

FACILITIES BUILDING EQUIPMENT SCREEN SUTRO TOWER SAN FRANCISCO, CALIFORNIA

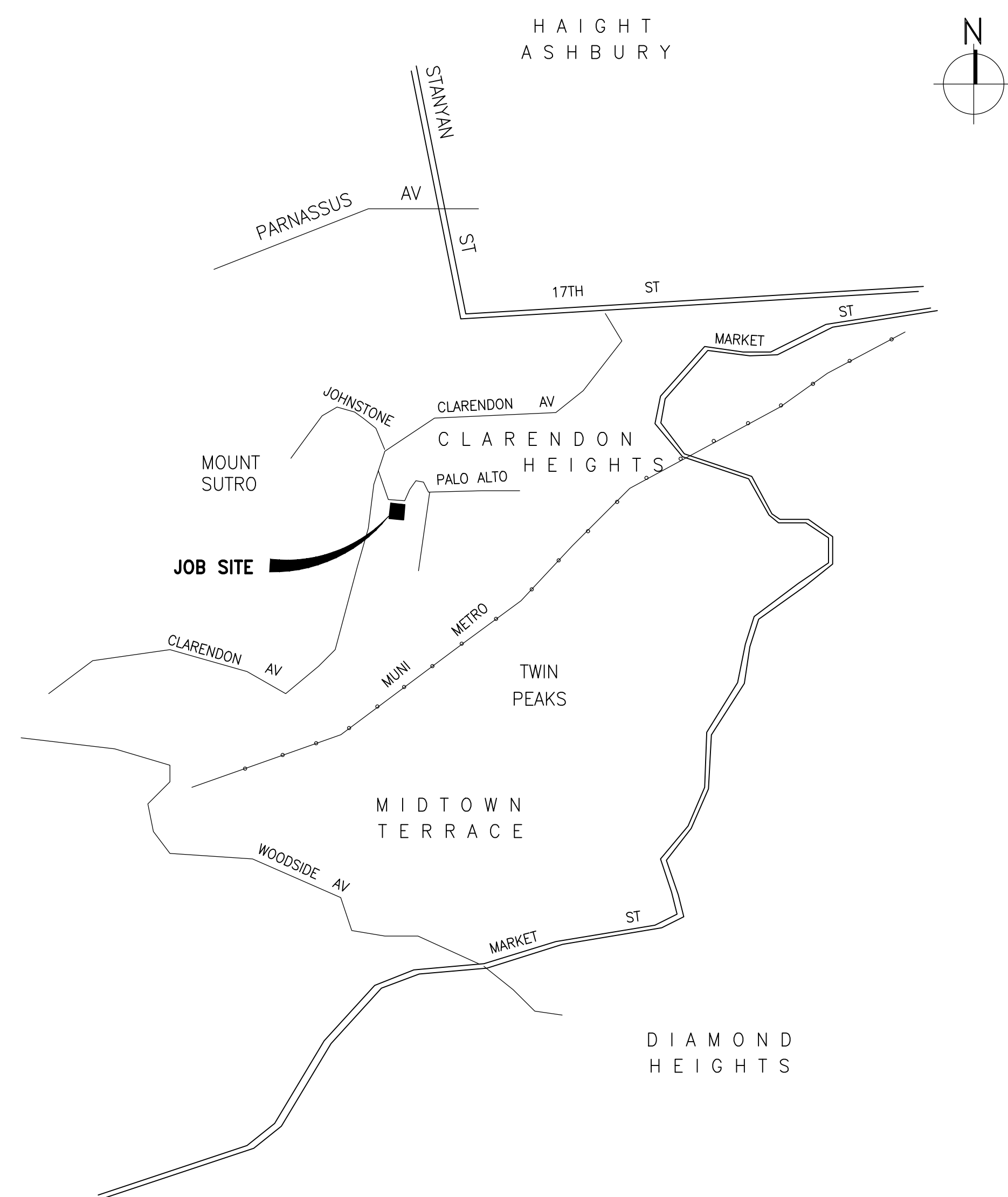
SIMPSON GUMPERTZ AND HEGER

Engineering of Structures
and Building Enclosures

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Consultant

VICINITY MAP



PROJECT SCOPE:

INSTALLATION OF AN EQUIPMENT SCREEN ABOVE THE ROOF LEVEL
ON THE EAST SIDE OF THE FACILITIES BUILDING AND THE
RELOCATION OF (25) EXISTING ANTENNAS.

LIST OF DRAWINGS

- S0.0 TITLE SHEET, VICINITY MAP & LIST OF DRAWINGS
- S0.1 GENERAL NOTES, ABBREVIATIONS & LEGEND
- S1.0 PLAN & ELEVATIONS
- S2.0 ROOF PLAN CURRENT ANTENNA LOCATIONS
- S2.1 ROOF PLAN RELOCATED ANTENNA LOCATIONS
- S3.0 DETAILS
- S5.0 DETAILS
- S6.0 ANTENNA PHOTOGRAPHS

NOT FOR CONSTRUCTION

No.	Date	ISSUED FOR SITE PERMIT Description	ROH By
9/18/15		ISSUED FOR SITE PERMIT	ROH

**EQUIPMENT SCREEN
SUTRO TOWER
1 LA AVANZADA STREET
SAN FRANCISCO, CALIFORNIA**

Project

**TITLE SHEET
VICINITY MAP
&
LIST OF DRAWINGS**

Drawing Title

Project No. 067199.12	Checked BW	Date 06/17/15
Drawn JT	Approved ROH	Scale NONE

Drawing No.
S0.0

Seal

GENERAL

- General notes and typical details apply to all structural features, unless otherwise indicated.
- If certain features are not fully shown or called out on the drawings or in the specifications, their construction shall be of the same character as for similar conditions.
- Dimensions shall not be scaled off of the drawings.
- All work shall conform to minimum standards of the 2013 California Building Code, of any codes listed in the drawings or specifications and of any regulating agencies which have authority over any portion of the work, including the State of California Division of Industrial Safety.
- Openings, pockets, etc. shall not be placed in structural members unless specifically detailed on the structural drawings. Notify the structural engineer when work requires openings, pockets, etc. in structural members not shown on the structural drawings.
- The contractor shall be responsible for coordinating the work of all trades and shall check all dimensions and holes and openings required in structural members. All discrepancies shall be called to the attention of the structural engineer and shall be resolved before proceeding with the work.
- The contract documents represent the finished structure. They do not indicate the method of construction. The contractor shall provide all measures necessary to protect life and property during construction. Such measures shall include, but are not limited to, bracing and shoring for loads due to construction equipment and materials. Observation visits to the site by the structural engineer shall not include inspection of the above items.
- Construction materials shall be spread out if placed on framed floors or roofs. Load shall not exceed the design live load per square foot. Provide adequate shoring where overload is anticipated.
- The contractor shall use extreme caution to protect all conduits, pipes, ducts, architectural finishes and utilities not indicated as being removed from damage during construction and shall restore all damaged or otherwise affected elements to their preconstruction condition, unless otherwise noted.
- The Sutro Tower transmission facilities must remain in operation at all times during the construction period. Contractor shall submit a written work plan indicating the proposed sequence and schedule of work and specific operations to be conducted, to Sutro Tower for review, prior to performing any work on site. The work plan shall be revised and resubmitted on a weekly basis to alert Sutro Tower as to the progress of work accomplished to date and current schedule for performing additional work.
- Sutro Tower is a radio transmission facility and emits high energy radio waves. The contractor shall be responsible for determining and implementing appropriate protective measures for personnel working on site.
- The contractor shall maintain a fire watch and employ the necessary protective measures when welding near flammable materials.
- The removal, cutting, drilling, etc. of existing work shall be performed with care in order not to jeopardize the structural integrity of the structure. If structural members or mechanical, electrical or architectural features not indicated for removal interferes with the new work, the Engineer shall be notified immediately and prior approval shall be obtained before removal of members.
- The contractor shall promptly repair any damage caused during operations, using materials and workmanship similar to that which was damaged.
- All removed items, materials and debris, unless otherwise noted, shall be removed promptly from the site and disposed of in a legal manner.
- Install antenna on masts using manufacturer's standard connection hardware in accordance with manufacturer's specifications.

STRUCTURAL STEEL & MISC. METALS

- Fabrication and erection of structural steel shall be in accordance with the "Code of Standard Practice for Steel Buildings and Bridges" adopted effective March 18, 2005.
- Materials:
 - A. Plates: ASTM A572 grade 50 u.o.n.
 - B. Structural steel tubes: ASTM A500 grade B (fy = 46 ksi)
 - C. Structural steel pipes: ASTM A53 grade B (fy = 35 ksi)
 - D. Channel: ASTM A572 grade 50
 - E. Wide flange: ASTM A992
- All bolts are ASTM A325. Pretensioning is not required.
- Bolt holes in steel shall be 1/16 inch larger diameter than nominal size of bolt used, unless otherwise noted.
- For bolted connections, provide 1/2 inch edge and end distance, unless otherwise noted.
- All welds shall be prequalified or qualified by test in conformance with the "Structural Welding Code - Steel" (AWS D1.1-04) of the American Welding Society. Minimum tensile strength of weld metal shall be 70 ksi typical, unless otherwise noted. Welding electrodes shall be as recommended by their manufacturer for the position and other conditions of actual use.
- Weld symbols shown on the drawings do not necessarily differentiate between shop weld and field welds. When field welds are necessary due to construction procedure or sequence, welds shall be provided and be inspected per specifications. All welds shown as field welds shall be done in the field as indicated.
- All structural steel, miscellaneous metal and connectors exposed to weather shall be hot-dip galvanized after fabrication. Finish paint shall be in accordance with owner's specification.
- No penetrations through structural steel columns, beams or girders are allowed except as indicated on the structural drawings.
- The structural steel fabricator shall furnish shop drawings of all steel for the engineer's review before fabrication.
- A welding procedure specification (W.P.S.) per A.W.S. D1.1 shall be developed by the fabricator/erector and approved by the engineer of record or his designee. The W.P.S. shall include the welding parameters recommended by the electrode manufacturer.
- All complete joint penetration groove welds shall be inspected and tested per City of San Francisco requirements.
- Inspectors are to be S.F. City deputy inspectors and A.W.S. Q.C.I. Certified (a C.W. Inspector), reference A.W.S. D1.1-94, Section 6.1.3.1.

STRUCTURAL INSPECTION, OBSERVATION AND TESTING

- Special Inspection and Testing are required in Sections 1704, 1707 and 1708 of the CBC. The "Statement of Special Inspections," submitted with the permit application, indicates the specific inspections and tests that are required, as well as the persons or firms responsible for this work.
- All tests and inspections shall be performed by a certified Special Inspector from an independent testing agency who is employed by the Owner (or agent of the Owner) and not the Contractor.
 - A. The Special Inspector shall observe the work assigned for conformance with the approved design drawings and specifications.
 - B. The Special Inspector shall furnish inspection reports to the building official, Structural Engineer and other designated persons. All discrepancies shall be brought to the immediate attention of the Contractor for correction, then, if uncorrected, to the proper design authority and to the building official.
 - C. The Special Inspector shall submit a final signed report stating whether the work requiring special inspection was, to the best of the inspector's knowledge, in conformance with the approved plans and specifications and applicable standards of quality and workmanship of the CBC.
- Structural Observation is required by Section 1709 of the CBC. Types of work listed in the following table and indicated as requiring "structural observation" shall be observed during periodic site visits by the Structural Engineer. Contractor is responsible for notifying structural engineer 48 hours before work is ready for observation. These visits do not constitute Special Inspection.
- The following types of work requiring special inspection and structural observation are included in this project:

Portions of Structure	Types of Work	Work Included in Structural Observation	Structural Observation Required
Structural Steel	Shop Welding	X	
	Field Welding	X	X
	High-strength bolting	X	X

STATEMENT OF SPECIAL INSPECTIONS

The following tests and inspections are required for this project. The tests and inspections indicated here are the responsibilities of the Owner's Special Inspector, as required by Section 1704 of the Building Code.

