion rate of the facility and assessed periodically with prior written City approval for the material types in the table below.

Material	Conversion	Description
Regular Refuse	308 lbs/cy	Regular refuse includes household discards, clothing, packaging materials, kitchen and table food waste, animal waste. White Goods in this category include stoves, washers and dryers and metal furniture. Measurable quantities of dirt will be charged at the concrete/dirt/sod rate.
Demolition Debris	1,000 lbs/cy	Demolition Debris means mixed waste building materials, tree stumps, limbs and roots larger than 6" diameter, conduit, fencing, wood, wallboard, old carpets and floor pads, floor and ceiling tiles, etc. Includes discarded furniture, large metal items, water heaters, sinks, toilets and items resulting from construction, remodeling, repair or tear down operations. Non-recyclable Green Waste (such as palm, ivy, yucca, cactus and bamboo) are included in this category. Tires are in this category due to the density per cubic yard and special handling requirements. There is a limit of 4 tires per load.
Concrete, Dirt & Sod	2,000 lbs/cy	Concrete larger than 2'x2'x4", concrete with wood, metal, wire or rebar, concrete that does not meet the specifications of "clean concrete." Dirt mixed with yard trimmings or asphalt or rock, and Sod. Also, includes brick and pavers/paving stones and sand.
Asphalt material	1,380 lbs/cy	Asphalt roofing material, shingles, asphalt that does not meet the specifications of "clean asphalt".
Clean Wood	329 lbs/cy	Clean wood is segregated, unpainted, untreated pallets, wood and lumber pieces up to 6" in diameter and 6' in length. Material must be free of metal and paper. Material must not be banded bundled tied or wrapped.
Clean Green Materials	308 lbs/cy	Includes, grass, leaves, small branches and other landscaping maintenance materials. Material cannot be mixed with garbage, wood, sand, dirt or rock. Materials may not exceed 6 feet in length and six inches in diameter. No palm, yucca, cactus, bamboo, ivy or poison oak.

EXHIBIT M
VOLUME-TO-WEIGHT CONVERSION FACTORS – INBOUND AND OUTBOUND

Material	Conversion	Description
Clean Asphalt	1,380 lbs/cy	Clean asphalt and grindings less than 2'x2'x3". No garbage, dirt, excess wire, pipe or rebar. Asphalt contaminated with other materials will be charged at the regular asphalt rate. Does not include asphalt shingles or roofing materials.
Clean Concrete	1,855 lbs/cy	Clean concrete and rock less than 2'x2'x4". No garbage, dirt, excess wire, pipe or rebar. Concrete contaminated with excess pipe, wire and rebar, or mixed with other materials will be charged at the concrete/dirt/sod rate.
Clean Dirt	2,000 lbs/cy	Clean soil. No rock, vegetation or other contaminants.
Sofa	76 lbs/unit	Sofas, chairs, loveseats 8' or less. Charged per item.
Mattress/Box Spring	55 lbs/unit	*Mattresses from residents and qualifying under the California "bye bye mattress" program are not charged a fee.
Refrigerator, freezer/AC unit	267 lbs/unit	Residential units only.
Minimum Charge	308 lbs/cy	Minimum charge per vehicle.
Fee for uncovered loads	No weight value	In accordance with Sunnyvale Municipal Code 8.16.190

Note: Conversion factors shown above will be used for loads less than 12 cubic yards in volume. Loads greater than or equal to 12 cubic yards will be weighed and recorded in accordance with the CalRecycle Disposal Reporting System regulations.

EXHIBIT N:
VOLUME-TO-WEIGHT CONVERSION FACTORS – PUBLIC HAUL

EXHIBIT N
VOLUME-TO-WEIGHT CONVERSION FACTORS – PUBLIC HAUL

Conversion of Yards of Publicly Hauled Waste to Tons

Example:

Publicly Hauled Waste Received January 2008

Waste Type	Cubic Yards	Conversion Factor (lbs./cyd)	Tons
Regular Refuse	1,200	308	184.8
Demolition Debris	1,100	1,000	550.0
Asphalt	75	1,000	37.5
Concrete, Dirt, Sod	45	1,000	22.5
Clean Green Materials	300	308	46.2
TOTAL	2,720		841.0

Note: Conversion factors will be determined per the measurement procedure outlined in Exhibit M. Conversion factors shown above will be used for loads less than 12 cubic yards in volume. Loads greater than or equal to 12 cubic yards will be weighed and recorded in accordance with the CalRecycle Disposal Reporting System regulations.

EXHIBIT O:
REPORTING AND SOFTWARE REQUIREMENTS

EXHIBIT O
REPORTING AND SOFTWARE REQUIREMENTS

The software features shall include the following minimum capabilities:

1. Operating:

    a. Fully network enabled, allowing concurrent access to the same database for all connected PC workstations.

    b. Have multiple password-protected operator classes to allow for effective segregation of duties of system users.

    c. Have appropriate data entry controls to ensure that appropriate data is entered into each field (e.g., look-up tables, logical controls, etc.)

    d. Capable of integrating and interfacing to up to four scales.

    e. Capable of controlling peripheral equipment such as gates, lights, and bar code or radio frequency readers.

    f. Interface and integrate with cash drawer(s) that will be connected to each PC workstation in the scale house.

    g. Include on-line help.

    h. Capable of tracking loads by multiple waste and payment types.

    i. Capable of maintaining and accessing customer lists by customer or vehicle number or route number.

    j. Capable of adding new customers, vehicles, and materials in real-time.

    k. Allows a vehicle to haul for single or multiple customers.

    l. Capable of handling cash transactions, with appropriate cash controls.

    m. Calculates invoice based on user-defined units (pounds, tons, kilograms, cubic yards, load, count, gallons, barrels, containers, bushels, etc.)

2. Ticketing

    a. Capable of initiating transactions based on vehicle number, route number,license number.

    b. Able to apply both table driven and variable (override) price formulationand multiple taxes to loads.

    c. Capable of performing automatic yardage to tonnage conversion whenscale is inoperable.

    d. Numerically controlled receipt for each customer showing gross, tare,and net weight and total disposal charge.

    e. Capable of producing detailed ticket within seconds of scalestabilization.

    f. Capable of adding notes to tickets.

    g. Provides user selected special tickets including random inspection, noweigh, manual weights, and fixed charges.

    h. Allows ticket editing for authorized operators.

EXHIBIT O
REPORTING AND SOFTWARE REQUIREMENTS

3. Reporting

   a. Include flexible report writer software (Crystal Reports is desirable) that allows user customization of reports and scale tickets.

   b. Provide for cash drawer balancing, reporting, and reconciliation.

   c. Standard reports include:

      1. Customer Information Listing
      2. Vehicle Information Listing
      3. Material Information Listing
      4. Job Information Listing
      5. Transaction Listing by Date Range
      6. Cash Transactions by Date Range
      7. Charge Transactions by Date Range
      8. Transactions Sorted and Subtotaled by Customer, by DateRange (detailed and summary)
      9. Transactions Sorted and Subtotaled by Vehicle, by Date Range(detailed and summary)
      10. Transactions Sorted and Subtotaled by Material, by DateRange (detailed and summary)
      11. Transactions Sorted and Subtotaled by City, by Date Range(detailed and summary)
      12. Random Inspection Report, by Date Range
      13. Traffic Report - Number of Vehicles in and out, Ability to sort byhour.

4. Invoicing

   a. Create ready-to-mail invoices for all transaction types.

   b. Operator selection of desired time period.

   c. Reprints single invoice or any selected range of invoices.

   d. Provide a fixed length daily output file for interface with other computers or software packages.

5. Operational Reports

Operational Reports due by the 15th of Every Month
Universal Waste Oil Log
Hazardous Waste Random Load Check Report
Log of Special Occurences & Incidents
Generator Test Report
Wastewater Gallons
Weekly Cleaning Schedules
Mercury-Containing Items Log
Baghouse Log
Sweeper Log
12CY+ Weight Transactions
City Reports

EXHIBIT P:
RECYCLED MATERIAL REVENUE SHARE

Recycling Level and Allocation of Revenues from Sale of Recycled Materials Minimum Recycling Level 17.5%

Contractor's Revenue Share	City's Revenue Share	Recycling Level Achieved
75.0%	25.0%	25.0-25+%
69.0%	31.0%	24.5-24.9%
63.0%	37.0%	24.0-24.4%
57.0%	43.0%	23.5-23.9%
52.0%	48.0%	23.0-23.4%
47.0%	53.0%	22.5-22.9%
42.0%	58.0%	22.0-22.4%
38.0%	62.0%	21.5-21.9%
34.0%	66.0%	21.0-21.4%
30.0%	70.0%	20.5-20.9%
26.0%	74.0%	20.0-20.4%
22.0%	78.0%	19.5-19.9%
19.0%	81.0%	19.0-19.4%
16.0%	84.0%	18.5-18.9%
13.0%	87.0%	18.0-18.4%
10.0%	90.0%	17.5-17.9%
0.0%	100.0%	Below 17.5%

Note: Revenue sharing is subject to a floor and ceiling per Article 6.3.

EXHIBIT Q:
PERFORMANCE BOND

EXHIBIT Q
PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS,
THAT _____
hereinafter called the PRINCIPAL, and

_____,
a corporation duly organized under the laws of the State of _____,
having its principal place of business at _____,
in the State of _____, and authorized to do business as an admitted surety insurer in the State of California, regulated by the California Insurance Commissioner and with a financial condition and record of service satisfactory to the City of Sunnyvale, hereinafter called the SURETY, are held and firmly bound to the City of Sunnyvale, a municipal corporation in the State of California, hereinafter called the OBLIGEE, in the sum of Two Million Three Hundred Twenty Five Thousand Dollars ($2,325,000)
lawful money of the United States, for the payment of which, well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT:

WHEREAS, the PRINCIPAL has entered into a Contract with the OBLIGEE for the operation of the Sunnyvale Materials Recovery and Transfer Station ("Contract") and said PRINCIPAL is required under the terms of said Contract to furnish a bond of faithful performance of said Contract.

NOW, THEREFORE, if the PRINCIPAL shall well and truly perform and fulfill all of the undertakings, covenants, terms and agreements of said Contract, and any modification thereto made as therein provided, at the time and in the manner therein specified, then this obligation shall become null and void, otherwise it shall be and remain in full force and virtue.

The SURETY, for value received, hereby agrees that no change, extension of time, alteration or addition to the terms of the Contract or to the work to be performed thereunder, or the specifications incorporated therein shall impair or affect its obligations on this bond, and it hereby waives notice of any such change, extension of time, alteration or addition to the terms of the Contract or to the work or to the specifications.

PROVIDED, however, that the SURETY shall not be liable (1) as respects to any obligations related to said Contract occurring after two (2) years from the date of this Bond, unless this Bond is extended, or (2) with respect to PRINCIPAL'S obligation to procure a replacement performance bond, as provided for in Section 7.03 of the Contract. This Bond may be extended beyond January 1, 2024 in the sole discretion of the SURETY by means of a continuation certificate in form and substance satisfactory to OBLIGEE signed at least ninety (90) days prior to January 1, 2024.

EXHIBIT Q
PERFORMANCE BOND

In the event suit is brought upon this Bond by the OBLIGEE and the OBLIGEE is the prevailing party, the SURETY shall pay, in addition to the sums set forth above, all costs incurred by the OBLIGEE in such suit, including reasonable attorneys' fees to be fixed by the court.

IN WITNESS WHEREOF, the Principal and Surety have executed this instrument as of this ____ day of _____, 2021.

_____
(PRINCIPAL)

By: _____
Name: _____
Title: _____

_____
(SURETY)

By: _____
Attorney-In-Fact

Name: _____

* * *

Note: To be considered complete, both the principal and surety must sign this performance bond. In addition, the surety's signature must be acknowledged by a notary public and a copy of the surety's power of attorney must be attached.

EXHIBIT Q
PERFORMANCE BOND

CONTINUATION CERTIFICATION

In consideration of the premium charged,

_____ hereby continues in force:

Bond #: _____

Dated: _____

In the amount of: Two Million Three Hundred Twenty Five Thousand Dollars ($2,325,000)

on behalf of the City of Sunnyvale, for the period:

Beginning: _____

And Ending: _____ subject to all terms and conditions of said Bond, PROVIDED that the liability of :_____
(NAME OF SURETY)
shall not exceed in the aggregate the amount above written, whether the loss shall have occurred during the term of said bond or during any continuation or continuations thereof, or partly during said term and partly during any continuation or continuations thereof.

Signed and Sealed: _____ (date)

By: _____
Attorney-In-Fact

[ACKNOWLEDGEMENT]

EXHIBIT R:
ARBITRATION PROCEDURES

EXHIBIT R
ARBITRATION PROCEDURES

ARBITRATION OF DISPUTES ARISING UNDER SECTIONS 3.4 OR 10.20

1. Demand for Arbitration

If Contractor is dissatisfied with a decision of the City under Section 3.4 or Section 10.20, it shall serve a Demand for Arbitration on the City within sixty (60) days of that decision. The Demand for Arbitration shall describe the issues to be arbitrated and Contractor's contentions relating to those issues. The Demand shall be served on the City Manager with a copy delivered to the City Attorney.

2. Number and Qualifications of Arbitrators

The arbitration shall be conducted by a panel of three (3) arbitrators. One arbitrator shall be appointed by Contractor, one arbitrator shall be appointed by the City, and the third arbitrator shall be appointed by the other two arbitrators. The third arbitrator of the arbitration panel shall be an attorney licensed to practice within the courts of the State of California and shall be the "neutral arbitrator" referred to in California Code of Civil Procedure Section 1280(d). No member of the panel shall be an officer, employee, agent, or attorney of Contractor or the City, or an affiliate of Contractor. Alternatively, the parties may agree on a single arbitrator, in which case that arbitrator shall be the "neutral arbitrator".

3. Appointment

Within thirty (30) days after a Demand for Arbitration has been served, each party shall personally serve the other with notice of the names of the arbitrators they have selected.

The two arbitrators named by the parties shall select the third arbitrator within thirty (30) days. If they are unable to agree upon a third arbitrator, either party may request the Presiding Judge of the Superior Court in Santa Clara County to make the appointment.

4. Powers of Arbitrators; Conduct of Proceedings

(a) Except as hereinafter provided, arbitrations shall be conducted under and be governed by the provisions of California Code of Civil Procedure, Sections 1282.2 through 1284.2 (hereinafter, collectively, "Code sections"), and arbitrators appointed hereunder shall have the powers and duties specified by the Code sections.

(b) Unless waived in writing by the parties, the notice of hearing served by the neutral arbitrator shall not be less than 90 days.

(c) The lists of witnesses (including expert witnesses), and the lists of documents (including the reports of expert witnesses) referred to in Code of Civil Procedure Section 1282.2 shall be mutually exchanged, without necessity of demand therefor, no later than sixty (60) days prior to the date of the hearing, unless otherwise agreed in writing by the parties.

(d) The time for making the award shall be no later than twelve (12) months after service of the initial Demand for Arbitration, provided that such time may be waived or extended as provided in Code of Civil Procedure Section 1283.8.

(e) The arbitrators shall not base their award on information not obtained at the hearing.

(f) The provisions for discovery set forth in Code of Civil Procedure Section 1283.05 are incorporated into and made part of this contract, except that (1) leave of the arbitration panel need not be obtained for the taking of depositions, including the depositions of expert witnesses; (2) the provisions of Code of Civil Procedure Section 2037 *et seq.*, relating to discovery of expert witnesses, shall also be applicable to arbitration proceedings arising under this contract, except that the time period set forth in Section 2037(a) shall be deemed to be not later than sixty (60) days prior to the date for the hearing; and (3) all reports, documents, and other materials prepared or reviewed by any expert designated to testify at the arbitration shall be discoverable.

(g) The arbitration award shall be in writing and determined by a majority of the members of the arbitration panel, or by the sole arbitrator appointed to section 2 above.

(h) The arbitration panel jurisdiction and authority are limited to a determination of the Minimum Diversion Level (in the case of a dispute arising under Section 3.4) or the amount of compensation due to Contractor under this Agreement (in the case of a dispute arising under Section 10.20). The arbitration panel is not authorized, and does not have jurisdiction, to determine or award money damages against City, its officers, employees or agents.

5. <u>Costs</u>

Each party shall pay the compensation and expense of the arbitrator which it appoints, as well as its own costs and attorneys' fees, expert and witness fees, and other expenses incurred in preparing and presenting its case. The compensation and expenses of the neutral arbitrator, rental of the hearing room, costs of a stenographic reporter, and other costs of the arbitration shall be divided equally between and paid equally by Contractor and City.

EXHIBIT S:
DIVERSION LEVEL CALCULATION

EXHIBIT S
DIVERSION LEVEL CALCULATION

The recycling level achieved by the Contractor will be calculated as shown below:

A = Tons of Municipal Solid Waste coming into the SMaRT Station for the month. See the table below for a list of materials included and excluded from "Municipal Solid Waste" (A) for the purposes of this calculation.

B = Tons of Municipal Solid Waste placed in transfer trucks and hauled to the Kirby Canyon Landfill for disposal during the month.

C = Percent of incoming Municipal Solid Waste recovered during the month.

$$(A-B)/A = C) \times 100$$

The following example shows how this formula will be used to calculate the recycling level achieved:

A = 200,000 tons
B = 145,000 tons

((200,000 tons – 145,000 tons) / 200,000 tons) x 100 = 27.5% Recycled

Method for Calculating Shortfall in Minimum Diversion Level

Inbound MSW tons from Participating Agencies	153,059
Inbound MSW from Public Haulers	10,158
Total MSW Delivered	163,217 (A)
Minimum Recycling Level	17.5% (B)
Minimum Tons Diversion per Agreement (A * B)	28,563 (C)
Total MSW Delivered (A)	163,217
Actual Tons to Landfill	138,569
Difference = Actual Diverted Tons	24,648 (D)
Minimum Recycling Level (C)	28,563
Actual Diverted Tons (D)	24,648
Minimum tonnage shortfall	3,915 (E)
Minimum tonnage shortfall (E)	3,915
Landfill 2022 Disposal Fees and Taxes ($/ton)*	63.81

(*adjusted annually per Sunnyvale and Mountain View Kirby Canon Landfill Agreements and Amendments. The Disposal Fees and Taxes $/ton will be a weighted average of the current Disposal tipping fees paid by Mountain View and Sunnyvale, calculated based on the inbound tons of MSW from each city.)

Owed to City per Agreement (Section 3.5.B) $262,657.35

EXHIBIT S
DIVERSION LEVEL CALCULATION

The following materials are either included or excluded from "Municipal Solid Waste" (A) in the calculation above:

Included	Excluded
Municipal Solid Waste (MSW)	
MSW that cannot be Processed* (e.g. MSW from a hospital, bar screen grit from a Water Pollution Control Plant)	
Construction Debris (mixed and Source Separated)	
Publicly Hauled Waste for which the customer is charged a Public Use Fee including, but not limited to Source Separated soil, concrete, sheet rock, scrap metal, appliances/white goods, wood, brick, asphalt, furniture, Bulky Waste, and tires	Publicly Hauled Waste for which the customer is not charged a Public Use Fee, including buy-back/drop-off materials, and excluding mattresses.
Mattresses and box springs	
Source Separated Yard Trimmings delivered by persons other than the Partner Agencies and/or their Designated Haulers	Source Separated Yard Trimmings delivered by the Partner Agencies and/or their Designated Haulers
Source Separated Recyclable Materials and Source Separated Organic Materials delivered by the Partner Agencies and/or their Designated Haulers, excluding Source Separated Recyclable Materials and Source Separated Yard Trimmings from commercial and residential recycling programs.	Source Separated Recyclable Materials and Organic Materials (Yard Trimmings, Food Scraps) from commercial and residential recycling programs, delivered by the Partner Agencies and/or their Designated Haulers.

*with prior written approval from the City Representative

For purposes of the calculation above, the weight of the residue from the Processing of Source Separated Food Scraps is subtracted from the tons of Municipal Solid Waste placed in transfer trucks and hauled to the Kirby Canyon Landfill for disposal during the month (B). Residue from the Processing of Source Separated Recyclable Materials, however, is not subtracted from the tons of Municipal Solid Waste placed in transfer trucks and hauled to the Kirby Canyon Landfill for disposal during the month (B).

EXHIBIT S
DIVERSION LEVEL CALCULATION

City and Contractor agree that the methodology for calculating the Diversion Level may be adjusted during the term of this Agreement per Exhibit Y.

EXHIBIT T:
SB 1383 REQUIREMENTS

EXHIBIT T
SB 1383 REQUIREMENTS

Overview

This document describes the procedures for measuring the composition of various waste material streams as required under SB 1383, including if the Station is operating as a High Diversion Facility. SMaRT Station will comply with all applicable portions of the SB 1383 regulations, which require the sampling of all outbound organic waste. This includes organic waste received as a separated stream, as well as organic waste separated from mixed materials at the facility. Additionally, SMaRT Station will measure all outbound streams destined for disposal for their organics content.

These evaluations are required of the facility by CalRecycle and SB 1383 regulations as a condition of operating. These evaluations sample *outgoing* material streams to ensure:

- Outbound recovered commodities are not excessively contaminated.
- Outbound material removed as contamination does not contain excessive amounts of recoverable organic waste.

1. These requirements are in the SB 1383 regulations under Section 17409. Whether or not operating as a High Diversion Facility, the SMaRT Station must meet incompatible materials standards for outbound recovered organic waste (including outbound fibers) of less than or equal to 20% by January 1, 2022 and 10% by January 1, 2024, unless the organic waste is delivered off-site to a compost or in-vessel facility that meets limits on organic waste in materials disposed (where such limits are less than or equal to 20% organic waste in residue disposed by January 1, 2022 and 10% by January 1, 2024). The City designated Organics Processors will meet this standard as provided in the 2021 Agreement between the City of Sunnyvale and Zanker Road Resource Management, Ltd. for Organic Materials Processing Services and the 2021 Agreement between the City of Sunnyvale and Sustainable Organic Solutions, LLC for Organic Materials Processing Services."

High Diversion Evaluations These evaluations are only required in the event the jurisdiction has a route which cannot be serviced by a source separated route. These mixed routes can only be taken to "High Diversion Facilities". In order to become a High Diversion facility, these otherwise optional evaluations must be performed. Unlike the regulations that govern facilities that process organic materials from source separated collection programs, High Diversion Facilities must meet specific recovery targets in order to remain in compliance with SB 1383, which are to demonstrate no less than 50% of organics are recovered starting in January 1, 2022 and 75% of organics are recovered starting in January 1, 2025.

These requirements are in the SB 1383 regulations under Section 17409.

EXHIBIT T
SB 1383 REQUIREMENTS

Facility Evaluations Frequency

The following sampling protocol shall apply, including if the City requests "High Diversion" sampling.

Sampling of material streams must occur within a specified frequency and duration to fully comply with SB 1383, unless an approved variance has been provided by the local enforcement agency. A ten-day series of sampling must be performed on each outgoing stream for each reporting period. These periods, which are effectively quarters, occur four times a year as listed below:

Reporting Period 1 - January 1 to March 31
Reporting Period 2 - April 1 to June 30
Reporting Period 3 - July 1 to September 30
Reporting Period 4 - October 1 to December 31

Table 1 – Facility Waste Evaluation Frequency

Stream to be Sampled	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Section
Organic Outbound Commodity	10 samples	10 samples	10 samples	10 samples	17409.5.8
Outbound Residual	10 samples	10 samples	10 samples	10 samples	17409.5.8
Mixed Waste – Inbound MSW	1 sample	1 sample	1 sample	1 sample	17409.5.7

Thus for each year, a total of forty sampling days for each outgoing waste stream must occur, in addition to one sampling event per quarter for MSW arriving the facility before it is processed.

Processing Streams and Commodities

SMaRT Station operates five distinct processing operations that will require sampling of both organic materials separated from the streams and the resulting residuals. These processing areas and the samples taken from them are indentified in Table 2 below.

Table 2 – SMaRT Station Processing Operations

Yard Trimmings	Tip Floor	Recycling Drop-off/Curbside	Food Scraps Pre-Processing Equipment	MSW Processing Line
Yard Trimmings		Mixed Paper	Food Mash	2" minus
	Residual	Residual	Residual	Residual
	Cardboard			Cardboard
	Carpet	Cartons		Mixed Paper
	Wood			Organic Fiber
				Wood
				Yard Trimmings
				Cartons

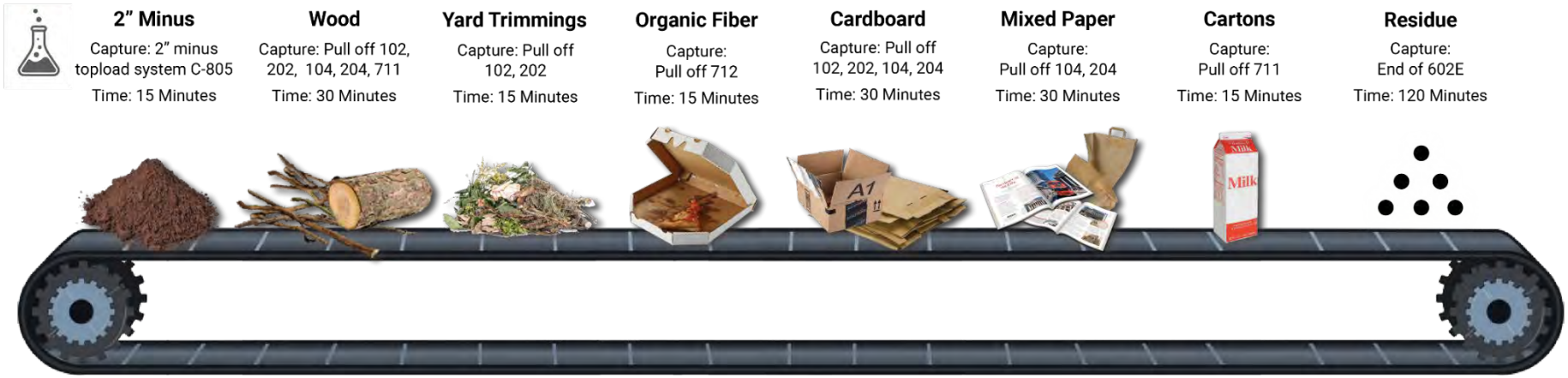
EXHIBIT T
SB 1383 REQUIREMENTS

In total there are 14 commodities and four residue streams which must be sampled quarterly. Note that should the SMaRT Station pursue a high-diversion processing facility designation curbside residue must be sampled independently of the MSW processing line. Additionally, one sample per quarter of the MSW grey container must also be sampled.

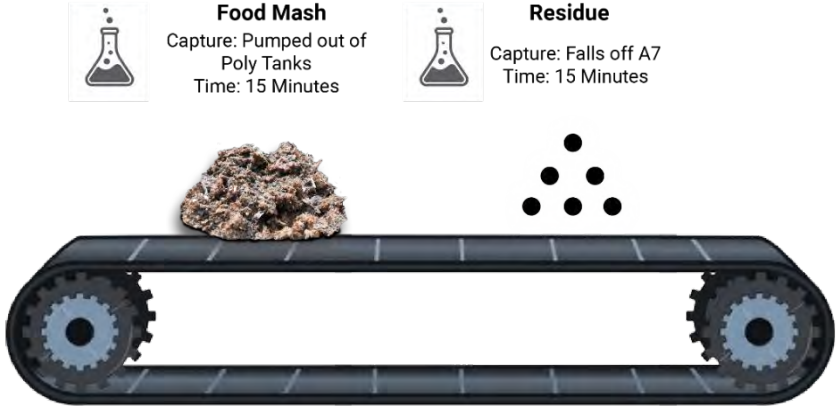
EXHIBIT T
SB 1383 REQUIREMENTS

Sampling Process for SMaRT Station

Municipal Solid Waste



Food Waste Processing Equipment



= Goes to lab for processing
Lab Analysis for Food Waste Processing, Food Mash, Residue, and 2" minus materials. The rest are 200lbs samples.

Time = Estimated time to complete (minutes per sampling day per person). There will be 2 people each day sampling.

Each sampling event is 10 days.
There are 2 sorters, 14 commodity samples, 4 residue samples.

EXHIBIT T
SB 1383 REQUIREMENTS

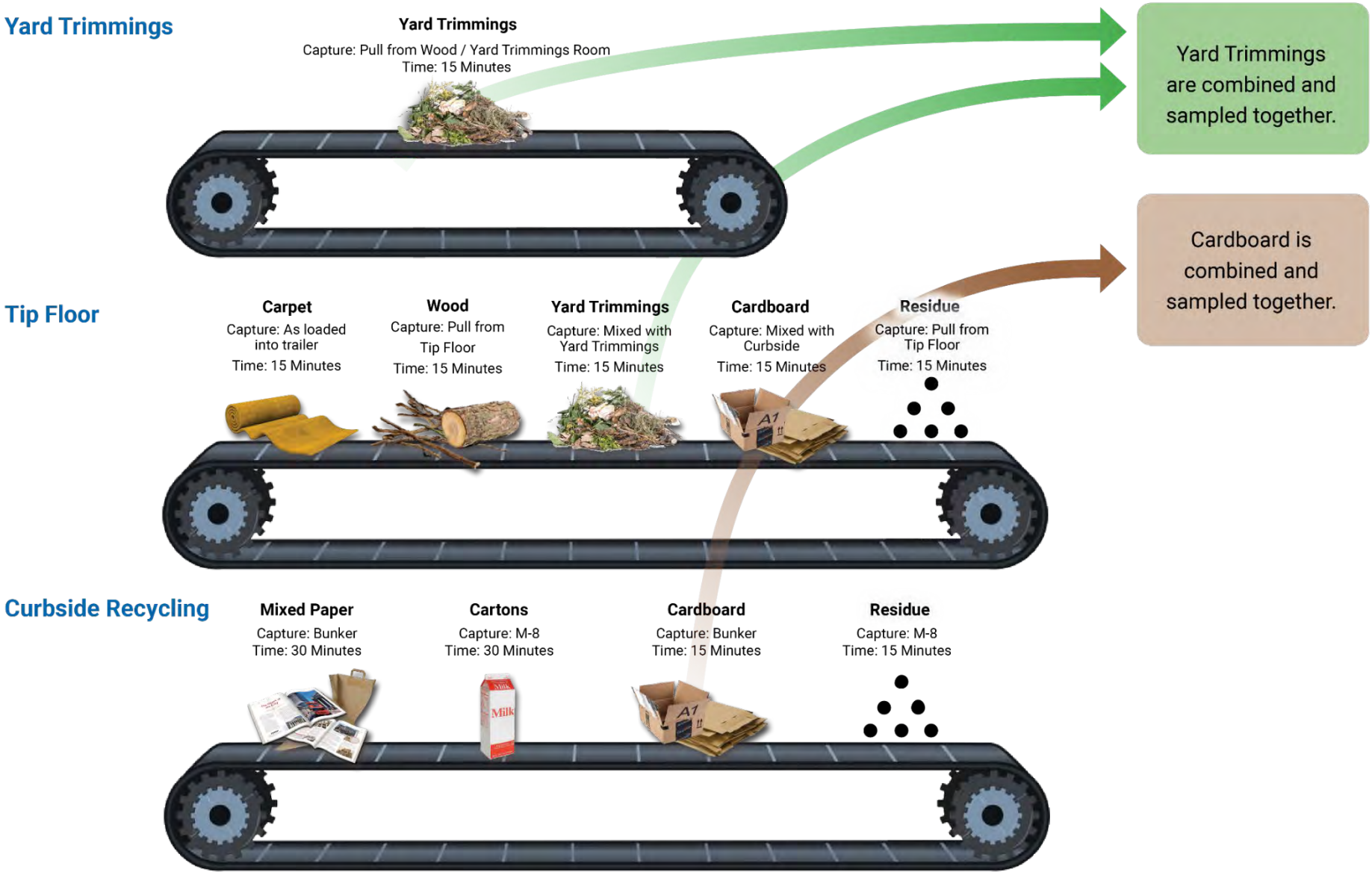


EXHIBIT T
SB 1383 REQUIREMENTS

Sampling Locations and Type

SMaRT Station will use its existing sorting staff to complete the sampling. Each sampling event will require a minimum of two staff, one sorter and one supervisor. Management staff will conduct the needed calculations and analysis after the data has been collected. The following tables describe the location that each commodity or residue, will be sourced from, the size of the sample, and the estimated time to complete each sampling event, separated by processing area. There are two commodities and one residue stream that have been identified as impractical to measure using the standard 200-pound sample. SMaRT Station should request a specific variance for these streams, as allowed by SB 1383, through the local enforcement agency to complete the required sampling through lab analysis and with smaller sample sizes.

Table 3 – Wood/Yard Trimmings Room Sampling Details

Wood/Yard Trimmings Room	How to capture	How to sample	How much to sample (per day)	Sampling Time (minutes/staff)	Number of Staff	Annual Hours
Yard Trimmings	Pull from Wood/Yard Trimmings Room Floor	In house	200 pounds	15	2	20

Table 4 – Tip Floor Sampling Details

Tip floor (C&D and Public Haul)	How to capture	How to sample	How much to sample (per day)	Sampling Time (minutes/staff)	Number of Staff	Annual Hours
Yard Trimmings	Mix with Wood/Yard Trimmings Room	In house	200 pounds	15	2	20
Wood	Pull from Tip Floor	In house	200 pounds	15	2	20
Cardboard	Mixed with Curbside	In house	200 pounds	15	2	20
Carpet	As loaded into trailer	In house	200 pounds	15	2	20
Residue	Pull from Tip Floor	In house	200 pounds	30	2	40

EXHIBIT T
SB 1383 REQUIREMENTS

Table 5 – Curbside/Public Drop-off Recycling Sampling Details

Curbside/public drop off Recycling	How to capture	How to sample	How much to sample (per day)	Sampling Time (minutes/staff)	Number of Staff	Annual Hours
Cardboard	Bunker	In house	200 pounds	15	2	20
Mixed Paper	Bunker	In house	200 pounds	30	2	40
Cartons	M-8	In house	200 pounds	30	2	40
Residue	M-8	In house	200 pounds	60	2	80

Table 6 – Food Waste Processing Sampling Details

Food Waste Processing	How to capture	How to sample	How much to sample (per day)	Estimated Time to complete (minutes per sampling day per person)	Number of Staff	Yearly Impact (in hours)
Residue	What falls off A7	Lab Analysis	Ask LEA for a more manageable amount – 1-gallon[1]	15	1	10
Food Mash	Pumped out of Poly Tanks	Lab Analysis	Ask LEA for a more manageable amount – 1-gallon. [2]	15	1	10

[1] Pending local enforcement agency approval.
[2] Pending local enforcement agency approval.

EXHIBIT T
SB 1383 REQUIREMENTS

Table 7 – MSW Processing Sampling Details

Out of MSW	How to capture	How to sample	How much to sample (per day)	Estimated Time to complete (minutes per sampling day per person)	Number of Staff	Yearly Impact (in hours)
2" minus MRF Fines	2" minus topload system C-805	Lab Analysis	Ask LEA for a more manageable amount – 1-gallon	15	1	10
Cardboard	Pull off 102, 202, 104, 204	In house	200lbs	15	2	20
Mixed Paper	Pull off 104, 204	In house	200lbs	30	2	40
Organic Fiber	Pull off 712	In house	200lbs	30	2	40
Wood	Pull off 102, 202, 104, 204, 711	In house	200lbs	15	2	20
Yard Trimmings	Pull off 102, 202	In house	200lbs	15	2	20
Cartons	Pull off 711	In house	200lbs	30	2	40
Residue	End of 602E	In house	200lbs	120	2	160

In total the sampling of organic commodities and residue streams a total of 650 annual man hours will be required. Additionally, SMaRT Station will sample 200 pounds from an incoming gray container collection stream. Two sorters will complete this evaluation in an estimated 30 minutes per quarter, totaling an additional 4 annual man hours. A summary of these samplings is provided in Table 8 below.

EXHIBIT T
SB 1383 REQUIREMENTS

Table 8 – Sampling Overview

Stream	Type	Processing Area	Sampling Method	Annual Samples	Annual Hours
Yard Trimmings - Tip Floor	Commodity	Tip Floor/Yard Trimmings	200 pound	40	20
Yard Trimmings - of MSW	Commodity	MSW Processing	200 pound	40	20
Food Mash	Commodity	Food Scraps pre-processing equipment	Lab Sample	40	10
2" Minus MRF Fines	Commodity	MSW Processing	Lab Sample	40	10
Organic Fiber	Commodity	MSW Processing	200 pound	40	40
Carpet	Commodity	Tip Floor	200 pound	40	20
Cartons - of Recycling	Commodity	Recycling Drop Off	200 pound	40	40
Cartons - of MSW	Commodity	MSW Processing	200 pound	40	40
Cardboard - of Recycling	Commodity	Tip Floor/Yard Trimmings	200 pound	40	20
Cardboard - of MSW	Commodity	Recycling Drop Off	200 pound	40	20
Mixed Paper - of Recycling	Commodity	Recycling Drop Off	200 pound	40	40
Mixed Paper - of MSW	Commodity	MSW Processing	200 pound	40	40
Wood - of Tip Floor	Commodity	Tip Floor	200 pound	40	20
Wood - of MSW	Commodity	MSW Processing	200 pound	40	20
Curbside Recycling	Residual	Recycling Drop Off	200 pound	40	80
Tip Floor	Residual	Tip Floor	200 pound	40	40
Food Mash	Residual	Food Scraps pre-processing equipment	Lab Sample	40	10
MSW	Residual	MSW Processing	200 pound	40	160
Inbound MSW	Incoming Stream	MSW - Pre-processing	200 pound	4	4
			Samples:	724	654

Sampling Process

The sample process for all material streams, except those identified for a variance, would follow the same general process.

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Step One: Setup

Sampling for waste evaluation requires some equipment and preparation prior to sampling. During sampling events with multiple samplings, a single setup could be used for some or all of the samples to save time and costs. The following inputs will be necessary to prepare for a successful sampling.

- **Containers:** Sufficient metal, plastic, or fiber containers for storing and weighing each waste component, labeled accordingly. For components that will have a substantial moisture content (e.g., food waste), metal or plastic containers are recommended to avoid absorption of moisture by the container and, thus, the need for a substantial number of weighing to maintain an accurate tare weight for the container.
- **Scale:** A mechanical or electronic weigh scale with a capacity of at least 200 pounds, and a precision of at least 0.1 lb.
- **Tools:** Heavy-duty tarps, shovels, rakes, push brooms, dust pans, hand brooms, and sorting table.
- **Waste Evaluation:** Clipboard or tablet, paper, pencil, calculator, and dice or software to randomize sample location.
- **Safety:** First aid kit, traffic cones, traffic vests, heavy-duty gloves, hardhats, safety glasses, and heavy-duty boots.
- **Facility:** A designated unloading area, free of traffic and obstacles that can be set aside for the duration of the sampling period which could range from 2 hours to an entire operating day in the event of a Route Review Evaluation or High-Performance Evaluation.
- **Staffing:** At least two staff is recommended for conducting a waste evaluation. Sampling is estimated to take two experienced employees one hour to conduct. (i.e., two person-hours per sample.)

Step Two: Sample Selection

Regardless of which type of waste evaluation is being conducted, all individual sample sizes are to be at least 200 pounds each. Samples are each to be *representative* and *random.* Representative samples are of a typical operating day for that route or material stream. Randomization is required so as not to bias the sampling process. Randomization ensures that a sample is not selected deliberately to achieve a desired result.

Example Randomization

The outbound mixed paper is piled after sorting, but before baling. The waste evaluator divides the pile into six evenly sized piles and assigns each a number. The evaluator rolls a die, and samples the corresponding pile. If the selected pile is less than 200 pounds, a second additional pile is randomly selected and sampled. This processed is repeated until the minimum 200-pound sample is sampled.

Step Three: Weighing and Sorting

After a 200-pound sample is selected, the total pile weight is determined. Then, the entire pile is sorted with a particular material pulled out and placed into a separate bin. This separated material depends on which type of waste evaluation is being performed.

Contamination in the outbound organic commodities must be measured. Below are examples of what would constitute a contaminate.

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Table 9 - Example Contamination in Outbound Organic Materials

Material Stream	Separated Material	Examples
Outbound Commodity: Fiber Corrugated	Contamination	Plastic, metal, glass, inerts, food waste, wood
Outbound Commodity: Mixed Paper	Contamination	Plastic, metal, glass, inerts, food waste, wood
Outbound Commodity: Green Overs	Contamination	Plastic, metal, glass, rocks, hazardous waste
Outbound Commodity: Unprocessed Clean Green	Contamination	Plastic, metal, glass, rocks, hazardous waste
Outbound Commodity: Unprocessed Wood Waste	Contamination	Plastic, metal, glass, rocks, hazardous waste

Additionally, residual streams from the processed organics and from the processed MSW must be sampled for organic material. Below are examples of what would constitute as organics in the residual streams.

Table 10 - Example Organics in Outbound Residual Materials

Residual Stream	Separated Material	Examples
Outbound Residual: MSW Processing	Recoverable Organics	Newspaper, cardboard, office paper, food waste, Yard Trimmings, compostable paper
Outbound Residual: Clean Green	Recoverable Organics	Yard Trimmings, wood waste, food waste
Organics in Residual Tipfloor	Organic Organics	Yard Trimmings, wood, food waste, cardboard, organic fibers

Further, SMaRT will conduct one 200-pound sample from a randomly selected inbound gray container stream that will seek to identify organic content and prohibited materials present in the sample.

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Table 11 -Example Organics and Contaminants in Inbound Gray Container Stream

Residual Stream	Separated Material	Examples
Gray Container: Inbound MSW	Recoverable Organics	Newspaper, cardboard, office paper, Yard Trimmings, food waste
Gray Container: Inbound MSW	Prohibited Material	Recyclable containers, fiber, paper, food, wood, green

Step Four: Calculation

After sorting, staff will take the weight of the separated material. This weight divided by the total sample size results in a ratio. This ratio is to be recorded, in addition to the exact weights measured during the sampling process. This ratio is important for SB 1383 and depending on the type of waste evaluation could require further action if in excess of a given amount. Table 12 describing the acceptable maximum ratios is provided below.

Table 12 - Maximum Acceptable Ratios for Waste Evaluations

Waste Evaluation Ratio	2022 Limit	2024 Limit	Action Required
Facility Evaluation: (Contamination/Outbound Recovered)	20%	10%	1. Improve Contamination Rate *or* 2. Outbound organics that have contamination in excess of these limits may be sent to a downstream facility that is able to demonstrate these contaminates can be processed out of the material.
High Diversion: (Contamination/Outbound Organics)	50%	25%	Two consecutive excesses of these limits, or three total excesses results in suspension of "High Diversion" status. Materials must be source separated.
High Diversion: (Recoverable Organics/Residual Sample)	50%	25%	Two consecutive excesses of these limits, or three total excesses results in suspension of "High Diversion" status. Materials must be source separated.

Step Five: Recordkeeping

All results of the sampling, including weights, times, routes, waste stream etc., must be maintained on site. These results shall be shared quarterly with the jurisdiction in order to assist in the jurisdiction's compliance requirements.

Special Considerations

Two special considerations must be made for the sampling process described above. First, are the ten-day sampling events which must be performed consecutively. Second, several material streams leaving the site may be in a food mash form and therefore unsortable by conventional means. For these streams

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SMaRT Station recommends seeking an approved variance from the local enforcement agency for sampling these streams through laboratory analysis.

Ten-Day Samplings

The sampling requirements for Waste Evaluation and High Diversion require that samples be taken each day for ten consecutive days. These samples are to be measured normally otherwise. If ten consecutive samplings are not possible, the following work around is allowed:

"If less than 10 additional days are sampled in the reporting period, the additional operating days where sampling is performed shall be a consecutive continuation of the original 10 consecutive days of sampling."

Food Mash Sampling

Food mash sampling may need to be done in lieu of the sampling methods described above. Upon LEA approval, the following protocol could be used:

1. Of the food mash sent to anaerobic digestion, one 1-gallon sample for ten consecutive days would be taken each quarter.
2. Of the food mash Residuals sent for disposal, one 1-gallon sample for ten consecutive days would be taken each quarter.
3. Of the 2-in minus fines, one 1-gallon sample would be taken for ten consecutive days each quarter.

These samples would be sent to a lab for analysis. The results would be measured as:

1. Percent of contamination of the outbound organics food mash. E.g., plastics in the organic food mash,
2. or, percent of organic material present in the residual portion of the food mash . E.g., food present in the residual.

These results would be reported and recorded consistent with the methods described heretofore.

EXHIBIT U:
COST FORMS – INITIAL AND PROJECTED

Notes on Cost Forms

Form 2 – BCWS Compensation
Initial Basic Monthly Payment (BMP) Table

The Basic Monthly Payment (BMP) is paid to Bay Counties Waste Services (BCSW) by the City of Sunnyvale (City). The cost forms capture the changes to the BMP as paid by the City under the Prior Agreement. The BMP was based on the costs to operate the facility as proposed by BCWS in 2014 and has increased by CPI each year since. These costs included Labor, Processing Costs, Equipment Costs, and Other Expenses (Utilities, Taxes, Permits, Insurance, etc.). Treatment of the following eight items is changing from the Prior Agreement, as follows:

1) Labor is reimbursed through the BMP. Cell C8 represents the increase to the BMP due to new union contracts. This is calculated in Form 4 Labor Increase. The calculation takes the 2022 union labor total cost using current staffing levels and subtracts the 2021 union labor costs. This number is divided by 12 to get the monthly increase.

2) BCWS will transport all the organics to ZBEST. Currently all the transportation for organics is being transported by 3rd party hauling and the cost is split between BCWS and the City. The BCWS portion of transportation is currently reimbursed through the BMP. Cell C9 shows the cost that the City will pay BCWS to transport all the organics to ZBEST. This is calculated on Tab 5 Transport Option. The cost includes the extra cost of labor to transport the material, the extra cost of operating the vehicles, and the extra cost of maintenance of those vehicles, then subtracting what BCWS currently pays for 3rd Party Transportation which is calculated in cell O50 on Form 3 Baseline Data. [Under the Prior Agreement, all organics transport was provided through 3rd party hauling, with cost split between BCWS and the City.]

3) The City will be taking over the utility payments as the City is entering into an agreement to use solar to power the facility. This reduction of the BMP is represented in cell C10. This is calculated in Form 6 Other Items. [Under the Prior Agreement, BCWS paid for the electricity at The SMaRT Station and is reimbursed through the BMP.]

4) SB 1383 High Diversion Reporting is new requirement. BCWS will need to hire an additional part time office staff employee to enter all the data found from the sampling and create useful reports to deliver to the City. This employee cost is calculated in cell C11, and represents 520 hours a year or 1/4th of an office employee.

5) Assumed initial incoming tonnages of material delivered to the SMaRT Station are reduced from the Prior Agreement to reflect that Palo Alto is no longer a Partner and Mountain View is not delivering organic materials and C&D. As a result, there is a reduction in the number of sorters needed to sort this material. This results in a reduction in the BMP as represented in cell C12. This is calculated on Form 4 Labor Increase.

6) The reduced amount of delivered material as noted in Item 5 reduces the number of trips to the landfill. This reduction in landfill trips reduces the driver labor, the maintenance on the equipment, and the costs to operate the equipment. This reduction of the BMP is represented in cell C13. This is calculated on Form 4 Labor Increase and Form 5 Transport Option.

7) BCWS will continue to use the existing rolling stock equipment and not purchase new equipment until they reach their end of life. The schedule to purchase new equipment is shown on Form 7 rows 236 thru 300. All existing rolling stock continuing in service from the Prior Agreement is considered fully depreciated upon commencement of the Agreement, and hence is not included in the Form 7 depreciation schedule. The BMP is decreased by the entire current depreciation schedule. This reduction is represented in cell C14. It is calculated in cell L315 in Form 7 Depreciation. [BCWS has provided the City an accounting of the fully depreciated equipment that is continuing in service.]

8) The City pays 100% of the negative value commodities. Under the Prior Agreement, BCWS paid for all negative value commodities and was reimbursed through the BMP, and directly through monthly invoices to the City. The reduction in the prior reimbursement of the negative value commodities is represented as a reduction in cell C15. It is calculated in Form 3 Baseline Data Cell S51.

As provided in Section 5.2 of the Agreement, the BMP is adjusted as follows:

1) Cell C16 represents the starting BMP effective January 2022. The BMP will be each July 1, beginning July 2022 to reflect then-current depreciation and CPI adjustment for costs other than labor and depreciation. The BMP will be increased each January 1, beginning with January 2023, for direct labor rate increases as specified in the collective bargaining agreements. The two increases are shown in rows 24 thru 26 . All adjustments beyond the amounts shown for January 2022 are estimates based on 3% annual adjustments to CPI year over year .
2) Rows 30 thru 40 Show the current and future BAP based on a 3% CPI and the percentage change year over year .
3) Rows 45 thru 50 compare the current BMP and other sources of revenue for BCWS to the initial BMP in 2022 and other sources of revenue for BCWS in 2022. Public Haul and Recycling Revenue are decreasing because of the loss of Palo Alto's material.
4) Rows 52 thru 54 show the positive value floor and ceiling for all the positive value commodities sold during the month . The floor and ceiling values are adjusted annually by CPI beginning in January 2023 (see discussion of Form 8). [As a side note, from July thru September 2021 the average positive value commodities sold per month was $631,603. With the current agreement BCWS receives 75% of this and the partner cities get 25%. This means that the partner cities have been getting $157,901 each month on average, but assuming the current prices stay constant, under the new agreement the partner cities would have received $234,103 per month on average.]

Form 3 – Baseline Data

Rows 5 thru 25 are actual and projected inbound and outbound tonnages received at the SMaRT Station. Debi Sargent forecasted the future inbound and outbound tonnages numbers based on the loss of certain material, and an additional 10% reduction of material due to COVID-19 for the remainder of FY 21/22 (1/1/2022 – 6/30/2022). The tonnage figures increase starting at the beginning of FY 2022-23 with the forecasted increase due to businesses being back to full capacity.
Rows 27 thru 52 are the actual and projected revenue and expenses from materials diverted from the landfill. The forecasted numbers use actual revenue and expenses from FY 2020-21 and decrease by the same percentage as the forecasted decrease in tonnage of the certain inbound stream where the material is diverted from.

Form 4 – Labor Increase

Column F shows the current fully loaded compensation for labor included in the BAP. Column M shows the fully loaded compensation for the new staffing levels starting for 2022 assuming a 3% CPI increase. Column O is the forecasted rate for 2023 assuming a 3% CPI. The increases year over year use the exact increase calculated in the CBA's assuming a 3% CPI increase. For all the benefits it was assumed that there is a 5% increase year over year, which is what BCWS historically sees.

Form 5 – Transport Option

In the Inbound Transportation table columns E thru H show actual numbers of loads to the landfill and the costs associated with taking that material to the landfill. Column I is the forecasted cost of hauling the reduced MSW in 2022. Column J shows the 2022 forecasted cost of hauling the MSW to the landfill and MRF Fines to ZBEST. Column K shows the 2022 forecasted cost of hauling the MSW to the landfill and MRF Fines and Yard Trimmings to ZBEST.
The Average Cost per Load for 2021 (Cell H30) states the cost per load is high because the compactor was down for 6 months and the drivers were working 20 hours a week of overtime.
Rows 33 and 34 show the added cost of transporting the organics.

Columns M thru U show the historical and forecasted costs of using 3rd party companies to transport organics to ZBEST.

Form 6 – Other Items

At the close of the Prior Agreement, BCWS had $1,060,213 left to depreciate for items purchased throughout the life of the current contract. BCWS will be writing off all the current depreciation at the end of 2021. The City will have fully paid for some of those items through the BMP by the end of 2021 even though they are still being depreciated by BCWS. The capitol cost of the MRF, Greenwaste, and Topload retrofit were given to the city at the time of their completion. The city took the total capital cost and divided it by the months left on our contract and increased the BMP by that amount so that the capital cost was fully reimbursed by the end of the contract. Specifically:
1) The MRF, Greenwaste, and Topload Retrofit were fully reimbursed through the BAP, even though BCWS still has depreciation left on the book. This is represented in the table highlighted MRF, Greenwaste, and Topload Retrofit.

2) BCWS considered all other Miscellaneous Items purchased during the Prior Agreement to have been fully paid for in the BAP. This is represented in the table Miscellaneous Items.
3) There are 2 items that were purchased by BCWS in the middle of the current contract that will not be fully reimbursed by the end of 2021 through the BAP, but BCWS will write off the depreciation of these items at the end of 2021. The Food Pre-Processing Equipment table and the MRF Fines Trailers table show those items. BCWS will be writing off $538,630 at the end of 2021 for these items.
The City pays the full cost of electricity. BCWS was responsible for this cost under the Prior Agreement. Columns F thru H show the historic cost of electricity as billed by PG&E, and provides the calculation for reducing the BAP beginning January 2022.

Form 7 – Depreciation

Rows 9 thru 233 show our current depreciation schedule that will be ending December 31st, 2021. Rows 236 thru 300 show our forecasted purchases starting in 2022.The Depreciation schedule will be revised to reflect actual purchases as provided in Section 5.2 of the Agreement.

Form 8 – Positive Value Floor and Ceiling True-up Calculations

The positive value floor and ceiling will be adjusted by CPI each year which is represented in Rows 2 thru 4.
Rows 7 thru 15 show monthly examples of diversion percentage and total positive value commodities revenue and the share. Columns O thru Q show how the True-up would be calculated . Column O is a total of what was actually shared throughout the year. Column P shows what the share would have been if it was calculated yearly instead on monthly. Column Q shows the difference between the monthly and yearly calculations and in cell Q16 the difference is shown.

Form 2 - Average Monthly Compensation

Note: The first table summarizes the changes to the current Basic Annual Payment (shown monthly) in the categories shown below. Please provide all costs in **MONTHLY** amount. The second table compares the current to the new Basic Annual Payment (shown monthly) net of adjustments.

Initial Basic Monthly Payment		
Component	New Basic Annual Payment Calculation	*Notes*
Current Basic Monthly Payment	$ 1,254,160.40	
Impact of 2022 Labor Agreements (Increase)*	$ 200,259.60	
BCWS Transports MRF Fines & Green Waste	$ 29,320.28	
City Pays for Electricity (Savings)	$ (36,416.21)	
1383 High Diversion Reporting	$ 3,078.40	
Reduced Tonnage to Process (Savings)**	$ (11,680.93)	*Refer to Instruction Note #5*
Reduced Tonnage to Transport (Savings)**	$ (15,587.31)	*Refer to Instruction Note #5*
Used Vehicles & Equipment (Savings)	$ (103,868.06)	*Refer to Instruction Note #6*
City Pays For Recycling of All Negative Value Commodities (Savings)	$ (133,431.05)	*Refer to Instruction Note #7*
New Basic Monthly Payment (January 2022)	**$ 1,185,835.11**	*Subject to further negotiation*

Ongoing Basic Monthly Payment		3% Assumed CPI Increase on everything excluding labor						
Component	1/1/2022 to 6/30/2022 Monthly Payment	7/1/2022 to 12/31/2022 Monthly Payment	1/1/2023 to 6/30/2023 Monthly Payment	7/1/2023 to 12/31/2023 Monthly Payment	1/1/2024 to 6/30/2024 Monthly Payment	7/1/2024 to 12/31/2024 Monthly Payment	1/1/2025 to 6/30/2025 Monthly Payment	7/1/2025 to 12/31/2025 Monthly Payment
Labor Portion of the Basic Monthly Payment	**$ 961,564.67**	**$ 961,564.67**	**$ 961,564.67**	**$ 1,014,445.41**	**$ 1,014,445.41**	**$ 1,070,513.33**	**$ 1,070,513.33**	**$ 1,129,633.13**
Depreciation 10 Year Straight Line (7.5 year Contract)	**$ -**	**$ -**	**$ 24,040.73**	**$ 24,040.73**	**$ 24,040.73**	**$ 24,040.73**	**$ 24,040.73**	**$ 24,040.73**
All other items in Basic Monthly Payment	**$ 224,270.43**	**$ 224,270.43**	**$ 230,998.55**	**$ 230,998.55**	**$ 237,928.50**	**$ 237,928.50**	**$ 245,066.36**	**$ 245,066.36**
Estimated Yearly Increases								
Labor	**$ -**	**$ -**	**$ 52,880.74**	**$ -**	**$ 56,067.92**	**$ -**	**$ 59,119.80**	**$ -**
Depreciation 10 Year Straight Line (7.5 year Contract)	**$ -**	**$ 24,040.73**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 33,505.70**
CPI on everything but Labor & Depreciation	**$ -**	**$ 6,728.11**	**$ -**	**$ 6,929.96**	**$ -**	**$ 7,137.86**	**$ -**	**$ 7,351.99**
Basic Monthly Payment	**$ 1,185,835.11**	**$ 1,216,603.95**	**$ 1,269,484.69**	**$ 1,276,414.65**	**$ 1,332,482.57**	**$ 1,339,620.42**	**$ 1,398,740.22**	**$ 1,439,597.91**
Stranded Assets at the end of the Contract								

Form 2 - Average Monthly Compensation

Ongoing Basic Monthly Payment	1/1/2026 to 6/30/2026 Monthly Payment	7/1/2026 to 12/31/2026 Monthly Payment	1/1/2027 to 6/30/2027 Monthly Payment	7/1/2027 to 12/31/2027 Monthly Payment	1/1/2028 to 6/30/2028 Monthly Payment	7/1/2028 to 12/31/2028 Monthly Payment	1/1/2029 to 6/30/2029 Monthly Payment	End of Contract
Component	$ 1,129,633.13	$ 1,192,332.29	$ 1,192,332.29	$ 1,245,200.51	$ 1,245,200.51	$ 1,304,249.82	$ 1,304,249.82	
Labor Portion of the Basic Monthly Payment	$ 57,546.43	$ 57,546.43	$ 57,546.43	$ 57,546.43	$ 57,546.43	$ 57,546.43	$ 57,546.43	
Depreciation 10 Year Straight Line (7.5 year Contract)	$ 252,418.35	$ 252,418.35	$ 259,990.90	$ 259,990.90	$ 267,790.63	$ 267,790.63	$ 275,824.34	
All other items in Basic Monthly Payment								
Estimated Yearly Increases	$ 62,699.16	$ -	$ 52,868.23	$ -	$ 59,049.30	$ -	$ 61,857.29	
Labor	$ -	$ -	$ -	$ -	$ -	$ -	$ -	
Depreciation 10 Year Straight Line	$ -	$ 7,572.55	$ -	$ 7,799.73	$ -	$ 8,033.72	$ -	
CPI on everything but Labor & Depreciation	$ 1,502,297.07	$ 1,509,869.62	$ 1,562,737.85	$ 1,570,537.57	$ 1,629,586.88	$ 1,637,620.60	$ 1,699,477.88	
Basic Monthly Payment								$ 3,277,876.84
Stranded Assets at the end of the Contract								

Form 2 - Average Monthly Compensation

Fiscal Year	Basic Annual Payment	
FY 20/21	$ 14,765,727.99	
FY 21/22 Old Contract	$ 7,524,962.40	1.92%
FY 21/22 New Contract	$ 7,115,010.64	-5.45%
FY 22/23	$ 14,916,531.85	4.82%
FY 23/24	$ 15,653,383.28	4.94%
FY 24/25	$ 16,430,163.83	4.96%
FY 25/26	$ 17,651,369.87	7.43%
FY 26/27	$ 18,435,644.81	4.44%
FY 27/28	$ 19,200,746.70	4.15%
FY 28/29	$ 20,022,590.87	4.28%

* Show only the labor impact for calendar year 2022. Do not "frontload" the full impact of future labor rate increases. Increases after 2022 will be addressed in the annual adjustment process.
**Loss of Palo Alto MSW and Public Haul / Mountain View C&D, Mixed Organics, and Commercial Single Stream.

