



DRIVEWAYS



LOCATION OF OLD AND NEW PANELBOARDS



LOCATION OF NEW PANELBOARD



OLD AND NEW PANELBOARDS LOCATIONS

ENGINEERING



DEPARTMENT

REVISIONS:
R1 ADDED VISION TRIANGLES
DH 7/20/2020
R2 ADD LOCATION PICS SHT2
DH 7/30/2020

DISTRIBUTION MAP ☒ DATE: INT:
PLAN SHEET ☒
SYSTEM SCHEMATIC ☒
STATION SCHEMATIC ☒
SOW MAP ☐
VALVE RECORD ☐

PLAY SHEET NO.:

N-17
SCALE:

NOTED

DRAWN BY:

D. HEARN

DESIGNED BY:

H. ADADA

CHECKED BY: DATE:

APPROVED BY: DATE:

7/20/2020



TITLE:

LAS STATION 27
623 W. FREMONT AVENUE
PLOT PLAN AND ELEVATION

DISTRICT:
LOS ALTOS

SUBURBAN

DATE:
5/14/2020

PROJECT ID.:

98010

DRAWING NO.:

LAS-3545 R2

SHT 2 OF 2

SCALE: 1" = 10'

1. EXISTING SCADA ANTENNA MOUNTED ON TANK.
2. EXISTING RTU PANEL/PAD.
3. EXISTING PANELBOARD/PAD.

REVISIONS:

PLAT SHEET NO.:

DESIGNED BY:

TECH REVIEW: DATE

CHECKED BY: _____ DATE _____

APPROVED BY: _____ DATE _____

1. GENERAL
ALL CONSTRUCTION NOT SPECIFICALLY DETAILED SHALL CONFORM TO THE REQUIREMENTS OF THE 2019 CALIFORNIA BUILDING CODE (CBC) AND ANY LOCAL CODE REQUIREMENTS. ALL DETAILS, SECTIONS AND NOTES SHOWN ON THE DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS ELSEWHERE UNLESS OTHERWISE NOTED.

THE CONTRACTOR SHALL COMPARE THIS DRAWING WITH EXISTING CONDITIONS AT THE SITE, AND WITH ALL OTHER APPLICABLE DRAWINGS. CONTRACTOR SHALL VERIFY MEASUREMENTS OF ALL EXISTING FEATURES AFFECTING HIS WORK, AND SHALL REPORT ANY DISCREPANCIES TO THE CALIFORNIA WATER SERVICE COMPANY ENGINEER FOR CLARIFICATION AND ADJUSTMENT BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR VERIFICATION OF ALL DIMENSIONS SHOWN ON THIS DRAWING WITH THE REQUIREMENTS OF EXISTING CONDITIONS AND ALL RELATED NEW EQUIPMENT.

FOUNDATION PREPARATION: AREAS TO RECEIVE FILL SHALL BE SCARIFIED TO A DEPTH OF SIX INCHES AND MOISTURE-CONDITIONED TO A MINIMUM OF 2% ABOVE OPTIMUM MOISTURE CONTENT, AND RECOMPACTED TO A MINIMUM 90% OF THE MAXIMUM DRY DENSITY PER ASTM D1557. THERE SHALL BE A MINIMUM OF 6" CLASS 2 AGGREGATE BASE (AB) UNDER ANY PROPOSED FOUNDATION COMPACTED TO 95% MDD.

FOOTINGS SHALL BE AS DETAILED ON THE DRAWINGS. THE FOUNDATION DESIGN IS BASED UPON THE VALUES FOR CLASS 5 MATERIALS LISTED IN TABLE 1806.2 OF THE CBC. THE FOOTINGS HAVE BEEN DESIGNED FOR AN ALLOWABLE SOIL BEARING PRESSURE OF 1,500 PSF (DL+LL) PLUS ONE THIRD INCREASE FOR WIND AND SEISMIC LOADS.

THE AGGREGATE BASE, FORMS AND SUBGRADE SHALL BE THOROUGHLY WETTED BEFORE PLACEMENT OF CONCRETE.