STRUCTURAL STEEL WELDING INSPECTION REQUIREMENTS

- GENERAL:** Testing and inspection shall conform to Appendix Q of AISC "Seismic Provisions for Structural Steel Buildings" (AISC 341-05), unless specifically noted otherwise.
- INSPECTION:** The following inspection items are required for all welding:
 - A. Confirm that applicable and approved Welding Procedure Specifications (WPS) are available for all welds to be performed.
 - B. Confirm that filler metal selection conforms to the requirements of the approved WPS.
 - C. Inspection of materials handling and storage
 - D. Inspection of profile soundness of finished welds

In addition, continuous inspection of the following items is required, except for shop welds performed in approved shops per CBC 1704.2.2 and single-pass fillet welds not exceeding 3/8" weld size:

- E. Inspection of joint fit-up and preparation
- F. Inspection of welding machine settings
- G. Verification of application of preheat
- H. Verification of interpass temperature control
- I. Verification that all applicable requirements of the approved WPS are followed

ABBREVIATIONS

&	And	JST.	Joist
@	At		
A.B.	Anchor bolt	K	Kips
ADD'L	Additional	KSI	Kips per Square Inch
AISC	American Institute of Steel Construction	LBS.	Pounds
ALT.	Alternate	LL	Live Load
ARCH.	Architect	L.L.H.	Long Leg Horizontal
ASD	Allowable Strength Design	L.L.V.	Long Leg Vertical
ASTM	American Society for Testing and Materials	L.TWT	Lightweight Laminated Veneer Lumber
A.W.P.A.	American Wood Preservers Assoc.	L.V.L.	Laminated Veneer Lumber
AWS	American Welding Society	MAX.	Maximum
		M.B.	Machine Bolt
		MECH.	Mechanical
		MFR.	Manufacturer
BLKG.	Blocking	M.I.	Malleable Iron
BM.	Beam	ML	Millimeter
B.N.	Boundary Nail	MIN.	Minimum
BOCA	Building Officials and Code Administrators International, Inc.	MISC.	Miscellaneous
		(N)	New
BOTT.	Bottom	NO.#	Number
BRC.	Bearing	N.S.	Near Side
B.S.	Both Sides	N.T.S.	Not to Scale
BTWN.	Between	NWT	Normalweight
CBC	California Building Code	O.C.	On Center
C.C.	Center to Center	O.D.	Outside Diameter
CCR	California Code of Regulations	O.H.	Opposite Hand
		OPNG.	Opening
C.J.	Control Joint	OPP.	Opposite
C.I.P.	Cast-in-place	OSHPD	Office of Statewide Health Planning and Development
C.L.	Center Line		
CLG	Ceiling		
CLR.	Clear		
CMU	Concrete Masonry Unit	P.A.F.	Powder-Actuated Fasteners
COL.	Column	PART.	Partial
CONC.	Concrete	PCF	Pounds per Cubic Foot
CONN.	Connection	PL	Plate
CONT.	Continuous	PLY	Plywood
C.P.	Complete Penetration	P.P.	Partial Penetration
CSK	Countersink	PSF	Pounds per Square Foot
CTBR.	Counterbore	PSI	Pounds per Square Inch
CTR.	Center	PWJ	Plywood Web Joists
DBA	Deformed Bar Anchor	RAD.	Radius
DBL.	Double	R.D.	Roof Drain
DC	Demand Critical (Weld)	REINF.	Reinforcing
DET., DETL.	Detail	REQ.	Required
DF	Douglas Fir	RF.	Roof
DIA.#	Diameter	R.O.	Rough Opening
DIAG.	Diagonal	RND.	Round
DL	Dead Load	RN.	Remove & Replace
DN	Down		
DO	Ditto		
DSA	Division of the State Architect	S.A.D.	See Architectural Drawings
DWG(S).	Drawing(s)	SCHED.	Schedule
		SFRS	Seismic Force-Resisting System
(E)	Existing	SHT.	Sheet
EA	Each	SHTG.	Sheathing
E.F.	Each Face	SHM.	Similar
E.J.	Expansion Joint	S.M.D.	See Mechanical Drawings
ELEV./EL.	Elevation	S.O.G.	Slab on Grade
EMB./EMBED.	Embedment	S.P.	Southern Pine
E.N.	Edge Nail	SSTL.	Stainless Steel
EQ.	Equal	STAGG'D.	Staggered
EQUIP.	Equipment	STD.	Standard
E.W.	Each Way	STIFF.	Stiffener
		STL.	Steel
FDN.	Foundation	STRUCT.	Structural
F.F.	Finish Floor	SYMM./SYM	Symmetrical
F.G.	Finish Grade		
FIN.	Finish		
F.O.C.	Face of Concrete	T&B	Top and Bottom
F.O.M.	Face of Masonry	T&G	Tongue & Groove
F.O.S.	Face of Stud	T.N.	Toe Nail
FRMG.	Framing	T.O.C.	Top of Concrete
F.S.	Far Side	T.O.S.	Top of Steel
FTG.	Footing	T.O.W.	Top of Wall
		TS	Tube Steel
		TYP.	Typical
G.A.	Gage		
GALV.	Galvanized	UBC	Uniform Building Code
G.L.	Grid Line	U.O.N.	Unless Otherwise Noted
GLB	Glue-Laminated Beam		
GR.	Grade	VERT.	Vertical
		V.I.F., ±	Verify in Field
HDC.	Hot-dip Galvanized		
HGR.	Hanger	W/	With
HK.	Hook	W/O	Without
HORIZ.	Horizontal	WCLB	West Coast Lumber Inspection Bureau
H.S.B.	High Strength Bolt		
HSS	Hollow Structural Sections	W.P.	Working Point
HT.	Height	W.H.S.	Welded Headed Stud
		W.T.S.	Welded Threaded Stud
ICBO	International Council of Building Officials	W.W.F.	Welded Wire Fabric
ICC	International Code Council	WWPA	Western Wood Products Association
INT.	Interior		
INV.	Inverted		

GENERAL SYMBOLS AND LEGEND

- REVISION
- GRIDLINE INDICATING CENTERLINE OF CONCRETE OR PLYWOOD SHEAR WALL
- TYPICAL GRIDLINE INDICATING FACE OF CONCRETE WALL
- BUILDING SECTION OR ELEVATION
- WORK POINT, DATUM OR CONTROL POINT, FIN. FLR. ELEVATION, S.A.D.
- DETAIL REFERENCE
- PROJECT NORTH, S.A.D. FOR TRUE NORTH

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9/18/15	ISSUED FOR SITE PERMIT	ROH
No. Date	Description	By

**EQUIPMENT SCREEN
SUTRO TOWER
1 LA AVANZADA STREET
SAN FRANCISCO, CALIFORNIA**

Project

**GENERAL NOTES
ABBREVIATIONS
&
LEGEND**

Drawing Title

Project No. 067199.12	Checked BW	Date 06/17/15
Drawn JT	Approved ROH	Scale NONE

Drawing No.
S0.1

Seal

Consultant

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		Description	By
9/18/15			

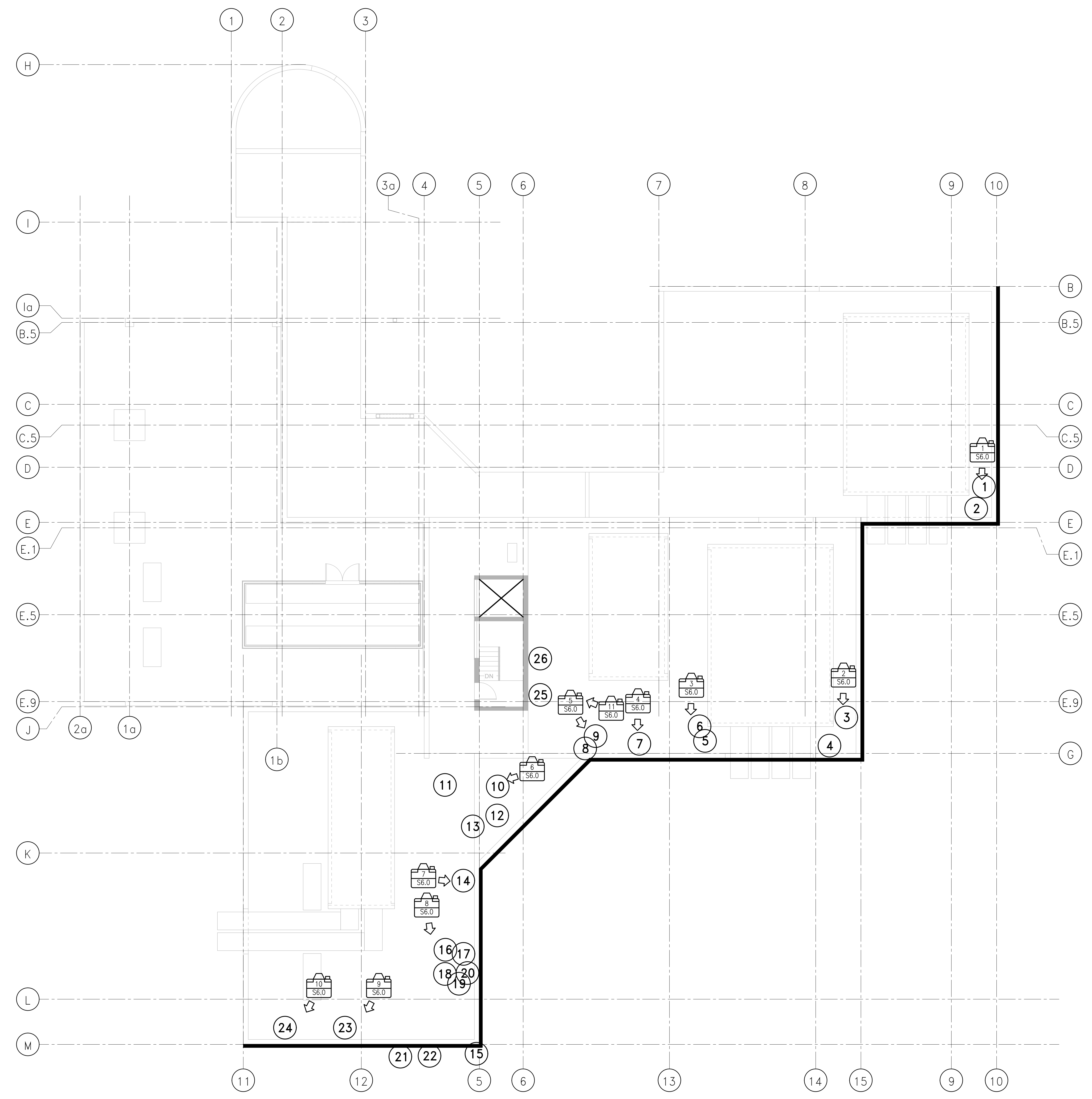
**EQUIPMENT SCREEN
 SUTRO TOWER
 1 LA AVANZADA STREET
 SAN FRANCISCO, CALIFORNIA**

Project

**ROOF PLAN
 CURRENT ANTENNA
 LOCATIONS**

Project No. 067199.12		Checked BW	Date 06/17/15
Drawn JT		Approved ROH	Scale AS NOTED
Drawing No.		Drawing No.	
		S2.0	

Seal



1 ROOF PLAN SHOWING ANTENNA LOCATIONS
 SCALE: 1/8"=1'-0"

LEGEND

- NEW ROOF SCREEN AND SUPPORT SYSTEM SEE 16 S6.0
- APPROXIMATE LOCATION OF ANTENNA
- APPROXIMATE LOCATION OF PHOTOGRAPH
- DETAIL NUMBER
- SHEET NUMBER

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Consultant

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No.	Date	ISSUED FOR SITE PERMIT Description	ROH By
9/18/15		ISSUED FOR SITE PERMIT	ROH

**EQUIPMENT SCREEN
SUTRO TOWER
1 LA AVANZADA STREET
SAN FRANCISCO, CALIFORNIA**

Project

**ROOF PLAN
RELOCATED ANTENNA
LOCATIONS**

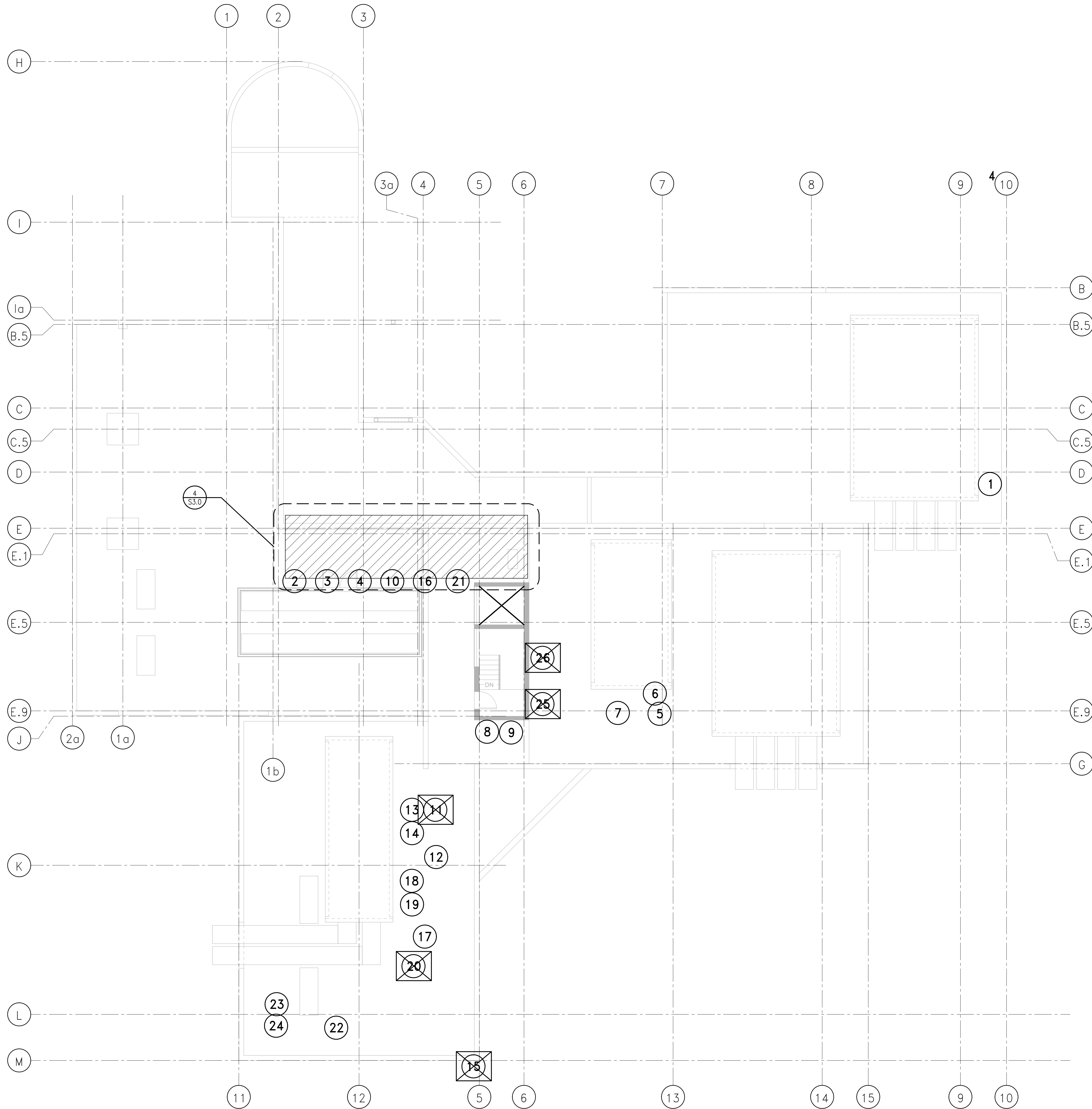
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Project No. 067199.12	Checked BW	Date 06/17/15
Drawn JT	Approved ROH	Scale AS NOTED

Drawing No.