Total Average Monthly Compensation					
Component	Current	Jan-22	$ Change	% Change	
Basic Monthly Payment	$ 1,254,160.40	$ 1,185,835.11	$ (68,325.29)	-5%	
Gate Fees For Public Haul Waste	$ 46,017	$ 41,049	$ (4,967.91)	-11%	*Impacted by loss of Palo Alto tons*
Positive Value Recyclables Revenue Share (75%)	$ 379,518	$ 362,418	$ (17,100.26)	-5%	
Total Average Monthly Compensation	$ 1,679,695.45	$ 1,589,301.99	$ (90,393.47)	-5%	

	2021-22 FY	2022-23 FY	2023-24 FY	2024-25 FY	2025-26 FY	2026-27 FY	2027-28 FY	2028-29 FY
Positive Value Floor (Total Monthly Recycling Revenue Floor)	$ 480,000.00	$ 494,400.00	$ 509,232.00	$ 524,508.96	$ 540,244.23	$ 556,451.56	$ 573,145.10	$ 590,339.46
Positive Value Ceiling	$ 530,000.00	$ 545,900.00	$ 562,277.00	$ 579,145.31	$ 596,519.67	$ 614,415.26	$ 632,847.72	$ 651,833.15

Form 3 - Baseline Data

Baseline Tonnages as Delivered

	Fiscal Year 20/21 (Old Contract)			
	Sunnyvale	*Mountain View*	*Palo Alto*	*TOTAL 20/21*
MSW	*62,498.02*	*35,062.41*	*21,273.17*	*118,833.60*
REC Dual Stream	*9,633.30*	*5,513.62*	-	*15,146.92*
Commercial Recyclables	*3,637.33*	*3,230.96*	-	*6,868.29*
Food Waste	*5,878.70*	-	-	*5,878.70*
Clean Green	*13,644.91*	*691.45*	*1,306.49*	*15,642.85*
Mixed Organics	-	*7,846.11*	-	*7,846.11*
Public Haul	*17,893.90*	*2,664.70*	*2,381.05*	*22,939.65*
C&D	*16,335.61*	*13,575.55*	*21.36*	*29,932.52*
Loose Roll-Off	*3,653.78*	*723.91*	*2,107.56*	*6,485.25*
City SV - Dirt	-	-	-	-
SSWR Rock Boxes	-	-	-	-
SV Extra Dump	*3,183.16*	-	-	*3,183.16*
Hospital	-	-	-	-
Total	**136,358.71**	**69,308.71**	**27,089.63**	**232,757.05**

Baseline Tonnage Outbound

	Fiscal Year 20/21 (Old Contract)			
	Sunnyvale	*Mountain View*	*Palo Alto*	*TOTAL 20/21*
Material to landfill				*125,162.69*

Baseline Revenues - Both Positive and Negative Revenues

	Fiscal Year 20/21 (Old Contract)		
	BCWS	*Partner Cities*	*TOTAL 20/21*
Positive Revenue Public Haul	*66132.39401*		
Public Haul Revenue	*$ 552,205*	*$ 1,700,958*	*$ 2,253,163*
Positive Commodities Sales			
Positive Commodity Revenue	*$ 4,597,142*	*$ 1,475,145*	*$ 6,072,287*
Negative Commodities*			
Negative Value Commodities			*$ -*
MRF Fines	*$ (659,752)*	*$ (1,586,442)*	*$ (2,246,194)*
MRF Fines Transportation	*$ (91,142)*	*$ (236,172)*	*$ (327,315)*
Clean Green	*$ (348,819)*	*$ (116,273)*	*$ (465,092)*
Clean Green Transport	*$ (143,462)*	*$ (47,821)*	*$ (191,283)*
Brick	*$ (12,941)*	*$ (4,314)*	*$ (17,254)*
Dirt	*$ (141,933)*	*$ (47,311)*	*$ (189,244)*
Tires	*$ (6,552)*	*$ (2,184)*	*$ (8,736)*
Tree Trunks and Roots	*$ (12,656)*	*$ (4,219)*	*$ (16,875)*
Concrete	*$ (29,762)*	*$ (9,921)*	*$ (39,683)*
Wood	*$ (63,758)*	*$ (21,253)*	*$ (85,011)*
Glass (Mix)	*$ (129,697)*	*$ (43,232)*	*$ (172,930)*
Mixed Organics	*$ (195,302)*	*$ (265,252)*	*$ (460,554)*
Mixed Organics Transport	*$ (78,830)*	*$ (38,831)*	*$ (117,661)*
Total Negative Value Commodities	*$ (1,914,607)*	*$ (2,423,225)*	*$ (4,337,832)*
Organics Transportation Cost	*$ (313,434)*	*$ (322,824)*	*$ (636,259)*
Total Negative Value Commodities (not including Organics Transport)	*$ (1,601,173)*	*$ (2,100,401)*	*$ (3,701,573)*
Total	**$ 3,234,740**	**$ 752,878**	**$ 3,987,618**

* Include processing fees and 3rd party transportation cost. Do not include the cost of transportation provided by BCWS drivers since this is addressed in Form 5.

Form 3 - Baseline Data

Baseline Tonnages as Delivered

Fiscal Year 21/22 Projected (Old Contract)				Fiscal Year 21/22 Projected (New Contract)			Fiscal Year 22/23 Projected (New Contract)		
Sunnyvale	*Mountain View*	*Palo Alto*	*TOTAL 7/1/2021 - 12/31/2021*	*Sunnyvale*	*Mountain View*	*TOTAL 1/1/2022 - 6/30/22*	*Sunnyvale*	*Mountain View*	*TOTAL 22/23*
31,249.01	17,531.20	10,636.59	*59,416.80*	32,752.62	19,840.83	*52,593.44*	72,783.59	44,090.73	*116,874.32*
4,816.65	2,756.81	-	*7,573.46*	4,539.13	2,625.55	*7,164.68*	10,086.96	5,834.56	*15,921.52*
1,818.67	1,615.48	-	*3,434.15*	1,919.52	[redacted]	*1,919.52*	4,265.59	[redacted]	*4,265.59*
2,939.35	-	-	*2,939.35*	3,460.50	-	*3,460.50*	7,690.01	-	*7,690.01*
6,822.46	345.73	653.25	*7,821.43*	6,390.49	592.11	*6,982.60*	14,201.08	1,315.81	*15,516.89*
-	3,923.06	-	*3,923.06*	-	[redacted]	-	-	[redacted]	-
8,946.95	1,332.35	1,190.53	*11,469.83*	7,028.53	1,065.12	*8,093.66*	15,618.96	2,366.94	*17,985.90*
8,167.80	6,787.77	10.68	*14,966.26*	5,939.32	[redacted]	*5,939.32*	13,198.49	[redacted]	*13,198.49*
1,826.89	361.96	1,053.78	*3,242.63*	4,039.72	-	*4,039.72*	8,977.16	-	*8,977.16*
-	-	-	-	1,310.04	-	*1,310.04*	2,911.19	-	*2,911.19*
-	-	-	-	141.31	-	*141.31*	314.02	-	*314.02*
1,591.58	-	-	*1,591.58*	1,253.43	-	*1,253.43*	2,785.39	-	*2,785.39*
-	-	-	-	-	459.00	*459.00*	-	1,020.00	*1,020.00*
68,179.35	**34,654.35**	**13,544.82**	**116,378.52**	**68,774.60**	**24,582.62**	**93,357.22**	**152,832.44**	**54,628.04**	**207,460.48**

Baseline Tonnage Outbound

Fiscal Year 21/22 Projected (Old Contract)				Fiscal Year 21/22 Projected (New Contract)			Fiscal Year 22/23 Projected (New Contract)		
Sunnyvale	*Mountain View*	*Palo Alto*	*TOTAL 7/1/2021 - 12/31/2021*	*Sunnyvale*	*Mountain View*	*TOTAL 1/1/2022 - 6/30/22*	*Sunnyvale*	*Mountain View*	*TOTAL 22/23*
			62,581.35			*57,635.94*			*115,271.88*

Baseline Revenues - Both Positive and Negative Revenues

Fiscal Year 21/22 Projected (Old Contract)			Fiscal Year 21/22 Projected (New Contract)			Fiscal Year 22/23 Projected		
BCWS	*Partner Cities*	*TOTAL 7/1/2021 - 12/31/2021*	*BCWS*	*Partner Cities*	*TOTAL 1/1/2022 - 6/30/22*	*BCWS*	*Partner Cities*	*TOTAL 22/23*
$ 276,103	$ 850,479	*$ 1,126,582*	$ 246,295	$ 758,663	*$ 1,004,958*	$ 487,482	$ 1,685,912	*$ 2,173,394*
$ 2,298,571	$ 737,573	*$ 3,036,143*	$ 2,174,506	$ 697,762	*$ 2,872,268*	$ 4,832,236	$ 1,550,583	*$ 6,382,818*
$ -	$ -	*$ -*	$ -	$ -	*$ -*	$ -	$ -	*$ -*
$ (329,876)	$ (793,221)	*$ (1,123,097)*	$ -	$ (1,023,946)	*$ (1,023,946)*	$ -	$ (2,275,435)	*$ (2,275,435)*
$ (45,571)	$ (118,086)	*$ (163,657)*	$ -	$ -		$ -	$ -	*$ -*
$ (174,409)	$ (58,137)	*$ (232,546)*	$ -	$ (213,834)	*$ (213,834)*	$ -	$ (475,187)	*$ (475,187)*
$ (71,731)	$ (23,910)	*$ (95,642)*	$ -	$ -		$ -	$ -	*$ -*
$ (6,470)	$ (2,157)	*$ (8,627)*	$ -	$ (3,526)	*$ (3,526)*	$ -	$ (7,836)	*$ (7,836)*
$ (70,967)	$ (23,656)	*$ (94,622)*	$ -	$ (38,677)		$ -	$ (85,949)	*$ (85,949)*
$ (3,276)	$ (1,092)	*$ (4,368)*	$ -	$ (1,785)		$ -	$ (3,968)	*$ (3,968)*
$ (6,328)	$ (2,109)	*$ (8,437)*	$ -	$ (7,758)		$ -	$ (17,241)	*$ (17,241)*
$ (14,881)	$ (4,960)	*$ (19,841)*	$ -	$ (8,110)		$ -	$ (18,023)	*$ (18,023)*
$ (31,879)	$ (10,626)	*$ (42,506)*	$ -	$ (17,374)		$ -	$ (38,609)	*$ (38,609)*
$ (64,849)	$ (21,616)	*$ (86,465)*	$ -	$ (79,444)	*$ (79,444)*	$ -	$ (176,543)	*$ (176,543)*
$ (97,651)	$ (132,626)	*$ (230,277)*	$ -	$ -	*$ -*	$ -	$ -	*$ -*
$ (39,415)	$ (19,416)	*$ (58,830)*	$ -	$ -	*$ -*	$ -	$ -	*$ -*
$ (957,304)	$ (1,211,612)	*$ (2,168,916)*	$ -	$ (1,394,456)	*$ (1,394,456)*	$ -	$ (3,098,791)	*$ (3,098,791)*
$ (156,717)	$ (161,412)	*$ (318,129)*				$ -	$ -	
$ (800,586)	$ (1,050,200)	*$ (1,850,787)*	$ -	$ (1,394,456)		$ -	$ (3,098,791)	
$ 1,617,370	**$ 376,439**	**$ 1,993,809**	**$ 2,420,801**	**$ 61,969**	**$ 2,482,770**	**$ 5,319,718**	**$ 137,703**	**$ 5,457,421**

Form 4 - Staffing and Labor Increases

Calendar Years

***Drivers for Transportation of MSW, MRF Fines and Yard Trimming should be proposed in Form 4 assuming Organics Transportation is brought all inhouse. However, these positions may change if the City decides to keep Organics transport with a 3rd Party.**

	Annual Compensation - Fully Loaded (2021)	Proposed Staffing - 2022			Hourly Wage Rate	Hourly Benefit Rate	Annual Compensation - Fully Loaded (2022 estimates)	Increase (2023)%	Annual Salary (2023 estimates)
	(All Employees)	# of Employees (Contractor)	# of Weekend Employees (Contractor)	# of Employees (Subcontractor)	(All Employees)	(All Employees)	(All Employees)	As stated in the CBA	(All Employees)
Office								5.0%	
Facility Manager	$ 198,887	1			$ 85.00	$ 33.94	$ 247,395		$ 256,229
Operations Manager	$ 198,887	1			$ 85.00	$ 33.94	$ 247,395		$ 256,229
Officer	$ 196,626	4			$ 21.00	$ 4.06	$ 208,499		$ 215,430
Safety & Compliance Manager	$ 137,995	1			$ 39.84	$ 31.20	$ 147,763		$ 153,494
Accountant	$ 320,253	2.75			$ 39.84	$ 31.20	$ 406,349		$ 422,109
HR/Administration Coordinator	$ 32,369	0.33			$ 42.30	$ 8.55	$ 34,903		$ 36,068
Controller	$ 55,568	0.33			$ 73.33	$ 14.02	$ 59,957		$ 61,948
Accounting Clerk	$ 50,000	0		0.5	$ 48.08	$ -	$ 50,000		$ 51,500
Office Clerk/Receptionist	$ 125,348	1			$ 35.77	$ 28.73	$ 134,160		$ 139,380
Other (Utility)	$ 23,191	0.25			$ 37.96	$ 10.12	$ 25,002		$ 25,857
MSW Processing									
Supervisor	$ 208,372	2			$ 29.41	$ 24.08	$ 222,518		$ 231,197
Forklift Operator	$ 95,952	1			$ 31.56	$ 27.75	$ 123,365	3%	$ 128,220
Baler Operator	$ 95,952	1			$ 31.56	$ 27.75	$ 123,365	3%	$ 128,220
Lead Sorters	$ 159,964	2			$ 24.37	$ 22.55	$ 195,187	8%	$ 207,988
Sorters	$ 2,545,133	30			$ 22.15	$ 21.78	$ 2,741,232	8%	$ 2,919,758
Other (Lead Cleaning Crew/part time sorters)	$ 76,106	1			$ 24.87	$ 22.55	$ 98,634	8%	$ 105,117
Other (Cleaning Crew/part time sorters)	$ 568,618	7			$ 22.65	$ 21.95	$ 649,376	8%	$ 691,738
Transfer Operations &Yard/Woodwaste Operations									
Manager	$ 146,671	1			$ 45.19	$ 30.36	$ 157,144		$ 163,121
Tipping Floor Supervisor	$ -	0			$ -	$ -	$ -		$ -
Operators 2 (Loader, Excavator, Sweeper, Roll-Off)	$ 667,789	5	0.62		$ 33.85	$ 28.55	$ 729,431	3%	$ 757,989
Forklift Operators	$ 107,466	1	0.12		$ 31.56	$ 27.75	$ 138,169	3%	$ 143,607
Compactor Operator	$ 95,952	1			$ 31.56	$ 27.75	$ 123,365	3%	$ 128,220
Wood Grinder Operator	$ 95,952	0.5			$ 31.56	$ 27.75	$ 61,682	3%	$ 64,110
Food Scraps Operator	$ 95,952	1			$ 31.56	$ 27.75	$ 123,365	3%	$ 128,220
Lead Floor Sorters (Tipping Floor)	$ 92,779	1	0.16		$ 24.37	$ 22.55	$ 113,209	8%	$ 120,633
Transfer Drivers (MSW)*	$ 983,882	5.25			$ 44.35	$ 53.75	$ 1,071,252	6%	$ 1,133,106
Transfer Drivers (MRF Fines and Yard Trimmings)*	Outside "	2.75			$ 44.35	$ 53.75	$ 561,132	6%	$ 593,532
Floor Sorters (Tipping Floor)	$ 690,180	6	1.22		$ 22.15	$ 21.78	$ 659,723	8%	$ 702,689
Scale Operations									
Scale Master	$ 379,444	3	0.66		$ 35.15	$ 29.00	$ 488,361	3%	$ 507,427
Buy Back Attendant	$ 66,904	0.25	0.5		$ 28.43	$ 26.66	$ 85,940	3%	$ 89,350
Lead Buy Back Attendant	$ 95,330	1			$ 31.27	$ 27.65	$ 122,554	3%	$ 127,380
Maintenance									
Manager	$ 213,455	1.34			$ 50.03	$ 32.29	$ 229,442		$ 238,126
Lead Mechanic	$ 138,469	1			$ 47.58	$ 41.09	$ 184,434	3%	$ 191,676
Mechanic	$ 606,609	5			$ 43.25	$ 38.88	$ 854,152	3%	$ 887,864
Assistant Mechanics	$ 117,282	1			$ 38.68	$ 36.55	$ 156,478	3%	$ 162,693
Other (Rolling Stock)	$ 287,333	2			$ 49.51	$ 42.08	$ 381,014	3%	$ 395,946
Source Separated Recyclables Processing									
Lead Sorter(s)	$ 79,982	1			$ 24.37	$ 22.55	$ 97,594	8%	$ 103,994
Sorters	$ 1,122,853	14			$ 22.15	$ 21.78	$ 1,279,242	8%	$ 1,362,554
Forklift/Baler Operator	$ 191,904	2			$ 31.56	$ 27.75	$ 246,730	3%	$ 256,440
Operators 2 (Loader)	$ 100,875	1			$ 33.85	$ 28.55	$ 129,792	3%	$ 134,873
Other (Curbside Supervisor))	$ 104,186	1			$ 29.41	$ 24.08	$ 111,259		$ 115,599
TOTAL UNION LABOR	**$ 9,558,660**	**113.75**	**3.28**	**0.5**	**$ 32.24**	**$ 29.93**	**$ 11,538,776**		**$ 12,173,345**

Prior Year Labor Costs	$ 9,558,660	$ 11,538,776
Change in Labor Costs	$ 1,980,116	$ 634,569
	20.72%	5.50%

Form 4 - Staffing and Labor Increases

Increase (2024)%	Annual Salary (2024 estimates)	Increase (2025)%	Annual Salary (2025 estimates)	Increase (2026)%	Annual Salary (2026 estimates)	Increase (2027)%	Annual Salary (2027 estimates)	Increase (2028)%	Annual Salary (2028 estimates)	Increase (2029)%	Annual Salary (2029 estimates)
As stated in the CBA	(All Employees)	As stated in the CBA	(All Employees)	As stated in the CBA	(All Employees)	Estimated (4.5% Cap for Union, 3% Cap for Non-Union)	(All Employees)	Estimated (4.5% Cap for Union, 3% Cap for Non-Union)	(All Employees)	Estimated (4.5% Cap for Union, 3% Cap for Non-Union)	(All Employees)
5.0%		5.0%		5.0%		5.0%		5.0%		5.0%	
	$ 265,398		$ 274,917		$ 284,799		$ 295,059		$ 305,713		$ 316,776
	$ 265,398		$ 274,917		$ 284,799		$ 295,059		$ 305,713		$ 256,229
	$ 222,602		$ 230,025		$ 237,708		$ 245,660		$ 253,892		$ 215,430
	$ 159,462		$ 165,676		$ 172,149		$ 178,891		$ 185,915		$ 153,494
	$ 438,520		$ 455,610		$ 473,410		$ 491,951		$ 511,265		$ 422,109
	$ 37,273		$ 38,521		$ 39,812		$ 41,149		$ 42,534		$ 36,068
	$ 64,009		$ 66,141		$ 68,348		$ 70,633		$ 72,997		$ 61,948
	$ 53,045		$ 54,636		$ 56,276		$ 57,964		$ 59,703		$ 51,500
	$ 144,816		$ 150,478		$ 156,376		$ 162,520		$ 168,921		$ 139,380
	$ 26,743		$ 27,661		$ 28,613		$ 29,599		$ 30,622		$ 25,857
	$ 240,237		$ 249,653		$ 259,462		$ 269,681		$ 280,328		$ 231,197
3%	$ 133,279	3%	$ 138,550	3%	$ 144,043	4.5%	$ 150,876	4.5%	$ 158,033	4.5%	$ 165,532
3%	$ 133,279	3%	$ 138,550	3%	$ 144,043	4.5%	$ 150,876	4.5%	$ 158,033	4.5%	$ 165,532
8%	$ 221,672	8%	$ 236,303	8%	$ 251,949	4.5%	$ 263,857	4.5%	$ 276,330	4.5%	$ 289,393
8%	$ 3,110,528	8%	$ 3,314,419	8%	$ 3,532,374	4.5%	$ 3,699,591	4.5%	$ 3,874,745	4.5%	$ 4,058,215
8%	$ 112,049	8%	$ 119,462	8%	$ 127,390	4.5%	$ 133,407	4.5%	$ 139,710	4.5%	$ 146,311
8%	$ 737,010	8%	$ 785,401	8%	$ 837,134	4.5%	$ 876,747	4.5%	$ 918,240	4.5%	$ 961,702
	$ 169,341		$ 175,814		$ 182,550		$ 189,562		$ 196,861		$ 163,121
	$ -		$ -		$ -		$ -		$ -		$ -
3%	$ 787,737	3%	$ 818,728	3%	$ 851,017	4.5%	$ 891,341	4.5%	$ 933,581	4.5%	$ 977,828
3%	$ 149,272	3%	$ 155,176	3%	$ 161,328	4.5%	$ 168,981	4.5%	$ 176,997	4.5%	$ 185,395
3%	$ 133,279	3%	$ 138,550	3%	$ 144,043	4.5%	$ 150,876	4.5%	$ 158,033	4.5%	$ 165,532
3%	$ 66,639	3%	$ 69,275	3%	$ 72,021	4.5%	$ 75,438	4.5%	$ 79,017	4.5%	$ 82,766
3%	$ 133,279	3%	$ 138,550	3%	$ 144,043	4.5%	$ 150,876	4.5%	$ 158,033	4.5%	$ 165,532
8%	$ 128,570	8%	$ 137,056	8%	$ 146,131	4.5%	$ 153,037	4.5%	$ 160,271	4.5%	$ 167,848
6%	$ 1,198,537	5%	$ 1,265,059	5%	$ 1,335,303	4.5%	$ 1,370,148	4.5%	$ 1,435,551	4.5%	$ 1,504,083
6%	$ 627,805	5%	$ 662,650	5%	$ 699,444	4.5%	$ 717,697	4.5%	$ 751,955	4.5%	$ 787,853
8%	$ 748,600	8%	$ 797,670	8%	$ 850,125	4.5%	$ 890,368	4.5%	$ 932,522	4.5%	$ 976,677
3%	$ 527,286	3%	$ 547,973	3%	$ 569,524	4.5%	$ 596,494	4.5%	$ 624,745	4.5%	$ 654,338
3%	$ 92,904	3%	$ 96,608	3%	$ 100,470	4.5%	$ 105,244	4.5%	$ 110,245	4.5%	$ 115,485
3%	$ 132,410	3%	$ 137,650	3%	$ 143,111	4.5%	$ 149,901	4.5%	$ 157,013	4.5%	$ 164,464
	$ 247,159		$ 256,559		$ 266,339		$ 276,517		$ 287,110		$ 238,126
3%	$ 199,221	3%	$ 207,082	3%	$ 215,273	4.5%	$ 225,480	4.5%	$ 236,172	4.5%	$ 247,373
3%	$ 922,991	3%	$ 959,597	3%	$ 997,746	4.5%	$ 1,045,102	4.5%	$ 1,094,712	4.5%	$ 1,146,684
3%	$ 169,171	3%	$ 175,922	3%	$ 182,960	4.5%	$ 191,655	4.5%	$ 200,765	4.5%	$ 210,308
3%	$ 411,500	3%	$ 427,705	3%	$ 444,589	4.5%	$ 465,660	4.5%	$ 487,732	4.5%	$ 510,852
8%	$ 110,836	8%	$ 118,152	8%	$ 125,975	4.5%	$ 131,929	4.5%	$ 138,165	4.5%	$ 144,696
8%	$ 1,451,580	8%	$ 1,546,729	8%	$ 1,648,441	4.5%	$ 1,726,476	4.5%	$ 1,808,214	4.5%	$ 1,893,834
3%	$ 266,558	3%	$ 277,100	3%	$ 288,086	4.5%	$ 301,751	4.5%	$ 316,067	4.5%	$ 331,063
3%	$ 140,167	3%	$ 145,681	3%	$ 151,426	4.5%	$ 158,602	4.5%	$ 166,118	4.5%	$ 173,991
	$ 120,118		$ 124,826		$ 129,731		$ 134,840		$ 140,164		$ 115,599
	$ 12,846,160		**$ 13,555,598**		**$ 14,307,987**		**$ 14,942,406**		**$ 15,650,998**		**$ 16,393,285**

$ 12,173,345	$ 12,846,160	$ 13,555,598	$ 14,307,987	$ 14,942,406	$ 15,650,998
$ 672,815	$ 709,438	$ 752,390	$ 634,419	$ 708,592	$ 742,287
5.53%	5.52%	5.55%	4.43%	4.74%	4.74%

Form 5 - Change in Transportation Costs

Inhouse Transportation								
		Calendar Year				MSW Inhouse	MSW & Fines Inhouse	MSW & Organic Inhouse
	Material Stream	2018	2019	2020	2021	2022	2022	2022
Operational Statistics								
Number of Trucks (Existing)	MSW	9	9	9	9	9	7	7
	MRF Fines	-	-	-	-	-	2	2
	Yard Trimmings	-	-	-	-	-	-	-
Number of Trucks (New)	MSW					-	-	-
	MRF Fines					-	-	-
	Yard Trimmings					-	-	1
Loads per Year*	MSW	5,931.70	6,667.88	6,281.96	5,441.86	5,012	5,012	5,012
	MRF Fines					-	1,183	1,183
	Yard Trimmings					-	-	675
FTE's	MSW	6	6	6	6	5.25	5.25	5.25
	MRF Fines					-	1.75	1.75
	Yard Trimmings	-	-	-	-	-	-	1.00
Financial Information								
Annual Operating Costs								
	Labor	1,357,713	1,465,945	1,301,290	1,446,431	1,071,252	1,298,687	1,502,326
	Vechile Costs	498,166	529,606	430,156	468,039	431,053	532,841	590,865
	Maintenance	144,222	204,760	170,053	217,870	200,653	248,034	275,044
Annual Depreciation (Existing Trucks)**		248,213	248,213	248,213	248,213	-	-	-
Annual Depreciation (New Trucks)**						-	-	-
Total Annual Cost		$ 2,248,313	$ 2,448,523	$ 2,149,712	$ 2,380,552	$ 1,702,958	$ 2,079,561	$ 2,368,236

**Will be auto-populated from the Baseline Tonnage Schedule.*

***Shall agree to the Annual Depreciation as detailed in Form 7 for Transportation Trucks.*

Average Cost per Load	$ 379.03	$ 367.21	$ 342.20	$ 437.45	$ 339.79	$ 335.67	$ 344.72

	3rd Party Transports Organics	BCWS Transports MRF Fines & 3rd Party Transports Green Waste	BCWS Transports MRF Fines & Green Waste
BCWS Cost of Transportation	-	$ 376,603.33	$ 665,277.78
Monthly Increase to BAP	-	$ 31,383.61	$ 55,439.81

Form 5 - Change in Transportation Costs

3rd Party Transportation								
		Calendar Year				Partial Inhouse	Organic Inhouse	
	Material Stream	2018	2019	2020	2021	2022	2022	
Operational Statistics								
Loads per Week	MSW	-	-	-	-	-	-	
	MRF Fines	20	16	23	27	23	-	
	Yard Trimmings	23	23	22	21	13	-	
Loads per Year	MSW	-	-	-	-	-	-	
	MRF Fines	1,038	843	1,192	1,394	1,183	-	
	Yard Trimmings	1,190	1,174	1,129	1,076	675	-	
Financial Information								
Cost per Load	MSW	$ -	$ -	$ -	$ -	$ -	$ -	
	MRF Fines	409.87	$ 438	$ 404	$ 407	$ 326	$ -	
	Yard Trimmings	$ 288	$ 288	$ 288	$ 288	$ 302	$ -	
Cost per Year	MSW	$ -	$ -	$ -	$ -	$ -	$ -	
	MRF Fines	$ 425,396	$ 369,353	$ 480,930	$ 566,784	$ 385,842	$ -	
	Yard Trimmings	$ 342,128	$ 337,518	$ 324,605	$ 309,386	$ 203,659	$ -	
Total Annual Cost		$ 767,523	$ 706,871	$ 805,535	$ 876,170	$ 589,501	$ -	

Form 5 - Change in Transportation Costs

Additional Calculations & Assumptions	
Average Tons per Load	
MSW	23
MRF Fines	23
Yard Trimmings	23

Cost of New Capital (2022 Trucks)**	MSW	-
	MRF Fines	-
	Yard Trimmings	-
Average Cost per Load - In House 2018		$ 379.03
Average Cost per Load - In House 2019		$ 367.21
Average Cost per Load - In House 2020		$ 342.20
Average Cost per Load - In House 2021		$ 437.45
Average Cost per Load - In House 2022		$ 339.79
Average Cost per Load - 3rd Party 2018		$ 344.51
Average Cost per Load - 3rd Party 2019		$ 350.45
Average Cost per Load - 3rd Party 2020		$ 347.12
Average Cost per Load - 3rd Party 2021		$ 354.72
Average Cost per Load - 3rd Party 2022		$ 317.26

Form 6 - Other Cost Adjustments

Food Pre-Processing Equipment		
Original Capital Cost	$	744,120
Date Purchased		7/2018
Years to Depreciate		7
Years Remaining as of 1/1/2022		3.5
Annual Depreciation	$	106,303
Total Depreciation Remaining	$	372,060

MRF Fines Trailers		
Original Capital Cost	$	411,527
Date Purchased		11/2017
Years to Depreciate		7
Years Remaining as of 1/1/2022		2.833333333
Annual Depreciation	$	58,790
Total Depreciation Remaining	$	166,570

MRF, Greenwaste, and Topload Retrofit		
Original Capital Cost	$	4,236,137
Date Purchased		Between 2015 and 2018
Years to Depreciate		7
Years Remaining as of 1/1/2022		Between 0.25 and 3 years
Total Depreciation Remaining	$	417,391

Miscellaneous Items		
Date Purchased		Between 2015 and 2021
Years to Depreciate		7
Years Remaining as of 1/1/2022		Between 0.08 and 7 years
Total Depreciation Remaining	$	104,192

All Depreciation		
Total Depreciation Remaining	$	1,060,213

Electricity Costs/Savings		
2021 6 Month Costs	$	206,839
Annualized 2021 Costs	$	413,678
2022 Cost Estimate	$	436,995
Monthly charges	$	36,416

Provide details on the change in costs:

Year over year we see a roughly 5.63645% increase in electrtical charges.

Form 7 - Depreciation Schedule for Rolling and New Equipment
July 2017 Through June 2031

Show each vehicle/piece of equipment on a separate line. Show new vehicles/pieces of equipment added during the term of the agreement.

								7/1/21 to 12/31/21	1/1/22 to 6/30/22	DEPRECIATION												
Details	Purchase Date	# Years	Cost	FY17/18	FY18/19	FY19/20	FY20/21	FY21/22	FY21/22	FY22/23	FY23/24	FY24/25	FY25/26	FY26/27	FY27/28	FY28/29	FY29/30	FY30/31	FY31/32	Stranded Asset @ 12/31/28		
SMaRT Current Assets				*Enter calculations for annual depreciation in Columns H through U*																		
SUPPORT VEHICLES				**47,446**	**47,446**	**46,882**	**39,676**	-		-	-	-	-	-	-	-	-	-	-			
2007 Chevrolet Truck - Silverado 150 (#901)	Aug-2007	7	29,039	5,958.27	5,958.27	5,958.26	-	-														13
2014 Chevrolet Truck - Silverado 150 (#902)	May-2014	7	41,708	6,777.31	6,777.31	6,212.54	4,965.20	-														14
Xwind Sweeper Ser#E093-C	Feb-2015	7	242,975	34,710.76	34,710.76	34,710.75	34,710.75			-	-	-	-	-	-	-	-	-	-		15	15
TRACTORS				**149,851**	**149,851**	**149,851**	**149,851**	**74,925**		-	-	-	-	-	-	-	-	-	-			17
2008 Peterbilt three- axel conventional truck- Ser. # 1NPS00X48D757994	Nov-2007	7	149,320	-	-	-	-	-														19
2008 Peterbilt three- axel conventional truck (Used Spare)	Nov-2007	7	109,861	-	-	-	-	-														20
2008 Peterbilt three- axel conventional truck (Used Spare)	Dec-2007	7	109,861	-	-	-	-	-														21
2000 Volvo Rolloff (Used-SSWR) (BCS Veh# 223) - Spare	Feb-2015	7	20,000	2,857.14	2,857.14	2,857.14	2,857.14	1,428.56													22	22
2015 Peterbilt 567 Tractor Ser#1XPCD79X5FD294389 BCS Veh# 311)	Feb-2015	7	146,994	20,999.09	20,999.09	20,999.08	20,999.08	10,499.53													23	23
2015 Peterbilt 567 Tractor Ser#1XPCD79X3FD294388 (BCS Veh# 312)	Feb-2015	7	146,994	20,999.09	20,999.09	20,999.08	20,999.08	10,499.53													24	24
2015 Peterbilt 567 Tractor Ser#1XPCD79X4FD294383 (BCS Veh# 313)	Feb-2015	7	146,994	20,999.09	20,999.09	20,999.08	20,999.08	10,499.53													25	25
2015 Peterbilt 567 Tractor Ser#1XPCD79X8FD294385 (BCS Veh# 314)	Feb-2015	7	146,994	20,999.09	20,999.09	20,999.08	20,999.08	10,499.53													26	26
2015 Peterbilt 567 Tractor Ser#1XPCD79X1FD294387 (BCS Veh# 315)	Feb-2015	7	146,994	20,999.09	20,999.09	20,999.08	20,999.08	10,499.53													27	27
2015 Peterbilt 567 Tractor Ser#1XPCD79XXFD294386 (BCS Veh# 316)	Feb-2015	7	146,994	20,999.09	20,999.09	20,999.08	20,999.08	10,499.53													28	28
2015 Peterbilt 567 Tractor Ser#1XPCD79X6FD294384 (BCS Veh# 317)	Feb-2015	7	146,994	20,999.09	20,999.09	20,999.08	20,999.08	10,499.53													29	29
TRAILERS				**137,277**	**156,873**	**156,873**	**156,873**	**77,942**														31
2008 45 Foot Peerless Refuse Walking Floor Trailer (Used Spare)	Dec-2007	7	84,449	-	-	-	-	-														33
2008 45 Foot Peerless Refuse Walking Floor Trailer (Used Spare)	Dec-2007	7	84,449	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-			34
18' Kwik Trailer-Kept at SSWR (#101)	May-2009	7	5,088	-	-	-	-	-														35
24' Cont Cargo w/ ball hitch-Public Reuse Trailer (#601)	Aug-2014	7	9,061	1,294.47	1,294.46	1,294.46	1,294.46	152.93		-	-	-	-	-	-	-	-	-	-			36
2015 Peerless Walking Floor Trailer (BCS Veh# 11)	Feb-2015	7	96,789	13,827.02	13,827.01	13,827.01	13,827.01	6913.50													37	37
2015 Peerless Walking Floor Trailer (BCS Veh# 12)	Feb-2015	7	96,789	13,827.02	13,827.01	13,827.01	13,827.01	6913.50													38	38
2015 Peerless Walking Floor Trailer (BCS Veh# 13)	Feb-2015	7	96,789	13,827.02	13,827.01	13,827.01	13,827.01	6913.50													39	39
2015 Peerless Walking Floor Trailer (BCS Veh# 14)	Feb-2015	7	96,789	13,827.02	13,827.01	13,827.01	13,827.01	6913.50													40	40
2015 Peerless Walking Floor Trailer (BCS Veh# 15)	Feb-2015	7	96,789	13,827.02	13,827.01	13,827.01	13,827.01	6913.50													41	41
2015 Peerless Walking Floor Trailer (BCS Veh# 16)	Feb-2015	7	96,789	13,827.02	13,827.01	13,827.01	13,827.01	6913.50													42	42
2015 Peerless Walking Floor Trailer (BCS Veh# 17)	Feb-2015	7	96,789	13,827.02	13,827.01	13,827.01	13,827.01	6913.50													43	43
2018 Peerless Refuse Trailer BCS# 01	Nov-2017	7	102,882	9,798.27	14,697.39	14,697.39	14,697.39	7,348.70													44	44
2018 Peerless Refuse Trailer BCS# 02	Nov-2017	7	102,882	9,798.27	14,697.39	14,697.39	14,697.39	7,348.70													45	45
2018 Peerless Refuse Trailer BCS# 03	Nov-2017	7	102,882	9,798.27	14,697.39	14,697.39	14,697.39	7,348.70													46	46
2018 Peerless Refuse Trailer BCS# 04	Nov-2017	7	102,882	9,798.27	14,697.39	14,697.39	14,697.39	7,348.70													47	47
PROCESSING FACILITY & EQUIPMENT				**563,817**	**711,465**	**711,465**	**711,502**	**355,806**														49
Horizontal Wood Grinding System	Mar-2015	**7**	210,224.94	30,032.13	30,032.13	30,032.13	30,032.13	15,016.08													51	51
MRF/Curbside Processing Equipment	May-2015	**7**	3,447,073.48	492,439.05	492,439.05	492,439.05	492,439.05	246,219.59													52	52
Green Waste Autoload	Jan-2018	**7**	578,839.00	41,345.64	82,691.30	82,691.28	82,691.28	41,345.64													53	53
Food Waste Equipment	Jul-2018	**7**	744,120.00	-	106,302.88	106,302.87	106,302.87	53,151.51													54	54
500 lb Scale	Jan-2008	**7**	2,557.25	-	-	-	-	-														55
Rice Lake Model 420	Jan-2008	**7**	2,499.88	-	-	-	-	-														56
150 lb Scale	Apr-2021	**7**	1,027.95	-	-	-	36.72	73.44													57	57
FORKLIFTS				**37,058.16**	**37,058.15**	**39,707.30**	**39,706.26**	**19,852.58**														59
2008 Yale (Used spare) (#01)	Jan-2008	7	39,841.91	-	-	-	-	-														61
2010 Yale (Used spare) (#07)	May-2010	7	1,000.00	-	-	-	-	-														62
2015 CAT LP PNEU 6000LBS Forklift (#02)	Jan-2015	7	42,968.21	6,138.32	6,138.31	6,139.31	6,139.31	3,069.14														63
2015 CAT LP PNEU 6000LBS Forklift (#03)	Jan-2015	7	49,671.56	7,095.94	7,095.94	7,095.94	7,095.92	3,547.92		-	-	-	-	-	-	-	-	-	-			64
2015 CAT LP PNEU 6000LBS Forklift (#04)	Jan-2015	7	49,671.56	7,095.94	7,095.94	7,095.94	7,095.92	3,547.92														65
2015 CAP LP PNEU 8000LBS Forklift (#05)	Jan-2015	7	58,547.88	8,363.98	8,363.98	8,364.98	8,363.98	4,182.00														66
2015 CAP LP PNEU 8000LBS Forklift (#06)	Jan-2015	7	58,547.88	8,363.98	8,363.98	8,364.98	8,363.98	4,182.00		-	-	-	-	-	-	-	-	-	-			67
2015-S570 Bobcat Skid Steer	Jul-2019	7	18,530.00	-	-	2,647.15	2,647.15	1,323.60													68	68
MACHINERY & EQUIPMENT				**150,777.94**	**150,739.92**	**150,739.90**	**150,739.89**	**71,332.09**														70
Generator, 5 KW	Oct-2007	7	1,635.01	-	-	-	-	-														72
Ingersoll 2545 Compressor, 10.0 HP	Oct-2007	7	2,273.26	-	-	-	-	-														73
Big 40 Welder (Millermatic 350 included. $3607.64)	Oct-2007	7	20,951.29	-	-	-	-	-														74
Catepillar 950 (Used) (#06)	Dec-2007	7	300,758.75	-	-	-	-	-														75
Excavator-Caterpillar Model 320D (#05)	Dec-2007	7	215,224.00	-	-	-	-	-														76
Boom Lift -JLG 600SJ Telescopic Boom (#01)	Jan-2008	7	94,469.02	-	-	-	-	-														77
Scissor Lift - JLG 3369LE Scissor Lift (#03)	Jan-2008	7	34,043.44	-	-	-	-	-														78
Transfer Flow System (on Maint. Truck-Geronimo)	Jan-2009	7	1,171.47	-	-	-	-	-														79
Heavy Duty Fleet Charger 6002B	Dec-2010	7	638.47	38.01	-	-	-	-														80
John Deere 544K 4WD Loader (#03)	Dec-2014	7	245,945.13	35,135.02	35,135.02	35,135.02	35,135.01	14,639.58														81
Genie GS-1930 Scissor Lift 19' (#04)	Jan-2015	7	12,506.25	1,786.61	1,786.61	1,786.60	1,786.60	-														82
Ingersoll Air Compressor 2475	Jan-2015	7	3,033.04	433.29	433.29	433.29	433.29															83
John Deere 644K 4WD Loader-(#02)	Feb-2015	7	326,093.88	46,584.84	46,584.84	46,584.84	46,584.84	23,292.42													84	84
John Deere 644K 4WD Loader-(#01)	Feb-2015	7	326,093.88	46,584.84	46,584.84	46,584.84	46,584.84	23,292.42													85	85
John Deere 324K 4WD Loader-(#04)	Mar-2015	7	133,787.99	19,112.57	19,112.57	19,112.57	19,112.57	9,556.27													86	86
Port-A-Cool Jetstream 2400 Portable Evaporative Air Cooler	Jun-2015	7	1,997.00	285.29	285.29	285.28	285.28	142.66													87	87
Port-A-Cooler 36 inch High Performance Portable Evaporative Air Cooler	Jul-2015	7	2,496.50	356.64	356.64	356.64	356.64	178.32													88	88
Port-A-Cooler 48 inch Two-Speed Portable Evaporative Air Cooler	Jul-2015	7	3,225.77	460.83	460.82	460.82	460.82	230.42													89	89
CONTAINERS				**12,490.86**	**13,379.15**	**13,017.74**	**14,121.96**	**7,178.87**														91
22' x 5 Heavy Duty Drop Body Roll Off (3)	Dec-2007	7	12,527.23	-	-	-	-	-														93
22' x 5 Heavy Duty Drop Body Roll Off (6)	Jan-2008	7	25,054.46	-	-	-	-	-														94
4 yd Flat tops with lids and 6" Casters (3)	Jan-2008	7	1,337.97	-	-	-	-	-														95
Expanded Metal ScrapBins with no lids/nocasters	Jan-2008	7	943.94	-	-	-	-	-														96
2 yd Pivot Style Self- Dumping (Woodroom)	Feb-2008	7	2,107.63	-	-	-	-	-														97
Scrap Bins (64"x64"x56") No lids (COLOR - GREEN)-(13)	Jul-2008	7	13,285.57	-	-	-	-	-														98
Scrap Bins (64"x64"x36") No lids/ no casters (COLOR - WHITE)-(3)	Jul-2008	7	3,484.57	-	-	-	-	-														99
1 YD Flat Top-COLOR: GREEN (1)	Jan-2015	7	414.60	59.23	59.23	59.23	59.22	29.59														100
22' x 5 Heavy Duty Drop Body Roll Off - (2)	Jan-2015	7	11,879.80	1,697.11	1,697.11	1,697.11	1,697.11	848.54														101
22' x 5 Heavy Duty Drop Body Roll Off (1)	Jan-2015	7	5,377.66	768.24	768.24	768.23	768.23	384.12														102
22' x 5 Heavy Duty Drop Body Roll Off (2)	Jan-2015	7	10,755.33	1,536.48	1,536.47	1,536.47	1,536.47	768.24														103
22' x 5 Heavy Duty Drop Body Roll Off (2)	Jan-2015	7	10,755.33	1,536.48	1,536.47	1,536.47	1,536.47	768.24														104
22' x 5 Heavy Duty Drop Body Roll Off (2)	Jan-2015	7	10,755.33	1,536.48	1,536.47	1,536.47	1,536.47	768.24														105
18' x 3' Heavy Duty Drop Body Roll Off (1)	Jan-2015	7	4,297.78	613.97	613.97	613.97	613.96	306.96														106
4 yd Flat Tops-COLOR-GREEN (4)	Jan-2015	7	2,584.92	553.91	546.22	461.59	376.96	184.64														107
Scrap Bins (64"x64"x36") No lids/ no casters (COLOR - GREEN)(1)	Jan-2015	7	1,372.68	196.10	196.10	196.09	196.09	98.04														108
Scrap Bins (64"x64"x56") w/Smooth Sides; No lids/ no casters (COLOR - GREEN)(5)	Jan-2015	7	4,574.21	653.46	653.46	653.46	653.45	326.70														109
4 yd Flat Tops-COLOR: BLUE (1)	Jan-2015	7	646.22	461.59	269.26	115.39	92.32	46.15														110
4 yd Flat Tops-COLOR: BLUE (11)	Jan-2015	7	7,087.19	1,012.46	1,012.45	1,012.45	1,012.45	506.22														111
4 yd Flat Tops-COLOR: BLUE (1)	Jan-2015	7	693.17	99.02	99.02	99.02	99.02	49.50														112
6 yd Humpbacks; NO-lids, casters (6)	Jan-2015	7	4,827.01	689.57	689.57	689.57	689.57	344.76														113
6 yd Humpbacks; NO-lids, casters (8)	Jan-2015	7	6,485.80	926.54	926.54	926.54	926.54	463.26														114
4 yd Flat Tops-COLOR: BLUE (1)	Feb-2015	7	1,051.56	150.22	150.22	150.22	150.22	75.12													115	115
6 yd Special Flat Tops-No Lids, Hardware, Casters (COLOR: WHITE) (6)	Oct-2019	7	6,713.32	-	1,088.35	965.46	959.05	479.53													116	116
22' X 6.5' HVY DUTY DROP BODY ROLLOFF W/7 GA FLR (BLUE)-for Recycle Carpets (1)	Sep-2020	7	10,234.02	-	-	-	1,218.36	731.02													117	117
FURNITURE AND FIXTURES				**5,521.04**	**5,449.03**	**4,902.98**	**4,187.06**	**1,901.16**														119
File Cabinet - (HR/AP Office)	Nov-2007	7	723.58	-	-	-	-	-														121
Assorted Office Furniture and Supplies for SMaRT Office	Dec-2007	7	2,850.00	-	-	-	-	-														122
Storage Containers (for Tires/Darin)-(2)	Dec-2007	7	3,000.00	-	-	-	-	-														123
Steel Dock Board	Jan-2008	7	4,001.40	-	-	-	-	-														124
Office Work Stations	Feb-2008	7	6,198.38	-	-	-	-	-														125
Mr. Heater Contractor Series -- ABOVE DARIN'S OFFICE--(NOT USED)	Mar-2011	7	243.72	23.20	-	-	-	-														126
Gas Sniffer	Feb-2012	7	1,358.54	194.08	113.20	-	-	-														127
8' Foot Picnic Table	Mar-2012	7	134.40	19.20	12.80	-	-	-														128
8' Foot Picnic Table (listed as 10ft on acq sheet)	Mar-2012	7	185.60	26.51	17.69	-	-	-														129
TV for Safety Training (Use on Presort Room for camera monitor) -- NOT WORKING@12/19	May-2012	7	202.84	28.98	24.13	-	-	-														130
Used 20' Standard Dry Container / Parts Inventory--MvFr x1530-80 -02/16	Jun-2012	7	2,888.34	412.62	479.94	479.94	479.94	-														131
10 Digium Phones & System (5-D50 & 5-D40 Models)	Aug-2013	7	5,466.81	780.97	780.97	780.97	65.08	-														132
20' Standard Dry Container-Gray # 2S0086-4 (Storage for Office Files)	Sep-2014	7	3,359.57	479.94	378.23	-	-	-														133
Laminated Table Tops (14)	Feb-2015	7	4,120.00	588.57	588.57	588.57	588.57	294.29													134	134
Tempur-Pedic Fabric Chairs (10)	Feb-2015	7	2,446.77	349.54	349.54	349.54	349.53	174.77													135	135
Cast Iron T-Base (for Laminated Table Tops) (2 units)	Apr-2015	7	108.68	15.53	15.52	15.52	15.52	7.76													136	136
Poly Stack Chairs-Cayenne w/ Chrome Frame (Red) - (38)	Apr-2015	7	2,840.88	405.84	405.84	405.84	405.84	202.92													137	137
Poly Stack Chairs-Black w/ Chrome Frame (42)	Apr-2015	7	3,065.28	437.90	437.90	437.90	437.89	218.94													138	138
Lobby Furniture (4 pcs sectional)	Apr-2015	7	2,610.69	372.96	372.95	372.95	372.95	186.48													139	139
20 FT Storage Container, Used (8.5'H x 8'W) with Roll Door (for Parts Inventory)	Oct-2015	7	3,271.94	467.42	467.42	467.42	467.42	233.72													140	140
Lobby Tables (2)	Jun-2016	7	467.60	66.80	66.80	66.80	66.80	33.42													141	141
Lobby - (2) Chairs	Jun-2016	7	450.20	64.32	64.31	64.31	64.31	32.16													142	142
Varidesk - (1) Cubicle Sit / Stand desk w/Monitor arm	Jun-2016	7	641.63	91.66	91.66	91.66	91.66	45.84													143	143
VARIDESK -DESK CONVERTOR (1) for Jeff Dobert desk	Jul-2016	7	538.31	76.90	76.90	76.90	76.90	38.46													144	144
SOLWAVE 1200W STACKABLE MICROWAVES (2)	Jul-2016	7	1,178.00	168.29	168.29	168.29	168.28	84.16													145	145
LG8000 BTU 115V WINDOW-MOUNTED AIR CONDITIONER W/REMOTE CONTROL (1)	Jul-2016	7	239.24	34.18	34.18	34.18	34.18	17.10													146	146
8' x 6' Coco Cream Shed -(Storage for Office Supplies)-(1)	Nov-2016	7	1,697.48	242.50	242.50	242.50	242.50	121.26													147	147
Amana Medium Duty Comm. Microwaves (2)	Nov-2017	7	1,817.82	173.13	259.69	259.69	259.69	129.85													148	148
COMPUTER HARDWARE				**2,350.88**	**2,414.61**	**2,394.25**	**3,646.43**	**2,134.40**		-	-	-	-	-	-	-	-	-	-			150
Lenovo IBM Computer	Sep-2007	7	663.08	-	-	-	-	-														152
Lenovo IBM Computer	Sep-2007	7	663.07	-	-	-	-	-														153
Viewsonic VA2226W Monitor	Sep-2007	7	324.74	-	-	-	-	-														154
Viewsonic VA2226W Monitor	Sep-2007	7	324.74	-	-	-	-	-														155
Toshiba 22" HD-TV Tuner	Sep-2009	7	321.79	-	-	-	-	-														156
HP Laserjet 1606 Printer	Dec-2010	7	125.58	7.47	-	-	-	-														157
LG E2441V-Bn 24" LED Monitor	Mar-2012	7	213.66	30.52	20.36	-	-	-														158
LG 23M5VQ 23" LCD monitor (6)	Dec-2014	7	762.27	108.90	108.89	108.89	108.89	45.35														159
Intel Computers (7)	Jan-2015	7	6,318.38	902.63	902.62	902.62	902.62	451.31														160
HP Pro Computer	Feb-2015	7	747.07	106.72	106.72	106.72	106.72	53.34													161	161
DELL PowerEdge T320 Server	Jan-2015	7	3,858.30	551.19	551.18	551.18	551.18	275.58														162
Dell 3F7210 - CTO OPTIPLEX 7020 SFF SYSTEM	Jan-2016	7	1,218.00	174.00	174.00	174.00	174.00	87.00													163	163
ACER 24" LCD MONITORS (2)	Jul-2016	7	382.38	54.63	54.63	54.63	54.62	27.32													164	164
Intel Mini computer	Jul-2017	7	1,451.85	207.41	207.41	207.41	207.41	103.73													165	165
Intel Mini computer	Jul-2017	7	1,451.85	207.41	207.41	207.41	207.41	103.73													166	166
Acer 32" Monitors (2)	Jul-2018	7	569.68	-	81.39	81.39	81.38	40.70													167	167
Westinghouse 34" DISPLAY MONITOR	Jul-2020	7	448.98	-	-	-	64.14	32.10													168	168
EPSON WKFORCE ES-400 COLOR DOC. **SCANNER**	Jul-2020	7	294.29	-	-	-	42.05	21.04													169	169
Acer Swift 3 Thin & Light Laptop 14" w/ wireless mouse/ Procase Sleeve	Aug-2020	7	780.04	-	-	-	102.16	55.74													170	170
DIESEL LAPTOP-TEXA TRK & OFF HIGHWAY COMBO DIAGNOSTIC TOOL	Nov-2020	7	9,687.13	-	-	-	922.60	691.96													171	171
INTEL FROST CANYON 13 TALL	Feb-2021	7	850.79	-	-	-	50.65	60.78													172	172
INTEL FROST CANYON 13 TALL	Feb-2021	7	850.79	-	-	-	50.65	60.78													173	173
Westinghouse 34" DISPLAY MONITOR	Feb-2021	7	334.98	-	-	-	19.95	23.94													174	174
COMPUTER SOFTWARE				**1,299.79**	-	-	-	-														176
OLP Single Lang. Server STD License	Jan-2015	3	1,149.00	191.48	-	-	-	-														178
COMPU WEIGH 5.0 Software Upgrade	Feb-2015	3	5,700.00	1,108.31	-	-	-	-													179	179

Form 7 - Depreciation Schedule for Rolling and New Equipment

LEASEHOLD IMPROVEMENTS				**11,907.58**	**11,599.01**	**11,907.58**	**11,909.57**	**5,715.14**			181
Door Remodel	Jan-2008	7	4,049.00	-	-	-	-	-			183
American Lighting	Aug-2011	7	49,619.28	-	-	-	-	-			184
Genius Wall System 10' x 17' Glass wall btw City Emp & SMaRT Emp	Oct-2014	7	4,468.12	638.30	535.21	638.30	639.30	159.57			185
Direct Line - Install 16 cables for offices, fax, DVR, WAP, Front Desk, Conf. Rm	Oct-2014	7	2,215.44	316.49	111.01	316.49	317.49	**79.11**			186
Automatic Fire Sprinkler Systems (MRF)	Jul-2015	7	16,845.00	2,406.43	2,406.43	2,406.43	2,406.43	1,203.24	187		187
Automatic Fire Sprinkler Systems (MRF)	Jul-2015	7	31,342.00	4,477.43	4,477.43	4,477.43	4,477.43	2,238.72	188		188
Processing system electrical work-dept 10	Oct-2015	7	19,684.12	2,812.02	2,812.02	2,812.02	2,812.01	1,406.03	189		189
Processing system electrical work-dept 20	Oct-2015	7	6,561.38	937.34	937.34	937.34	937.34	468.68	190		190
FIRE SPRINKLER SYSTEM MODIFICATION	Jan-2017	7	2,237.00	319.57	319.57	319.57	319.57	159.79	191		191
RADIOS & CAMERAS				**12,081.37**	**12,256.71**	**12,351.83**	**12,839.97**	**6,420.38**			193
Security Camera Equipment acquired form GreenTeam (19)	Dec-2007	7	4,750.00	-	-	-	-	-			195
MRF Cameras- Bullet Zoom- MRF Baler (4)	Sep-2009	7	968.63	-	-	-	-	-			196
Accessories & Camera System Installation	Apr-2010	7	1,171.50	-	-	-	-	-			197
21 Video Cables (Black)	Apr-2010	7	2,294.25	-	-	-	-	-			198
Universal Security & Fire Inc (Qty 4) MRF Sorting Room	Apr-2011	7	2,370.69	254.01	167.03	-	-	-			199
HD Hybrid CCTV System - ***Components Listed Below--***											
INACTIVE ASSET - REMAIN DEPREC. NOTED AS SALVAGE VALUE	Oct-2012	7	19,328.17	-	-	-	-	-			200
Icom 45w Mobile Radios (6)	Mar-2015	7	4,102.18	586.03	586.02	586.02	586.02	293.01	201		201
Icom 45w Mobile Radios (1)	Mar-2015	7	683.69	97.67	97.67	97.67	97.67	48.84	202		202
Icom 45w Mobile Radios (1)	Mar-2015	7	683.69	97.67	97.67	97.67	97.67	48.84	203		203
Color Camera 3RD Eye Model: AWT1020T (18)	Apr-2015	7	20,653.75	2,950.54	2,950.53	2,950.53	2,950.53	1,475.28	204		204
Pro Client SERVER Mobile Software	Feb-2016	7	15,137.50	2,162.50	2,162.50	2,162.50	2,162.50	1,081.26	205		205
Surround Video Omni G2 Series 20MP Dome Camera w/4 sensors (1)	Jun-2016	7	1,995.95	285.14	285.14	285.13	285.13	142.57	206		206
ARATA GENX UNITS - GPS FOR TRKS (9)	Aug-2016	7	3,200.94	457.28	457.28	457.28	457.28	228.66	207		207
2.8-12MM LENS SECURITY CAMERA WITH BUILT IN HEATER/ LOC: BUYBACK	Dec-2016	7	918.95	131.28	131.28	131.28	131.28	65.64	208		208
2.8 TO 10.5 MM LEN SECURITY CAMERA/ LOC: INSIDE SCALE HS OFFICE	Dec-2016	7	229.00	32.72	32.72	32.71	32.71	16.38	209		209
MEGAPIX 6 TO 50MM AUTO FOCUS SECURITY CAMERA	Dec-2016	7	819.50	117.07	117.07	117.07	117.07	58.56	210		210
2.8-12MZ/IP67 SECURITY CAMERA- CURBSIDE SCALE	Jan-2017	7	823.15	117.60	117.59	117.59	117.59	58.80	211		211
2.8-12MZ/IP67 SECURITY CAMERA-TUNNEL/COMPACTOR (2)	Jan-2017	7	1,646.30	235.19	235.19	235.19	235.18	117.60	212		212
2.8-12MZ/IP67 SECURITY CAMERA-1-INSIDE/ 1-OUTSIDE-NORTH SIDE FACING SHOP (2)	Jan-2017	7	1,646.30	235.19	235.19	235.19	235.18	117.60	213		213
2.8-12MZ/IP67 SECURITY CAMERA-CONCRETE DEPT	Jan-2017	7	823.15	117.60	117.59	117.59	117.59	58.80	214		214
2.8-12MZ/IP67 SECURITY CAMERA-(1)ENTRY FACING SMART/(1)FACE WATER	Jan-2017	7	1,646.30	235.19	235.19	235.19	235.18	117.60	215		215
2.8-12MZ/IP67 SECURITY CAMERA-PARKING LOT	Jan-2017	7	823.15	117.60	117.59	117.59	117.59	58.80	216		216
Access Cable Installation of Security Camera HX-BL4A85 =11% of Cost	Jun-2017	7	2,753.80	393.40	433.15	393.40	393.40	196.72	217		217
Access Cable Installation of Security Camera HX-BL4A85= 22% of Cost	Jun-2017	7	5,507.60	786.80	786.80	786.80	786.80	393.42	218		218
Access Cable Installation of Security Camera HX-BL4A85= 22% of Cost	Jun-2017	7	5,507.60	786.80	786.80	786.80	786.80	393.42	219		219
Access Cable Installation of Security Camera HX-BL4A85 =12% of Cost	Jun-2017	7	3,004.14	429.17	429.16	429.16	429.16	214.60	220		220
Access Cable Installation of Security Camera HX-BL4A85= 22% of Cost	Jun-2017	7	5,507.60	786.80	786.80	786.80	786.80	393.42	221		221
Access Cable Installation of Security Camera HX-BL4A85 =11% of Cost	Jun-2017	7	2,753.80	393.40	393.40	393.40	393.40	196.72	222		222
Hikvision DS-2CD41C5F-IZ 12MP 4KI VANDAL RESIST DOME CAMERA	Dec-2017	7	1,698.00	141.53	242.57	242.57	242.57	121.31	223		223
Hikvision 6MP SMART IP OUTDOOR DAY/NIGHT BULLET CAMERA	Dec-2017	7	1,598.00	133.19	228.29	228.29	228.29	114.16	224		224
8 CHANNEL 4K ULTRA HD DVR SECURITY SYSTEM CAMERA	Apr-2019	7	741.19	-	26.49	105.89	105.89	52.96	225		225
Hikvision 8MP Outdoor Dome Network Camera	Mar-2020	7	1,715.00	-	-	122.52	245.00	122.52	226		226
Hikvision 8MP Outdoor Dome Network Camera	Mar-2020	7	857.50	-	-	100.00	122.50	61.26	227		227
Hikvision 12MP OUTDOOR NETWORK FISHEYE NIGHT CAMERA	Jul-2020	7	784.75	-	-	-	112.11	56.07	228		228
Hikvision 12MP OUTDOOR NETWORK BULLET NIGHT CAMERA	Jul-2020	7	903.60	-	-	-	129.09	64.56	229		229
Hikvision 12MP OUTDOOR NETWORK FISHEYE NIGHT CAMERA	Jul-2020	7	713.90	-	-	-	101.99	51.00	230		230
Total Equipment			10,547,915	1,131,878	1,298,532	1,300,092	1,295,053	623,208	-	-	-

