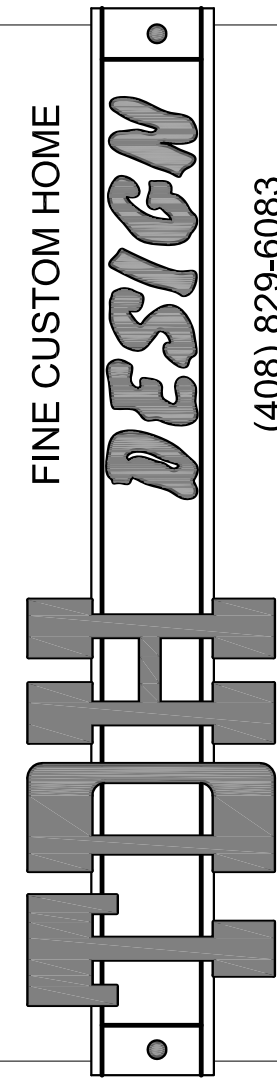


REVISIONS	BY
05.02.19	PLANNING

EXISTING SITE PLAN
w/ DEMOLITION &
STREETSCAPE

NEW RESIDENCE
LONG KAI & YUNLING CAI

1015 HAVRE COURT, SUNNYVALE, CA 94087
APN# 320-12-016



DRAWN
LOC HUA

CHECKED
TRI HONG

SIGNATURE

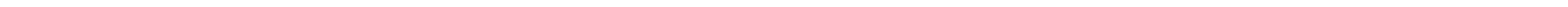
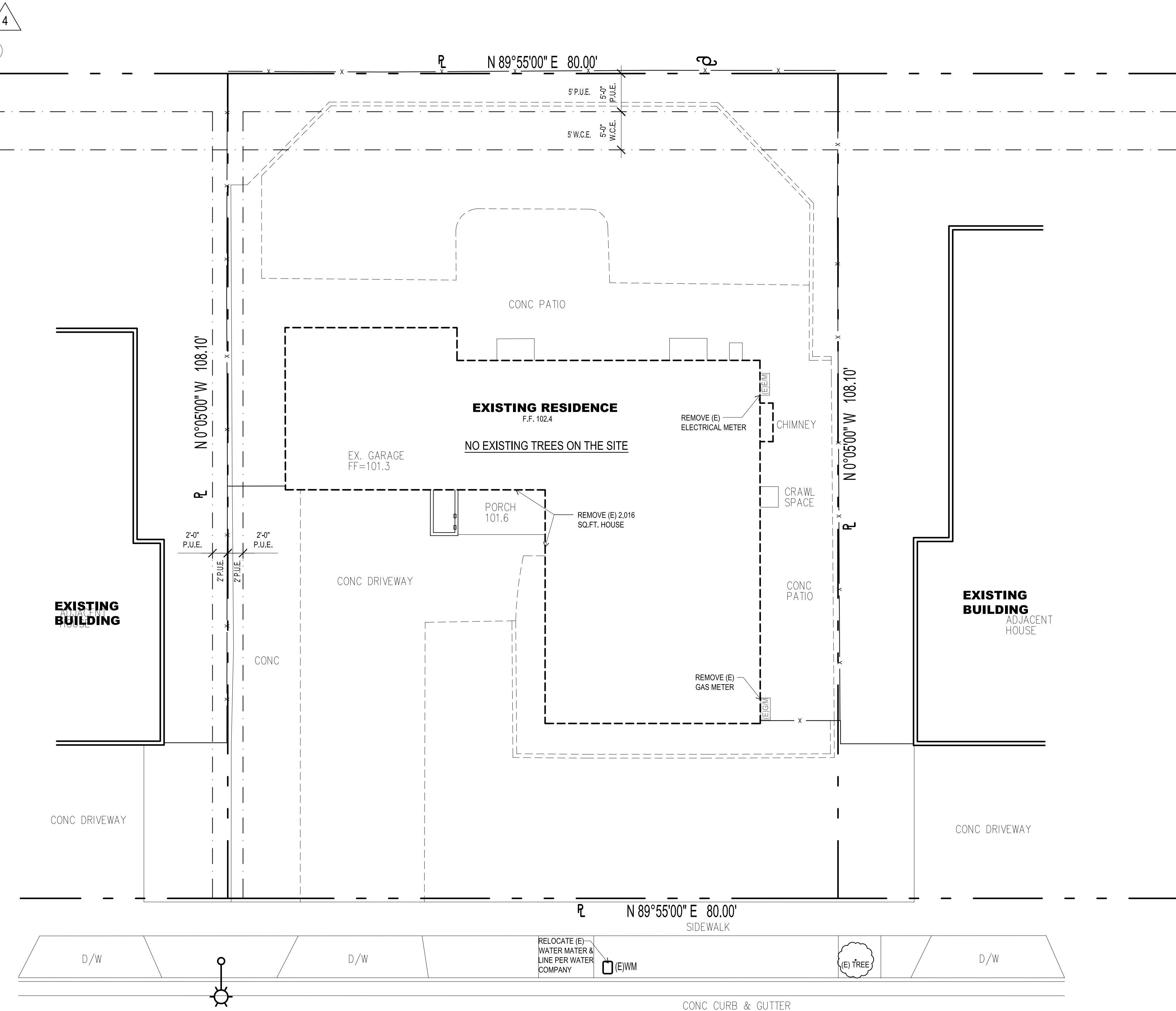
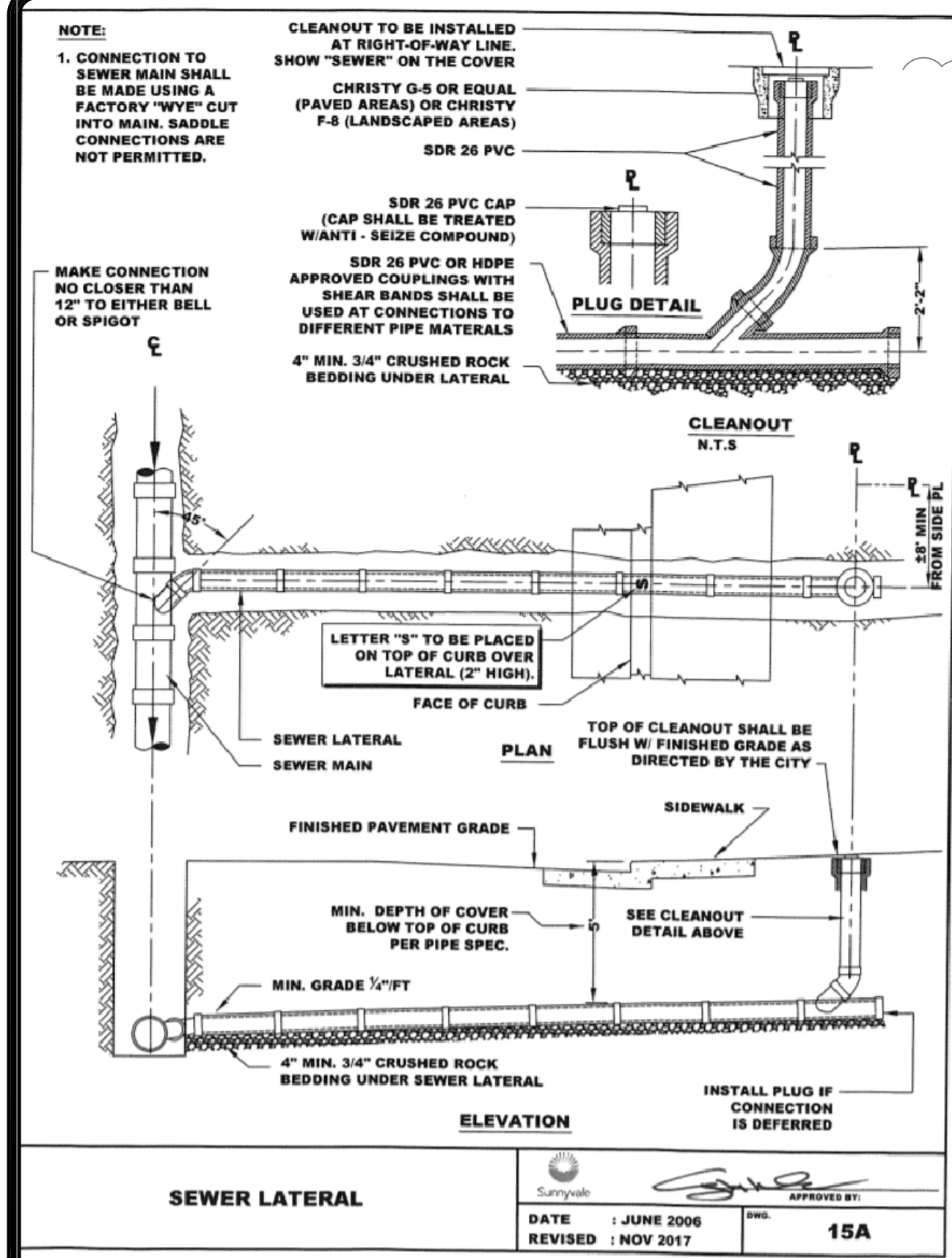
DATE
OCTOBER 2018

SCALE
AS SHOWN

JOB
1718

SHEET

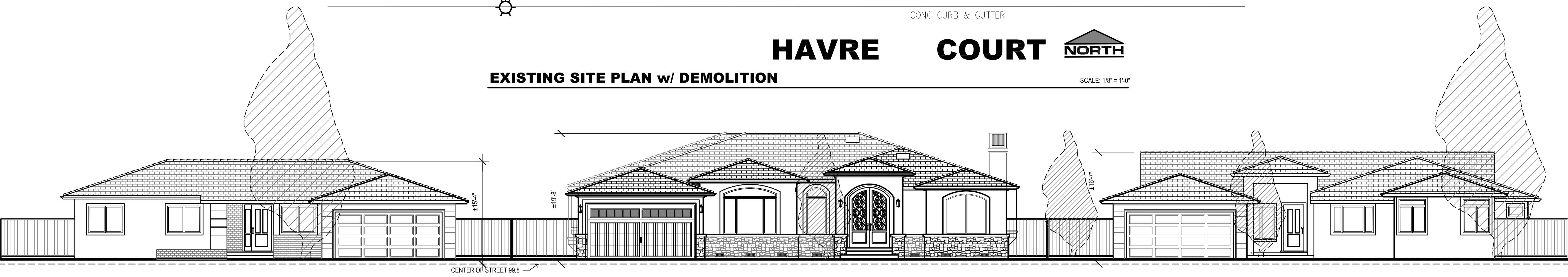
A-1.2



HAVRE COURT **NORTH**

EXISTING SITE PLAN w/ DEMOLITION

SCALE: 1/8" = 1'-0"



STREETSCAPE

SCALE: 1/8" = 1'-0"

REVISIONS	BY
11.15.18	PLANNING

EXISTING FLOOR PLAN
w/ DEMOLITION,
EXISTING ROOF PLAN w/
DEMOLITION & FLOOR
AREA CALCULATION

NEW RESIDENCE
LONG KAI & YUNLING CAI
1015 HAVRE COURT, SUNNYVALE, CA 94087
APN# 320-12-016

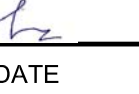
FINE CUSTOM HOME

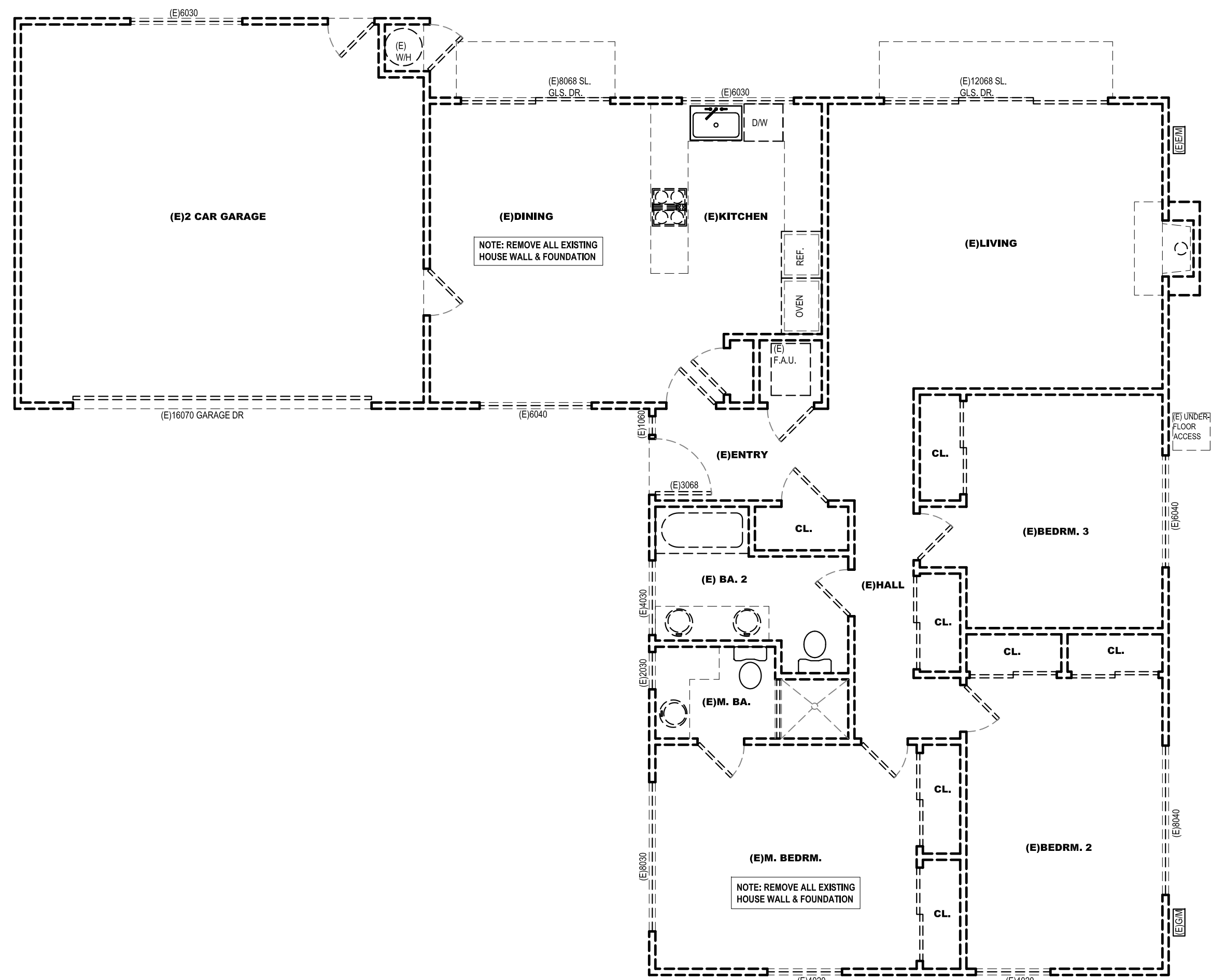
TDH

DESIGN

19034 BONNET WAY • SARATOGA, CA 95070

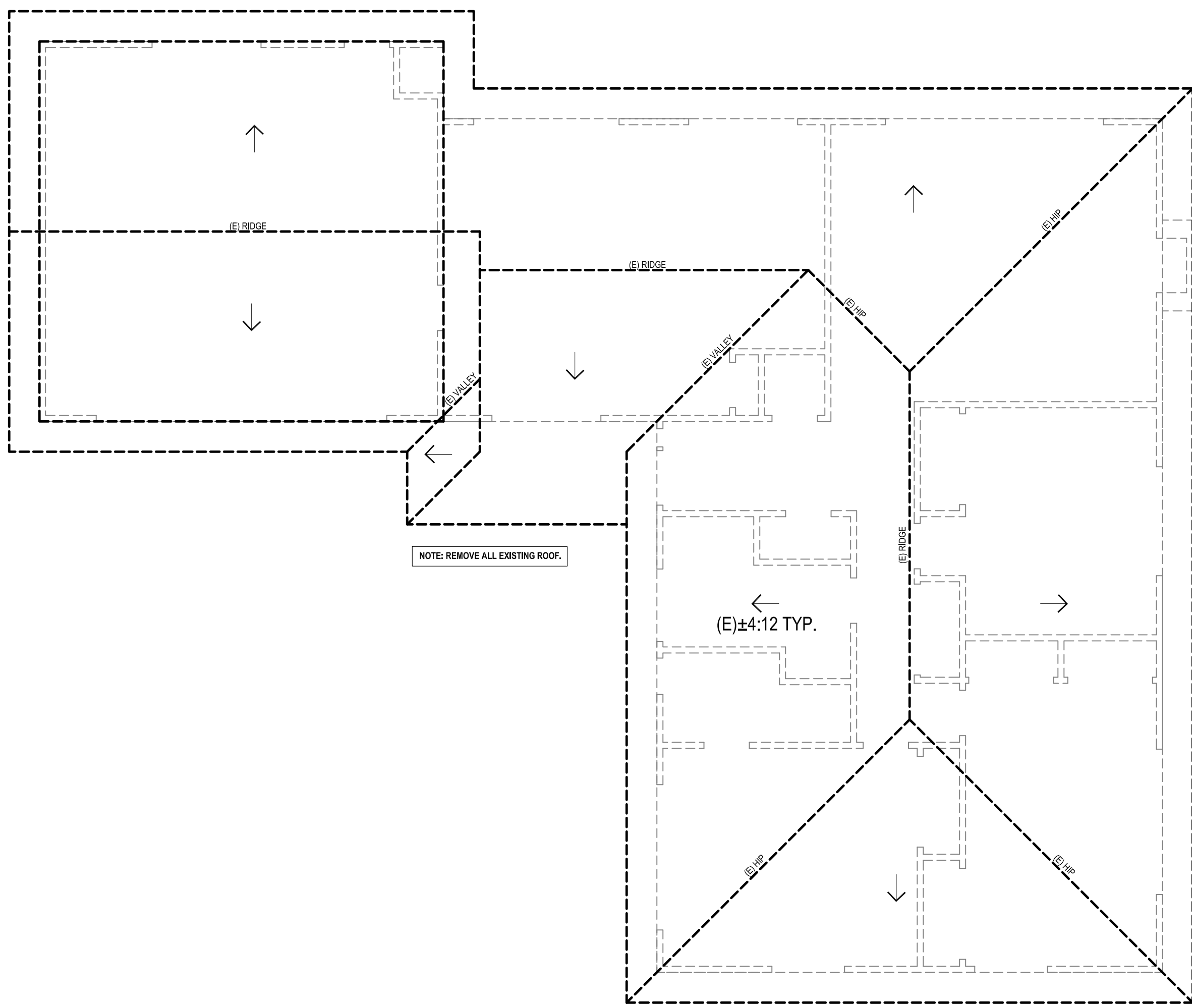
(408) 829-6083

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CHECKED TRI HONG
SIGNATURE 
DATE OCTOBER 2018
SCALE AS SHOWN
JOB 1718
SHEET A-2