S2.1

Seal



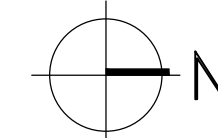
LEGEND

1 APPROXIMATE LOCATION OF RELOCATED ANTENNA

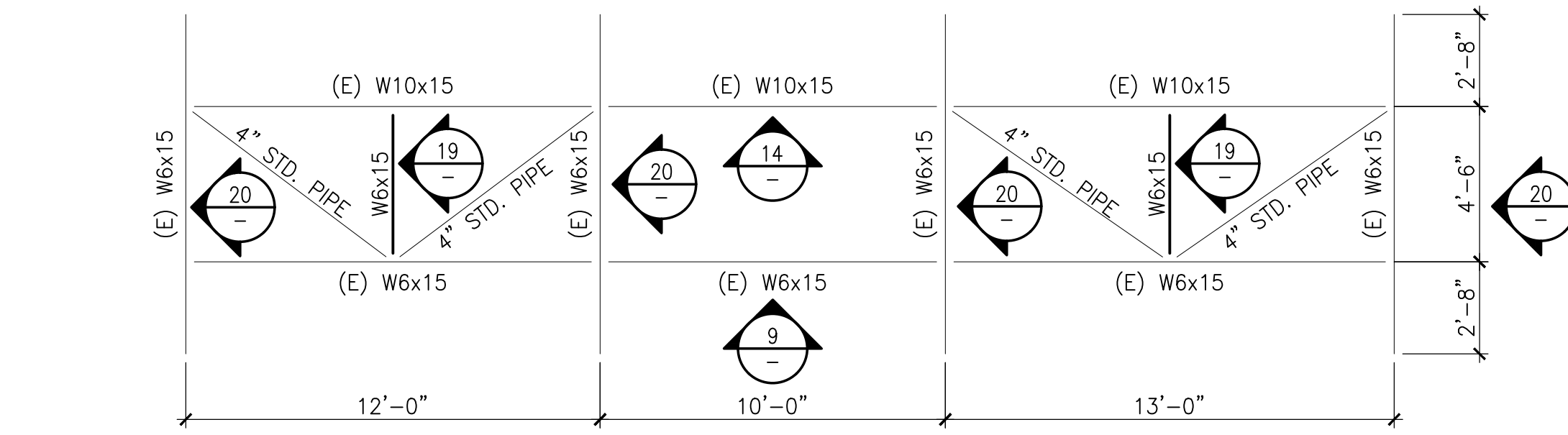
X ANTENNA TO BE REMOVED

1 ROOF PLAN

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



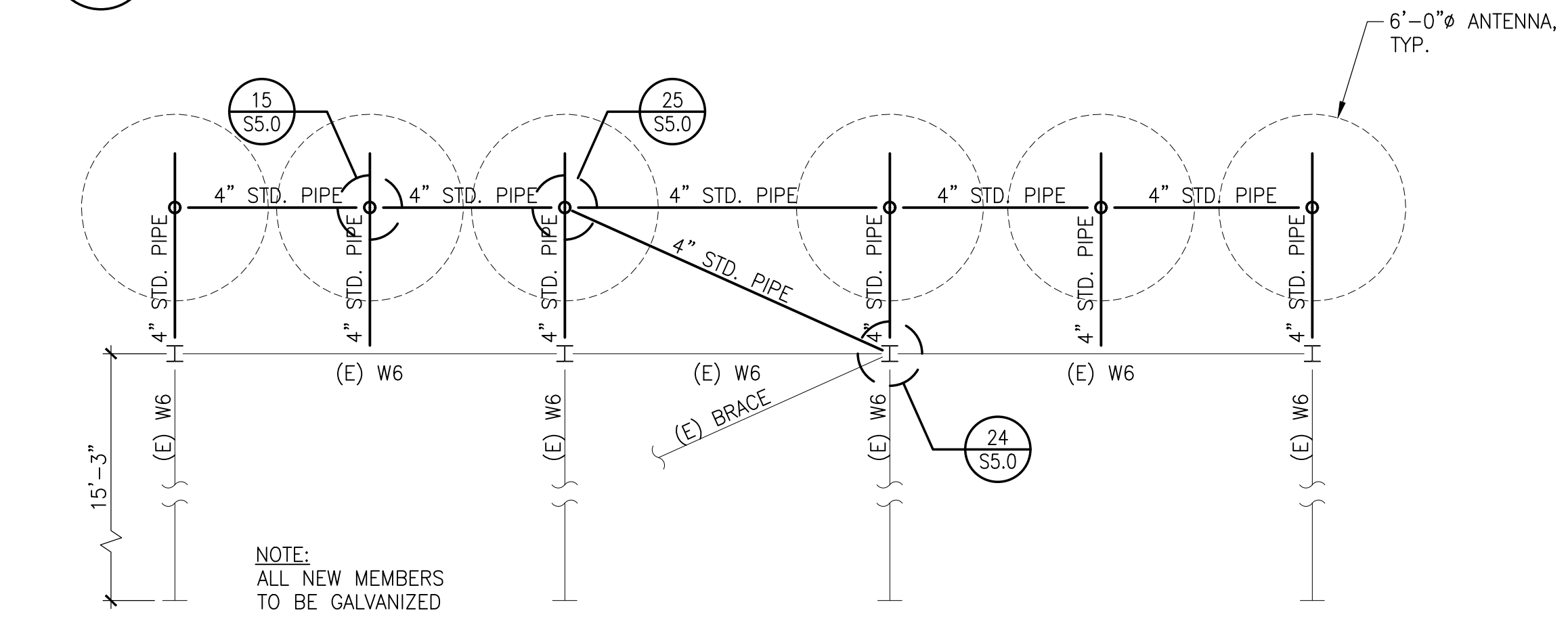
Consultant



NOTE:
ALL NEW MEMBERS
TO BE GALVANIZED

4 PLAN

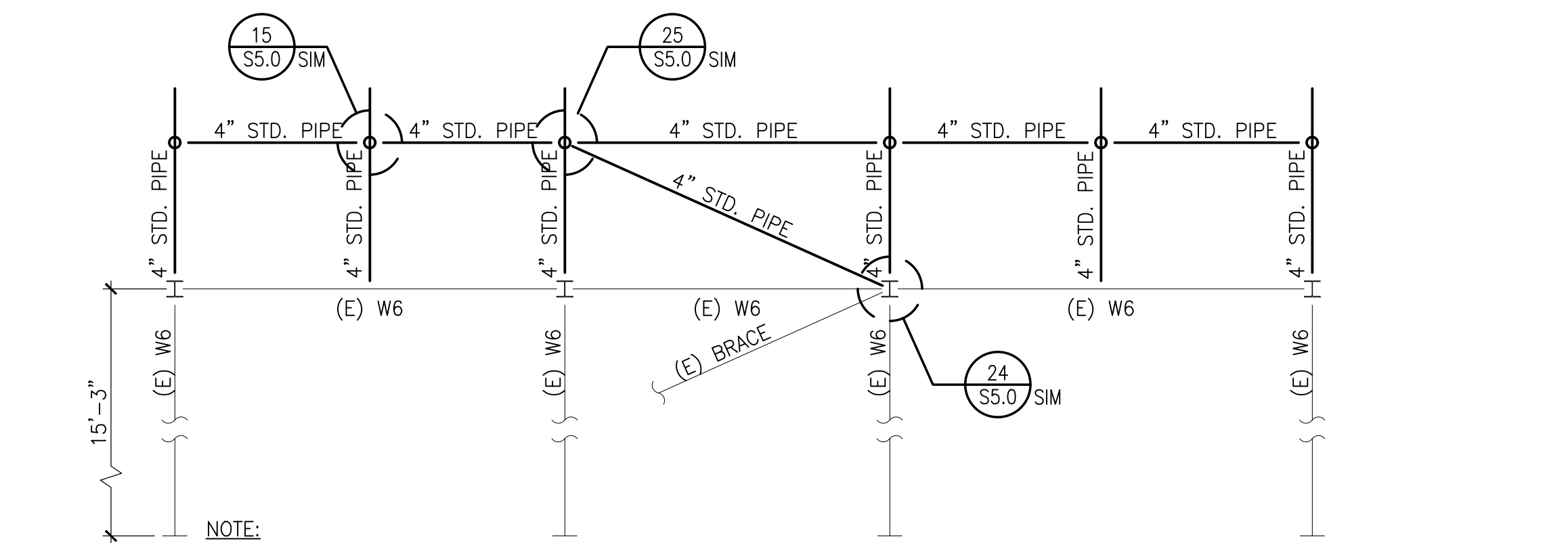
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NOTE:
ALL NEW MEMBERS
TO BE GALVANIZED

9 ELEVATION

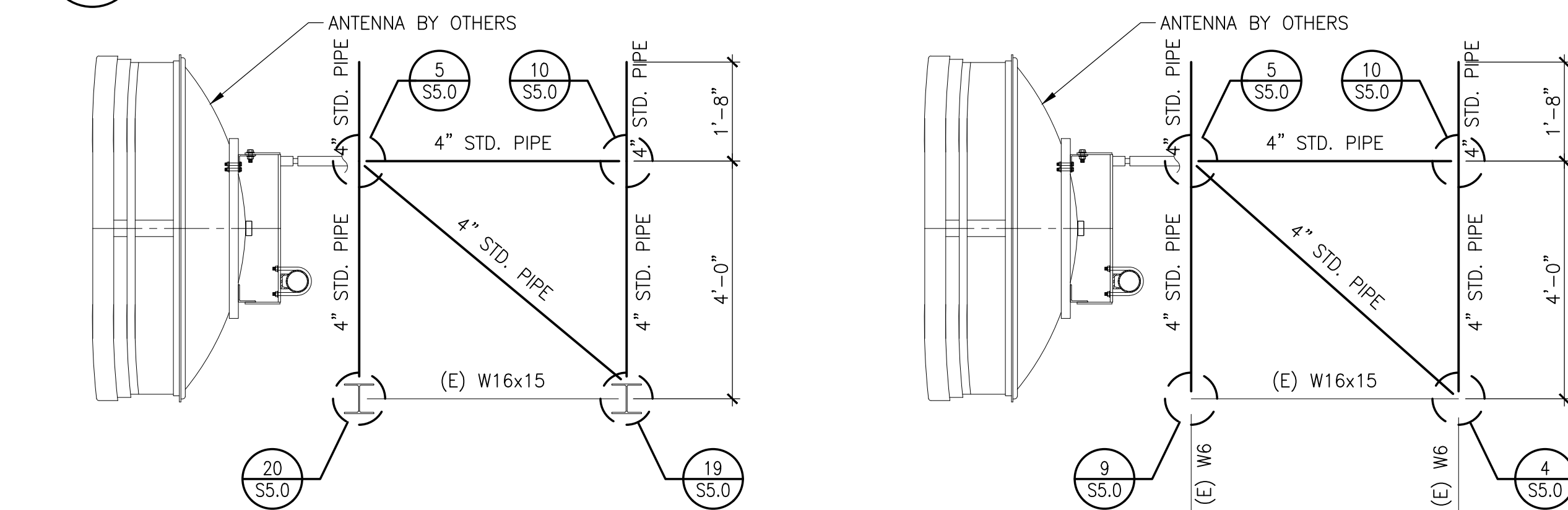
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NOTE:
ALL NEW MEMBERS
TO BE GALVANIZED

14 ELEVATION

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



NOTE:
ALL NEW MEMBERS
TO BE GALVANIZED

19 DETAIL

SCALE: 1/2"=1'-0"

NOTE:
ALL NEW MEMBERS
TO BE GALVANIZED

20 DETAIL

SCALE: 1/2"=1'-0"

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DETAILS

Drawing Title

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Drawing No.