Form 7 - Depreciation Schedule for Rolling and New Equipment

SMaRT Facility Acquisitions - Beginning July 2022

Equipment:	Depreciation 7 Year Straig		har Straight Line (	ıar Straight Line (7.5 year Contract)																		
Pickups (2)			120,000	[redacted]					-	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	36,000		
Pickup Truck	Jul-2022	10	60,000						-	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	18,000		
Pickup Truck	Jul-2022	10	60,000						-	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	18,000		
Roll Off (1)			400,000						-	-	-	-	40,000	40,000	40,000	40,000	40,000	40,000	40,000	240,000		
Peterbuilt	Jul-2025	10	400,000						-	-	-	-	40,000	40,000	40,000	40,000	40,000	40,000	40,000	240,000	22,857	17,143
Loaders (6)			1,889,217						-	156,353	156,353	156,353	188,922	188,922	188,922	188,922	188,922	188,922	188,922	664,470		
Volvo L120H	Jul-2022	10	491,387						-	49,139	49,139	49,139	49,139	49,139	49,139	49,139	49,139	49,139	49,139	147,416		
Volvo L120H	Jul-2022	10	491,387						-	49,139	49,139	49,139	49,139	49,139	49,139	49,139	49,139	49,139	49,139	147,416		
Volvo 45H	Jul-2022	10	174,400						-	17,440	17,440	17,440	17,440	17,440	17,440	17,440	17,440	17,440	17,440	52,320		
Volvo L70H	Jul-2022	10	337,475						-	33,748	33,748	33,748	33,748	33,748	33,748	33,748	33,748	33,748	33,748	101,243		
Bobcat Skid Steer	Jul-2022	10	68,883						-	6,888	6,888	6,888	6,888	6,888	6,888	6,888	6,888	6,888	6,888	20,665		
Excavator	Jul-2025	10	325,684						-	-	-	-	32,568	32,568	32,568	32,568	32,568	32,568	32,568	195,410	18,611	13,958
Forklifts (5)			387,252						-	38,725	38,725	38,725	38,725	38,725	38,725	38,725	38,725	38,725	38,725	116,176		
BYD Forklift (Electric)- Forks 6k	Jul-2022	10	73,269						-	7,327	7,327	7,327	7,327	7,327	7,327	7,327	7,327	7,327	7,327	21,981		
BYD Forklift (Electric)- Forks 8k	Jul-2022	10	81,521						-	8,152	8,152	8,152	8,152	8,152	8,152	8,152	8,152	8,152	8,152	24,456		
BYD Forklift (Electric)- Forks 8k	Jul-2022	10	81,521						-	8,152	8,152	8,152	8,152	8,152	8,152	8,152	8,152	8,152	8,152	24,456		
BYD Forklift (Electric)- Clamps 6k	Jul-2022	10	75,471						-	7,547	7,547	7,547	7,547	7,547	7,547	7,547	7,547	7,547	7,547	22,641		
BYD Forklift (Electric)- Clamps 6k	Jul-2022	10	75,471						-	7,547	7,547	7,547	7,547	7,547	7,547	7,547	7,547	7,547	7,547	22,641		
Lifts (2)			80,000						-	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	24,000		
	Jul-2022	10	80,000						-	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	24,000		
Miscelleaneous			275,000						-	27,500	27,500	27,500	27,500	27,500	27,500	27,500	27,500	27,500	27,500	82,500		
Scale Software, Cameras, Servers, Computers, Lighting, Office Furniture, Welder, Charging Station	Jul-2022	10	275,000						-	27,500	27,500	27,500	27,500	27,500	27,500	27,500	27,500	27,500	27,500	82,500		
Tractors (10)			2,000,000						-	20,000	20,000	20,000	200,000	200,000	200,000	200,000	200,000	200,000	200,000	1,140,000		
2022 Peterbuilt 567 Diesel Tractor	Jul-2022	10	200,000						-	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	60,000		
2025 Peterbuilt 567 Diesel Tractor	Jul-2025	10	200,000						-	-	-	-	20,000	20,000	20,000	20,000	20,000	20,000	20,000	120,000	11,429	8,571
2025 Peterbuilt 567 Diesel Tractor	Jul-2025	10	200,000						-	-	-	-	20,000	20,000	20,000	20,000	20,000	20,000	20,000	120,000	11,429	8,571
2025 Peterbuilt 567 Diesel Tractor	Jul-2025	10	200,000						-	-	-	-	20,000	20,000	20,000	20,000	20,000	20,000	20,000	120,000	11,429	8,571
2025 Peterbuilt 567 Diesel Tractor	Jul-2025	10	200,000						-	-	-	-	20,000	20,000	20,000	20,000	20,000	20,000	20,000	120,000	11,429	8,571
2025 Peterbuilt 567 Diesel Tractor	Jul-2025	10	200,000						-	-	-	-	20,000	20,000	20,000	20,000	20,000	20,000	20,000	120,000	11,429	8,571
2025 Peterbuilt 567 Diesel Tractor	Jul-2025	10	200,000						-	-	-	-	20,000	20,000	20,000	20,000	20,000	20,000	20,000	120,000	11,429	8,571
2025 Peterbuilt 567 Diesel Tractor	Jul-2025	10	200,000						-	-	-	-	20,000	20,000	20,000	20,000	20,000	20,000	20,000	120,000	11,429	8,571
2025 Peterbuilt 567 Diesel Tractor	Jul-2025	10	200,000						-	-	-	-	20,000	20,000	20,000	20,000	20,000	20,000	20,000	120,000	11,429	8,571
2025 Peterbuilt 567 Diesel Tractor	Jul-2025	10	200,000						-	-	-	-	20,000	20,000	20,000	20,000	20,000	20,000	20,000	120,000	11,429	8,571
Trailers (9)			1,170,000						-	-	-	-	117,000	117,000	117,000	117,000	117,000	117,000	117,000	702,000		
2025 Peerless Refuse Trailer	Jul-2025	10	130,000						-	-	-	-	13,000	13,000	13,000	13,000	13,000	13,000	13,000	78,000	7,429	5,571
2025 Peerless Refuse Trailer	Jul-2025	10	130,000						-	-	-	-	13,000	13,000	13,000	13,000	13,000	13,000	13,000	78,000	7,429	5,571
2025 Peerless Refuse Trailer	Jul-2025	10	130,000						-	-	-	-	13,000	13,000	13,000	13,000	13,000	13,000	13,000	78,000	7,429	5,571
2025 Peerless Refuse Trailer	Jul-2025	10	130,000						-	-	-	-	13,000	13,000	13,000	13,000	13,000	13,000	13,000	78,000	7,429	5,571
2025 Peerless Refuse Trailer	Jul-2025	10	130,000						-	-	-	-	13,000	13,000	13,000	13,000	13,000	13,000	13,000	78,000	7,429	5,571
2025 Peerless Refuse Trailer	Jul-2025	10	130,000						-	-	-	-	13,000	13,000	13,000	13,000	13,000	13,000	13,000	78,000	7,429	5,571
2025 Peerless Refuse Trailer	Jul-2025	10	130,000						-	-	-	-	13,000	13,000	13,000	13,000	13,000	13,000	13,000	78,000	7,429	5,571
2025 Peerless Refuse Trailer	Jul-2025	10	130,000						-	-	-	-	13,000	13,000	13,000	13,000	13,000	13,000	13,000	78,000	7,429	5,571
2025 Peerless Refuse Trailer	Jul-2025	10	130,000						-	-	-	-	13,000	13,000	13,000	13,000	13,000	13,000	13,000	78,000	7,429	5,571
Containers (64)			259,103						-	25,910	25,910	25,910	25,910	25,910	25,910	25,910	25,910	25,910	25,910	77,731		
4 cubic yard bins (22)	Jul-2022	10	30,855						-	3,086	3,086	3,086	3,086	3,086	3,086	3,086	3,086	3,086	3,086	9,257		
6 cubic yard bins (14)	Jul-2022	10	25,809						-	2,581	2,581	2,581	2,581	2,581	2,581	2,581	2,581	2,581	2,581	7,743		
6 cubi yard humpback bins (15)	Jul-2022	10	28,103						-	2,810	2,810	2,810	2,810	2,810	2,810	2,810	2,810	2,810	2,810	8,431		
15 yard roll off (concrete)	Jul-2022	10	11,891						-	1,189	1,189	1,189	1,189	1,189	1,189	1,189	1,189	1,189	1,189	3,567		
30 yard roll-off Bin (14)	Jul-2022	10	138,665						-	13,867	13,867	13,867	13,867	13,867	13,867	13,867	13,867	13,867	13,867	41,600		
40 yard roll-off Bin (2)	Jul-2022	10	23,781						-	2,378	2,378	2,378	2,378	2,378	2,378	2,378	2,378	2,378	2,378	7,134		
Street Sweeper (1)			325,000						-	-	-	-	32,500	32,500	32,500	32,500	32,500	32,500	32,500	195,000	18,571	13,929
	Jul-2025	10	325,000						-	-	-	-	32,500	32,500	32,500	32,500	32,500	32,500	32,500	195,000	18,571	13,929
Total New Equipment			6,905,572.07	-	-	-	-	-	-	288,488.80	288,488.80	288,488.80	690,557.21	690,557.21	690,557.21	690,557.21	690,557.21	690,557.21	690,557.21	3,277,876.84	248,324.80	186,243.60
TOTAL DEPRECIATION AND AMORTIZATION								-		288,489	288,489	288,489	690,557	690,557	690,557	690,557	690,557	690,557				
Total Annual Depreciation				1,131,878	1,298,532	1,300,092	1,295,053	623,208	-	288,489	288,489	288,489	690,557	690,557	690,557	690,557	690,557	690,557	690,557			

Form 8 PV Floor & Ceiling

Assuming a yearly 3% CPI Increase	2021-22 FY	2022-23 FY	2023-24 FY	2024-25 FY	2025-26 FY	2026-27 FY
Positive Value Floor (Total Monthly Recycling Revenue Floor)	$ 480,000.00	$ 494,400.00	$ 509,232.00	$ 524,508.96	$ 540,244.23	$ 556,451.56
Positive Value Ceiling	$ 530,000.00	$ 545,900.00	$ 562,277.00	$ 579,145.31	$ 596,519.67	$ 614,415.26

True-Up Example	Jul-22	Aug-22	Sep-22	Oct-22	Nov-22	Dec-22
MSW In (in tons)	14,200	14,020	13,700	13,500	13,260	13,120
MSW Landfill (in tons)	9,850	9,735	9,728	9,300	9,427	9,516
Diversion Percentage	30.63%	30.56%	28.99%	31.11%	28.91%	27.47%
BCWS Percentage Share of PV Sales	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%
Total Positive Value Sales	$ 402,000.00	$ 867,000.00	$ 600,000.00	$ 535,000.00	$ 505,000.00	$ 435,000.00
	Below Floor	Above Ceiling	Above Ceiling			Below Floor
BCWS Share	$ 370,800.00	$ 409,425.00	$ 409,425.00	$ 401,250.00	$ 378,750.00	$ 370,800.00
City Share	$ 31,200.00	$ 457,575.00	$ 190,575.00	$ 133,750.00	$ 126,250.00	$ 64,200.00

Form 8 PV Floor & Ceiling

Assuming a yearly 3% CPI Increase	2027-28 FY	2028-29 FY
Positive Value Floor (Total Monthly Recycling Revenue Floor)	$ 573,145.10	$ 590,339.46
Positive Value Ceiling	$ 632,847.72	$ 651,833.15

True-Up Example	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Totals	Yearly Calculations	Yearly True-Up
MSW In (in tons)	12,640	12,806	13,600	13,800	14,000	14,400	**163,046**	**163,046**	
MSW Landfill (in tons)	8,800	8,874	9,476	9,682	9,770	9,970	**114,128**	**114,128**	
Diversion Percentage	30.38%	30.70%	30.32%	29.84%	30.21%	30.76%	**30.00%**	**30.00%**	
BCWS Percentage Share of PV Sales	75.00%	75.00%	75.00%	75.00%	75.00%	75.00%	**75.00%**	**75.00%**	
Total Positive Value Sales	$ 408,000.00	$ 422,000.00	$ 415,000.00	$ 500,000.00	$ 540,000.00	$ 555,000.00	**$ 6,184,000.00**	**$ 6,184,000.00**	
	Below Floor	Below Floor	Below Floor			Above Ceiling			
BCWS Share	$ 370,800.00	$ 370,800.00	$ 370,800.00	$ 375,000.00	$ 405,000.00	$ 409,425.00	**$ 4,642,275.00**	**$ 4,638,000.00**	$ (4,275.00)
City Share	$ 37,200.00	$ 51,200.00	$ 44,200.00	$ 125,000.00	$ 135,000.00	$ 145,575.00	**$ 1,541,725.00**	**$ 1,546,000.00**	$ -
								BCWS Owes the City	$ 4,275.00

EXHIBIT V:
COLLECTIVE BARGAINING AGREEMENTS

Exhibit V

Collective Bargaining Agreements

Attached Collective Bargaining Agreements

1. Sorters Local 350, October 7, 2020 to December 31, 2026
2. Operators and Mechanics Local 350, Ratified Date May 27, 2021 to December 31, 2026
3. Drivers Local 350, Ratified Date TBD, 2021 to December 31, 2026

OCTOBER 7, 2020 – DECEMBER 31, 2026

Union Contract Between:

Bay Counties Waste Services, Inc.
(SMART STATION)

AND

LOCAL 350
(SANITARY TRUCK DRIVERS & HELPERS UNION)

Sorters

(2015 Union Contract with
2020 - 2026 Extension Agreement)

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AGREEMENT

COLLECTIVE BARGAINING AGREEMENT

THIS AGREEMENT, made and entered into this 7th day of October, 2020, by and between BAY COUNTIES WASTE SERVICES, INC. (SMaRT Station), hereinafter termed the Employer, and LOCAL UNION NO. 350, affiliated with the International Brotherhood of Teamsters, Chauffeurs, Warehousemen and Helpers of America, hereinafter called the Union.

WITNESSETH

The parties hereto, acting by their duty authorized agents, in the interest of establishing friendly relations to the mutual benefit of all parties, hereby and herein agree to the following:

ARTICLE 1 - RECOGNITION

The employer recognizes the Union as the sole collective bargaining representative for all employees of the employer working in the classifications hereinafter set forth, except and excluding office clericals, guards, and supervisors of said Company as defined in the National Labor Relations Act.

ARTICLE 2 - UNION SECURITY AND DUES CHECK OFF

It shall be a condition of employment that all employees covered by this Agreement shall apply for membership in the Union on or after the thirty-first (31st) calendar day following the beginning of their employment or the effective date of this Agreement, whichever is later, and as a condition of continued employment, shall maintain their membership in the Union in good standing. A member in good standing shall mean by any member who pays or tenders payment of regular initiation fees and dues to the Union. Written evidence of loss of good standing will be submitted by the Union to the Employer before severance is made from the payroll.

The Employer agrees to make deductions from employees' wages for Union membership dues (including any past due owed by unpaid), initiation fees, and assessments only on the following basis:

1. The Union must present the Paymaster with a legal written authorization dated and signed by the employee.

2. The Union agrees to furnish to the Employer written notice of the amount to be deducted for initiation fees and dues and of the identity of the Union official authorized to receipt of such deduction.

3. The deduction will be made once each month on the first payroll in the month. If the employee does not receive a paycheck on that day for any reason, the Employer's obligation is discharged insofar as the deduction for the month is concerned.

4. The Employer's obligation in this Article ceases any time he does not have signed acknowledgement of ninety percent (90%) of the employees.

5. The Union shall save the Employer harmless from any claims, demands, or other proceedings in connection with the deductions or any action taken here-under and the Union shall be responsible for the adjustment of any claims by the employee involved.

ARTICLE 3. MANAGEMENT RIGHTS

Section 1.

The Employer retains and shall continue to have the rights and power to manage its operation and direct its workforce, except as expressly limited by specific provisions of this Agreement.

It is recognized that in addition to other functions and authorities, the Employer has and will retain the right and authorities to direct the operations of the Employer and in this connection to determine the assignment of all work to employees; process and means of operation; to select, hire, promote and transfer employees, including the right to make and apply rules and regulations for discipline, efficiency and safety, so long as the rules and regulations do not conflict with the express terms of this Agreement; to establish, modify or eliminate incentive plans, providing, however, that such exercise of such rights shall not conflict with any specific provision of this Agreement.

Section 2.

It is recognized and agreed that employees shall follow the instruction and direction of the Company. The names of the Company supervisors shall be posted on the bulletin board. If an employee has any doubts about any instruction or direction issued to him by a Company supervisor, he may request it in writing no later than the end of his work shift. No employee shall be disciplined or discharged for carrying out the instructions or directions of a Company supervisor whether in writing or not. Any employee who feels that he has received contrary instructions from different supervisors of the Company shall report the matter to the next level of Company supervision for decision.

Section 3.

The assignment of equipment is the responsibility of the Employer as it deems necessary for operational efficiency.

ARTICLE 4. CLASSIFICATIONS AND WAGE RATES

Section 1.

Effective January 1, 2021 the Employer shall provide either a 3% raise or a CPI increase, whichever is higher. The percentage increase will be based upon the Consumer Price Index (Urban Wage Earners and Clerical Workers) for San Francisco, Oakland and San Jose 1982-84 = 100 (CPI) for the period between December 2019 and December 2020. Should the CPI exceed the raise per hour as shown below, such additional rates shall be added to the increase in the classification listed below.

	Current		
	1/1/20	1/1/21	
		$.60*	
Sorters	$19.91	$20.51	

Section 2.

The basic rates for employees covered by the Extension Agreement, effective January 1, 2022, shall be as follows:

1. **Effective January 1, 2022, the Employer shall provide a 5% raise and a CPI minimum increase of 3%, or actual CPI increase whichever is higher, at a five (5%) percent cap, with a total raise minimum of 8% and a maximum of 10%. The percentage increase will be based upon the**

Consumer Price Index (Urban Wage Earners and Clerical Workers) for San Francisco, Oakland and San Jose 1982-84 = 100 (CPI) for the period between December 2020 and December 2021. Should the CPI exceed the 3% CPI raise per hour as shown below, such additional rates shall be added to the increase in the classification listed above.

	1/1/2022 $1.64*	1/1/2023 $1.77*	1/1/2024 $1.91*	1/1/2025 $2.07*	1/1/2026 $2.23*
Sorter	$22.15	$23.92	$25.83	$27.90	$30.13
Cleaner	$22.65	$24.42	$26.33	$28.40	$30.63

2. Effective January 1, 2023, 2024, 2025, and 2026, the Employer shall provide a CPI increase for the above classification, in addition to the 5% increase. The same CPI formula shall apply as in 1 above, with a December over December CPI change for each year.

3. All wage increases shall be permanent.

4. All lead personnel shall receive a ten percent (10%) per hour differential pay above the classification employees they lead.

5. All new hires for all classifications shall receive $2.00 less per hour for the first ninety (90) calendar days of their employment in accordance with the above formula.

6. Shift differential:

   Effective January 1, 2015, all employees who begin their shift after 1:30 p.m., and before 4:00 a.m., shall receive $0.35 more per hour in addition to their regular wages.

   Effective January 1, 2021, all night-time cleaning crew employees who begin their shift after 1:30 p.m., and before 4:00 a.m., shall receive $0.50 more per hour in addition to their regular wages.

7. Employees who work in a higher classification shall be compensated for their efforts at the higher rate of pay for actual hours worked. Any employee who works over four (4) hours in a single work day at a higher wage classification shall receive the higher wage for the entire day. An employee who works in a higher classification shall be guaranteed at least one (1) hour pay for work in that classification.

8. Effective January 1, 2022, the Company agrees to conduct an annual audit of hours-worked by sorters in higher classifications, using a 52-week average, to determine difference owed for vacation/sick/holiday pay between sorter rate and the higher classifications they worked in, from each January to December. Difference of monies owed shall be paid by a separate check, no later than the second week the following January, so that the entire calendar year can be calculated. Refer to Article 19, Section 10 (Hours of Work) for an example.

   Additionally, the Company agrees to add one (1) full-time operator position upon ratification.

9. Vacancies that occur between classifications and/or different Collective Bargaining Agreements (CBA): SMaRT CBA for Drivers, Sorters, and Operators/Mechanics shall be posted at time clock and offered to qualified employees in accordance with seniority before such vacancies are filled from the outside. It is understood that an employee who is covered by any of the SMaRT CBA's and who exercises his or her seniority to accept a job in a "New Classification" shall not lose Company seniority for benefits purposes, however, shall obtain new classification seniority upon accepting the new position. Company agrees to send employee roster to Union every January and July.

   Employer shall make a good faith effort to notify any employee who is absent on State

Disability/Workers Compensation/Vacation leave during such postings. Employees shall notify Company of their interest by contacting the Company or signing the posting. Any employee who is absent during the awarding of the vacancy shall be notified by the Company of their turn to accept/reject such vacancy and they will be required to give their decision on the vacancy in a timely manner (5 work days).

10. Effective January 1, 2015, and until 2021, all employees covered by this agreement who are employed on January 1st of each year will be entitled to an annual $200 signing bonus. The $200 bonus checks will be paid during the second pay period each January, by separate check.

    All employees covered by this agreement who are employed on January 1st of 2022 will be entitled to a one-time $350 signing bonus. The one-time $350 bonus check will be paid during the second pay period in January, by separate check.

ARTICLE 5. PERFORMANCE OF WORK BY MANAGERS

Supervisor and/or Management employees will not perform bargaining unit work, except in the following circumstances:

1. Supervisors shall have the right to train a bargaining unit employee or demonstrate work to him.
2. Supervisors shall perform unit work in emergencies to save equipment or material or to avoid injury to employees.

ARTICLE 6. NO STRIKE, NO LOCKOUT

Section 1.

During the term of this Agreement the Union will not cause a strike or production stoppage of any kind, nor will any employee or employees engage in concerted action to slow down the rate of production, or in any manner cause interference with or a stoppage of the Employer's operations, provided the Employer follows the grievance procedure for which provision is made herein. Likewise, the Employer agrees that there shall be no lockout during the term of this Agreement provided the Union follows the grievance procedure for which provision is made herein.

Section 2.

It shall not be a violation of this Article and shall not be cause for disciplinary action in the event an employee refuses to cross or work behind a lawful, primary, sanctioned picket line, including picket lines at the Employer's place of business.

ARTICLE 7. PROBATIONARY PERIOD

Section 1.

Every new or rehired employee shall be on probation for the ninety (90) calendar days of employment or reemployment in the bargaining unit. Upon satisfactory completion of said probationary period, seniority will be computed from the date of hire or most recent date of rehiring into the bargaining unit.

Section 2.

At any time during the probationary period, the employee may be discharged for any reason except for reasons prohibited by law, and any such employee so discharged shall not have the right to file or have any such recourse to the grievance procedure.

ARTICLE 8. USE OF NON-PRODUCTIVE TIME

Section 1.

Each employee shall utilize all non-productive time for the purpose of keeping his equipment, vehicles and workplace clean and orderly. Non-productive time means time when an employee cannot perform his regular assigned productive work for such reasons as equipment breakdown, stoppage, lack of vehicles, parts and material, or any other temporary situation which keeps the employee from performing his assigned operation or duties unless he is assigned to perform other temporary duties by his supervisor.

Section 2.

No regular assigned employee shall be removed from his classification as long as there is work available for the employee in his classification. This section shall not prohibit management from directing an employee to perform work outside his classification if management determines that the regular work of the employee will not be performed at that time.

ARTICLE 9. SENIORITY

The Employer agrees that all present employees shall reflect their seniority date with their individual original date of hire at the Sunnyvale Transfer Station, Sunnyvale, California.

All new employees shall be subject to a probationary period for the first ninety (90) calendar days of employment and can be discharged within such period of time for any reason. Once a probationary period has been successfully completed, the employee's seniority is established and is retroactive to the date of hire or rehire.

Section 1 - Application of Seniority.

In the reduction of force due to slackness of work, the last employee hired shall be the first employee laid off, and in rehiring, the last employee laid off shall be the first employee rehired, until the list of former employees is exhausted, unless the employee retained or to be recalled is unable to do the work available.

Section 2 – Broken Seniority.

Seniority will be broken and the employment relationship will cease in the event of discharge, resignation, off work for twelve (12) consecutive months for any reason other than (disability) due to injury sustained in the service of the Employer compensable under the Workers' Compensation laws, absence for two (2) working days without notifying the Employer, failure to return within three (3) working days following the sending of a notice of recall to an employee's last known address as shown on the Employer's records retirement, settlement has been made for total and permanent disability, or he fails to return to work at the expiration of a leave of absence. The Employer has the right, prior to reinstating to active employment to have an employee examined by the Employer's physician to evaluate the employee's fitness to return to his job. An employee who is off work due to injury or illness sustained in the service of the Employer compensable under the Workers' Compensation laws shall be returned to work when certified by a Company physician as fit to work regardless of the length of time he is off. When an employee returns to employment from a State Disability leave and the Company requires a Fit for Duty/Return to Duty examine, the employee will be made whole for any/all lost wages and benefits, back to the date of the original release to work once the member is approved for work by the Company doctor and providing the employee supplies all documents required by the Company doctor.

Section 3 – Notice of Recall.

Notice of recall shall be sent to the employee at their last known address, as filed with the Employer by

certified mail with a copy to the Union. In the event of layoff, an employee so laid off shall be restored to duty according to seniority provided he reports to the call to the Employer, which shall be communicated to the employee at his last known address, as filed with the Employer by certified mail and to the Local Union by fax or telephone, and provided the employee reports for duty within three (3) days exclusive of Saturday, Sunday or holidays, from time of said call. The giving of said call, shall fulfill the obligation of the Employer under this provision.

Section 4 – Permanent Vacancies.

When permanent vacancies in any classification exist, and before being permanently filled, a notice of such vacancy will be posted on the bulletin board for three (3) working days. Any employee desiring to fill a posted vacancy will make application by signing the posted form. When two (2) or more applicants for a single vacancy are equally qualified to fill such vacancy, it shall be filled by the employee among such equally qualified applicants having seniority, *but* if one of such applicants is better qualified to fill such vacancy, it will be filled by the most qualified applicant. If there are no qualified applicants available, a new employee may be employed to fill the vacancy. Employees shall have up to thirty (30) calendar days of training to qualify for the position. Upon the request of the Union, the Employer will discuss and explain the reason and basis upon which its decision in filling a vacancy was made.

The employer will make a good faith effort to contact any employee who is absent on State Disability/Workers Compensation/Vacation leave during such postings onto the posted sign-up list and offer the position, based on seniority as per Article 4, Section 1, Item 8.

ARTICLE 10. DISCIPLINE AND DISCHARGE

Section 1

Employee shall be subject to discharge without prior warning for dishonesty, drinking or being under the influence of alcohol or drugs on the job, or gross willful insubordination. Other matters such as habitual tardiness, failure to report work, neglect of duty or similar matters covered by publishing Company Rules and Regulations shall require at least three (3) written warnings to the Employee and/or disciplinary layoff of the employee prior to discharge for a fourth offense. The fourth offense must occur within six (6) months of the last warning.

Section 2 – Duration of Warning Notices.

The warning notices as herein provided shall become invalid six (6) months after they are issued.

All warning letters and/or disciplinary actions issued prior to the date of ratification of the Collective Bargaining Agreement extension shall be rescinded, including any last chance agreements.

Section 3 – Separate Tracks.

Discipline for absence related offenses such as excessive absence or pattern absences shall be on a separate track from other offenses described in Section 1 and shall not be combined with other offenses for the purposes of imposing discipline.

Section 4 – Notify Union.

The Employer agrees that it will notify the Union within twenty-four (24) hours after it discharges an employee. It is further agreed that a copy of any letter of warning or disciplinary layoff shall be furnished to the employee with a copy to the Union.

Section 5 – Suspension.

The Employer shall not use its right to transfer or assign work to employees for the purpose of discipline. No

employee shall be suspended for more than **three (3)** working days.

Section 6 – Investigatory Hearing.

In the event the Company determines discharge of an employee may be warranted, an investigatory hearing will be held within five (5) working days before such discharge shall be effective. During the pendency of the investigatory hearing, the employee may be taken out of service by the Company subject to discharge. The Union shall be notified of the investigatory hearing and may attend. The Union, upon request, can extend the time of investigatory hearing to seven (7) days from the date of notification from the Company. After the investigatory hearing has been held, the Company will decide whether or not to make the discharge final within three (3) working days. If an employee is discharged following the investigatory hearing, the decision of the Company may be appealed directly to Step 2 of the Grievance and Arbitration Article of this Agreement.

Section 7 – Suspension Abeyance.

In suspension cases of 3 days or less, the employee shall be allowed to remain on the job without loss of pay/benefits for a period of **twenty (20)** calendar days~~,~~ unless and until the suspension is sustained under the **grievance machinery, except where the employee appears for work without a current and valid driver's** license as required for duties which the employee is expected to perform.

Section 8 – Time Limit for Issuing Warnings.

Within twenty (20) calendar days of an occurrence of the alleged cause for discipline, discharge or suspension, the Employer shall give written notice by fax to the Local Union of its decision to discipline, discharge or suspend the employee and such notice shall set forth the reason or reasons for the discipline, discharge or suspension. If the Employer fails to give such notice within the specified twenty (20) calendar-day period, the right to discharge or suspend, for that particular reason, shall be waived.

The employer will hand-deliver a copy of any discipline, discharge or suspension to employees at the time discipline is issued. The employer will mail a certified letter of final termination to employees and will fax the Union a copy.

ARTICLE 11. GRIEVANCE AND ARBITRATION

Grievance Defined: A grievance is defined as a condition that exists as a result of an unsatisfactory adjustment or failure to adjust a claim or dispute by an employee or employees, the steward or union representative concerning rates of pay, hours or working conditions set forth herein, or the interpretation or application of this Agreement. All grievances shall be processed in accordance with the following procedure.

Step 1:

No matter shall be considered a grievance until it is first taken up by the Union with the immediate Foreman, Supervisor or Company Manager who will attempt to settle the matter. If the grievance is not settled within three (3) calendar days, it may be taken into Step 2 at which time it will be considered an official grievance. In order to be considered timely and eligible for further consideration at the conclusion of Step 1, a written grievance must be presented to the Company, not later than twenty (20) calendar days after the employee or the Union had knowledge of the occurrence of the event giving rise to the grievance, or five (5) work days for any grievance over a suspension or discharge. The Company representative shall respond to the grievance at this Step 1 within five (5) work days from receipt of the grievance.

Step 2:

Within five (5) calendar days after Step 1 has passed, the Union may request a meeting with the General Manager, which shall be held within ten (10) calendar days after the request has been made by the Union. In

the event there is no agreement upon the settlement of the grievance, the matter may be referred to federal mediation.

Step 3:

FMCS Grievances Mediation: Either party may refer any grievance to the Federal Mediation and Conciliation Services for non-binding mediation prior to proceeding to arbitration. The mediation will be conducted in accordance with FMCS guidelines for grievance mediation. If the mediation is not conducted within (30) calendar days of grievance referral to FMCS, or within such time as may be agreed upon, the grievance shall be considered unresolved and the time period for electing arbitration shall commence.

In the event that a majority of the parties cannot agree to a settlement of a dispute regarding the interpretation or enforcement of any of the sections of this Agreement, or the terms or provisions of written agreements supplementary hereto, the dispute may be submitted to a neutral arbitrator mutually selected and agreed upon, whose decision will be final and binding.
The parties will request a list of arbitrators who will be available within thirty (30) calendar days from the Federal Mediation and Conciliation Service.

- All of the arbitrators shall be contacted to determine their availability to hear the matter within thirty (30) calendar days, and any who are unavailable within this period shall be eliminated from the list.

- After a toss of a coin to decide which party shall move first, a member of the Employer Committee and a member of the Union Committee shall alternately strike one name from the list until only one name remains, and such person shall be the arbitrator for the determination of the case.

- The last name stricken shall be the alternate arbitrator to serve in the event that the first arbitrator is not available to serve in the time so specified above, the next to the last name to be stricken shall become the second alternate arbitrator, and so on.

- Each party shall bear its own expense in presenting the case to the arbitrator. The expense of the arbitrator shall be divided between the parties hereto. The Company agrees to pay a sum equal to but not greater than one-half (1/2) of said expense, and the Union agrees to pay a sum equal to but not greater than one-half (1/2) of said expense.

- There shall be no interruption of work during the settlement of a controversy. If the Employer fails to take action to remedy the source of the grievance within five (5) calendar days after rendition of a decision in favor of the Union, the Union shall be free to take any action against the Employer it deems advisable, including, without limitation, a stoppage of work.

ARTICLE 12. SUBCONTRACTING

The Employer shall not subcontract work presently handled by the present compliment of employees for the exclusive purpose of reducing the present complement of employees. In the event that additional work is added to the work performed by the bargaining unit, the Employer will meet and negotiate with the Union prior to any decision to subcontract such additional work for the purpose of reducing the present complement of employees.

ARTICLE 13. ALCOHOL AND DRUG USE

In accordance with the Omnibus Transportation Employee Testing Act of 1991, that requires alcohol and drug testing of safety-sensitive employees, the Drug and Alcohol Testing rules of Federal Highway Administration (FHWA), the Department of Transportation (DOT) Drug and Alcohol Testing Procedures of 1995 and the implementing regulations (49 CFR Part 40) issued for all persons required to maintain a commercial driver's

license (CDL), employees will be required to submit to pre-employment, post-accident, reasonable suspicion, random and return of duty and follow up test.

In compliance with the aforementioned mandates rules, all employees are subject to accident, reasonable suspicion and random testing. Testing procedures are as follows:

1. Employees may be tested on site. If tested on site, the employee may be asked to meet in the conference room and be given notice of on-site testing. If tested off-site, the employee will be notified by his supervisor and given a signed form with date and time at morning check-in to report to the Company Designated Occupational Medical Center or any laboratory certified by the National Institutes on Drug Abuse (NIDA). Employees who are instructed to be tested are required to follow the supervisor's instruction and proceed directly to the testing site. Failure to do so will be grounds for suspension, pending termination.

2. On-site testing will be executed by a representative of any laboratory certified by the National Institutes on Drug Abuse (NIDA).

3. A refusal to be tested is considered the same as a positive test and the employee will be subjected to immediate termination.

4. Time off for rehabilitation and treatment for a substance abuse problem will not be available once an employee has been summoned for a test or engaged in conduct for which a test can be required.

5. Persons that come forward prior to being subjected to a test will be considered on an individual basis by the Employer's representative. Persons disclosing a drug or alcohol problem at the time of notification of a random test are considered not to have made a voluntary disclosure.

6. Upon receiving confirmation of a positive alcohol and/or drug test, the employment of said person is subject to termination.

7. Any employee whose test result is positive for drugs or whose result is the equivalent of the statutory level of intoxication will be subject to termination.

8. A seniority employee shall be permitted to take a reasonable leave of absence for the purpose of undergoing treatment pursuant to an approved program of rehabilitation for drug or alcohol abuse, provided that the leave is requested prior to commission of any related act which subjects the employee to disciplinary action. Such leave of absence shall not exceed a thirty (30) calendar day period unless extended by mutual agreement for an additional thirty (30) calendar days. Such leave shall be on a one-time basis and shall constitute a leave of absence under Article 17, except as herein provided. After such a leave, further evidence of drug or alcohol abuse will be ground for termination.

9. While on such leave, and for the first month only, the employee shall accrue those benefits provided employees who are unavailable for work due to injury or illness occurring on the job. Funeral leave and jury duty shall not be payable. No benefits shall be accrued during any extension, though the employee may pay for his own health and welfare coverage.

10. Employees requesting to return to work shall be required to submit to reasonable periodic testing as the parties may adopt. Failure to comply with those conditions shall result in the employee's immediate removal from the job and termination of his employment. Such cases shall be subject to the grievance procedure only to the extent that there may be a question whether the conditions for return to work have been violated.

11. Notwithstanding Section 7, in the event an employee tests positive under DOT standards as a result of a drug or alcohol test authorized by this Agreement, or refuses to provide a specimen for an authorized test, and it is the first positive test result he/she has experienced as an employee of the Company, the following shall apply:

    a. As a condition of continued employment, the employee shall participate in a program for drug or alcohol rehabilitation (as the case may be).
    b. Upon satisfactory completion of the program, the employee shall be subject to the conditions stated in Section 13 of this Article.

    c. Time lost from work during any absence while participating in the rehabilitation program shall be recorded as disciplinary suspension.

    The provisions of this Section shall be available on a one-time basis only.

ARTICLE 14. UNION REPRESENTATION

Authorized representatives of the Union shall be permitted to enter the Employer's facilities during working hours for the purpose of transacting business in connection with the administration of this Agreement on the following conditions:

1. The Union shall have on file with the Employer a list of authorized Union representatives.

2. The business of the Union's representatives will be transacted in a manner so there is no interference with the work of any employee.

3. The Union's representatives shall notify the General Manager or his designee prior to arrival or upon arrival at the facility, and upon leaving the facility. If such notice cannot reasonably be given prior to arrival, the notice must be given upon arrival prior to speaking to any bargaining unit employee. If the Union representatives wish to visit with an employee who is working, he shall make arrangements with the General Manager or his designee. The Employer shall make employees available during processing of grievances.

ARTICLE 15. JURY AND WITNESS DUTY

Any non-probationary employee, when called for jury service in any state, county or federal court, shall advise the Employer upon receipt of such notice. If taken from his work to perform such service, he shall be reimbursed as provided for herein for any loss of wages while actually performing such service, up to a maximum of five (5) days during any calendar year. Such reimbursement shall be the difference between the employee's regular daily rate of pay (maximum eight (8) hours straight time pay) and the compensation the employee receives for jury service. The employee must provide written documentation of jury service, including the amount of compensation received.

ARTICLE 16. HOLIDAYS

Section 1.

The following shall be paid holidays under the terms of this Contract and all regular employees shall receive eight (8) hours straight time pay for each of such holidays in addition to pay received for work performing during the course of such holiday weeks. No employee shall work Thanksgiving Day, Christmas Day or New Year's Day. The employee assigned shall work the Saturday of the workweek of the following holidays: Thanksgiving Day, Christmas Day and New Year's Day.

Section 2.

There shall be a total of twelve (12) paid holidays during the working year:

New Year's Day	**Memorial Day**
Thanksgiving Day	**Christmas Day**
Labor Day	**July 4th**
Presidents Day	**Veterans Day**
Employee Birthday	**Employee's Anniversary Date of Employment**
Indigenous Peoples Day	**Martin Luther King's Birthday**

Section 3 - Eligibility.

With respect to all employees other than regulars, any employee who reports for work and is put to work more than thirty (30) calendar days shall be entitled to any paid holiday which occurs during the month such employee reports to work.

Section 4.

If any of the aforementioned holidays fall on a Saturday, the preceding Friday shall be observed as a holiday. If any of the aforementioned holidays falls on a Sunday, the following Monday shall be observed as a holiday. If an Employee's Birthday or Anniversary falls on a day other than a Friday or Monday, the employee shall have the option of celebrating such holiday on the nearest Friday or Monday or a day that is mutually satisfactory for both parties.

Employees must request holidays with at least 24-hr notice. It is agreed that no more than ten percent (10%) of the sorter workforce, rounded up to the next whole number, shall be allowed off at one time for any reason other than FMLA/WC.

EXAMPLES:
61-70 sorters = 7 sorters off, max
71-80 sorters = 8 sorters off, max

The Company shall post a time-off sign-up schedule on the bulletin board as of December 1 of each calendar year. Such sign-up shall remain posted through December 31 of each calendar year. Employees shall indicate their preference for Vacation/Holiday/PTO dates on this sign-up. Employees who do not indicate a preference on this sign-up or who desire to change their selected dates after December 31 shall be allowed to do so under the conditions set forth:

Employees who have selected time-off preference dates on the schedule sign-up shall have priority over any other employees, irrespective of seniority, who desire the same time-off dates but did not so indicate on the sign-up. The Employer, insofar as practicable, will grant employees the dates selected by them. In the event multiple employees desire the same time-off dates as selected on the time-off schedule sign-up, the senior employees shall be given preference.

Section 5.

All employees reporting to work on a holiday shall receive eight (8) hours at one and one-half (1-1/2) times their regular rate of pay in addition to the holiday pay.

ARTICLE 17. VACATION

Section 1.

After one (1) year of continuous employment, an employee shall receive one (1) weeks' vacation with pay. After two (2) years of continuous employment, an employee shall receive two (2) weeks' vacation with pay.

After five (5) years of continuous employment, an employee shall receive three (3) weeks' vacation with pay. After ten (10) years of continuous employment, an employee shall receive four (4) weeks' vacation with pay. After fifteen (15) years of continuous employment, an employee shall receive five (5) weeks' vacation with pay. After twenty (20) years of continuous employment, an employee shall receive six (6) weeks' vacation with pay. After twenty-five (25) years of continuous employment, an employee shall receive seven (7) weeks' vacation with pay. After thirty (30) years of continuous employment, an employee shall receive eight (8) weeks' vacation with pay.

A total lapse of service of forty-five (45) calendar days or less per year shall not break continuity of service for the purpose of this provision. Where the lapse of service exceeds forty-five (45) calendar days per year, the vacation period shall be prorated on the basis of actual weeks' service, except that the first forty-five (45) calendar days of lapse of service shall be counted as time-worked for such purpose. Days for which Workers' Compensation is paid shall not break continuity of service in the vacation year that the industrial accident took place, and the above shall not be applicable to such cases.

Section 2.

Employees must request vacation with at least 24-hr notice. It is agreed that no more than ten percent (10%) of the sorter workforce, rounded up to the next whole number, shall be allowed off at one time for any reason other than FMLA/WC.

EXAMPLES:
61-70 sorters = 7 sorters off, max
71-80 sorters = 8 sorters off, max

The Company shall post a time-off schedule on the bulletin board as of December 1 of each calendar year. Such sign-up shall remain posted through December 31 of each calendar year. Employees shall indicate their preference for Vacation/Holiday/PTO dates on this sign-up. Employees who do not indicate a preference on this sign-up or who desire to change their dates after December 31 of each year shall be allowed to do so under the conditions set forth:

Employees who have selected time-off preference dates on the schedule sign-up shall have priority over any other employees, irrespective of seniority, who desire the same time-off dates but did not so indicate on the sign-up. The Employer, insofar as practicable, will grant employees the dates selected by them. In the event multiple employees desire the same time-off dates as selected on the time-off sign-up, the senior employees shall be given preference. Any employee who indicated a desired Vacation/PTO date on the sign-up, but was not given that date because more senior employees also selected that date, shall be given preference in selecting an alternative date.

ARTICLE 18. LEAVES OF ABSENCE

Section 1 - Requests for Leave.

All requests for leaves of absence must be in writing and state a specific length of time for the leave. When appropriate, unused vacation or paid time off benefits must be incorporated into leave period.

Section 2 - Benefits During Leave.

Accrual of benefits based on length of service such as vacation, paid time, and holiday benefits will be suspended during the leave. Employee's seniority will stop after 60 calendar days of any leave of absence, except for military leave during which seniority continues to accrue. All leaves shall be unpaid. This does not apply to leave protected under the Law.

Section 3 - Personal Leave and PTO.

Regular employees with more than twelve (12) months of service may be granted personal leave at the discretion of the Employer for a maximum period of thirty (30) calendar days in order to accommodate an extreme need by an employee. Upon written request by an employee, the Employer extends the leave for a total period of up to forty-five (45) calendar days. All paid time off benefits, including vacation, must be used prior to taking any personal leave.

PTO: Employees who have been employed for one (1) year may take up to seven (7) days per calendar year of unpaid personal days provided the employer has been given twenty-four (24) hour notice and has received his supervisor's approval. Such approval shall not be unreasonably withheld. All PTO days will be full-day increments.

Section 4 - Family and Medical Leave Act.

The Company will comply with the provisions of the Family and Medical Leave Act.
Family Medical Leave of Absence: No employee will be required to exhaust any of their paid time off, (i.e. vacation, sick leave) when they are off work and being covered by State Disability, FMLA, CFRA or any other leave granted in accordance with applicable laws, except as follows: Employees off on unpaid leave may use up to five (5) days of sick/vacation for any unpaid FMLA/CFRA related leave.

ARTICLE 19. HOURS OF WORK AND OVERTIME

Section 1 – Normal Workday.

The normal workday for regular employees shall be eight (8) hours excluding non-paid lunch periods. The normal workweek for regular full-time employees shall consist of five (5) work days and shall be of forty (40) hours duration. In the event that the Employer decides to change the work week to four (4) ten-hour days it will advise the Local Union forty-five (45) calendar days prior to any change in order to allow the Union to negotiate the impact of such changes and that no changes shall be made before the Employer and the Union have negotiated regarding the impact of said changes. The regular workweek shall be Monday through Friday.

Section.2 - Overtime.

All work performed in excess of eight (8) hours in any work day shall be paid for at the overtime rate of one and one-half (1 1/2) the straight time rate. Overtime shall not be pyramided or duplicated for the same hours worked.

Section 3 – Saturday/Sunday Work.

All work performed on Saturday shall be paid for at the overtime rate of one and one-half (1 1/2) the straight time; all work performed on Sunday shall be paid for at two (2) times the straight time rate. Employees required to work on Saturday or Sunday shall be guaranteed eight (8) hours work or eight (8) hours pay at the applicable overtime rate.

Section 4 – Mandatory Overtime.

It is agreed that overtime may be required from time to time. Any employee may be required to work reasonable overtime on a hold-over basis. Call-out overtime shall be offered in a descending seniority order, and the Employer retains the right to require the junior qualified employees to perform such call-out overtime work. Overtime shall be rotated on a fair and equal basis.

Section 5 - Guaranteed Hours.

All regular employees who have completed their probationary period shall be guaranteed forty (40) straight time hours of pay per week provided such employees make themselves fully available for work and report to work at their regular starting times designated by the Employer, provided, however, such guarantee shall not apply to employees who voluntarily quit, or who are laid off, or who are discharged for cause.

Section 6 – Report-to-Work Pay.

Any employee scheduled to work a full day, and working any part of a day, shall receive a full day's pay if he presents himself at starting time and is available for work during all of the working day. If employee, after reporting for work, makes themselves unavailable for work for reasons other than an industrial injury, said employee shall be paid for the time he made himself available for the work duty.

Section 7 – Changing Start-Time.

Changing of the start time shall be at the discretion of the Employer, with reasonable notice posted on the bulletin board of at least seventy-two (72) hour notice for permanent/long-term shift changes, and twenty-four (24) hour notice for emergency shift changes. This shift notice does not apply to employees performing in bid back-up positions.

Section 8. – Casual Employees.

Casual employees shall not be under the weekly guarantee if they are not hired to permanently replace a regular employee. Casual employees shall be emergency employees hired for temporary replacement of a regular employee who is out due to illness or absence.

Section 9 - Call Back Pay.

When an employee is called back after his regular shift, and after he has left the Employer's premises, he shall be given a minimum of four (4) hours work, provided the failure to complete the four (4) hours does not result from his own fault or refusal to accept the assignment.

Section 10 - Temporary Assignments.

At the discretion of the Employer, an employee may be assigned to other duties, but no employee shall suffer a reduction in pay resulting from a temporary assignment of less than eight (8) hours. An employee temporarily assigned to a higher classification shall receive pay for the higher classifications for all hours worked in that classification.

Effective January 1, 2022, the Company agrees to conduct an annual audit of hours-worked by sorters in higher classifications, using a 52-week average, to determine difference owed for vacation/sick/holiday pay between sorter rate and the higher classifications they worked in, from each January to December. Difference of monies owed shall be paid by a separate check, no later than the second week the following January, so that the entire calendar year can be calculated.

EXAMPLE:

To determine average rate: If in calendar year 2022, an employee worked 1500 hours as a sorter at a base rate of $22.15, and 580 hours as an equipment operator 1 at a base rate of $29.11, then the average hourly base rate for the year would be $24.09:

(1500 x $22.15 + 580 x $29.11) / (1500 + 580) = $24.09

The difference between the sorter base rate and the $24.09 average rate would be $1.94 per hour. On or before the second payroll in January 2023, the employee would receive a check for

$1.94 multiplied by the total number of vacation, sick and holiday hours that were accrued in 2022:

To determine amount owed: If the employee accrued 160 hours of vacation, 96 hours of sick, and 96 hours of holiday they would get a gross check for $682.88:

(160 x $1.94) + (96 x $1.94) + (96 x $1.94) = $682.88

If the employment ends before the end of the year this will be calculated at the end of the employment and will be added to any monies owed for accrued time-off.

Section 11 – Mandatory OT.

No employee shall be obligated to work more than fifty (50) hours per week unless it is on a voluntary basis. In the event that employees do not volunteer to work over the above hours, the Employer will have the right to require employees to work under the following conditions:

Call Out Overtime (e.g. Saturday and Sunday overtime) shall be offered in descending order of their seniority to employees who are qualified to perform the work required on the particular assignment. If the most senior qualified employee declines the offer, the overtime shall be offered to the next most senior qualified employee and so forth until the roster is exhausted; the least senior employee shall be required to accept the call out overtime assignment.

Furthermore, any employee who starts work on Friday shall complete the work, even if the employee's hours exceed fifty (50).

Section 12 – 12+ Hour Workdays.

Any employee who works over twelve (12) hours on any working day shall receive double time rate of pay for all hours after twelve (12) hours worked.

ARTICLE 20. LUNCH AND REST PERIODS

Employees shall receive a thirty (30) minute lunch period each day without pay. Employees are to be at their workstations ready for work at the end of their lunch period. The time of taking lunch periods for each employee shall be scheduled by and at the convenience of the Employer. Employees shall be entitled to two (2) fifteen (15) minute rest periods during the day, one (1) fifteen (15) minute rest period during the first half of the shift, and one (1) fifteen (15) minute rest period during the second half of the shift. Employees are to be at their workstations ready for work at the end of each lunch and rest period. Rest periods for each employee shall be scheduled by and at the convenience of the Employer and in accordance with applicable law. The Employer shall continue the current practice regarding travel time for breaks/lunches.

ARTICLE 21. CASUAL EMPLOYEES

Section 1.

The parties recognize that the Employer has a need for casual and/or extra material handlers to replace employees who are sick, on vacation or who for other reasons do not report for work. Accordingly, the Employer shall establish a pool of persons who are available for such work. A list of such individuals shall be maintained by the Employer, arranged sequentially in accordance with their first day of work, and shall be updated as needed for accuracy.

Section 2.

Available extra work, including vacation relief, shall be assigned by rotation from the list of casuals in the order that such casuals appear on the list. When a casual completes the assignment, he shall be returned to his place on the casual list for further work assignment.

Section 3.

The Employer shall have the right to eliminate names from the casual list on a basis of unreliability, poor work performance, or for other legitimate reasons. The grievance procedures of the Agreement shall not be available to casuals because they have been eliminated from the list, except as provided in (section 20.4) below.

Section 4.

New registrants on the casual list shall be considered on probation and shall not acquire seniority until ninety (90) calendar days after their first date of employment. Upon achieving seniority, a casual shall be entitled to Article 10 & Article 11 of the Agreement. The Guaranteed Hours provision of the Agreement (section 18.5) shall not be applicable to casuals or extra employees.

Section 5.

Vacancies in regular employment shall be filled from casuals who have achieved seniority, in order that their name appear on the casual list. In the event of layoff of regular employees, they shall have the right to be included at the top of the casual list, in accordance with their seniority. Their recall rights under this Agreement shall remain intact while performing work as casuals. Such laid off regular employees shall receive the full contractual rate of pay while working off the casual list.

ARTICLE 22. REPORTING PAY

If an employee reports for work as scheduled and has not been told not to report the previous day, he shall be given a minimum of four (4) hours work, unless, because of the circumstances, it is beyond the control of the Employer. If the employer calls the phone number on file **with the Employer as the employee's primary contact** number to tell employee not to report to work before 5:00 am on the workday in question, and speaks with the employee, or attempts to leave a message, the Employee shall have fulfilled its obligation to call off the employee, and the employee shall not be entitled to reporting pay whether or not the employee shows up for work.

ARTICLE 23. HEALTH INSURANCE

Upon ratification of this extension agreement, the Employer will provide group health coverage under an HMO medical plan, a dental, and a vision plan. All medical coverage will be provided by Bay Counties Waste Services for eligible employees and their eligible dependents.

1. Regular Employees: For the purposes of this section only, the term regular employee shall mean any employee who has worked eighty (80) hours or more in the calendar month immediately preceding the month in which premium payment is made.

2. Premium: Employer shall contribute 100% of the premium, per month, for each regular employee for all the benefits provided under this plan.

3. The Employer shall pay whatever additional amounts, as determined by all Health & Benefit providers (*currently Kaiser for medical and vision, and Metlife for dental*) from time to time during the term of

this Agreement, as are necessary or desirable to maintain the benefits in the various programs at the same levels as the commencement of this Agreement. Both the Company and the Union will be in agreement before any carrier change is made.

4. Whenever an employee is unable to work because of injury or disability, the Employer shall continue to pay the employee's health and welfare premium for a period of up to 12 (twelve) months thereafter.

Health Plan Described Below:

Annual Max. Out of Pocket	$1,500 – per person $3,000 – per family
Deductible	None
• Annual Specific Deductible	
Coinsurance	No charge after co-pay
Lifetime Maximum	Unlimited
Office Visit Co-pay	$10.00
• Preventative Care	
Well Baby/Child Care	$3.00
Adult Periodic Exam	$10.00 co-pay
Physical Therapy/Occupational/Speech therapy	$10.00 co-pay
• Hospital Services	
Inpatient Hospitalization	100%
• Mental & Nervous/Chemical Dependency	
Inpatient	100%
Outpatient	$10.00 co-pay
Emergency Room Visit	$100.00 co-pay *(**see below**)*
X-Ray & Lab Services	No charge
• Durable Medical Equipment	
Chiropractic Services	$10.00 co-pay
• Prescription Drugs (30-day supply)	
Generic	$10.00
Brand	$30.00
Non-formulary Brand	$30.00

***Upon ratification, $50 of the $100 emergency room visit co-pay will be reimbursable with ER visit receipt and paid by check to employee no later than by the end of following week in which reimbursement request was completed.*

Dental Plan Described Below:

Deductible	$50.00 per person, 3 per family
Waived for Preventative & Diagnostic	Yes
• Categories & Coverage	
Diagnostic/Preventative	No charge
Restorative	No charge, 20%, 40%
Prosthodontic & Repairs	20%, 40%, 40%
Endo/Periodontic & Repairs	20%, 40%, 40%
Oral Surgery	No charge, 20%, 40%
Orthodontia	Included
Annual Maximum	$2,000.00

Vision Plan Described Below:

$125.00 Frames Allowance	
Exam	$10.00 co-pay
Materials	$10.00 co-pay
• Frequency	
Exam	One per 12 months
Lenses	One per 24 months
Frames	One per 24 months

ARTICLE 24. SAFETY AND EQUIPMENT

Section 1 – Rain Gear.

Throughout the life of this Agreement for all employees working outside, the Employer shall furnish necessary rain gear for employees as needed on a checkout basis.

Section 2 - Gloves.

The Employer agrees to furnish two (2) types of good quality, working gloves, as needed.

Section 3 - Uniforms.

The Employer agrees to provide better uniforms, at his cost, if employees are required to wear same as a condition of employment.

Section 4 – Safety Boots.

The Employer may require employees to wear safety work-boots acceptable to the Employer, unless excused for medical reasons. If so, the Employer shall provide each employee with a boot voucher to a specific store of Company choice in order to defray the cost of such boots. Alternatively, the Employee has the option to purchase out-of-pocket and be reimbursed up to voucher annual amount for Company-approved work boots, as long as a receipt is provided:

Between January 1, 2015 – December 31, 2021: $150 per year
Between January 1, 2021 – December 31, 2026: $225 per year

Section 5 – Sanitary Facilities.

The Employer shall provide clean and sanitary facilities for employees' use. The Employer shall supply a break room/lunchroom with hot water. The employees will be required to maintain these facilities in a clean and orderly fashion.

Section 6.

The Employer agrees to bear all costs for any physical or eye examination, if required of employees.

Section 7.

The Employer shall supply proper safety masks and safety glasses when needed.

ARTICLE 25. SICK LEAVE

An employee who has completed his probationary period and is off work due to illness or injury and who is confined at home or hospitalized as a result shall be eligible for twelve (12) sick days of paid sick leave, said benefit to begin on the first (1st) day of illness or injury.

In order to qualify for paid sick leave for any absence that occurs due to an illness, the employee must submit a sick pay request to their supervisor. For any absence that occurs due to an illness which lasts four (4) days or longer, the employee must also **submit a doctor's certificate upon return to duty.**

In the event an employee does not use all of this benefit during the calendar year, he shall receive eight (8) hours of straight-time pay for each of his unused sick days, payable on a separate check on the first pay period, but no later than the second pay period, in December.

In the event of a voluntary resignation upon completion of the probationary period, the employee will receive straight-time pay for the remaining balance of accrued hours. An employee hired after January 1st of any calendar year, until December 31, shall accumulate sick leave at an accrued rate.

ARTICLE 26. DEATH IN FAMILY

There shall be a maximum of five (5) days, or eight (8) days out-of-state, pay in the event of death in the immediate family of a regular employee (wife, husband, mother, father, grandmother, grandfather, grandparent-in-law, mother-in-law, father-in-law, sister, brother, sister-in-law, brother-in-law, daughter or son, step-child or step-parent). In addition to the foregoing, in the event of death in the immediate family of a regular employee, as defined above, upon request, said employee may be granted an additional two (2) weeks unpaid leave of absence. The Employer may require certification (i.e. newspaper notice, funeral notice or a death certificate).

ARTICLE 27. SAVINGS CLAUSE

Should any part hereof or any provision herein contained be rendered or declared invalid by reason of any existing or subsequently enacted legislation, or by any decree of a court of last resort, such invalidation of such part or portion of this Agreement shall not invalidate the remaining portions hereof and they shall remain in full force and effect.

ARTICLE 28. SHOP STEWARD

The Union shall have the right to appoint a Shop Steward from among its members in the bargaining unit. The Union shall notify the Company in writing of the name of the designated Shop Steward. The Shop Steward shall not interfere with the management or operation of the Company's business nor direct or interfere with the work of Company employees, and the duties of the Shop Steward shall not interfere with his or her own duties as a Company employee. In addition to performing his/her work for the Company, the Shop Steward shall be permitted to perform, during working hours if reasonable and necessary, such of his/her Union duties as cannot be performed at other times. The Union agrees that such Union duties shall be performed as expeditiously as possible and the Company agrees that the Shop Steward shall be allowed a reasonable amount of time, not to exceed fifteen (15) minutes per each individual issue if during work time, for the performance of such Union duties. The Shop Steward shall not be discriminated against due to his/her status as a Shop Steward and shall have the same just cause discipline and discharge protection as all other employees in the bargaining unit consistent with this Agreement.

1. The shop steward shall be awarded time to review any and all evidence (pictures, videos, witness statements etc.) the Company has in its possession during the investigatory process.

2. Bulletin Board: The Company shall supply and install one (1) suitable bulletin board at SMaRT or starting point for the posting of Union business and communications. The bulletin board shall be **locked and only the Union's Designated Business Agent, Shop Steward and their** designees as well as **a mutually agreed upon Company representative shall have keys to the Union's bulletin board.**
3. The Employer shall also have one (1) locked boards for copies of the master seniority list for bids and awards of bids only.
4. Any Company bulletins, policies or work rules posted.

ARTICLE 29. SUPPLEMENTAL INCOME 401(K)

The Employer agrees to recognize all written authorizations from Union members authorizing deductions from their compensation for contributions to a Supplemental Income 401(k). This Plan will be administrated by New York Life LLC, at no cost to the Employer. The participation in this Plan will be on a voluntary basis, without cost to or matching from Employer.

ARTICLE 30. PENSION

Section 1.

Effective January 1, 2015, the Employer shall pay to the Western Conference of Teamsters Trust the sum of $0.70 per hour, which will include retirement (PEER-formula 84), to a maximum of 184 hours or $128.80 per month of each employee.

*For each year thereafter, the Employer contribution rate will be adjusted by a 3% raise or a CPI increase, whichever is higher. Cost of living percentage determined by the Urban Wage Earners and Clerical Workers for San Francisco, Oakland and San Jose 1982-84 = 100 (CPI). The contribution required to provide the Program for Enhanced Early Retirement will not be taken into consideration for benefit accrual purposes under the Plan. The additional contributions for the PEER must at all times be 6.5% of the basic contribution and cannot be decreased or discontinued at any time.

*Effective January 1, 2016, the Employer shall pay to the Western Conference of Teamsters Trust the sum of $0.72 per hour, which will include retirement (PEER-formula 84), to a maximum of 184 hours or $132.48 per month of each employee.

*Effective January 1, 2017, the Employer shall pay to the Western Conference of Teamsters Trust the sum of $0.74 per hour, which will include retirement (PEER-formula 84), to a maximum of 184 hours or $136.16 per month of each employee.

*Effective January 1, 2018, the Employer shall pay to the Western Conference of Teamsters Trust the sum of $0.76 per hour, which will include retirement (PEER-formula 84), to a maximum of 184 hours or $139.84 per month of each employee.

*Effective January 1, 2019, the Employer shall pay to the Western Conference of Teamsters Trust the sum of $0.79 per hour, which will include retirement (PEER-formula 84), to a maximum of 184 hours or $145.36 per month of each employee.

*Effective January 1, 2020, the Employer shall pay to the Western Conference of Teamsters Trust the sum of $0.81 per hour, which will include retirement (PEER-formula 84), to a maximum of 184 hours or $149.04 per month of each employee.

*Effective January 1, 2021, the Employer shall pay to the Western Conference of Teamsters Trust the sum of $0.84 per hour, which will include retirement (PEER-formula 84), to a maximum of 184 hours or $154.56 per month of each employee.

Starting in 2022, a flat rate of $0.25 additional per year will take the place of the previous CPI increases, as follows:

a. *Effective January 1, 2022, the Employer shall pay to the Western Conference of Teamsters Trust the sum of $1.09 per hour, which will include retirement (PEER-formula 84), to a maximum of 184 hours or $200.56 per month of each employee.

b. *Effective January 1, 2023, the Employer shall pay to the Western Conference of Teamsters Trust the sum of $1.34 per hour, which will include retirement (PEER-formula 84), to a maximum of 184 hours or $246.56 per month of each employee.

c. *Effective January 1, 2024, the Employer shall pay to the Western Conference of Teamsters Trust the sum of $1.59 per hour, which will include retirement (PEER-formula 84), to a maximum of 184 hours or $292.56 per month of each employee.

d. *Effective January 1, 2025, the Employer shall pay to the Western Conference of Teamsters Trust the sum of $1.84 per hour, which will include retirement (PEER-formula 84), to a maximum of 184 hours or $338.56 per month of each employee.

e. *Effective January 1, 2026, the Employer shall pay to the Western Conference of Teamsters Trust the sum of $2.09 per hour, which will include retirement (PEER-formula 84), to a maximum of 184 hours or $384.56 per month of each employee.

f. The total amount due for each calendar month shall be remitted in a lump sum not later than ten (10) days after the last business day of each month. The Employer agrees to abide by such rules as may be established by the Trustees of said Trust Fund to facilitate the determination of the hours for which contributions are due, the prompt and orderly collection of such amounts and the accurate reporting and recording of such hours and such amounts of each member of the bargaining unit. Failure to make all payments herein provided for within the time specified shall be a breach of this Agreement.

g. The parties agree to execute a suitable supplemental Letter of Understanding, consistent with the foregoing employer contribution rate obligations and conforming to language acceptable to the Trustees of the Plan, upon request.

Section 2.

The Employer shall comply with the Uniformed Service Employment and Reemployment Rights Act (USERRA). The Employer has the following obligations regarding an employee who leaves covered employment to enter military service and thereafter returns to work for the Employer while his USERRA reemployment rights are protected:

First, if the employee is absent from work for no more than 30 consecutive days because of military service, the Employer is obligated under USERRA to continue making pension contributions to the Western Conference of Teamsters Pension Trust Fund (WCTPTF) just as if the employee had continued in covered employment without interruption.