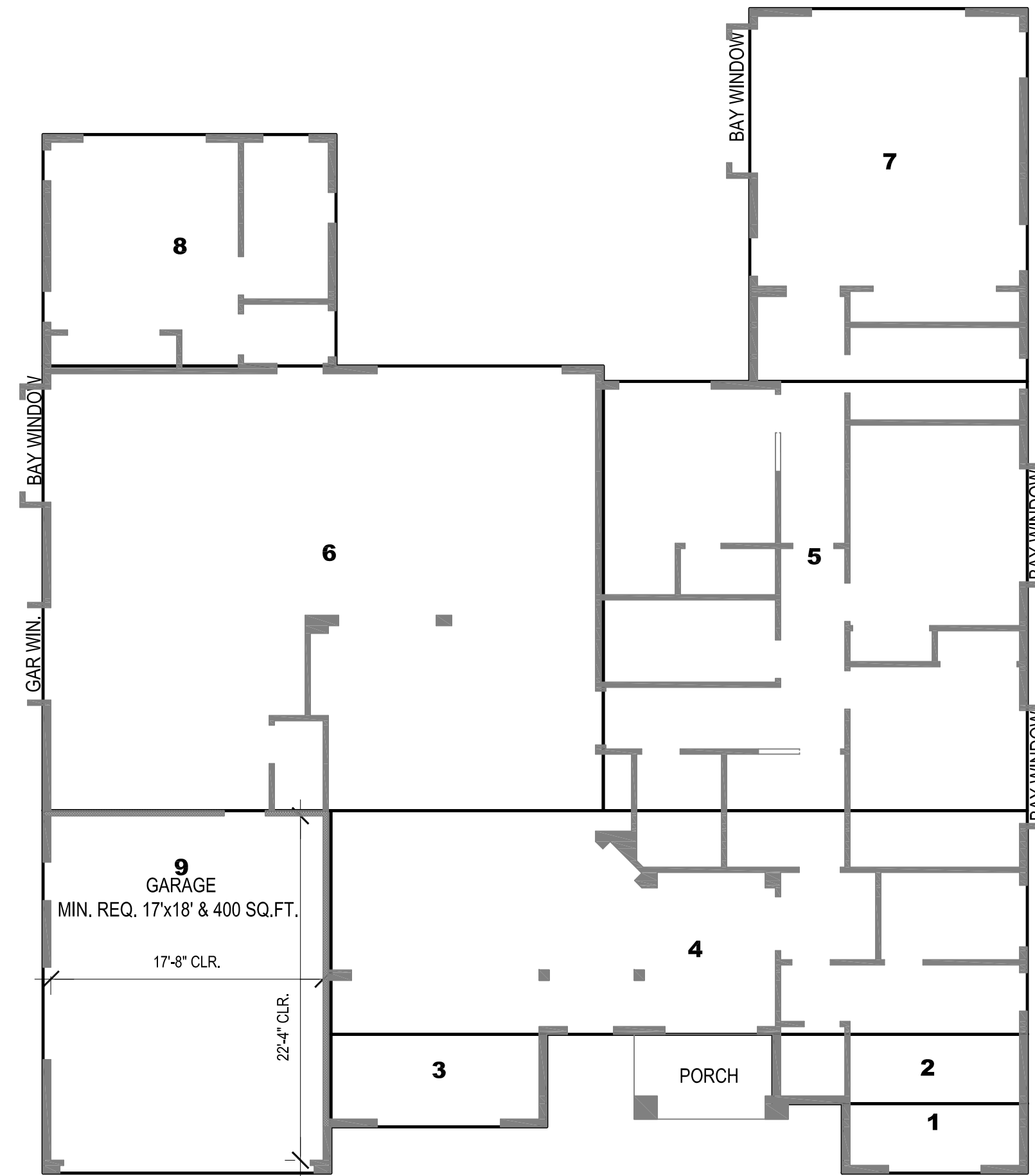
EXISTING FLOOR PLAN w/ DEMOLITION

SCALE: 3/16"=1'-0"



EXISTING ROOF PLAN w/ DEMOLITION

SCALE: 3/16"=1'-0"



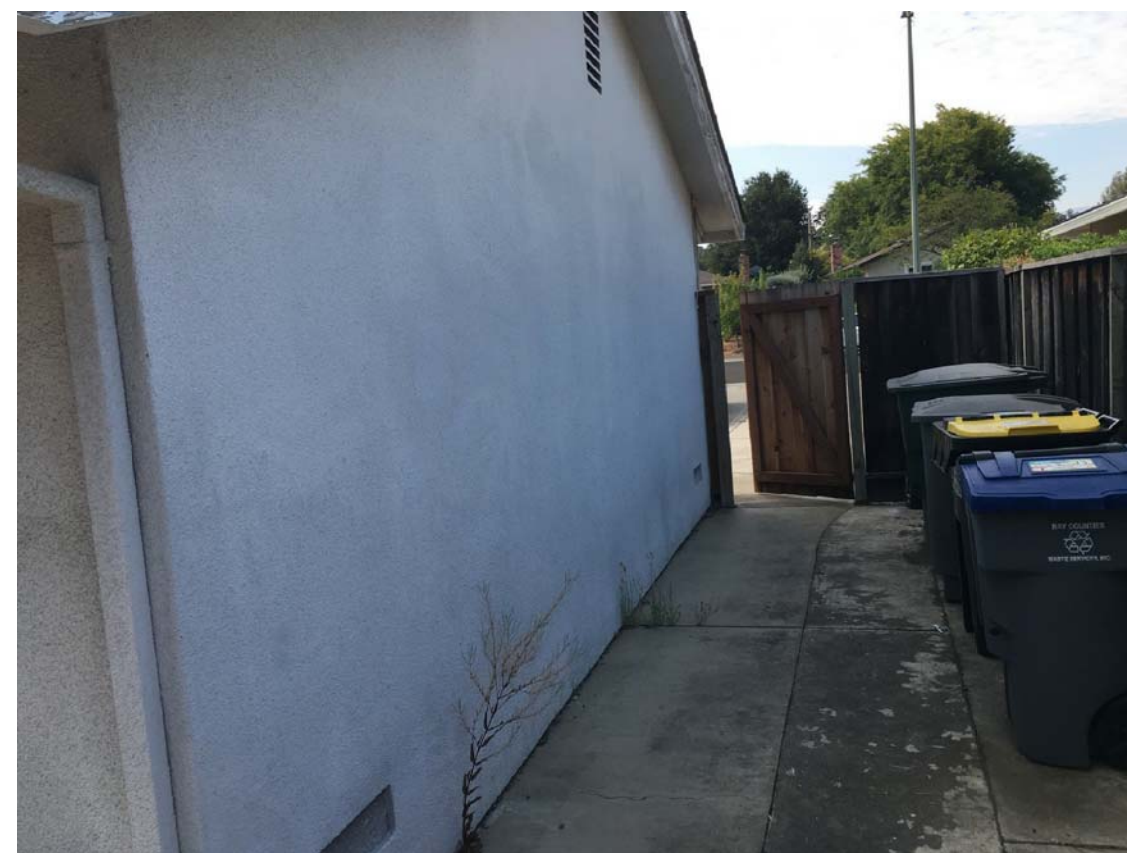
FLOOR AREA CALC. DIAGRAM

SCALE: 1/8"=1'-0"

GROSSNET LOT SIZE:	8,648 S.F.
FLOOR AREA RATIO CALCULATION:	
1. 12'-0" x 4'-0"	54
2. 16'-0" x 4'-0"	74
3. 14'-0" x 6'-0"	84
4. 45'-2" x 14'-0"	655
5. 27'-0" x 27'-10"	765
6. 36'-4" x 28'-10"	1048
7. 18'-0" x 24'-2"	435
8. 19'-0" x 15'-0"	285
9. 18'-0" x 23'-0"	439
LIVING AREA:	3,400
GARAGE:	439
PROPOSED F.A.R.:	3,839 S.F. (44.29%)

LOT COVERAGE CALCULATION:	
MAX. COVERAGE:	45% (8,648) = 3,892 S.F.
MAIN HOUSE & GARAGE:	3,839
FRONT PORCH:	50
PROPOSED COVERAGE:	3,889 S.F. (44.97%)

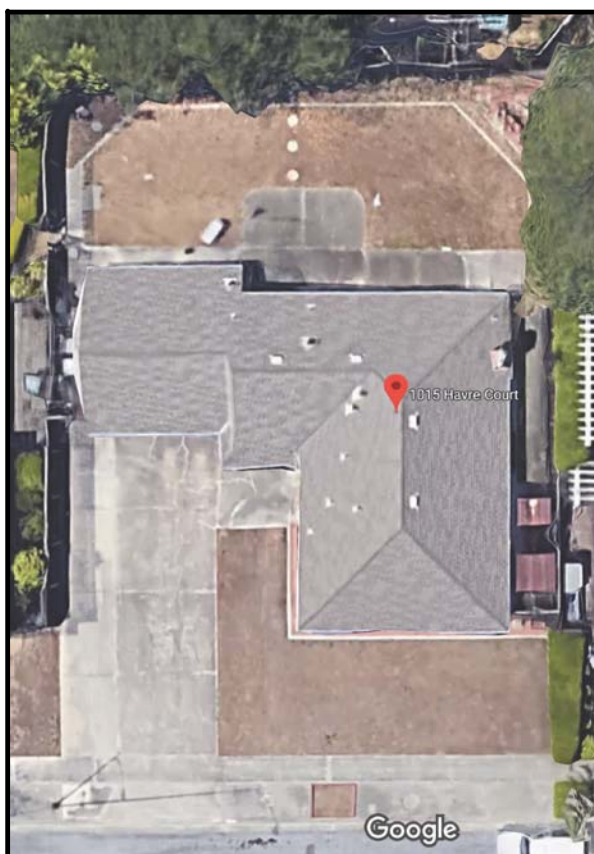
NOTE: PATIO SHALL REMAIN UNCOVERED OR HAVE A ROOF THAT IS LESS THAN 50% SOLID. (IF THE PATIO ROOF IS MORE THAN 50% SOLID, THE PATIO COUNTS TOWARD THE FLOOR AREA AND LOT COVERAGE AND WOULD REQUIRE A VARIANCE FOR EXCEEDING 45% LOT COVERAGE.)



EXISTING RIGHT SIDE VIEW



EXISTING FRONT VIEW



EXISTING TOP VIEW



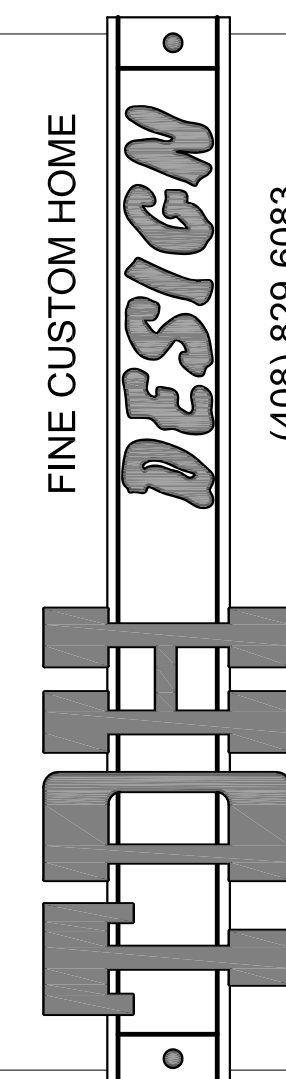
EXISTING LEFT SIDE VIEW



EXISTING REAR VIEW

REVISIONS	BY
2	06.21.19 FIRE DEPT.
3	06.21.19 PLANNING

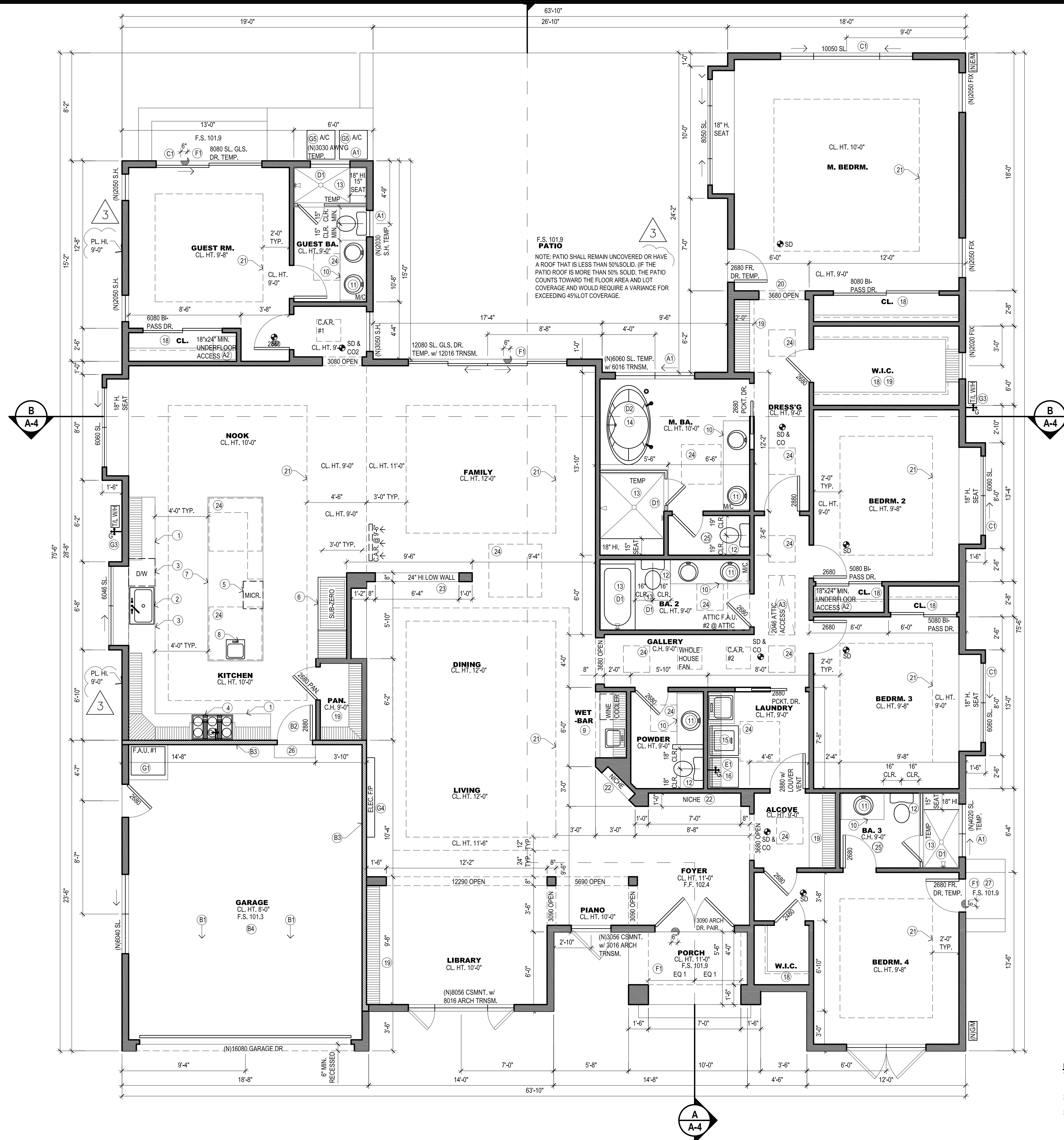
PROPOSED FLOOR PLAN

NEW RESIDENCE
LONG KAI & YUNLING CAI
1015 HAVRE COURT, SUNNYVALE, CA 94087
APN# 320-12-016DRAWN
LOC HUACHECKED
TRI HONG

SIGNATURE

DATE
OCTOBER 2018SCALE
AS SHOWNJOB
1718

SHEET

A-3**FLOOR PLAN**

SCALE: 1/4"=1'-0"

- FIRE DEPARTMENT NOTES:**
1. BASEMENTS AND SLEEPING ROOMS BELOW THE FOURTH STORY ABOVE GRADE PLANE SHALL HAVE AT LEAST ONE EXTERIOR EMERGENCY ESCAPE AND RESCUE OPENING (ESCAPE WINDOW) IN ACCORDANCE WITH CFC SECTION 1030.1, (CFC 1030)
 2. LANDSCAPING AND LOCATION OF SLEEPING ROOMS RELATIVE TO PROPERTY LINES SHALL BE LOCATED SO AS TO PROVIDE APPROVED LADDER ACCESS TO EACH SLEEPING ROOM.
 3. APPROVED LADDER ACCESS CONSISTS OF A MAXIMUM 70 DEGREE CLIMBING ANGLE, AT LEAST 3 FEET OF CLEAR SPACE BEHIND THE BASE OF THE LADDER TO ALLOW ACCESS AND APPROVED CONCRETE OR GRAVEL LADDER PADS HAVING A MINIMUM DIMENSION OF 3' X 6' AND POSITIONED SO THAT THE 6' LENGTH IS PERPENDICULAR TO THE STRUCTURE.
 4. PROVIDE APPROVED SMOKE DETECTORS AND CARBON MONOXIDE DETECTORS THROUGHOUT EACH STRUCTURE

REVISIONS	BY
3	06.21.19 PLANNING

ELEVATIONS

NEW RESIDENCE
LONG KAI & YUNLING CAI
1015 HAVRE COURT, SUNNYVALE, CA 94087
APN# 320-02-016


FINE CUSTOM HOME

TDH

DESIGN

19034 BONNET WAY • SARATOGA, CA 95070

(408) 829-6003

DRAWN LOC HUA
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SIGNATURE 
DATE OCTOBER 2018
SCALE AS SHOWN
JOB 1718
SHEET