2. CONCRETE
ALL CONCRETE SHALL DEVELOP A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS OF AGE (DESIGN BASED ON 2500 PSI—NO SPECIAL INSPECTION IS REQUIRED PER EXCEPTION 2.3 IN SECTION 1705.3 OF 2019 CBC). THE SLUMP SHALL BE THE MINIMUM CONSISTENT WITH PLACING CONDITIONS BUT SHALL NOT EXCEED 4 1/2".

PLACE CONCRETE IN ACCORDANCE WITH ACI-301. ENSURE THAT REINFORCEMENT AND EMBEDDED ITEMS ARE NOT DISTURBING PLACEMENT OF CONCRETE. TOP OF THE FLOOR SHALL BE TRUE TO INDICATED ELEVATIONS. VARIATIONS SHALL NOT EXCEED 1/8" IN 10 FEET. THE SURFACE OF THE CONCRETE SHALL BE TRUE TO THE FOLLOWING FINISHES: HARD STONE, BROOM FROWEL FINISH, SMOOTH AND LEVEL. CONTRACTOR SHALL PATCH IMPERFECTIONS AS REQUIRED BY CLIENT. PROTECT CONCRETE FROM PREMATURE DRYING, MAINTAIN CONCRETE WITH MINIMAL MOISTURE LOSS AT A RELATIVELY CONSTANT TEMPERATURE FOR PERIOD NECESSARY FOR DEVELOPMENT OF CEMENT AND HARDENING OF CONCRETE.

ALL EXPOSED HORIZONTAL AND VERTICAL EDGES AND CORNERS SHALL HAVE 3/4" x 3/4" CHAMFERS

NO ALUMINUM CONDUIT OR PRODUCTS CONTAINING ALUMINUM OR ANY OTHER MATERIAL INJURIOUS TO THE CONCRETE SHALL BE EMBEDDED IN THE CONCRETE.

3. REINFORCING STEEL
ALL BARS SHALL BE GRADE 40 DEFORMED BARS CONFORMING TO ASTM A615. REINFORCING BAR BENDS AND STANDARD HOOKS SHALL CONFORM TO ACI 318, LATEST EDITION. ALL BENDS SHALL BE STANDARD HOOKS UNLESS OTHERWISE SHOWN. BARS 20 FEET AND SHORTER IN LENGTH SHALL BE IN SINGLE LENGTH RUNS WITHOUT SPLICES. BARS LONGER THAN 20 FEET IN LENGTH SHALL BE SPLICED WITH 48 BAR DIAMETER LAPS (2'-0" FOR #4 BARS). SPLICES IN ADJACENT BAR RUNS SHALL BE WELL STAGGERED.

4. SPECIAL INSPECTION
PERIODIC SPECIAL INSPECTION MUST BE PERFORMED WHERE REQUIRED FOR CONCRETE EPOXY ANCHORS IN ACCORDANCE WITH SECTION 1705.1.1 OF THE 2019 CBC, WHEREBY SPECIAL INSPECTION IS DEFINED IN SECTION 202 OF THE 2019 CBC.

5. EPOXY ANCHORS
EPOXY ANCHORS SHALL BE ASTM F593 HAS-R 316 STAINLESS STEEL THREADED ROD WITH HILTI HIT-RE500 V3. ALL EPOXY ANCHORS SHALL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS & ICC REPORT #3814. VISUAL SPECIAL INSPECTION IS REQUIRED.

THE FOUNDATION MUST BE SQUARE, AND THE ANCHOR BOLTS MUST BE ACCURATELY PLACED PLUMB. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE FOUNDATION.

SCOPE: PROVIDE STRUCTURAL FOUNDATION & ANCHORAGE CALCULATIONS & DRAWING FOR NEW PANELBOARD, METER PANEL & HYDRAULIC ENCLOSURE.