Second, if the employee is absent from covered employment for more than 30 calendar days because of military service and then returns to work for the Employer while his USERRA reemployment rights are protected, the Employer is obligated under USERRA to:

h. Notify the WCTPTF in writing within 30 calendar days after the employee returns to work.

i. Pay retroactive pension contributions to the WCTPTF on the employee's behalf for the period he or she was absent from covered employment with the company.

ARTICLE 31 VIDEO

Members shall be entitled to review his/her Video records within twenty-four (24) hours of giving the Employer a written request if the recording is still available due to technical parameters. In addition, employees shall be entitled to review all Video evidence the employer may use to support any termination or suspension prior to being questioned in connection with any such disciplinary action.

It is understood between the parties that all Video will not be used in violation of State or Federal law.

ARTICLE 32. TERM OF AGREEMENT

This Agreement shall become effective on the 7th day of October, 2020, and shall continue in full force until December 31, 2026. Either the Union or the Employer may give the other party written notice of its intention to change, modify or terminate the Agreement not less than sixty (60) calendar days prior to December 31, 2026. If such notice of intention to change, modify or terminate the Agreement is not given by the date described above, the Agreement shall be renewed for an additional year. Thereafter, the Agreement will continue from year to year unless notice is given not less than sixty (60) calendar days prior to the anniversary termination date of any succeeding year.

IN WITNESS WHEREOF, the parties hereto have set their hands and seals this 7th day of October, 2020.

BAY COUNTIES WASTE SERVICES, INC.,

BY: _____
Jeff Nabhan, Operations Officer

Date: 10/16/20

TEAMSTERS LOCAL NO. 350

BY: _____
John Bouchard, Secretary-Treasurer

Date: 10/14/20

RATIFICATION DATE May 27, 2021 – DECEMBER 31, 2026

Union Contract Between:

Bay Counties Waste Services, Inc.
(SMaRT STATION)

AND

LOCAL 350
(SANITARY TRUCK DRIVERS & HELPERS UNION)

Operators & Mechanics

4/9/21 2nd Final Draft based on 3/26/21 agreement

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AGREEMENT

COLLECTIVE BARGAINING AGREEMENT

THIS extension AGREEMENT, made and entered into this RATIFICATON DATE May 27, 2021, by and between BAY COUNTIES WASTE SERVICES, INC. (SMaRT Station), hereinafter termed the Employer, and LOCAL UNION NO. 350, affiliated with the International Brotherhood of Teamsters, Chauffeurs, Warehousemen and Helpers of America, hereinafter called the Union.

WITNESSETH

The parties hereto, acting by their duty authorized agents, in the interest of establishing friendly relations to the mutual benefit of all parties, hereby and herein agree to the following:

ARTICLE 1 - RECOGNITION

The employer recognizes the Union as the sole collective bargaining representative for all employees of the employer working in the classifications hereinafter set forth, except and excluding office clericals, guards, and supervisors of said Company as defined in the National Labor Relations Act.

ARTICLE 2 - UNION SECURITY AND DUES CHECK OFF

It shall be a condition of employment that all employees covered by this Agreement shall apply for membership in the Union on or after the thirty-first (31st) day following the beginning of their employment or the effective date of this Agreement, whichever is later, and as a condition of continued employment, shall maintain their membership in the Union in good standing. A member in good standing shall mean by any member who pays or tenders payment of regular initiation fees and dues to the Union. Written evidence of loss of good standing will be submitted by the Union to the Employer before severance is made from the payroll.

The Employer agrees to make deductions from employees' wages for Union membership dues (including any past due owed by unpaid), initiation fees, and assessments only on the following basis:

1. The Union must present the Paymaster with a legal written authorization dated and signed by the employee.

2. The Union agrees to furnish to the Employer written notice of the amount to be deducted for initiation fees and dues and of the identity of the Union official authorized to receipt of such deduction.

3. The deduction will be made once each month on the first payroll in the month. If the employee does not receive a paycheck on that day for any reason, the Employer's obligation is discharged insofar as the deduction for the month is concerned.

4. The Employer's obligation in this Article ceases any time he does not have signed acknowledgement of ninety percent (90%) of the employees.

5. The Union shall save the Employer harmless from any claims, demands, or other proceedings in connection with the deductions or any action taken hereunder and the Union shall be responsible for the adjustment of any claims by the employee involved.

ARTICLE 3. MANAGEMENT RIGHTS

Section 1.

The Employer retains and shall continue to have the rights and power to manage its operation and direct its workforce, except as expressly limited by specific provisions of this Agreement.

It is recognized that in addition to other functions and authorities, the Employer has and will retain the right and authorities to direct the operations of the Employer and in this connection to determine the assignment of all work to employees; process and means of operation; to select, hire, promote and transfer employees, including the right to make and apply rules and regulations for discipline, efficiency and safety, so long as the rules and regulations do not conflict with the express terms of this Agreement; to establish, modify or eliminate incentive plans, providing, however, that such exercise of such rights shall not conflict with any specific provision of this Agreement.

Section 2.

It is recognized and agreed that employees shall follow the instruction and direction of the Company. The names of the Company supervisors shall be posted on the bulletin board. If an employee has any doubts about any instruction or direction issued to him by a Company supervisor, he may request it in writing no later than the end of his work shift. No employee shall be disciplined or discharged for carrying out the instructions or directions of a Company supervisor whether in writing or not. Any employee who feels that he has received contrary instructions from different supervisors of the Company shall report the matter to the next level of Company supervision for decision.

Section 3.

The assignment of equipment is the responsibility of the Employer as it deems necessary for operational efficiency.

ARTICLE 4. CLASSIFICATIONS AND WAGE RATES

Section 1.

The basic rates for employees covered by this Agreement shall be as follows:

1. Effective January 1, 2022, through December 31, 2026, the Employer shall provide either a three percent (3%) raise or a CPI increase, whichever is higher. The percentage increase will be based upon the Consumer Price Index (Urban Wage Earners and Clerical Workers) for San Francisco, Oakland and San Jose 1982-84 = 100 (CPI) for the period between December 2020 and December 2021. Should the CPI exceed the raise per hour as shown below, such additional rates shall be added to the increase in the classification listed below.

2. **On January 1, 2022, a one-time thirteen percent (13%) raise, in addition to the three percent (3%) raise or CPI increase mentioned above, will be provided to operators and mechanics. Additionally, mechanics will be provided a one-time increase of $2/hour on top of the aforementioned sixteen percent (16%) minimum raise (as calculated below, in item 3).

3. The same CPI formula, as in item 1 above, shall apply each year, December over December.

	Current	1/1/22 **	1/1/23	1/1/24	1/1/25	1/1/26
		($3.92)	($0.85)	($0.88)	($0.90)	($0.93)
Buy Back Operator	$24.51	$28.43	$29.28	$30.16	$31.06	$31.99
		($4.35)	($0.95)	($0.98)	($1.00)	($1.03)
Equipment Operator 1	$27.21	$31.56	$32.51	$33.49	$34.49	$35.52
		($4.67)	($1.02)	($1.05)	($1.08)	($1.11)
Equipment Operator 2	$29.18	$33.85	$34.87	$35.92	$37.00	$38.11
		($4.85)	($1.05)	($1.09)	($1.12)	($1.15)
Scale Operator	$30.30	$35.15	$36.20	$37.29	$38.41	$39.56
		($6.63)	($1.07)	($1.10)	($1.13)	($1.17)
Mechanic Helper	$28.94	$35.57	$36.64	$37.74	$38.87	$40.04
		($8.55)	($1.49)	($1.53)	($1.58)	($1.62)
Fleet Mechanic	$40.96	$49.51	$51.00	$52.53	$54.11	$55.73
		($6.99)	($1.14)	($1.18)	($1.21)	($1.25)
Fleet Mechanic Helper	$31.17	$38.16	$39.30	$40.48	$41.69	$42.94
		($7.06)	($1.16)	($1.20)	($1.23)	($1.27)
Mechanic Apprentice	$31.62	$38.68	$39.84	$41.04	$42.27	$43.54
		($7.29)	($1.21)	($1.25)	($1.28)	($1.32)
Mechanic 2	$33.05	$40.34	$41.55	$42.80	$44.08	$45.40
		($7.69)	($1.30)	($1.34)	($1.38)	($1.42)
Mechanic 1	$35.56	$43.25	$44.55	$45.89	$47.27	$48.69

4. All wage increases shall be permanent.

5. All lead personnel shall receive a ten percent (10%) per hour differential pay above the classification employees they lead.

6. All new hires for all classifications shall receive $2.00 less per hour for the first ninety (90) days of their employment in accordance with the above formula.

7. Employees who work in a higher classification shall be compensated for their efforts at the higher rate of pay for actual hours worked. Any employee who works over four (4) hours in a single work day at a higher wage classification shall receive the higher wage for the entire day. An employee who works in a higher classification shall be guaranteed at least one (1) hour's pay for work in that classification.

Effective January 1, 2022, the Company agrees to conduct an annual audit of hours-worked by employees in higher classifications, using a 52-week average, to determine difference owed for vacation/sick/holiday pay between employee rate and the higher classifications they worked in, from each January to December. Difference of monies owed shall be paid by a separate check, no later than the second week the following January, so that the entire calendar year can be calculated. Refer to Article 19, Section 10 (Hours of Work) for an example.

8. Vacancies that occur between classifications and/or different Collective Bargaining Agreements (CBA); SMaRT CBA for Drivers, Sorters, and Operators/Mechanics shall be posted at the time clock and offered to qualified employees in accordance with seniority before such vacancies are filled from the outside. It is understood that an employee who is covered by any of the SMaRT CBA's and who exercises his or her seniority to **accept a job in a "New Classification" shall not lose Company seniority for benefits purposes**, however, shall obtain new classification seniority upon accepting the new position. Company agrees to send employee roster to Union every January and July.

   Employer shall make a good faith effort to notify any employee who is absent on State Disability/Workers Compensation/Vacation leave during such postings. Employees shall notify Company of their interest by contacting the Company or signing the posting. Any employee who is absent during the awarding of the vacancy shall be notified by the Company of their turn to accept/reject such vacancy and they will be required to give their decision on the vacancy in a timely manner (5 work days).

9. All employees covered by this agreement who are employed on January 1st of 2022 will be entitled to a one-time $1,000 signing bonus. The one-time $1,000 bonus check will be paid during the second pay period in January, by separate check.

ARTICLE 5. PERFORMANCE OF WORK BY MANAGERS

Supervisor and/or Management employees will not perform bargaining unit work, except in the following circumstances:

1. Supervisors shall have the right to train a bargaining unit employee or demonstrate work to him.

2. Supervisors shall perform unit work in emergencies to save equipment or material or to avoid injury to employees.

ARTICLE 6. NO STRIKE, NO LOCKOUT

Section 1.

During the term of this Agreement the Union will not cause a strike or production stoppage of any kind, nor will any employee or employees engage in concerted action to slow down the rate of production, or in any manner cause interference with or a stoppage of the Employer's operations, provided the Employer follows the grievance procedure for which provision is made herein. Likewise, the Employer agrees that there shall be no lockout during the term of this Agreement provided the Union follows the grievance procedure for which provision is made herein.

Section 2.

It shall not be a violation of this Article and shall not be cause for disciplinary action in the event an

employee refuses to cross or work behind a lawful, primary, sanctioned picket line, including picket lines at the Employer's place of business.

ARTICLE 7. PROBATIONARY PERIOD

Section 1.

Every new or rehired employee shall be on probation for the ninety (90) calendar days of employment or reemployment in the bargaining unit. Upon satisfactory completion of said probationary period, seniority will be computed from the date of hire or most recent date of rehiring into the bargaining unit.

Section 2.

At any time during the probationary period, the employee may be discharged for any reason except for reasons prohibited by law, and any such employee so discharged shall not have the right to file or have any such recourse to the grievance procedure.

ARTICLE 8. USE OF NON-PRODUCTIVE TIME

Section 1.

Each employee shall utilize all non-productive time for the purpose of keeping his equipment, vehicles and work place clean and orderly. Non-productive time means time when an employee cannot perform his regular assigned productive work for such reasons as equipment breakdown, stoppage, lack of vehicles, parts and material, or any other temporary situation which keeps the employee from performing his assigned operation or duties unless he is assigned to perform other temporary duties by his supervisor.

Section 2.

No regular assigned employee shall be removed from his classification as long as there is work available for the employee in his classification. This section shall not prohibit management from directing an employee to perform work outside his classification if management determines that the regular work of the employee will not be performed at that time.

ARTICLE 9. SENIORITY

The Employer agrees that all present employees shall reflect their seniority date with their individual original date of hire at the Sunnyvale Transfer Station, Sunnyvale, California.

All new employees shall be subject to a probationary period for the first ninety (90) calendar days of employment and can be discharged within such period of time for any reason. Once a probationary period has been successfully completed, the employee's seniority is established and is retroactive to the date of hire or rehire.

Section 1 Application of Seniority.

Application of Seniority: In the reduction of force due to slackness of work, the last employee hired shall be the first employee laid off, and in rehiring, the last employee laid off shall be the first employee rehired, until the list of former employees is exhausted, unless the employee retained or to be recalled is unable to do the work available.

Section 2 – Broken Seniority.

Seniority will be broken and the employment relationship will cease in the event of discharge, resignation, off work for twelve (12) consecutive months for any reason other than (disability) due to injury sustained in the service of the Employer compensable under the Workers' Compensation laws, absence for two (2) working days without notifying the Employer, failure to return within three (3) working days following the sending of a notice of recall to an employee's last known address as shown on the Employer's records retirement, settlement has been made for total and permanent disability, or he fails to return to work at the expiration of a leave of absence. The Employer has the right, prior to reinstating to active employment to have an employee examined by the Employer's physician to evaluate the employee's fitness to return to his job. An employee who is off work due to injury or illness sustained in the service of the Employer compensable under the Workers' Compensation laws shall be returned to work when certified by a Company physician as fit to work regardless of the length of time he is off.

Section 3 – Notice of Recall.

Notice of recall shall be sent to the employee at their last known address, as filed with the Employer by certified mail with a copy to the Union. In the event of layoff, an employee so laid off shall be restored to duty according to seniority provided he reports to the call to the Employer, which shall be communicated to the employee at his last known address, as filed with the Employer by certified mail and to the Local Union by fax or telephone and provided the employee reports for duty within three (3) calendar days exclusive of Saturday, Sunday or holidays, from time of said call. The giving of said call, shall fulfill the obligation of the Employer under this provision.

Section 4 - Permanent Vacancies.

When permanent vacancies in any classification exist, and before being permanently filled, a notice of such vacancy will be posted on the bulletin board for three (3) working days. Any employee desiring to fill a posted vacancy will make application by signing the posted form. When two (2) or more applicants for a single vacancy are equally qualified to fill such vacancy, it shall be filled by the employee among such equally qualified applicants having seniority, but if one of such applicants is better qualified to fill such vacancy, it will be filled by the most qualified applicant. If there are no qualified applicants available, a new employee may be employed to fill the vacancy. Upon the request of the Union, the Employer will discuss and explain the reason and basis upon which its decision in filling a vacancy was made. The employee selected by the Employer shall be given a trial period of up to 30 days to demonstrate his/her ability and qualifications. The determination that the employee is capable of performing the duties of said classification shall be at the sole discretion of the Employer. During this trial period, the employee shall be paid at the rate of his original classification at the time his training began. The employer will make a good faith effort to contact any employee who is absent on State Disability/Workers Compensation/Vacation leave during such postings onto the posted sign-up list and offer the position, based on seniority.

ARTICLE 10. DISCIPLINE AND DISCHARGE

Section 1.

Employee shall be subject to discharge without prior warning for dishonesty, drinking or being under the influence of alcohol or drugs on the job, or gross willful insubordination. Other matters such as habitual tardiness, failure to report work, neglect of duty or similar matters covered by publishing Company Rules and Regulations shall require at least three (3) written warnings to the Employee and/or disciplinary layoff of the employee prior to discharge for a fourth (4^{th}) offense. The fourth offense must occur within six (6) months of the last warning.

Section 2 – Duration of Warning Notices.

The warning notices as herein provided shall become invalid six (6) months after they are issued. All warning letters and/or disciplinary actions issued prior to the date of ratification of the Collective Bargaining Agreement extension shall be rescinded. Any last chance agreements existing prior to date of ratification will remain valid only until December 31, 2021.

Section 3 – Separate Tracks.

Discipline for absence related offenses such as excessive absences or pattern absences shall be on a separate track from other offenses described in Section 1 and shall not be combined with other offenses for the purpose of imposing discipline.

Section 4 – Notify Union.

The Employer agrees that it will notify the Union within twenty-four (24) hours after it discharges an employee. It is further agreed that a copy of any letter of warning or disciplinary layoff shall be furnished to the employee with a copy to the Union.

Section 5 – Suspension.

The Employer shall not use its right to transfer or assign work to employees for the purpose of discipline. No employee shall be suspended for more than three (3) working days.

Section 6 – Investigatory Hearing.

In the event the Company determines discharge of an employee may be warranted, an investigatory hearing will be held within five (5) working days before such discharge shall be effective. During the pendency of the investigatory hearing, the employee may be taken out of service by the Company subject to discharge. The Union shall be notified of the investigatory hearing and may attend. The Union, upon request, can extend the time of investigatory hearing to seven (7) days from the date of notification from the Company. After the investigatory hearing has been held, the Company will decide whether or not to make the discharge final within three (3) working days. If an employee is discharged following the investigatory hearing, the decision of the Company may be appealed directly to Step 2 of the Grievance and Arbitration Article of this Agreement.

Section 7 – Suspension Abeyance.

In suspension cases of 3 days or less, the employee shall be allowed to remain on the job without loss of pay/benefits for a period of twenty (20) calendar days, unless and until the suspension is sustained under the grievance machinery, except where the employee appears for work without a current and valid driver's license as required for duties which the employee is expected to perform.

Section 8 – Time Limit for Issuing Warnings.

Within twenty (20) calendar days of an occurrence of the alleged cause for discipline, discharge or suspension, the Employee shall give written notice by certified mail to the employee and to the Local Union of its decision to discipline discharge or suspend the employee and such notice shall set for the reason or reasons for the discharge or suspension. If the Employer fails to give such notice within the specified twenty (20) day period, the right to discharge or suspend for that particular reason shall be waived.

The employer will hand-deliver a copy of any discipline, discharge or suspension to employees at the time discipline is issued. The employer will mail a certified letter of final termination to employees and will fax the Union a copy.

ARTICLE 11. GRIEVANCE AND ARBITRATION

Section 1.

Grievance Defined: A grievance is defined as a condition that exists as a result of an unsatisfactory adjustment or failure to adjust a claim or dispute by an employee or employees, the steward or union representative concerning rates of pay, hours or working conditions set forth herein, or the interpretation or application of this Agreement. All grievances shall be processed in accordance with the following procedure:

Step 1:

No matter shall be considered a grievance until it is first taken up by the Union with the immediate Foreman, Supervisor or Company Manager who will attempt to settle the matter. If the grievance is not settled within three (3) calendar days, it may be taken into Step 2 at which time it will be considered an official grievance. In order to be considered timely and eligible for further consideration at the conclusion of Step 1, a written grievance must be presented to the Company, not later than twenty (20) calendar days after the employee or the Union had knowledge of the occurrence of the event giving rise to the grievance, or five (5) work days for any grievance over a suspension or discharge. The Company representative shall respond to the grievance at this Step 1 within five (5) work days from receipt of the grievance.

Step 2:

Within five (5) calendar days after Step 1 has passed, the Union may request a meeting with the General Manager, which shall be held within ten (10) calendar days after the request has been made by the Union. In the event there is no agreement upon the settlement of the grievance, the matter may be referred to federal mediation.

Step 3:

FMCS Grievances Mediation: Either party may refer any grievance to the Federal Mediation and Conciliation Services for non-binding mediation prior to proceeding to arbitration. The mediation will be conducted in accordance with FMCS guidelines for grievance mediation. If the mediation is not conducted within (30) calendar days of grievance referral to FMCS, or within such time as may be agreed upon, the grievance shall be considered unresolved and the time period for electing arbitration shall commence.

In the event that a majority of the parties cannot agree to a settlement of a dispute regarding the interpretation or enforcement of any of the sections of this Agreement, or the terms or provisions of written agreements supplementary hereto, the dispute may be submitted to a neutral arbitrator mutually selected and agreed upon, whose decision will be final and binding.

The parties will request a list of arbitrators who will be available within thirty (30) calendar days from the Federal Mediation and Conciliation Service.

- All of the arbitrators shall be contacted to determine their availability to hear the matter within thirty (30) calendar days, and any who are unavailable within this period shall be eliminated from the list.

- After a toss of a coin to decide which party shall move first, a member of the Employer Committee and a member of the Union Committee shall alternately strike one name from

the list until only one name remains, and such person shall be the arbitrator for the determination of the case.

- The last name stricken shall be the alternate arbitrator to serve in the event that the first arbitrator is not available to serve in the time so specified above, the next to the last name to be stricken shall become the second alternate arbitrator, and so on.

- Each party shall bear its own expense in presenting the case to the arbitrator. The expense of the arbitrator shall be divided between the parties hereto. The Company agrees to pay a sum equal to but not greater than one-half (1/2) of said expense, and the Union agrees to pay a sum equal to but not greater than one-half (1/2) of said expense.

- There shall be no interruption of work during the settlement of a controversy. If the Employer fails to take action to remedy the source of the grievance within five (5) calendar days after rendition of a decision in favor of the Union, the Union shall be free to take any action against the Employer it deems advisable, including, without limitation, a stoppage of work.

Section 2.

The decision of the arbitrator shall be final and binding on employees, Union and Company. Such decision shall be within the scope and terms of this Agreement but shall not add to, subtract from, alter or change the scope and terms. The decision shall be rendered in writing within fifteen (15) calendar days from time or presentation to the arbitrator and shall specify the effective date of this decision.

Section 3.

The expenses of the representatives appointed by the Union, its witnesses and other representatives shall be paid by the Union, and the expenses of the representatives of the Employer, its witnesses and other representatives shall be paid by the Employer. Any expenses incurred by and the fees of the neutral arbitrator shall be borne equally by the parties. Any transcript of the proceeding which is taken shall be paid for by the party requesting same except the other party shall pay the cost of its own copy. Time limitation of any of the above grievance steps can be waived by mutual agreement in writing between the Union and the Company. Failure to comply with the time limits specified herein shall result in the grievance being resolved in favor of the other party.

ARTICLE 12. SUBCONTRACTING

The Employer shall not subcontract work presently handled by the present compliment of employees for the exclusive purpose of reducing the present complement of employees. In the event that additional work is added to the work performed by the bargaining unit, the Employer will meet and negotiate with the Union prior to any decision to subcontract such additional work for the purpose of reducing the present complement of employees.

ARTICLE 13. ALCOHOL AND DRUG USE

In accordance with the Omnibus Transportation Employee Testing Act of 1991, that requires alcohol and drug testing of safety-sensitive employees, the Drug and Alcohol Testing rules of Federal Highway Administration (FHWA), the Department of Transportation (DOT) Drug and Alcohol Testing Procedures of 1995 and the implementing regulations (49 CFR Part 40) issued for all persons required to maintain a commercial driver's license (CDL), employees will be required to submit to pre-

employment, post-accident, reasonable suspicion, random and return of duty and follow up test.

In compliance with the aforementioned mandates rules, all employees are subject to accident, reasonable suspicion and random testing. Testing procedures are as follows:

1. Employees may be tested on site. If tested on site, the employee may be asked to meet in the conference room and be given notice of on-site testing. If tested off-site, the employee will be notified by his supervisor and given a signed form with date and time at morning check-in to report to the Company Designated Occupational Medical Center or any laboratory certified by the National Institutes on Drug Abuse (NIDA). Employees who are instructed to be tested are required to follow the supervisor's instruction and proceed directly to the testing site. Failure to do so will be grounds for suspension, pending termination.

2. On-site testing will be executed by a representative of any laboratory certified by the National Institutes on Drug Abuse (NIDA).

3. A refusal to be tested is considered the same as a positive test and the employee will be subjected to immediate termination.

4. Time off for rehabilitation and treatment for a substance abuse problem will not be available once an employee has been summoned for a test or engaged in conduct for which a test can be required.

5. Persons that come forward prior to being subjected to a test will be considered on an individual basis by the Employer's representative. Persons disclosing a drug or alcohol problem at the time of notification of a random test are considered not to have made a voluntary disclosure.

6. Upon receiving confirmation of a positive alcohol and/or drug test, the employment of said person is subject to termination.

7. Any employee whose test result is positive for drugs or whose result is the equivalent of the statutory level of intoxication will be subject to termination.

8. A seniority employee shall be permitted to take a reasonable leave of absence for the purpose of undergoing treatment pursuant to an approved program of rehabilitation for drug or alcohol abuse, provided that the leave is requested prior to commission of any related act which subjects the employee to disciplinary action. Such leave of absence shall not exceed a thirty (30) calendar day period unless extended by mutual agreement for an additional thirty (30) calendar days. Such leave shall be on a one-time basis and shall constitute a leave of absence under Article 18, except as herein provided. After such a leave, further evidence of drug or alcohol abuse will be ground for termination.

9. While on such leave, and for the first month only, the employee shall accrue those benefits provided employees who are unavailable for work due to injury or illness occurring on the job. Funeral leave and jury duty shall not be payable. No benefits shall be accrued during any extension, though the employee may pay for his own health and welfare coverage.

10. Employees requesting to return to work shall be required to submit to reasonable periodic testing as the parties may adopt. Failure to comply with those conditions shall result in the employee's immediate removal from the job and termination of his employment. Such cases shall be subject

to the grievance procedure only to the extent that there may be a question whether the conditions for return to work have been violated.

11. Notwithstanding Section 7, in the event an employee tests positive under DOT standards as a result of a drug or alcohol test authorized by this Agreement, or refuses to provide a specimen for an authorized test, and it is the first positive test result he/she has experienced as an employee of the Company, the following shall apply:

    a. As a condition of continued employment, the employee shall participate in a program for drug or alcohol rehabilitation (as the case may be).

    b. Upon satisfactory completion of the program, the employee shall be subject to the conditions stated in Section 10 of this Article.

    c. Time lost from work during any absence while participating in the rehabilitation program shall be recorded as disciplinary suspension.

    d. The provisions of this Section shall be available on a one-time basis, only.

ARTICLE 14. UNION REPRESENTATION

Authorized representatives of the Union shall be permitted to enter the Employer's facilities during working hours for the purpose of transacting business in connection with the administration of this Agreement on the following conditions:

1. The Union shall have on file with the Employer a list of authorized Union representatives.

2. The business of the Union's representatives will be transacted in a manner so there is no interference with the work of any employee.

3. The Union's representatives shall notify the General Manager or his designee prior to arrival or upon arrival at the facility, and upon leaving the facility. If such notice cannot reasonably be given prior to arrival, the notice must be given upon arrival prior to speaking to any bargaining unit employee. If the Union representatives wish to visit with an employee who is working, he shall make arrangements with the General Manager or his designee. The Employer shall make employees available during processing of grievances.

ARTICLE 15. JURY AND WITNESS DUTY

Any non-probationary employee, when called for jury service in any state, county or federal court, shall advise the Employer upon receipt of such notice. If taken from his work to perform such service, he shall be reimbursed as provided for herein for any loss of wages while actually performing such service, up to a maximum of five (5) days during any calendar year. Such reimbursement shall be the difference between the employee's regular daily rate of pay (maximum eight (8) hours straight time pay) and the compensation the employee receives for jury service. The employee must provide written documentation of jury service, including the amount of compensation received.

ARTICLE 16. HOLIDAYS

Section 1.

The following shall be paid holidays under the terms of this Contract and all regular employees shall receive eight (8) hours straight time pay for each of such holidays in addition to pay received for work performing during the course of such holiday weeks. No employee shall work Thanksgiving Day, Christmas Day or New Year's Day. The employee assigned shall work the Saturday of the workweek of Thanksgiving Day, Christmas Day and New Year's Day.

Section 2.

There shall be a total of twelve (12) paid holidays during the working year:

New Year's Day	**Indigenous People's Day**
Memorial Day	**Fourth of July**
Labor Day	**Thanksgiving Day**
Employee Birthday	**Christmas Day**
Presidents Day	**Veterans Day**
Martin Luther King's Birthday	**Employee Anniversary Date of Employment**

Section 3 - Eligibility.

With respect to all employees other than regulars, any employee who reports for work and is put to work more than thirty (30) calendar days shall be entitled to any paid holiday which occurs during the month such employee reports to work.

Section 4. Requesting Time Off.

If any of the aforementioned holidays fall on a Saturday, the preceding Friday shall be observed as a holiday. If any of the aforementioned holidays fall on a Sunday, the following Monday shall be observed as a holiday. If an Employee's Birthday or Anniversary Date of Employment falls on a day other than a Friday or Monday, the employee shall have the option of celebrating such holidays on the nearest Friday or Monday or on a date that is mutually satisfactory for both parties.

Employees must request holidays with at least 24-hr notice. Such approval shall not be unreasonably withheld provided, however, that not more than three (3) employees in a non-mechanic position and two (2) mechanic classification employees be off at any one time (under either VAC/HOL/PTO) and approval be based on coverage of all areas by back-ups.

The Company shall post a time-off sign-up schedule on the bulletin board as of December 1 of each calendar year. Such sign-up shall remain posted through December 31 of each calendar year. Employees, by seniority, shall indicate their preference for Vacation/Holiday/PTO dates on this sign-up. In the event multiple employees desire the same time-off dates, as selected on the time-off schedule sign-up, the senior employees shall be given preference.

Employees who do not indicate a preference on this sign-up, or who desire to change their selected dates after December 31, shall be allowed to do so under these conditions: Employees who have selected time-off preference dates on the schedule sign-up shall have priority over any other employees, irrespective of seniority, who desire the same time-off dates but did not so indicate on the sign-up. The Employer, insofar as practicable, will grant employees the dates requested.

Section 5.

All employees reporting to work on a holiday shall receive eight (8) hours pay at one and one-half (1-1/2) times their regular rate of pay in addition to the holiday pay.

ARTICLE 17. VACATION

Section 1.

After one (1) year of continuous employment, an employee shall receive one (1) weeks' vacation with pay. After two (2) years of continuous employment, an employee shall receive two (2) weeks' vacation with pay. After five (5) years of continuous employment, an employee shall receive three (3) weeks' vacation with pay. After ten (10) years of continuous employment, an employee shall receive four (4) weeks' vacation with pay. After fifteen (15) years of continuous employment, an employee shall receive five (5) weeks' vacation with pay. After twenty (20) years of continuous employment, an employee shall receive six (6) weeks' vacation with pay. After twenty-five (25) years of continuous employment, an employee shall receive seven (7) weeks' vacation with pay. After thirty (30) years of continuous employment, an employee shall receive eight (8) weeks' vacation with pay.

A total lapse of service of forty-five (45) calendar days or less per year shall not break continuity of service for the purpose of this provision. Where the lapse of service exceeds forty-five (45) calendar days per year, the vacation period shall be prorated on the basis of actual weeks' service, except that the first forty-five (45) calendar days of lapse of service shall be counted as time worked for such purpose. Days for which Workers' Compensation is paid shall not break continuity of service in the vacation year that the industrial accident took place and the above shall not be applicable to such cases.

Vacation pay shall be computed from the regular hourly rate of the employee at the time vacation is due. In the event an employee does not use all of this benefit during the calendar year, he shall receive all accrued hours of straight time, payable, on a separate check, on the first pay period, but no later than the second pay period in December.

Section 2. Requesting Time Off.

Employees must request vacation with at least 24-hr notice. Such approval shall not be unreasonably withheld provided, however, that not more than three (3) employees in a non-mechanic position and two (2) mechanic classification employees be off at any one time (under either VAC/HOL/PTO) and approval be based on coverage of all areas by back-ups.

The Company shall post a time-off sign-up schedule on the bulletin board as of December 1 of each calendar year. Such sign-up shall remain posted through December 31 of each calendar year. Employees, by seniority, shall indicate their preference for Vacation/Holiday/PTO dates on this sign-up. In the event multiple employees desire the same time-off dates, as selected on the time-off schedule sign-up, the senior employees shall be given preference.

Employees who do not indicate a preference on this sign-up, or who desire to change their selected dates after December 31, shall be allowed to do so under these conditions: Employees who have selected time-off preference dates on the schedule sign-up shall have priority over any other employees, irrespective of seniority, who desire the same time-off dates but did not so indicate on the sign-up. The Employer, insofar as practicable, will grant employees the dates requested.

Section 3.

During the vacation period when a holiday falls during the employee's vacation, the employee shall be paid an additional day's pay.

ARTICLE 18. LEAVES OF ABSENCE

Section 1 - Requests for Leave.

All requests for leaves of absence must be in writing and state a specific length of time for the leave. When appropriate, unused vacation or paid time off benefits must be incorporated into leave period.

Section 2 - Benefits During Leave.

Accrual of benefits based on length of service such as vacation, paid time, and holiday benefits will be suspended, after 60 calendar days during the leave. Employees will not continue to accumulate seniority while on leave, except for military leave during which seniority continues to accrue. All leaves shall be unpaid. This does not apply to leave protected under the Law or by contract.

Section 3 - Personal Leave and PTO.

Regular employees with more than six (6) months of service may be granted personal leave at the discretion of the Employer for a maximum period of thirty (30) calendar days in order to accommodate an extreme need by an employee. Upon written request by an employee, the Employer extends the leave for a total period of up to forty-five (45) calendar days. All paid time off benefits, including vacation, must be used prior to taking any personal leave.

PTO: Employees who have been employed for one (1) year may take up to seven (7) days per calendar year of unpaid personal days provided the employer has been given twenty-four (24) hours' notice and has received his supervisor's approval. Such approval shall not be unreasonably withheld. All PTO days will be full-day increments.

When an employee returns to employment from a State Disability leave and the Company requires a Fit for Duty/Return to Duty examine, the employee will be made whole for any/all lost wages and benefits, back to the date of the original release to work once the member is approved for work by the Company doctor and providing the employee supplies all documents required by the Company doctor.

Section 4 - Family and Medical Leave Act.

Family Medical Leave of Absence: No employee will be required to exhaust any of their paid time off, (i.e. vacation, sick leave) when they are off work and being covered by State Disability. FMLA, CFRA or any other PAID leave granted in accordance with applicable laws, except as follows: Employees off on unpaid leave may use up to five (5) days of sick/vacation for any unpaid FMLA/CFLA related leave.

ARTICLE 19. HOURS OF WORK AND OVERTIME

Section 1 – Normal Weekday.

The normal workday for regular employees shall be eight (8) hours excluding non-paid lunch periods. The normal workweek for regular full-time employees shall consist of five (5) work days and shall be of forty (40) hours duration. In the event that the Employer decides to change the work week to four (4) ten-hour days it will advise the Local Union forty-five (45) calendar days prior to any change in order to allow the Union to negotiate the impact of such changes and that no changes

shall be made before the Employer and the Union have negotiated regarding the impact of said changes. The regular workweek shall be Monday through Friday.

Section 2 - Overtime.

All work performed in excess of eight (8) hours in any work day shall be paid for at the overtime rate of one and one-half (1 1/2) the straight time rate. Overtime shall not be pyramided or duplicated for the same hours worked.

Section 3 - Saturday/Sunday Work.

All work performed on Saturday shall be paid for at the overtime rate of one and one-half (1 1/2) the straight time; all work performed on Sunday shall be paid for at two (2) times the straight time rate. Employees required to work on Saturday or Sunday shall be guaranteed eight (8) hours work or eight (8) hours pay at the applicable overtime rate.

Section 4 – Mandatory OT.

It is agreed that overtime may be required from time to time. Any employee may be required to work reasonable overtime on a hold-over basis. Call-out overtime shall be offered in a descending seniority order, and the Employer retains the right to require the junior qualified employees to perform such call-out overtime work.

No employee shall be obligated to work more than fifty (50) hours per week unless it is on a voluntary basis. In the event that employees do not volunteer to work over the above hours, the Employer will have the right to require employees to work under the following conditions:

Call Out Overtime (e.g. Saturday and Sunday overtime) shall be offered in descending order of their seniority to employees who are qualified to perform the work required on the particular assignment. If the most senior qualified employee declines the offer, the overtime shall be offered to the next most senior qualified employee and so forth until the roster is exhausted; the least senior employee shall be required to accept the call out overtime assignment. The Employer shall rotate overtime on a fair and equal basis, including qualified relief employees.

Furthermore, any employee who starts work on Friday shall complete the work, even if the employee's hours exceed fifty (50).

Section 5 – Guaranteed Hours.

All regular employees who have completed their probationary period shall be guaranteed forty (40) straight time hours of pay per week provided such employees make themselves fully available for work and report to work at their regular starting times designated by the Employer, provided, however, such guarantee shall not apply to employees who voluntarily quit, or who are laid off, or who are discharged for cause.

Section 6 – Report to Work Pay.

Any employee scheduled to work a full day, and working any part of a day, shall receive a full day's pay if he presents himself at starting time and is available for work during all of the working day. If employee, after reporting for work, makes himself unavailable for work for reasons other than an industrial injury, said employee shall be paid for the time he made himself available for the work duty.

Section 7 – Changing Start-Time.

Changing of the start time shall be at the discretion of the Employer, with reasonable notice posted

on the bulletin board of at least seventy-two (72) hour notice for permanent/long-term shift changes, and twenty-four (24) hour notice for emergency shift changes. This shift notice does not apply to employees performing in bid back-up positions.

Section 8 – Casual Employees.

Casual employees shall not be under the weekly guarantee if they are not hired to permanently replace a
regular employee. Casual employees shall be emergency employees hired for temporary replacement of a regular employee who is out due to illness or absence.

Section 9 - Call Back Pay.

When an employee is called back after his regular shift, and after he has left the Employer's premises, he shall be given a minimum of four (4) hours work, provided the failure to complete the four (4) hours does not result from his own fault or refusal to accept the assignment.

Section 10 - Temporary Assignments.

At the discretion of the Employer, an employee may be assigned to other duties, but no employee shall suffer a reduction in pay resulting from a temporary assignment of less than eight (8) hours. An employee temporarily assigned to a higher classification shall receive pay for the higher classifications for all hours worked in that classification. The Employer and the Union shall meet immediately after ratification regarding the need for posting and training additional back up operators for all classifications.

Effective January 1, 2022, the Company agrees to conduct an annual audit of hours-worked by employees in higher classifications, using a 52-week average, to determine difference owed for vacation/sick/holiday pay between employee rate and the higher classifications they worked in, from each January to December. Difference of monies owed shall be paid by a separate check, no later than the second week the following January, so that the entire calendar year can be calculated.

EXAMPLE:

To determine average rate: If in calendar year 2022, an employee worked 1500 hours in a lower classification at a base rate of $22.15, and 580 hours at a higher classification at a base rate of $29.11, then the average hourly base rate for the year would be $24.09:

(1500 x $22.15 + 580 x $29.11) / (1500 + 580) = $24.09

The difference between the lower base rate and the $24.09 average rate would be $1.94 per hour. On or before the second payroll in January 2023, the employee would receive a check for $1.94 multiplied by the total number of vacation, sick and holiday hours that were accrued in 2022:

To determine amount owed: If the employee accrued 160 hours of vacation, 96 hours of sick, and 96 hours of holiday they would get a gross check for $682.88:

(160 x $1.94) + (96 x $1.94) + (96 x $1.94) = $682.88

If the employment ends before the end of the year this will be calculated at the end of the employment and will be added to any monies owed for accrued time-off.

Section 11 – 12+ Hour Workdays.

Any employee who works over twelve (12) hours on any working day shall receive double time rate of pay for all hours after twelve (12) hours worked.

ARTICLE 20. LUNCH AND REST PERIODS

Employees shall receive a thirty (30) minute lunch period each day without pay. Employees are to be at their work stations ready for work at the end of their lunch period. The time of taking lunch periods for each employee shall be scheduled by and at the convenience of the Employer. Employees shall be entitled to two (2) fifteen (15) minute rest periods during the day, one (1) fifteen (15) minute rest period during the first half of the shift, and one (1) fifteen (15) minute rest period during the second half of the shift. Employees are to be at their work stations ready for work at the end of each lunch and rest period. Rest periods for each employee shall be scheduled by and at the convenience of the Employer and in accordance with applicable law. The Employer shall continue the practice concerning travel time to and from lunches/breaks.

ARTICLE 21. CASUAL EMPLOYEES

Section 1.

The parties recognize that the Employer has a need for casual and/or extra material handlers to replace employees who are sick, on vacation or who for other reasons do not report for work. Accordingly, the Employer shall establish a pool of persons who are available for such work. A list of such individuals
shall be maintained by the Employer, arranged sequentially in accordance with their first day of work, and shall be updated as needed for accuracy.

Section 2.

Available extra work, including vacation relief, shall be assigned by rotation from the list of casuals in the order that such casuals appear on the list. When a casual completes the assignment, he shall be returned to his place on the casual list for further work assignment.

Section 3.

The Employer shall have the right to eliminate names from the casual list on a basis of unreliability, poor work performance, or for other legitimate reasons. The grievance procedures of the Agreement shall not be available to casuals because they have been eliminated from the list, except as provided in section 21.4 below.

Section 4.

New registrants on the casual list shall be considered on probation, and shall not acquire seniority until ninety (90) calendar days after their first date of employment. Upon achieving seniority, a casual shall be entitled to Article 10 & Article 11 of the Agreement. The Guaranteed Hours provision of the Agreement (section 19.5) shall not be applicable to casuals or extra employees.

Section 5.

Vacancies in regular employment shall be filled from casuals who have achieved seniority, in order that their name appear on the casual list. In the event of layoff of regular employees, they shall have the right to be included at the top of the casual list, in accordance with their seniority. Their recall rights under this Agreement shall remain intact while performing work as casuals.

Such laid off regular employees shall receive the full contractual rate of pay while working off the casual list.

ARTICLE 22. REPORTING PAY

Section 1.

If an employee reports for work as scheduled and has not been told not to report the previous day, he shall be given a minimum of four (4) hours work, unless, because of the circumstances, it is beyond the control of the Employer.

ARTICLE 23. HEALTH INSURANCE

Upon ratification of this agreement, the Employer will provide group health coverage under an HMO plan for medical, a dental, and a Vision Plan for vision. All medical coverage will be provided by Bay Counties Waste Services for eligible employees and their eligible dependents.

1. Regular Employees: For the purposes of this section only, the term regular employee shall mean any employee who has worked eighty (80) hours or more in the calendar month immediately preceding the month in which premium payment is made.

2. Premium: Effective January 1, 2008, the Employer shall contribute 100% of the premium, per month, for each regular employee for all the benefits provided under this plan.

3. The Employer shall pay whatever additional amounts, as determined by all three (3) Health & Benefit providers (currently Kaiser for medical and vision, Met Life for dental) from time to time during the term of this Agreement, as are necessary or desirable to maintain the benefits in the various programs at the same levels as the commencement of this Agreement. Both the Company and the Union will be in agreement before any carrier change is made.

4. Whenever an employee is unable to work because of injury or disability, the Employer shall continue to pay the employee's health and welfare premium for a period of up to 12 (twelve) months thereafter.

Health Plan Described Below:

Annual Max. Out of Pocket	$1,500 – per person $3,000 – per family
Deductible	None
• Annual Specific Deductible	
Coinsurance	No charge after co-pay
Lifetime Maximum	Unlimited
Office Visit Copay	$10.00
• Preventative Care	
Well Baby/Child Care	$3.00
Adult Periodic Exam	$10.00 co-pay
Physical /Occupational/Speech therapy	$10.00 co-pay
• Hospital Services	
Inpatient Hospitalization	100%
• Mental & Nervous/Chemical Dependency	
Inpatient	100%
Outpatient	$10.00 co-pay
Emergency Room Visit	$100.00 co-pay ***see below***

X-Ray & Lab Services	No charge
Durable Medical Equipment	
Chiropractic Services	$10.00 co-pay
• Prescription Drugs (30 day supply)	
Generic	$10.00
Brand	$30.00
Non-formulary Brand	$30.00

***Upon ratification, $50 of the $100 emergency room visit co-pay will be reimbursable with ER visit receipt and paid by check to employee no later than by the end of following week in which reimbursement request was completed.*

Dental Plan Described Below:

Deductible:	$50.00 per person, 3 per family
Waived for Preventative & Diagnostic	Yes
• Categories & Coverage	
Diagnostic/Preventative	No charge
Restorative	No charge, 20%, 40%
Prosthodontic & Repairs	20%, 40%, 40%
Endo/Periodontic & Repairs	20%, 40%, 40%
Oral Surgery	No charge, 20%, 40%
Orthodontia	Included
Annual Maximum	$2,000.00

Vision Plan Described Below:

$125.00 Frames Allowance	
Exam	$10.00 co-pay
Materials	$10.00 co-pay
• Frequency	
Exam	One per 12 months
Lenses	One per 24 months
Frames	One per 24 months

ARTICLE 24. SAFETY AND EQUIPMENT

Section 1 - Rain Gear.

Throughout the life of this Agreement for all employees working outside, the Employer shall furnish necessary rain-gear for employees as needed on a checkout basis.

Section 2 – Gloves.

The Employer agrees to furnish two (2) types of good quality working gloves as needed.

Section 3 – Uniforms.

The Employer agrees to provide, at his cost, uniforms if employees are required to wear same as a condition of employment.

Section 4 – Safety Boots.

The Employer may require employees to wear safety work-boots acceptable to the Employer, unless excused for medical reasons. If so, the Employer shall provide each employee, on their work anniversary, a boot voucher for a specific store of Company choice in order to defray the cost of such boots. Alternatively, the Employee has the option to purchase out-of-pocket and be reimbursed up to voucher annual amount for Company-approved work boots, as long as a receipt is provided:

Between January 1, 2015 – December 31, 2021:	$150 per year
Between January 1, 2022 – December 31, 2026:	$225 per year

Section 5 – Sanitary Facilities.

The Employer shall provide clean and sanitary facilities for employees' use. The Employer shall supply a break room/lunch room with hot water. The employees will be required to maintain these facilities in a clean and orderly fashion.

Section 6.

The Employer agrees to bear all costs for any physical or eye examination if required of employees.

Section 7.

The Employer shall supply proper safety masks and safety glasses, when needed.

Section 8.

Mechanics, mechanic helpers and welders shall be required to provide their own set of journey-level tools for their trade. A list of these tools will be given to the employee and Union by the Company. The Company will provide them a $150.00 tool voucher annually, every January.

ARTICLE 25. SICK LEAVE

An employee who has completed his probationary period and is off work due to illness or injury and who is confined at home or hospitalized as a result shall be eligible for twelve (12) sick days of paid sick leave, said benefit to begin on the first (1st) day of illness or injury.

In order to qualify for paid sick leave for any absence that occurs due to an illness, the employee must submit a sick pay request to their supervisor. For any absence that occurs due to an illness, which lasts four (4) days or longer, the employee must also submit a doctor's certificate upon return to duty.
In the event an employee does not use all of this benefit during the calendar year, he shall receive eight (8) hours of straight time pay for each of his unused sick days, payable, on a separate check, on the first pay period, but no later than the second pay period in December.

In the event of a voluntary resignation upon completion of the probationary period, a regular employee will be eligible to receive eight (8) hours of straight time pay for each month worked less the number of sick days taken during the period.

An employee hired after January 1st of any calendar year, until December 1st shall accumulate sick leave at an accrued rate for the first year.

ARTICLE 26. DEATH IN FAMILY

There shall be a maximum of five (5) days, or 8 days out-of-state, pay in the event of death in the immediate family of a regular employee (wife, husband, mother, father, grandmother, grandfather, grandparent-in-law, mother-in-law, father-in-law, sister, brother, sister-in-law, brother-in-law, daughter or son, step-child or step-parent). In addition to the foregoing, in the event of death in the immediate family of a regular employee, as defined above, upon request of said employee, he may be granted an additional two (2) weeks' unpaid leave of absence. The Employer may require certification (ie, newspaper notice, funeral notice or death certificate).

ARTICLE 27. SAVINGS CLAUSE

Should any part hereof or any provision herein contained be rendered or declared invalid by reason of any existing or subsequently enacted legislation, or by any decree of a court of last resort, such invalidation of such part or portion of this Agreement shall not invalidate the remaining portions hereof and they shall remain in full force and effect.

ARTICLE 28. SHOP STEWARD

The Union shall have the right to appoint a Shop Steward from among its members in the bargaining unit. The Union shall notify the Company in writing of the name of the designated Shop Steward. The Shop Steward shall not interfere with the management or operation of the Company's business nor direct or interfere with the work of Company employees, and the duties of the Shop Steward shall not interfere with his or her own duties as a Company employee. In addition to performing his/her work for the Company, the Shop Steward shall be permitted to perform, during working hours if reasonable and necessary, such of his/her Union duties as cannot be performed at other times. The Union agrees that such Union duties shall be performed as expeditiously as possible and the Company agrees that the Shop Steward shall be allowed a reasonable amount of time, not to exceed fifteen (15) minutes per each individual issue if during work time, for the performance of such Union duties. The Shop Steward shall not be discriminated against due to his/her status as a Shop Steward and shall have the same just cause discipline and discharge protection as all other employees in the bargaining unit consistent with this Agreement.

1. The shop steward shall be awarded time to review any and all evidence (pictures, videos, witness statements etc.) the Company has in its possession during the investigatory process.

2. **Bulletin Board:** The Company shall supply and install one (1) suitable bulletin board at SMaRT or starting point for the posting of Union business and communications. The bulletin board shall be locked and only the Union's Designated Business Agent, Shop Steward and their designees as well as a mutually agreed upon Company representative shall have keys to the Union's bulletin board.

3. The Employer shall also have one (1) locked board for copies of the master seniority list for bids and awards of bids only.

4. Any Company bulletins, policies or work rules posted.

ARTICLE 29. SUPPLEMENTAL INCOME 401(K)

The Employer agrees to recognize all written authorizations from Union members authorizing deductions from their compensation for contributions to a Supplemental Income 401(k). This Plan will be administrated by John Hancock Retirement Services at no cost to the employee.

The participation in this Plan will be on a voluntary basis, without matching from Employer.

Effective immediately upon ratification, the Employer agrees to execute a plan-subscriber agreement. In addition, the Employer agrees to send, in a timely manner, the portion of the Employee(s) wages that employees elect to pay into the plan. It is understood that the Employer shall pay any fees associated with the plan's quarterly employer administrative fee for each employee who decides to participate in the plan.

ARTICLE 30. PENSION

Section 1.

*Effective January 1, 2021, the Employer shall pay to the Western Conference of Teamsters Trust the sum of $3.22 per hour, which will include retirement (PEER-formula 84), to a maximum of 184 hours or $592.48 per month of each employee.

Starting in 2022, a flat rate of $0.25 additional per year will take the place of the previous CPI increases, as follows:

a. Effective January 1, 2022, the Employer shall pay to the Western Conference of Teamsters Trust the sum of $3.47 per hour, which will include retirement (PEER-formula 84), to a maximum of 184 hours or $638.48 per month of each employee.

b. Effective January 1, 2023, the Employer shall pay to the Western Conference of Teamsters Trust the sum of $3.72 per hour, which will include retirement (PEER-formula 84), to a maximum of 184 hours or $684.48 per month of each employee.

c. Effective January 1, 2024, the Employer shall pay to the Western Conference of Teamsters Trust the sum of $3.97 per hour, which will include retirement (PEER-formula 84), to a maximum of 184 hours or $730.48 per month of each employee.

d. Effective January 1, 2025, the Employer shall pay to the Western Conference of Teamsters Trust the sum of $4.22 per hour, which will include retirement (PEER-formula 84), to a maximum of 184 hours or $776.48 per month of each employee.

e. Effective January 1, 2026, the Employer shall pay to the Western Conference of Teamsters Trust the sum of $4.47 per hour, which will include retirement (PEER-formula 84), to a maximum of 184 hours or $822.48 per month of each employee.

f. The total amount due for each calendar month shall be remitted in a lump sum not later than

ten (10) days after the last business day of each month. The Employer agrees to abide by such rules as may be established by the Trustees of said Trust Fund to facilitate the determination of the hours for which contributions are due, the prompt and orderly collection of such amounts and the accurate reporting and recording of such hours and such amounts of each member of the bargaining unit. Failure to make all payments herein provided for within the time specified shall be a breach of this Agreement.

g. The parties agree to execute a suitable supplemental Letter of Understanding, consistent with the foregoing employer contribution rate obligations and conforming to language acceptable to the Trustees of the Plan, upon request.

Section 2.

The Employer shall comply with the Uniformed Service Employment and Reemployment Rights Act (USERRA). The Employer has the following obligations regarding an employee who leaves covered employment to enter military service and thereafter returns to work for the Employer while his USERRA reemployment rights are protected:

-First, if the employee is absent from work for no more than 30 consecutive calendar days because of military service, the Employer is obligated under USERRA to continue making pension contributions to the Western Conference of Teamsters Pension Trust Fund (WCTPTF) just as if the employee had continued in covered employment without interruption.

-Second, if the employee is absent from covered employment for more than 30 calendar days because of military service and then returns to work for the Employer while his USERRA reemployment rights are protected, the Employer is obligated under USERRA to:

a. Notify the WCTPTF in writing within 30 calendar days after the employee returns to work.

b. Pay retroactive pension contributions to the WCTPTF on the employee's behalf for the period he or she was absent from covered employment with the company.

ARTICLE 31 VIDEO

Members shall be entitled to review his/her Video records within twenty-four (24) hours of giving the Employer a written request if the recording is still available due to technical parameters. In addition, employees shall be entitled to review all Video evidence the employer may use to support any termination or suspension prior to being questioned in connection with any such disciplinary action.

It is understood between the parties that all Video will not be used in violation of State or Federal law.

ARTICLE 32. TERM OF AGREEMENT

This extension Agreement shall become effective upon ratification and shall continue in full force until December 31, 2026. Either the Union or the Employer may give the other party written notice of its intention to change, modify or terminate the Agreement not less than sixty (60) calendar days prior to December 31, 2026. If such notice of intention to change, modify or terminate the Agreement is not given by the date described above, the Agreement shall be renewed for an additional year. Thereafter, the Agreement will continue from year to year unless notice is given not less than sixty (60) calendar days prior to the anniversary termination date of any succeeding year.

IN WITNESS WHEREOF, the parties hereto have set their hands and seals this RATIFICATION DATE TBD, 2021.

BAY COUNTIES WASTE SERVICES, INC., DIVISION

BY: _____
Jeff Nabhan, Facilities Manager

Date: 4/15/21

TEAMSTERS LOCAL NO. 350

BY: _____
John Bouchard, Secretary-Treasurer

Date: 6/17/21

Driver's Local 350, Ratified Date TBD, 2021 to December 31, 2026

To be inserted following ratification

EXHIBIT W:
LIST OF CONTRACTOR'S SHAREHOLDERS

EXHIBIT W
LIST OF CONTRACTOR'S SHAREHOLDERS

Achiro, Michael

Bortoli, Joanne

Button, Doug (Vice President)

Dobert, William (Chief Financial Officer)

Formosa, Paul

Fornesi, Ronald

Gotelli, Richard

Macchiano, Anthony

Menner, Stephanie

Molinaro, Robert (President)

Nabhan, Jerry (Secretary)

Rossi, John

Stagnaro Trust

EXHIBIT X:
CPI ADJUSTMENTS

EXHIBIT X
CPI ADJUSTMENTS

Items adjusted by annual Consumer Price Index (CPI) adjustment, effective every July 1 during the term of the agreement

Item	City Fiscal Year 21/22
Basic Annual Payment excluding Union Labor and Depreciation	$2,691,245.19
Recyclable revenue floor and ceiling price	Floor: $ 480,000 Ceiling: $ 530,000
Gate Fee for Publicly Hauled Waste	$8.35 per cubic yard
Liquidated Damages	Section 9.6
Commercial General Liability Limit**	$12,100,000
Principle Amount of Performance Bond*	$2,325,000

*Not increased every July 1. Increased only once on January 1, 2026.

**Not increased every July 1. Increased only once on January 1, 2027.

EXHIBIT Y:
NEXT GEN PLANS

EXHIBIT Y
NEXT GEN PLAN

Both parties acknowledge that the City plans to upgrade materials recovery facility Processing equipment after January 1, 2022. The City shall purchase and install the equipment and perform related upgrades to the utilities, floor, and building. Contractor shall work collaboratively with City to select the processing equipment and to coordinate with the equipment installers to minimize interruption of daily operations during construction as much as possible. Contractor shall maintain the new equipment after installation and shall become proficient in its operation, maintenance, and repair. City shall provide Contractor with training on the operation, repair, and maintenance of the new equipment. The planned materials recovery facility upgrades constitute a Change in Scope pursuant to Section 10.20. Both parties agree that the following adjustments are anticipated as a result of the NextGen Project:

- A temporary reduction in the Basic Annual Payment to reflect Contractor's reduced labor cost while some operations are shut down during construction. A non-binding sample cost estimate is described in Table 1 of this Exhibit.
- A permanent reduction in the Basic Annual Payment to reflect Contractor's reduced labor cost due to increased automation of Processing equipment. A non-binding sample cost estimate is described in Table 2 of this Exhibit.
- A temporary decrease in the Minimum Diversion Level while the Municipal Solid Waste Processing equipment is shut down during construction.
- A permanent increase in the Minimum Diversion Level to reflect the anticipated increase in recycling of Municipal Solid Waste due to the equipment upgrades.
- A temporary change in the calculation of Contractor's share of recyclables revenue to ensure that Contractor is sufficiently compensated if the Diversion Level and recyclables revenues are temporarily decreased during construction.
- A permanent revision to Exhibit P to reflect the new, higher Diversion percentages and increase the percentage of Diversion that Contractor needs to obtain to receive higher shares of recyclables revenue.
- Increased transportation cost for Contractor to deliver food soiled paper to a City-designated composting facility.

Temporary Change in Labor During Retrofit

Table 1 below assumes that while the Recyclable Materials Processing line is out of service to be retrofitted, Recyclable Materials will be Processed on the MSW Processing line, and the sorters from the Recyclable Materials Processing line will be reassigned to the MSW Processing line. Therefore, there will be no temporary layoff of employees during the Recyclable Materials Processing line retrofit. When the MSW Processing line is out of service to be retrofitted, the sorters from that line will be temporarily laid off. Table 1 below estimates SMaRT Station staffing during the MSW retrofit. Staffing prior to the retrofit, subject to annual adjustment, is provided in Exhibit AE.

EXHIBIT Y
NEXT GEN PLAN

Table 1 - Staffing and Labor During MSW Retrofit

	Proposed Staffing - During MSW Retrofit			Hourly Wage Rate	Hourly Benefit Rate	Annual Compensation - Fully Loaded (2022 estimates)
	# of Employees (Contractor)	# of Weekend Employees (Contractor)	# of Employees (Subcontractor)	(All Employees)	(All Employees)	(All Employees)
Office						
Facility Manager	1			$ 85.00	$ 33.94	$ 247,395
Operations Manager	1			$ 85.00	$ 33.94	$ 247,395
Officer	4			$ 21.00	$ 4.06	$ 208,499
Safety & Compliance Manager	1			$ 39.84	$ 31.20	$ 147,763
Accountant	3			$ 39.84	$ 31.20	$ 443,290
HR/Administration Coordinator	0.33			$ 42.30	$ 8.55	$ 34,903
Controller	0.33			$ 73.33	$ 14.02	$ 59,957
Accounting Clerk	0		0.5	$ 48.08	$ -	$ 50,000
Office Clerk/Receptionist	1			$ 35.77	$ 28.73	$ 134,160
Other (Utility)	0			$ 37.96	$ 10.12	$ -
MSW Processing						
Supervisor	0			$ 29.41	$ 24.08	$ -
Forklift Operator	0			$ 31.56	$ 27.75	$ -
Baler Operator	0			$ 31.56	$ 27.75	$ -
Lead Sorters	0			$ 24.37	$ 22.55	$ -
Sorters	0			$ 22.15	$ 21.78	$ -
Other (Lead Cleaning Crew/part time sorters)	0			$ 24.87	$ 22.55	$ -
Other (Cleaning Crew/part time sorters)	0			$ 22.65	$ 21.95	$ -
Transfer Operations &Yard/Woodwaste Operations						
Manager	1			$ 45.19	$ 30.36	$ 157,144
Tipping Floor Supervisor	2			$ 29.41	$ 24.08	$ 222,518
Operators 2 (Loader, Excavator, Sweeper, Roll-Off)	3.5	0.62		$ 33.85	$ 28.55	$ 534,743
Forklift Operators	1	0.12		$ 31.56	$ 27.75	$ 138,169
Compactor Operator	1			$ 31.56	$ 27.75	$ 123,365
Wood Grinder Operator	0.5			$ 31.56	$ 27.75	$ 61,682
Food Scraps Operator	1			$ 31.56	$ 27.75	$ 123,365
Lead Floor Sorters (Tipping Floor)	1	0.16		$ 24.37	$ 22.55	$ 113,209
Transfer Drivers (MSW)*	7			$ 44.35	$ 53.75	$ 1,428,336
Transfer Drivers (MRF Fines and Yard Trimmings)*	2			$ 44.35	$ 53.75	$ 408,096
Floor Sorters (Tipping Floor)	13	1.22		$ 22.15	$ 21.78	$ 1,299,344
Scale Operations						
Scale Master	3	0.66		$ 35.15	$ 29.00	$ 488,361
Buy Back Attendant	0.25	0.5		$ 28.43	$ 26.66	$ 85,940
Lead Buy Back Attendant	1			$ 31.27	$ 27.65	$ 122,554
Maintenance						
Manager	1.34			$ 50.03	$ 32.29	$ 229,442
Lead Mechanic	1			$ 47.58	$ 41.09	$ 184,434
Mechanic	2			$ 43.25	$ 38.88	$ 341,661
Assistant Mechanics	1			$ 38.68	$ 36.55	$ 156,478
Other (Rolling Stock)	2			$ 49.51	$ 42.08	$ 381,014
Source Separated Recyclables Processing						
Lead Sorter(s)	1			$ 24.37	$ 22.55	$ 97,594
Sorters	14			$ 22.15	$ 21.78	$ 1,279,242
Forklift/Baler Operator	2			$ 31.56	$ 27.75	$ 246,730
Operators 2 (Loader)	1			$ 33.85	$ 28.55	$ 129,792
Other (Curbside Supervisor))	1			$ 29.41	$ 24.08	$ 111,259
TOTAL UNION LABOR	**58.25**	**3.28**	**0**	**$ 32.24**	**$ 29.93**	**$ 7,744,107**

EXHIBIT Y
NEXT GEN PLAN

Permanent Change in Labor after Retrofit

Table 2 below estimates the permanent revised staffing needs after the retrofit of both the MSW and Recyclable Materials Processing lines. Staffing prior to the retrofit, subject to annual adjustment, is provided in Exhibit AE. The actual staffing needs after the retrofit will be based upon the Processing equipment manufacturers' specifications and six months of operating experience after the retrofit of both lines.