A-4



RIGHT SIDE ELEVATION

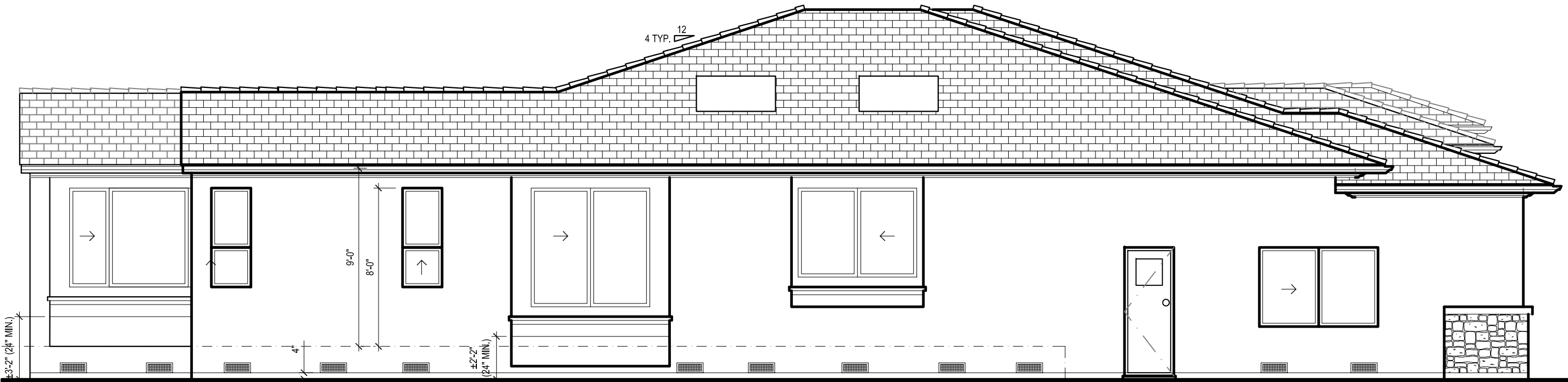
SCALE: 3/16"=1'-0"



FRONT ELEVATION

EXTERIOR MATERIALS & COLOR

- A. **GENERAL:**
- SEE OWNER FOR UP-GRADE WATERPROOFING SYSTEM
 - ALL ADHERED MASONRY VENEER SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURE'S INSTRUCTIONS.
 - SEE OWNER FOR UP-GRADE STONE FINISH FOR ALL COLUMN, TRIM & SILL
- B. **ROOFING:** CLASS 'A' FLAT CONCRETE TILE BY 'BORAL ROOFING' SAXONY 900 @ MIN. 30# FELT, ICC-ESREPORT# ESR 1647.
SIZE: 17x13, 9.1 PSF
- C. **EXTERIOR WALL (BODY):** 7/8" MIN. THICK, 3 COAT CEMENT PLASTER FINISH w/ PAPER BACKED WIRE MESH @ 2-LAYERS GRADE 'D' BUILDING PAPER.
- D. **EXTERIOR WALL (BASE):** 'BORAL' STONE VENEER w/ 4" PRECAST STONE CAP. CODE APPROVAL - ICC ESR-1364
- ADHERED VENEER INSTALLATION PER R703.12 CRC. FLASHING AT FOUNDATION PER 703.12.2 CRC
- E. **GARAGE DOOR:** STEEL CARRIAGE SECTIONAL. SEE OWNER
- F. **ENTRY DOOR:** DECORATIVE WROUGHT IRON
- G. **DOORS TYPICAL:** 'MILGARD' VINYL.
- H. **WINDOWS TYPICAL:** 'MILGARD' VINYL, w/ STUCCO @ FOAM SILL
- I. **TRIM @ WINDOWS & DOORS TYPICAL:** 6" STUCCO @ FOAM TRIM
- J. **TRIM @ EAVES TYPICAL:** STUCCO @ FOAM TRIM
- K. **GUTTER & DOWNSPOUT:** 26 GA. GALV. METAL
- L. **DECORATIVE CHIMNEY:** 26 GA. GALV. METAL CAP w/ STUCCO @ FOAM TRIM
- M. **HOUSE NUMBER:** SHALL CONTRAST WITH THEIR BACKGROUND.
- STRUCTURE LESS THAN 36 FT. FROM THE STREET PROVIDE MINIMUM 4" HIGH WITH 1/2" STRIKE
- O. **EXTERIOR COLOR**
- TILE ROOF: SAXONY 900 (CHARCOAL)
 - STUCCO EXTERIOR (MAIN BODY): DEER RUN ECC-45-1P (BEHR)
 - MILGARD VINYL WINDOWS: TAN VINYL
 - MILGARD VINYL DOORS: TAN VINYL
 - GARAGE DOOR: CLOPAY GARAGE DOORS
 - DECORATIVE WROUGHT IRON FRONT ENTRY DOORS: SP 132 NINJA GRAY (DUNN-EDWARDS)
 - STONE VENEER: OHIO COBBLEFIELD Z(CSV 2088)
 - CHIMNEY CAP: CANYON CLIFFS ECC-45-2U (BEHR)
 - GUTTER & DOWNSPOUT: CANYON CLIFFS ECC-45-2U (BEHR)
 - EAVE TRIM: CANYON CLIFFS ECC-45-2U (BEHR)
 - WINDOW TRIM: CANYON CLIFFS ECC-45-2U (BEHR)
 - DOOR TRIM: CANYON CLIFFS ECC-45-2U (BEHR)
 - DRIVEWAY & FRONT WALK: QUARRY CALICO RIDGE - (CALSTONE PAVER)



LEFT SIDE ELEVATION

SCALE: 3/16"=1'-0"



REAR ELEVATION

SCALE: 3/16"=1'-0"

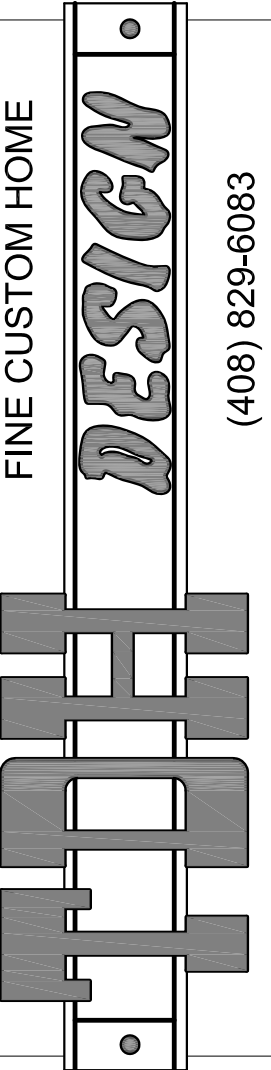
REVISIONS BY

SECTIONS & ROOF PLAN

NEW RESIDENCE
LONG KAI & YUNLING CAI

1015 HAVRE COURT, SUNNYVALE, CA 94087
APN# 320-12-016

FINE CUSTOM HOME



19034 BONNET WAY • SARATOGA, CA 95070
(408) 829-6033

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TRI HONG

SIGNATURE

DATE

OCTOBER 2018

SCALE

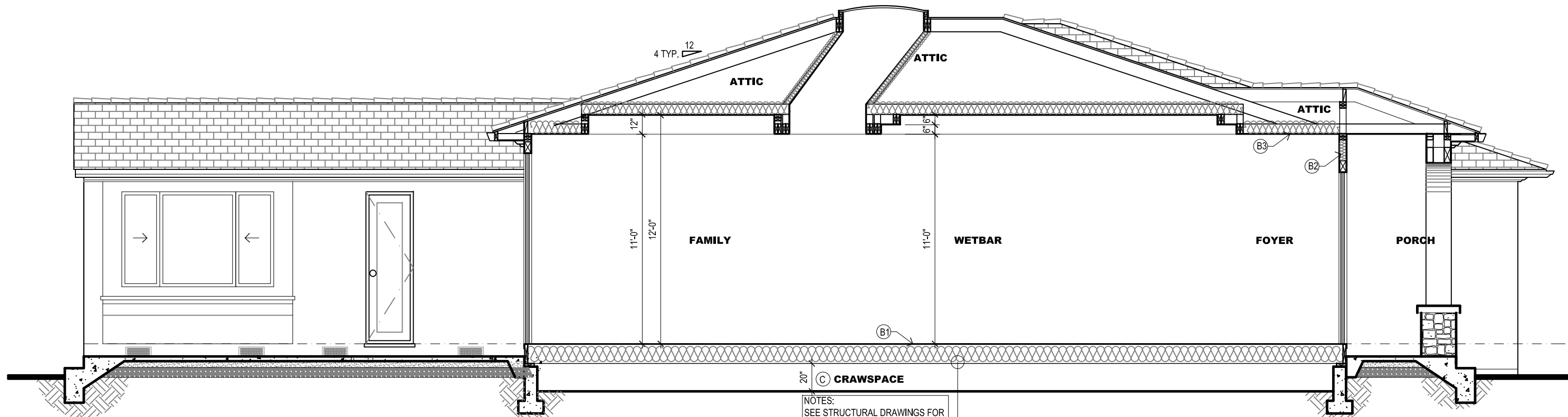
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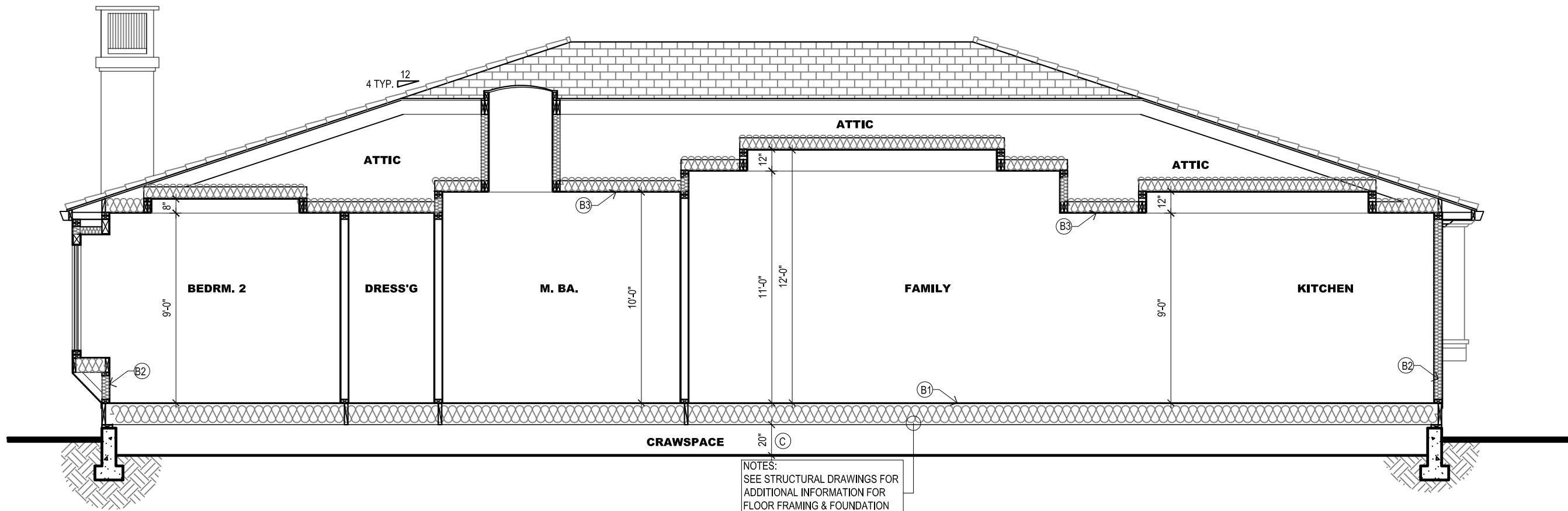
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A-5



SECTION A

SCALE: 3/16"=1'-0"

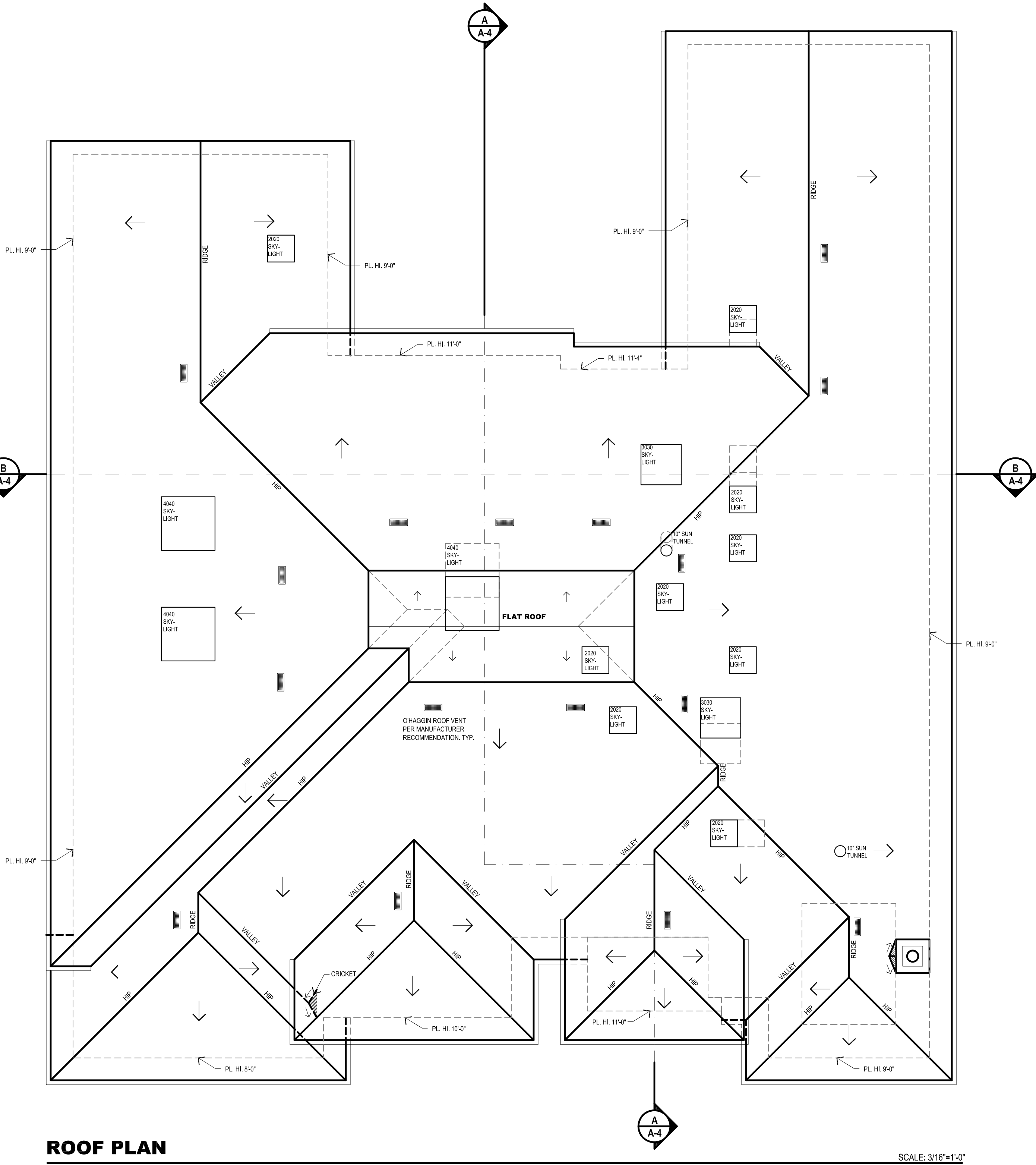


SECTION B

SCALE: 3/16"=1'-0"

SECTION NOTES

- A. **GENERAL:**
- SEE OWNER FOR UP-GRADE WATERPROOFING SYSTEM
 - SEE STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION FOR FLOOR FRAMING & FOUNDATION
 - SEE OWNER FOR UP-GRADE CABINETS AND APPLIANCES FINISH
- B. **INSULATION:** PER TITLE 24.
1. FLOOR: R-19
2. EXTERIOR WALL: R-19 @ 2x6 STUD WALL
3. CEILING: R-38 @ FLAT CEILING
- C. **CRAWLSPACE:** 18" MINIMUM CLEAR TO MATCH EXISTING.
- D. **FIRE BLOCKS & DRAFT STOPS:** FIRE STOPS SHALL BE PROVIDED IN THE FOLLOWING LOCATIONS PER IRC.
1. DRAFT STOPPING MATERIALS SHOULD BE NOT LESS THAN 1/2" GYPSUM BOARD, 3/8" WOOD STRUCTURAL PANELS OR OTHER MATERIALS.
 2. DRAFT STOP SHALL BE INSTALLED SO THAT THE AREA OF THE CONCEALED SPACE DOES NOT EXCEED 1,000 SQ.FT. DRAFT STOPPING SHOULD DIVIDE THE CONCEALED SPACE INTO APPROX. EQUAL AREAS.
 3. IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES AND PARALLEL ROWS OF STUDS OR STAGGERED STUDS, AS FOLLOWS:
 - VERTICALLY AT THE CEILING AND FLOOR LEVELS.
 - HORIZONTALLY AT INTERVALS NOT EXCEEDING 10 FEET.
 4. AT ALL INTERCONNECTIONS BETWEEN CONCEALED VERTICAL AND HORIZONTAL SPACES SUCH AS OCCUR AT SOFFITS, DROP CEILINGS AND COVE CEILINGS.
 5. IN CONCEALED SPACES BETWEEN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN, ENCLOSED SPACES UNDER STAIRS SHALL COMPLY WITH SECTION R302.7.
 6. AT OPENINGS AROUND VENTS, PIPES, DUCTS, CABLES AND WIRES AT CEILING AND FLOOR LEVEL, WITH AN APPROVED MATERIAL TO RESIST THE FREE PASSAGE OF FLAME AND PRODUCTS OF COMBUSTION, THE MATERIAL FILLING THIS ANNULAR SPACE SHALL NOT BE REQUIRED TO MEET THE ASTM E 136 REQUIREMENTS.
 7. ALL SPACES BETWEEN CHIMNEYS AND FLOORS AND CEILINGS THROUGH WHICH CHIMNEYS PASS SHALL BE FIREBLOCKED WITH NONCOMBUSTIBLE MATERIAL SECURELY FASTENED IN PLACE. THE FIREBLOCKING OF SPACES BETWEEN CHIMNEYS AND WOOD JOISTS, BEAMS OR HEADERS SHALL BE SELF-SUPPORTING OR BE PLACED ON STRIPS OF METAL OR METAL LATH LAID ACROSS THE SPACES BETWEEN COMBUSTIBLE MATERIAL AND THE CHIMNEY.