S3.0

Seal

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9/18/15			

**EQUIPMENT SCREEN
 SUTRO TOWER
 1 LA AVANZADA STREET
 SAN FRANCISCO, CALIFORNIA**

Project

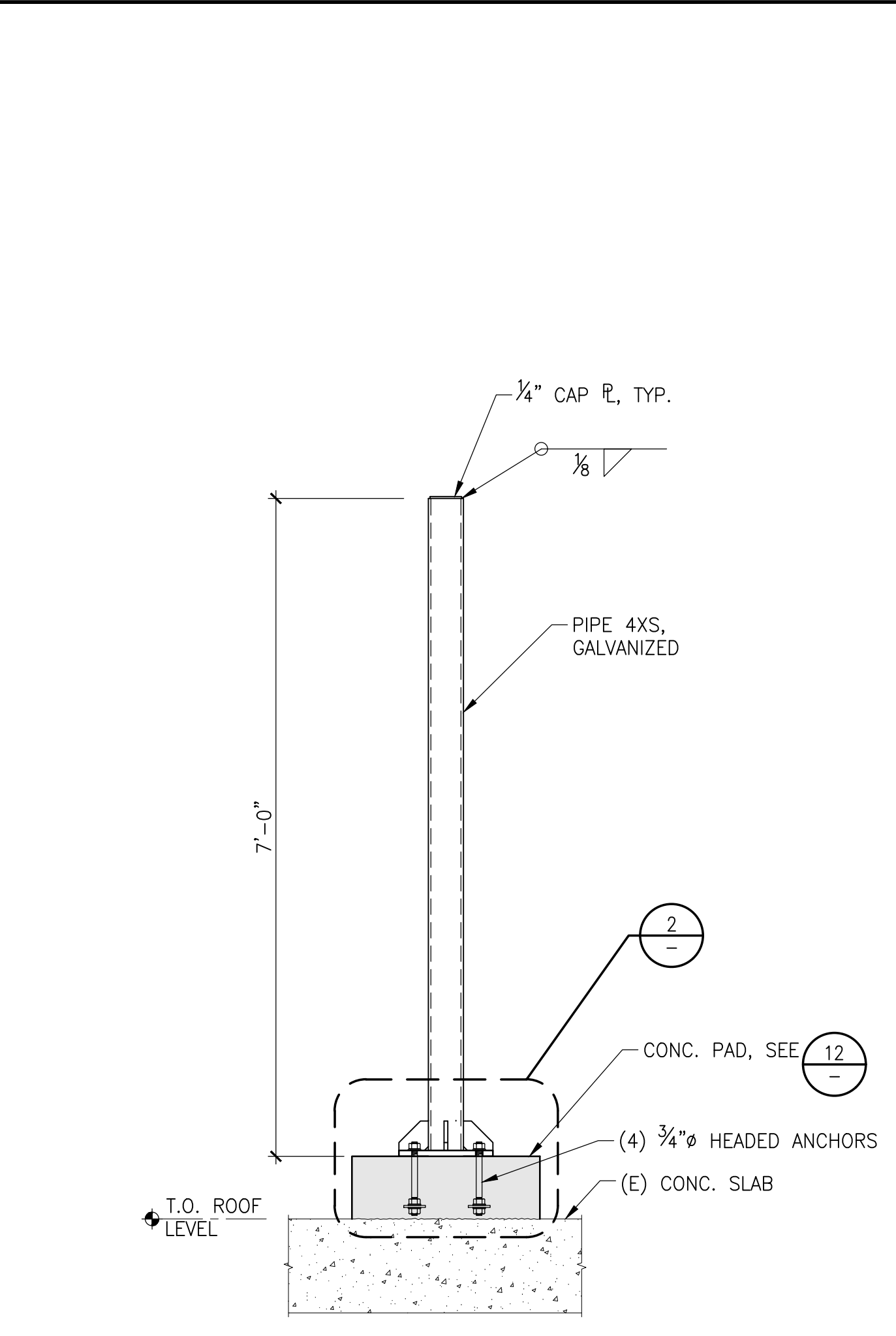
DETAILS

Drawing Title

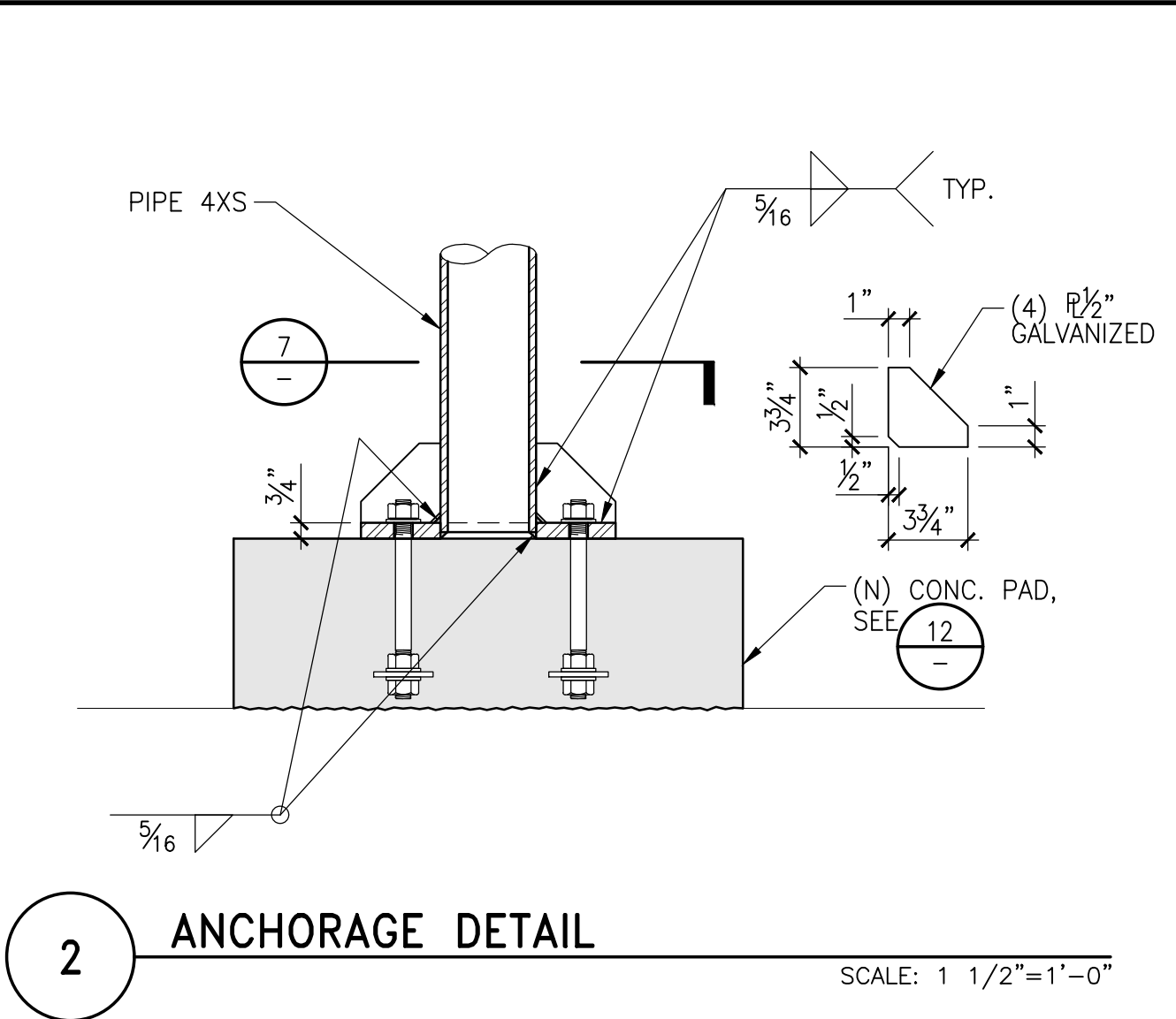
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S5.0