EXHIBIT Y
NEXT GEN PLAN

Table 2 - Staffing and Labor
After Retrofit

	Proposed Staffing - After Retrofit			Hourly Wage Rate	Hourly Benefit Rate	Annual Compensation - Fully Loaded (2022 estimates)
	# of Employees (Contractor)	# of Weekend Employees (Contractor)	# of Employees (Subcontractor)	(All Employees)	(All Employees)	(All Employees)
Office						
Facility Manager	1			$ 85.00	$ 33.94	$ 247,395
Operations Manager	1			$ 85.00	$ 33.94	$ 247,395
Officer	4			$ 21.00	$ 4.06	$ 208,499
Safety & Compliance Manager	1			$ 39.84	$ 31.20	$ 147,763
Accountant	3			$ 39.84	$ 31.20	$ 443,290
HR/Administration Coordinator	0.33			$ 42.30	$ 8.55	$ 34,903
Controller	0.33			$ 73.33	$ 14.02	$ 59,957
Accounting Clerk	0		0.5	$ 48.08	$ -	$ 50,000
Office Clerk/Receptionist	1			$ 35.77	$ 28.73	$ 134,160
Other (Utility)	0			$ 37.96	$ 10.12	$ -
MSW Processing						
Supervisor	2			$ 29.41	$ 24.08	$ 222,518
Forklift Operator	0.5			$ 31.56	$ 27.75	$ 61,682
Baler Operator	0.5			$ 31.56	$ 27.75	$ 61,682
Lead Sorters	1			$ 24.37	$ 22.55	$ 97,594
Sorters	19			$ 22.15	$ 21.78	$ 1,736,114
Other (Lead Cleaning Crew/part time sorters)	1			$ 24.87	$ 22.55	$ 98,634
Other (Cleaning Crew/part time sorters)	7			$ 22.65	$ 21.95	$ 649,376
Transfer Operations &Yard/Woodwaste Operations						
Manager	1			$ 45.19	$ 30.36	$ 157,144
Tipping Floor Supervisor	0			$ -	$ -	$ -
Operators 2 (Loader, Excavator, Sweeper, Roll-Off)	5	0.62		$ 33.85	$ 28.55	$ 729,431
Forklift Operators	1	0.12		$ 31.56	$ 27.75	$ 138,169
Compactor Operator	1			$ 31.56	$ 27.75	$ 123,365
Wood Grinder Operator	0.5			$ 31.56	$ 27.75	$ 61,682
Food Scraps Operator	1			$ 31.56	$ 27.75	$ 123,365
Lead Floor Sorters (Tipping Floor)	1	0.16		$ 24.37	$ 22.55	$ 113,209
Transfer Drivers (MSW)*	5.25			$ 44.35	$ 53.75	$ 1,071,252
Transfer Drivers (MRF Fines and Yard Trimmings)*	2.75			$ 44.35	$ 53.75	$ 561,132
Floor Sorters (Tipping Floor)	6	1.22		$ 22.15	$ 21.78	$ 659,723
Scale Operations						
Scale Master	3	0.66		$ 35.15	$ 29.00	$ 488,361
Buy Back Attendant	0.25	0.5		$ 28.43	$ 26.66	$ 85,940
Lead Buy Back Attendant	1			$ 31.27	$ 27.65	$ 122,554
Maintenance						
Manager	1.34			$ 50.03	$ 32.29	$ 229,442
Lead Mechanic	1			$ 47.58	$ 41.09	$ 184,434
Mechanic	6			$ 43.25	$ 38.88	$ 1,024,982
Assistant Mechanics	1			$ 38.68	$ 36.55	$ 156,478
Other (Rolling Stock)	2			$ 49.51	$ 42.08	$ 381,014
Source Separated Recyclables Processing						
Lead Sorter(s)	1			$ 24.37	$ 22.55	$ 97,594
Sorters	9			$ 22.15	$ 21.78	$ 822,370
Forklift/Baler Operator	1			$ 31.56	$ 27.75	$ 123,365
Operators 2 (Loader)	1			$ 33.85	$ 28.55	$ 129,792
Other (Curbside Supervisor))	1			$ 29.41	$ 24.08	$ 111,259
TOTAL UNION LABOR	**78.75**	**3.28**	**0**	**$ 32.24**	**$ 29.93**	**$ 9,903,293**

EXHIBIT Y
NEXT GEN PLAN

Table 2 - Staffing and Labor
After Retrofit

At a minimum, the contractor will provide the following new equipment for use in operating the SMaRT Station.	Proposed Staffing - After Retrofit # of Employees (Contractor)	# of Weekend Employees (Contractor)	# of Employees (Subcontractor)	Hourly Wage Rate (All Employees)	Hourly Benefit Rate (All Employees)	Annual Compensation - Fully Loaded (2022 estimates) (All Employees)
Office						
Facility Manager	1			$ 85.00	$ 33.94	$ 247,395
Operations Manager	1			$ 85.00	$ 33.94	$ 247,395
Officer	4			$ 21.00	$ 4.06	$ 208,499
Safety & Compliance Manager	1			$ 39.84	$ 31.20	$ 147,763
Accountant	3			$ 39.84	$ 31.20	$ 443,290
HR/Administration Coordinator	0.33			$ 42.30	$ 8.55	$ 34,903
Controller	0.33			$ 73.33	$ 14.02	$ 59,957
Accounting Clerk	0		0.5	$ 48.08	$ -	$ 50,000
Office Clerk/Receptionist	1			$ 35.77	$ 28.73	$ 134,160
Other (Utility)	0			$ 37.96	$ 10.12	$ -
MSW Processing						
Supervisor	2			$ 29.41	$ 24.08	$ 222,518
Forklift Operator	0.5			$ 31.56	$ 27.75	$ 61,682
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Lead Sorters	1			$ 24.37	$ 22.55	$ 97,594
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Other (Cleaning Crew/part time sorters)	7			$ 22.65	$ 21.95	$ 649,376
Transfer Operations &Yard/Woodwaste Operations						
Manager	1			$ 45.19	$ 30.36	$ 157,144
Tipping Floor Supervisor	0			$ -	$ -	$ -
Operators 2 (Loader, Excavator, Sweeper, Roll-Off)	5	0.62		$ 33.85	$ 28.55	$ 729,431
Forklift Operators	1	0.12		$ 31.56	$ 27.75	$ 138,169
Compactor Operator	1			$ 31.56	$ 27.75	$ 123,365
Wood Grinder Operator	0.5			$ 31.56	$ 27.75	$ 61,682
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Lead Floor Sorters (Tipping Floor)	1	0.16		$ 24.37	$ 22.55	$ 113,209
Transfer Drivers (MSW)*	5.25			$ 44.35	$ 53.75	$ 1,071,252
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Operators 2 (Loader)	1			$ 33.85	$ 28.55	$ 129,792
Other (Curbside Supervisor))	1			$ 29.41	$ 24.08	$ 111,259
TOTAL UNION LABOR	**78.75**	**3.28**	**0**	**$ 32.24**	**$ 29.93**	**$ 9,903,293**

EXHIBIT Y
NEXT GEN PLAN

Permanent Change in the Minimum Diversion Level and Exhibit P

City and Contractor agree to the following procedure to recalculate the Minimum Diversion Level and the revenue sharing scale in Exhibit P:

1. Run the facility for six months after the MSW line retrofit and determine the average monthly Diversion rate for the six months.
2. The new Minimum Diversion Level will be 70% of the average diversion rate for the first six months of operation of the retrofitted MSW line.
3. The new maximum diversion rate on the Exhibit P scale will be the average diversion rate for the first six months of operation of the retrofitted MSW line, rounded to the nearest whole percent.
4. The increments between the minimum and maximum diversion rates in the scale of revised Exhibit P will be the same as the increments as in the current Exhibit P.
5. The increments in the City and Contractor's shares of recyclables revenue in the scale of the revised Exhibit P will be the same as the increments in the current Exhibit P, matched to the revised diversion level increments with revised minimum and maximum diversion levels.

The example below shows a revised Exhibit P assuming that the average diversion rate for the first six months of operation of the retrofitted MSW line is 40%.

Contractor's Share	City's Share	Recycling level Achieved		
75%	25%	40.00%	-	100%
69%	31%	39.20%	-	39.99%
63%	37%	38.40%	-	39.19%
57%	43%	37.60%	-	38.39%
52%	48%	36.80%	-	37.59%
47%	53%	36.00%	-	36.79%
42%	58%	35.20%	-	35.99%
38%	62%	34.40%	-	35.19%
34%	66%	33.60%	-	34.39%
30%	70%	32.80%	-	33.59%
26%	74%	32.00%	-	32.79%
22%	78%	31.20%	-	31.99%
19%	81%	30.40%	-	31.19%
16%	84%	29.60%	-	30.39%
13%	87%	28.80%	-	29.59%
10%	90%	28.00%	-	28.79%
0%	100%	0.00%	-	27.99%

6. The MSW Diversion Level will be calculated based on the Diversion accomplished by the MSW line alone. It will not include any Diversion from source separated materials. This will require a revised Exhibit S. The following table will be included in the revised Exhibit S.

EXHIBIT Y
NEXT GEN PLAN

The following materials are either included or excluded from "Municipal Solid Waste" (A) in the calculation in Exhibit S.

Included	Excluded
Municipal Solid Waste (MSW)	MSW that cannot be Processed* (e.g., MSW from a hospital, bar screen grit from a Water Pollution Control Plant)
	Construction Debris (both mixed and Source Separated)**
Publicly Hauled Waste that is MSW	Publicly Hauled Waste that is Source Separated Organic Materials and Source Separated Recyclable Materials including, but not limited to Source Separated soil, concrete, sheet rock, scrap metal, appliances/white goods, wood, brick, asphalt, furniture, Bulky Waste, tires, and materials delivered to the buy-back/drop-off center.
	Mattresses and box springs
	All Source Separated Yard Trimmings, whether delivered by the Partner Agencies and/or their Designated Haulers or by other persons.
	All Source Separated Recyclable Materials (curbside residential recyclables, commercial recyclables, cardboard, soil, concrete, scrap metal, etc.) and Source Separated Organic Materials (Yard Trimmings, Food Scraps, wood, etc.) delivered by the Partner Agencies and/or their Designated Haulers regardless of whether they are from commercial and residential recycling programs, city operations, Designated Hauler drop box services, or other programs.

*with prior written approval from the City's Representative

**Unless the City installs a new C&D line as a part of the "NextGen" retrofit

For purposes of the calculation in Exhibit S, the weight of the residue from the Processing of Source Separated Food Scraps is subtracted from the tons of Municipal Solid Waste placed in transfer trucks and hauled to the Kirby Canyon Landfill for disposal during the month (B). At least six months after the retrofit is complete, residue from the Processing of Source Separated Recyclable Materials will also be subtracted from the tons of Municipal Solid Waste placed in transfer trucks and hauled to the Kirby Canyon Landfill for disposal during the month (B) for purposes of the calculation in Exhibit S.

7. The recyclables revenue floor and ceiling in 6.3.C of the Agreement will continue to apply, subject to adjustment by the Index.

EXHIBIT Z:
STORMWATER MANAGEMENT PLAN

24-hr Storm Drain (SD) BMP Pre-Event Preparation Checklist

Date: / /

Weather monitoring and notification by: _____

Checklist completed by: _____

NOAA Chance of Rain: _____% on _____

SD: *Parking Lot #1*	Okay	Needs attention
Inspect parking lot for major oil leaks on asphalt - clean up any absorbant		
Litter patrol and loose debris removed from top/around storm drain		

SD: *Parking Lot #2* *(closest to BB)*	Okay	Needs attention
Inspect parking lot for major oil leaks on asphalt - clean up any absorbant		
Litter patrol and loose debris removed from top/around storm drain		

SD: *Buyback*	Okay	Needs attention
Loose debris around debris boxes picked up		
Berm around compost *(cover if storming)*		
Universal waste on secondary containment and protected from rain		
Litter patrol *(all around SD, overweight unloading area, compost, propane/recycling bins, bushes & curb)*		

SD: *Curbside Queue*	Okay	Needs attention
Entire curb perimeters cleared*		
Berm and cover around dirt		
Loose debris removed from top of grate, and grate cleared from any caked-on mud		
Loose debris around debris boxes picked up		
Cover the concrete pile		

SD: *Loading Dock*	Okay	Needs attention
FL path above loading dock cleared		
Spill-over fines under bins (C503) by loading dock swept up		
Loose debris removed from top of grate, and grate cleared from caked-on mud		

SD: *Corner w/Carl Rd*	Okay	Needs attention
Entire curb perimeter cleared*		
Loose debris removed from top of grate, and grate cleared from caked-on mud		

SD: *Hazmat & Appliance Area*	Okay	Needs attention
Entire perimeter around shed cleared		
Loose debris removed from top of grate, and grate cleared from caked-on mud		
Hazardous waste stored inside shed		
Loose debris around debris boxes picked up		
Appliance area (no debris, glass or oil spills)		
Oversized wood & debris removed from ground		

SD: *Emergency Gate*	Okay	Needs attention
Curb perimeter cleared		
Loose debris removed from top of grate, and grate cleared from caked-on mud		

SD: *North TF*	Okay	Needs attention
Entire curb perimeter cleared		
Loose debris removed from top of grate, and grate cleared from caked-on mud		
Loose debris removed: tire storage, dust collection system		

SD: *WR/Fines*	Okay	Needs attention
Loose debris removed from top of grate, and grate cleared from caked-on mud		
Entire curb perimeter cleared of litter & spilt fines		

Oil Shed	Okay	Needs attention
Seal/cover all used oil drums not actively being drained into; no oil outside of curb		
Inspect for absorbant left spread out -- remove immediately		

Miscellaneous	Okay	Needs attention
Carts, tubs, containers covered or placed under roof so don't collect water		
Inspect around shop for oil spills and absorbant left spread out -- remove immediately		
Cover any bales stored outside, or place under roof		
Any food scraps spilliage contained by berms to not allow entry to storm drain		

Continued on back...

ScaleHouse SD	Okay	Needs attention
Clean out drain		

Diversion System	Okay	Needs attention
Clean out totalizer screen/filter and wet well		
Ensure pumps/bypass are in desired mode		

Hand sweep or blower at hard to reach areas, and then use sweeper

Notes:

rev.3/9/21

Note:

Checklist will be completed when 50% or more chance of rain is forecasted.
Checklist activities need to be conducted 24-hours prior to any forcasted rain.

Bay Counties SMaRT

rev 5/3/17, ns

Daily Industrial Sweeper Log

Run sweeper as close as possible to curb, concrete, compost and dirt piles, and bins.
Corra la barredora lo más cerca posible a las banquetas, los montos de tierra, concreto y compost, y contenedores.

Date / Fecha	Time of 1st Run	Signature	Time of 2nd Run	Time of Additional Run, if needed	Signature	Manager Initial
	am		pm			
	am		pm			
	am		pm			
	am		pm			
	am		pm			
	am		pm			
	am		pm			
	am		pm			
	am		pm			
	am		pm			
	am		pm			
	am		pm			
	am		pm			
	am		pm			
	am		pm			

EXHIBIT AA:
COMMODITIES TO DIVERT

The following materials will be accepted and diverted

Material	Details	Curbside	Drop Off & Buyback Center	MRF & Floor Sort	Delivered Source Separated
Cartons					
	Juice	x			
	Milk	x			
	Soup	x			
Glass Bottle and Jars					
	Glass - Flint	x	x	x	
	Glass - Mixed	x	x	x	
	Glass- Amber	x	x	x	
	Glass- Green	x	x	x	
Fiber					
	Cardboard (OCC)	x	x	x	x
	Catalogs	x	x	x	
	Chipboard boxes (cereal, tissue, etc.)	x	x	x	
	Kraft Paper	x	x	x	
	Junk mail	x	x	x	
	magazines	x	x	x	
	Mixed Paper	x	x	x	
	Newspaper and Inserts	x	x	x	
	Non-metallic gift wrap and greeting cards	x	x	x	
	Office paper	x	x	x	
	Paper bags	x	x	x	
	Paperback books	x	x	x	
	Phone books	x	x	x	
Plastic bottles and tubs					
	HDPE - color	x	x	x	
	HDPE - natural	x	x	x	
	PET	x	x	x	
	Mixed rigid plastic	x	x	x	
Metal					
	Aluminum cans	x	x	x	
	Aluminum Foil and Trays	x	x	x	
	Tins and Steel cans	x	x	x	
	Scrap metals		x	x	x
	Appliances/White Goods			x	x
Other					
	Household batteries	x	x*		
	Cooking Oil	x	x*		
	Motor Oil	x	x*		
	Oil Filters	x	x*		
Food Scraps		x	x		x
Clothing and shoes			x*		
Paint			x*		
Single-use Propane Cylinders (1 lb.)			x*		
Anti-freeze			x*		
Automobile batteries			x*		
Fluorescent light bulbs and tubes			x*		

Material	Details	Curbside	Drop Off & Buyback Center	MRF & Floor Sort	Delivered Source Separated
Household items containing mercury (e.g., thermometers, thermostats)			x*		
Universal waste covered electronic devices and consumer electronic devices.			x*		
Home-generated sharps**			x**		
All containers for which a California Redemption Value (“CRV”)			x		
Brick				x	x
Carpet				x	x
Concrete / Asphalt				x	x
Dirt/Soil				x	x
Bulk Trees				x	x
Mattresses				x	x
Tires				x	x
Wood ("clean")				x	x
Yard trimmings				x	x
MRF Fines				x	
Street Sweepings					x
As directed by City, other materials that are accepted at other facilities similar to the Station and located in Alameda, San Mateo and Santa Clara Counties.					

** residential customers only*

**** Contractor shall provide separate bins designed with a chute, such that materials deposited in the chute cannot thereafter be removed by public.

21-0972 **Agenda Date:** 11/9/2021

REPORT TO COUNCIL

SUBJECT
Approve an Allocation from the Public Art Acquisition Fund for up to $100,000 for Prefabricated Sculptures Modified by Artists

BACKGROUND
In November 2020, City Council adopted the Master Plan for Public Art (RTC No. 20-0865). The goal of the plan was to enhance the visual landscape of the community by broadening the scope of existing public art programs. The plan also provides specific goals and resource allocation procedures to guide short and long-term decision-making for public art, including expenditures from the Public Art Acquisition Fund. Currently, the Public Art Acquisition Fund has approximately $622,000 from donations, in-lieu fees, and earned interest.

Staff is requesting City Council allocate up to $100,000 from the Public Art Acquisition Fund for temporary prefabricated sculptures modified by artists. Once funding for this project is approved, staff will further define the project and establish a selection committee to begin artist selection. The Arts Commission will review and make recommendations, and the City Council will have final approval of each design concept.

EXISTING POLICY
Council Policy 6.04.01 Arts - Goals and Policies (Policy A.1, A.2, B.3, E.1.)
Council Policy 6.04.04 Art in Public Places
Municipal Code Chapter 19.52 - Art in Private Development
General Plan, Chapter 4, Community Character - Design (Policy CC 1.1, 1.1c, 1.1d, 1.4, 1.8a/b/c/d/e/f, 6.1, 9.1, 9.1c)

ENVIRONMENTAL REVIEW
Approving an allocation from the Public Art Acquisition Fund does not constitute a “project” with the meaning of the California Environmental Quality Act (“CEQA”) pursuant to CEQA Guidelines section 15378 (b) (4) in that is a fiscal activity that does not involve any commitment to any specific project which may result in a potential significant impact on the environment. CEQA review for individual art projects will be completed as design is determined and projects are brought forward for approval; staff anticipates that the projects contemplated for this fiscal year will qualify for exemptions.

DISCUSSION
The Master Plan for Public Art provides a resource allocation procedure for utilizing the Public Art Acquisition Fund, which currently has approximately $622,000 that is earmarked for public art projects.

As part of the Master Plan engagement process, a survey identified the top two public art categories

preferred by the community as (1) art that is functional and (2) small scale, whimsical art. Additional study sessions and brainstorming meetings with City Council and Arts Commission also identified projects that are considered temporary in nature as a priority. Based on this feedback, staff defined possible art projects and developed a community survey asking the public to identify their preferred public art concept in the areas of (1) art that is functional; (2) small scale, whimsical art and (3) temporary/rotating art (Attachment 1 - Public Art Projects Survey).

In May 2021, the Arts Commission reviewed the public survey results and provided their rankings (Attachment 2 - Arts Commission Project Rankings). Staff is now requesting funding to begin implementing the top ranked project in the temporary category:

Temporary or Rotating Art: Placement of prefabricated sculptures altered by artists throughout City spaces (Attachment 3 - Examples of Prefabricated Sculptures Altered by Artists)

- Estimated costs: between $2,000 and $5,000 per sculpture (depending on number of sculptures and size), for a maximum of $100,000.
- Goals: To create an iconic program that is distinctly Sunnyvale, provide fun and unexpected discoveries, invite exploration of Sunnyvale, and establish a distinctive Sunnyvale icon.

Once City Council has allocated Public Art Acquisition Funds, the project will go through the public art review process outlined in Council Policy 6.4.4-Art in Public Places:

1) Distribute a Request for Qualifications/Call for Artists.
2) Establish a Review Committee to shortlist qualified artists.
3) Invite selected artists to develop and submit conceptual proposals.
4) Arts Commission review and recommendation of artists for each project.

City Council review of Arts Commission recommendation and final approval of the artists and their design concepts.

Following artist approval by Council, staff will work with the selected artist to further define their concept, execute their approved design, and install the completed art piece.

FISCAL IMPACT

Funding will be allocated through the Public Art Acquisition Fund with no fiscal impact on the City's General Fund. As of the end of FY 2020/21, there is an estimated balance of approximately $622,000 available in the Public Art Acquisition fund that is collected as an in-lieu on eligible non-residential developments. The 1.1% in-lieu fee collected from private developments also includes an additional 0.1% fee to help defer future maintenance costs associated with works commissioned through the Public Art Acquisition Fund.

PUBLIC CONTACT

Public contact was made by posting the Council agenda on the City's official-notice bulletin board outside City Hall, Sunnyvale Public Library and Department of Public Safety. In addition, the agenda and report are available at the Office of the City Clerk and on the City's website.

ALTERNATIVES

1. Approve an allocation from the Public Art Acquisition Fund for up to $100,000 for prefabricated sculptures modified by artists.
2. Approve an allocation from the Public Art Acquisition Fund for a different dollar amount for prefabricated sculptures modified by artists.
3. Do not approve funding from the Public Art Acquisition Fund at this time.
4. Other alternative as provided by Council.

STAFF RECOMMENDATION

Alternative 1: Approve an allocation from the Public Art Acquisition Fund for up to $100,000 for prefabricated sculptures modified by artists.

Prepared by: Kristin Dance, Recreation Coordinator
Prepared by: Trenton Hill, Recreation Manager
Reviewed by: Damon Sparacino, Recreation Superintendent
Reviewed by: Cherise Brandell, Director of Library and Recreation Services
Reviewed by: Chip Taylor, Director of Public Works
Reviewed by: Tim Kirby, Director of Finance
Reviewed by: Teri Silva, Assistant City Manager
Approved by: Kent Steffens, City Manager

ATTACHMENTS

1. Public Art Projects Survey
2. Arts Commission Project Rankings
3. Examples of Prefabricated Sculptures Modified by Artists

Public Art Project Survey

What should the next public art project be?

Summary Of Registered Responses

As of August 31, 2021, 3:28 PM, this forum had:		Topic Start
Attendees:	86	March 19, 2021, 12:56 PM
Registered Responses:	25	
Hours of Public Comment:	1.3	

QUESTION 1

Please choose your top two concepts for Functional Art projects.

	%	Count
Permanent artistic bike racks for City parks and open spaces	60.0%	15
Permanent artistic benches for City parks and open spaces	48.0%	12
Hydroponic/Garden Art at Community Center	36.0%	9
Artist created wayfinding signs to downtown	52.0%	13

QUESTION 2

Please choose your top one concept for Whimsical small-scale projects.

	%	Count
Permanent small-scale sculptures for City parks and open spaces	60.0%	15
Smale-scale murals throughout City facilities and open spaces	40.0%	10

QUESTION 3

Please choose your top three concepts for Temporary/Rotating art projects.

Public Art Project Survey

What should the next public art project be?

	%	Count
Rotating sculpture at Community Center (E. Remington Drive and Manet)	20.0%	5
Artist designed banners along El Camino Real celebrating seasons and cultural diversity	40.0%	10
Placement of art in empty storefront windows throughout City	52.0%	13
Placement of identifiable sculptures altered by artists throughout City spaces (similar to Chicago cows, SF hearts or San Jose sharks)	72.0%	18
Temporary sculpture garden at Community Center and Library plaza	36.0%	9
Temporary murals for construction fencing during Civic Center construction	44.0%	11
Artist designed clothing and accessories fashion show and exhibition	8.0%	2

QUESTION 4

Do you have any additional ideas for future public art projects?

Answered	14
Skipped	11

- abstract **art** **benches** **blank** **building** **center** concrete development developments **done** foot **good** **lane** library like love **more** much murals **need** **neighborhoods** public **really** **s** see similar some throughout traffic **us** **walls**

Public Art Project Rankings

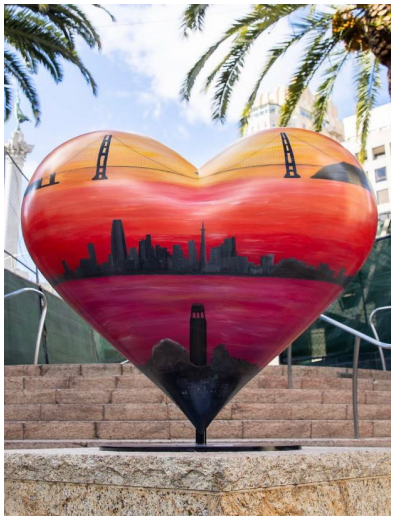
Functional Art	**Arts Commission Ranking***
Permanent artistic benches for City parks and open spaces	1
Permanent artistic bike racks for City parks and open spaces	2
Artist created wayfinding signs to downtown	3
Hydroponic/Garden Art at Community Center	4
Whimsical Small-Scale	
Small-scale murals throughout City facilities and open spaces	1
Permanent small-scale, whimsical sculptures for City parks and open spaces	2
Permanent interior artwork for Community Center	3
Temporary/Rotating Art	
Placement of identifiable sculptures altered by artists throughout City spaces (similar to Chicago cows)	1
Temporary murals for construction fencing during Civic Center construction	2
Placement of art in empty storefront windows throughout City	3
Artist designed banners along El Camino Real celebrating seasons and cultural diversity	4
Temporary sculpture garden at Community Center and Library plaza	5
Rotating sculpture at Community Center (E. Remington Drive and Manet)	6
Artist designed clothing and accessories fashion show and exhibition	7

*Arts Commission rankings were compiled by calculating the average ranking of all voting commissioners.

Project Examples
Prefabricated Sculptures Altered by Artists

Cows on Parade, 1999, Chicago

The Hearts of San Francisco, 2004-present



Project Examples
Prefabricated Sculptures Altered by Artists

Shark Bytes on Parade, 2001, San Jose

Pigs on Parade, 2001, Seattle

21-0086 **Agenda Date:** 11/9/2021

REPORT TO COUNCIL

SUBJECT

Introduce an Ordinance to Repeal and Re-Adopt Sunnyvale Municipal Code Chapter 8.16 (Solid Waste Management and Recycling) and add Sunnyvale Municipal Code Chapter 16.74 (Construction and Demolition Diversion); Introduce an Ordinance to Amend Sunnyvale Municipal Code Section 19.38.030 (Recycling and Solid Waste Facilities) and Section 19.37.060 (General Planting, Soil Management and Water Feature Design Requirements); Adopt a Resolution to Amend the Master Fee Schedule to add Fines and Penalties for Violations of Chapter 8.16 and 16.74; Find that the Action Is Exempt from California Environmental Quality Act (CEQA) Pursuant to CEQA Guidelines Sections 15061(b)(3) and 15308 of the CEQA Guidelines

REPORT IN BRIEF

State law (Senate Bill (SB) 1383) requires the City to adopt an ordinance by January 1, 2022 to mandate that organic waste generators comply with SB 1383 regulatory requirements. In addition, Staff is recommending further updates to the solid waste sections of the Sunnyvale Municipal Code (SMC) to include:

- A comprehensive update to the solid waste sections of the SMC
- Adding a Construction and Demolition (C&D) debris recycling ordinance
- Minor Updates to SMC Title 19 (Zoning)
- An amendment to the Master Fee Schedule to add fines and penalties for non-compliance with solid waste requirements

BACKGROUND AND DISCUSSION

In 2016, Governor Brown signed into law SB 1383 (Lara, Chapter 395, Statutes of 2016), establishing methane emissions reduction targets in a statewide effort to reduce emissions of short-lived climate pollutants (SLCP) in various sectors of California's economy. SB 1383 is the State's most ambitious waste reduction law in the last 30 years and enacts the following targets to reduce organic waste in landfills:

- Achieve a 50% reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75% reduction by 2025
- Recover at least 20% of currently disposed surplus food by 2025

To meet the SB 1383 regulations, jurisdictions throughout the State are required to adopt an ordinance or other similarly enforceable mechanism by January 1, 2022. The ordinance will mandate that organic waste generators, haulers, and other entities subject to the requirements of SB 1383 regulations and subject to the jurisdiction's authority, comply with SB 1383 regulatory requirements.

Jurisdictions are required to start enforcing the ordinance by January 1, 2024. The period of January 1, 2022 through December 31, 2023 will be used primarily to educate residents and businesses about the requirements of the ordinance and attempt to achieve voluntary compliance.

Because SB 1383 requires significant revisions to the SMC, staff utilized this opportunity to make additional desired revisions to the solid waste sections of the SMC to:

- Comply with SB 1383 provisions
- Provide a comprehensive update of solid waste sections of Municipal Code;
- Harmonize the SMC Code with new Specialty Franchise Agreement;
- Codify the existing Construction & Demolition Debris (C&D) recycling program;
- Modernize the solid waste language used in the SMC.

Introduce an ordinance to Repeal and Replace Municipal Code Chapter 8.16 (Solid Waste Management and Recycling)

SMC Chapter 8.16 pertains to solid waste and recycling. Staff is recommending a comprehensive update of this Chapter in order to comply with SB 1383 and make other desired improvements. The following requirements are contained in the recommended updates to Chapter 8.16:

Mandatory Organic Materials Recycling Collection Services

SB 1383 requires jurisdictions to provide organic materials recycling collection services to all generators (residents and businesses). Jurisdictions are required to mandate that generators subscribe to these programs and utilize them properly. SB 1383 defines organic materials broadly to include recyclable paper, compostable food-soiled paper, cardboard, and wood as well as foods scraps and yard trimmings.

SB 1383 provides jurisdictions with options on how to provide organic materials collection services. Based on Sunnyvale's existing and planned programs and past policy direction, Staff recommends that the following services be made mandatory for the specified types of generators in the table below:

Mandatory Collection Services			
Service	**Single-Family**	**Multi-Family**	**Commercial**
Mixed Waste (Garbage)	X	X	X
Paper	X	X	
Cardboard	X		
Containers (Bottles & Cans)	X	X	
Food Scraps	X	X	X
Yard Trimmings	X	X*	X*

* Unless yard trimmings are hauled to a composting facility by a landscaper

Organic materials that are not captured by the source-separated services above (e.g., cardboard from multi-family complexes and commercial businesses and food soiled paper from all sectors) will be recovered through mixed waste processing at the SMaRT Station®. Multi-family complexes and commercial businesses who can produce a sufficient quantity of cardboard and keep it free of contamination may participate in the City's commercial cardboard recycling program but will not be required to do so.

Waivers

SB 1383 allows jurisdictions to grant waivers allowing some multi-family and commercial customers to waive participation in mandatory recycling programs. Staff recommends that multi-family and commercial generators be granted a waiver/exemption from Specialty's yard trimmings collection service if they can demonstrate that they utilize a landscaper who hauls their yard trimmings to a composting facility. Staff also recommends that commercial generators be granted a waiver from food scraps collection services if they produce less than 96 gallons of mixed waste (garbage) per week. This is a stricter (and more easily enforced) standard than the default waivers in the SB 1383 regulations, which allow exemptions for commercial generators with two cubic yards or more per week of solid waste service who generate less than 20 gallons of organics per week, and commercial generators with less than two cubic yards per week of solid waste service who generate less than 10 gallons of organics per week. Staff is recommending that the Director of Environmental Services or his designee be given the authority to grant additional waivers for commercial food scraps services for other, unforeseen circumstances.

Staff recommends that the City allow fewer opportunities for service waivers than is allowed for under SB 1383. While SB 1383 provides for waivers for commercial and multi-family generators with "space constraints" Staff believes that nearly all customers in the City should be able to accommodate the mandatory services above. To facilitate this, the recommended ordinance allows commercial and multi-family generators to place some collection containers outside of enclosures if their existing enclosure does not have sufficient space for all of the required containers, and if this can be accomplished without creating a nuisance.

Responsible Parties and Responsibilities

The primary party responsible for compliance with the ordinance is the property owner. However, the recommended ordinance also states that any other party who has a written agreement with the property owner to manage waste and recyclables on site is also responsible for compliance. This could include tenants, occupants, property managers, Homeowners' Associations, employees, contractors, 3rd party vendors, etc.

The primary responsibilities of the responsible parties are as follows:

- Subscribe to and pay for an adequate level of mandatory collection services
- Place materials in the correct containers
- Provide necessary indoor containers
- Educate tenants, contractors, and employees on proper sorting
- Allow City inspections for compliance

Note that generators must not only subscribe to mandatory services, but they are required to subscribe to a sufficient level (e.g., size of containers, frequency of collection) of service, and to sort their materials correctly.

Edible Food Recovery

A primary goal of SB 1383 is to reduce the amount of edible food that is sent to landfills, and to recover that food for human consumption. To help facilitate this, jurisdictions must require all edible food generators (e.g., grocery stores and restaurants) to contract with an edible food recovery organization (e.g., a non-profit food bank) and to submit annual food recovery reports to the City. Jurisdictions must require edible food recovery organizations (e.g., non-profit food banks) to maintain required records of their activities and submit annual food recovery reports to the City. The recommended Ordinance to Repeal and Replace SMC Chapter 8.16 meets these requirements.

Add SMC Chapter 16.74 (Construction and Demolition Diversion)

Staff recommends introduction of an ordinance to add SMC Chapter 16.74 to establish a Construction and Demolition Debris (C&D) recycling ordinance. This action will ensure that the City is in compliance with SB 1383 regulations regarding C&D and wood waste recycling and with debris recycling requirements in the CalGreen Building Codes. The new Chapter will codify the City's existing C&D recycling program and add financial penalties for non-compliance. The Chapter will contain general requirements but will authorize the Environmental Services Director to adopt C&D recycling guidelines that can be amended more easily than the SMC in order to adapt to future changes in conditions and regulations.

Pursuant to the CalGreen Building Codes, each covered construction, demolition, or renovation project must divert (i.e., recycle, compost, reuse) at least 65% of the C&D debris generated at the job site. The responsible party for this requirement is the building permit applicant. CalGreen determines which projects are covered by the requirement, based on the value and/or area of the project. Permit applicants must submit a C&D Diversion Plan to the City. Like the majority of jurisdictions in the Bay Area, the City requires permit applicants to submit their C&D Diversion Plans via a cloud-based program called Green Halo. Permits can't be issued until ESD approves the C&D Diversion Plan.

The proposed Ordinance requires permit applicants to ensure their debris is delivered to a City-approved C&D recycling facility. All mixed C&D must be delivered to a recycling facility, even if the diversion rate for the project has already been achieved. The permit applicant must submit proof that material was recycled, in the form of scanned weight tags from the approved facilities submitted via Green Halo.

The proposed Ordinance creates a penalty for permit applicants who fail to meet diversion rate for their projects. Staff is recommending a penalty, based on a similar penalty in the City of Santa Clara, that is proportional to the size of the project: The diversion percentage shortfall multiplied by the square footage of the project, multiplied by $1.00 per square foot. For example, if a permit applicant diverts 50% of the debris from a covered project (instead of the required 65%) then they have a 15% shortfall so their penalty would be based on 15% of the square footage of the project multiplied by $1.00.

Amend SMC Section 19.38.030 (Recycling and Solid Waste Facilities) and Section 19.37.060

(General Planting, Soil Management and Water Feature Design Requirements)

Two sections of SMC Chapters 19.37 and 19.38 are also being amended in order to meet the requirements of SB 1383:

- **Section 19.37.060 (General Planting, Soil Management and Water Feature Design Requirements).**
  This section currently provides for a minimum three-inch layer of mulch to be applied on all exposed surfaces of planting areas except that up to five percent of the landscaped areas may be left without mulch. This chapter is being amended to require that the five percent exposed areas without mulch be included in landscape design plans. Organic mulch materials made from recycled or post-consumer materials shall take precedence over inorganic materials or virgin forest products unless the recycled post-consumer organic products are not locally available.

- **Section 19.38.030 (Recycling and Solid Waste Facilities).**
  Staff proposes minor updates to the wording and terminology used in SMC Section 19.38.030 for consistency with the SB 1383 regulations. For example, recyclables, solid waste and organic materials are now known as “discarded materials” and contracted or franchised waste haulers are called “authorized collectors.”

  SB 1383 requires that all residential and nonresidential premises shall provide adequate recycling and solid waste facilities (enclosures, trash rooms, etc.) on site for recyclable materials, organic materials, and solid waste (“discarded materials”). To facilitate this requirement, Staff recommends amending SMC Section 19.38.030 to authorize the Directors of Environmental Services and Community Development to develop detailed “Design Guidelines for Recycling, Organics and Solid Waste Services,” which may be amended from time to time. This currently requires Planning Commission and City Council Review. Due to the complex regulatory environment that now governs solid waste services, these guidelines are best developed at the Director level. The new design guidelines developed by the Directors will update and combine three separate documents currently on the City website titled “Garbage and Recycling Design Guidelines Commercial and Industrial”, “Garbage and Recycling Design Guidelines Multi-family”, and “Garbage and Recycling Design Guidelines Town Homes”. The three current Design Guidelines are attached as Attachment 5. The new “Design Guidelines for Recycling, Organics and Solid Waste Services,” are being developed by the Directors of Environmental Services and Community Development and will be completed by January 1, 2022.

  Staff is also taking this opportunity to clarify certain requirements in SMC Section 19.30.030 that have caused issues with some property owners and developers. Specifically, the proposed Ordinance specifies that maintenance of the enclosures includes keeping the surfaces in good condition. In addition, the maximum 150 feet distance between dwelling units and the enclosure is measured by path of travel and cannot include the public right-of-way.

The Planning Commission recommended the proposed amendments to Chapter 19 at its October 25, 2021 meeting. The Planning Commission recommended that the new Design Guidelines specify solid waste services of “up to 3 times per week” instead of “2 or 3 times per week” as stated in the current

Guidelines. A copy of the Planning Commission report is attached as Attachment 4.

Adopt a Resolution to amend the Master Fee Schedule to add fines and penalties for violations of SMC Chapters 8.16 and 16.74

The City must begin enforcement of the required SB 1383 ordinance by January 1, 2024, with minimum fines for non-compliance specified in the regulations. From January 1, 2022 through December 31, 2023, the City will focus efforts on educating generators about their responsibilities. The City and Specialty staff and contractors will conduct site visits of all commercial and multi-family properties to educate property managers and tenants about the City's recycling programs and their responsibilities under SB 1383. Site visits began in September 2021. Staff has updated all solid waste outreach materials to include information on the new requirements. While staff will pursue an "education first" policy, the proposed Ordinance does allow the City to begin issuing citations for SB 1383 non-compliance beginning January 1, 2022, if necessary.

SB 1383 does not require jurisdictions to fine customers for improper sorting of their materials or contamination of organic and recyclable materials. Staff and Specialty will utilize courtesy collection notices (e.g., your materials were contaminated but were still collected) and non-collection notices (e.g., your materials were contaminated and therefore not collected) to educate generators about proper sorting.

Staff is recommending that Council Adopt a Resolution to amend the Master Fee Schedule to add fines and penalties for violations of SMC Chapters 8.16 and 16.74. Although violations of SMC Chapter 8.16 are infractions, staff intends to use administrative citations as an alternative to criminal prosecution. SB 1383 requires cities to impose the following penalty ranges:

- 1st violation = $50-$100
- 2nd violation = $100-$200
- 3rd violation = $250-$500

Staff will have discretion to assess an appropriate penalty based on the factors set forth in the enforcement section of the proposed Ordinance (Section 8.16.280(e)), beginning January 1, 2022

Environmental Procurement

In order to stimulate markets for recycled/composted organic materials, SB 1383 requires jurisdictions to purchase paper products with 30% post-consumer recycled content. It also requires jurisdictions to purchase quantities of organic products (compost, mulch, biofuel, and green energy) based on population. Staff will return to Council no later than February 1, 2022 with proposed amendments to City Council Policy 7.1.03 (Environmental Procurement).

EXISTING POLICY
SUNNYVALE GENERAL PLAN

Chapter 7: Environmental Management-Water Supply
Goal EM 2-Water Conservation - Promote more efficient use of the City's water resources to reduce the demands.

Goal EM-14-Recycling and Source Reduction Programs - Reduce solid waste through recycling, source reduction, education, and special programs.

ENVIRONMENTAL REVIEW

The action being considered is exempt from environmental review under the California Environmental Quality Act (CEQA) pursuant to Sections 15061(b)(3) and 15308 on the ground that it can be seen with certainty that the enhanced regulations will not have a significant effect on the environment and that imposing these requirements is an action taken by a regulatory agency (the City) to assure the maintenance, restoration, enhancement, and protection of the environment where the regulatory process involves procedures for protection of the environment. In 2020, CalRecycle certified a program Environmental Impact Report supporting the adoption of the SB 1383 regulations, which is available on the CalRecycle website, https://www.calrecycle.ca.gov/laws/rulemaking/archive/2020/slcp. The EIR identified potentially significant impacts related to construction and operation of new facilities built in response to the regulations. However, the City's adoption of the proposed Ordinance does not authorize any construction. Any future construction or development that may be necessary as a result of the regulations will be subject to appropriate environmental review.

FISCAL IMPACT

The proposed amendments to the SMC will have no fiscal impact to the City. The adopted FY 2021/22 budget contains funding for a term-limited full-time ESD staff member to assist in implementing SB 1383. There may be additional potential revenue from assessed fines in future years, which could partially offset costs associated with enforcement activities. Any revenue from fines would accrue to the Solid Waste Management Enterprise Fund.

PUBLIC CONTACT

Public contact was made by posting the Council agenda on the City's official-notice bulletin board outside City Hall, Sunnyvale Public Library and Department of Public Safety. In addition, the agenda and report are available at the Office of the City Clerk and on the City's website.

ALTERNATIVES

1. Introduce an Ordinance Repealing and Re-Adopting Sunnyvale Municipal Code Chapter 8.16 (Solid Waste Management and Recycling) and adopt Municipal Code Chapter 16.74 (Construction and Demolition Diversion).
2. Introduce an Ordinance to Amend Sunnyvale Municipal Code Sections 19.38.030 (Recycling and Solid Waste Facilities) and 19.37.060 (General Planting, Soil Management and Water Feature Design Requirements).
3. Adopt a Resolution to amend the Master Fee Schedule to add fines and penalties for violations of Sunnyvale Municipal Code Chapters 8.16 and 16.74.
4. Find that the Action Is Exempt from CEQA pursuant to CEQA Guidelines Sections 15308 and 15061(b)(3).
5. Do not recommend the City Council approve alternatives 1 through 4.

STAFF RECOMMENDATION

Alternatives 1 through 4:

1. Introduce an Ordinance Repealing and Re-Adopting Sunnyvale Municipal Code Chapter 8.16

(Solid Waste Management and Recycling) and adopt Municipal Code Chapter 16.74 (Construction and Demolition Diversion);
2. Introduce an Ordinance to Amend Sunnyvale Municipal Code Sections 19.38.030 (Recycling and Solid Waste Facilities) and 19.37.060 (General Planting, Soil Management and Water Feature Design Requirements);
3. Adopt a Resolution to amend the Master Fee Schedule to add fines and penalties for violations of Sunnyvale Municipal Code Chapters 8.16 and 16.74; and
4. Find that the Action Is Exempt from the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines Sections 15308 and 15061(b)(3).

Prepared by: David Krueger, Solid Waste Programs Division Manager
Reviewed by: Ramana Chinnakotla, Director of Environmental Services
Reviewed by: Rebecca Moon, Senior Assistant City Attorney
Reviewed by: John Nagel, City Attorney
Reviewed by: Teri Silva, Assistant City Manager
Approved by: Kent Steffens, City Manager

ATTACHMENTS

1. Draft Ordinance Repealing and Re-Adopting Sunnyvale Municipal Code Chapter 8.16 (Solid Waste Management and Recycling) and adopt Sunnyvale Municipal Code Chapter 16.74 (Construction and Demolition Diversion)
2. Draft Ordinance to Amend Sunnyvale Municipal Code Sections 19.38.030 (Recycling and Solid Waste Facilities) and 19.37.060 (General Planting, Soil Management and Water Feature Design Requirements)
3. A Resolution to amend the Master Fee Schedule to add fines and penalties for violations of Sunnyvale Municipal Code Chapters 8.16 and 16.74
4. Report to Planning Commission (RTC No. 21-0976), dated October 25, 2021 (without attachments)
5. Design Guidelines

DRAFT 10/25/21 RLM

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SUNNYVALE REPEALING AND RE-ADOPTING CHAPTER 8.16 (SOLID WASTE HANDLING AND RECYCLING) OF TITLE 8 (HEALTH AND SANITATION) AND ADDING CHAPTER 16.74 (CONSTRUCTION AND DEMOLITION DIVERSION) OF TITLE 16 (BUILDINGS AND CONSTRUCTION) OF THE SUNNYVALE MUNICIPAL CODE

THE CITY COUNCIL OF THE CITY OF SUNNYVALE FINDS AND DECLARES AS FOLLOWS:

WHEREAS, the California Integrated Waste Management Act of 1989 (California Public Resources Code Section 40000, et seq.), commonly known as the state recycling law, requires cities and counties to reduce, reuse, and recycle (including composting) solid waste generated in their city to the maximum extent feasible before any incineration or landfill disposal of waste, to conserve water, energy, and other natural resources, and to protect the environment; and

WHEREAS, Assembly Bill 341 of 2011, which made certain amendments to the California Integrated Waste Management Act, placed requirements on commercial businesses and multi-family premises that generate a specified threshold amount of solid waste to arrange for recycling services and requires jurisdictions to implement a mandatory commercial recycling program; and

WHEREAS, Assembly Bill 1826 of 2014 (commencing with Section 42649.8 of the Public Resources Code), commonly known as the state organics materials recycling law, requires commercial businesses and multi-family premises that generate a specified threshold amount of solid waste, recyclable materials, and organic materials per week to arrange for recycling services for that waste, requires jurisdictions to implement a recycling program to divert organic materials from commercial businesses and multi-family premises subject to the law, and requires jurisdictions to implement a mandatory commercial organic materials recycling program; and

WHEREAS, Senate Bill 1383 ("SB 1383"), the Short-lived Climate Pollutant Reduction Act of 2016, required CalRecycle to develop regulations to reduce Organic Waste in landfills as a source of methane. The regulations place requirements on multiple entities including jurisdictions, residential households, multi-family premises, commercial businesses, commercial edible food generators, haulers, self-haulers, food recovery organizations, and food recovery services to support achievement of the SB 1383 statewide organic waste disposal reduction targets; and

WHEREAS, SB 1383 requires jurisdictions to adopt and enforce an ordinance or enforceable mechanism to implement relevant provisions of SB 1383 Regulations. This ordinance will also help reduce food insecurity by requiring commercial edible food generators to arrange to have the maximum amount of their edible food, that would otherwise be disposed, be recovered for human consumption; and

WHEREAS, requirements in this ordinance are consistent with other adopted goals and policies of the City including: the Climate Action Plan, Zero Waste Council Policy 3.2.4 and the Zero Waste Strategic Plan.

THE CITY COUNCIL OF THE CITY OF SUNNYVALE DOES ORDAIN AS FOLLOWS:

SECTION 1. CHAPTER 8.16 REPEALED. Chapter 8.16 (Solid Waste Management and Recycling) of Title 8 (Health and Sanitation) of the Sunnyvale Municipal Code is hereby repealed in its entirety.

SECTION 2. CHAPTER 8.16 ADOPTED. Chapter 8.16 (Solid Waste Management and Recycling) of Title 8 (Health and Sanitation) of the Sunnyvale Municipal Code is hereby adopted to read as stated in Exhibit A attached to this Ordinance and incorporated herein by reference.

SECTION 3. CHAPTER 16.74 ADOPTED. Chapter 16.74 (Construction and Demolition Diversion) of Title 16 (Buildings and Construction) of the Sunnyvale Municipal Code is hereby adopted to read as stated in Exhibit B attached to this Ordinance and incorporated herein by reference.

SECTION 3. CEQA. This ordinance is exempt from environmental review under the California Environmental Quality Act (CEQA) pursuant to Sections 15061(b)(3) and 15308 on the ground that it can be seen with certainty that the enhanced regulations will not have a significant effect on the environment and that imposing these requirements is an action taken by a regulatory agency (the City) to assure the maintenance, restoration, enhancement, and protection of the environment where the regulatory process involves procedures for protection of the environment.

SECTION 4. EFFECTIVE DATE. This ordinance shall be in full force and effect thirty (30) days after adoption.

SECTION 5. PUBLICATION. The City Clerk is directed to cause copies of this ordinance to be posted in three (3) prominent places in the City of Sunnyvale and to cause publication once in The Sun, the official newspaper for publication of legal notices of the City of Sunnyvale, of a notice setting forth the date of adoption, the title of this ordinance, and a list of places where copies of this ordinance are posted, within fifteen (15) days after adoption of this ordinance.

Introduced at a regular meeting of the City Council held on _____, and adopted as an ordinance of the City of Sunnyvale at a regular meeting of the City Council held on _____, by the following vote:

AYES:
NOES:
ABSTAIN:
ABSENT:
RECUSAL:

ATTEST: APPROVED:

_____ _____
City Clerk Mayor
Date of Attestation: _____

(SEAL)

APPROVED AS TO FORM:

_____
City Attorney

EXHIBIT A

SUNNYVALE MUNICIPAL CODE CHAPTER 8.16
SOLID WASTE, RECYCLABLE MATERIALS AND ORGANIC MATERIALS

8.16.010 Purpose.

It is the purpose of this chapter to set forth terms and conditions pursuant to which authorization may be granted by the city council to provide services for handling discarded materials including solid waste, recyclables and organic materials; and to promote the public health, welfare and safety of the community by establishing reasonable regulations relating to the storage, accumulation, collection and disposal of solid waste, recyclables and organic materials.

8.16.020 Definitions.

(a) "A"

(1) "Approved Collection Container" means a Container or compartment of a split container that has been approved by the Director for collection of specific Discarded Materials.

(2) "Authorized Collector" means a person or entity that been granted a franchise or other authorization by the City to collect Solid Waste, Recyclable Materials, or Organic Materials.

(b) Reserved.

(c) "C"

(1) "CalRecycle" means California's Department of Resources Recycling and Recovery.

(2) "California Code of Regulations" or "CCR" means the State of California Code of Regulations. CCR references in this chapter are preceded with a number that refers to the relevant Title of the CCR (e.g., "14 CCR" refers to Title 14 of CCR).

(3) "City" means the City of Sunnyvale acting through its duly authorized officials and employees.

(4) "City Enforcement Official" means the Director or any City employee who is duly authorized or designated by the Director to enforce this chapter.

(5) "Commercial Business" or "Commercial" means a firm, partnership, proprietorship, joint-stock company, corporation, or association, whether for-profit or nonprofit, strip mall, or industrial facility.

(6) "Commercial Edible Food Generator" includes a Tier One or a Tier Two Commercial Edible Food Generator as defined in this chapter or as otherwise defined in 14 CCR Section 18982(a)(73) and (a)(74). For the purposes of this definition, Food Recovery Organizations and Food Recovery Services are not Commercial Edible Food Generators pursuant to 14 CCR Section 18982(a)(7).

(7) "Compliance Review" means a review of records by the City to determine compliance with this chapter.

(8) "Community Composting" means any activity that Composts green material, agricultural material, food material, and vegetative food material, alone or in combination, and the total amount of feedstock and Compost on-site at any one time does not exceed 100 cubic yards and 750 square feet, as specified in 14 CCR Section 17855(a)(4); or, as otherwise defined by 14 CCR Section 18982(a)(8).

(9) "Compost" has the same meaning as in 14 CCR Section 17896.2(a)(4), which stated, as of the effective date of this chapter, that "Compost" means the product resulting from the controlled biological decomposition of Organic Material that is Source Separated from the municipal Solid Waste stream, or which are separated at a centralized facility.

(10) "Compostable" means that an item is composed of organic materials that are capable of being broken down into Compost through a process of controlled biological decomposition using heat, moisture, oxygen, and microorganisms.

(11) "Concierge Service, Valet Service, or Zero Waste Facilitator" means any person or company that manages waste on site for Generators. Services may include bin staging, trash enclosure maintenance, on site collection, on site material sorting and Discarded Materials removal from Generators for deposit to Approved Containers.

(12) "Container(s)" means bins, carts, compactors, drop boxes (or debris bins or debris dumpster), compartments of split containers and public litter containers.

(13) "Container Contamination" or "Contaminated Container" means a Container, regardless of color, that contains Prohibited Container Contaminants, or as otherwise defined in 14 CCR Section 18982(a)(55).

(14) "Courtesy Notice" means a form that the City's Authorized Collector leaves with the customer indicating the ways in which a customer has failed to comply with proper Discarded Materials set-out procedures, giving reference to the law, or chapter, that has been violated, which is left by the Authorized Collector at customer's Premises to indicate that their improperly set our Discarded Materials were collected as a courtesy, but may be subject to non-collection in the future

(15) "C&D" means construction and demolition debris.

(d) "D"

(1) "Director" means the director of the Environmental Services Department. References to the Director include any City employee designated by the Director to perform or carry out duties on the Director's behalf.

(2) "Department" means any department of the City designated by the City Council or City Manager to enforce or administer this chapter, as authorized in 14 CCR Section 18981.2.

(3) "Designee" means an entity that the City contracts with or otherwise arranges to carry out any of the City's responsibilities of this chapter as authorized in 14 CCR Section 18981.2. A Designee may be a government entity, a hauler, a private entity, or a combination of those entities.

(4) "Discarded Materials" means Recyclable Materials, Organic Materials, and Solid Waste placed by a Generator in a collection Container and/or at a location for the purposes of collection, excluding Excluded Waste.

(5) "Disposal Facility" means a landfill or other facility for the ultimate disposal of Solid Waste.

(6) "Dwelling Unit" has the meaning defined in Section 19.12.050 of this code and includes an accessory dwelling unit as defined in Section 19.12.010 of this code.

(e) "E"

(1) "Edible Food" means food intended for human consumption, or as otherwise defined in 14 CCR Section 18982(a)(18). For the purposes of this chapter or as otherwise defined in 14 CCR Section 18982(a)(18), "Edible Food" is not Solid Waste if it is recovered and not discarded. Nothing in this chapter or in 14 CCR, Division 7, Chapter 12 requires or authorizes the Recovery of Edible Food that does not meet the food safety requirements of California Health and Safety Code Sections 113700 et seq., known as the California Retail Food Code.

(2) "Enforcement Action" means an action of the City to address non-compliance with this chapter including, but not limited to, issuing administrative citations, fines, penalties, or using other remedies.

(3) "Enforcement Official" means the City Enforcement Official or, if delegated, the Regional or County Agency Enforcement Official.

(4) "Excluded Waste" means hazardous substance, hazardous waste, infectious waste, designated waste, volatile, corrosive, medical waste, regulated radioactive waste, and toxic substances or material that facility operator(s), which receive materials from the City and its Generators, reasonably believe(s) would, as a result of or upon acceptance, transfer, processing, or disposal, be a violation of local, State, or federal law, regulation, or ordinance, including: land use restrictions or conditions, waste that cannot be disposed of in Class III landfills or accepted at the facility by permit conditions, waste that in City, or its Designee's reasonable opinion would present a significant risk to human health or the environment, cause a nuisance or otherwise create or expose City, or its Designee, to potential liability; but not including de minimis volumes or concentrations of waste of a type and amount normally found in residential Solid Waste after implementation of programs for the safe collection, processing, recycling, treatment, and disposal of batteries and paint in compliance with Sections 41500 and 41802 of the California Public Resources Code. Excluded Waste does not include used cooking oil, motor oil and filters, household batteries, and/or universal wastes when such materials are defined as allowable materials for collection through the City's collection programs and the Generator or customer has properly placed the materials for collection pursuant to instructions provided by City or its Designee for collection services.

(f) "F"

(1) "Food Distributor" means a company that distributes food to entities including, but not limited to, Supermarkets and Grocery Stores, or as otherwise defined in 14 CCR Section 18982(a)(22).

(2) "Food Facility" has the same meaning as in Section 113789 of the Health and Safety Code.

(3) "Food Recovery" means actions to collect and distribute food for human consumption that otherwise would be disposed, or as otherwise defined in 14 CCR Section 18982(a)(24).

(4) "Food Recovery Organization" means an entity that engages in the collection or receipt of Edible Food from Commercial Edible Food Generators and distributes that Edible Food to the public for Food Recovery either directly or through other entities or as otherwise defined in 14 CCR Section 18982(a)(25), including, but not limited to:

(A) A food bank as defined in Section 113783 of the Health and Safety Code;

(B) A nonprofit charitable organization as defined in Section 113841 of the Health and Safety code; and,

(C) A nonprofit charitable temporary Food Facility as defined in Section 113842 of the Health and Safety Code.

A Food Recovery Organization is not a Commercial Edible Food Generator for the purposes of this chapter and implementation of 14 CCR, Division 7, Chapter 12 pursuant to 14 CCR Section 18982(a)(7).

If the definition in 14 CCR Section 18982(a)(25) for Food Recovery Organization differs from this definition, the definition in 14 CCR Section 18982(a)(25) shall apply to this chapter.

(5) "Food Recovery Service" means a person or entity that collects and transports Edible Food from a Commercial Edible Food Generator to a Food Recovery Organization or other entities for Food Recovery, or as otherwise defined in 14 CCR Section 18982(a)(26). A Food Recovery Service is not a Commercial Edible Food Generator for the purposes of this chapter and implementation of 14 CCR, Division 7, Chapter 12 pursuant to 14 CCR Section 18982(a)(7).

(6) "Food Scraps" means all food such as, but not limited to, fruits, vegetables, meat, poultry, seafood, shellfish, bones, rice, beans, pasta, bread, cheese, eggshells, tea bags, coffee filters, fats, oils, and grease.

(7) "Food Service Provider" means an entity primarily engaged in providing food services to institutional, governmental, Commercial, or industrial locations of others based on contractual arrangements with these types of organizations, or as otherwise defined in 14 CCR Section 18982(a)(27).

(8) "Food-Soiled Paper" is Compostable paper material, such as, but not limited to, Compostable paper plates, paper coffee cups, napkins and pizza boxes that has come in contact with food or liquid.

(g) "G"

(1) "Generator" means a person or entity that is responsible for the initial creation of one or more types of Discarded Materials.

(2) "Grocery Store" means a store primarily engaged in the retail sale of canned food; dry goods; fresh fruits and vegetables; fresh meats, fish, and poultry; and any area that is not separately owned within the store where the food is prepared and served, including a bakery, deli, and meat and seafood departments, or as otherwise defined in 14 CCR Section 18982(a)(30).

(h) "H"

(1) "Hauler Route" means the designated itinerary or sequence of stops for each segment of the City's collection service area, or as otherwise defined in 14 CCR Section 18982(a)(31.5).

(2) "Health Facility" has the same meaning as in Section 1250 of the Health and Safety Code.