ROOF PLAN

SCALE: 3/16"=1'-0"

ROOF PLAN NOTES

- A. **GENERAL:**
- ROOF SLOPE IS TO BE 4:12 TYP. U.N.O.
 - ARROWS INDICATE DIRECTION OF ROOF SLOPE
 - SEE ROOF PLAN FOR PLATE HEIGHT
 - OVERHANGS ARE TO BE 2' AT EAVES 8" AT RAKES.
 - SEE MANF. INSTALLATION AND I.C.C. ESR-REPORT
 - PROVIDE EAVE VENTS FOR ATTIC VENTILATION PER C.R.C. TYP.
 - INSTALL G.I. MATERIAL ROOF JACKS FOR PLUMBING VENTS, ETC. AS REQUIRED
 - PROVIDE DOUBLE UNDERLAYMENT AT CONCRETE TILE ROOFING ON SLOPES LESS THAN 4:12
- B. **ROOFING:** GLASS W/ FLAT CONCRETE TILE BY 'BORAL ROOFING' SAXONY 900 @ MIN. 30# FELT, ICC-ES REPORT# ESR 1647, SIZE: 17x13, 9.1 PSF
- C. **FLAT ROOF:** GAF LIBERTY LOW-SLOPE ROLL ROOFING MEMBRANE OR EQUAL, MIN. 1/4" PER FT. SLOPE TO DRAIN, MIN. 4" DRAIN PIPE, STRAINER TO BE MIN. 4" ABOVE INLET AREA, NOT LESS THAN 1-1/2 TIMES OF THE INLET PIPE, PROVIDE MIN. 4" OVERFLOW DRAIN W/ INLET 2" ABOVE THE LOW POINT OF THE ROOF. OVERFLOW DRAINS SHALL NOT CONNECTED TO THE PRIMARY DRAIN.
- D. **FASCIA GUTTER w/ DOWNSPOUTS:** 5", 26 GA. GALV. AS REQUIRED. FIELD VERIFY DOWNSPOUT TO BE CLEAR FROM WINDOW, DOOR, GAS METER, ELECTRICAL METER, WATER HEATER & A/C.
- E. **DECORATIVE CHIMNEY:**
- 2' ABOVE ANY ROOF/STRUCTURE WITHIN 10' AND NOT LESS THAN 3' ABOVE THE HIGHEST POINT WHERE THE CHIMNEY PASSES THROUGH THE ROOF.
 - SPARK ARRESTER SHALL BE APPROVED, SCREENED, ACCESSIBLE & REMOVABLE FOR CLEANING
 - WOOD FRAMED w/ 26 GA. GALV. CRICKET & FLASHING.
- F. **FLASHING AT ROOF TO WALL CONNECTIONS:** 26 GA. GALV.
- G. **SKYLIGHT:** VELUX TESTED & LABELED w/ AAMA WDMA/CSA 1011.5.2/A440 SEE ROOF PLAN FOR SIZE. SKYLIGHTS/TUNNELS SHALL BE INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS AND INSTALLATION RECOMMENDATION
- H. **SUN TUNNEL:** 10" VELUX, (ER_0199)

NOTES:

1. THIS ELECTRONIC FILE IS SOLELY FOR THE USE OF THE ARCHITECT FOR THE DEVELOPMENT OF HIS/HER ARCHITECTURAL DRAWINGS TO OBTAIN BUILDING PERMITS.
2. THIS MAP SHALL NOT BE USED TO STAKE OUT CONSTRUCTION IMPROVEMENTS IN THE FIELD.
3. THE DELIVERY OF THIS MAP IN AN ELECTRONIC FILE DOES NOT CONSTITUTE THE DELIVERY OF MY PROFESSIONAL WORK PRODUCT. THE SIGNED PAPER PRINT IS PROVIDED TO THE CLIENT AS AN INSTRUMENT OF SERVICE. IN EVENT THE ELECTRONIC FILE IS ALTERED, THE SAID PAPER PRINT MUST BE REFERRED TO FOR THE ORIGINAL AND CORRECT SURVEY INFORMATION. RW ENGINEERING, INC. SHALL NOT BE RESPONSIBLE FOR ANY MODIFICATIONS MADE, BY OTHERS, TO THE ELECTRONIC FILE, OR ANY PRODUCTS DERIVED FROM THE ELECTRONIC FILE.
4. THIS MAP REPRESENTS TOPOGRAPHY OF THE SURFACE FEATURES ONLY AT THE TIME THE SURVEY WORK WAS COMPLETED.
5. BOUNDARY LINES DELINEATED ON THIS MAP ARE INFORMATIONAL BASED ON THE SURVEYOR'S OPINION UTILIZING FOUND PHYSICAL EVIDENCE AND RECORD DATA. THIS MAP IS NOT INTENDED AND SHALL NOT NOT BE USED TO ESTABLISH BOUNDARY LINES.
6. UNLESS SPECIFIED ON THIS MAP, LOCATIONS OF THE UNDERGROUND AND OVERHEAD UTILITIES ARE NEITHER INTENDED NOR IMPLIED. FOR THE LOCATIONS OF UNDERGROUND UTILITIES CALL "USA" (1-800-642-2440).
7. ALL DISTANCES AND DIMENSIONS ARE IN FEET AND DECIMALS.
8. BUILDING FOOTPRINTS ARE SHOWN AT GROUND LEVEL.
9. FINISH FLOOR ELEVATION TAKEN AT DOOR THRESHOLD (EXTERIOR).
10. A TITLE REPORT FOR THE SUBJECT PROPERTY HAS NOT BEEN EXAMINED BY RW ENGINEERING, INC.. OTHER EASEMENTS OF RECORD MAY EXIST THAT ARE NOT SHOWN ON THIS MAP.

SITE BENCHMARK:

SET NAIL
ELEVATION=100.00' ASSUMED

BASIS OF BEARINGS:

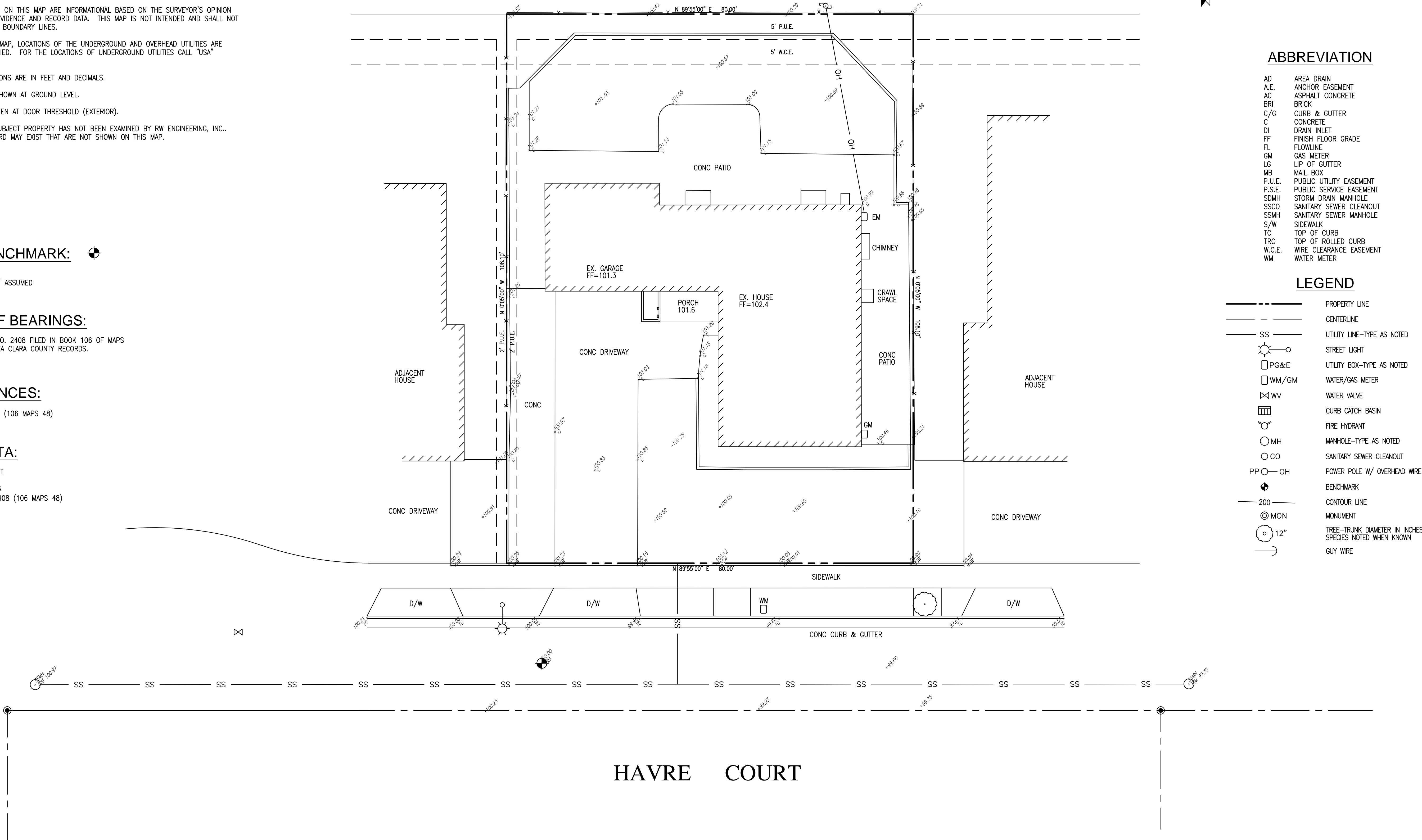
PER TRACT MAP NO. 2408 FILED IN BOOK 106 OF MAPS
AT PAGE 48, SANTA CLARA COUNTY RECORDS.

REFERENCES:

R1 TRACT 2408 (106 MAPS 48)

SITE DATA:

1015 HAVRE COURT
SUNNYVALE, CA
APN: 320-12-016
LOT 118 TRACT 2408 (106 MAPS 48)
AREA=8,648 S.F.±



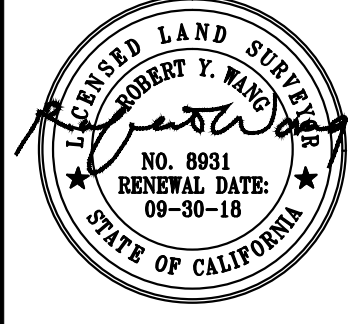
ABBREVIATION

AD	AREA DRAIN
A.E.	ANCHOR EASEMENT
AC	ASPHALT CONCRETE
BRI	BRICK
C/G	CURB & GUTTER
C	CONCRETE
DI	DRAIN INLET
FF	FINISH FLOOR GRADE
FL	FLOWLINE
GM	GAS METER
LG	LIP OF GUTTER
MB	MAIL BOX
P.U.E.	PUBLIC UTILITY EASEMENT
P.S.E.	PUBLIC SERVICE EASEMENT
SDMH	STORM DRAIN MANHOLE
SSCO	SANITARY SEWER CLEANOUT
SSMH	SANITARY SEWER MANHOLE
S/W	SIDEWALK
TC	TOP OF CURB
TRC	TOP OF ROLLED CURB
W.C.E.	WIRE CLEARANCE EASEMENT
WM	WATER METER

LEGEND

---	PROPERTY LINE
---	CENTERLINE
SS	UTILITY LINE-TYPE AS NOTED
☼	STREET LIGHT
☐ PG&E	UTILITY BOX-TYPE AS NOTED
☐ WM/GM	WATER/GAS METER
⋈	WATER VALVE
☐	CURB CATCH BASIN
☼	FIRE HYDRANT
○ MH	MANHOLE-TYPE AS NOTED
○ CO	SANITARY SEWER CLEANOUT
PP ○ OH	POWER POLE W/ OVERHEAD WIRE
◆	BENCHMARK
200	CONTOUR LINE
⊙ MON	MONUMENT
○ 12"	TREE-TRUNK DIAMETER IN INCHES SPECIES NOTED WHEN KNOWN
→	GUY WIRE

RW RW ENGINEERING, INC.
CIVIL ENGINEERS • LAND SURVEYORS
505 ALTAMONT DRIVE
MILPITAS, CA 95035
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(FAX) (408) 824-5556
rwengineering@gmail.com



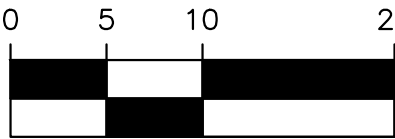
1015 HAVRE COURT
SUNNYVALE, CA
SANTA CLARA COUNTY


APN: 320-12-016

TOPOGRAPHIC MAP

DATE: 7/30/18
SCALE: AS NOTED
DESIGNED BY: RW
DRAWN BY: RW
SHEET NO.

SU-1
OF 1 SHEETS





MAXIMUM APPLIED WATER ALLOWANCE

PROJECT #:

MAWA = (ETo) x (0.62) x [(0.7 x LA)+(0.3 x SLA)]

ETo**


San Jose (Sunnyvale)45.30ETo (inches /year)

Enter total project Landscaped Area2,613.00LA (square feet)

Enter Special Landscaped Area0.00SLA (square feet)

RESULTS:

51,372.10MAWA (gallons/year)



ESTIMATED TOTAL WATER USE

PROJECT #:

ETWU = (ETo) x (0.62) x [(PF x HA)/IE + SLA]

Irrigation Efficiency Value =0.7default (minimum) value

ETWU =Estimated total water use per year (gallons per year)

ETo =Reference Evapotranspiration (inches per year)

PF =Plant Factor from WUOLUS or equivalent reference subject to approval

HA =Hydrozone Area (square feet)

SLA =Special Landscaped Area (square feet)

0.62 =Conversion Factor (to gallons per square foot)

IE =Irrigation Efficiency (minimum 0.7)

Plant Water Use Type	Plant Factor
Low	0 - 0.3
Moderate	0.4 - 0.6
High	0.7 - 1.0
Water Feature (High)	1.0
SLA	1.0

HYDROZONE TABLE

Hydrozone	Plant Water Use Type(s) (low, moderate, high)	Plant Factor (PF)	Irrigation Type	Hydrozone Area (HA) (sq ft)	PF x HA (sq ft)
1	low	0.3	drip	2,295	689
2	med	0.5	drip	268	134
3	low	0.3	drip	50	15
	SLA	1		0	
	Sum			2,613	838

RESULTS

MAWA =	51,372	ETWU =	33,603	gallons /year
--------	--------	--------	--------	---------------

ETWU must be less than or equal to MAWA

ETWU complies with MAWA

Hydrozone Summary


HYDROZONE	VALVES	IRRIG. METHOD	AREA sq.ft.	% of LANDSCAPE AREA
1 Low water shrub	2.4	Drip	2295	88%
2 Med water shrub	3	Drip	268	10%
3 Low water trees	1	Drip	50	2%
TOTAL			2613	100%

Summary by Hydrozone

Area (Sq.ft.)

% of Landscape Area

High Water Use	0	0%
Moderate Water use	268	10%
Low Water Use	2345	90%
TOTAL	2613	100%



WATER-EFFICIENT LANDSCAPING CHECKLIST

This form is required for all landscaping projects requiring review and approval by the Planning Division. For more details on landscaping, irrigation and usable open space requirements, see SMC 19.37.

PROJECT INFORMATION

Site Address: 1015 Havre Court, Sunnyvale

APN: 320-12-016Zoning:

Planning Project #: #2019-7238

Total Project Landscaped Area (sq. ft.):2613

Check all that apply to the project:

X Single-Family/DuplexMultifamilyNonresidential

% Native, low water or no water use plants installed:90%

Landscaped area means a portion of a site planted with vegetation utilized for screening or ornamentation. Landscaped areas may include decorative rock or stone, provided that such materials are incidental and do not comprise more than thirty percent of the area. For purposes of computation of landscaped area as that term is used in this title, automobile parking areas, storage areas, vehicular ways and specially permitted unenclosed uses shall not be considered as landscaping.

Turf means a ground cover surface of mowed grass.

Special landscaped area means an area of the landscaping dedicated solely to edible plants, recreational areas, areas irrigated with recycled water, water features using recycled water, and areas dedicated to active play such as parks, sports fields, golf courses, and where turf provides a playing surface.

APPLICANT INFORMATION

*Note: The landscaping and irrigation plans shall be prepared by, and bear the signature of, a certified professional, unless the total landscaped area is less than 2,500 square feet.

Name: Gregory Lewis - Landscape ArchitectCertified Professional Name (if different from applicant):

Phone: (831) 359-0960Email: lewislandscape@sbcglobal.netLicense or Certification #: 2176

CERTIFICATION

I am aware of available informational resources regarding native and water-wise plants, irrigation efficiency, and other aspects of water-efficient landscaping. I certify that the information provided on this checklist is correct, and that the landscaping project meets the specified requirements of Chapter 19.37 of the Sunnyvale Municipal Code.