SECTION 1604.5 & TABLE 1604.5: RISK CATEGORY.....III

<u>SECTION 1606 - DEAD LOADS</u>	
PANELBOARD	5.0 K
METER PANEL	2.0 K
HYDRAULIC ENCLOSURE	0.2 K
<u>SECTION 1607 - LIVE LOADS</u>	N/A
<u>SECTION 1608 - SNOW LOAD</u>	N/A

SECTION 1609 – WIND DESIGN DATA	
BASIC DESIGN SPEED, V (3s GUST)	99 MPH
NOMINAL DESIGN SPEED, $V_{ASR} = V\sqrt{0.6}$ (3s GUST)	77 MPH
WIND EXPOSURE	B
INTERNAL PRESSURE COEFFICIENT	N/A
DESIGN WIND PRESSURE (ASCE7-16 SECTION 26.10.2), q_s	12.87 PSF (USE 16PSF)
DESIGN WIND LOAD (ASCE7-16 SECTION 29.4 & 29.7), F	0.6 K

SECTION 1613 - EARTHQUAKE DESIGN DATA	
LATITUDE	37.35°
LONGITUDE	-122.04°
SITE CLASS	D
SPECTRAL RESPONSE @ 0.2 SEC PERIOD, S_s	1.737
SPECTRAL RESPONSE @ 1.0 SEC PERIOD, S_1	0.614
SHORT PERIOD SITE COEFFICIENT @ 0.2 SEC PERIOD, F_a	1.200
LONG PERIOD SITE COEFFICIENT @ 1.0 SEC PERIOD, F_v	1.700
MODIFIED SPECTRAL RESPONSE @ 0.2 SEC PERIOD, S_{ms}	2.085
MODIFIED SPECTRAL RESPONSE @ 1.0 SEC PERIOD, S_{m1}	0.954
DESIGN SPECTRAL RESPONSE COEFFICIENTS, S_{DS}	1.390
	S_{D1} 0.696

CHAPTER 13: ELEMENTAL DESIGN (ASCE 7-16 SECTION 13.3.1);	
SEISMIC DESIGN CATEGORY	D
BASIC SEISMIC FORCE RESISTING SYSTEM	PANELBOARD
SEISMIC IMPORTANCE FACTOR, I_e	1.5
AMPLIFICATION FACTOR, a_g (TABLE 13.6-1)	2.5
RESPONSE MODIFICATION FACTOR, R_e (TABLE 13.6-1)	6.0
HEIGHT FACTOR, z/h (ANCHORS TO SLAB; $z=0$)	0.0
SEISMIC DESIGN FORCE, F_p	$F_p = \frac{0.4 a_g S_a W}{(R_e I_e)} \left[1 + 2 \frac{z}{h} \right] = 0.348$

MINIMUM SEISMIC DESIGN FORCE, $F_{p(\min)}$ $F_{p(\min)} = .3(Sds)(W_p) = 0.626 W_p$ (CONTROLS)

SEISMIC DESIGN CATEGORY	D
BASIC SEISMIC FORCE RESISTING SYSTEM	OTHER SELF SUPPORT EQ.
SEISMIC IMPORTANCE FACTOR, I	1.25
RESPONSE MODIFICATION FACTOR, R	1.25

EQUATION 15.4-5. $QE = .3(Sds)(I)(W) = 0.521$ V
 EQUATION 15.4-2 (IF $S1 > 0.6g$) $QE = \frac{(0.8)(S1)(W)}{\frac{R}{I}} = 0.491$ V

20-018

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REGISTERED PROFESSIONAL ENGINEER
ALICIA GARCIA
No. 87143

PEG JOB #	DRAWN BY:	CHECKED BY:	DATE:	 Exp. 09-30-21 02/07/2020 STATE OF CALIFORNIA CIVIL NOT VALID WITHOUT WET SIGNATURE
	<u>A. GARCIA</u>	<u>A.G.</u>	<u>02/07/2020</u>	
	DESIGNED BY:	APPROVED BY:	DATE:	
	<u>A. GARCIA</u>	<u>[Signature]</u>	<u>02/07/2020</u>	

PE: A. GARCIA *Alex* 02/07/2020 NOT VALID WITHOUT WET SIGNATURE

THE FOLLOWING ITEMS SHALL BE INSPECTED. "SPECIAL INSPECTION" SHALL CONFORM TO 2019 CBC
705. SPECIAL INSPECTION AGENCIES AND/OR INDIVIDUALS SHALL BE RETAINED BY THE OWNER AN
APPROVED BY THE BUILDING OFFICIAL PRIOR TO ANY WORK. FOR MATERIAL TESTING REQUIREMENTS,
SEE SPECIFICATIONS AND/OR GENERAL NOTES. TESTING AGENCY SHALL SEND COPIES OF ALL
STRUCTURAL TESTING AND INSPECTION REPORTS DIRECTLY TO THE BUILDING OFFICIAL AND ENGINEER.