(3) "High Diversion Organic Waste Processing Facility" means a facility that is in compliance with the reporting requirements of 14 CCR Section 18815.5(d) and meets or exceeds an annual average Mixed Waste organic content Recovery rate of 50 percent between January 1, 2022 and December 31, 2024, and 75 percent after January 1, 2025, as calculated pursuant to 14 CCR Section 18815.5(e) for Organic Waste received from the "Mixed Waste Organic Collection Stream" as defined in 14 CCR Section 17402(a)(11.5); or, as otherwise defined in 14 CCR Section 18982(a)(33).

(4) "Hotel" has the same meaning as in Section 17210 of the Business and Professions code.

(i) "I"

(1) "Inspection" means an electronic or onsite review of records, containers, and an entity's collection, handling, recycling, or landfill disposal of Recyclable Materials, Organic Waste, Solid Waste/Mixed Waste or Edible Food handling to determine if the entity is

complying with requirements set forth in this ordinance, or as otherwise defined in 14 CCR Section 18982(a)(35).

(j) Reserved.

(k) Reserved.

(l) "L"

(1) "Large Event" means an event, including, but not limited to, a sporting event or a flea market, that charges an admission price, or is operated by a local agency, and serves an average of more than 2,000 individuals per day of operation of the event, at a location that includes, but is not limited to, a public, nonprofit, or privately owned park, parking lot, golf course, street system, or other open space when being used for an event. If the definition in 14 CCR Section 18982(a)(38) differs from this definition, the definition in 14 CCR Section 18982(a)(38) shall apply to this chapter.

(2) "Large Multifamily" means a Premises with five or more Dwelling Units. Large Multifamily does not include Hotels, motels, or other transient occupancy facilities, which are considered Commercial Businesses.

(3) "Large Venue" means a permanent venue facility that annually seats or serves an average of more than 2,000 individuals within the grounds of the facility per day of operation of the venue facility. For purposes of this chapter and implementation of 14 CCR, Division 7, Chapter 12, a venue facility includes, but is not limited to, a public, nonprofit, or privately owned or operated stadium, amphitheater, arena, hall, amusement park, conference or civic center, zoo, aquarium, airport, racetrack, horse track, performing arts center, fairground, museum, theater, or other public attraction facility. For purposes of this chapter and implementation of 14 CCR, Division 7, Chapter 12, a site under common ownership or control that includes more than one Large Venue that is contiguous with other Large Venues in the site, is a single Large Venue. If the definition in 14 CCR Section 18982(a)(39) differs from this definition, the definition in 14 CCR Section 18982(a)(39) shall apply to this chapter.

(4) "Local Education Agency" means a school district, charter school, or county office of education that is not subject to the control of City or county regulations related to Solid Waste, or as otherwise defined in 14 CCR Section 18982(a)(40).

(m) "M"

(1) "Mixed Waste Organic Collection Stream" or "Mixed Waste" means Organic Waste or Solid Waste collected in a Container that is required by 14 CCR Sections 18984.1, 18984.2 or 18984.3 to be taken to a High Diversion Organic Waste Processing Facility or as otherwise defined in 14 CCR Section 17402(a)(11.5).

(2) "Multifamily" means a Premises with two or more Dwelling Units.

(n) "N"

(1) "Notice of Violation (NOV)" means a notice that a violation has occurred that includes a compliance date to avoid an action to seek penalties, or as otherwise defined in 14 CCR Section 18982(a)(45) or further explained in 14 CCR Section 18995.4.

(o) "O"

(1) "Organic Materials" means Yard Trimmings, Food Scraps, and Food-Soiled Papers that are set aside, handled, packaged, or offered for collection in a manner different from Solid Waste for the purpose of processing.

(2) "Organic Waste" means Solid Wastes containing material originated from living organisms and their metabolic waste products, including but not limited to food, green material, landscape and pruning waste, organic textiles and carpets, lumber, wood, Paper Products, Printing and Writing Paper, manure, biosolids, digestate, and sludges or as otherwise defined in 14 CCR Section 18982(a)(46). Biosolids and digestate are as defined by 14 CCR Section 18982(a).

(p) "P"

(1) "Paper Products" include, but are not limited to, paper janitorial supplies, cartons, wrapping, packaging, file folders, hanging files, corrugated boxes, tissue, and toweling, or as otherwise defined in 14 CCR Section 18982(a)(51).

(2) "Premises" means and includes any land, building and/or structure, or portion thereof, in the City where Discarded Materials are produced, generated, or accumulated. All structures on the same legal parcel, which are owned by the same person shall be considered as one Premises.

(3) "Printing and Writing Papers" include, but are not limited to, copy, xerographic, watermark, cotton fiber, offset, forms, computer printout paper, white woven envelopes, manila envelopes, book paper, note pads, writing tablets, newsprint, and other uncoated writing papers, posters, index cards, calendars, brochures, reports, magazines, and publications, or as otherwise defined in 14 CCR Section 18982(a)(54).

(4) "Prohibited Container Contaminants" means the following:

(A) Discarded Materials that are not placed in the specified Approved Container.

(B) Excluded Waste placed in any Container.

(5) "Putrescible Wastes" means materials that are capable of being decomposed or rotted by microorganisms with sufficient rapidity as to cause nuisances because of odors,

gases or other offensive conditions, and include materials such as Food Scraps, offal and dead animals.

(q) Reserved.

(r) "R"

(1) "Recovery" means any activity or process described in 14 CCR Section 18983.1(b), or as otherwise defined in 14 CCR Section 18982(a)(49).

(2) "Recycle" or "Recycling" means the process of sorting, cleansing, treating, and reconstituting at a Recyclable Materials Processing Facility, materials that would otherwise be disposed of at a landfill for the purpose of returning such materials to the economy in the form of raw materials for new, reused, or reconstituted products.

(3) "Recyclable Containers" means non-putrescible and non-hazardous Recyclable Materials including but not limited to bottles, cans, metals, plastics and glass.

(4) "Recyclable Paper" means Paper Products and Printing and Writing Papers, with the exception of Food-Soiled Paper.

(5) "Recyclable Materials" means materials, by-products, or components of such materials set aside, handled, packaged, or offered for collection in a manner different from Solid Waste for the purpose of Recycling.

(6) "Regional Agency" means regional agency as defined in Public Resources Code Section 40181.

(7) "Regional or County Agency Enforcement Official" means a regional or county agency Enforcement Official, designated by the City with responsibility for enforcing this chapter in conjunction or consultation with City Enforcement Official(s).

(8) "Remote Monitoring" means the use of the internet of things (IoT) and/or wireless electronic devices to visualize the contents of Recyclable Materials Containers, Organic Materials Containers, and Mixed Waste Containers for purposes of identifying the quantity of materials in Containers (level of fill) and/or presence of Prohibited Container Contaminants.

(9) "Responsible Party" means the property owner. If a property owner enters into a written agreement with another party (such as a tenant, lessee, occupant, property manager, home owners association, Valet Services, Waste Broker, Concierge Service, Zero Waste Facilitator or other party that contracts for or manages collection services) to manage or obtain Mixed Waste, Organic Materials, and Recyclable Materials collection services, then that party and the property owner shall both be responsible for compliance with this chapter and shall be held jointly and severally liable for any civil or criminal violations.

(10) "Restaurant" means an establishment primarily engaged in the retail sale of food and drinks for on-Premises or immediate consumption, or as otherwise defined in 14 CCR Section 18982(a)(64).

(11) "Route Review" means a visual Inspection of Containers along a Hauler Route for the purpose of determining Container Contamination and may include mechanical Inspection methods and/or Remote Monitoring Inspection methods such as the use of cameras, or as otherwise defined in 14 CCR Section 18982(a)(65).

(s) "S"

(1) "SB 1383" means Senate Bill 1383 of 2016 approved by the Governor on September 19, 2016, which added Sections 39730.5, 39730.6, 39730.7, and 39730.8 to the Health and Safety Code, and added Chapter 13.1 (commencing with Section 42652) to Part 3 of Division 30 of the Public Resources Code, establishing methane emissions reduction targets in a State-wide effort to reduce emissions of short-lived climate pollutants as amended, supplemented, superseded, and replaced from time to time.

(2) "SB 1383 Regulations" means or refers to, for the purposes of this chapter, the Short-Lived Climate Pollutants: Organic Waste Reduction regulations developed by CalRecycle and adopted in 2020 that created 14 CCR, Division 7, Chapter 12 and amended portions of regulations of 14 CCR and 27 CCR.

(3) "Self-Haul" means to act as a Self-Hauler.

(4) "Self-Hauler" means a person, who hauls Solid Waste, C&D, Organic Waste, or Recyclable Material they have generated to another person. Self-hauler also includes a landscaper or a person who back-hauls waste. Back-haul means generating and transporting Recyclable Materials or Organic Waste to a destination owned and operated by the Generator or Responsible Party using the Generator's or Responsible Party's own employees and equipment, or as otherwise defined in 14 CCR Section 18982(a)(66)(A).

(5) "Single-Family" means a Premises with:

(A) One detached Dwelling Unit on a single lot; or,

(B) One Dwelling Unit within a Multifamily Premises if the City has agreed to provide individual cart service to each unit.

(6) "Solid Waste" has the same meaning as defined in State Public Resources Code Section 40191, which defines Solid Waste as all putrescible and non-putrescible solid, semisolid, and liquid wastes, including garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, dewatered, treated, or chemically fixed sewage sludge which is not hazardous waste, manure, vegetable or animal solid and

semisolid wastes, and other discarded solid and semisolid wastes, with the exception that Solid Waste does not include any of the following wastes:

(A) Hazardous waste, as defined in the State Public Resources Code Section 40141.

(B) Radioactive waste regulated pursuant to the State Radiation Control Law (Chapter 8 (commencing with Section 114960) of Part 9 of Division 104 of the State Health and Safety Code).

(C) Medical waste regulated pursuant to the State Medical Waste Management Act (Part 14 (commencing with Section 117600) of Division 104 of the State Health and Safety Code). Untreated medical waste shall not be disposed of in a Solid Waste landfill, as defined in State Public Resources Code Section 40195.1. Medical waste that has been treated and deemed to be Solid Waste shall be regulated pursuant to Division 30 of the State Public Resources Code.

(D) Recyclable Materials and Organic Waste when such materials are Source Separated.

(7) "Source Separated" or "Source-Separated (materials)" means materials, including commingled Recyclable Materials and Organic Materials, that have been separated or kept separate from the Mixed Waste stream, at the point of generation, for the purpose of additional sorting or processing those materials for recycling or reuse in order to return them to the economic mainstream in the form of raw material for new, reused, or reconstituted products, which meet the quality standards necessary to be used in the marketplace, or as otherwise defined in 14 CCR Section 17402.5(b)(4). For the purposes of this chapter, Source Separated shall include separation of materials by the Generator, Responsible Party, or Responsible Party's employee, into specified Approved Collection Containers for the purpose of collection such that Source-Separated materials are separated from Mixed Waste for the purposes of collection and processing.

(8) "State" means the State of California.

(9) "Supermarket" means a full-line, self-service retail store with gross annual sales of two million dollars ($2,000,000.00), or more, and which sells a line of dry grocery, canned goods, or nonfood items and some perishable items, or as otherwise defined in 14 CCR Section 18982(a)(71).

(t) "T"

(1) "Tier One Commercial Edible Food Generator" means a Commercial Edible Food Generator that is one of the following:

(A) Supermarket.

(B) Grocery Store with a total facility size equal to or greater than 10,000 square feet.

(C) Food Service Provider.

(D) Food Distributor.

(E) Wholesale Food Vendor.

If the definition in 14 CCR Section 18982(a)(73) of Tier One Commercial Edible Food Generator differs from this definition, the definition in 14 CCR Section 18982(a)(73) shall apply to this chapter.

(2) "Tier Two Commercial Edible Food Generator" means a Commercial Edible Food Generator that is one of the following:

(A) Restaurant with 250 or more seats, or a total facility size equal to or greater than 5,000 square feet.

(B) Hotel with an on-site Food Facility and 200 or more rooms.

(C) Health Facility with an on-site Food Facility and 100 or more beds.

(D) Large Venue.

(E) Large Event.

(F) A State agency with a cafeteria with 250 or more seats or total cafeteria facility size equal to or greater than 5,000 square feet.

(G) A Local Education Agency facility with an on-site Food Facility.

If the definition in 14 CCR Section 18982(a)(74) of Tier Two Commercial Edible Food Generator differs from this definition, the definition in 14 CCR Section 18982(a)(74) shall apply to this chapter.

(u) Reserved.

(v) "V"

(1) "Valet Service" means the same as "Concierge Service".

(w) "W"

(1) "Waste Broker" means any person or company arranging the Recovery or disposal of waste on behalf of others, including such brokers who do not take physical possession of the waste.

(2) "Wholesale Food Vendor" means a business or establishment engaged in the merchant wholesale distribution of food, where food (including fruits and vegetables) is received, shipped, stored, prepared for distribution to a retailer, warehouse, distributor, or other destination, or as otherwise defined in 14 CCR Section 189852(a)(76).

(3) "Working Days" means every day except Saturdays, Sundays, and holidays specified in California Government Code Section 6700.

(x) Reserved.

(y) "Y"

(1) "Yard Trimmings" means types of Organic Waste resulting from normal yard and landscaping installation, maintenance, or removal, including but not limited to, green trimmings, grass, weeds, leaves, prunings, branches, dead plants, brush, tree trimmings, dead trees and small pieces of unpainted or untreated wood. Yard trimmings placed for Collection must meet the size limitations of the City's current franchise agreement.

(z) "Z"

(1) "Zero Waste Facilitator" means the same as Concierge Service or Valet Service.

8.16.030 Requirements Applicable to Discarded Materials.

(a) It is unlawful for any person occupying or maintaining any Premises within the City, where any Discarded Materials are created, produced, or accumulated upon the Premises, to fail or neglect to use a Container or Containers for receiving and holding, without leakage or escape of odors, all Discarded Materials which are produced, created, or accumulated upon the Premises and all persons shall deposit all Discarded Materials in a Container.

(b) All Generators must use Container(s) approved by Director or furnished by the City's Authorized Collector for the Containers that will be emptied by the Authorized Collector, except that Approved Containers for compactors may be provided by the Generator.

(c) All Containers shall be maintained at all times in a sanitary and tidy condition. All materials shall be placed inside the Containers and shall not be placed outside nor allowed to spill out of such Containers. All Containers under the size of seven (7) cubic yards must have lids. All lids must remain closed.

(1) Exception: Bagged garbage with City-approved extra bag tag or residential bulky items or Source-Separated Recyclable Materials placed curbside for collection on day of collection.

(d) Generators shall not cause or permit material to be so compacted or otherwise placed, kept, or accumulated in any Container in a manner which does not allow the contents of the Container to fall out, by their own weight, upon the Container being lifted and emptied.

Responsible Party shall be required to increase service levels for repeated instances as determined by the Director.

(e) All Containers shall be clearly identified with the name and telephone number of the Authorized Collector.

8.16.040 Removal of Discarded Materials.

All Discarded Materials, other than green material, landscape and pruning material, created, produced, or accumulated in or about dwelling houses situated anywhere in the City shall be disposed of or removed from the Premises at least once each week. All Discarded Materials, other than green material, landscape and pruning material, created, produced, or accumulated on all other Premises shall be disposed of or removed from such Premises at least once each week, or more often, if necessary, except for Containers of seven or more cubic yards capacity containing only nonputrescible Discarded Materials. Containers of seven or more cubic yards capacity shall remain on site only so long as in active use for purposes as neighborhood cleanup, collection of construction debris, etc., and shall not remain without removal for excessive periods of time. Upon a determination by the Director that a Container has remained on site for an excessive period of time, the person responsible for the Container shall, upon written notice, cause it to be removed.

8.16.050 Placement of Discarded Materials Containers.

(a) No Mixed Waste, Organic Materials, or Recyclable Materials Container or receptacle, other than one owned by the City and designated for public use, shall be placed, stored, or kept in or on any public street, sidewalk, footpath, or any public place whatsoever, except as follows:

(1) Containers may be placed curbside or in a designated collection location, or in a location accessible for removing and emptying by the Authorized Collector, no earlier than 12:01 a.m. on the day preceding the scheduled collection day.

(2) Collection Containers shall be removed from designated collection location, public street, sidewalk, or curb after collection no later than 6 a.m. on the day after scheduled collection.

(3) If the Authorized Collector does not collect a Container as scheduled or a service tag has been issued, that Container may be left at the curb or other designated collection location until collected/emptied or for no more than 24 hours.

(4) In the event that the City authorizes periodic collection of un-containerized Mixed Waste, Organic Materials, Recyclable Materials, and/or large, bulky items (furniture, appliances, mattresses, rolls of carpet, etc.) through a neighborhood clean-up day, on-call bulky item collection or similar program, those items may not be placed curbside more than twenty-four (24) hours before the scheduled collection day.

(b) Commercial and Large Multifamily Premises—Placement of Containers, Signage and Enclosure Requirements.

(1) Collection Containers for all required materials shall be placed reasonably close to every Mixed Waste Container such that the Organic Materials, Recyclable Materials and Mixed Waste Containers are equally accessible.

(2) Collection Containers must bear prominent signage on or near the Containers clearly describing the proper segregation and storage of Mixed Waste, Organic Materials, and Recyclable Materials.

(3) If, in the judgment of the Director, a property's existing designated enclosure(s) for all required materials Containers does not have adequate capacity to accommodate all types of Containers, the property owner may locate one or more Containers outside of the existing enclosure to comply with the requirements of this Chapter so long as the materials are properly enclosed in lidded, leak-proof Containers. In such an instance, the property owner would not be held in violation of this section and the existing enclosure would be considered legal non-conforming under chapter 19.50 of this code. New enclosures must completely contain Mixed Waste, Organic Materials and Recyclable Materials collection Containers in compliance with section 19.38.030 of this code.

8.16.060 Discarded Materials – Deposit – Where Prohibited.

(a) It is unlawful for any person to throw or deposit, or cause to be thrown or deposited, any Discarded Materials or abandoned vehicle parts, or allow any collection of same to remain, in or upon any public right-of-way, watercourse, waterway, levees or banks of watercourses or waterways, or upon any Premises whatsoever except an approved disposal area.

(b) It is unlawful to dispose of Discarded Materials in a Container owned or rented by a person other than the Generator of such Discarded Materials, without permission from the owner or renter of the Container to deposit Discarded Materials in the Container.

8.16.070 Discarded Materials – Burning Prohibited.

It is unlawful for any person to burn Discarded Materials within the City.

8.16.080 Collection and Disposal – Issuance of Franchises.

The city council shall provide for the collection and disposal of Discarded Materials generated within the City by the issuance of franchises or contracts to Authorized Collectors. The terms and conditions under which the Authorized Collector(s) are required to collect and dispose of Discarded Materials shall be specified in the applicable franchise or contract and the rates for such collection and disposal operations shall be established by resolution of the City Council.

8.16.090 Collection rates—Liability—Penalty for Nonpayment.

The city council finds that the periodic collection and disposal of Discarded Materials from all places in the City benefits all places and Premises in the City and therefore the Responsible Party must subscribe to Discarded Materials collection services from the Authorized Collector and are made liable for the Discarded Materials collection rates established by resolution of the city council in connection with any franchise or license, issued pursuant to this chapter and the City Charter, for the collection and disposal of Discarded Materials. All such collection rates imposed as herein provided shall be a civil debt owing the City from the occupant of the property receiving the services; provided, however, that where this code provides that such collection rates shall be a civil debt owing the City from the owner of the property receiving the service, such provision shall govern liability to the City for such service. The presence of active water service shall be the primary method of determining occupancy and liability of Discarded Materials collection rates. As to customers to whom the City provides water service, all such collection rates shall be included as a part of the municipal water bills and shall be due and payable at the same time as municipal water bills. Failure or refusal to pay the rates when due shall subject the person obliged to pay the same to discontinuance of Discarded Materials and water service provided by the City pursuant to chapter 12.50 of this code.

8.16.100. Collection Locations.

The collection location for Single-Family and Multifamily residential uses with three or fewer units shall be the street curb line adjacent to such Premises and Discarded Materials collection of Authorized Containers shall be placed in that location by the occupant of the Premises for collection by the City Authorized Collector(s). The number and location of collection locations for other classes of uses shall be easily accessible to the City's Authorized Collector(s) for collection of the Discarded Materials accumulated at such location for collection.

8.16.110. Removal by Authorized Collector—Interference Unlawful.

Removal, transportation, and disposal of Discarded Materials from all Premises within the City shall be completed only by an Authorized Collector to whom a franchise or contract to do so has been granted by the City. It is unlawful for any person to interfere in any manner with the lawful operations of such Authorized Collector.

8.16.120. Discarded Materials property of Authorized Collector.

All Discarded Materials upon being removed from the premises where produced or accumulated shall become and be the property of the Authorized Collector.

8.16.130. Destroying, scattering or collecting Recyclable Materials without the consent of owner unlawful.

It is unlawful for any person to burn, break, destroy, scatter, collect or take any Recyclable Materials without the consent of the owner of such materials. Consent to collection of such

materials may be either oral or written, or may be, manifested by a practice or arrangement between the owner and a donee or donees, whereby Recyclable Materials are placed in a particular place, area or distinctive Container, for regular collection by the donee.

8.16.140. Collecting or hauling without franchise or contract unlawful.

(a) It is unlawful for any person other than the Authorized Collector to engage in the business of collecting or hauling Discarded Materials or C&D through any street or public right-of-way within the City.

(b) It is unlawful for the Responsible Party of a Premises to engage the services of a person other than the Authorized Collector for collecting Discarded Materials within the City.

(c) Exemptions. The following types of materials may be collected or hauled by persons who are not Authorized Collectors:

(1) Self-Hauled Materials: A Commercial Business owner or resident may dispose of occasional loads of Recyclable Materials, Organic Materials, Solid Waste, and C&D generated in or on their own Premises by him or herself or by his or her employees and with his or her own vehicle and equipment in compliance with the Self-Hauler requirements in section 8.16.240 of this chapter. However, the Containers provided by the City or the City's Authorized Collector may not be used for activities authorized by this paragraph.

(A) Notwithstanding the foregoing, no resident or businesses shall employ or engage any Discarded Materials enterprise, other than the Authorized Collector, to haul or transport Discarded Materials to a disposal or processing facility.

(B) Self-Hauling materials does not negate the requirement that each property must subscribe to an adequate level of Discarded Materials collection services provided by the Approved Collector.

(2) Donated or Sold Materials: Any items which are Source Separated at any Property and sold or donated to other persons. No provision of this chapter shall prevent a recycler, junk dealer or other enterprise engaged in the business of buying and marketing Source Separated Recyclable Materials in the stream of commerce and which buys such materials for marketing and not for disposition in a landfill or transfer station (as defined in Public Resources Code Section 40200) from buying Recyclable Materials for a monetary or other valuable consideration; nor shall any provision of this chapter prevent a recycler, junk dealer or enterprise which buys the materials from removing and transporting the materials to a destination for marketing in the stream of commerce.

(3) Edible Food: Edible Food distributed for the purposes of feeding people or animals, regardless of whether it is donated or a fee has been paid to collect it.

(4) Materials Removed as Incidental Part of Services: Recyclable Materials, Organic Materials, Solid Waste, C&D, and bulky items removed from a Property by a contractor (e.g., gardener, landscaper, tree-trimming service, Construction and Demolition (C&D), On-Site Clean-Up Contractor, Roofing Tear-Off Contractor, paper shredder/document destruction company) as an incidental part of the service being performed, rather than as a separately contracted or subcontracted hauling service; or if such contractor is providing a service, which does not fall within the definition of collection services by the Authorized Collector.

(A) Renovation, Rebuilding, Repairs. No provision of this chapter shall prevent a Commercial/industrial business owner from arranging for any worn, spent, or defective equipment, or part thereof, used in a Commercial Business and requiring renovation, rebuilding, recharging, regeneration or repair, to be picked up, renovated, rebuilt, recharged, regenerated or otherwise restored and repaired and returned to such Commercial/industrial business owner; nor shall any provision of this chapter prevent any person engaged in the business of renovating, rebuilding, recharging, regenerating, or otherwise restoring or repairing equipment or part thereof, from transporting the same from or returning it to the Commercial Business, or from removing, transporting or disposing of any equipment, or part thereof, replaced in connection with an equipment repair or service contract.

(B) Contractors. No provision of this chapter shall prevent a licensed contractor having a contract for the demolition or reconstruction of a building, structure, pavement, or concrete installation from marketing any saleable items salvaged from demolition or reconstruction, or from causing salvageable items or construction or demolition waste to be removed and transported from the Premises on which the waste is generated, pursuant to the provisions of the demolition or construction contract, subject to the following:

(C) Collection, removal and disposal activity shall be only by the licensed contractor having the contract for the construction or demolition work that generated salvageable items or construction or demolition waste, or by regularly employed personnel carried on the licensed contractor's payroll records as an employee.

(D) All vehicles used in carrying out collection, removal and disposal activities shall be owned by or under the exclusive control of the licensed contractor and shall meet all the requirements of this chapter and all other laws, statutes, rules, regulations, and ordinances of the State of California and the City.

(5) Animal, Grease Waste, and Used Cooking Oil: Animal waste and remains from slaughterhouse or butcher shops, grease, or used cooking oil.

(6) Excluded Waste: Excluded Waste regardless of its source.

(7) Materials generated by State and county facilities: materials generated by State and county facilities located in the City, including, but not limited to any public school district or community college district, provided that the Generator has arranged services with other persons or Authorized Collector through a separate agreement.

(d) Upon request by the City, any person claiming to be exempt under the provisions of this section shall submit credible evidence such as contracts, invoices, sales orders, statements signed under penalty of perjury, or other documentation sufficient to verify that such person qualifies for the exemption. The failure to provide such evidence may be used as evidence of a violation.

8.16.150. Impounding of receptacles placed in violation of chapter.

(a) Any person who violates section 8.16.140(a) shall be notified in writing that the prompt and permanent removal is required of any receptacle placed on the Premises for collection by a person who is not a City Authorized Collector. Written notice shall be posted prominently upon the receptacle. If the receptacle is identified with the name and address or telephone number of the person operating it, notice shall be provided by mail or telephone. Failure to notify any person by phone or by mail shall not invalidate the notice.

(b) The notice shall inform the person who places or operates the receptacle that the City intends to impound any receptacle that is placed in violation of section 8.16.140(a) within the time set forth in the notice, which shall not be less than twenty-four hours after posting of the notice, or not less than six hours after telephonic notification.

(c) The City may impose fees, costs, charges, and penalties in the amount set forth by city council resolution, unless, within ten Working Days from the date of notice, the person who places or operates the receptacle has requested a hearing on removal and impoundment by filing a written request for a hearing with the Department. A hearing on impoundment shall be scheduled within three Working Days after request.

(d) Any person who violates this section shall be liable to the City for all penalties. That person or persons shall also be liable for any fees, costs and charges in connection with impounding, collection, transportation, storage and handling of such receptacle by the City, as well as cost recovery pursuant to the applicable utility fee schedule in effect on the date of hearing. The receptacle impounded by the City shall be retrieved by the owner upon proof of ownership of the receptacle after all applicable fees, penalties, costs and charges have been paid, including but not limited to fees for unloading the material at the Sunnyvale Materials Recovery and Transfer Station and any costs related to disposal of hazardous materials. fees, penalties, costs, and charges shall not apply if any person prevails in any hearing adjudicating the matter. In all cases, a receptacle not retrieved after three months shall be deemed abandoned.

(e) Upon posting of a written Notice of Violation upon the unauthorized receptacle, no person using the unauthorized receptacle shall place Discarded Materials therein, or that person will be subject to fees, penalties, costs, and charges in the amount set forth by city council resolution.

8.16.160. Vehicles, conveyances, and Containers—Applicable regulations.

(a) All vehicles, conveyances, or Containers used for hauling Discarded Materials within the City shall be of such construction as to comply fully with all laws, rules, and regulations of the State of California pertaining thereto, and shall be of a type and construction to prevent leakage, spillage, or overflow. This chapter is intended to implement the requirements of California Vehicle Code Section 23114, or its successor statute.

(b) Any operator of an uncovered open bed truck hauling Discarded Materials to the SMaRT Station® shall be subject to payment of a penalty. The amount of the penalty shall be established by city council resolution. The penalty may be assessed at the SMaRT Station scalehouse.

8.16.170. Requirements applicable to Single-Family Premises.

Responsible Parties of Single-Family Premises shall:

(a) Subscribe to and pay for City's collection services for weekly collection of Recyclable Containers, Recyclable Paper, Yard Trimmings, Food Scraps, and Mixed Waste generated by the Premises and comply with requirements of those services as described in this section. City shall have the right to review the number and size of a Generator's Containers to evaluate adequacy of capacity provided for each type of collection service for proper separation of materials and containment of materials. The Responsible Parties for the Premises shall adjust their service level for their collection services as requested by the City.

(b) Participate in the City's collection service(s) in the manner described below.

(1) Place and/or direct its Generators to place the following materials in the specified Approved Collection Containers: Source Separated Recyclable Containers, Source Separated Recyclable Paper, Source Separated Yard Trimmings, Source Separated Food Scraps, and Mixed Waste.

(2) Not place and/or direct its Generators to not place Prohibited Container Contaminants in Approved Collection Containers and not place materials designated for the Food Scraps, Recyclable Containers, Recyclable Paper, or Yard Trimmings Containers in the Mixed Waste Container.

(c) Nothing in this Section prohibits the Responsible Party or Generator from preventing or reducing Discarded Materials generation, managing Organic Waste on site, and/or using a Community Composting site pursuant to 14 CCR Section 18984.9(c).

(d) The requirements for Single Family Premises are also applicable to Multifamily premises that are not Large Multifamily Premises (have less than 5 units).

8.16.180. Requirements applicable to Large Multifamily Premises.

Responsible Parties of Large Multifamily Premises shall:

(a) Provide or arrange for Recyclable Containers, Recyclable Paper, Yard Trimmings, Food Scraps, and Mixed Waste collection services consistent with this chapter for employees, contractors, and tenants.

(b) Subscribe to and pay for City's at least weekly collection services of Recyclable Containers, Recyclable Paper, Yard Trimmings, Food Scraps, and Mixed Waste as further described below in this section. City shall have the right to review the number and size of the Large Multifamily Premises' collection Containers and frequency of collection to evaluate adequacy of capacity provided for each type of collection service for proper separation of materials and containment of materials. The Responsible Party of a Large Multifamily Premises shall adjust their service level for their collection services as requested by the Director.

(c) Place, and direct its Generators to place, the following materials in the specified Approved Collection Containers: Source Separated Food Scraps; Source Separated Recyclable Containers; Source Separated Recyclable Paper; Source Separated Yard Trimmings; and Mixed Waste.

(d) Not place, and direct its Generators to not place, Prohibited Container Contaminants in Approved Collection Containers.

(e) Supply and allow access to adequate number, size, and location of collection Containers with sufficient labels or colors (conforming with subsections (1) and (2) below) for employees, contractors, tenants, and customers, consistent with City's collection service or, if Self-Hauling, consistent with the Large Multifamily Premises' approach to complying with Self-Hauler requirements in section 8.16.240 of this chapter.

(1) A body or lid that conforms with the container colors provided through the collection service provided by City, with either lids conforming to the color requirements or bodies conforming to the color requirements or both lids and bodies conforming to color requirements. The Responsible Party of the Large Multifamily Premises is not required to replace functional Containers, including Containers purchased prior to January 1, 2022, that do not comply with the requirements of this subsection prior to the end of the useful life of those Containers, or prior to January 1, 2036, whichever comes first.

(2) Container labels that include language or graphic images, or both, indicating the primary material accepted and the primary materials prohibited in that Container, or Containers with imprinted text or graphic images that indicate the primary materials accepted and primary materials prohibited in the Container. Pursuant 14 CCR Section 18984.8, the Container labeling requirements are required on new Containers commencing January 1, 2022.

(f) Annually provide information to employees, contractors, tenants, and customers about Recyclable Materials and Organic Waste Recovery requirements and about proper sorting of Recyclable Materials, Organic Materials, and Mixed Waste.

(g) Ensure that employees of Valet Services, Concierge Services, Zero Waste Facilitators, Waste Brokers, and other vendors hired to manage the property's collection service are trained by City staff on an annual basis about Recyclable Materials and Organic Waste Recovery requirements and proper sorting of Recyclable Materials, Organic Materials, and Mixed Waste. The City will maintain a list of vendors whose staff have received such training.

(h) Provide education information before or within fourteen (14) days of occupation of the Premises to new tenants that describes requirements to Source Separate Recyclable Materials and Organic Materials and to keep Source Separated Organic Materials and Source Separated Recyclable Materials separate from each other and from Solid Waste/Mixed Waste (when applicable) and the location of Containers and the rules governing their use at each property.

(i) Provide or arrange access for City or its Designee to their properties during all Inspections conducted in accordance with this chapter to confirm compliance with the requirements of this chapter.

(j) At the option of the Responsible Party of the Large Multifamily Premises and subject to approval and written notification required from the City or its Designee, implement a Remote Monitoring program and install devices on or in Containers for Inspection of the contents of its Recyclable Materials Containers, Organic Materials Containers, and Mixed Waste Containers for the purpose of monitoring the contents of Containers to determine appropriate levels of service and to identify Prohibited Container Contaminants. The Authorized Collector may require a waiver or release of liability from Responsible Party for incidental damage to Remote Monitoring device during operations.

(k) If the Responsible Party of a Large Multifamily Premises wants to Self-Haul, meet the Self-Hauler requirements in section 8.16.240 of this chapter.

(l) Large Multifamily Premises that generate two (2) cubic yards or more of total Discarded Materials, Recyclable Materials, and Organic Materials per week (or other threshold defined by the State) that arrange for gardening or landscaping services shall require that the contract or work agreement between the owner, occupant, or operator of a Large Multifamily Premises and a gardening or landscaping service specifies that the designated Organic Materials generated by those services be managed in compliance with this chapter.

(m) Nothing in this Section prohibits a Responsible Party or Generator of a Large Multifamily Premises from preventing or reducing Solid Waste generation, managing Organic Waste on site, or using a Community Composting site pursuant to 14 CCR Section 18984.9(c).

8.16.190. Requirements applicable to Commercial Businesses.

Responsible Parties of Commercial Premises shall:

(a) Provide or arrange for Yard Trimmings, Food Scraps, and Mixed Waste collection services consistent with this chapter and for employees, contractors, tenants, and customers.

(b) Subscribe to and pay for the City's at least weekly collection services for collection of Yard Trimmings, Food Scraps, and Mixed Waste and comply with requirements of those services as further described below in this section. City shall have the right to review the number and size of a Commercial Premises' Containers and frequency of collection to evaluate adequacy of capacity provided for each type of collection service for proper separation of materials and containment of materials. The Responsible Party of the Commercial Business shall adjust their service level for their collection services as requested by the Director.

(c) Place, and direct its Generators to place, Source Separated Food Scraps; Yard Trimmings and Mixed Waste in the appropriate Approved Containers.

(d) Not place, and direct its Generators to not place, Prohibited Container Contaminants in Approved Collection Containers and to not place Food Scraps or Yard Trimmings in the Mixed Waste Containers.

(e) Supply and allow access to adequate number, size, and location of collection Containers with sufficient labels or colors (conforming with subsections (f)(1) and (f)(2) of this section) for employees, contractors, tenants, and customers, consistent with City's Recyclable Materials, Organic Materials, and Mixed Waste collection service or, if Self-Hauling, consistent with the Commercial Premises' approach to complying with Self-Hauler requirements in section 8.16.240 of this chapter.

(f) Provide pre-collection containers for the collection of Source Separated Recyclable Materials and Source Separated Food Scraps in all indoor and outdoor areas where Mixed Waste containers are provided for customers, for materials generated by that Commercial Business. Such containers shall be visible and easily accessible. Such containers do not need to be provided in restrooms. If a Commercial Business does not generate any of the materials that would be collected in one type of Container, then the Responsible Party of the Commercial Business does not have to provide that particular container in all areas where Mixed Waste containers are provided for customers. Pursuant to 14 CCR Section 18984.9(b), the containers provided by the Responsible Party of the Commercial Business shall have either:

(1) A body or lid that conforms with the container colors provided through the collection service provided by City, with either lids conforming to the color requirements or bodies conforming to the color requirements or both lids and bodies conforming to color requirements. The Responsible Party of the Commercial Business is not required to replace functional containers, including containers purchased prior to January 1, 2022, that do not comply with the requirements of this subsection prior to the end of the useful life of those containers, or prior to January 1, 2036, whichever comes first.

(2) Container labels that include language or graphic images, or both, indicating the primary material accepted and the primary materials prohibited in that container, or containers with imprinted text or graphic images that indicate the primary materials accepted and primary materials prohibited in the container. Pursuant 14 CCR Section

18984.8, the container labeling requirements are required on new containers commencing January 1, 2022.

(g) Through education, training, Inspection, and/or other measures, prohibit employees and contractors from placing materials in a Container not designated for those materials per the guidelines of the City's Recyclable Materials, Organic Materials and Mixed Waste collection services or, if Self-Hauling, per the instructions of the Commercial Business's Responsible Party to support its compliance with Self-Hauler requirements in section 8.16.240 of this chapter.

(h) Periodically inspect Recyclable Materials Containers, Organic Materials Containers, and Solid Waste/Mixed Waste Containers for contamination and inform employees if Containers are contaminated and of the requirements to keep contaminants out of those Containers pursuant to 14 CCR Section 18984.9(b)(3).

(i) Annually provide information to employees, contractors, tenants, and customers about Recyclable Materials and Organic Waste Recovery requirements and about proper sorting of Recyclable Materials, Organic Materials, and Mixed Waste.

(j) Ensure that employees of Valet Services, Concierge Services, Zero Waste Facilitators, Waste Brokers, and other vendors hired to manage the property's collection service are trained by City staff on an annual basis about Recyclable Materials and Organic Waste Recovery requirements and proper sorting of Recyclable Materials, Organic Materials, and Mixed Waste. The City will maintain a list of vendors whose staff have received such training.

(k) Provide education information before or within fourteen (14) days of occupation of the Premises to new tenants that describes requirements to Source Separate Recyclable Materials and Organic Materials and to keep Source Separated Organic Materials and Source Separated Recyclable Materials separate from each other and from other Mixed Waste (when applicable) and the location of Containers and the rules governing their use at each property.

(l) Provide or arrange access for City or its Designee to their properties during all Inspections conducted in accordance with this chapter to confirm compliance with the requirements of this chapter.

(m) At the option of the Responsible Party of the Commercial Business and subject to approval and written notification required from the City or its Designee, implement a Remote Monitoring program and install devices on or in Containers for Inspection of the contents of its Recyclable Materials Containers, Organic Materials Containers, and Mixed Waste Containers for the purpose of monitoring the contents of Containers to determine appropriate levels of service and to identify Prohibited Container Contaminants. The Authorized Collector may require a waiver or release of liability from Responsible Party for incidental damage to Remote Monitoring device during operations.

(n) If the Responsible Party of a Commercial Business wants to Self-Haul, meet the Self-Hauler requirements in section 8.16.240 of this chapter.

(o) Nothing in this section prohibits a Responsible Party or a Generator of a Commercial Business from preventing or reducing Discarded Materials generation, managing Organic Waste on site, or using a Community Composting site pursuant to 14 CCR Section 18984.9(c).

(p) Responsible Parties of Commercial Businesses that are Tier One or Tier Two Commercial Edible Food Generators shall comply with Food Recovery requirements, pursuant to section 8.16.220 of this chapter.

8.16.200. Waivers for Commercial and Large Multifamily Premises.

(a) De Minimis Waivers for Commercial Premises. The City may waive a Responsible Party's obligation to comply with some or all Recyclable Materials and Organic Waste requirements of this chapter if the Responsible Party of the Commercial Business provides documentation that the Commercial Business' total Solid Waste collection service is equal to or less than ninety-six gallons or 0.47 cubic yards per week or as otherwise determined by the Director. No De Minimis Waivers are available for Large Multifamily Premises.

(b) Self-Haul Waivers for Commercial and Large Multifamily Premises. The City may waive a Responsible Party's obligation to subscribe to and pay for City collection services for Food Scraps and/or Yard Trimmings provided that the Responsible Party meets the Self Hauler requirements in section 8.16.240 of this chapter. No waivers are available for Mixed Waste collection services. No waivers for Food Scraps collection services are available for Large Multifamily Premises.

(c) Review and Approval of Waivers by City. Waivers shall be granted to Responsible Parties by City according to the following process:

(1) Responsible Parties of Premises seeking waivers shall submit a completed application form to the Director for a waiver specifying the waiver type requested, type(s) of collection services for which they are requesting a waiver, the reason(s) for such waiver, and documentation supporting such request.

(2) Upon waiver approval, City shall specify that the waiver is valid for five (5) years.

(3) Waiver holder shall notify City if circumstances change such that the Commercial Business Premises may no longer qualify for the waiver granted, in which case waiver will be rescinded.

(4) Any waiver holder must cooperate with the City for compliance Inspections and enforcement as stated in section 8.16.270 of this chapter.

(5) Waiver holder shall reapply to the Director for a waiver upon the expiration of the waiver period and shall submit any required documentation, and/or fees/payments as required by the City. Failure to submit a completed application shall equate to an automatic denial of said application.

(6) Director may revoke a waiver upon a determination that any of the circumstances justifying a waiver are no longer applicable.

8.16.210. Requirements applicable to Commercial Edible Food Generators.

(a) Tier One Commercial Edible Food Generators must comply with the requirements of this Section commencing January 1, 2022, and Tier Two Commercial Edible Food Generators must comply commencing January 1, 2024, pursuant to 14 CCR Section 18991.3.

(b) Large Venue or Large Event operators not providing food services, but allowing for food to be provided by others, shall require Food Facilities operating at the Large Venue or Large Event to comply with the requirements of this Section, commencing January 1, 2024.

(c) Commercial Edible Food Generators shall comply with the following requirements:

(1) Arrange to recover the maximum amount of Edible Food that would otherwise be disposed.

(2) Contract with, or enter into a written agreement with Food Recovery Organizations or Food Recovery Services for: (A) the collection of Edible Food for Food Recovery; or, (B) acceptance of the Edible Food that the Commercial Edible Food Generator self-hauls to the Food Recovery Organization for Food Recovery.

(3) Not intentionally spoil Edible Food that is capable of being recovered by a Food Recovery Organization or a Food Recovery Service.

(4) Allow the City or Designee to access the premises, conduct Inspections, and review electronic and hard copy records pursuant to 14 CCR Section 18991.4.

(5) Keep records that include the following information, or as otherwise specified in 14 CCR Section 18991.4:

(A) A list of each Food Recovery Service or organization that collects or receives its Edible Food pursuant to a contract or written agreement established under 14 CCR Section 18991.3(b).

(B) A copy of all contracts or written agreements established under 14 CCR Section 18991.3(b).

(C) A record of the following information for each of those Food Recovery Services or Food Recovery Organizations:

(i) The name, address and contact information of the Food Recovery Service or Food Recovery Organization.

(ii) The types of food that will be collected by or Self-Hauled to the Food Recovery Service or Food Recovery Organization.

(iii) The established frequency that food will be collected or Self-Hauled.

(iv) The quantity of food, measured in pounds recovered per month, collected or Self-Hauled to a Food Recovery Service or Food Recovery Organization for Food Recovery.

(d) Tier One Commercial Edible Food Generators shall submit Food Recovery reports, as defined below, to the Department or Designee according to the following schedule:

(1) On or before August 1, 2022, Tier One Commercial Edible Food Generators shall submit a Food Recovery report for the period of January 1, 2022 through June 30, 2022.

(2) On or before May 1, 2023, and on or before May 1st each year thereafter, Tier One Commercial Edible Food Generators shall submit a Food Recovery report for the period covering the entire previous calendar year.

(e) Tier Two Commercial Edible Food Generators shall submit Food Recovery reports, as defined below, to the Department or Designee according to the following schedule:

(1) On or before May 1, 2025, and on or before May 1 each year thereafter, Tier Two Commercial Edible Food Generators shall submit a Food Recovery report for the period covering the entire previous calendar year.

(f) Food Recovery reports shall include the following information:

(1) The name and address of the Commercial Edible Food Generator;

(2) The name of the person responsible for the Commercial Edible Food Generator's Edible Food Recovery program;

(3) A list of all contracted Food Recovery Services or Food Recovery Organizations that collect Edible Food from the Commercial Edible Food Generator;

(4) The total number of pounds of Edible Food donated, per year, through a contracted Food Recovery Organization or Food Recovery Service.

(g) Nothing in this chapter shall be construed to limit or conflict with the protections provided by the California Good Samaritan Food Donation Act of 2017, the Federal Good Samaritan Act, or share table and school food donation guidance pursuant to Senate Bill 557 of 2017.

8.16.220. Requirements applicable to Food Recovery Organizations and Services.

(a) A Food Recovery Service collecting, receiving or coordinating the collection of Edible Food directly from Commercial Edible Food Generators, via a contract or written agreement established under 14 CCR Section 18991.3(b), shall maintain the following records, or as otherwise specified by 14 CCR Section.

(1) The name, address, and contact information for each Commercial Edible Food Generator from which the Food Recovery Service collects Edible Food.

(2) The quantity in pounds of Edible Food collected from each Commercial Edible Food Generator per month.

(3) The quantity in pounds of Edible Food transported to each Food Recovery Organization per month.

(4) The name, address, and contact information for each Food Recovery Organization that the Food Recovery Service transports Edible Food to for Food Recovery.

(b) A Food Recovery Organization collecting, receiving or coordinating the collection of Edible Food directly from Commercial Edible Food Generators, via a contract or written agreement established under 14 CCR Section 18991.3(b), shall maintain the following records, or as otherwise specified by 14 CCR Section 18991.5(a)(2):

(1) The name, address, and contact information for each Commercial Edible Food Generator from which the Food Recovery Organization receives Edible Food.

(2) The quantity in pounds of Edible Food received from each Commercial Edible Food Generator per month.

(3) The name, address, and contact information for each Food Recovery Service that the Food Recovery Organization receives Edible Food from for Food Recovery.

(c) A Food Recovery Organization and Food Recovery Service that have their primary address physically located in the City and contract with or have written agreements with one or more Tier One or Tier Two Commercial Edible Food Generators pursuant to 14 CCR Section 18991.3(b) shall submit Food Recovery Reports, as defined below, to the Department or Designee according to the following schedule:

(1) On or before August 1, 2022, a Food Recovery Organization and Food Recovery Service shall submit a Food Recovery Report for the period of January 1, 2022 through June 30, 2022;

(2) On or before May 1, 2023, and on or before May 1 each year thereafter, a Food Recovery Organization and Food Recovery Service shall submit a Food Recovery Report for the period covering the entire previous calendar year.

(d) Food Recovery reports submitted by a Food Recovery Service or Food Recovery Organization shall include the following information:

(1) Total pounds of Edible Food recovered in the previous calendar year from Tier One and Tier Two Edible Food Generators with whom the reporting entity has a contract or written agreement pursuant to 14 CCR Section 18991.3(b).

(2) Total pounds of Edible Food recovered in the previous calendar year from Tier One and Tier Two Edible Food Generators within Santa Clara County with whom the reporting entity has a contract or written agreement pursuant to 14 CCR Section 18991.3(b).

(e) In order to support Edible Food Recovery capacity planning assessments or other studies conducted by the County of Santa Clara, the City, or Designee(s), a Food Recovery Service and Food Recovery Organization operating in the City shall provide information and consultation to the City or Designee, upon request, regarding existing, or proposed new or expanded, Food Recovery capacity that could be accessed by the City and its Commercial Tier One and Tier Two Edible Food Generators. A Food Recovery Service or Food Recovery Organization contacted by the City or its Designee shall respond to such request for information within 60 days, unless a shorter timeframe is otherwise specified by the Department or Designee.

8.16.230. Requirements applicable to Haulers and Facility Operators.

(a) Requirements for Haulers.

(1) Franchised hauler(s), permitted haulers, and/or contracted haulers providing Recyclable Materials, Organic Waste, and/or Solid Waste collection services to Generators within the City's boundaries shall meet the following requirements and standards as a condition of approval of its contract, agreement, permit, license, or other authorization with the City to collect Recyclable Materials, Organic Materials, and/or Solid Waste:

(A) Through written notice to the City annually on or before January 1 of each year, identify the facilities to which they will transport Discarded Materials, including facilities for Source Separated Recyclable Materials, Source Separated Organic Materials, and Solid Waste/Mixed Waste unless otherwise stated in the franchise agreement, contract, permit, or license, or other authorization with the City.

(B) Transport Source Separated Recyclable Materials to a facility that recovers those materials; transport Source Separated Organic Materials and Mixed Waste to a facility, operation, activity, or property that recovers Organic Waste as defined in 14 CCR, Division 7, Chapter 12, Article 2; transport Solid Waste to a Disposal Facility or transfer facility or operation that processes or disposes of Solid Waste; and transport manure to a facility that manages manure in conformance

with 14 CCR Article 12 and such that the manure is not landfilled, used as alternative daily cover (ADC), or used as alternative intermediate cover (AIC).

(C) Obtain approval from the City to haul Organic Waste, unless it is transporting Source Separated Organic Waste to a Community Composting site or lawfully transporting C&D in a manner that complies with 14 CCR Section 18989.1 and chapter 16.74 of this code.

(D) Franchised hauler(s), permitted haulers, and/or licensed haulers authorized to collect Recyclable Materials, Organic Materials, and/or Mixed Waste shall comply with education, equipment, signage, Container labeling, Container color, contamination monitoring, reporting, and other requirements contained within its franchise agreement, permit, license, or other agreement entered into with City.

(b) Requirements for Facility Operators and Community Composting Operations.

(1) Owners of facilities, operations, and activities located in the City's boundaries that recover Organic Waste, including, but not limited to, Compost facilities, in-vessel digestion facilities, and publicly-owned treatment works shall, upon City request, provide information regarding available and potential new or expanded capacity at their facilities, operations, and activities, including information about throughput and permitted capacity necessary for planning purposes. Entities contacted by the City shall respond within 30 days.

(2) Community Composting operators with operations located in the City's boundaries, upon City request, shall provide information to the City to support Organic Waste capacity planning, including, but not limited to, an estimate of the amount of Organic Waste anticipated to be handled at the Community Composting operation. Entities contacted by the City shall respond within 30 days.

8.16.240. Self-Hauler Requirements.

(a) Every Self-Hauler shall Source Separate its Recyclable Materials and Organic Materials (materials that City otherwise requires Generators or Responsible Parties to separate for collection in the City's Recyclable Materials and Organic Materials collection program) generated on-site from Mixed Waste in a manner consistent with 14 CCR Section 18984.1 and 18984.2 and the City's collection program. Self-Haulers shall deliver their materials to facilities described in subsection (b) of this section.

(b) Self-Haulers that Source Separate their Recyclable Materials and Organic Materials shall haul their Source Separated Recyclable Materials to a facility that recovers those materials; haul their Source Separated Organic Waste to a facility, operation, activity, or property that processes or recovers Source Separated Organic Waste.

(c) Self-Haulers that are Responsible Parties of Commercial Businesses or Large Multifamily Premises shall keep records of the amount of Recyclable Materials and Organic Waste delivered to each facility, operation, activity, or property that processes or recovers Recyclable Materials and Organic Waste and processes or disposes of Mixed Waste or shall keep records of Mixed Waste delivered to High Diversion Organic Waste Processing Facilities. These records shall be subject to Inspection by the City or its Designee. The records shall include the following information:

(1) Delivery receipts and weight tickets from the entity accepting the Recyclable Materials and Organic Materials.

(2) The amount of material in cubic yards or tons transported by the Generator or Responsible Party to each entity.

(3) If the material is transported to an entity that does not have scales on-site or employs scales incapable of weighing the Self-Hauler's vehicle in a manner that allows it to determine the weight of materials received, the Self-Hauler is not required to record the weight of material but shall keep a record of the entities that received the Recyclable Materials and Organic Materials.

(d) Self-Haulers that are Commercial Businesses or Large Multifamily Premises shall provide copies of records required by this Section to City if requested by the Director and shall provide the records at the frequency requested by the Director.

(e) A Single-Family Generator or Responsible Party that Self-Hauls Recyclable Materials, Organic Waste, or Solid Waste is not required to comply with the recording and reporting requirements in subsection (c) and (d) of this section.

(f) All Self-Haulers must still subscribe to an adequate level of all of the required City Discarded Materials collection services, per sections 8.16.170, 8.16.180, and 8.16.190 unless they have waivers for specific services approved by the City per section 8.16.200.

8.16.250. Compliance with CALGreen.

Persons applying for a permit from the City for new construction, building additions or alterations, or demolition shall comply with all applicable required components of Chapters 16.43 and 16.74 of this code and the California Green Building Standards Code, 24 CCR, Part 11, known as CALGreen, as amended. If the requirements of CALGreen are more stringent than the requirements of this code, the CALGreen requirements shall apply.

8.16.260. Environmentally sustainable procurement.

The City Council shall establish policies for environmentally sustainable procurement that shall apply to City Departments, direct service providers and vendors of goods to the City.

8.16.270. Inspections and investigations.

(a) City or Designee may conduct Inspections and investigations, at random or otherwise, of any collection Container, collection vehicle loads, or transfer, processing, or Disposal Facility for materials collected from Generators, or Source Separated materials to confirm compliance with this chapter by Generators, Responsible Parties of Commercial Businesses, Responsible Parties of Large Multifamily Family Premises, Commercial Edible Food Generators, haulers, Self-Haulers, Food Recovery Services, and Food Recovery Organizations, subject to applicable legal and constitutional requirements. This section does not authorize entry into the interior of a private residential property for Inspection. For the purposes of inspecting Commercial Businesses' or Large Multifamily Premises' Containers for compliance with sections 8.16.180 or 8.16.190 of this chapter, City may conduct Container Inspections for Prohibited Container Contaminants using Remote Monitoring, and Responsible Parties of Large Multifamily Premises and Commercial Businesses and Generators at such Premises shall accommodate and cooperate with the Remote Monitoring pursuant to section 8.16.180(i) and 8.16.190(l) as applicable, of this chapter.

(b) Responsible Party shall provide or arrange for access during all Inspections (except for residential property interiors) and shall cooperate with the City's representative or its Designee during such Inspections and investigations. Such Inspections and investigations may include confirmation of proper placement of materials in Containers, Inspection of Edible Food Recovery activities, review of required records, or other verification or Inspection to confirm compliance with any other requirement of this chapter. Failure of a Responsible Party to provide or arrange for: (i) access to an entity's Premises; (ii) installation and operation of Remote Monitoring equipment (optional); or (iii) access to records for any Inspection or investigation is a violation of this chapter and may result in penalties described in section 8.16.280.

(c) Any records obtained by the City during Inspections, Remote Monitoring, and other reviews shall be subject to the requirements and applicable disclosure exemptions of the Public Records Act as set forth in Government Code Section 6250 et seq.

(d) City or Designee may conduct any Inspections, Remote Monitoring, or other investigations as reasonably necessary to further the goals of this chapter, subject to applicable laws.

(e) City shall receive written complaints from persons regarding an entity that may be potentially non-compliant with SB 1383 Regulations, including receipt of anonymous complaints.

8.16.280. Enforcement.

(a) Enforcement Authority.

(1) The City Enforcement Official is authorized and directed to enforce this chapter.

(2) To the extent authorized by law, the Director may delegate authority to enforce any part of this chapter to a Regional or County Agency Enforcement Official subject to such terms and conditions as the city council finds to be in the public interest.

(b) Penalties.

(1) Every person who violates any provision of this chapter shall be guilty of an infraction, punishable as set forth in Chapter 1.04 of this code.

(2) Violation of any provision of this chapter shall make the person violating its provisions subject to administrative citations in accordance with Chapter 1.05 of this code.

(3) Any condition or act in violation of any provision of this chapter or of any order or directive of the Enforcement Official authorized by the provisions of this chapter is hereby declared to be a public nuisance. Such nuisance may be abated, removed or enjoined, and damages assessed therefor, in any manner provided by law.

(4) The remedies provided for in this chapter shall be cumulative and not exclusive, and shall be in addition to any and all other remedies available to the City.

(c) Process for Enforcement

(1) The Enforcement Official will monitor compliance with this chapter randomly and through Compliance Reviews, Route Reviews, investigation of complaints, and an Inspection program (that may include Remote Monitoring). Section 8.16.270 of this chapter establishes City's right to conduct Inspections and investigations.

(2) The Enforcement Official may issue an official notification to notify regulated entities of its obligations under this chapter.

(3) For incidences of Prohibited Container Contaminants found in Containers, the Enforcement Official or Designee will issue a notice of contamination to any Generator or Responsible Party found to have Prohibited Container Contaminants in a Container. Such notice will be provided via a cart tag or other communication immediately upon identification of the Prohibited Container Contaminants or within one (1) day after determining that a violation has occurred. If the Enforcement Official observes Prohibited Container Contaminants in a Responsible Party's Containers on more than three (3) consecutive occasions, the Enforcement Official may assess contamination processing fees or contamination penalties on the Generator.

(4) Except for violations of contamination of Container contents under subsection (c)(3) of this section, City shall issue a Notice of Violation requiring compliance within sixty days of issuance of the notice.

(5) Absent compliance by the respondent within the deadline set forth in the Notice of Violation, the Enforcement Official shall commence an action to impose penalties, via an administrative citation and fine. For repeat and/or willful violations, the Department may require compliance within fewer than sixty days or may immediately issue an administrative citation and fine.

(6) Notices shall be sent to "owner" at the official address of the owner maintained by the tax collector for the City or if no such address is available, to the owner at the address of the multifamily Premises or Commercial Premises or to the Responsible Party for the collection services, depending upon available information.

(d) Penalties for violation of this chapter shall be set forth in a resolution adopted by the city council.

(e) Factors Considered in Determining Penalty Amount.

The following factors shall be used to determine the amount of the penalty for each violation within the applicable penalty range:

(1) The nature, circumstances, and severity of the violation(s).

(2) The violator's ability to pay.

(3) The willfulness of the violator's misconduct.

(4) Whether the violator took measures to avoid or mitigate violations of this chapter.

(5) Evidence of any economic benefit resulting from the violation(s).

(6) The deterrent effect of the penalty on the violator.

(7) Whether the violation(s) were due to conditions outside the control of the violator.

(8) Compliance Deadline Extension Considerations

(f) City may extend the compliance deadlines set forth in a Notice of Violation issued in accordance with this Section if it finds that there are extenuating circumstances beyond the control of the respondent that make compliance within the deadlines impracticable, including the following:

(1) Acts of God such as earthquakes, wildfires, flooding, and other emergencies or natural disasters;

(2) Delays in obtaining discretionary permits or other government agency approvals; or,

(3) Deficiencies in Organic Waste recycling infrastructure or Edible Food Recovery capacity, if the City is under a corrective action plan with CalRecycle pursuant to 14 CCR Section 18996.2 due to those deficiencies.

(g) Appeals of administrative citations may be heard according to the procedures in Chapter 1.05 of this code.

EXHIBIT B

SUNNYVALE MUNICIPAL CODE CHAPTER 16.74
CONSTRUCTION AND DEMOLITION DIVERSION

Table of Contents

16.74.010. Definitions.

(a) "Applicant" means any individual, firm, limited liability company, association, partnership, political subdivision, government agency, municipality, industry, public or private corporation, or any other entity whatsoever who applies to the city for the applicable permits to undertake construction, remodeling or demolition project within the city.

(b) "C&D" means construction and demolition debris.

(c) "Covered Project" means a project that is subject to the applicable requirements for diversion of construction and demolition debris specified in the California Green Building Standards Code, 24 CCR, Part 11, known as CALGreen, as amended.

(d) "Director" means the director of the Department of Environmental Services.

(e) "Divert" or "diversion" means to use material for any purpose other than disposal in a landfill, and CALGreen.

16.74.020. Program Guidelines.

The director of environmental services shall develop detailed procedures and guidelines to ensure the orderly and efficient administration of the requirements of this chapter. These procedures and guidelines are incorporated into this chapter as the "C&D Program Guidelines," which may be amended from time to time by the director of environmental services.

16.74.030. Diversion requirement.

(a) Covered projects shall Divert a minimum proportion by weight of the C&D generated, unless the applicant has been granted an infeasibility exemption pursuant to this chapter, in

which case the diversion requirement shall be the maximum feasible diversion rate established by the director.

(b) The diversion requirement shall be specified in the C&D Program Guidelines. At a minimum, the diversion requirement shall comply with the most recent version of the California Green Building Standards Code (CALGreen) requirement of at least 65% diversion of generated construction materials.

16.74.040. City review of C&D diversion plan.

(a) An applicant for a covered project shall complete a C&D diversion plan and submit the completed plan to the Department of Environmental Services pursuant to the C&D Diversion Program Guidelines.

(b) No application for a building permit or demolition permit shall be approved for any Covered Project unless and until the Director has approved the C&D diversion plan in accordance with the C&D Program Guidelines.

(c) Approval of a C&D diversion plan shall not be required if an emergency demolition is required by the city to protect public health or safety, as determined by the Director.

16.74.050. Infeasibility exemption.

(a) If the director determines upon review of the C&D diversion plan that it is infeasible for the applicant to meet the diversion requirement due to unusual and/or unique circumstances, the director shall determine the maximum feasible diversion rate for each material and may approve a modified version of the C&D diversion plan.

(b) Upon completion of the covered project the applicant shall submit documentation, as requested by the director in his or her sole discretion, to demonstrate compliance with the approved C&D diversion plan.

16.74.060. C&D materials recovery facility certification.

(a) C&D haulers and permit applicants may deliver C&D material collected in the City to a C&D recovery facility certified by the director in order to comply with the diversion requirements specified in the C&D Program Guidelines.

(b) C&D recovery facility certifications made by the city shall be subject to periodic review by the Director.