Greg Lewis6/26/19

APPLICANT SIGNATUREDATE

REQUIREMENT	PROJECT COMPLIANCE (Applicant to complete)	STAFF REVIEW	
Water Efficiency Design	Landscaping design and plant selection is based on one of two options: <ul style="list-style-type: none">Option 1: No turf/lawn or high water use plants; at least 80% of plants installed are native, low water or no water use plants.Option 2: Landscaping design is based on water budget calculations.	<div><input checked="" type="checkbox"/> Option 1 YES</div> <div><input type="checkbox"/> Option 2. NO</div>	<input type="checkbox"/>
Plant Material	Varley - Landscaping includes trees, shrubs, vines, flower, ground covers or a combination Size - Proposed plants are sized and spaced to achieve immediate effect in accordance w/ horticultural industry practices	<div><input checked="" type="checkbox"/> Yes</div> <div><input checked="" type="checkbox"/> Yes</div>	<div><input type="checkbox"/></div> <div><input type="checkbox"/></div>

Page 1 of 2

REQUIREMENT	PROJECT COMPLIANCE (Applicant to complete)	STAFF REVIEW	
Trees	One (1) tree per 1,000 sq. ft. of required landscaped area (per SMC 19.37.040) in addition to required parking lot shading trees "Protected trees" (SMC 19.94.030) proposed for removal will be replaced per City's Tree Replacement Policy	<div><input checked="" type="checkbox"/> Yes</div> <div><input type="checkbox"/> Not applicable</div> <div><input type="checkbox"/> Yes</div> <div><input type="checkbox"/> Not applicable</div>	<div><input type="checkbox"/></div> <div><input type="checkbox"/></div>
Turf/Lawn (Option 2 - Water Budget Calc. Only)	Turf is tall fescue or similar Turf is planted on slope < 10% if slope is adjacent to hardscape No turf in areas less than 10 ft. wide adjacent to impervious area	<div><input type="checkbox"/> Not applicable</div>	<div><input type="checkbox"/></div>
Hydrozones	Plants with similar water needs are grouped together Areas that mix plants with different water needs are captured in the water budget calculations, except that high water use plants are not mixed with low water use plants Water features not using recycled water and any pools/spas are included in the high water use hydrozone	<div><input checked="" type="checkbox"/> Yes</div> <div><input checked="" type="checkbox"/> Yes</div> <div><input type="checkbox"/> Not applicable</div> <div><input type="checkbox"/> Yes</div> <div><input type="checkbox"/> Not applicable</div>	<div><input type="checkbox"/></div> <div><input type="checkbox"/></div> <div><input type="checkbox"/></div> <div><input type="checkbox"/></div>
Soil Management	Mulch will cover all exposed soil areas at a min. depth of 3 inches Soils will be amended for selected plants and compacted soils will be transformed into a friable condition Compost will be incorporated at a minimum 4 cubic yards per 1,000 sq. ft. to a depth of 6 inches Grading is designed to minimize soil erosion, runoff and water waste	<div><input checked="" type="checkbox"/> Yes</div> <div><input checked="" type="checkbox"/> Yes</div> <div><input checked="" type="checkbox"/> Yes</div> <div><input checked="" type="checkbox"/> Yes</div>	<div><input type="checkbox"/></div> <div><input type="checkbox"/></div> <div><input type="checkbox"/></div> <div><input type="checkbox"/></div>
Water Features	Uses recirculating water system; uses recycled water if available	<div><input type="checkbox"/> Yes</div> <div><input type="checkbox"/> Not applicable</div>	<div><input type="checkbox"/></div>
Pools/Spas (Option 2 - Water Budget Calc. Only)	Included in high water use hydrozone and will include a cover	<div><input type="checkbox"/> Yes</div> <div><input type="checkbox"/> Not applicable</div>	<div><input type="checkbox"/></div>
Irrigation System Design	All landscaped areas will have a permanent irrigation system (required for all projects except for single-family and duplex) Designed and will be maintained to meet or exceed 81% irrigation efficiency for drip systems and 75% efficiency for overhead spray Drip Irrigation (non-spray) used for trees, shrubs, mulched areas, areas with slope >10% and areas less than 10 ft. wide If used, overhead spray irrigation is used for clustered shrubs and turf areas at least 10 ft. wide, and devices meet ANSI Landscape Irrigation Sprinkler and Emitter Standards Valves and control circuits are separated based on water needs of a hydrozone and master and manual shut-off valves are incorporated Irrigation controllers utilizing evapotranspiration or soil moisture sensor data and capable of dual or multiple programming are used Sensors that suspend irrigation during unfavorable weather conditions or if the soil is still moist are incorporated Pressure regulators are incorporated if the water pressure does not meet the recommended pressure of the devices Flow sensors installed for any landscaped areas 5,000 sq. ft. or larger Irrigation controllers and backflow devices are screened from public view	<div><input checked="" type="checkbox"/> Yes</div> <div><input type="checkbox"/> Not applicable</div> <div><input checked="" type="checkbox"/> Yes</div> <div><input type="checkbox"/> Not applicable</div> <div><input checked="" type="checkbox"/> Yes</div> <div><input type="checkbox"/> Not applicable</div> <div><input checked="" type="checkbox"/> Yes</div> <div><input type="checkbox"/> Not applicable</div> <div><input checked="" type="checkbox"/> Yes</div> <div><input type="checkbox"/> Not applicable</div> <div><input checked="" type="checkbox"/> Yes</div> <div><input type="checkbox"/> Not applicable</div>	<div><input type="checkbox"/></div> <div><input type="checkbox"/></div> <div><input type="checkbox"/></div> <div><input type="checkbox"/></div> <div><input type="checkbox"/></div> <div><input type="checkbox"/></div> <div><input type="checkbox"/></div> <div><input type="checkbox"/></div> <div><input type="checkbox"/></div> <div><input type="checkbox"/></div> <div><input type="checkbox"/></div> <div><input type="checkbox"/></div> <div><input type="checkbox"/></div>

One-Stop Permit Center - City Hall - 456 W. Olive Avenue - (408) 730-7444
Planners and Building Division staff are available 8:00 a.m. to 12:30 p.m. and 1:00 to 5:00 p.m.
www.SunnyvalePlanning.com / www.SunnyvaleBuilding.com

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REV 6/16

ATTACHMENT 6
Page 9 of 13

Revision

#2176

GREGORY LEWIS LANDSCAPE ARCHITECT

736 Park Way Santa Cruz, CA 95062 (831) 359-0960

lewislandscape@sbcglobal.net

New Residence for

Long Kai & Yunling Cai

1015 Havre Court, Sunnyvale, CA

Date 6/26/19

Scale As Noted

Drawn Greg

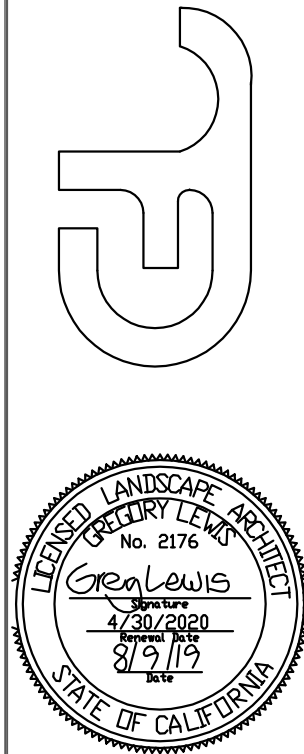
Job

Sheet

5

L0

Cover Sheet/Landscape Checklist



New Residence for
Long Kai & Yunling Cai
1015 Havre Court, Sunnyvale, CA

Landscape Notes

- See sheets L3 and L4 for Planting and Irrigation Details and Specs.
- Exact location of plants on site to be adjusted so as to best coordinate with irrigation component locations, lights, drainage features, and swales
- Use 3 inch deep mulch in all planting areas. Provide owner with different mulch samples and prices including Mahogany colored Wonder Mulch from Vision Recycling in Fremont.
- Install plants for all plant circles shown on the plan even if they aren't labeled. Call for clarification. For bidding purposes, if no one is available to answer questions, assume that any plant circle scaled less than 8" wide is 5 gal. size and any circle scaled larger is 15 gal. size
- The plan is schematic. Don't install plants too close to edges of paving or buildings. Keep valves and quick couplers away from trees.
- The plants will do much better if efforts to uncompact soil that has been compacted during building construction. Do not do excessive digging under existing tree canopies, (there are no existing trees)
- There is NO lawn on this project
- Height of structures and vegetation are limited to 3.5 feet within 10'x10' vision triangle at driveway
- There is 2211 sf of proposed Planting and Irrigation
- Compost will be incorporated at the rate of 4 cu. yds. per 1000 sq.ft. of planting area into the top 6" to 8" of planting area soil except under existing trees and on steep slopes.
- Follow requirements on Landscape Checklist on sheet L0

Plant Legend

KEY	QTY	SIZE	WUCOLS RATING	BOTANICAL NAME	COMMON NAME
TREES					
LI	2	15	LOW	Lagerstroemia Tuscarora	Crape Myrtle
VINES					
DB	4	1	MED	Ditaxis buccinatoria	Bloodred Trumpet Vine
				Train vines on simple ladder lattice on fence	
GROUND COVERS					
RC	6	1	LOW	Rhaphiolepis minor	India Hawthorne
LC	1	1	LOW	Loropetalum Razzleberry	
LM	7	1	LOW	Lantana montevidensis purple	
O	3	1	LOW	Osteospermum fruticosum	White African Daisy
BF	2	1	LOW	Bulbine frutescens - yellow	
SL	5	1	LOW	Salvia leucantha	Mexican Sage
LY	9	1	LOW	Lantana Spreading Yellow	Low Yellow Lantana
LP	3	1	LOW	Limonium perezii	Sea Statice
N	4	1	LOW	Nandina Gulf Stream	Heavenly Bamboo

Plant count is for planning purposes only. Contractor to do own count and install all plants on plan

Tree Protection

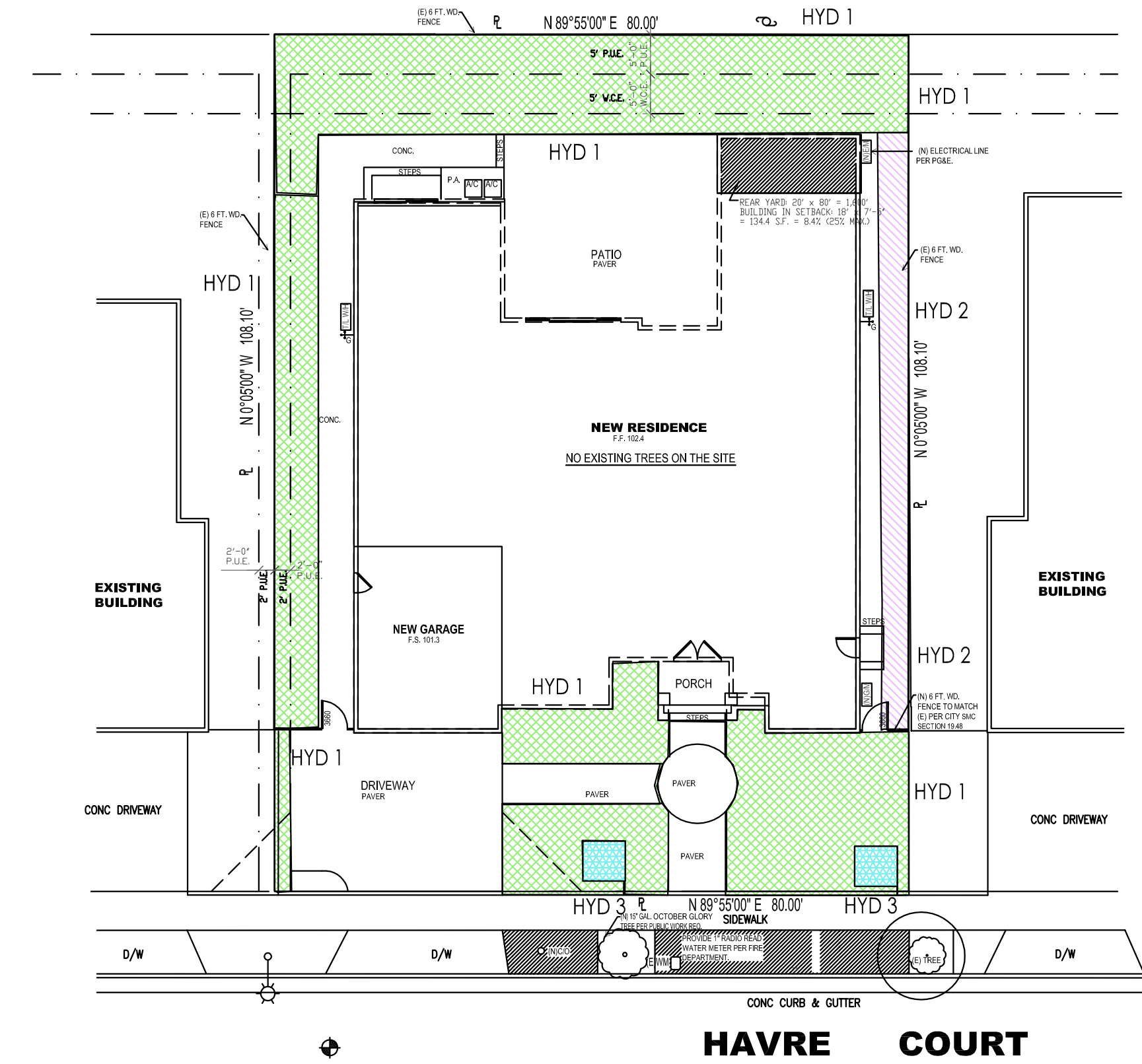
There are no trees being removed
There are no existing trees that are being saved and need protection from construction activities

New Trees

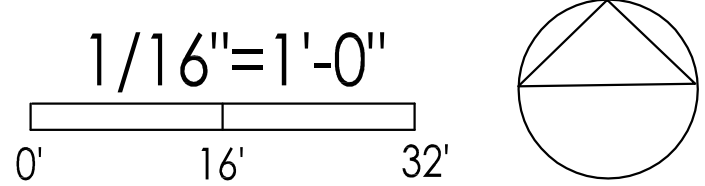
2211 sf landscape / 1000 = 2.210 = 2 new trees
One tree per 1000 sf of landscape area

Hydrozones

HYD 1 Drip, low water, shrubs	2295 sf
HYD 2 Drip, med water, shrubs	268 sf
HYD 3 Drip, low water, trees	50 sf
Total	2613 sf

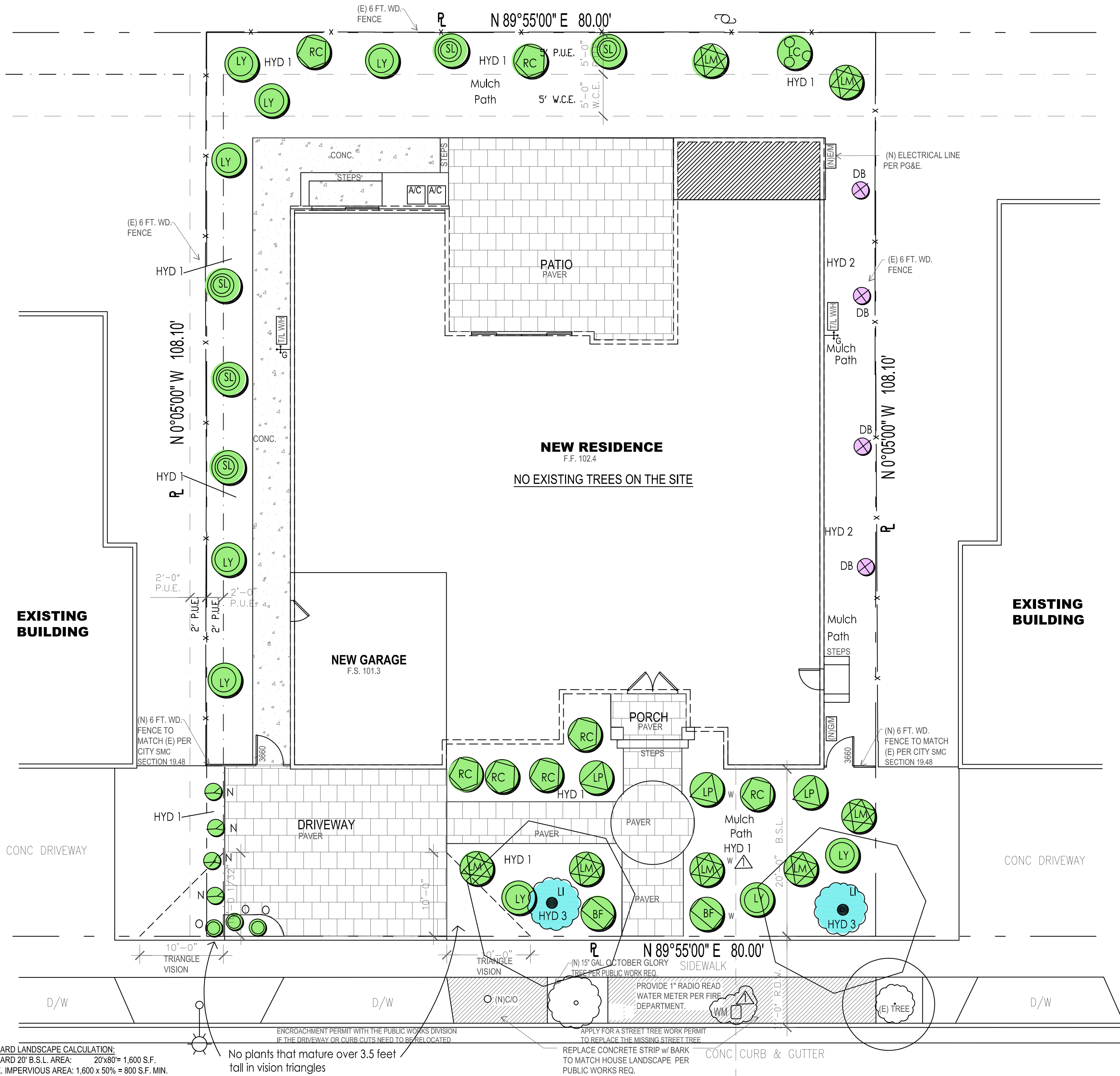


Hydrozone Plan

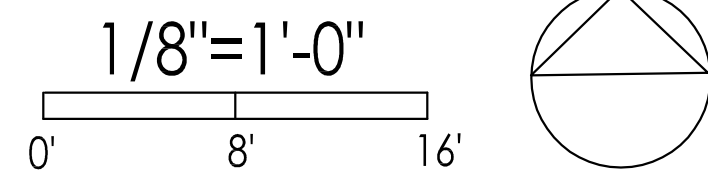


Landscaping Certificate of Completion

1) After landscaping has been installed (and prior to final inspection for a building permit) a Landscaping Certificate of Completion, including a Maintenance Schedule must be submitted.
The Landscape Certificate of completion can be found at the following link:
<http://sunnyvale.ca.gov/civica2/webbark/labeload.aspx?blobid=23594>
Also see sheet L0 of these landscape plans.