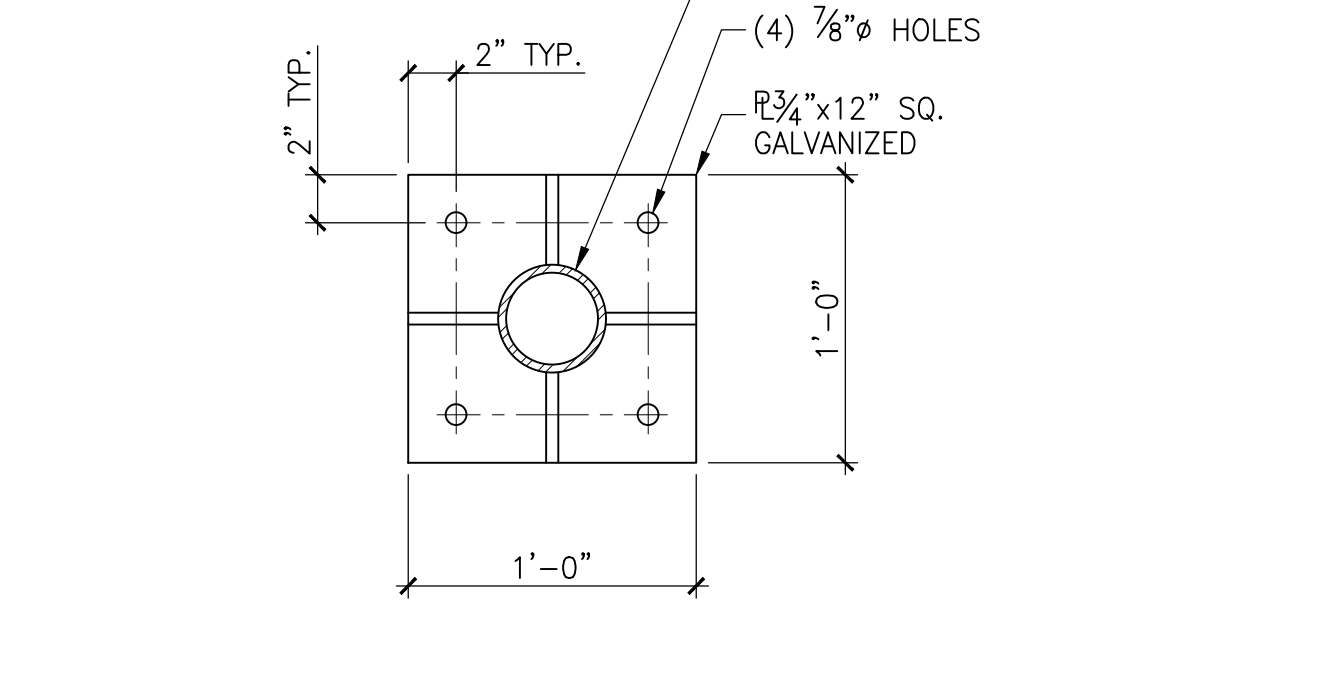
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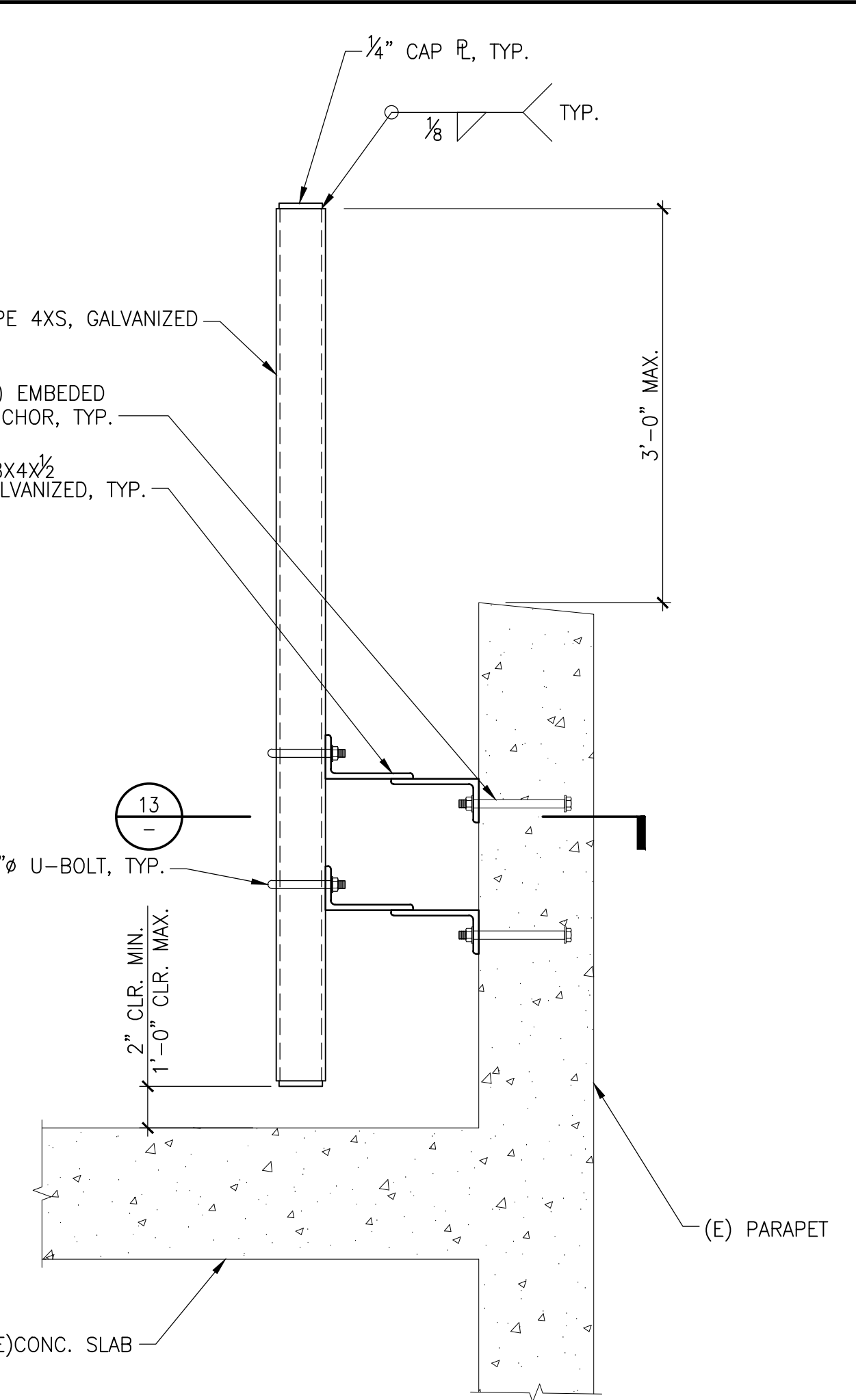
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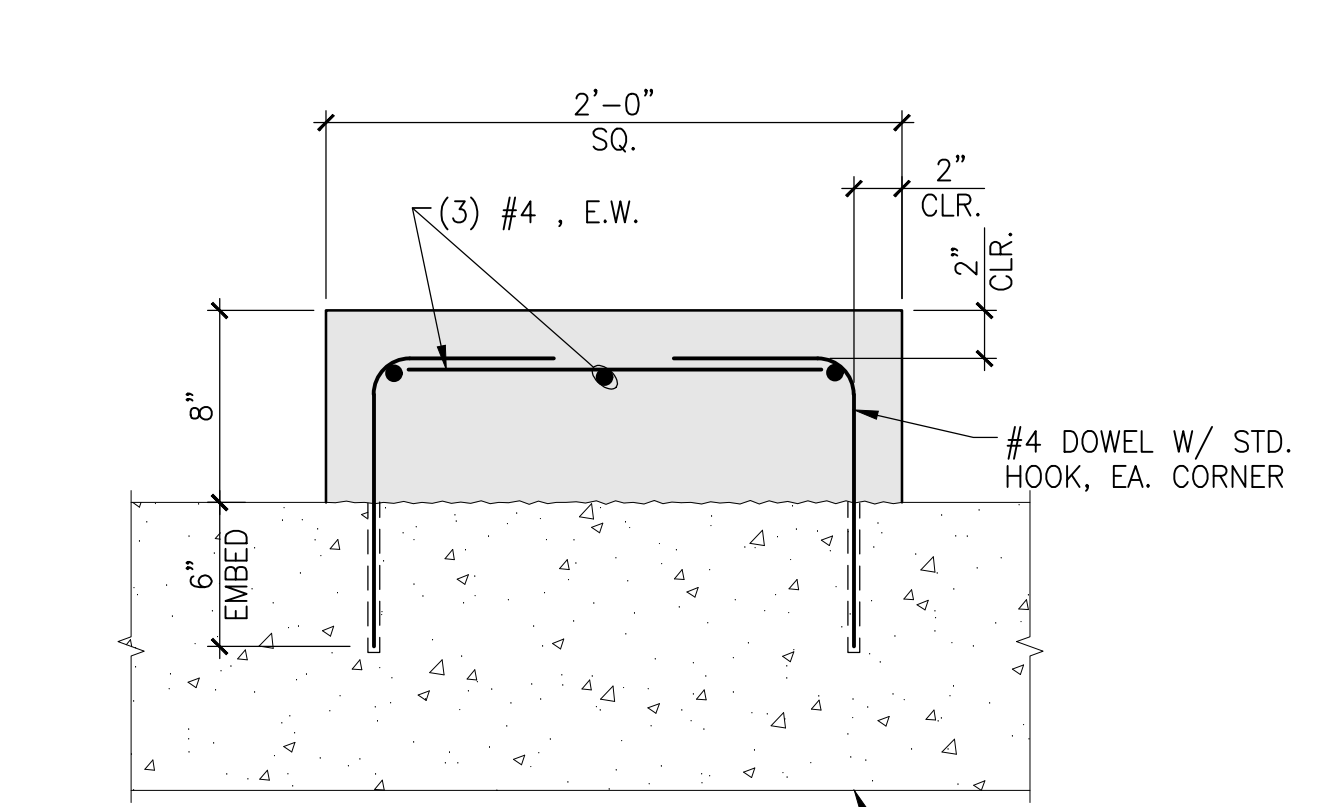
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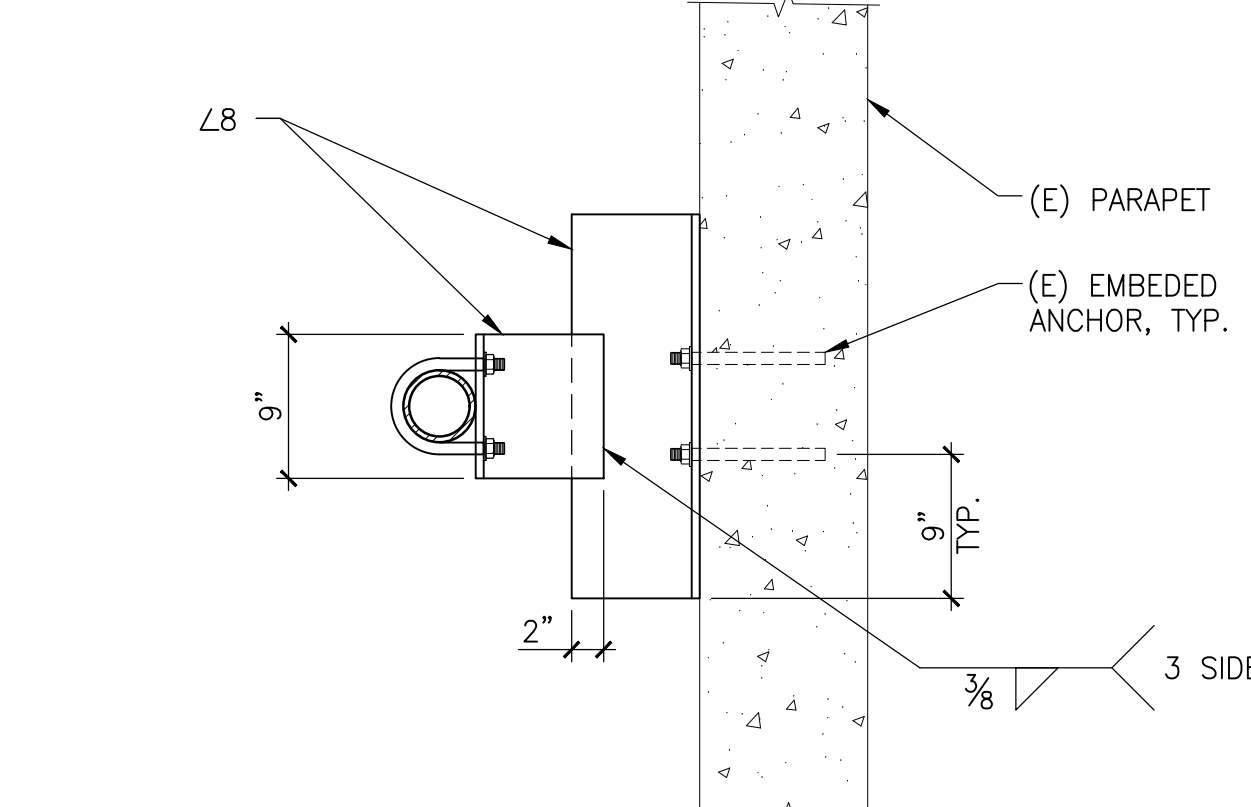
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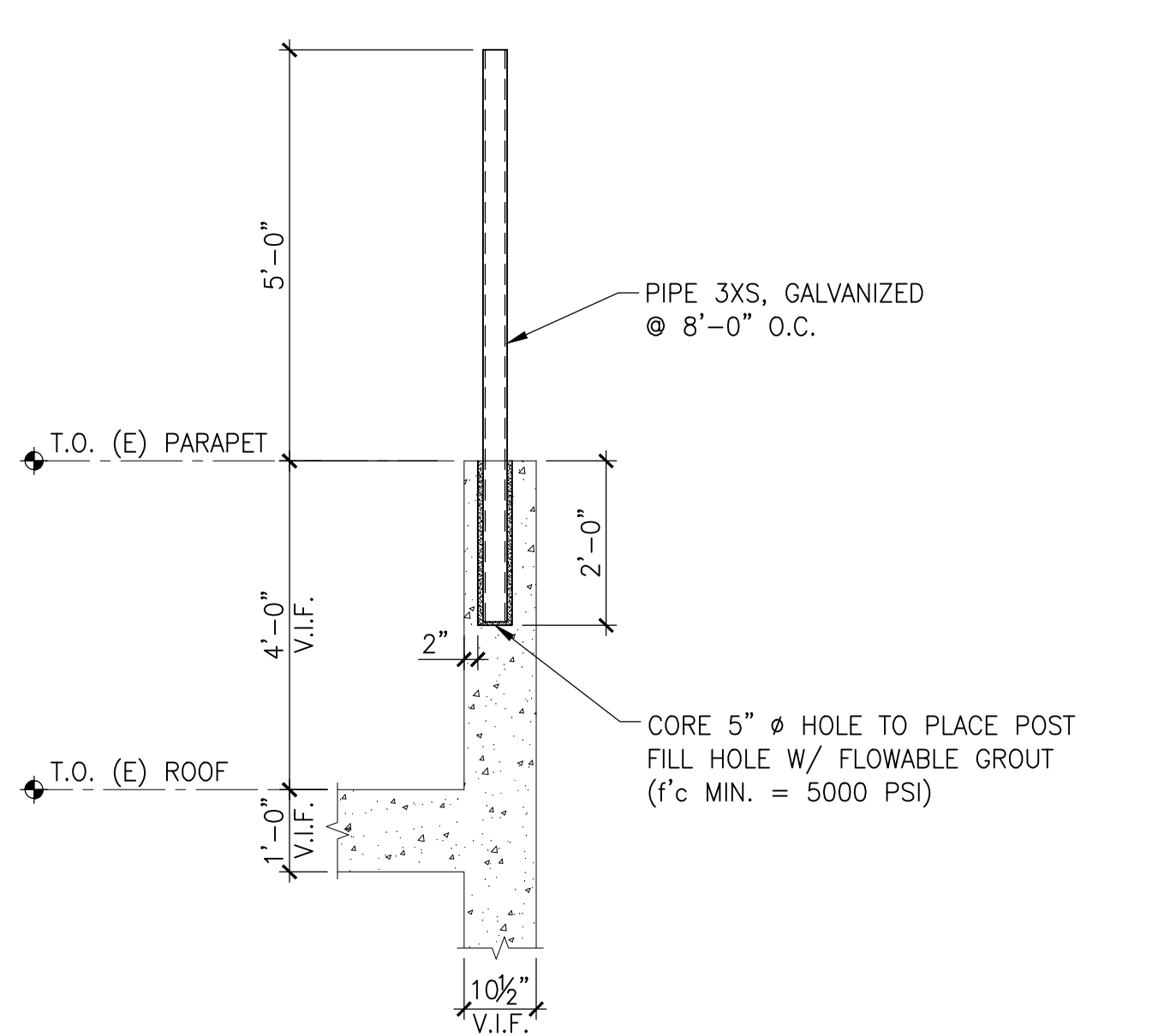