(c) For compliance with the diversion requirements of this chapter, certified C&D recovery facilities may aggregate tonnage of wastes handled, Diverted, and disposed for client C&D haulers. The certified diversion level shall apply to C&D processing line(s) or operations at the facility, and all tonnage handled by those lines/operations, and need not be based upon individual loads taken to the facility by individual client C&D haulers.

(d) C&D haulers and/or building permit applicants must deliver all mixed C&D material from a covered project to a C&D recovery facility certified by the director to process and divert mixed C&D material, even if the diversion requirement for the project has been met.

16.74.070. Enforcement.

(a) Every person who violates any provision of this chapter shall be guilty of an infraction, punishable as set forth in Chapter 1.04 of this code.

(b) Violation of any provision of this chapter shall make the person violating its provisions subject to administrative citations in accordance with Chapter 1.05 of this code.

(c) An Applicant that fails to meet the diversion mandate of section 16.74.020 of this chapter shall pay a penalty equal to the project square footage, multiplied by the difference between the required diversion percentage and the actual project diversion percentage, multiplied by one dollar ($1.00) per square foot.

(d) The remedies provided for in this chapter shall be cumulative and not exclusive, and shall be in addition to any and all other remedies available to the City.

DRAFT 10/8/2021 RLM

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SUNNYVALE AMENDING SECTION 19.37.060 (GENERAL PLANTING, SOIL MANAGEMENT AND WATER FEATURE DESIGN REQUIREMENTS) AND SECTION 19.38.030 (RECYCLING AND SOLID WASTE FACILITIES) OF TITLE 19 (ZONING) OF THE SUNNYVALE MUNICIPAL CODE

WHEREAS, the City of Sunnyvale desires to amend certain sections of Title 19 (Zoning) of the Sunnyvale Municipal Code.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF SUNNYVALE DOES ORDAIN AS FOLLOWS:

SECTION 1. Section 19.37.060 AMENDED. Section 19.37.060 (General planting, soil management and water feature design requirements) of Chapter 19.37 (Landscaping, Irrigation, and Useable Open Space) of Title 19 (Zoning) is hereby amended to read as follows:

19.37.060. General planting, soil management and water feature design requirements.

(a) – (b) [Text unchanged]

(c) (1) Mulch. A minimum three-inch layer of mulch shall be applied on all exposed soil areas, except that up to five percent of the area may be left exposed if designed to provide a habitat for beneficial insects and other wildlife. Designated insect habitat, if any, must be included in the landscape design plan as such. Organic mulch materials made from recycled or post-consumer materials shall take precedence over inorganic materials or virgin forest products unless the recycled post-consumer organic products are not locally available.

(2) – (3) [Text unchanged]

(d) [Text unchanged]

SECTION 2. Section 19.38.030 AMENDED. Section 19.38.030 (Recycling and solid waste facilities) of Chapter 19.38 (Required Facilities) of Title 19 (Zoning) of the Sunnyvale Municipal Code is hereby amended to read as follows:

Section 19.38.030. ~~Recycling and solid waste facilities.~~Facilities for recyclable materials, organic materials, and solid waste.

(a) All residential and nonresidential uses shall provide adequate ~~recycling and solid waste~~ facilities on site for recyclable materials, organic materials, and solid waste ("discarded materials") as required by chapter 8.16 of this code. ~~Recycling and solid~~

~~waste~~Such facilities (including carts, bins, containers, and enclosures) shall be adequate in capacity, number and distribution to serve the uses on-site. The directors of environmental services and community development shall develop detailed procedures and guidelines to ensure the orderly and efficient administration of the requirements of this chapter. These procedures and guidelines are incorporated into this chapter as the "Design Guidelines for Recycling, Organics and Solid Waste Services," which may be amended from time to time by the directors of environmental services and community development.

(b) Nonresidential uses shall provide ~~recycling and solid waste~~ enclosures for the storage of ~~recyclable materials and solid waste~~discarded materials.

(c) Single-family and multifamily uses of three or fewer units shall obtain ~~recycling and solid waste~~ containers for discarded materials in accordance with ~~C~~chapter 8.16.

(d) All residential uses with four or more units shall include centralized enclosures except that townhouse uses with dedicated attached garages shall provide for the storage of ~~recyclable materials, solid waste and refuse~~ discarded materials in accordance with the options and criteria provided in the Design Guidelines for Recycling, Organics and Solid Waste Services.~~"Design Requirements for Solid Waste and Recycling Collection in Townhome Complexes" prepared by the city engineer and director of community development and established by city council. These requirements shall be maintained by the department of community development and shall be available to the public. Minor additions to or deletion from the requirements may be made by the director of community development; major changes require approval of the planning commission~~.

(e) ~~Recycling and Solid Waste~~ Enclosures.

(1) General Requirements.

(A) – (B) [Text unchanged]

(C) Each ~~recycling and solid waste~~ enclosure for discarded materials containers shall have four sides, one of which shall include a door or gate~~, unless the containers are stored in a building~~. Enclosure~~s~~ walls shall be a minimum of six feet high and fully screen all materials and containers from public view.

(D) [Text unchanged]

(E) The property owner is responsible for the maintenance and cleanup of ~~recycling and solid waste~~the enclosures. The surface of the enclosure and all areas used for roll-out and collection shall be maintained in a good condition that does not create a safety hazard or impede access by the authorized collector.

(F) ~~The recycling and solid waste contractors~~Authorized collectors of discarded materials (as defined in chapter 8.16) are responsible for the maintenance of their respective bins and containers.

(G) –(H) [Text unchanged]

(I) Vehicle access to the enclosure shall be unobstructed and provide a minimum of fifteen feet vertical travel clearance.

(J) Loading area shall provide a minimum twenty feet vertical operational clearance. A concrete pad consisting of five inch aggregate base and six-inch Portland cement paving, or equivalent, as approved by the director of community development shall be constructed in front of each enclosure for the collection vehicle. The pad shall have a level surface where the containers are used.

(K) Recycling and solid waste enclosures shall be located within one hundred fifty feet by path of travel from any dwelling unit or commercial business ~~unless otherwise approved by the director of community development~~. The path of travel shall not include any portion of the public right-of-way.

(2) – (4) [Text unchanged]

(f) Cart Service for Residential Uses.

(1) Single-family and multifamily uses of three or fewer units shall store recycling and solid waste containers so that they are either screened from public view from the public right-of-way or stored in the side yard of the premises behind the face of the house. Containers may remain in public view for purposes of collection in accordance with Chapter 8.16.

(2) Townhouse uses with four or more units and dedicated attached garages that choose to provide individual cart service shall design facilities in accordance with the criteria provided in the "Design Guidelines for Recycling, Organics and Solid Waste Services".~~"Design Requirements for Solid Waste and Recycling Collection in Townhome Complexes" prepared by the city engineer and director of community development and established by city council.~~

(A) Except when approved as part of a special development permit or use permit, proposed individual cart service for storage and collection of ~~recycling and solid waste~~discarded materials in multifamily developments of four or more units shall require the approval of a miscellaneous plan permit by the director of community development. The director of community development may approve an application, require modifications, or may impose additional requirements to ensure the safe

and efficient collection of solid waste and recyclable materials. The solid waste program manager shall advise the director of community development on adequate facilities required for the use. The public safety department shall advise the director of community development on fire safety and hazardous materials containment requirements.

(g) [Text unchanged]

SECTION 3. CEQA - EXEMPTION. The City Council finds, pursuant to Title 14 of the California Code of Regulations, Section 15061(b)(3), that this ordinance is exempt from the requirements of the California Environmental Quality Act (CEQA) in that it is not a Project which has the potential for causing a significant effect on the environment.

SECTION 4. CONSTITUTIONALITY; SEVERABILITY. If any section, subsection, sentence, clause or phrase of this ordinance is for any reason held to be invalid, such decision or decisions shall not affect the validity of the remaining portions of this ordinance. The City Council hereby declares that it would have passed this ordinance, and each section, subsection, sentence, clause and phrase thereof irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases be declared invalid.

SECTION 5. EFFECTIVE DATE. This ordinance shall be in full force and effect thirty (30) days from and after the date of its adoption.

SECTION 6. POSTING AND PUBLICATION. The City Clerk is directed to cause copies of this ordinance to be posted in three (3) prominent places in the City of Sunnyvale and to cause publication once in The Sun, the official publication of legal notices of the City of Sunnyvale, of a notice setting forth the date of adoption, the title of this ordinance, and a list of places where copies of this ordinance are posted, within fifteen (15) days after adoption of this ordinance.

Introduced at a regular meeting of the City Council held on _____, and adopted as an ordinance of the City of Sunnyvale at a regular meeting of the City Council held on _____, by the following vote:

AYES:
NOES:
ABSTAIN:
ABSENT:
RECUSAL:

ATTEST: APPROVED:

_____ _____
City Clerk Mayor
Date of Attestation: _____

(SEAL)

APPROVED AS TO FORM:

_____
City Attorney

DRAFT 11/1/2021 *RLM*

RESOLUTION NO. _____

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SUNNYVALE AMENDING RESOLUTION NO. 1060-21, THE CITY'S FEES, RATES AND CHARGES RESOLUTION, TO AMEND SECTION 9.07 (SOLID WASTE ENFORCEMENT FEES) TO ADD ADMINISTRATIVE CITATION FINES

WHEREAS, the City Council of the City of Sunnyvale ("City") adopted Resolution No. 1060-21, the Master Fee Schedule, on June 15, 2021; and

WHEREAS, the City Council is empowered to impose reasonable fees, rates, and charges to offset the costs for municipal services; and

WHEREAS, the City desires to amend Section 9.07, "Solid Waste Enforcement Fees" of the Master Fee Schedule in order to add administrative citation fines and make other administrative changes as set forth in Exhibit "A."

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF SUNNYVALE AS FOLLOWS:

1. Section 9.07, "Solid Waste Enforcement Fees" of the Master Fee Schedule, is hereby adopted as set forth in Exhibit "A", attached hereto and incorporated herein.

2. The establishment of fees herein is exempt from the requirements of the California Environmental Quality Act pursuant to Public Resources Code 15378(b)(4) because it is related to the creation of government funding mechanisms or other fiscal activities which do not involve any commitment to any specific project.

3. All other provisions of Resolution No. 1060-21 shall remain in effect.

Adopted by the City Council at a regular meeting held on _____, by the following vote:

AYES:
NOES:
ABSTAIN:
ABSENT:
RECUSAL:

ATTEST:

_____
City Clerk
(SEAL)

APPROVED:

_____
Mayor

APPROVED AS TO FORM:

_____
City Attorney

Exhibit A
City of Sunnyvale
Fee Schedule
Section 9.07 Solid Waste Enforcement Fees, Administrative Citation Fines and Civil Penalties

	Fiscal Year	Oracle Fund	Oracle Program	Natural Account*	Natural Account
	2021/22				Title
A. Collection and Disposal Fee for Impounded Receptacles	$1,070.30	6101	14402	TBD	Other Code Violation Fines
B. Third-party costs	Actual Costs	6101	14402	TBD	Other Code Violation Fines
C. Administrative Fee	15% of Total Enforcement Costs	6101	14402	TBD	Other Code Violation Fines
D. Regulatory Compliance	Actual Cost	6101	14402	TBD	Other Code Violation Fines
E. Administrative Citation Schedule for Solid Waste Violations (SMC Ch. 8.16)					
(1) First violation	$50-$100	6101	14401	TBD	Other Code Violation Fines
(2) Second violation occurring within 12 months of the most recent citation date	$100-$200	6101	14401	TBD	Other Code Violation Fines
(3) Third violation occurring within 12 months of the most recent citation date	$250-500	6101	14401	TBD	Other Code Violation Fines
F. Civil Penalties for Construction and Demolition (C&D) Diversion Violations (SMC 16.74)		6101	14402	TBD	Other Code Violation Fines
Failure to meet diversion mandate (16.74.020)	(Project square footage) X (diversion shortfall percent) X ($1 per square foot)	6101	14402	TBD	Other Code Violation Fines

City of Sunnyvale

Agenda Item

21-0976 **Agenda Date:** 10/25/2021

REPORT TO PLANNING COMMISSION

SUBJECT

Recommend that the City Council Introduce an Ordinance to Amend Sunnyvale Municipal Code Section 19.37.060 (General Planting, Soil Management and Water Feature Design Requirements) and Section 19.38.030 (Recycling and Solid Waste Facilities) and Find that the Action Is Exempt from CEQA.

BACKGROUND

In 2016, Governor Brown signed into law Senate Bill (SB) 1383 (Lara, Chapter 395, Statutes of 2016), establishing methane emissions reduction targets in a statewide effort to reduce emissions of short-lived climate pollutants (SLCP) in various sectors of California's economy. SB 1383 is the State's most ambitious waste reduction law in the last 30 years and enacts the following targets to reduce organic waste in landfills:

- Achieve a 50% reduction in the level of the statewide disposal of organic waste from the 2014 level by 2020 and a 75% reduction by 2025
- Recover at least 20% of currently disposed surplus food by 2025

To meet the SB 1383 regulations, jurisdictions throughout the State are required to adopt an ordinance or other similarly enforceable mechanism by January 1, 2022. The ordinance will mandate that organic waste generators, haulers, and other entities subject to the requirements of SB 1383 regulations and subject to the jurisdiction's authority, comply with SB 1383 regulatory requirements.

As part of the implementation of SB 1383, minor updates are needed to two sections of Sunnyvale Municipal Code (SMC)Title 19 (Zoning) in order to be consistent with the SB 1383 regulations: Sections 19.37.060 and 19.38.030 pertaining to water efficient landscaping and solid waste facilities. (Attachment 2.) Staff is also taking this opportunity to clarify certain requirements in SMC Section 19.30.030 that have caused issues with some property owners and developers.

The City Council is scheduled to consider this item on November 9, 2021.

EXISTING POLICY

SUNNYVALE GENERAL PLAN

Chapter 7: Environmental Management-Water Supply
Goal EM 2-Water Conservation - Promote more efficient use of the City's water resources to reduce the demands.

Goal EM-14-Recycling and Source Reduction Programs - Reduce solid waste through recycling,

source reduction, education and special programs.

ENVIRONMENTAL REVIEW

The action being considered is exempt from environmental review under the California Environmental Quality Act (CEQA) because it can be seen with certainty that there is no possibility that action will have a significant effect on the environment. (CEQA Guidelines Section 15061(b)(3).)

DISCUSSION

New regulatory requirements as mandated by SB 1383, require the City to adopt an Ordinance to mandate that organic waste generators, haulers, and other entities subject to the regulations and subject to the City's authority, comply with SB 1383 regulatory requirements. In response to SB1383, SMC Chapter 8.16 (Solid Waste Management and Recycling) will also need to be substantially amended and will be considered by City Council on November 9, 2021.

Two sections of SMC Chapters 19.37 and 19.38 are also being amended in order to meet the requirements of SB 1383:

- **Chapter 19.37.060 (General Planting, Soil Management and Water Feature Design Requirements).**
  This section currently provides for a minimum three-inch layer of mulch to be applied on all exposed surfaces of planting areas except that up to five percent of the landscaped areas may be left without mulch. This chapter is being amended to require that the 5% exposed areas without mulch be included in landscape design plans. Organic mulch materials made from recycled or post-consumer materials shall take precedence over inorganic materials or virgin forest products unless the recycled post-consumer organic products are not locally available.

- **Chapter 19.38.030 (Recycling and Solid Waste Facilities).**
  Staff proposes minor updates to the wording and terminology used in SMC Section 19.38.030 for consistency with the SB 1383 regulations. For example, recyclables, solid waste and organic materials are now known as "discarded materials" and contracted or franchised waste haulers are called "authorized collectors."

  SB 1383 requires that all residential and nonresidential premises shall provide adequate recycling and solid waste facilities (enclosures, trash rooms, etc.) on site for recyclable materials, organic materials, and solid waste ("discarded materials") To facilitate this requirement, Staff recommends amending SMC Section 19.38.030 to authorize the Directors of Environmental Services and Community Development to develop detailed "Design Guidelines for Recycling, Organics and Solid Waste Services," which may be amended from time to time. This replaces the current requirement which required Planning Commission and City Council Review. Due to the complex regulatory environment that now governs solid waste services, these guidelines are best developed at the Director level. The new design guidelines developed by the Directors will update and combine three separate documents currently on the City website titled "Garbage and Recycling Design Guidelines Commercial and Industrial" (Attachment 3), "Garbage and Recycling Design Guidelines Multi-family" (Attachment 4), and "Garbage and Recycling Design Guidelines Town Homes" (Attachment 5). The new design guidelines will be finalized by January 1, 2022.

Staff is also taking this opportunity to clarify certain requirements in SMC Section 19.30.030 that have caused issues with some property owners and developers. Specifically, the proposed Ordinance specifies that maintenance of the enclosures includes keeping the surfaces in good condition. In addition, the maximum 150 feet distance between dwelling units and the enclosure is measured by path of travel and cannot include the public right-of-way.

FISCAL IMPACT

The proposed amendments to the SMC will have no fiscal impact to the City.

PUBLIC CONTACT

Public contact was made through posting of the Planning Commission agenda on the City's official-notice bulletin board, on the City's website, and the availability of the agenda and report in the Office of the City Clerk.

ALTERNATIVES

1. Recommend that City Council introduce the Ordinance in Attachment 2 and find that this action is exempt from CEQA pursuant to CEQA Guidelines Section 15061(b)(3).
2. Recommend that City Council introduce the Ordinance in Attachment 2 with modifications and find that this action is exempt from CEQA pursuant to CEQA Guidelines Section 15061(b)(3).
3. Do not recommend that the City Council introduce the Ordinance.

RECOMMENDATION

Alternative 1: Recommend that City Council introduce the Ordinance in Attachment 2 and find that this action is exempt from the California Environmental Quality Act (CEQA pursuant to CEQA Guidelines Section 15061(b)(3).

The proposed amendments to SMC Sections 19.37.060 and Section 10.38.030 will ensure that the City meets the regulatory requirements of SB 1383.

Prepared by: Karen Gissibl, Environmental Programs Manager
Reviewed by: Andrew Miner, Assistant Director, CDD
Reviewed by: David Krueger, Solid Waste Programs Division Manager
Reviewed by: Ramana Chinnakotla, Director, Environmental Services
Reviewed by: Teri Silva, Assistant City Manager
Approved by: Kent Steffens, City Manager

ATTACHMENTS

1. Reserved for Report to Council
2. Proposed Ordinance
3. Garbage and Recycling Design Guidelines Commercial and Industrial
4. Garbage and Recycling Design Guidelines Multi-family
5. Garbage and Recycling Design Guidelines Town Homes

City of Sunnyvale Design Guidelines For Solid Waste and Recycling Facilities

Commercial/ Mixed-use/Industrial

Contents

Appendices

Introduction:
City of Sunnyvale Solid Waste & Recycling Design Guidelines and Requirements are based upon the City's General Plan Solid Waste Management Sub-Element, Sunnyvale Municipal Code Chapter (SMC) 8.16 Solid Waste Management and Recycling, and SMC Section 19.38.030 Recycling and Solid Waste Facilities, and are subject to periodic updates as needed.

Key Provisions:
All residential and nonresidential uses shall provide adequate recycling and solid waste facilities on site. (SMC 19.38.030 (a))

Collection stations … shall be easily accessible to the city licensed disposal service operator(s) for collection of the solid waste or recyclable materials accumulated at such location for collection. (SMC 8.16.130)

Terminology:
While most projects will utilize standard garbage and recycling enclosures, other facility types such as roll-off or front-load compactors, balers, chutes, etc. may be desired by applicant or be more suitable for some projects. For brevity, the terms *enclosure* or *facility* are used generically to refer to all solid waste and recycling facility types.

Where the phrasing *solid waste* is used, this refers to both garbage *and* recycling unless otherwise specified.

Cubic Yard abbreviation: cyd

PROJECT REVIEW/APPROVAL

Except when approved as part of a Special Development Permit or Use Permit, proposed recycling and solid waste enclosures or individual cart services *shall require the approval of a Miscellaneous Plan Permit (MPP)* and a Building Permit *by the Director of Community Development. Plans depicting the proposed design, materials, size and location of enclosures, and the number, size, type and placement of bins and containers shall accompany each application submitted for approval (SMC 19.38.030(e)(1)(B)).*

Section A: Applicable Project Types

Solid waste and recycling facilities/enclosures are required for the following Planning and/or Building Permit applications:

1. All new non-residential structures. (SMC 19.38.030(b))
2. An addition to a non-residential site which equals or exceeds "30% of the existing floor area of a building or buildings on a site." (SMC 19.38.030(e)(1)(A))
3. When there is a change of use and:
    a. The site does not have existing facilities
    b. And/or where existing facilities may not be adequate for that use.

    Each project shall be modified or improved as necessary for the permitted uses based upon current guidelines.
4. Where there is any modification to an existing building that triggers the requirements to upgrade the building to current code(s); this includes codes related to recycling and solid waste facilities

Section B: Project Submittal Requirements for Solid Waste & Recycling

This section details the necessary design and site layout elements to include on plan submittal. Many line-items are flagged along the right-hand side to call-out whether they should be illustrated on the Site Layout, Design Pages, or described in Project Data sheet. This information is also shown on the *Applicant Checklist*, page 17. Additional information may be required based upon project specifics.

Section B Summary:

B-1: Projections for Weekly Garbage and Recycling Volume, Facility Sizing – Table A will help determine the space required for on-site container storage.

B-2: Enclosure Sizing, Materials and Required Design Elements - such as wheel stops, doors, etc.

B-3: Site Plan Submittal - illustrating enclosure details and locations, and vehicle access, to scale,.

B-4: Alternative Volume and Enclosure Proposals

B-5: Fire Safety Requirements

B-6: Stormwater Requirements

B-7: Signed statement from applicant acknowledging review and incorporation of the solid waste and recycling requirements into the project plan.

B-1: PROJECTIONS FOR WEEKLY GARBAGE AND RECYCLING VOLUME, FACILITY SIZING

Table A outlines the minimum enclosure space requirements based upon common land and/or building uses. Estimated volume by type of use provided below are for ***combined*** waste and recycling volumes.

1. Provide a projection of the waste/recycling volume by type of building or site use, in cubic yards per week. Provide in Project Data Sheet.
2. Based upon the total volume per week, the project shall dedicate sufficient square footage for storage so that collection service frequency *is no more than 3 days per week* (see examples in B-2.1e, page 6). Provide detail in Project Data Sheet.

Table A: Minimum Enclosure Space Requirements for Common Types of Use

	First Tier Sizing*: Maximum of 3 service days per week			**Second Tier Sizing*: Maximum of 3 service days per week**		
Use-type**	**Project Gross Square Feet**	**Minimum Enclosure size**	**Typical Container Types, Notes**	**Project Threshold**	**Design for Addl. Garbage Recycling Volume**	**Consider for Larger Projects****
Retail	Up to 10,000	13 ft. x 9 ft.	3cyd garbage and 3cyd recycling	>10,000 sq. ft.	1 cyd Per 1,000 sq. ft (or fraction of)	Roll-off or Front-load Compactor
Full-service Restaurant	Up to 6,000	14 ft. x 9 ft.	4cyd garbage and 3cyd recycling	>6,000 sq. ft.	3 cyd per 1,000 sq. ft. (or fraction of)	Front-load Compactor
Fast Food Restaurant	Up to 3,000	14 ft. x 14 ft.	Two 3 or 4cyd garbage and one recycling	>3,000 sq. ft.	8 cyd per 1,000 sq. ft. (or fraction of)	Front-load Compactor
Office/ R & D	Up to 35,000	13 ft. x 9 ft.	3cyd garbage and 3cyd recycling	>35,000 sq. ft.	0.3 cyd per 1,000 sq. ft. (or fraction of)	Roll-off or Front-load Compactor
Industrial	Up to 20,000	13 ft. x 9 ft.	3cyd garbage and 3cyd recycling	>20,000 sq. ft.	0.7cyd per 1,000 sq. ft. (or fraction of)	Roll-off or Front-load Compactor
Manufacturing	Up to 15,000	14 ft. x 9 ft.	4cyd garbage and 3cyd recycling	> 15,000 sq. ft.	1.1 cyd per 1,000 sq. ft. (or fraction of)	Roll-off or Front-load Compactor
Multi-family Units	For every 10 units	12.5 ft. x 9 ft.	3cyd garbage and two 96-gallon recycling carts. Located w/in 150 ft. of any unit	Contact City	—	Roll-off or Front-load Compactor

* Generation rates are estimated, and are subject to change.
** Contact Public Works Department at (408) 730-7415 for other use-types types or other styles of solid waste and recycling management (e.g., chutes, compactors, balers).
*** A garbage or recycling compactor should be considered for large developments, where the site generates a large volume of material, or when there is a space constraint.

B-2: ENCLOSURE SIZING, MATERIALS AND REQUIRED DESIGN ELEMENTS

As part of an initial plan-set submittal, show each item below as indicated on a to-scale site layout, as project data, or on one or more pages illustrating design details. See Appendix A for examples of enclosure layout and design.

Required submittal details include but are not limited to:

1. Enclosure Sizing:

   a. Minimum Interior & Exterior Dimensions: Based upon volume projections (Table A), size enclosures as appropriate for use-type and volume. (see Appendix A for sample layouts). ☑ *Detail Pages, Site Plan*

   b. Service Frequency: Total enclosure sq. footage shall be sized to limit frequency of truck trips to no more than 2 or 3 times a week. ☑ *Project Data*

   c. Sample Enclosure Layouts and Sizes: See Appendix A for sample layouts and bin placement within enclosures.

   d. Container Sizes: After meeting guidelines for enclosure dimension *minimums*, applicant may consider various container sizes in planning, see Appendix D

   e. Larger Projects: To calculate additional enclosure sq. footage needed for waste and recycling generated beyond one standard enclosure, below are examples for estimating total volume and number of bins: ☑ *Project Data*

EXAMPLE #1:

A	Building square footage: *Office*	**89,000**	Sq. Ft.
B	Projected waste volume per sq. ft. (per sq. ft., derived from Table A)	**0.0003**	CYD/ Sq. Ft.
C	Multiply **A** and **B** for total weekly volume	**26.7**	CYD
D	Divide **C** by three service days to find cyd per service day	**8.9**	CYD/Day
E	Divide **D** by container size (3cyd) to find number of containers (round up)	**3**	# Bins

EXAMPLE #2:

A	Building square footage: *Fast Food Restaurant*	**3,000**	Sq. Ft.
B	Projected waste volume per sq. ft. (per sq. ft., derived from Table A)	**.008**	CYD/ Sq. Ft.
C	Multiply **A** and **B** for total weekly volume	**24**	CYD
D	Divide **C** by three service days to find cyd per service day	**8**	CYD/Day
E	Divide **D** by container size (3cyd) to find number of containers (round up)	**3**	# Bins

2. Planned Containers by Type (garbage or recycling):

   Number, size, type (bins, carts, etc.), and placement within enclosures (most uses generally have one recycling container for each waste container). The site plan should demonstrate that all containers are given sufficient space to be easily accessible to users and the service operator ☑ *Detail Pages*

3. Enclosure Orientation:

   It should be apparent from the site layout where and how service vehicles will approach enclosures to lift containers from inside (or where containers need to be rolled out). ☑ *Site Plan*

4. Screening:

   Each enclosure shall have four sides, one of which shall include a service door. The enclosure walls and doors shall be a minimum of 6 feet high and fully screen all materials and containers from public view. ☑ *Detail Pages*
   Screening over the top of enclosure is recommended where interior will be visible from upper floors.

5. Materials:

   Walls must be constructed of masonry for commercial uses, and match or be compatible (in terms of design, materials and color) with the main structure. ☑ *Detail Pages*

6. Enclosure Doors:
   a. Service doors shall be of solid, un-perforated steel or aluminum decking ☑ *Detail Pages*
   b. Each door shall swing open at least 150º from closed position. Generally a 10 ft wide clearance (hinge to hinge) is required to enable collection vehicle equipment to reach containers inside the enclosure and lift each with hydraulic forks. ☑ *Detail Pages*
   c. Cane bolts should be installed on service doors with sleeved holes in the concrete to hold doors in both the open and closed position. ☑ *Detail Pages*
   d. A pedestrian door that complies with the Americans with Disabilities Act installed separately from the service door(s) is required for multi-family uses and is recommended for non-residential uses. ☑ *Detail Pages, Site Plan*
   e. Consider a door that is easier to operate for onsite personnel to help maintain a neat and sanitary area, and to minimize littering.

7. Enclosure to be ADA accessible. ☑ *Detail Pages*

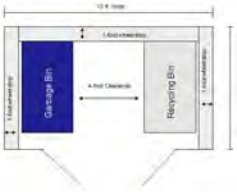
8. Wheel Stops:

   Wheel stops shall be installed 1 foot from interior walls of storage area to prevent damage to walls. Wheel stops may be concrete curbs, metal stops, or recycled-content plastic curbs, with a height of no more than 5 inches. Bollards are not acceptable. This requirement applies to all interior walls except at doors. ☑ *Detail Pages*

9. Enclosure Floor:

   Install a concrete pad consisting of 5 inch aggregate base (Class II compacted) material and 6 inch Portland cement concrete (PCC), or equivalent, as approved by the Director of Community Development. Where roll-out bins and containers are used, pad should have a *level* (non-sloping) surface, and no floor obstructions or textures that prevent bins from rolling freely. ☑ *Detail Pages*

10. Loading Area Stress Pad:
    a. A concrete pad shall be constructed in front of each enclosure or service location for the collection vehicle. ☑ *Site Plan*
    b. Pad must be large enough (generally 10 feet by 20 feet) and correctly oriented to allow service vehicle to rest upon it when loading and unloading bins and containers. ☑ *Detail Pages, Site Plan*
    c. Paving materials shall consist of 5 inch aggregate base (Class II compacted) material and 6 inch Portland cement concrete. ☑ *Detail Pages*
    d. The pad shall have a smooth, level surface that is continuous with interior flooring. ☑ *Detail Pages*
11. Container Placement:
    a. Garbage and recycling containers (or chutes) shall be located within the same enclosure or storage area to maximize diversion of waste from landfill and to minimize contamination of recycling containers. ☑ *Detail Pages, Site Plan*



    b. There shall be a minimum clearance of 4 feet from front to back of enclosure or storage area to allow pedestrian access to all containers within the enclosure. ☑ *Detail Pages, Site Plan*
    c. Solid waste containers must not be 'staged' in public view. If containers must be staged for service in a location other than the enclosure, they must be screened from public view.
12. Lighting:
    Provide adequate lighting along path and at the enclosure for the safety of users and collection personnel. If containers are stored within a building, install motion activated lighting. ☑ *Detail Pages*
13. Prohibited:
    a. Tallow (grease, cooking oil) containers: Do not store within solid waste enclosures. Tallow containers (normally only used at food facilities) should be stored within the building, or if outside, provided with acceptable secondary containment. ☑ *Detail Pages, Site Plan*
    b. Storm Water Run-off: No storm drains shall be installed in the immediate vicinity of any garbage enclosure, compactor, or tallow (used cooking oil) storage area. Design waste storage areas so that drainage from adjoining roofs and/or pavement is diverted around the area(s) to avoid run-on of stormwater. ☑ *Site Plan*
14. Situations To Avoid:
    a. Indirect Vehicle Approach: Enclosures that can not be directly approached by collection vehicles: In these cases additional monthly push-out fees may apply. ☑ *Site Plan*
    b. Shared Enclosures/Containers: Avoid designs requiring separate tenants to share facilities who are not jointly responsible for litter problems and recycling contamination. If the facilities are shared, there shall be a written document submitted prior to building permits ☑ *Project Data*

clearly defining the responsible parties for cleaning and maintenance of the solid waste/recycling areas.

c. Views into Enclosures from Upper Floors: Designer should shall consider methods of screening enclosure interior from upper floor view (trellis, etc.), especially in residential settings. ☑ *Detail Pages*

B-3: SITE PLAN SUBMITTAL

After determining the square footage necessary for storing solid waste containers and any site-dependant design elements (such as service vehicle access and door placement), illustrate these additional items on the site layout:

A: Enclosure Details

1. Show design elements flagged for 'Site Plan' in section B-2 above (also see Checklist on pg. 17).
2. Location of Enclosures, New or Existing:
    a. Dimensions—interior and exterior—of each enclosure on site plan.
    b. Note: Unapproved locations include any parking, landscape or setback areas, unless otherwise approved by Use Permit.
3. Distance to Residential Units: Within 150 ft. of any unit

B: Onsite Collection Vehicle Movements, Clearances

1. Vehicle Access to Containers:
    a. Direct Access: Wherever possible, enclosures shall be oriented to allow collection vehicles to easily approach service doors head-on to lift containers/bins directly from the enclosure interior.
        i. Direct access requires a 50-ft. straight approach to enclosure doors.
    b. Push-out fees: Where containers must be moved by the service operator more than 10 feet away from the enclosure, an additional monthly push-out fee may apply.
    c. NOTE: Six cubic yard bins *do not have wheels*, so direct truck access to bins inside enclosure is required.

2. Curb-returns & Truck Turning Radius—Label on Site Plan:
    a. The requirement for adequate curb-returns applies to all turns leading to and away from enclosures, at intersections, designated truck turn-out areas and container/cart set-out areas.
    b. NOTE: Collection vehicles are typically 10 feet wide (including side-mounted mirrors) and as long as 33 feet
    c. *20-foot to 24-foot-wide access route*: Requires an inside curb-return radius of at least 30 feet (measured from the face of the curb on the main route).

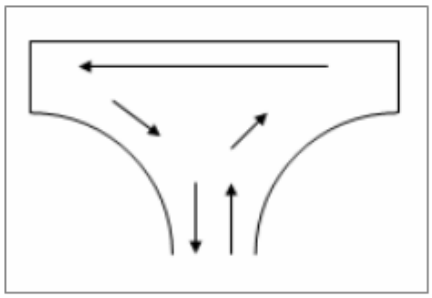
d. *26-foot-wide access route*: Requires at least a 25 foot inside curb-return radius (measured from the face of the curb on the main route).

e. Templates: If there are any site-specific constraints, apply the City's truck turning template (provided upon request) to ensure curb-returns conform to access requirements.

3. Travel Clearance—Horizontal and Vertical:

   a. Clearance requirements apply to access routes leading to and away from enclosures, at intersections, designated truck turn-out areas and container/cart set-out areas.
   b. Horizontal clearance: minimum of 16 ft in width. Widen access routes as required to meet turning requirements (per item B-3.2, above).
   c. Vertical travel clearance: 15 ft unobstructed
   d. No obstructions: Building/roof overhangs, balconies, landscaping or other site elements shall not encroach into required clearances for vehicle operations.

e. Truck Turnouts:



   Required where driveways do not extend from street to street, when a road dead-ends or has an otherwise inaccessible access route longer than 50 feet. Provide turn-out areas (or identify existing turn-outs) meeting the access requirements in items B-3.2 through 3 above.

4. Loading Area Clearance:

   Minimum unobstructed vertical clearance shall be:

   - 20 feet for front-load bin operations
   - 15 feet for cart service
   - 30 feet for roll-off containers, compactors (see Section C-1 regarding roll-off compactors).

5. Access Route Pavement:

   Pavement section along access route leading to or away from central enclosures and at truck turnout areas should be designed by using a Traffic Index of 5.0 and as recommended by the Geotechnical Engineer.

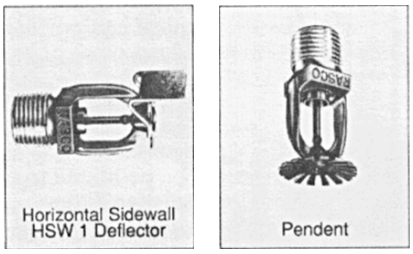
B-4: ALTERNATIVE VOLUME AND ENCLOSURE PROPOSALS

In lieu of using Table A (pg. 5) to determine solid waste volumes, developer may consider submitting an alternative proposal for City approval by following the steps below:

1. Other than Section B-1 (volume projections), apply all other Section B design and submittal requirements.

2. Any alternative proposal must demonstrate that the design supports a service frequency of *three* or fewer collection days.
3. Project the average volume: Developer may use methods other than Table A to determine the volumes of solid waste and recycling for the project.
    a. Identify materials by cubic yards per week generated by each type of use.
        i. For example, applicant may apply an actual waste and recycling generation rate (e.g. cyd per square ft.) for a similar project of comparable size reported by a California jurisdiction or waste hauler
    b. Include calculations and documentation of the data-sources.

B-5: FIRE SAFETY



1. Enclosures or other solid waste facilities that are within 5 feet of a structure, roof overhang, or canopy shall provide an automatic fire sprinkler system. If the existing building is not required to have an automatic fire sprinkler system, the sprinkler system for the enclosure may be connected to the domestic water supply if the supply line is a minimum of 1 inch in diameter.
2. Three copies of the detailed fire sprinkler plans must be submitted by the fire sprinkler engineer. These plans must be reviewed and approved by the Fire Prevention Engineer, with the following requirements *(California Fire Code 903.2.7)*:
    a. An approved accessible shut-off valve is to be provided on the line.
    b. An approved means of securing the valve in the open position shall be provided where valves are subject to vandalism.
    c. All exposed water lines have to be brazed copper or steel.
    d. If the enclosure does not have a ceiling, a heat baffle, 18 square inches in area, shall be attached not more than six (6) inches above the sprinkler head.
3. Interior Storage: Containers located within a building (waste collection rooms over 100 square feet) must be surrounded by one-hour fire-resistive rated walls, or installation of an automatic fire sprinkler system. (2010 California Building Code Section 508.2.5.3)

B-6: STORM WATER REQUIREMENTS [REPEATS SECTION B2. 13]

Storm Water Run-off:

1. No storm drains shall be installed in the immediate vicinity of any garbage enclosure, compactor, or tallow (used cooking oil) bin storage area.
2. Design waste storage areas so that drainage from adjoining roofs and/or pavement is diverted around the area(s) to avoid run-on of stormwater.

Section C: Site-Specific Requirements & Other Types of Facilities

This section provides information on additional requirements (normally applied to large developments) and alternative waste and recycling management systems—such as compactors—which may be appropriate for a variety of project sizes.

C-1: COMPACTORS; ROLL-OFF AND FRONT-LOAD

1. All proposed compactor equipment and locations to be reviewed for compatibility by the franchised hauler (Specialty Solid Waste & Recycling, 408-566-1805), and approved by the City.
2. **PLEASE NOTE:** Prior to determining compactor size, review rate, health code, and operational restrictions, including but not limited to issues below:
    a. Rates: All solid waste containers are charged by container *volume*, not by *weight*.
    b. Public Health Requirements: All solid waste containers/compactors are to be serviced a *minimum of once a week*.
    c. Volume: Care should be taken to choose an appropriate size so that user isn't paying utility fees on un-utilized volume in cases where the compactor isn't filled at least once a week.
    d. Compactor Weight: Ensure that compactors are sized for the type of material to be collected. E.g. compactor at a restaurant with dense, wet material would be heavier per cubic yard than would be a compactor at a typical office building. Solid waste containers which exceed DOT weight requirements can not be serviced.
3. **Roll-off Compactors**:
    a. Typically between 10 and 40 cubic yards, having a 5:1 compaction ratio.
    b. Servicing: The entire receiving container is loaded onto a collection vehicle and removed, dumped, then returned to the account location.
    c. Vehicle Access: Provide a straight approach of 70 feet leading to the compactor. Additionally, service vehicles require a turn-out of sufficient size to turn and back up to the compactor.

    d. Vertical Loading Clearance: Unobstructed 30 feet vertical and 14 ft. wide
    e. Turning Radius: See Section B-3.B.2.
    f. Access Route: Minimum 16 ft. wide and 15 ft. high, adjusted as necessary for minimum curb-return requirements.
    g. Turn-outs: Required wherever collection vehicles would otherwise have to backup more than 50 feet, such as dead-end driveways.
    h. Stress Pad: To be oriented to allow collection vehicle to completely rest upon it. Concrete stress pad shall consist of minimum 5-inch

aggregate base (Class II compacted) material and 6 inch Portland cement concrete.

4. **Front-load Compactors**:
    a. Typically 1-4 cyd, having a 3:1 compaction ratio.
    b. Section B, *Project Submittal Requirements for Solid Waste and Recycling* enclosure design requirements apply, except that interior storage area will need to be sized appropriately to include compaction equipment (consult franchised hauler and equipment vendor).
    c. Weight Considerations: Please see 2d above.
    d. Chutes: Where used with chutes, provide cowling or other system from chute discharge to compactor to meet public health code requirements.

C-2: LARGE PROJECT, MIXED USE SUBMITTAL REQUIREMENTS

For certain projects, such as mixed-use development, large demolition jobs, major shopping centers, etc., the City may require that a formal 'Waste Management Plan' be submitted for approval prior to any Building Permit issuance. The Waste Management Plan shall illustrate Section B items, and include the following:

1. Provide waste and recycling projections in spreadsheet or matrix format. Document sources and provide details for volume assumptions.
2. Identify which buildings will be served by which solid waste facilities.
3. In addition to Section B for exterior, also provide building interior details, including chutes, garbage storage areas, collection points in building, etc.
4. Clearly illustrate and describe how different types of waste streams will be managed, such as designing residential separately from commercial equipment and collection.
5. Describe how utility accounts will be handled, whether by property management or by individual tenants.

The City may require additional information during the project review/approval process depending on project scope.

C-3: CHUTE DESIGN FOR MIXED USE BUILDINGS:

1. General: Special care must be taken to assure recyclable material, such as corrugated cardboard, does not hang up in chutes and to minimize contamination by trash. In addition, property management shall be available to monitor the chutes daily (including weekends) to check operations, maintain bins and chutes, and avoid nuisance conditions.
2. Number and Size of Chutes:
    a. Three chutes are required; one for garbage, one for recyclable paper and one for mixed containers.
    b. Diameter to be 24 inches

3. Doors:
    a. Provide 16 inch square chute doors (intended to be a smaller dimension than the 24 inch chute diameter) to prevent users from dumping large items which may hang up in chute.
    b. Chute doors must have side panels to minimize risk of injury (hands being caught in doors, etc.).
    c. Provide temporary “shut-off door” at end of chute to prevent disposal when receiving trash bins are being changed.
4. Receiving Containers: Provide cowling or other system from chute discharge to container to meet public health code requirements
5. Insulation: Provide around each chute to reduce noise.
6. Sanitary systems to be provided to minimize nuisance conditions [above some threshold project size? Review]:
    a. Placement of a manufacturers built-in water cleaning system, where appropriate
    b. Use of a deodorizer device, where appropriate
    c. Include positive, mechanical air ventilation of at least six (6) room volumes per hour or as designed for specific use by registered engineer. Fan switch shall be located at a convenient location near trash bins.
7. Individual slide-out refuse cabinets to be provided in residential units, with 15 pound plastic bag holder in each kitchen for plastic, tie-top disposal bags to be used for disposal into chutes. [Review]
8. Chutes in excess of three floors must include a baffle system to reduce the drop impact of material.
9. Chute systems must adhere to fire code (DPS will review).
10. Conform to all Equipment Manufacturer's requirements.

Section D: Green Building Requirements: (See Separate Green Building Program brochure/checklist)

Certain projects, as outlined by the City’s “Green Building Program”, are subject to requirements of a Construction Waste Management Plan. During the Building Permit review process, applicant shall provide a detailed plan for City approval that:

1. Identifies the materials to be diverted from disposal by efficient usage, recycling, reuse on the project or salvage for future use or sale.
2. Specifies if materials will be sorted on-site or mixed for transportation to a diversion facility.
3. Identifies the diversion facility where the material collected will be taken.
4. Identifies construction methods employed to reduce the amount of waste generated (required for residential only).
5. Specifies that the amount of materials diverted shall be calculated by weight or volume.

Upon completion of the demolition, applicant shall provide the City with a *report* summarizing material types, quantity, disposition (e.g., recycled or land-filled) and facility used. *(California Assembly Bill 939 Integrated Waste Management Act, California Green Building Standards Code 2010, Sections 4.408 and 5.408, City's General Plan Goal 3.2B.1.d. and Action Statement 3.2B.2e, City's Zero Waste policy).*

Section E: Construction and Demolition Debris Management:

1. During demolition and construction and pursuant to SMC8.16.170-180, mixed debris of any type must be disposed of in containers provided and serviced by the City's franchised hauler (except for exclusions granted where applicable, SMC 8.16.110).
2. Project must maintain and use a debris box for all mixed material from the franchised hauler onsite for the entire duration of work. This requirement shall be shown on the Building Permit plans and will be enforced during building demolition and construction.
3. At project start-up, contact the franchised hauler, Specialty Solid Waste & Recycling, at 408-565-9900 to order debris boxes. NOTE: All solid waste rates are established by the City Council, and are based upon the cost of service.
4. Recyclable material that is separated from mixed debris on the job site may be hauled by an independent recycling company holding a current Sunnyvale Business License (list available upon request), provided that the following conditions are met:
    a. On-site debris boxes for mixed debris disposal are provided and hauled by the franchised waste company.
    b. The material to be recycled is separated onsite from non-recyclable material or mixed debris that is collected by the franchised waste hauler.
    c. The material is actually recycled or reused, and is not disposed of or used for 'alternative daily cover' at a landfill.
    d. The recycler must maintain a valid Sunnyvale business license

Section F: Project Requirements for Post-Construction Operations

1. *The property owner is responsible for the maintenance and cleanup of recycling and solid waste enclosures,* including closing and securing doors/gates when not being used *(SMC 19.38.030(e)(1)(E)))*. Where applicable, there shall be provisions in the CC&Rs or other recorded document for routine maintenance of solid waste facility areas.
2. If chutes are installed, there shall be provisions in the CC&R's (or other pertinent document) for routine maintenance of the chutes including vector control, sanitation and resident education.

Resources:

1. Sunnyvale General Plan Solid Waste Management Sub-Element
   http://sunnyvale.ca.gov/CodesandPolicies/GeneralPlan.aspx
2. Sunnyvale Municipal Code Chapters 8.16 and 19.38.30
   http://qcode.us/codes/sunnyvale/
3. California Department of Resources Recycling and Recovery (CalRecycle)
   http://www.calrecycle.ca.gov/
4. California Green Building Standards Code
   http://www.documents.dgs.ca.gov/bsc/CALGreen/2010_CA_Green_Bldg.pdf

Contacts:

Solid Waste Guidelines: City of Sunnyvale, Public Works Department (408-730-7415)

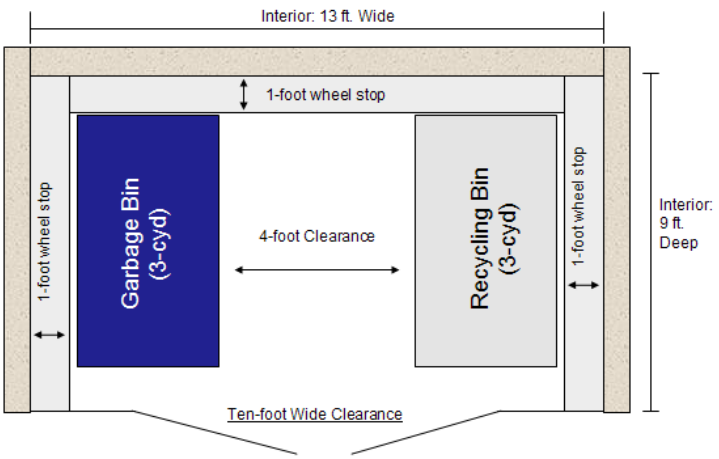
Project Review/Approval and Construction Phase: City of Sunnyvale, Community Development Department (408-730-7444)

Compactor Review, Construction & Demolition Disposal, and Operation Phase: Specialty Solid Waste & Recycling (408-565-9900, Specialty@sswr.com) or, City of Sunnyvale Public Works Department (408-730-7415)

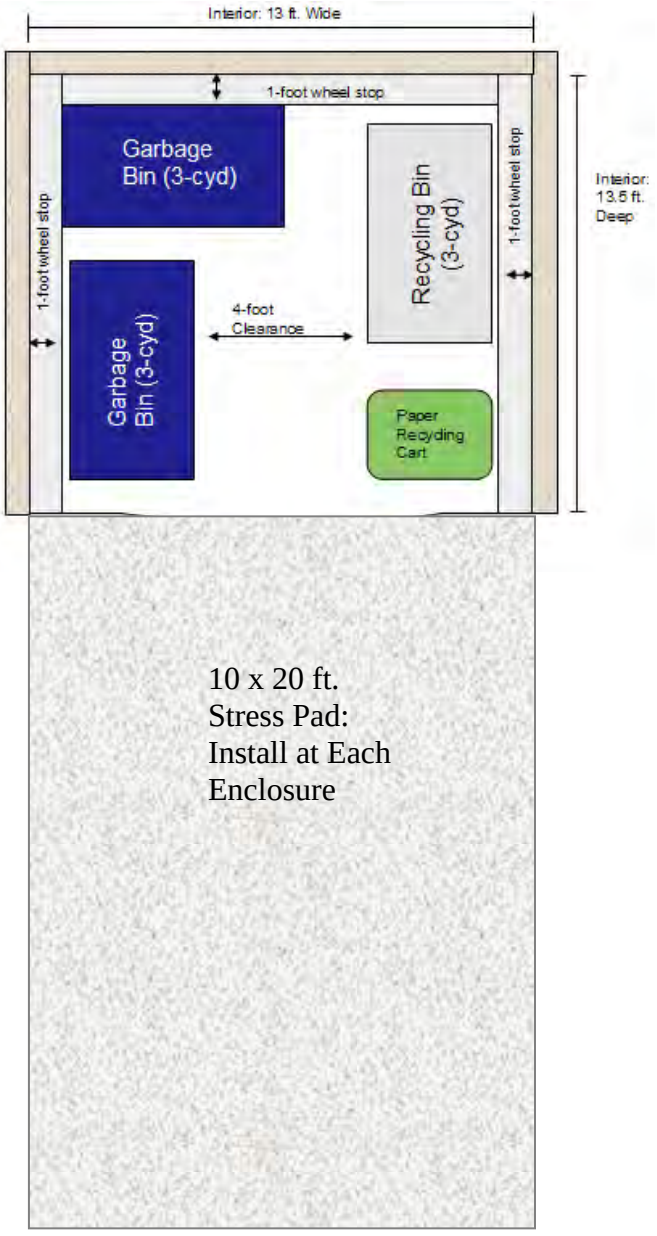
Business License: City of Sunnyvale, Finance Department (408-7380)

Appendix A - Sample Enclosure Layouts
(To be updated in AutoCAD)
Commercial

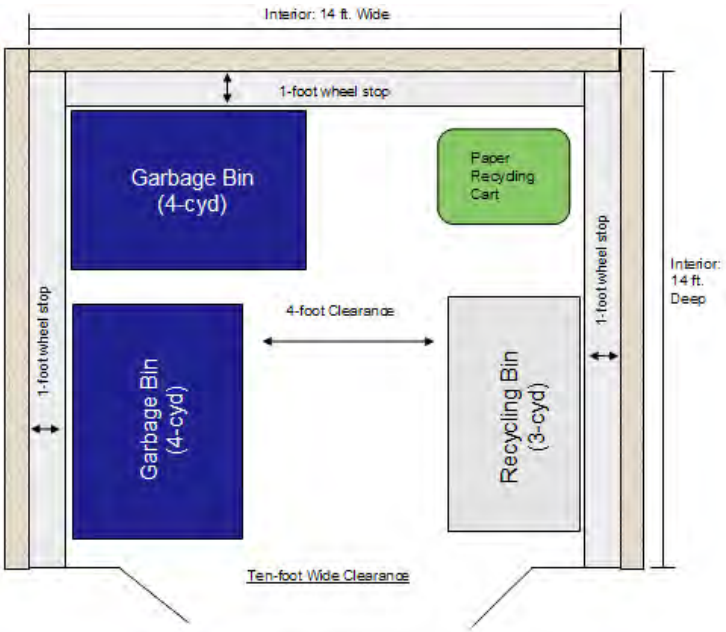
One 3cydGarbage Bin and One 3cyd Recycling bin:



Two 3cyd Garbage Bins and Two Recycling

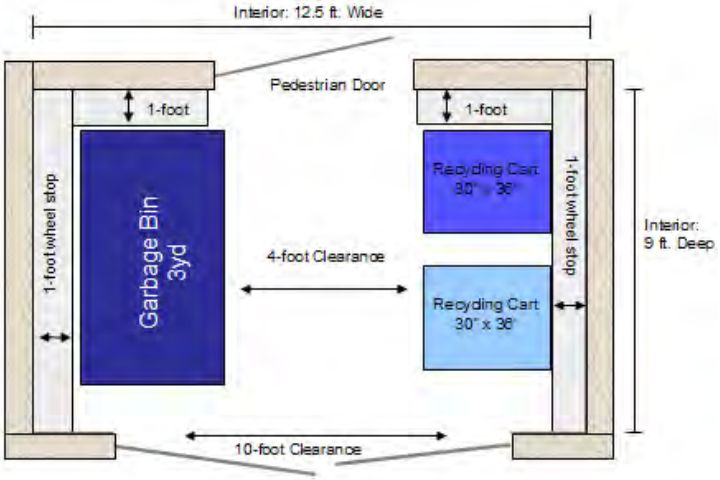


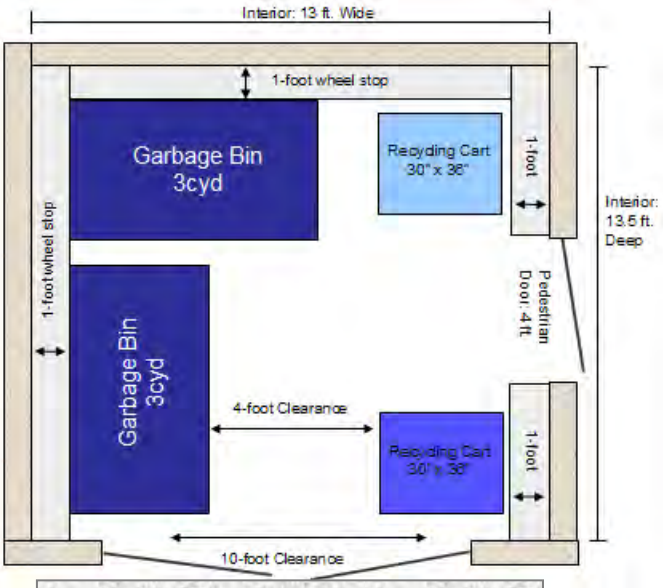
Two 4-cyd Garbage Bins and Two Recycling Containers:

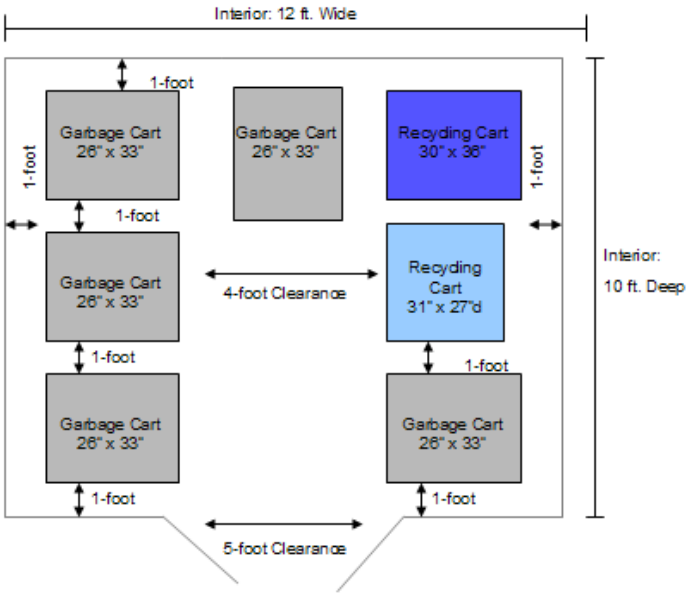


Multi-family Sample Enclosures

[Pending update in CAD]



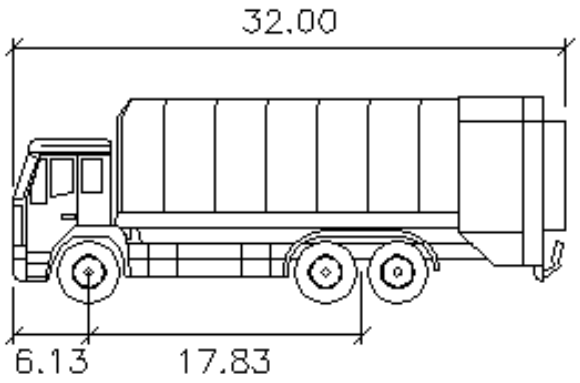




10 x 20 ft.
Stress Pad:
Install at Each
Enclosure

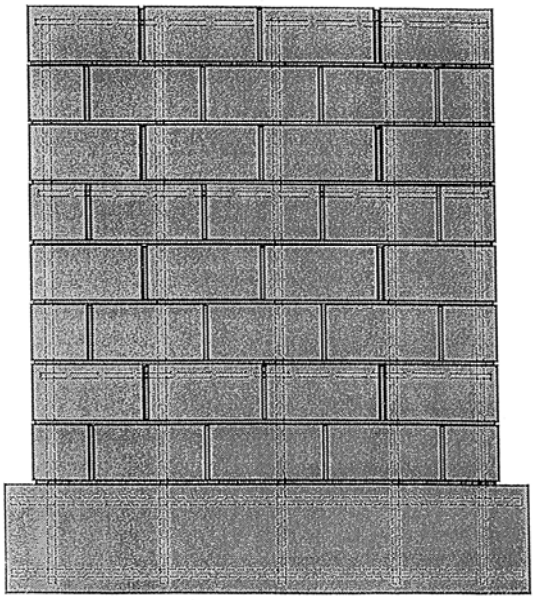
Appendix B – Sample Truck Size

[Pending update in CAD]



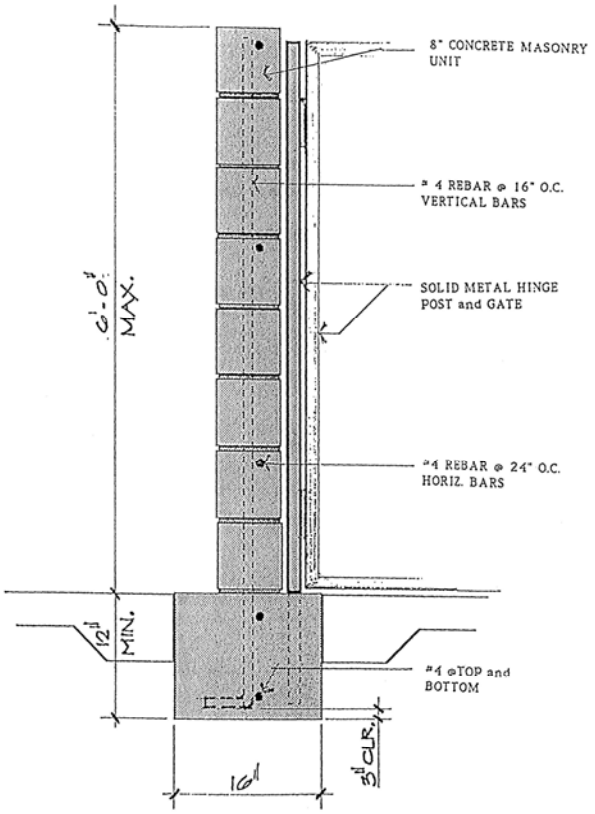
Appendix C – Sample Enclosure Design Details

[Pending update in CAD]

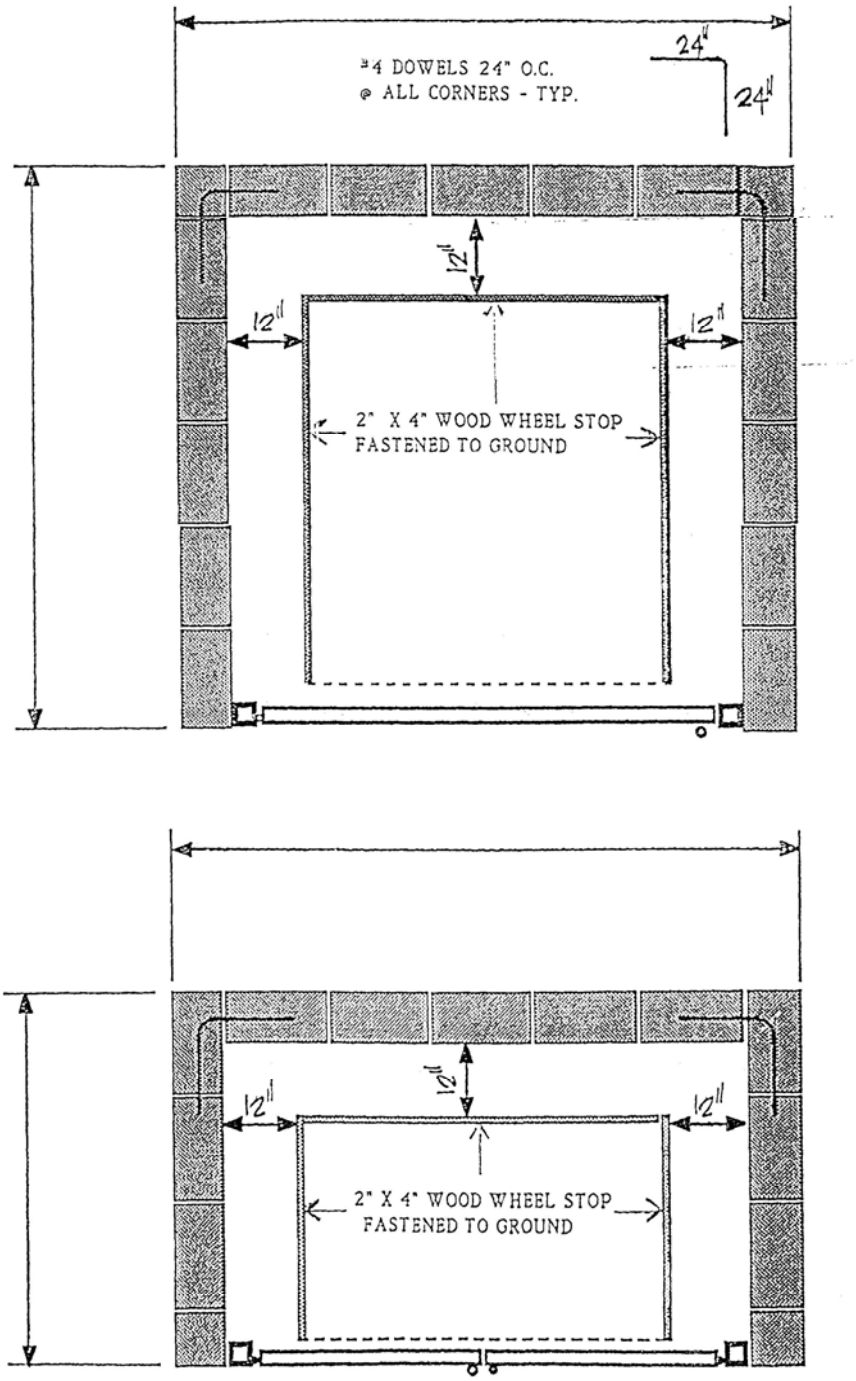


NOTE: SEE DETAIL ON SHT. #1 FOR INFO. NOT SHOWN.