Landscape Site/Planting Plan



Irrigation Legend

KEY	MANUF.	MANUF. #	DESCRIPTION
			3/4" Manual shutoff valve in valve box same size as pressure line
	Hunter	PGV-ASV 075	3/4" antiphon valve with 3/4" Amiad Filter, Senninger PR30 pressure regulator, and adaptor to drip tubing Install 6' to 12' above highest downstream emitter
	Hunter	PC-4	4 station Controller with enough modules for 4 stations - expandible wall mount exterior with Wireless Solar Sync On-Site Weather Station. Controller will change it's program based on current weather conditions. Install weather sensor in a sunny location where it will get rain
			3/4" PE drip tubing with compression fittings - see Drip Irrigation Notes Drip Irrig. of tree - 3/4" PE drip tubing with compression fittings - see Drip Irrigation Notes

All lines under pavement to be sleeved using a Sch 40 PVC sleeve 2 sizes larger than the pipe inside

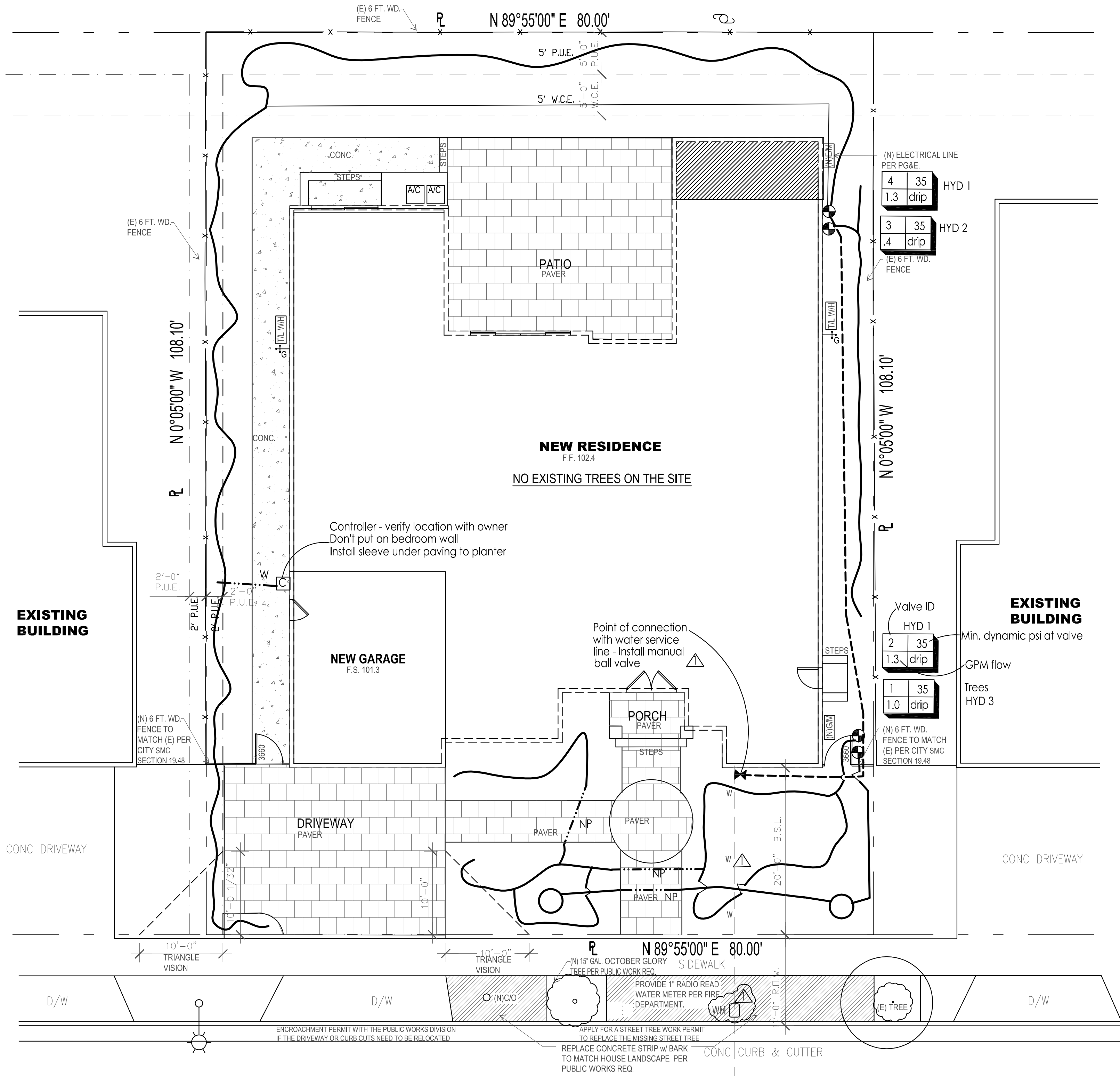
	3/4"	Nonpressure line - Sch 40 PVC 3/4" unless noted for larger
	1"	size - 12" cover - pipes less than 2" to be Sch 40 PVC
	1-1/4"	
	PL	3/4" Pressure line - Sch 40 PVC - 18" of cover (24" of cover under A.C. paving)
	PL	Pressure line - 3/4" Sch 40 PVC
	NP	Non Pressure line - 3/4" Sch 40 PVC
	W	1" gray elec. conduit for control wires. Also install an extra capped 1" water line for future use under paving

Irrigation Notes

- See sheet L3 and L4 for details and specifications
- This system is designed to operate with minimum 5 GPM at minimum 50 p.s.i. at the point of connection. If this condition is not met contact the Landscape Architect for possible redesign. If pressure exceeds 75 psi at point of connection install a Wilkins 600 1" pressure regulator. There is approx. static psi at this site.
- Detector tape should be installed with any pressure lines not buried in the same trench with control wires and with any lines of any kind under paving not in a trench with control wires.
- All valve groupings provide a threaded capped pressure line stubout so it is easy to add additional valves later. Run a few extra wires to these locations from the controller.
- Electric controllers should be set to water between 6:00 PM and 11:00 a.m. to avoid watering during times of higher wind or temperature and programmed with repeat cycles to avoid runoff. This is not as important for drip that is not affected by the wind. Set irrigation schedule according to plants' water needs.
- Run 2 extra control wires from the controller to the far end of each leg and to the furthest hose bib, coming up at each valve with some extra wire along the way so valves could be added if necessary in the future.
- The routing of sprinkler lines is schematic on the plan. Do not put valves too close to trees. Stay 8' to 10' away if possible. Do not put pressure lines under trees. Install line in planting areas instead of under paving whenever possible.
- Check with the owner for final location of controller so it can be coordinated with the electrical supply. Run sleeves under driveways and other paving for wires and irrigation lines. Add 1 additional 1" sleeve for future use by owners for lighting wires or other needs. Cap them for future use.
- If there aren't sufficient hosebibs on house add at least one on each side of the house.
- After landscaping and irrigation is installed and prior to final inspection for a building permit an irrigation audit will be required by an independent third party professional. The irrigation auditor is to provide an irrigation schedule for plants during the establishment period when they need more water and a base schedule for when the plants need less water after establishment. He/she should also provide irrigation parameters used to set the controller. A landscape maintenance schedule and Certificate of Completion must be submitted.
- Pressure regulators must be installed on the irrigation system to ensure the dynamic pressure of the system is within the manufacturers recommended pressure range
- Soil moisture levels need to be brought up by hand watering or a temporary spray system before the drip system can take over.
- The contractor is to provide a diagram of the irrigation plan/system showing hydrozones to be kept in the controller
- The contractor is to provide an "as built" drawing of any significant changes such as pressure line and valve location changes
- The contractor is to check with the city to see if the city requires an automatic master valve or a sub water meter on the irrigation system and if so to include it in the bid and install it. Make sure with the city that a reduced pressure backflow preventer is not required.

Drip Irrigation Notes

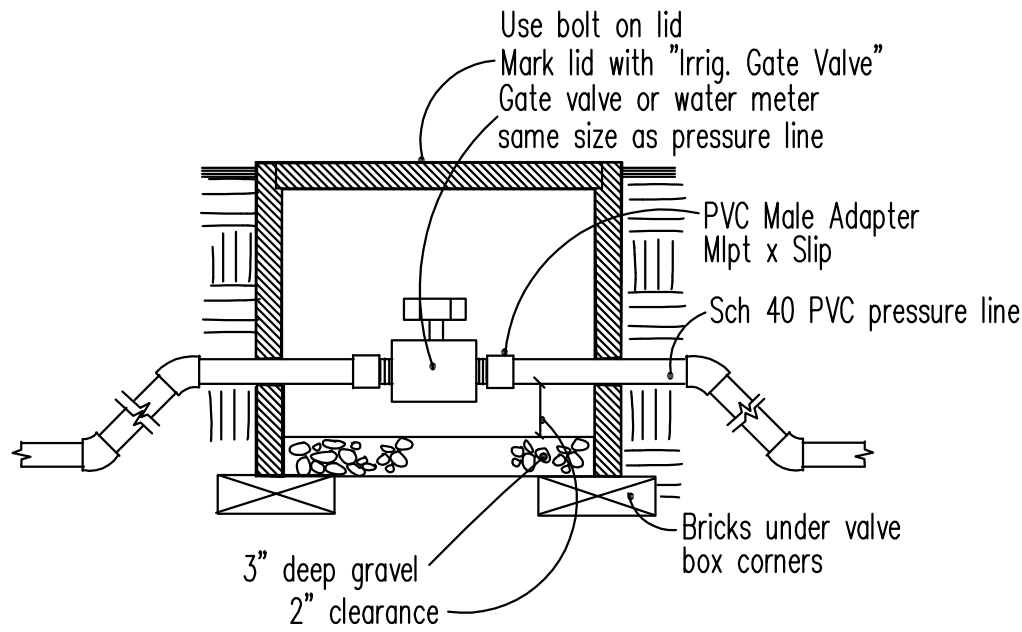
- Secure larger 3/4" drip tubing 1" below grade with 7" or 11" U-shaped stakes 3 feet on center or closer so that the tubing can be found easily but does not show if the mulch gets brushed away. Cover tubing with soil and mulch and install manual flush valves at ends of tubing and mark them so they can be found easily.
- Run large tubing right next to edge of plant rootballs. Use very little 3/8" tubing. Secure emitters on 3/4" tubing 12 inches apart on each side of plant root balls.
- Use only pressure compensating emitters
Emitter schedule:
Two 2 GPH emitters at small shrubs and ground covers LM,LP,LY,BF
Three 2 GPH emitters at each medium shrubs and ground cover RC,DV,SL,DB
Four 2 GPH emitters at large shrubs - none
Four 1 GPH emitters on root balls of trees with 26 additional 1 GPH emitters on 2'x2' grid under future tree canopy



Irrigation Plan

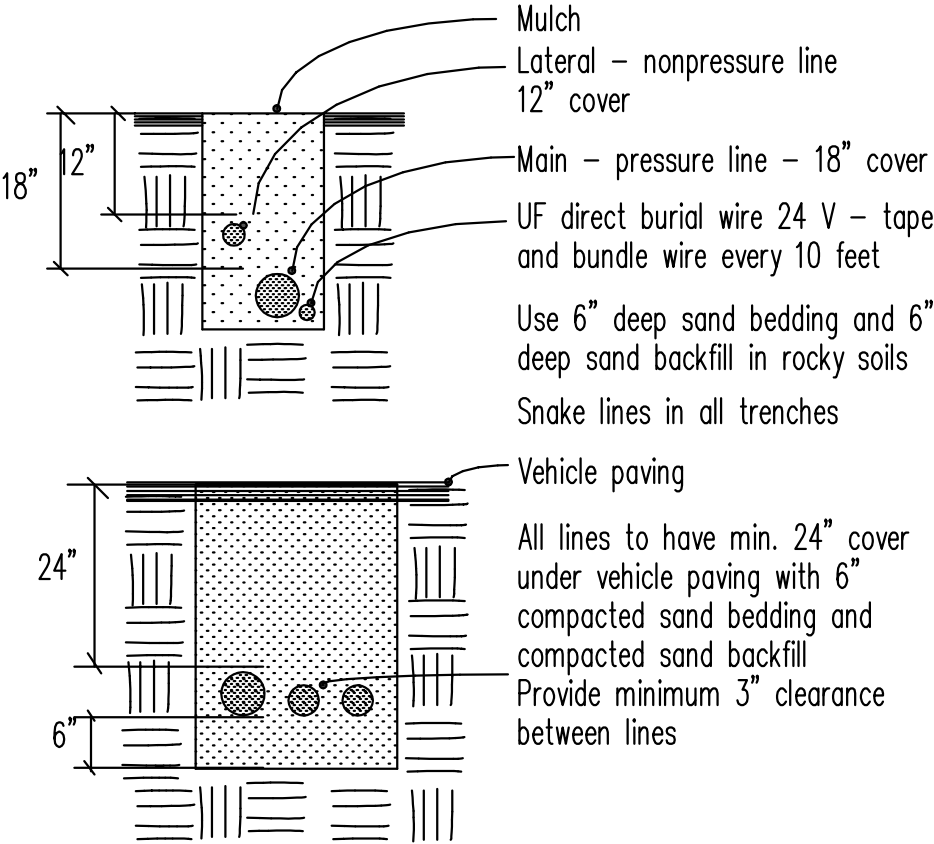
1/8"=1'-0"

0' 8' 16'