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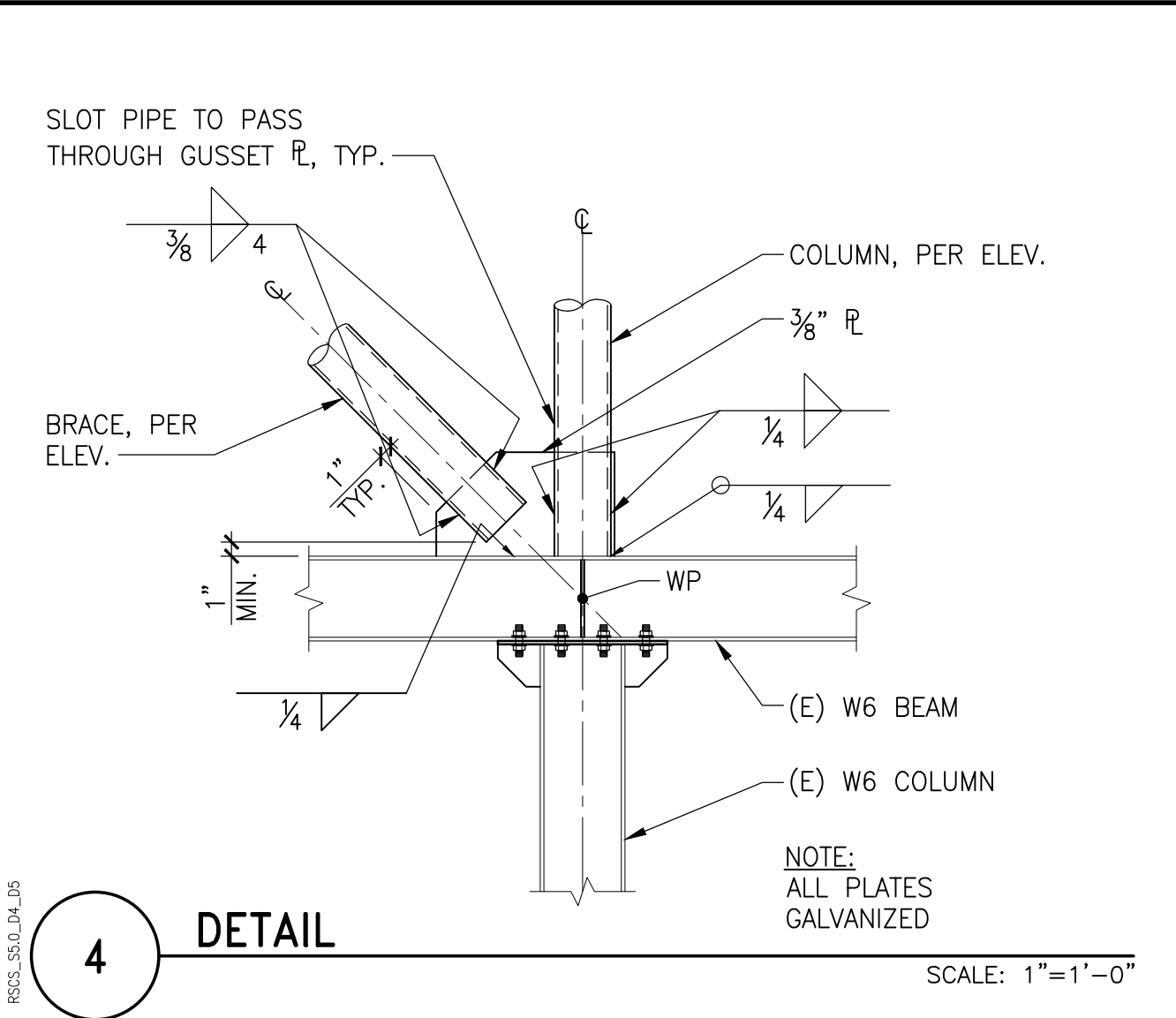
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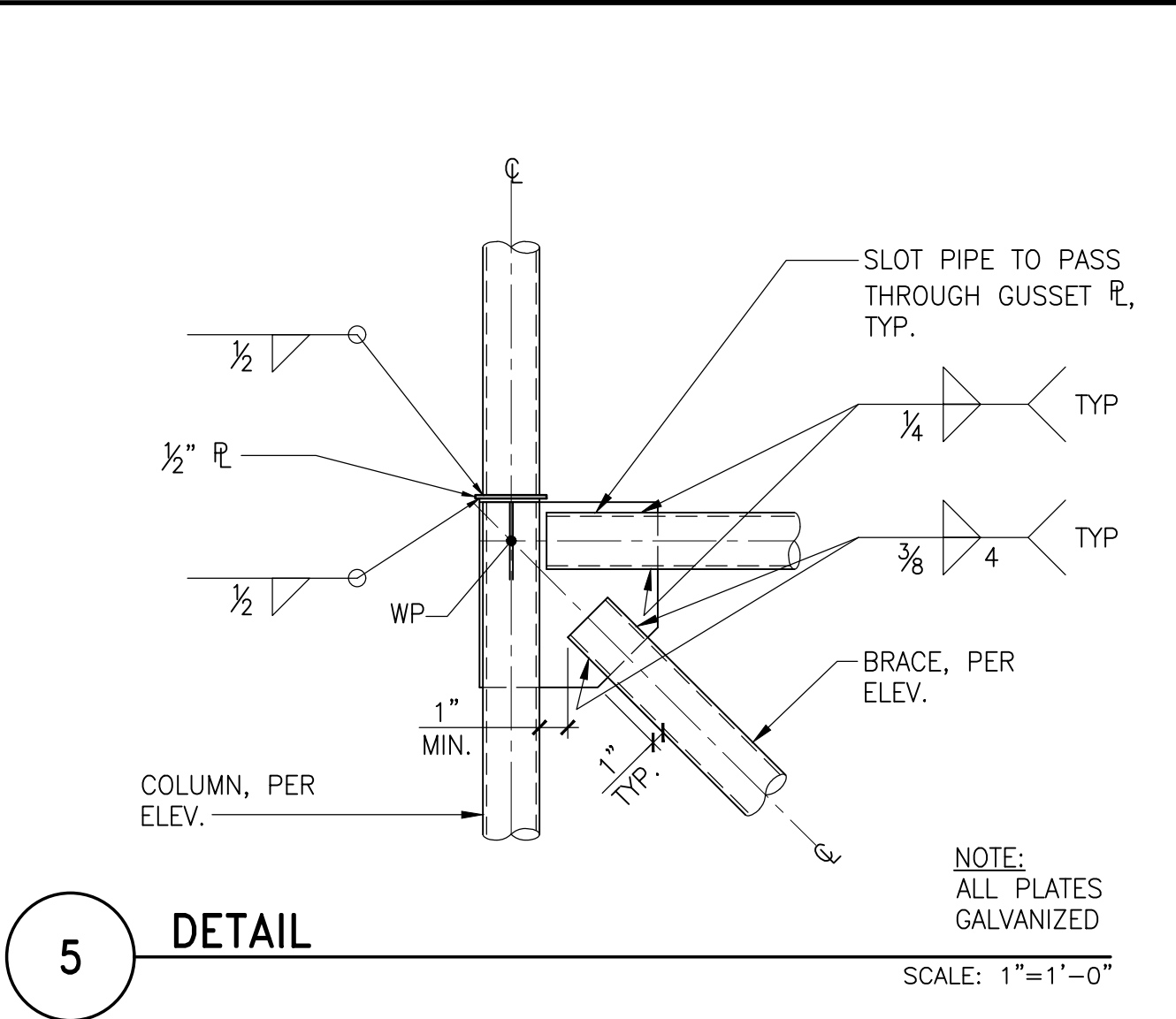
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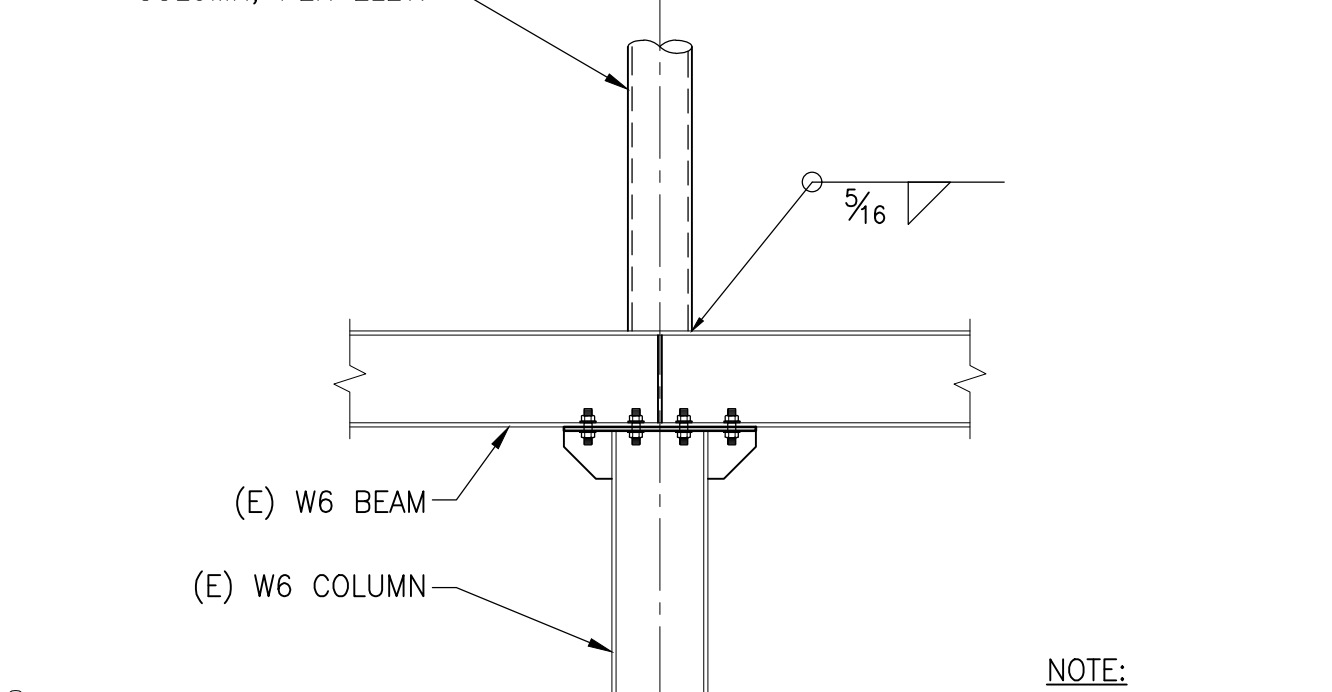
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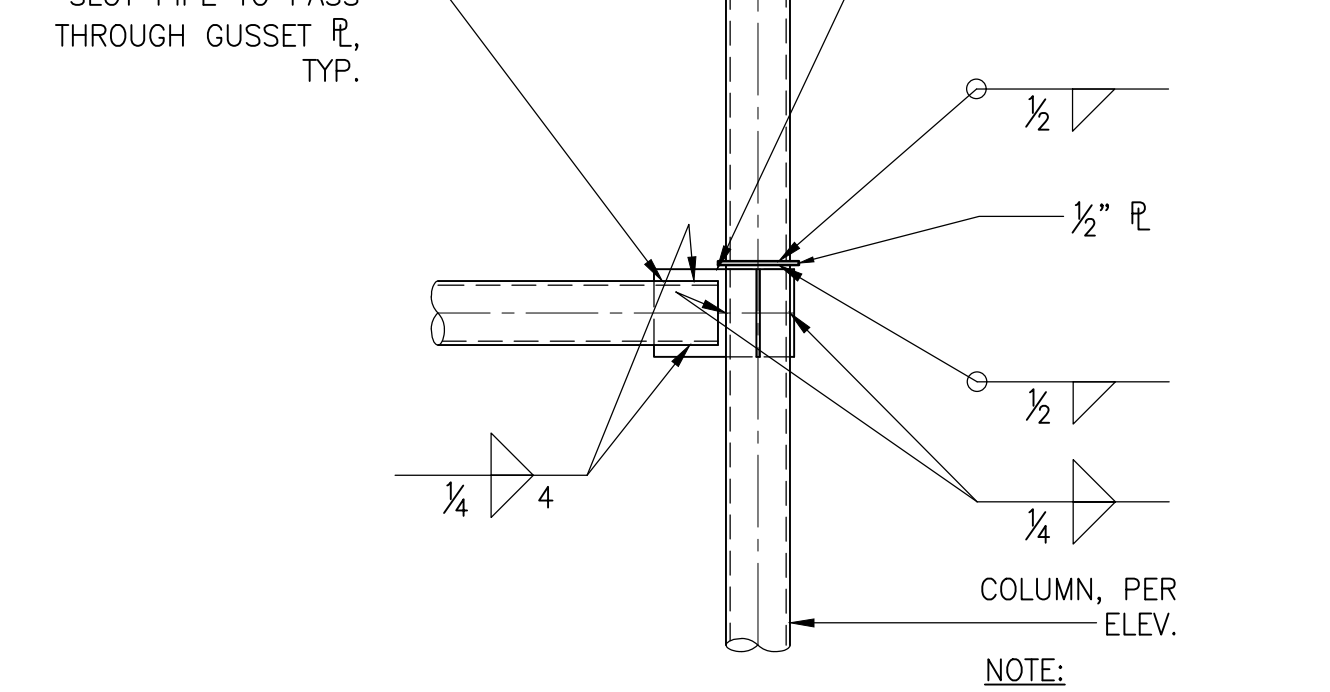
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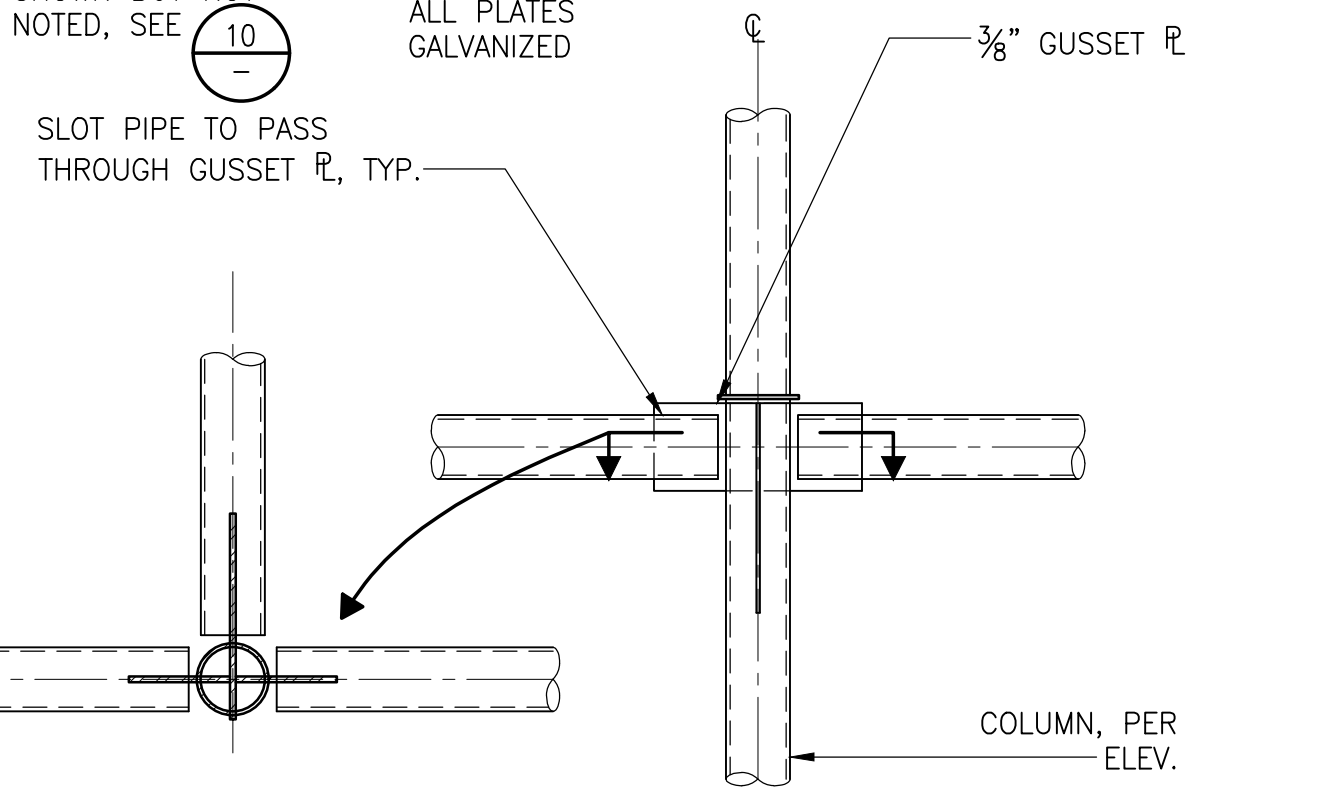