SHT. 2



SHT. 1



SHT. 5
CD300-B (7)

Appendix D - Container/Bin Sizes and Capacities

Single-Family Carts					
Carts	**Gallons**	**Height**	**Height w/lid up**	**Width**	**Depth**
Black Garbage Cart	95	45 1/2"	75"	26"	33"
Black Garbage Cart	65	40 1/2"	64"	24"	27"
Black Garbage Cart	35	39"	57 1/2"	19 1/2"	23"
Split-Recycling Toter	64	40 1/2"	55"	30 1/2"	26 1/2"
Yardwaste Toter	96	43"	76"	28"	34 1/2"
Multi-Family Carts					
	Gallons	**Height**	**Height w/lid up**	**Width**	**Depth**
Black Garbage Cart	95	45 1/2"	75"	26"	33"
Black Garbage Cart	65	40 1/2"	64"	24"	27"
Black Garbage Cart	35	39"	57 1/2"	19 1/2"	23"
Recycling Cart	96	45 1/2"	7 ft.	27"	35"
Paper Recycling Cart	96	45 1/2"	7 ft.	27"	35"
Commercial Cart Sizes (for smaller accounts)					
	Gallons	**Height**	**Height w/lid up**	**Width**	**Depth**
Black Garbage Cart	95	45 1/2"	75"	26"	33"
Black Garbage Cart	65	40 1/2"	64"	24"	27"
Black Garbage Cart	35	39"	57 1/2"	19 1/2"	23"
Commercial & Multi-Family: Front-load Bins					
	Cubic Yards	**Height**	**Height w/lid up**	**Width**	**Depth**
1yd Blue Garbage Bin	1	39"	9 ft.	81"	25"
2yd Blue Garbage Bin	2	52"	9 ft.	81"	37"
3yd Blue Garbage Bin	3	60"	9 ft.	81"	42"
4yd Blue Garbage Bin	4	67"	9 ft.	81"	51"
6yd Blue Garbage Bin (no wheels)	6	71"	9 ft.	81"	68"
3yd Recycling Bin	3	60"	9 ft.	81"	42"
6yd Recycling Bin (no wheels)	6	71"	9 ft.	81"	68"
Roll-off Debris Boxes					
8 yd Roll-off Box	8	4’ 4 “		8 ft.	10’ 3”
15 yd Roll-off Box	15			8 ft.	12 ft.
20 yd Roll-off Box	20			8 ft.	16 ft.
30 yd Roll-off Box	30			8 ft.	22 ft.

City of Sunnyvale

Solid Waste & Recycling Design Guidelines

Multi-Family Residential

MULTI-FAMILY: Four or More Units

In residential zones all trash, refuse, and recyclable materials must be placed in proper containers that are fully screened from public view by an enclosure. All structures shall provide adequate and accessible enclosures for the storage of trash, refuse, and recyclable materials containers. Specific requirements:

1. Except for uses in R-0, R-1 and R-2 zones, and unless the container is kept within a building, the screening must enclose the container on all four sides with a door/gate on one side.
   a. At a minimum, the screening must be 6 feet high and constructed of wood or masonry materials compatible with the main building.
2. The enclosure and door/gate must be painted to match the building.
3. The service door/gate must be large enough to provide easy access for removal of containers. [Create specs.]
4. An ADA compliant door for residential access must be included.
5. Enclosures must be adequate in capacity, number and distribution to accommodate the uses in a development. [See space guidelines]
6. Enclosures shall not be located in any parking, landscape, or setback area (exceptions apply).
7. Trash and recycling enclosures within 5 ft. of a structure must be sprinklered, and containers located within a building must be surrounded by walls with a one-hour fire resistive rating.

The property owner is responsible for:

1. The clean-up of the interior of the enclosure.
2. The overall maintenance of the enclosure.
3. Closing and securing doors/gates, and containers lids when enclosures are not being serviced.

The recycling and solid waste contractors are responsible for maintenance of their respective bins and containers.

RECYCLING & SOLID WASTE COLLECTION VEHICLE ACCESS REQUIREMENTS

Attachment C has truck access requirements. It is important to consider truck access and turning radii early on in the planning process for best results.

1. Driveways or travel aisles leading to enclosures shall be a minimum of 16 feet in width.
2. Where driveways do not extend from street to street, a turnaround area will be provided for the collection vehicles (taking into account that the turning radius of collection vehicles is approximately 32 ft. inner and 47 ft. outer).
3. Driveways or travel aisles shall provide:
   a) Unobstructed access for collection vehicles.
   b) A minimum of 15 feet of vertical clearance.

   However, in loading areas minimum overhead vertical clearance shall be 20 feet for loading operations.
4. To prevent damage to driveways, a concrete pad shall be constructed in front of each enclosure. The pad needs to be large enough and correctly oriented so as to allow the service vehicle to rest on it when loading and unloading bins and containers. The pad shall have a level surface (i.e. no slope) and no floor obstructions that prevent bins from rolling freely.
   Paving materials for the concrete pad shall consist of 5 inches compacted aggregate base material and 6 inches Portland Cement paving (or equivalent materials approved by the director of Community Development).

REGULATIONS

The California Public Resources Code Section 42911(c) requires adequate space for collecting and loading recyclable materials in all developments, and Section 40059.1 requires diversion of at least 50 percent of wastes from the landfill. Thus, space for trash and recycling should be the same.

In addition to these standards, the City may require modifications or impose additional requirements to ensure the safe and efficient collection of solid waste and recyclable materials.

SERVICE & SPACE GUIDELINES

Multi-family properties typically* use front-load bins for garbage and plastic carts for recycling, one for mixed paper and one for bottles/cans and other containers.

*Some larger properties utilize front-load or roll-off compactors for solid waste—contact the city for requirements.

ENCLOSURE DIMENSIONS

The minimum solid waste bin capacity per each 10 units is 3-yards, plus one set of recycling carts. See Attachment A:

- Sample enclosure dimension requirements for 1-2 bins
- Common sizes for garbage and recycling containers However, the actual enclosure or bin sizes used by the building occupant may vary.

Sample enclosure layouts are shown in Attachment B.

PLAN REQUIREMENTS

A Building Permit is required for a trash enclosure. Plans need to conform to the plan submittal and content requirements for building, special development, use & design permits. Submitted plans must show:

1) Proposed design, size, and location of recycling & trash enclosures (e.g. site plan, detail, and elevations).
2) The number, type and placement of the bins and containers within the enclosure.

To ensure that the enclosure is constructed safely and its location and design are compatible with the building and adjoining properties, the plans for the enclosure are reviewed by the Director of Community Development. The Solid Waste Program manager and the Department of Public Safety will advise the Director of Community Development on enclosure design and specific construction requirements.

ADA REQUIREMENTS

All residential enclosures to be ADA accessible.

SITE LAYOUT

The attached trash enclosure plans are provided as a courtesy. Once your dimensions are added, a completed package must include:

1) A completed Miscellaneous Plan Approval application.
2) Three copies of a plans (including site plan, detail, and elevations).
3) The appropriate fees.

The site plan can be hand drawn showing the dimensions of the property, any existing buildings and the location of the trash enclosure. The package should be submitted to the Planning and Building Safety Divisions at the One Stop Permit Center in City Hall.

Additional requirements may apply. For further information you can contact the Planning, Building Safety of Fire Prevention Divisions at (408) 730-7444, or by visiting the One Stop Permit Center at 45 West Olive Avenue between the hours of 8:00 a.m. and 12:00 p.m.

FIRE SAFETY REQUIREMENTS

When a trash enclosure is located within 5 feet of a building (or inside), an automatic fire sprinkler system must be installed. If the existing building is not required to have a sprinkler system, the sprinkler system for the trash enclosure may be connected to the domestic water supply, if the supply line is a minimum of 1 inch in diameter.

- An approved accessible shut-off valve is to be provided on the line.
- An approved means of securing the valve in the open position shall be provided where valves are subject to vandalism.
- All exposed water lines have to be brazed copper or metal.
- If the enclosure does not have a ceiling, a heat baffle, 18 square inches in area, shall be attached not more than 6 inches above the sprinkler head.

Three copies of the detailed fire sprinkler plans must be submitted by the fire sprinkler contractor. These plans must be reviewed by the Fire Prevention personnel in the Building Safety Division.

STORMWATER MANAGEMENT GUIDELINES

In addition to general requirements for solid waste and recycling enclosures, the guidelines below must be accounted for in the design:

- Do not locate trash storage areas in the immediate vicinity of storm drain inlets.
- Design trash container areas so that drainage from adjoining roofs and pavement is diverted around the area(s) to avoid run-on. This might include berming or grading the waste handling area to prevent run-on of stormwater.
- Provide roofs or awnings over enclosures, or attached lids on all trash containers to minimize direct precipitation and prevent rainfall from entering containers.

CONSTRUCTION & DEMOLITION DEBRIS MANAGEMENT

1. During demolition and construction and pursuant to SMC8.16.170-180, mixed debris of any type must be disposed of in containers provided and serviced by the City's franchised hauler (except for exclusions granted where applicable, SMC 8.16.110).

2. Project must maintain and use a debris box for all mixed material from the franchised hauler onsite for the entire duration of work. This requirement shall be shown on the Building Permit plans and will be enforced during building demolition and construction.

3. At project start-up, contact the franchised hauler, Specialty Solid Waste & Recycling, at 408-565-9900 to order debris boxes. NOTE: All solid waste rates are established by the City Council, and are based upon the cost of service.

4. Recyclable material that is separated from mixed debris on the job site may be hauled by an independent recycling company holding a current Sunnyvale Business License (list available upon request), provided that the following conditions are met:

a. On-site debris boxes for mixed debris disposal are provided and hauled by the franchised waste company.
b. The material to be recycled is separated onsite from non-recyclable material or mixed debris that is collected by the franchised waste hauler.
c. The material is actually recycled or reused, and is not disposed of or used for 'alternative daily cover' at a landfill.
d. The recycler must maintain a valid Sunnyvale business license.

Attachment A

MINIMUM NUMBER OF CONTAINERS

Land Use	**Development Size**	**Minimum Space Required For Garbage and Recycling Containers**
Multi-family Residential (4 or more units)	Each 10 Units	Space for one 3-yard bin and two recycling carts Alternatively, in large complexes front-load compactors may be used

SAMPLE ENCLOSURE SIZES

Number of Bins	**Interior Dimensions**	**Minimum *Interior* Clearances***
One plus Set of Recycling Carts	12.5’ W x 9’ D	1’ between bin and enclosure walls 4’ user walkway from the entry to access all containers in enclosure.
Two plus Set of Recycling Carts	13’ W x 12.5’ D	

COMMON CONTAINER SIZES

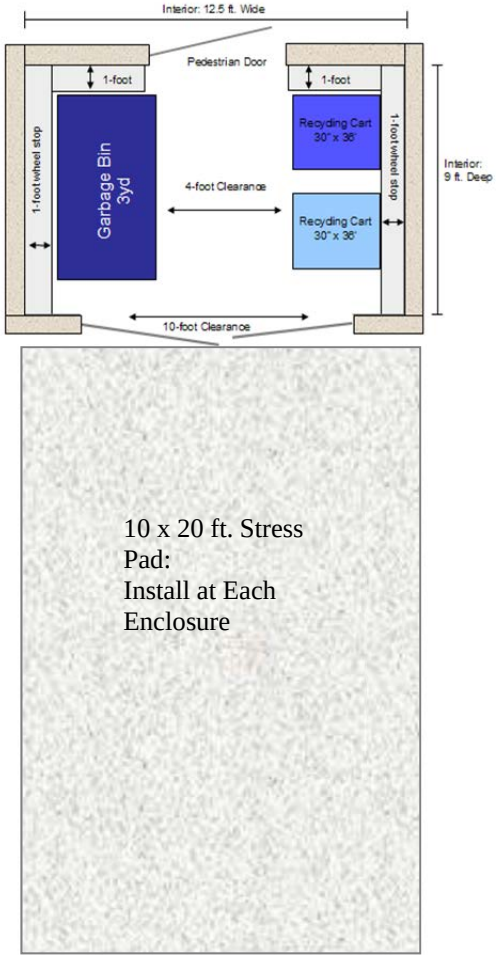
Bin Size	**Bin Dimensions**	**Minimum *Interior* Clearances***
4-cubic yard	6’9” W x 51” D	1’ between bin and enclosure walls 4’ user walkway from the entry to access all containers in enclosure.
3- cubic yard	6’9” W x 3’6”D	
2- cubic yard	6’9”W x 3’1”D	1’ between other containers and enclosure walls
Recycling carts (96-gallon)	2’7”W x 3’D x 3’10”H	Set of two carts, one light blue and one dark blue

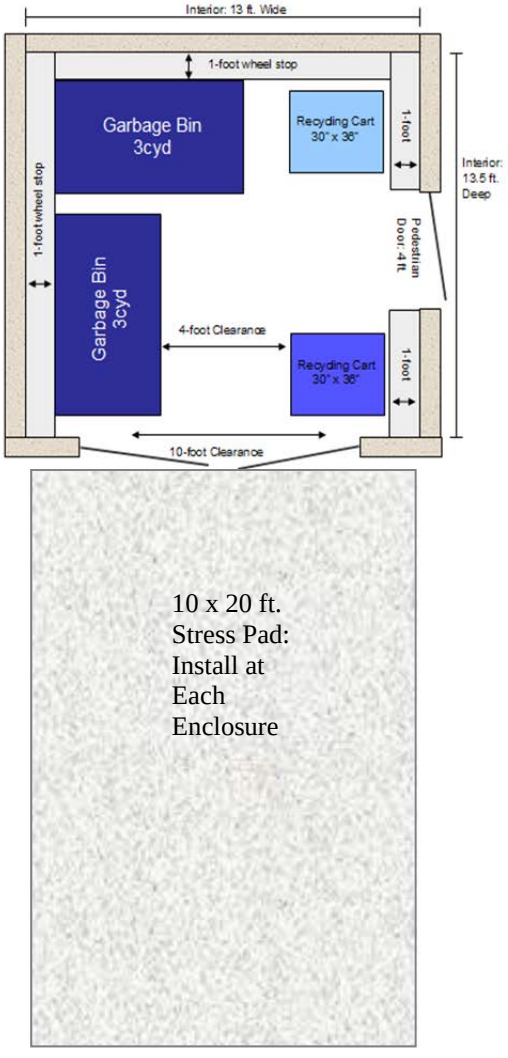
*See bin layouts, Attachment B.

Attachment B

EXAMPLES OF BIN LAYOUTS*

- Layouts shown for 1 to 2 typical 3-yd garbage and two 96 gallon recycling bins. Dimensions are approximate and not to scale.
- Interior clearance: One foot between containers and other obstructions.
- Aisle to the back of enclosure: Four feet wide to assure easy access to all containers.
- Vertical clearance: Nine-feet to allow lids to open (from ground to top of lid).
- Wheel stops: To be one foot from interior walls, generally on three sides.
- Service door: Nine feet wide with offset hinges to easily remove bin for collection.
- Paving: Level surface inside trash area through door to collection point (travelway), without stamped concrete or other textures.
- Tallow Containers: Do not store inside enclosure, but provide space for container outside, and include secondary containment
-





*Bin Layouts Show ***Interior*** Dimensions

Attachment C

TRUCK ACCESS REQUIREMENTS:
Multi-family with Centralized Collection Service

Multi-family with bin service	*Inside* turning radius: 32' *Outside* turning radius: 47'
Travel-aisle: horizontal and vertical clearance:	16 ft. wide and 15' high
Loading Clearance	20 ft. vertical clearance for bins 15 ft. vertical clearance for carts

For safety reasons, in residential areas a truck turnaround is required for any street, driveway or travel-aisle does not extend from street to street. Sample turning templates are attached. Use "Front-load & Recycling" for multi-family developments

TOWNHOME-TYPE PROPERTIES WITH INDIVIDUAL
CART COLLECTION SERVICE*

Turning Radius	*Inside* turning radius: 33' *Outside* turning radius: 48'
Minimum Street Widths	22 ft. for collection on straight-aways Adequate width required for all turns

For safety reasons, in residential areas a truck turnaround is required for any street, driveway or travel-aisle does not extend from street to street.

*Additional requirements may apply

Design Requirements for Solid Waste Recycling Collection in Townhome Complexes

	Option A: Front-load Bins in Enclosures		Option B: Individual Cart Set-out at Each Unit		Option C: Centralized Carts, Enclosed or Central Locations	
	Specifics	**Description**	**Specifics**	**Description**	**Specifics**	**Description**
Turning Radius	Front-load garbage truck: 26 inner, 41 outer. Recycling truck: 32 ft. inner, 47 ft. outer: Street widths must allow for adequate turning radius.	Applicable to intersections, turns & streets leading to and away from central enclosures and designated turnouts	Minimum truck turning radii: 33 ft. inner radius & 48 ft. outer radius. Street widths must allow for adequate turning radius.	All intersections, turns & streets: sufficient for side-load residential collection vehicles to navigate streets lined with garbage & recycling carts on both sides.	Minimum truck turning radii: 33 ft. inner radius & 48 ft. outer radius. Street widths must allow for adequate turning radius.	Applicable to intersections, turns & streets leading to and away from central collection points and designated turnouts
Street Widths: collection and travel	Minimum 16 ft. The street width may vary at intersections and turns to allow for adequate turning radius.	Along access route to central enclosure	Minimum 22 ft. wide for collection operations. The street width may vary at intersections and turns to allow for adequate turning radius.	As required for vehicles to safely service carts and travel all streets. Accommodates truck, 7.8 ft. total space for cart set-out (split between both sides of street), operational space and safety envelope.	Minimum 16 ft. on straight-aways. Collection points: 17 ft. minimum. The street width may vary at intersections and turns to allow for adequate turning radius.	Along access route to central collection points
Horizontal and Vertical Clearances	• Horizontal travel clearance: 16 ft. • Vertical loading clearance 20 ft.	Applicable to streets leading to or away from central enclosures and set-out areas. Balconies, landscaping or other elements shall not encroach into approved horizontal or vertical clearances for vehicle travel, backing, loading, or other operations along any streets.	• 17 ft. horizontal operating/travel clearance • 15 ft. vertical clearance	All streets. Balconies, landscaping or other elements shall not encroach into approved horizontal or vertical clearances for vehicle travel, backing, loading, or other operations along any streets.	• Horizontal clearance: 16 ft. travel, 17 ft. for loading at central collection areas. • Vertical clearance: 15 ft. travel and loading	Applicable to streets leading to or away from central enclosures and set-out areas. Balconies, landscaping or other elements shall not encroach into approved horizontal or vertical clearances for vehicle travel, backing, loading, or other operations along any streets.
Pavement	Build to standards suitable for two 25 ton vehicles accessing central collection points on service days.		Build to standards suitable for two 25 ton vehicles traveling down all streets twice each service day.	Alternatively, responsible party or HOA to provide waiver (recorded with property) for potential damage caused to private streets over time by normal hauler operations	Build to standards suitable for two 25 ton vehicles accessing central collection points on service days.	
Stress Pad	Same as Central Carts	A stress pad is required in front of enclosures sufficient in size to support the front wheels of collection vehicles during loading.	N/A	N/A	None for central staging areas	
Storage	N/A	N/A	Per Cart*: 5.75' W x 3.5' D x 7' H (20 sq. ft.,140 cubic ft) Additional 50 sq. ft. shall be provided for storage of two carts in the garage	Includes 4" buffer on all sides and 7 ft. vertical clearance to open lids.	If stored in townhome units, same as individual carts.	
Container Clearance (through doors or gate, such as to side yard or enclosure)	10 ft. service door. ADA compliant pedestrian door.	N/A	3.25 ft.	Provides a 4" buffer on each side of cart through door or gate	3.25 ft. if stored at townhome unit. Enclosures: 4 ft. clearance through door	Same as Individual Carts if stored in garages/side-yards. Central enclosures: combination service/residential access door.
Setout Area	N/A	N/A	2 Carts*: 10.75 ft. x 4 ft.	Provide sufficient linear space for 2 carts per unit. Two-feet required between each cart and a 2 ft. buffer between setout area and other carts, vehicles or obstructions.	Central staging along street: 2 Carts*: 10.75 ft. x 4 ft. Enclosures: size is dependant upon number of carts.	Same set-out space as Individual Carts if staged on main street or other central area. Sufficient space within enclosures for 2 carts per unit (depends on service). To include a 4 ft. aisle and one-foot buffer between carts and walls or other structures.

Design Requirements for Solid Waste Recycling Collection in Townhome Complexes

	Option A: Front-load Bins in Enclosures		Option B: Individual Cart Set-out at Each Unit		Option C: Centralized Carts, Enclosed or Central Locations	
	Specifics	**Description**	**Specifics**	**Description**	**Specifics**	**Description**
Screening from View	Minimum 6 ft. High enclosures w/solid decking on doors	All containers to be screened from view by passersby as well as from upper floor windows	N/A	N/A	• Enclosures: Minimum 6 ft. high enclosures w/solid decking on doors • If carts are staged along main road, remove from public view after service.	When central enclosures are used, all carts to be screened from view by passersby, as well as from upper floor windows.
Truck Turnouts	Collection vehicles will not access dead-end townhome streets longer than 50 ft. Number of turnouts to be determined based upon site layout, number of units, and other factors.	Where driveways do not extend from street to street, a turnaround area for collection vehicles shall be provided so vehicles do not have to back up in townhome complexes.	Same	Same	Same	Same
Distance from Units	Maximum 150 ft.	Per section 19.38.030	N/A	N/A	Maximum 150 ft.	Per section 19.38.030
Enclosure Materials	Recycling and solid waste enclosures shall be constructed of wood or masonry compatible with the main structure		N/A	N/A	Where applicable, enclosures shall be constructed of wood or masonry compatible with the main structure	
Minimum Enclosure Dimensions	Minimum interior dimensions, one bin: 12.5 x 9ft. Two bins: 13 x 12.5ft.	Enclosures to be sized to minimize frequency of truck trips on property.	N/A		Dependant upon number of carts and location.	
CCRs	Keep enclosure doors closed, deposit all material inside containers and not on floor, other.	Store all containers out of view	Store carts out of view except for service days		Same	

***Two carts are typical; however an additional cart for yardwaste is available where extensive landscaping would require service**

City of Sunnyvale

Agenda Item

21-0881 **Agenda Date:** 11/9/2021

Tentative Council Meeting Agenda Calendar

City of Sunnyvale

Tentative Council Meeting Agenda Calendar

Tuesday, November 16, 2021 - City Council

Study Session

21-0202 4:30 P.M. SPECIAL COUNCIL MEETING (Study Session)
Review of New State Housing Laws

21-0170 6 P.M. SPECIAL COUNCIL MEETING (Study Session)
Board and Commission Interviews (as needed)

21-0692 Time TBD - SPECIAL COUNCIL MEETING (Study Session)
Joint Meeting of City Council With Board and Commission Chairs and Vice Chairs to Review and Improve Overall Effectiveness of Commission Meetings

Tuesday, November 30, 2021 - City Council

Closed Session

21-0851 4:30 P.M. SPECIAL COUNCIL MEETING (Closed Session)
Closed Session Held Pursuant to California Government Code Section 54957:
PUBLIC EMPLOYEE PERFORMANCE EVALUATION
Title: City Manager and City Attorney

Study Session

21-0796 5:30 P.M. SPECIAL COUNCIL MEETING (Study Session)
DPW 18-07 Feasibility of Acquiring Control of Caltrans Traffic Signals on El Camino Real and DPW 19-10 Improving Traffic Operations at Fremont/Bernardo/Hwy 85

Presentation

21-0946 PRESENTATION - 2021 Municipal Information Systems Association of California (MISAC) Awards, Presented by MISAC Board Member Gaurav Garg

21-0701 PRESENTATION - Informational Update on Project Homekey Sites Located Near Sunnyvale by Santa Clara County Director of the Office of Supportive Housing Consuelo Hernandez

Public Hearings/General Business

21-0153 Approval of Final Park Design at One Redwood Place - Previous AMD Site

and Authorize the City Manager to execute the First Amendment #1 to the Park Agreement
by and between the City of Sunnyvale and 1090 East Duane Avenue LLC

21-0921 Approve the Java Drive Road Diet removal of one mixed flow lane in each direction between Mathilda and Crossman avenues and select option 1, Class II-B buffered bike lanes for final design and construction for the Java Drive Road Diet and Bike Lanes project.

21-1031 Introduction of an Ordinance to Amend Chapter 1.04 of the Sunnyvale Municipal Code Relating to Attorney's Fees and Costs for Abatement of Public Nuisances

21-0172 Board and Commission Appointments (as needed)

Tuesday, December 7, 2021 - City Council

Closed Session

21-1034 4:30 PM SPECIAL COUNCIL MEETING (Closed Session)
CONFERENCE WITH LEGAL COUNSEL-PENDING LITIGATION
Closed Session held pursuant to California Government Code Section 54956.9(d)(1):
Name of Case: Michael Lecy v. City of Sunnyvale (Workers Compensation Appeal Board Case No. ADJ12038967)

21-1035 4:30 PM SPECIAL COUNCIL MEETING (Closed Session)
CONFERENCE WITH LEGAL COUNSEL-PENDING LITIGATION
Closed Session held pursuant to California Government Code Section 54956.9(d)(1):
Name of Case: Hershel Golden v. City of Sunnyvale (Workers Compensation Appeal Board Case Nos. ADJ8653640, ADJ8653654, ADJ8972921)

21-1036 4:30 PM SPECIAL COUNCIL MEETING (Closed Session)
CONFERENCE WITH LEGAL COUNSEL-PENDING LITIGATION
Closed Session held pursuant to California Government Code Section 54956.9(d)(1):
Name of Case: Timothy Murray v. City of Sunnyvale (Workers Compensation Appeal Board Case Nos. ADJ1154917, ADJ12619319, ADJ3687599, ADJ1384813, ADJ3117118, ADJ3291305, ADJ4073235, ADJ1126778, ADJ3258053)

21-1017 5:30 P.M. SPECIAL COUNCIL MEETING (Closed Session)
Closed Session Held Pursuant to California Government Code Section 54957.6:
CONFERENCE WITH LABOR NEGOTIATORS
Agency designated representatives: Ad Hoc Committee on City Manager Compensation Members Larry Klein, Gustav Larsson and Alysa Cisneros

Unrepresented employee: City Manager

Study Session

21-0186 6 P.M. SPECIAL COUNCIL MEETING (Study Session)
Discussion of Upcoming Selection of Vice Mayor

21-0606 Discussion of 2022 Council Intergovernmental Assignments

Special Order of the Day

21-0174 SPECIAL ORDER OF THE DAY - Ceremonial Oath of Office for Board and Commission Members (as needed)

Public Hearings/General Business

21-1016 Amend Resolution No. 1075-21 Directing the City Manager to Temporarily Allow Outdoor Dining on Private Parking Lots and Close the 100 Block of South Murphy Avenue until September 30, 2022

21-0577 Introduce an Ordinance of the City Council of the City of Sunnyvale to add Chapter 10.62 to Title 10 (Vehicle and Traffic) of the Sunnyvale Municipal Code Relating to Exhibitions and Speed Contests “Sideshows”

21-1005 Award a contract to All City Management Services Inc. for Crossing Guard Services (RFI-150).

Tuesday, December 14, 2021 - City Council

Closed Session

21-0947 4:30 P.M. SPECIAL COUNCIL MEETING (Closed Session)
Closed Session held pursuant to California Government Code Section 54957:
PUBLIC EMPLOYEE PERFORMANCE EVALUATION
Title: City Attorney

21-0948 5:15 P.M. SPECIAL COUNCIL MEETING (Closed Session)
Closed Session held pursuant to California Government Code Section 54957:
PUBLIC EMPLOYEE PERFORMANCE EVALUATION
Title: City Manager

Study Session

21-0939 6 P.M. SPECIAL COUNCIL MEETING (Study Session)
Discussion of Possible Revisions to the Short-term Rental Ordinance and Enforcement Options

Public Hearings/General Business

21-0784 Receive and File the FY 2020/21 Budgetary Year-End Financial Report, Annual Financial Report (AFR), the Sunnyvale Financing Authority Financial Report, Agreed Upon Procedure Reports, and the Report to the City Council Issued by the Independent Auditors

21-0912 Authorize the City Manager or Designee to sign an Agreement for Sale of Real Estate with CITY AND COUNTY OF SAN FRANCISCO, acting by and through its Public Utilities Commission to purchase approximately 14,819 square foot portion of unimproved real property adjacent to Manzano Way near Oak Creek Way (a portion of APN 104-28-066)

21-1018 Provide Direction Regarding Amending the Employment Agreement between the City of Sunnyvale and City Manager Kent Steffens to Increase the City Manager Salary in an Amount to be determined by the City Council

Tuesday, January 4, 2022 - City Council

Special Order of the Day

22-0051 SPECIAL ORDER OF THE DAY - Recognition of Outgoing Vice Mayor

Public Hearings/General Business

22-0052 Selection of Vice Mayor for a One-Year Term Effective January 4, 2022

22-0053 Determine the 2022 Seating Arrangements for City Council

22-0054 Appoint Councilmembers to Intergovernmental Assignments; Ratify Appointments of Councilmembers made by Outside Agencies; Take Action to Modify, Create, or Terminate Council Subcommittees

22-0019 Approve Amendments to Council Policy 7.3.19 (Council Meetings) Adding a Process for City Council Colleague Memorandums to Propose new Agenda Items

22-0020 Adopt an Urgency Interim Ordinance and Introduce an Ordinance Amending Titles 18 (Subdivisions) and 19 (Zoning) of the Sunnyvale Municipal Code related to new State Legislation (Senate Bill 9) on Housing Development in Single-Family Zoning Districts and Find that the Action is Exempt from the California Environmental Quality Act

Thursday, January 13, 2022 - City Council

Public Hearings/General Business

22-0055 6 P.M. SPECIAL COUNCIL MEETING
Joint Meeting with the Redistricting Commission: Review Maps, Then Redistricting Commission Narrows to 3 - 5 Maps

Tuesday, January 25, 2022 - City Council

Study Session

22-0008 5 P.M. SPECIAL COUNCIL MEETING (Study Session)
DPW 19-07 Ascertain Suitable Location(s) for the Installation of Youth Cricket Batting Cages and Potential Funding Sources

22-0056 6 P.M. SPECIAL COUNCIL MEETING (Study Session)
Housing Element

Special Order of the Day

22-0058 SPECIAL ORDER OF THE DAY - Ceremonial Oath of Office for Vice Mayor

Public Hearings/General Business

22-0060 Annual Public Hearing-Discussion of Potential Council Study Issues and Budget Issues for Calendar Year 2022

22-0061 Approve the Proposed 2022 Priority Advocacy Issues and Review Long-term Legislative Advocacy Positions (LAPs)

22-0057 Consideration of FY 2021/22 Grant Program Changes and 2022 Community Events and Neighborhood Grant Program Applications

22-0084 Renewal of the Agreement Between City of Sunnyvale and Sustainable Community Gardens for the Development, Operation and Maintenance of Community Gardens

Thursday, January 27, 2022 - City Council

Workshop

22-0062 8:30 A.M. SPECIAL COUNCIL MEETING (Workshop)
Strategic Planning Workshop

Tuesday, February 1, 2022 - City Council

Study Session

22-0082 6 P.M. SPECIAL COUNCIL MEETING (Study Session)
Creation of a Human Relations Commission (Study Issue)

Public Hearings/General Business

22-0011 Introduce an Ordinance to Amend Sunnyvale Municipal Code Chapter X.X (Single Use Plastics)

22-0063 Fourth Quarter General Plan Initiation Requests

22-0010 Update of Council Policy 7.1.3 Environmental Procurement

Tuesday, February 8, 2022 - City Council

Study Session

22-0064 6 P.M. SPECIAL COUNCIL MEETING (Study Session)
Board and Commission Interviews (as needed)

Tuesday, February 15, 2022 - City Council

Public Hearings/General Business

22-0065 Board and Commission Appointments (as needed)

Thursday, February 17, 2022 - City Council

Workshop

22-0077 8:30 A.M. SPECIAL COUNCIL MEETING (Workshop)
Budget Issues and Study Issues Workshop

Tuesday, February 22, 2022 - City Council

Public Hearings/General Business

22-0080 7 P.M. SPECIAL COUNCIL MEETING
Redistricting Map Adoption or Send Comments Back to the Redistricting Commission

Date to be Determined - City Council

Public Hearings/General Business

21-0091 Adopt a Resolution to Cause Charges for Non-Payment of Delinquent Utility Charges to be placed on the FY 2021/22 County of Santa Clara Property Tax Roll

21-0030 El Camino Real Specific Plan

21-0065 Approval of Assessment of Fair Housing Plan

City of Sunnyvale

Agenda Item

21-0702 **Agenda Date:** 11/9/2021

Board/Commission Meeting Minutes

City of Sunnyvale

Meeting Minutes
Planning Commission

Monday, October 11, 2021 **7:00 PM** **Telepresence Meeting: City Web Stream | Comcast Channel 15 | AT&T Channel 99**

Special Meeting: Study Session - Canceled | Public Hearing - 7:00 PM

TELECONFERENCE NOTICE

STUDY SESSION CANCELED

7 P.M. PLANNING COMMISSION MEETING

CALL TO ORDER

Pursuant to Government Code Subdivision 54953 (e),the meeting was conducted telephonically; pursuant to state law, the City Council is scheduled to make the necessary findings on October 26, 2021.

Chair Howard called the meeting to order at 7:00 PM.

ROLL CALL

Present: 5 - Chair Daniel Howard
Vice Chair Martin Pyne
Commissioner Sue Harrison
Commissioner John Howe
Commissioner Ken Rheaume

Absent: 1 - Commissioner Carol Weiss

Commissioner Weiss' absence is excused.

ORAL COMMUNICATIONS

None.

CONSENT CALENDAR

MOTION: Commissioner Howe moved and Vice Chair Pyne seconded the motion to approve the Consent Calendar.

The motion carried by the following vote:

Yes: 5 - Chair Howard
Vice Chair Pyne
Commissioner Harrison
Commissioner Howe
Commissioner Rheaume

No: 0

Absent: 1 - Commissioner Weiss

1. 21-0961 Approve Planning Commission Meeting Minutes of September 27, 2021

2. 21-0960 **Proposed Project:**

DESIGN REVIEW to allow a 796 square foot first floor addition to an existing one-story home, resulting in 4,452 square feet (3,784 square feet living area and 668 square feet garage) and 28% floor area ratio (FAR).

Location: 1258 Cranberry Avenue (APN: 202-32-046)
File #: 2021-7159
Zoning: R-1 (Low Density Residential)
Applicant / Owner: OPQ Design (applicant) / Sheryl L Sun Trustee & et al. (owner)
Environmental Review: A Class 1 Exemption relieves this project from the California Environmental Quality Act (CEQA) provisions.
Project Planner: Kelly Cha, Associate Planner, kcha@sunnyvale.ca.gov

This decision, as it applies to Agenda Item 2, is final unless appealed or called up for review by the City Council by 5:00 PM on Tuesday, October 26, 2021.

PUBLIC HEARINGS/GENERAL BUSINESS

3. 21-0957 **Proposed Project:**

DESIGN REVIEW to construct a 471 square foot first floor addition to an existing one-story single-family home, resulting in 1,946 square feet (1,442 square feet living area and 504 square feet garage) and 33% FAR. The project includes a new second story 845 square foot Accessory Dwelling Unit resulting in a total floor area of 2,791 square feet and 47% FAR including the ADU.

VARIANCE to allow a 4 foot second floor setback where a minimum of 7 feet is required to accommodate an exterior stair

and landing for the proposed ADU.
Location: 1279 Palamos Ave. (104-27-082)
File #: 2020-7286
Zoning: R-0
Applicant / Owner: JER Design Group (Applicant) / Nathan Iglesias (Owner)
Environmental Review: A Class 3 Categorical Exemption relieves this project from the California Environmental Quality Act (CEQA) provisions.
Project Planner: Cindy Hom, (408) 730-7411, chom@sunnyvale.ca.gov

Associate Planner Cindy Hom presented the staff report with a slide presentation.

Vice Chair Pyne noted that mention of specifications for the second-floor wall plate height was not included in Recommended Condition of Approval PS-2. Associate Planner Hom confirmed that a correction to Attachment 4 should be made to include this item as Recommended Condition of Approval PS-2.d.

Vice Chair Pyne stated that several houses in the same neighborhood of the proposed project had sloped roofs that were much steeper than the 2.5'':12'' pitch roof ratio outlined in Recommended Condition of Approval PS-2.c. Associate Planner Hom explained that one home in particular was approved in the late 1990s and predated the City's current Single Family Home Design Techniques.

Commissioner Rheaume requested clarification on staff's recommendation for the proposed project's roof pitch ratio. Associate Planner Hom stated that the recommendation entails a reduction of the slope of the pitch of the roof above the first-floor addition to maintain consistency with the rest of the proposed project's roof pitches.

Commissioner Harrison questioned whether the raised roof section on the second floor is being recommended by staff. Associate Planner Hom advised that staff is supporting the inclusion of a raised roof over the Accessory Dwelling Unit (ADU) entry as it provides weather protection, but the Commissioners may make the decision to exclude this element from the proposed project's design. Commissioner Harrison then initiated a discussion on whether the roof covering increases the proposed project's Floor Area Ratio (FAR). Associate Planner Hom explained that FAR would increase if the roof covering was over a stairway rather than a porch since porches are generally not considered in the FAR.

Commissioner Harrison asked whether a roof pitch of 4'':12'' is depicted in Alternative Concepts 1 and 2 in the staff presentation. Associate Planner Hom

confirmed that while it is, staff recommends a shallow roof pitch to match the predominant design within the neighborhood and to avoid conflict with the pitch of the proposed project's existing roof located toward the back of the first-floor addition.

Commissioner Harrison asked about the discrepancy between the roof pitch ratio in the original concept of the proposed project's design versus the design depicted in Alternative Concepts 1 and 2 in the staff presentation. Associate Planner Hom assured her that the applicant may address this difference.

Commissioner Harrison and Associate Planner Hom deliberated upon slides in the staff presentation that correlated to Recommended Conditions of Approval PS-2.a and PS-2.b. Associate Planner Hom stated that painting the front porch columns to match the color of the horizontal siding would be acceptable, however, staff recommends that the front porch columns be cladded with horizontal siding instead.

Commissioner Harrison confirmed with Associate Planner Hom that the residences surrounding the proposed project which possess a greater percentage of first-floor to second-floor ratio were approved prior to the enactment of the City's Single Family Home Design Techniques. Assistant Planner Hom added that, according to the FAR study outlined in Attachment 6, there are no homes in the neighborhood with more than a 35% first-floor to second-floor ratio.

Chair Howard opened the Public Hearing.

Nathan Iglesias, property owner, presented the project including additional images and information.

Commissioner Rheaume asked whether Mr. Iglesias had a desire to match the proposed project's existing roof pitch ratio. Jose Rama, Architect at JER Design Group, answered that they did, but they are willing to change the roof pitch to a 4'':12'' ratio as well. Commissioner Rheaume disclosed his concern about the roofs of the proposed project not possessing a uniform roof pitch ratio.

There were no public speakers for this agenda item.

Mr. Iglesias continued to present the project including additional images and information.

Commissioner Harrison confirmed with Mr. Iglesias that he is accepting of Recommended Conditions of Approval PS-2.a and PS-2.b.

Commissioner Rheaume asked about whether Mr. Iglesias is accepting of staff's recommendation to reduce the second-floor wall plate height to eight feet. Mr. Iglesias and Mr. Rama advised that they were unaware of this staff recommendation. Mr. Rama also stated that a minimum plate height of eight feet and six inches is needed to accommodate a more elaborate entrance to the ADU. Associate Planner Hom explained the reason for staff's recommendation of an eight-foot second-floor wall plate height.

Commissioner Rheaume asked which element the applicant desired more: a roof pitch ratio of 4'':12'' or a second-floor wall plate height of eight feet and six inches. Mr. Rama answered that he prefers the latter.

When prompted by Commissioner Harrison, Associate Planner Hom confirmed that the current Single Family Home Design Techniques were enacted in 2003. Commissioner Harrison asked when the residential projects with a roof pitch ratio of 4'':12'', which were depicted in Mr. Iglesias' presentation, were approved. Mr. Iglesias stated that they were approved in either 2010 or in the years that followed. Assistant Director Andrew Miner added that, upon review of the proposed project's neighborhood, a taller two-story residential building is not common. Therefore, staff is recommending certain design techniques, such as lowering the second-floor wall plate height to eight feet, to maintain the proposed project's design consistency with the surrounding neighborhood.

Commissioner Howe confirmed with Associate Planner Hom that the noticing requirement is 300 feet from the proposed project, the proposed project was noticed ten days prior to the hearing, and staff did not receive any public comments on the proposed project once it was noticed.

Commissioner Rheaume confirmed with Associate Planner Hom that staff is recommending a uniform roof pitch ratio throughout the proposed project. This means that a uniform roof pitch ratio of either 2.5'':12'' or 4'':12'' will be permitted.

Commissioner Rheaume confirmed with Mr. Iglesias that he is willing to reroof his entire house to accommodate a uniform roof pitch ratio of 4'':12'' if that ratio is approved by the Planning Commission.

Chair Howard closed the Public Hearing.

MOTION: Commissioner Howe moved and Commissioner Harrison seconded the motion to approve Alternative 2 – Approve the Design Review and Variance with modified Recommended Conditions of Approval in Attachment 4.

The modified Recommended Conditions of Approval are as follows:

1.) Modify Recommended Condition of Approval PS-2.b to read as follows: “The front porch columns shall be painted to match the color of the horizontal siding to provide visual interest and identifiable front entry.”

2.) Modify Recommended Condition of Approval PS-2.c to read as follows: “The roof form shall utilize a 4:12 pitch roof on the new and existing roof.”

3.) Note that Recommended Condition of Approval PS-2.d must be added and should read as follows: “Second floor wall plate shall be limited to 8 feet 6 inches.”

4.) Note that Recommended Condition of Approval PS-2.e must be added and should read as follows: “Incorporate wrapped porch and balcony element with contemporary open iron horizontal railings as depicted in Alternative Concept 1 in Applicant’s Project Description Letter and as presented to Planning Commission with no changes to the roof eaves projections above the wrapped porch and balcony.”

Commissioner Howe stated that, in his opinion, the applicant’s design requests are reasonable, the ADU adds housing to the area and is permissible by state law, and the proposed project blends in with the other homes in the neighborhood (as exhibited by examples presented by Mr. Iglesias). He added that since no public comments were received for the proposed project during the noticing period, the proposed project must be acceptable to the neighborhood. Commissioner Howe confirmed that he can make the findings and requested that the other Commissioners approve the proposed project.

Commissioner Harrison revealed that, in her opinion, the design technique that reduces the proposed project’s massing the most is the broader porch with the see-through horizontal railing. She spoke in favor of an ADU that requires little maintenance in the future, so she supports a roof pitch ratio of 4’’:12’’ that allows usage of a variety of materials choices and painting the front porch columns to

match the horizontal siding. She prefers a second-floor wall plate height of eight feet and six inches to accommodate a secondary roof over the porch. Lastly, Commissioner Harrison advised that she can make the findings that the proposed project is within the City's design criteria and the state's ADU criteria.

Associate Planner Hom received clarification from the Commissioners that the motion is in favor of Alternative Concept 1 in the staff presentation which features an open railing.

Commissioner Rheaume voiced his support of the motion and mentioned that he hopes his fellow Commissioners will support it as well. He also commended the applicant for his passion for the proposed project, noted the proposed project's quality design, and thanked staff for recommended changes to the proposed project as they created a better design.

Vice Chair Pyne confirmed with staff that Alternative Concept 1 does not require any additional variances than the one previously requested in the staff report. He then spoke in overall agreement with the motion and echoed comments made by the Commissioners who spoke before him.

Chair Howard stated his support of the motion and noted that the proposed project's design is in harmony with the surrounding homes.

The motion carried by the following vote:

Yes:	5 -	Chair Howard Vice Chair Pyne Commissioner Harrison Commissioner Howe Commissioner Rheaume
No:	0	
Absent:	1 -	Commissioner Weiss

This decision is final unless appealed or called up for review by the City Council by 5:00 PM on Tuesday, October 26, 2021.

STANDING ITEM: CONSIDERATION OF POTENTIAL STUDY ISSUES

INFORMATION ONLY REPORTS/ITEMS

4. 21-0962 Planning Commission Proposed Study Issues, Calendar Year: 2022 (Information Only)

NON-AGENDA ITEMS AND COMMENTS

-Commissioner Comments

None.

-Staff Comments

Assistant Director Miner announced that on October 6, 2021, the City Council held a meeting with the Santa Clara Valley Water District Board of Directors to discuss the value of water in light of the current drought we are experiencing. He directed the Commissioners' to a presentation and handout that is available on the City's website and assured that action is being taken to assist with water conservation (i.e., potential revision of the City's Landscape Ordinance, low-flow fixtures enforced by the City's Reach Codes, and seeking opportunities for net zero water usage in Moffett Park).

ADJOURNMENT

Chair Howard adjourned the meeting at 8:23 PM.

City of Sunnyvale

Meeting Minutes - Draft
Bicycle and Pedestrian Advisory Commission

Thursday, October 21, 2021 **6:30 PM** **Telepresence Meeting: City Web Stream**

CALL TO ORDER

Pursuant to Section 3 of Executive Order N-29-20 (March 17, 2020) and Section 42 of Executive Order N-08-21 (June 11, 2021) issued by Governor Newsom, the meeting was conducted telephonically.

Chair Mehlinger clarified the teleconference provisions after the recess at 8:10 p.m., before agenda item 21-0997.

Chair Mehlinger called the meeting to order at 6:35 p.m. via teleconference.

ROLL CALL

Present 7 - Chair Richard Mehlinger
Vice Chair Leia Mehlman
Commissioner Alex Bonne
Commissioner Arwen Davé
Commissioner Dan Hafeman
Commissioner Timothy Oey
Commissioner Mihir Paradkar

Dennis Ng, Transportation and Traffic Manager, Lillian Tsang, Principal Transportation Engineer and Nabilah Deen, Transportation Engineer attended via teleconference.

Council Liaison Klein (present).

PRESENTATION

A 21-0995 Sunnyvale Safe Routes to School Coordinator Updates

Maria Arellano, Sunnyvale Safe Routes to School Coordinator, provided an update on the Safe Routes to School efforts at public schools serving Sunnyvale students.

Highlighting the following:

- Helmet distribution event held on August 7, 2021. Handed out over 170 helmets for free
- Resuming Bike Rodeos
- Future Bike and Pedestrian Safety instructions for middle school students
- Partnering with Wheel Kids/Bike Workshops
- Future distribution of free helmets
- Travel tally's for elementary and middle schools in the Santa Clara Unified School District, Sunnyvale School District and Cupertino Unified School District
- Hiring of more Crossing Guards

Commissoner Oey asked about the following:
- Middle School instruction
- Promoting bicycle safety during the month of May

Commissioner Bonne asked about the following:
- Travel tally's time frame
- Format and frequency of educational workshops for students

Chair Mehlinger opened for Public Comment.

Chair Mehlinger closed for Public Comment.

Chair Mehlinger commented and asked about the following:
- Traffic Garden Program
- Travel tally flexibility due to weather
- Count of students who are doing remote only

Ms. Arellano addressed the questions.

Commissioner Hafeman commented on the following:
- Liked that the student instruction for bicycle safety will be taught from the driver's, bicyclist's and pedestrian's perspectives

Commissioner Oey commented on the following:
- Wheel Kids Workshop
- Traffic Garden
- Bike Rodeos

Vice Chair Mehlman commented on the following:
- Location for a Traffic Garden

Ms. Arellano stated BPAC can send her emails to provide input related to SRTS.

ORAL COMMUNICATIONS

Chair Mehlinger opened for Public Comment.

Chair Mehlinger closed for Public Comment.

CONSENT CALENDAR

1.A 21-1001 Approve the Bicycle and Pedestrian Commission Meeting Minutes of September 16, 2021.

Chair Mehlinger opened for Public Comment

Chair Mehlinger closed for Public Comment

Approve the Bicycle and Pedestrian Commission Meeting Minutes of September 16, 2021 as submitted.

Commissioner Oey moved and Commissioner Hafeman seconded to approve item 1.A.

The motion carried the following vote:

Yes 7 - Chair Mehlinger
Vice Chair Mehlman
Commissioner Bonne
Commissioner Davé
Commissioner Hafeman
Commissioner Oey
Commissioner Paradkar

No 0

PUBLIC HEARINGS/GENERAL BUSINESS

2 21-0918 Java Drive Road Diet and Bike Lanes Recommendation to City Council

Alternative 1: Recommend to City Council to approve the Java Drive Road Diet removal of one mixed flow lane in each direction between Mathilda and Crossman avenues and select option 1, Class II-B buffered bike lanes for final design and construction.

Angelo Obeso, Principal Transportation Engineer gave a presentation on the Java Drive Road Diet and Bike Lanes Recommendation to City Council. Highlighting the following:

- Background
- Project location
- Increase bicycle connectivity
- Add buffered bicycle lanes
- Add bicycle detection at intersections
- Existing Typical Cross Section
- Proposed Typical Cross Section
- Examples of Buffered Bike Lanes
- Examples of Class IV Separated Bikeways
- Traffic Analysis
- Public Outreach
- Feedback received to date
- Next steps: Project Option Selection, Environmental Clearance, Final Design, Construction

Commissioner Mehlman asked about the following:
What was the assessment of reduction of the speed limit on the section of the road? Ms. Obeso stated after the project is constructed, it will be placed on the future speed survey location list.

Is there a possibility to have a physical barrier? Ms. Obeso stated because of the frequency of driveways and location of bus stops it was decided to go with paint striping.

Commissioner Oey asked about the following:
Will the bicycle detection be on the left turn and the straight through lane versus the bike lane? Ms. Obeso stated they will consider that for the design phase.

Will the signal detection be in pavement loops detectors or will it be video? Dennis Ng, Traffic and Transportation Manager stated that the evaluation has not been

completed yet.

What are the right turn treatments thoughts for vehicles? Ms. Obeso stated that the details will be looked into when the design portion is being worked on.

Will it be considered to narrow the lane from 13 feet to 11 feet to slow traffic? Ms. Obeso stated that will be a design consideration.

Are there sidewalks on both sides of the street? Ms. Obeso stated that on the northern side of Java Drive there is a continuous sidewalk of the entire length of the segment, however on the southern side there is sidewalk on most of the segment with a short gap. Ms. Obeso stated they are aware of the gap and will be looking into it.

Do you plan on having models that take into account mode shift? Ms. Obeso stated she does not know if it being developed.

Commissioner Bonne asked about the following:
Would you consider an intermittent obstacle to give bicyclists security? Ms. Obeso stated the proposed project is to convert the pavement into a striped buffer and a striped bike lane. There have been internal talks about adding barriers but there are concerns about operation and maintenance.

What is the reason for the anticipated increase in traffic in 2035? Ms. Obeso stated it's based on the anticipated land use growth from Sunnyvale General Plan and the rest of the region.

Chair Mehlinger asked about the following:
Is Lockheed Martin Way owned by Lockheed or the City of Sunnyvale? Ms. Obeso stated Lockheed Martin Way is a private street.

Is there a plan for left turns for bicyclists at the intersections? Ms. Obeso stated they are looking into different intersection treatments. It will be discussed in the design phase.

What is the width of the City street sweeper? Mr. Ng stated the width of the City street sweeper is approximately 9 1/2 feet wide.

Would the bike lanes be able to be cleaned by the City street sweeper if the green

plastic bollards or orange flex sticks were installed? Mr. Ng stated that they are going to use paint and look into barriers later on.

Will there be signs saying "No stopping at anytime" rather than "No parking at anytime"? Ms. Obeso stated as they go into the design phase they will be looking into signage.

Commissioner Bonne asked about the following:
Are there current vehicle and bicycle counts on Java Drive? If so, what is your projection 5-10 years from now? Ms. Obeso stated they have counts that were included in the traffic analysis. They only projected out to 2035 so they do not have 5 year estimates.

What is the cost of sweeping streets in cost per mile and what is the narrowest sweeper width? Mr. Ng stated he does not have the cost per mile and the City is researching how to acquire smaller and narrower street sweepers but there are capacity issues with a smaller street sweeper.

Chair Mehlinger opened for Public Comment.

Chair Mehlinger closed for Public Comment.

Commissioner Oey commented on the following:
- Appreciates the wider space
- In favor of making lanes narrower

Commissioner Hafeman commented on the following:
- In favor of the wider buffered bike lane instead of the class IV
- Supports the proposal as is with one exception of reducing the travel lane to 11 feet for speed control

Commissioner Davé commented on the following:
- In favor of the proposal and likes the wider buffered bike lane

Commissioner Oey moved and Vice Chair Mehlman seconded Alternative 1: Recommend to City Council to approve the Java Drive Road Diet removal of one mixed flow lane in each direction between Mathilda and Crossman avenues and select option 1, Class II-B buffered bike lanes for final design and construction.

Commissioner Oey commented on the following:
- Great design for this location and fully supports staff's excellent work for putting it together

Vice Chair Mehlman commented on the following:
- Evaluating the 11 feet wide lane at a later time
- Thanked staff for a very well thought out project

Chair Mehlinger supports the motion due to excellent work from staff. Appreciates that the project could be converted to a Class IV facility at a later time.

The motion carried the following vote:

Yes 7 - Chair Mehlinger
Vice Chair Mehlman
Commissioner Bonne
Commissioner Davé
Commissioner Hafeman
Commissioner Oey
Commissioner Paradkar

No 0

3 21-0996 Report and Discussion of Recent Santa Clara Valley Transportation Authority (VTA) Bicycle and Pedestrian Advisory Committee (BPAC) Meeting

Commissioner Oey, VTA BPAC Sunnyvale Representative, gave the meeting summary report regarding the following topics:
- Bicycle Superhighway Implementation Plan was published in September
- VTA Bike Map is being re-published with minor updates. Next major revision of the map is scheduled to be published in 2024
- Oct. 26-28 the California Active Transportation Resource Center (sponsored by Caltrans) will have a free symposium from 8:30 a.m. to 12:30 p.m. each day. Registration and information at https://caatpresources.org/1524
- In process of nominating Chair and Vice Chair for 2022 for the Advisory Committee Leadership
- Update on Countywide Bicycle and Pedestrian Education/Encouragement Efforts
- Bicycle Parking Chapter in the Bicycle Technical Guidelines is being updated
- Wayfinding subcommittee has been formed to research and recommend wayfinding standards

Commissioner Bonne asked what kind of facilities are suitable for roll in? Commissioner Oey stated it is great for retail but can also be used for regular businesses.

Chair Mehlinger opened for Public Comment.

Chair Mehlinger closed for Public Comment.

Chair Mehlinger called for a recess at 8:00 p.m. Chair Mehlinger reconvened the meeting at 8:10 p.m.

The teleconference provisions were corrected and clarified. Pursuant to Government Code Subdivision 54953 (e), the meeting was conducted telephonically. Pursuant to state law, the City Council is scheduled to make the necessary finding on October 26, 2021.

STANDING ITEM: CONSIDERATION OF POTENTIAL STUDY ISSUES

4 21-0997 BPAC 2022 Sponsored Study Issues(for Scenario 1)

Chair Mehlinger opened for Public Comment.

Chair Mehlinger closed for Public Comment.

Commissioner Oey asked about the following:
- High cost for the "Simplify Sidewalk Riding Ordinance" study issue

Commissioner Hafeman suggested using bond issues in addition to taxes for raising funds for the Study Issue "Bicycle and Pedestrian Infrastructure Bond Measure".

Vice Chair Mehlman commented on the following:
- Concerned that the funding will be replaced with what the City already has for funding

Chair Mehlinger commented and asked about the following:
- If the "Simplify Sidewalk Riding Ordinance" study issue could be done at a lower cost
- Emphasize the fire safety aspect on the "Parking Standards for Personal Electric Vehicles" study issue

Ms. Tsang addressed the questions.

NON-AGENDA ITEMS & COMMENTS

-Commissioner Comments

Commissioner Oey commented and asked about the following:
- How did a 9 1/2 feet wide lane get approved on Sunnyvale Avenue by Whole Foods Markets
- East/West Channel on track

Chair Mehlinger asked about the following:
- Sunnyvale Avenue median reconfiguration
- Add City Council contract award date for the "Enhanced Crosswalk on California Avenue at Pajaro Avenue" from the Active Items List

Vice Chair Mehlman commented on the following:
- Great job repaving the Green Belt

Commissioner Davé commented on the following:
- Forwarding contact at NASA to the Climate Action Playbook staff

Mr. Ng addressed the questions.

-Staff Comments

Nabilah Deen, Transportation Engineer, commented on the following:

- On Sept. 28, 2021 City Council approved removal of on-street parking on Sunnyvale Avenue for the installation of Class IIB Buffered Bicycle Lanes. The design contract was awarded recently, and we are moving forward with this project for the design phase.
- The City recently issued a Notice of Preparation for the Mary Avenue Overcrossing EIR on October 8, and the public comment period will be open until November 8.
- Staff is preparing a grant application to be submitted this month for the study issue to Improve Bicycle and Pedestrian Access at Sunnyvale Caltrain Station. The award of grant will be announced in Spring 2022.
- Staff will be working at the intersection of Homestead Road and Mary Avenue next week for the activation of a Pedestrian Scramble. The Pedestrian Scramble will be

activated and operational by Wednesday, October 27th.

Commissioner Oey asked and commented about the following:
- Pedestrian Scramble re-striping

Commissioner Bonne asked about the following:
- Diagonal crosswalks at the Pedestrian Scramble
- Signage for turning right during pedestrian scramble phase
- Increased enforcement for no right on red when first installed

Commissioner Hafeman asked about the following:
- Pedestrian Scramble activation

Vice Chair Mehlman asked about the following:
- Consideration of a public ceremony for the activation of the Pedestrian Scramble

Chair Mehlinger asked about the following:
- Time of day when the Pedestrian Scramble will operate
- Pedestrian Scramble at Fremont High School
- Email the BPAC the notice of preparation on the Mary Overpass EIR

Mr. Ng addressed the questions.

INFORMATION ONLY REPORTS/ITEMS

21-0998 BPAC 2021 Annual Work Plan

21-0999 Active Items List October 2021

Commissioner Hafeman asked when the Homestead Road Bike Lanes Project will start in 2022 and has a contractor been picked? Ms. Deen stated once the consultant has been finalized an updated schedule will be released.

21-1000 2021 Deferred Study Issues

ADJOURNMENT

Chair Mehlinger adjourned the meeting at 8:51 p.m.

City of Sunnyvale

Agenda Item

21-0709 **Agenda Date:** 11/9/2021

Information/Action Items

Information/Action Items - Council Directions to Staff

Date Requested	Directive/Action Required	Dept	Due Date	Completed
5/4/21	Add annual update to CAP report to include REACH code exceptions for the year.	CDD, ESD	Oct 2021	11/3/21
5/25/21	Identify how other cities identified targets for open space as part of a land use plan.	CDD	Dec 2021	
8/31/21	Provide Council will the information in the budget that identifies the fee revenues and expenditures for Recreation Services.	FIN	May 2022	
8/31/21	Include the fee waiver program in the Annual Budget Workshop.	LRS	May 2022	
9/14/21	Communicate with CalTrain on the Lawrence Station Area Plan update.	CDD	Oct 2021	10/19/21
9/14/21	Provide copy of final encroachment permit for Intuitive Surgical to Council.	DPW	May 2022	

New Study/Budget Issues Sponsored by Council

Date Requested	Study/Budget Issue Topic	Requested By	Dept	Approved by City Manager
10/12/21	Clarify and modernize Sunnyvale Municipal Code 19.38 so that in otherwise applicable requirement for undergrounding utilities cannot be taken under SB 330 as a concession or a waiver.	**Melton**, Klein	CDD	

Initial Sponsor in **Bold**.
Following approval by the City Manager, study issues papers are posted to:
https://sunnyvale.ca.gov/government/council/study/studyissues.htm