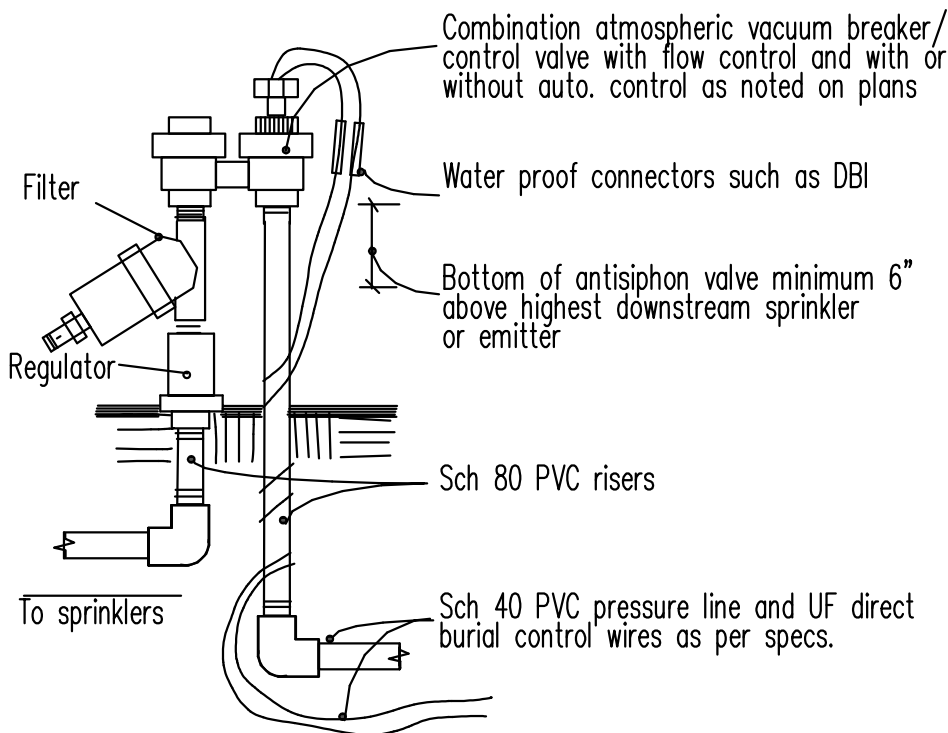
Manual Gate Valve

No Scale



Trenches/Lines

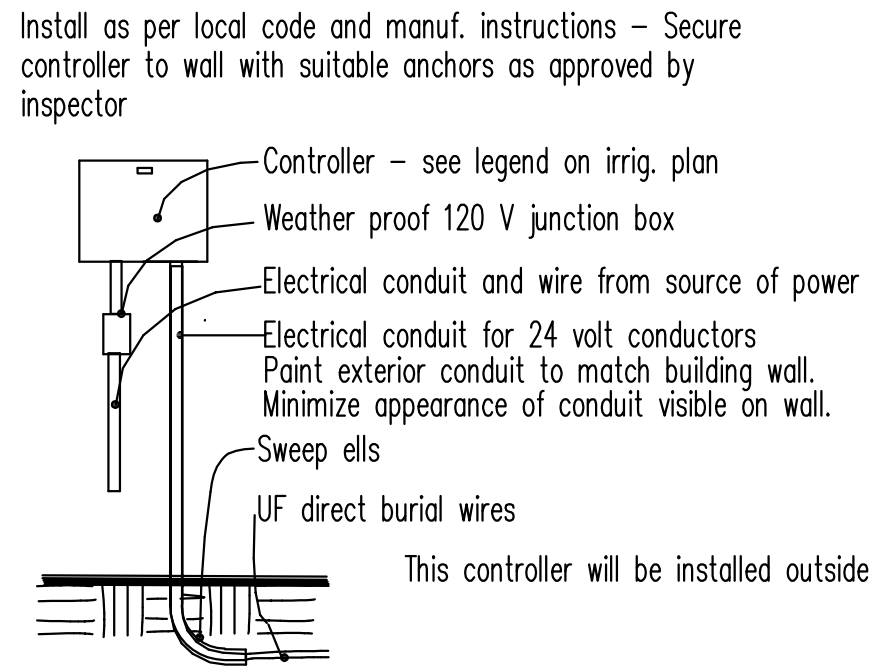
No Scale



Auto. Antisiphon Valve

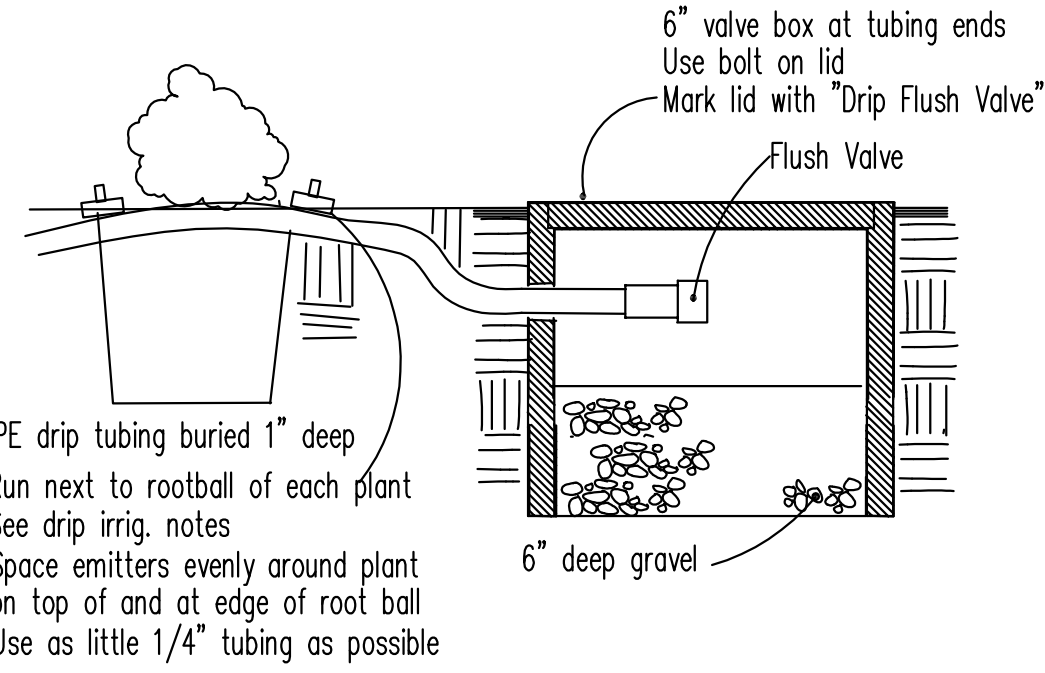
with Filter and Regulator for Drip

No Scale



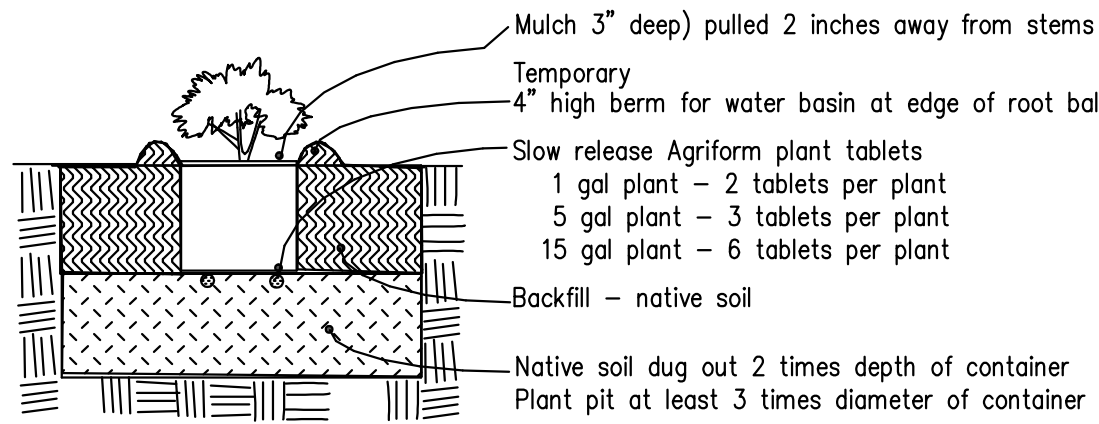
Wall Mount Controller

No Scale



Drip Emitter and Flush Valve

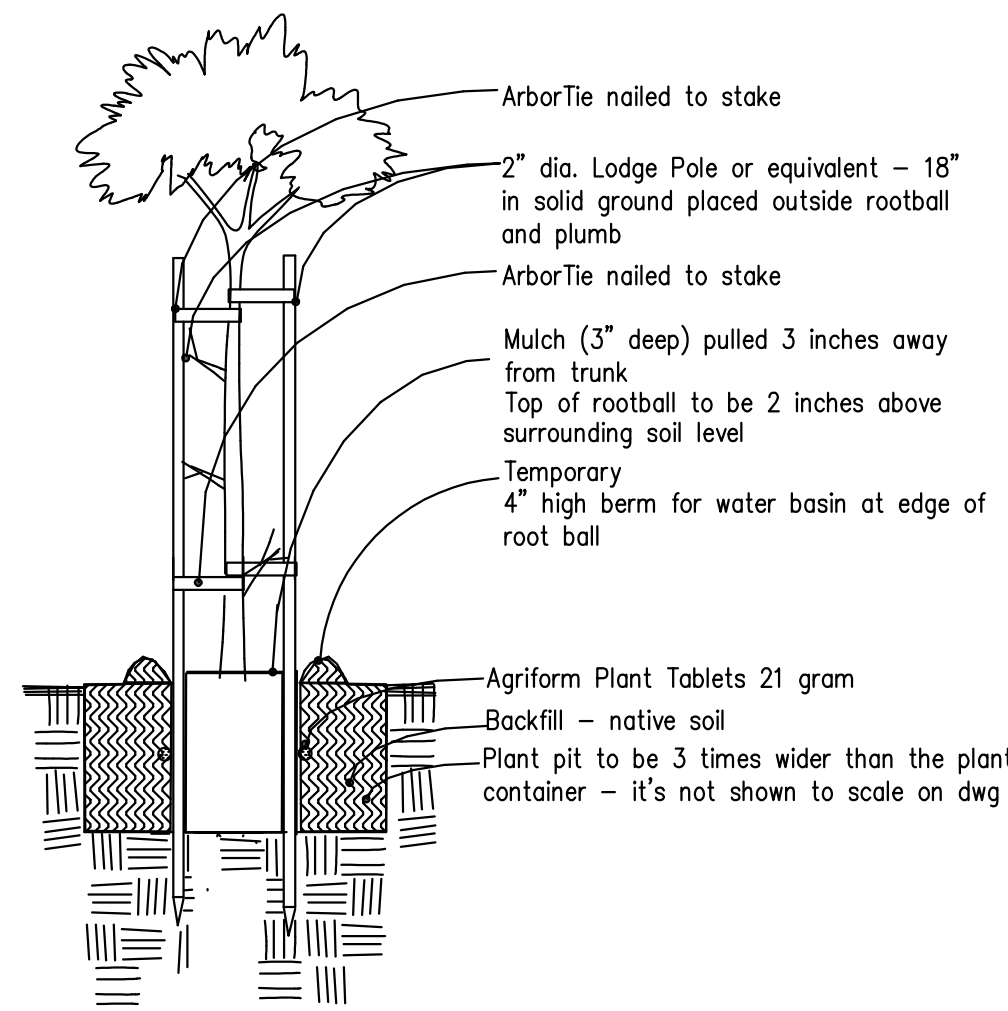
No Scale



- 1) 8 - 12 hours before installation, water all plants while still in containers sufficiently to thoroughly wet root balls
- 2) Dig the plant hole at least 3 times the dia. and 2 times the depth of the plant container.
- 3) Replace this mixture in bottom half of hole and walk on it. The level of it should be such that when the plant is installed and settled it will be slightly above grade of existing soil. Fill hole with water.
- 4) Remove rootball carefully from container by tapping out, not pulling out by the stem. Scarify rootball walls in 3 vertical cuts and bottom to 1/2" deep, or by cutting roots of 1/2" or larger with shears. Do not pull roots apart.
- 5) Install fertilizer packets under rootball of plant. Set rootball on prepared surface and fill hole to 1/2 the depth, tamping soil around rootball. Fill hole with water.
- 6) Fill the remainder of the hole with backfill and pack it but do not tamp rootball.
- 7) Make the water basin.
- 8) Water shrub thoroughly within 1 hour of planting by filling the basin and allowing the water to percolate in, doing this 3 times or more until root ball and backfill is wet
- 9) Install mulch

Shrub Planting

No Scale



- 1) 8 - 12 hours before installation, water all plants while still in containers sufficiently to thoroughly wet root balls
- 2) Dig hole at least 2" less deep than the container and 3 times wider than the diameter of the container the plants were delivered in.
- 3) Gauge holes in the side of the plant pit - 2 holes per sq. ft. of wall surface
- 4) Remove rootball carefully from container with support from below. Sever any circling roots (3/16" dia. or greater) with sharp knife. Do not pull roots apart. The severing of large roots will encourage new roots at the cuts. Install enough backfill under root ball so top of rootball ends up 2" above grade of surrounding soil when it settles. Install some of fertilizer packets under root ball.
- 5) Fill around rootball with backfill mix to 1/2 its height and pack soil as you fill with shovel handle or feet being careful not to disturb root ball
- 6) Put Agriform Plant Tablet fertilizer at this level adjacent to rootball and at bottom of hole (5 tablets per 15 gal. or 5 tablets per 1 inch of caliper width. Fill the remainder of the hole with backfill and pack it.
- 7) Water tree thoroughly by filling the basin and allowing the water to percolate in, doing this 3 times or more until root ball and backfill is wet
- 8) Install stakes such that the stakes and the tree ties won't damage the tree and the stakes won't lean toward each other. Cut off tops of stakes if necessary to lower below branches that could be rubbed by stakes. Install stakes so they are straight up and don't lean in to each other

Tree Planting

No Scale

GENERAL CONDITIONS – SOIL PREPARATION, PLANTING, AND IRRIGATION

1.1 QUALITY ASSURANCE:

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this section.
- B. It is the Contractor's responsibility to verify all information contained in the plans and specifications and to notify the Architect of any discrepancy prior to ordering products or commencing with the work.
- C. Check and verify dimensions, reporting any variations to the Architect before proceeding with the work.

1.2 CONTRACTOR COORDINATION

- A. It is the responsibility of the Landscape Contractor to familiarize himself with all grade differences, location of walls, retaining walls, etc., and to coordinate work with the General Contractor.

1.3 DIMENSIONS AND SCALE

- A. Dimensions are to take precedence over scale at all times. Large scale details are to take precedence over those at small scale. Dimensions shown on plans shall be adhered to insofar as it is possible, and no deviation from such dimensions shall be made except with the consent of the Architect. The Contractor shall verify all dimensions at the site and shall be solely responsible for same or deviations from same.

1.4 LAWS AND REGULATIONS

- A. The Contractor shall conform to and abide by all city, county, state and federal building, labor and sanitary laws, ordinances, rules, and regulations.

1.5 LICENSES AND PERMITS

- A. The Contractor shall give all notices and procure and pay for all permits and licenses that may be required to complete the work.

1.6 SUBMITTALS

- A. At the request of the owner or the Landscape Architect, submit manufacturer's and/or supplier's specifications and other data needed to prove compliance with the specified requirements including certificates stating quantity, type, composition, weight, and origin of all amendments, chemicals, import soil, planter mix, plants, and irrigation equipment used on the site.

1.7 PRODUCT SUBSTITUTIONS

- A. Any product substitutions shall be requested in writing. The Landscape Architect must approve or refuse any substitutions in writing. Lack of written approval will mean the substitution is not approved. Any difference in cost to the Contractor of a less expensive substitution shall be credited to the Owner's

1.8 ERRORS AND OMISSIONS

- A. The Contractor shall not take advantage of any unintentional error or omission in the drawings or specifications. He will be expected to furnish all necessary materials and labor that are necessary to make a complete job to the true intent and meaning of these specifications. Should there be discrepancies in the drawings or specifications, the contractor shall immediately call the attention of the Architect to same and shall receive the complete instructions in writing.

1.9 INSPECTIONS/REVIEWS DEFINITION

- A. Inspection or observation as used in these specifications means visual observation of materials, equipment, or construction work on an intermittent basis to determine that the work is in substantial conformance with the contract documents and the design intent. Such inspection or observation does not constitute acceptance of the work nor shall it be construed to relieve the contractor in any way from his responsibility for the means and methods of construction or for safety on the construction site. Inspection or observation will be done by the Landscape Architect only if requested by the owner in writing. This service will require a written contract for additional fees.

LANDSCAPE IRRIGATION

PART 1 – GENERAL

1.1 WORK INCLUDED

- A. The work includes but is not necessarily limited to the furnishing of all materials, equipments, and labor required to install a complete irrigation system.

- 1.2 GUARANTEE. The entire sprinkler system shall be guaranteed by the Contractor in writing to be free from defects in material and workmanship for a period of one year from acceptance of the work. The guarantee shall include repair of any trench settlement occurring within the guarantee period, including related damage to paving, landscaping, or improvements of any kind.

1.3 REVIEWS

- A. Request the following reviews prior to progressing with the work: (1) Layout of system (2) Depth of lines prior to backfilling (3) Coverage adjustment of all heads, valve boxes and operation of system.

1.4 WATER PRESSURE

- A. Verify the existence of the minimum acceptable volume of water at the minimum acceptable dynamic pressure as per plan at the point of connection at the earliest opportunity, reporting insufficient volume and/or pressure to the Landscape Architect. Contractor is responsible for cost of installation of pressure regulator if pressure exceeds 80 psi.

1.5 UTILITIES

- A. Verify the location of all existing utilities and services in the line of work before excavating. Take all precautionary measures necessary to avoid damaging

1.6 ELECTRICAL CONNECTION

- A. Verify existence of 110 Volt 20 Amp. circuit for irrigation controller (by others) at location noted on plan for installation of controller.

PART 2 – PRODUCTS

2.1 PIPE

- A. Plastic pipe is to be polyvinyl chloride, marked 1120–1220, and bearing the seal of the National Sanitation Foundation. Use Schedule 40 polyvinyl chloride, type I–II fittings bearing the seal of the National Sanitation Foundation, and complying with ASTM D2466 for pressure line and also for any water lines under asphalt paving. Use Sch 40 PVC for lateral lines in planting areas unless stronger pipe is specified in the irrigation legend. For joining, use a solvent complying with ASTM D2466 and recommended by the manufacturer of the approved pipe. Pipe is to be continuously and permanently marked with the manufacturer's name, pipe size, schedule number, type of material, and code number.
- B. Galvanized steel pipe is to comply with ASTM A120 or ASTM A53, galvanized, Schedule 40, threaded, coupled, and hot–dip galvanized. Use 150 lb. rated galvanized malleable iron, banded pattern fittings. Wrap all galvanized pipe below grade with 2" wide, 10 mil. plastic wrapping tape (#50 Scotch wrap or equal).
- C. Drip tubing is to be as noted on plans. Use compression fittings.

2.2 CONTROL WIRE

- A. Use type UF direct burial wire minimum size #14, copper, U.L. approved for irrigation control use for runs of 1000 feet or less. For longer runs consult with Landscape Architect. Use 3M DBY Direct Bury Wire Splice Kits or dry splice type wire connectors at splices. No underground splices will be allowed without a splice box.

2.3 OTHER MATERIALS

- A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Architect.

PART 3 – EXECUTION

3.1 SURFACE CONDITIONS

- A. Examine the areas and conditions under which the work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the work. Do not proceed until unsatisfactory conditions are corrected.

3.2 EXCAVATION

- A. Trenches may be excavated either by hand or machine, but shall not be wider than is necessary to lay the pipes. Care should be taken to avoid damage to existing water lines, utility lines, and roots of plants to be saved.
- B. Minimum depth of cover for buried pipelines shall be: 1. Eighteen (18) inches for mainline pressure piping. 2. Eighteen (18) inches for 24 volt wiring from controllers to remote control valves. 3. Twelve (12) inches for lateral distribution lines. 4. Twenty–four (24) inches, minimum cover, with 6" sand bedding and 6" sand cover for any pipe or wire sleeve under A.C. paving.
- C. Under existing paving, piping may be installed by jacking, boring, or hydraulic driving except that no hydraulic driving will be permitted under asphalt concrete pavement (most pipes and sleeves under A.C. paving are to be installed prior to installation of the paving). Where cutting or breaking of existing pavement is necessary, secure permission from the Architect before cutting or breaking the pavement, and then make necessary repairs and replacements to the approval of the Architect and at no additional cost to the Owner.

3.3 INSTALLATION OF PIPE

- A. Handling and assembly of pipe, fittings, and accessories shall be by skilled tradesmen using methods and tools approved by the manufacturers of the pipe and equipment and exercising care to prevent damage to the materials or equipment.
- B. Metal pipe threads shall be sound, clean cut, and cored to full inside diameter. Threaded joints shall be made up with the best quality pure joint compound carefully and smoothly placed on the male threads only throughout the system.
- C. On plastic threaded connections use the sealer recommended by the manufacturer of the plastic valve or fitting. Do not use paste sealer products on plastic valves. Tighten plastic threaded connections with light wrench pressure only.
- D. Connections and controls shall be functionally as shown on the drawings, but physically shall be the most direct and convenient method while imposing the least hydraulic friction. Install lines in planting areas whenever possible.
- E. Thread male PVC connections into metal female connections rather than the opposite.
- F. Interior of pipe fittings, and accessories shall be kept clean at all times, and all openings in piping runs shall be closed at the end of each day's work or otherwise as necessary to prevent the entry of foreign materials. Bending of galvanized steel pipe will not be permitted. Install plastic pipe with the markings turned up to be seen from above until the pipe is buried. "Snake" the pipe in the trenches so that there will be a small amount of excess length in the line to compensate for contraction and expansion of the pipe.
- G. Place backfill in 6" layers such that there will be no settling. The top 6" of soil is to be the top soil and soil amendment mixture. All backfill shall be free of rock and debris. Test pipe for leaks prior to backfilling joints. Obtain approval of the owner's representative before backfilling joints.

3.4 INSTALLATION OF EQUIPMENT

- A. Flush lines clean prior to installation of valves, sprinkler heads, or hose bibs. Install valves, sprinkler heads, controllers, backflow preventors, hose bibs, and other equipment as per the Irrigation Plan and details.