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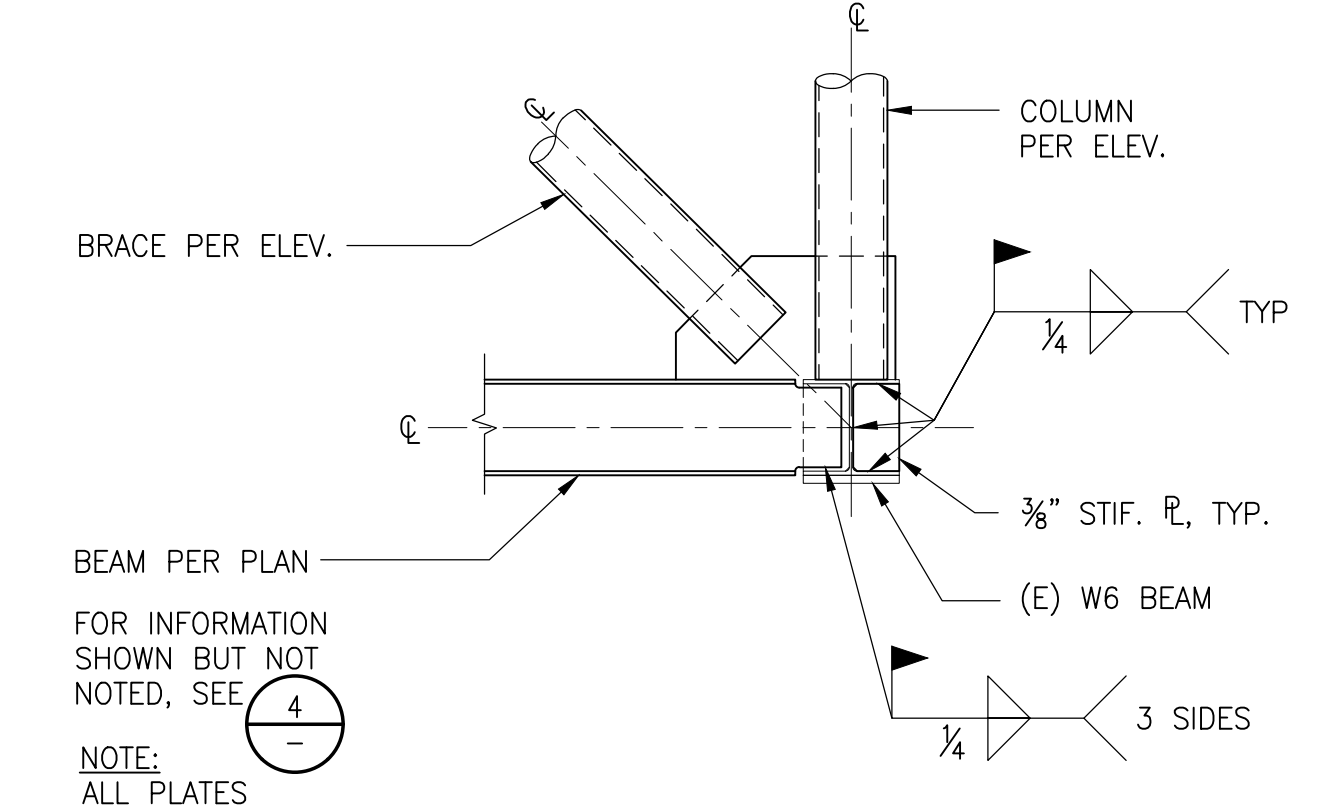
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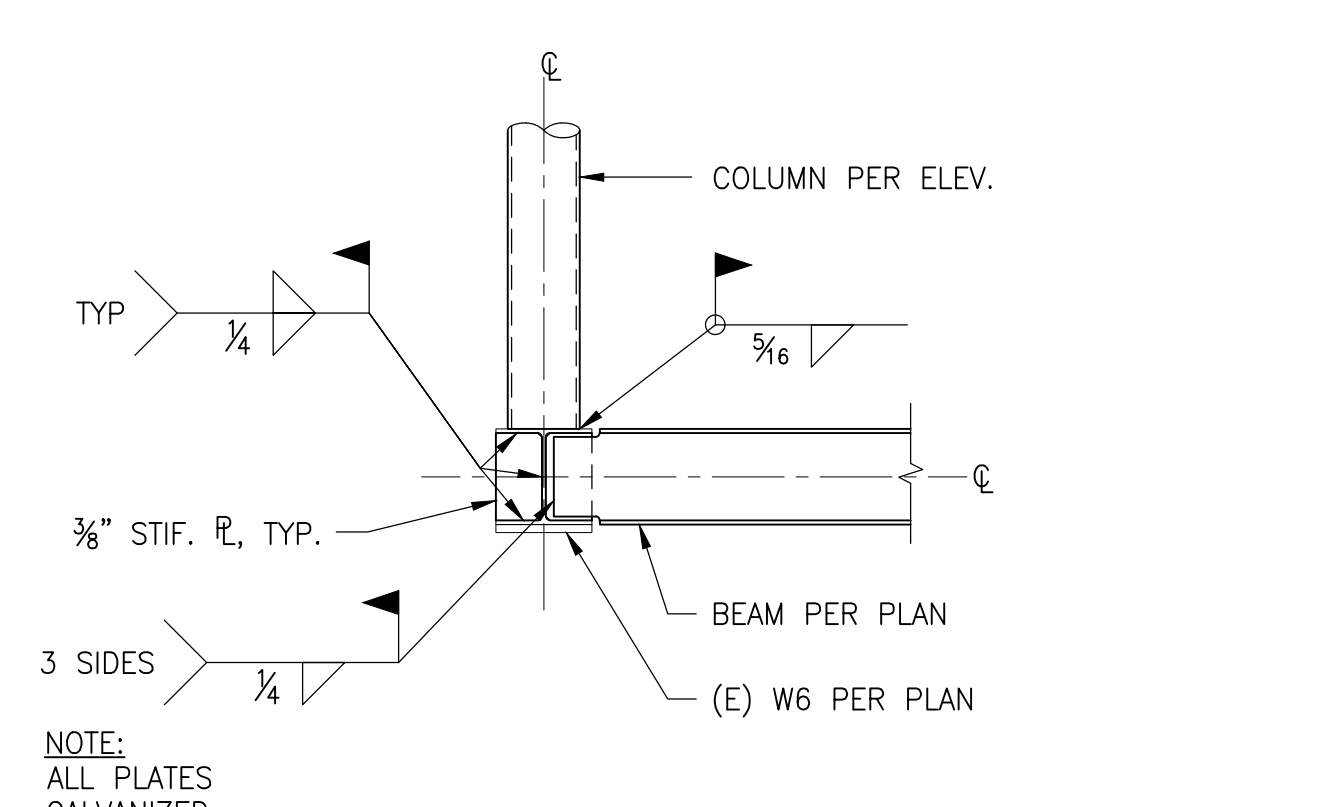
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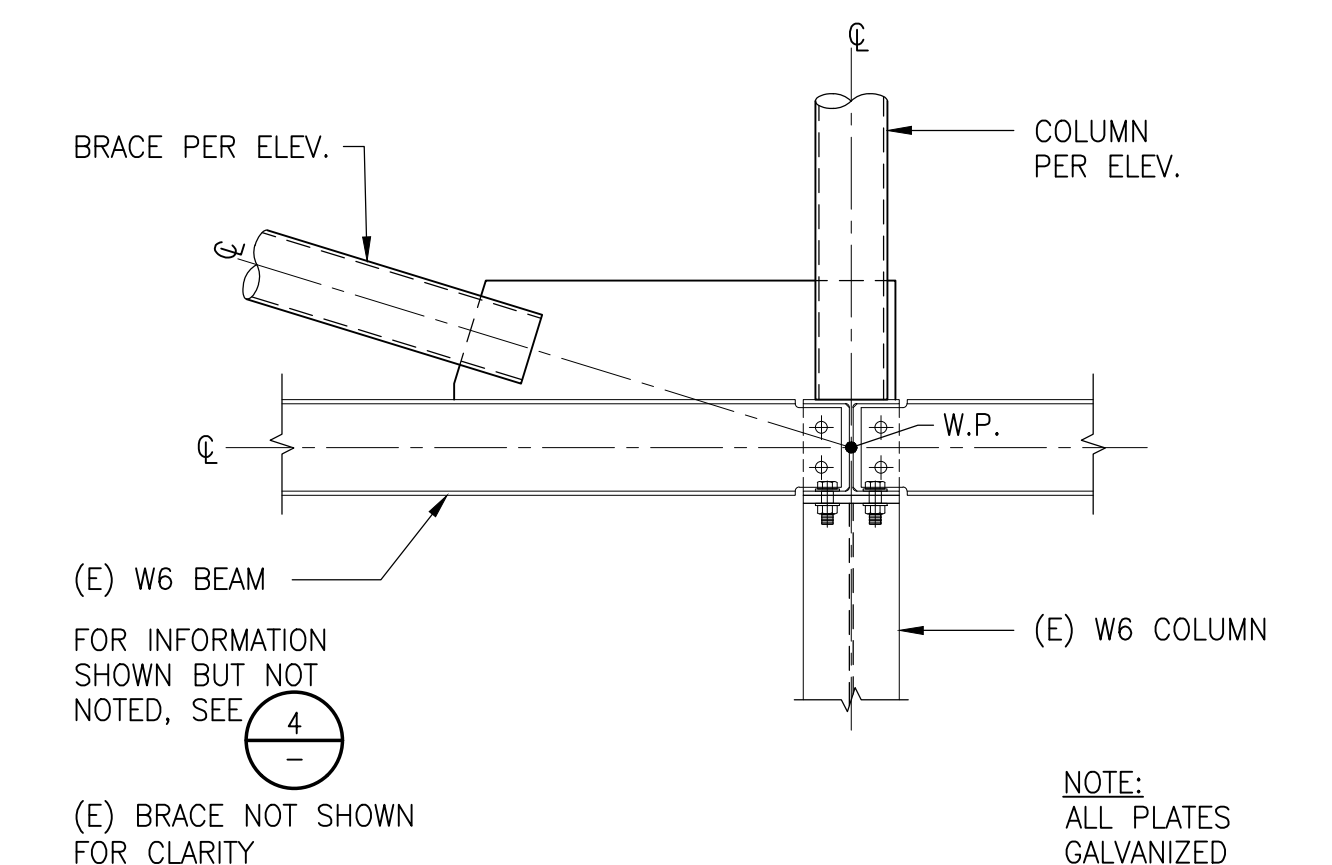
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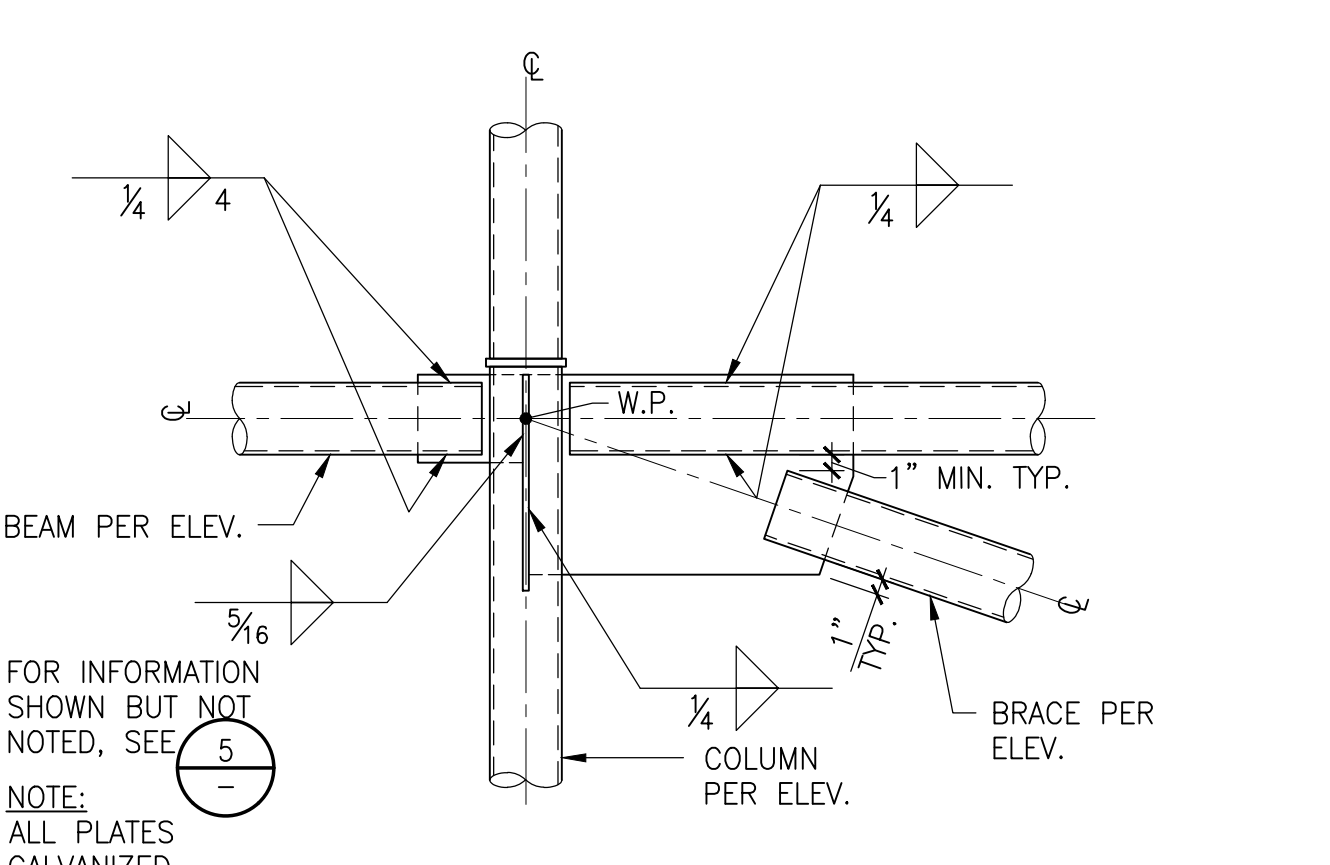
19 STEEL DETAIL SCALE: 1"=1'-0"