3'-6" ±

5 1/2"

31" METER PANEL

5 1/2"

3/4" CHAMFERS, TYP.

4" CONCRETE SLAB w/ #3 @ 12" O.C. EA. WAY (CENTERED) o/ COMPACTED PAD & SUBGRADE

FINISH GRADE

2% SLOPE

5/8" x 9" EMBED. HILTI HAS-R STAINLESS STEEL THREADED RODS w/ HILTI EPOXY ANCHORS. EXACT ANCHOR BOLT LOCATION TO BE DETERMINED IN THE FIELD (10 TOTAL). VISUAL SPECIAL INSPECTION IS REQUIRED.

3"

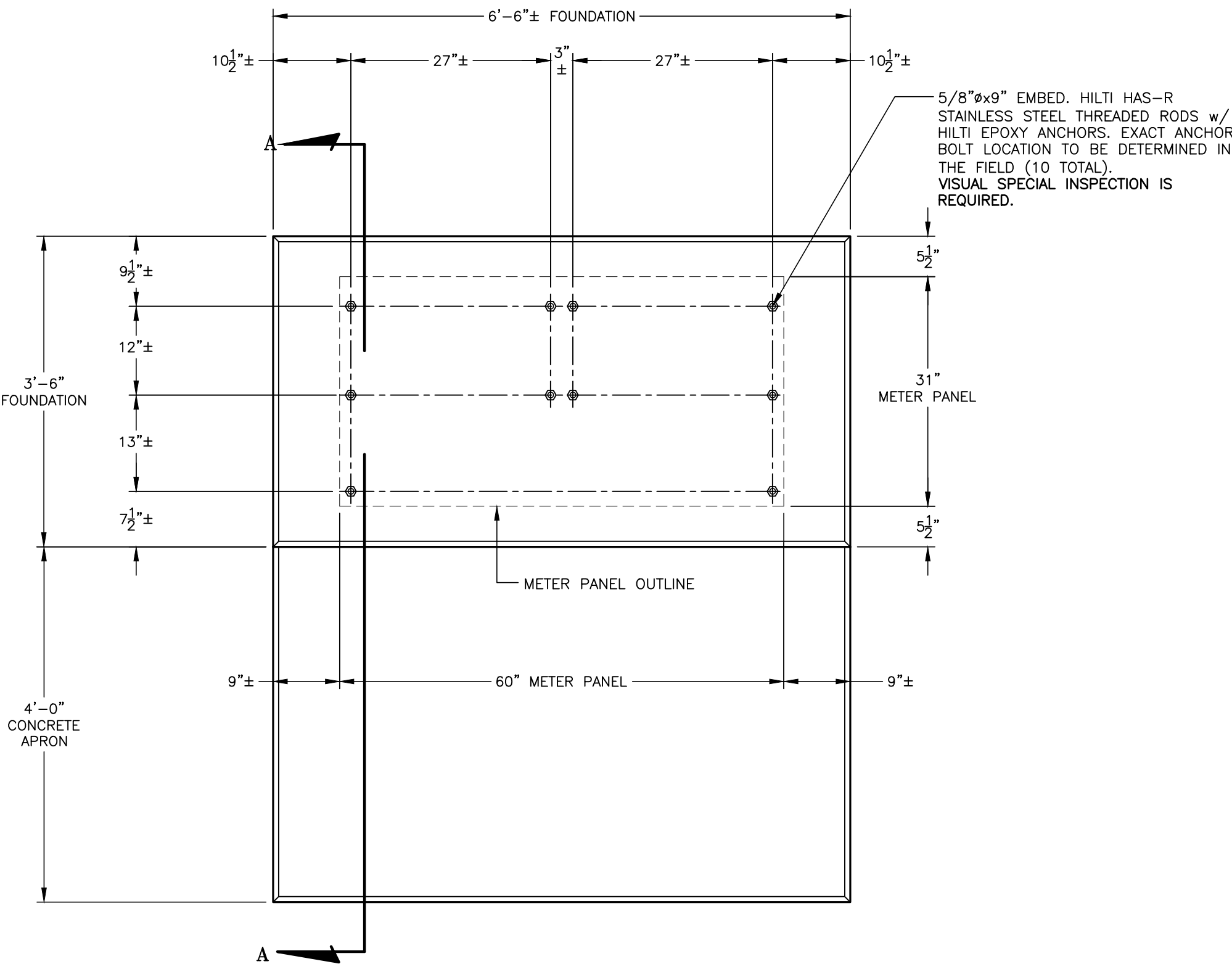
12"

3" CLR.