3.5 ELECTRICAL WORK

- A. The line voltage work shall consist of connecting the controller to the nearest available 115 volt supply. The line voltage connection shall be in conduit, in accordance with local electrical code. Controllers mounted inside buildings can be plugged into outlets. The low voltage work shall include all necessary wiring from the controller to the automatic sprinkler valves, installed in accordance with the manufacturer's recommendations. A loop of extra wire, a minimum of eighteen (18) inches long shall be provided at each automatic valve. Appropriate expansion loops shall be provided throughout the system to assure that no wiring will be under stress.
- B. All splices and connections on the 24 volt system shall be made using 3M DBY Direct Bury Splice Kits, Rain Bird Pentite connector, or equal.
- C. Wiring, wherever possible, shall be placed in the same trench with, and alongside of, the irrigation main water line. Tape and bundle wire every ten feet. All wiring placed under paving shall be put in adequately sized Sch 40 PVC pipe sleeves prior to paving operations.
- D. Wire for 24 volt control lines shall be size #14 UF direct burial irrigation wire. Unless noted differently on the plan, common grounds shall be white, size #14 UF direct burial wire. For wire runs over 1000 feet consult with Landscape Architect for wire size. Under no circumstances, on multiple controller installations, will a single common ground, shared by each controller, be permitted. Each controller shall have its own separate common ground wire.

3.6 TESTING

- A. All testing shall be done in the presence of the Owner's Representative. Center–load all pipelines with clean soil approximately every four feet to resist hydraulic pressures, but leave fittings exposed for inspection. Piping under paving shall be tested before paving is in place. Install a 0 to 160 P.S.I. gauge on lines to be tested. All valves shown on Plans shall be in place and shall be in the closed position. Mains shall be tested at 100 P.S.I., and laterals at 65 P.S.I. If available static water pressure is under 100 P.S.I., provide suitable pump for tests. Fill pipelines slowly to avoid pipe damage, and bleed all air from lines as they are being filled. After closing valve at water source, mains shall hold 100 P.S.I. gauge pressure for two hours with no leaks. Laterals are expected to have minor seepage at multiple swing joint assemblies. Major leaks are not acceptable. Laterals shall be tested for one hour at 65 P.S.I. solely to reveal any piping or assembly flaws. The laterals are not expected to hold gauge pressure. For testing laterals, cap risers or turn adjusting screws on nozzles to the "off" position, as appropriate. Repair any flaws discovered in mains or laterals, then retest in same fashion as outlined in presence of the Landscape Architect until all lines have been approved. Provide required testing equipment and personnel.

3.7 SYSTEM ADJUSTMENT

- A. The entire sprinkler system shall be properly adjusted before final acceptance. Adjustments shall include but not necessarily be limited to: (1) Adjustment of arc and distance control devices on sprinklers, including changing nozzle sizes if necessary to assure proper coverage of planted areas. (2) Relocation or addition of sprinkler heads if necessary to properly cover planted areas, without causing excessive water to be thrown onto building, walks, paving, etc. (3) Throttling of automatic valves as necessary to operate sprinklers at manufacturer's recommended pressure. (4) Adjustment and testing of all automatic control devices to assure their proper function, both automatically and manually. (5) Installation of pop–up heads anywhere there is a chance of pedestrians or vehicles hitting heads even if pop–ups are not shown on the plan. (6) Installation of check valves to keep sprinkler head drainage from eroding landscape areas, wasting water, or creating soggy spots in the landscaping.

3.8 AS–BUILT DRAWINGS AND INSTRUCTION

- A. Regularly update a print of the system noting any changes which are made by dimensioning features below grade from surface features with at least two dimensions. Prior to final approval, give the Owner 2 copies of clean blueprints marked to show changes during construction. The most important features to mark on the plan are valves, pressure lines, wires, and hose bibs.
- B. After the system has been completed, inspected, and approved, instruct the Owner's maintenance personnel in the operation and maintenance of the system. Give the Owner completed warranty cards for the irrigation equipment and keys to controllers and hose bibs.

SOIL PREPARATION AND PLANTING

PART 1 – GENERAL

1.1 DESCRIPTION

- A. The work includes, but is not necessarily limited to, the furnishing of all materials, equipment, and labor required to do the installation and complete placement of topsoil, fine grading, soil conditioning, and planting.

1.2 QUALITY ASSURANCE

- A. Plant Identification and Quality
1. Plants are to be true to name, with one of each bundle or lot tagged with the name of the plants in accordance with standards of practice of the American Association of Nurserymen. In all cases, botanical names take precedence over common names.
2. Plants shall be vigorous, of normal growth habit, free of diseases, insects, eggs, larvae, excessive abrasions, sun scalds, or other objectionable disfigurements, and shall conform to the standards as outlined by the California Association of Nurserymen. Tree trunks shall be sturdy and well "hardened off". All plants shall have normal well developed branch system, and vigorous, fibrous root systems which are not root bound. Ground cover plants (rooted cuttings) shall have well developed root systems and be kept moist prior to and during installation. Plants shall be nursery grown and of size indicated on Drawings. All plants not conforming to those requirements will be considered defective, removed from the site and replaced with acceptable new plants at the Contractor's expense.
3. Sod shall have a well developed root system. Yellowing, brown, diseased, dried, or pest infested sod shall be rejected. Sod is to be cleanly mowed within 72 hours of delivery to the site. Sod is to be delivered to the site within 24 hours after being harvested and installed immediately after being delivered. Sod shall not be stored on the site overnight. Any sod delivered to the site that cannot be installed the same day shall be removed and not used on the site.
4. Ground cover is to have well developed roots and foliage. It is to be grown in and delivered to the site in flats.

1.3 SUBMITTALS

- A. Provide the results of lab tests done on representative samples of existing soils and imported soils to be used for the top 12" or more of landscape area. Tests are to be done by a reputable soils lab (i.e., Perry Lab, Watsonville or Santa Clara Soil and Plant Lab). Samples to be tested are to be collected by lab personnel. Soil samples are to be tested for:
1. Particle size distribution (clay, silt, sand).
2. Agricultural suitability including any excess problems; i.e., salinity (calcium, magnesium), boron, sodium, pH level.
3. Fertility – amounts of available nitrogen, potassium, phosphorous, iron, magnesium, copper, zinc, and boron.
4. Chemicals and/or poisons that would hinder plant growth. The owner is to decide if tests for poisons will be done since there is a small chance that any exist and the cost of testing for them is expensive and difficult.

An interpretation of the test results and their affect on plant performance done by the lab staff or an approved horticultural consultant should be included in the report. The Owner is responsible for the cost of initial testing and for any additional chemicals and amendments that are required that are not already included in the Specifications or Drawings. Soils tests must be done as soon as possible and prior to ordering or installing soil amendments or plant materials. Plant selections and soil amendment specifications are subject to change depending on the results of the soil tests.

5. If bidding is done prior to soil fertility tests, bid 6 cu yds. of nitrized RWD sawdust and 16 lbs. of 12–12–12 fertilizer per 1000 sq.ft. tilled or dug into the top 6" to 8" of soil in all planting areas for bidding purposes only. Revise bid when results of soil fertility tests are obtained.

1.4 GUARANTEE

- A. Trees shall be guaranteed 1 year – all other plant material 120 days following final acceptance. Any plant material needing replacement because of weakness or probability of dying will be replaced with material of similar type and size to that of the surrounding area. The replacement plants will have the same guarantee as the original plants or trees, starting the day of their replacement. The Contractor is not responsible for losses due to vandalism if he has taken reasonable measures for protection of the plants.

1.5 PRODUCT HANDLING

- A. Protect plants before and during installation, maintaining them in a healthy condition. Application(s) of anti–dessicant may be required to minimize damage. The Contractor is responsible for vandalism, theft, or damage to plant material until commencement of the maintenance period.

1.6 REVIEWS

- A. Request the following reviews by the Owner's Representative at least three (3) days in advance (in writing): (1) Rough grading (of landscape area) (2) Soil test (3) Verification of incorporation depths (4) Finish grade (5) Plant material quality approval (6) Plant material layout (7) Plant pit sizes (prior to planting plants) (8) Preliminary inspection (9) Final inspection (5 day advance notice required)

PART 2 – PRODUCTS

2.1 TOPSOIL

- A. Native topsoil or import landscape soil

2.2 NATIVE TOPSOIL

- A. Native soil on site without admixture of subsoil, free from rocks over two cubic inches, debris, and other deleterious material. Native topsoil is to be stripped, stockpiled, and reinstalled.

2.3 IMPORT LANDSCAPE SOIL

- A. Import landscape soil must be tested and meet the following specification:
1. TEXTURE: Sandy loam to loam
2. GRADING:
- | SEIVE SIZE | PERCENT PASSING SIEVE |
|----------------------|-----------------------|
| 25.4 mm (1") | 95 – 100 |
| 9.51 mm (3/8") | 85 – 100 |
| 53 Micron (270 mesh) | 10 – 30 |
3. CHEMISTRY – SUITABILITY CONSIDERATIONS:
- a. Salinity: Saturation Extract Conductivity (E_{ce} x 103 @ 25 degree C.) Less than 4.0
- b. Sodium: Sodium Adsorption Retion (SAR) Less than 9.0
- c. Boron: Saturation Extract Concentration Less than 1.0 PPM
- d. Reaction: pH of Saturated Paste: 5.5 – 7.5
- e. Lime: less than 3% by weight

4. PESTS:

- a. The population of any single species of plant pathogenic nematode: fewer than 500 per pint of soil.

5. ORGANIC MATTER

- a. Soil is to have 5% to 10% organic matter at below 18 inches in depth. Soil is to have less than 30% organic matter at 0 to 18 inches in depth. Organic matter to be less than 1" dia. Do not use mushroom compost. No noxious weeds are allowed.

6. FERTILITY CONSIDERATIONS:

- a. Soil is to contain sufficient quantities of available nitrogen, phosphorous, potassium, calcium, and magnesium to support normal plant growth. In the event of nutrient inadequacies, provisions shall be made to add required materials to overcome inadequacies prior to planting.

7. COMPACTION

- a. Compact the soil enough so it doesn't settle more when walked on and not significantly over time where the flow of drainage will be affected or soil needs to be added. Don't over compact or work soil when it has too much moisture. Dig bottom layer of import soil into existing soil. Compact in 6 inch lifts.

2.4 ORGANIC SOIL AMENDMENT

- A. Redwood sawdust, 0–1/4" in diameter, that is nitrogen stabilized by the supplier, and contains a wetting agent. Also see note on planting plan

2.5 ORGANIC MULCH

- A. See Planting Plan

2.6 PLANTER SOIL MIX

- A. See Planting Plan and Details.

2.7 BACKFILL FOR PLANT PITS

- A. For native soils with 50% or more clay content – 75% topsoil and 25% organic amendment thoroughly mixed and incorporated together with no topsoil clods larger than 1/2" diameter. In heavy clay soils or other soils with large clods this will require mixing the backfill in a stockpile at the site or at the supplier. For soils with less clay content amend only the top 8" of the plant pit backfill as per the soils lab recommendations.

2.8 FERTILIZER

- A. Fertilizer needs and amounts will be based on the results of the soil test
- B. Sod lawn areas (there is no lawn on the plan)

2.9 PLANT MATERIAL SUBSTITUTES

- A. Substitutes will not be permitted except when proof is submitted that plants specified are not available and then only upon approval of the Landscape Architect and Owner.

2.10 OTHER MATERIALS

- A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Landscape Architect.

PART 3 – EXECUTION

3.1 SURFACE CONDITIONS

- A. Examine the areas and conditions under which the work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the work. Do not proceed until unsatisfactory conditions are corrected.
- B. Weed and Debris Removal – All ground areas to be planted shall be cleaned of all weeds and debris prior to any soil preparation or grading work. Weeds and debris shall be disposed of off the site.

- C. Contaminated Soil – Do not perform any soil preparation work in areas where soil is contaminated with cement, plaster, paint or other construction debris. Bring such areas to the attention of the Owner's Representative and do not proceed until the contaminated soil is removed and replaced.
- D. Moisture Content – Soil shall not be worked when moisture content is so great that excessive compaction will occur, nor when it is so dry that dust will form in the air or that clods will not break readily. Water shall be applied, if necessary, to bring soil to an optimum moisture content for tilling and planting.

3.2 ROUGH GRADING AND TOPSOIL PLACEMENT

- A. Request a review by the Owner's Representative to verify specified limits and grades of work completed to date before starting soil preparation work. Place topsoil as required to obtain an 12" minimum depth of topsoil or as noted otherwise on the Plans. (Topsoil may already exist in the planting areas). Integrate topsoil layer into subsoil or existing compacted topsoil layer by ripping. Complete rough grading as necessary to round top and toe of all slopes, providing naturalized contouring to integrate newly graded area with the existing topography. Verify that rough grading is completed in accordance with civil engineering drawings and/or any landscape grading drawings. Break through any compacted layers of subgrade material (sometimes left from building or paving pad compaction) that will not allow water in planting areas to percolate through, causing a boggy, over saturated soil condition. You may have to use a backhoe or rotamowers to break up and turn soil to a minimum depth of 12". If proposed planters are in areas of existing paving or baseroack, remove at least 12" of material and bring in top soil up to grade required by grading plan. Rough grading in planting areas is to be such that when amendment is incorporated and the mulch is installed, the grade will be +– 1" to finish grade.
- B. Soil Preparation: (1) Distribute soil (organic) amendment and fertilizer in the amounts recommended by the soils lab over all planting areas unless noted otherwise on the Plans. (2) Rip and/or till the amendment and fertilizer into the top 6" to 8" of soil until they are thoroughly mixed in. Hand work areas inaccessible to mechanical equipment. (3) Moisten to uniform depth for settlement and regrade to establish elevations and slopes indicated on Drawings.

3.3 FINISH GRADING

- A. The Contractor shall make himself familiar with the site and grading plans and do finished grading in conformance with said Plans and as herein specified.
- B. Grades not otherwise indicated shall be uniform levels or slopes between points where elevations are given or between points established by walks, paving, curbs, or catch basins. Finish grades shall be smooth, even, and on a uniform plane with no abrupt changes of surface. Minor adjustments of finish grades shall be made at the direction of the Landscape Architect, if required.
- C. All grades shall provide for natural runoff of water without low spots or pockets. Flowline grades shall be accurately set and shall be not less than 2% gradient wherever possible. Grades shall slope away from building foundations unless otherwise noted on Plans. All finish grades (top of mulch) are 1" below finish grade of walks, pavements, curbs, and valve boxes unless otherwise noted.

3.5 MULCHING

- A. Recultivate soils compacted by planting or other operations and smooth the soil areas prior to applying mulch. Mulch all planting areas to a depth as noted on plans. This depth should be as per the plans even after being settled and stepped on 30 days after installation. Water lightly to settle mulch. Do not bury ground cover with mulch. Place and settle mulch in such a way that it does not get washed onto paving or block drain swales or inlets.

3.6 WEED CONTROL

- A. The Contractor is responsible for pre–emergent weed control. Follow the manufacturer's directions. The Contractor is responsible for the replacement of any plants (other than weeds) that are hurt or killed due to the misuse of weed control products or use of the wrong product. Clay soils can increase the affect of certain pre–emergents. Adjust the application rate accordingly. Some owners may prefer hand weeding to chemical weed control although it is usually more expensive.

3.7 MAINTENANCE

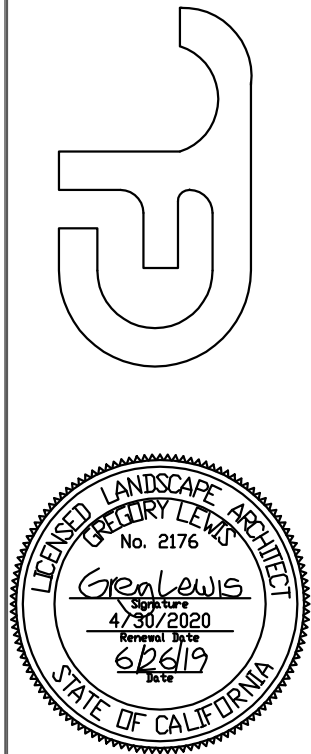
- A. Maintenance shall begin immediately after each plant is installed.
- B. Maintenance will include:
1. Continuous operations of watering, weeding, cultivating, fertilizing, spraying, insect, pest, fungus, and rodent control, and any other operations to assure good normal growth.
2. Fertilizing: In addition to fertilizing of trees, shrubs and ground covers, herein specified, furnish and apply any additional fertilizers necessary to maintain plantings in a healthy, green vigorous growing condition during the maintenance period.
3. Weeding, Cultivating and Clean Up: Planting areas shall be kept neat and free from debris at all times and shall be cultivated and weeded at no more than 10–day intervals.
4. Insect, Pest and Disease Control: Insects and diseases shall be controlled by the use of approved insecticides and fungicides. Moles, gophers, and other rodents shall be controlled by traps, approved pellets inserted by probe gun, or other approved means.
5. Protection: Work under this Section shall include complete responsibility for maintaining adequate protection for all areas. Any damaged areas shall be repaired at no additional expense to the Owner.
6. Replacements: Immediately replace any plant materials that die or are damaged. Replacements shall be made to the Specifications as required for original plantings.
7. Hand Watering: Even when planting areas are watered with automatic irrigation, the soil surrounding the plant pits can be moist while the sawdust/sand root ball is dry. This can cause the plants to deteriorate or not grow (even during the winter). The plants will do best (especially during the hot season) if they are hand watered deeply until their roots grow out into the surrounding soil.

3.8 PRELIMINARY INSPECTION

- A. As soon as all the planting is installed, the Contractor will request the Owner's Representative (in writing) to make a preliminary inspection. The 30 calendar day maintenance period will start when the work is approved. Replacement and/or repairs may be required for approval. The Contractor is to notify the Owner and the Owner's Representative in writing when the 30 day maintenance period begins.

3.9 FINAL INSPECTION

- A. At least 5 days prior to the anticipated end of the maintenance period, the Contractor shall submit a written request for final inspection. The planting areas shall be weeded, neat and clean. The work shall be accepted by the Owner exclusive of the plant materials upon written approval of the work by the Owner's Representative.



New Residence for
Long Kai & Yuning Cai
1015 Hayre Court, Sunnyvale, CA

Date	6/26/19
Scale	As Noted
Drawn	Greg
Job Sheet	