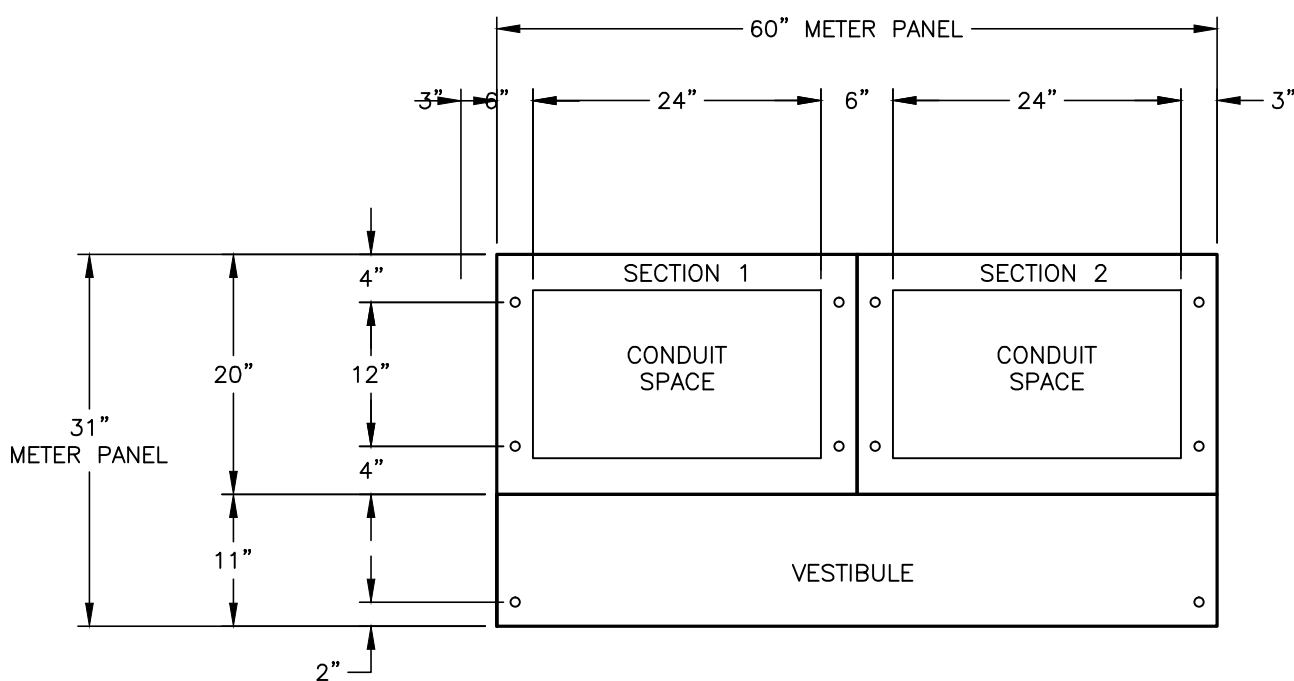
#4 @ 12" O.C., TYP.

12" CONC. SLAB w/ #4 @ 12" O.C. EACH WAY, TYP.

SECTION A-A
SCALE = 3/4" = 1'-0"



PLAN VIEW
SCALE = $3/4" = 1'-0"$



BASE DETAIL
SCALE = 3/4" = 1'-0"

NOTE
CONTRACTOR SHALL ANCHOR METER PANEL
TO FOUNDATION AFTER CONTRACTOR HAS
PLACED METER PANEL ON FOUNDATION.

METER PANEL FOUNDATION PLAN & DETAIL



Know what's below.
Call before you dig

TITLE:

DISTRICT:

LOS ALTOS

DATE:
02/07/2020
PROJECT ID.:
00098010
DRAWING NO.:
LAS-3535
SHT 1 OF 1