20 STEEL DETAIL SCALE: 1"=1'-0"



24 STEEL DETAIL SCALE: 1"=1'-0"

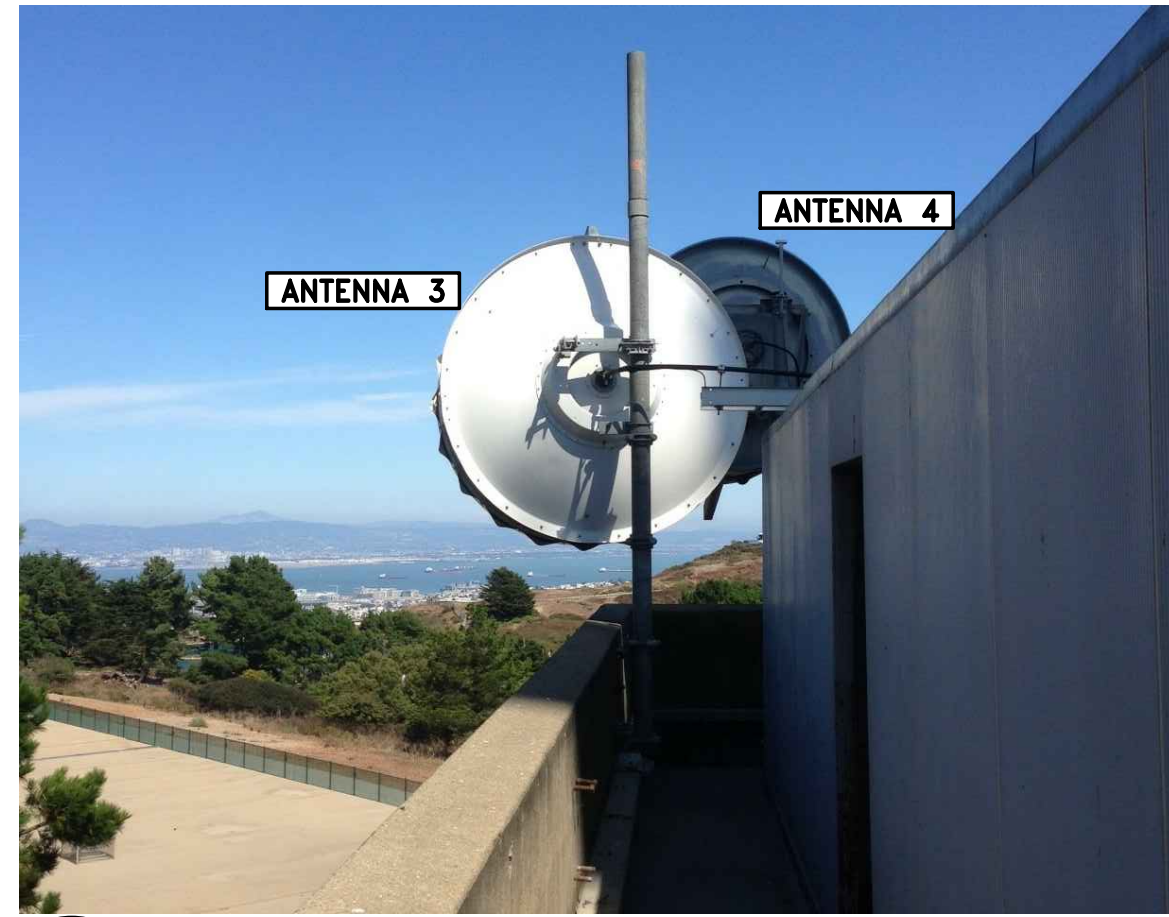


25 STEEL DETAIL SCALE: 1"=1'-0"

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1 ANTENNAS 1 AND 2



2 ANTENNAS 3 AND 4



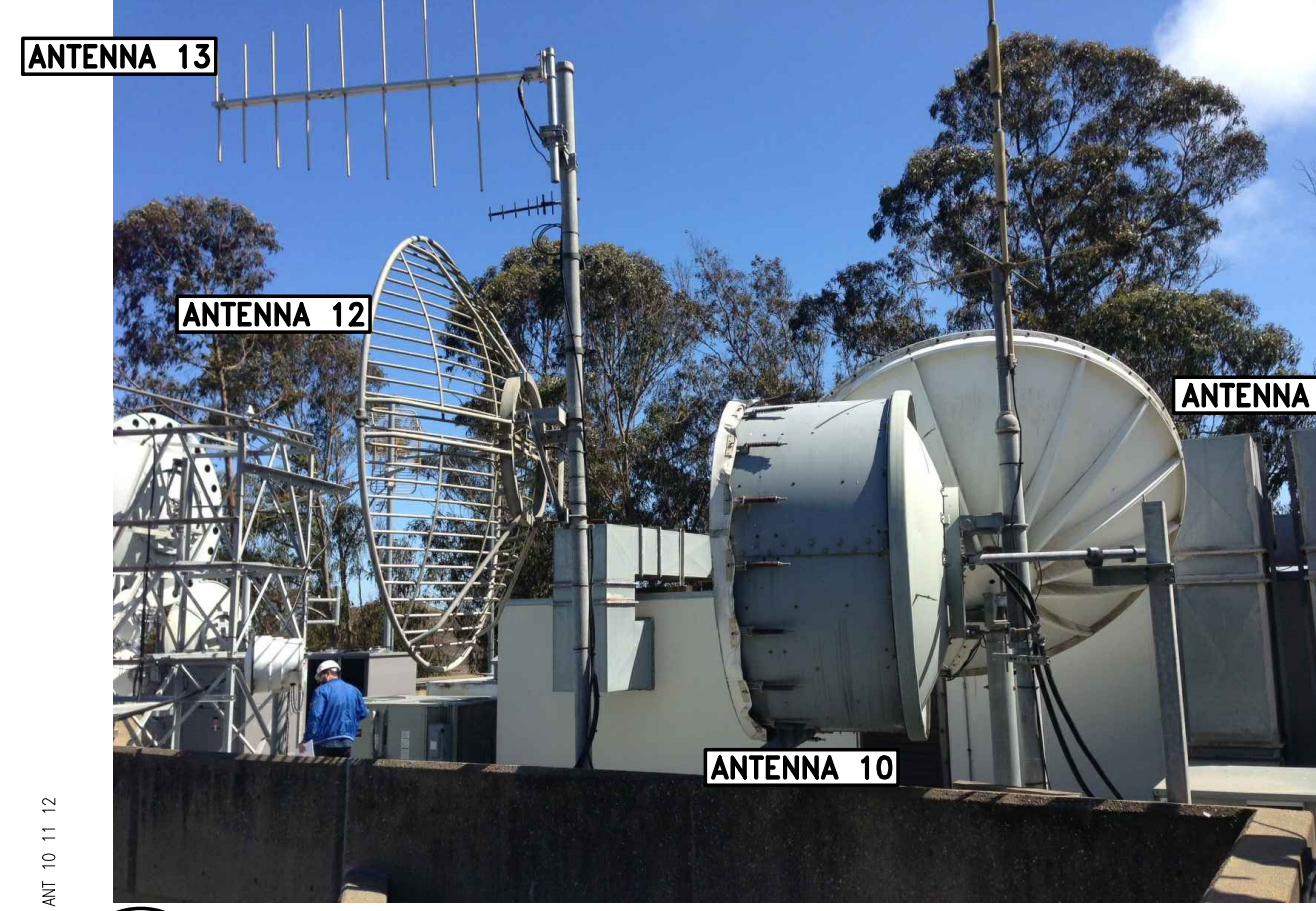
3 ANTENNAS 5 AND 6



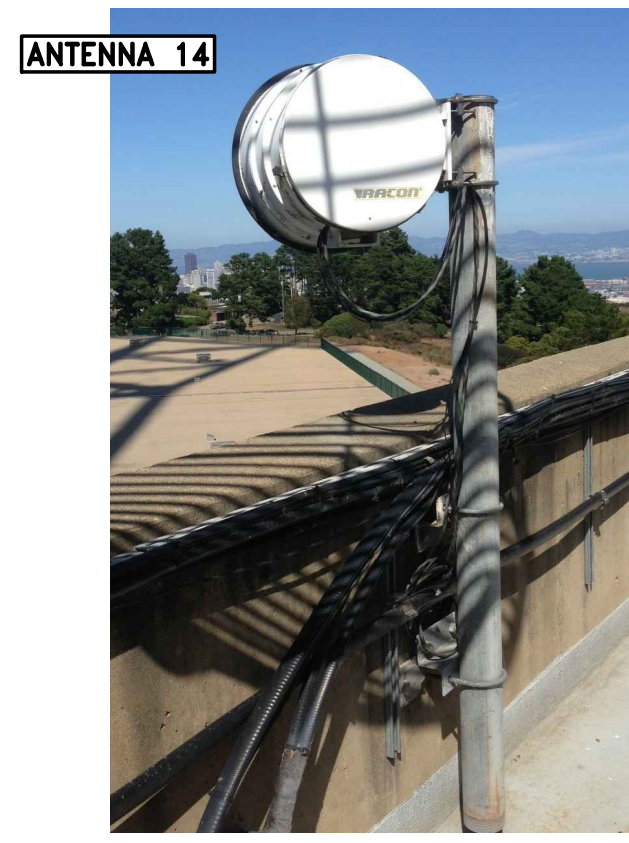
4 ANTENNA 7



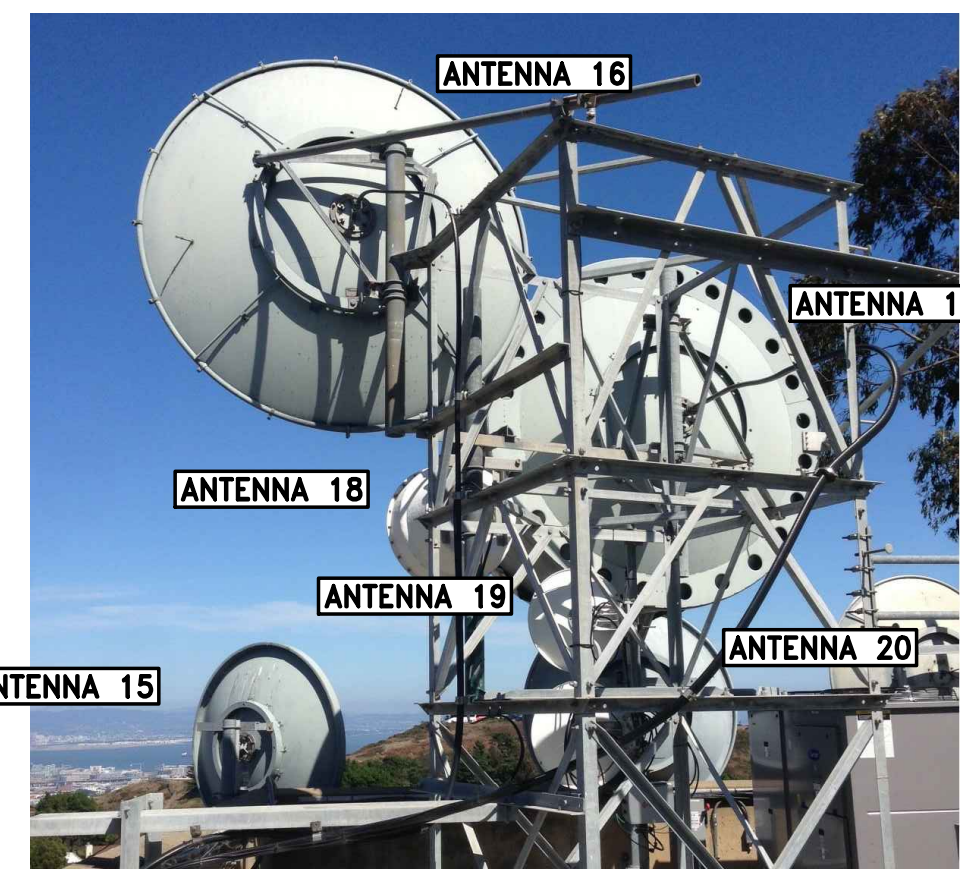
5 ANTENNAS 8 AND 9



6 ANTENNAS 10 THROUGH 13



7 ANTENNA 14



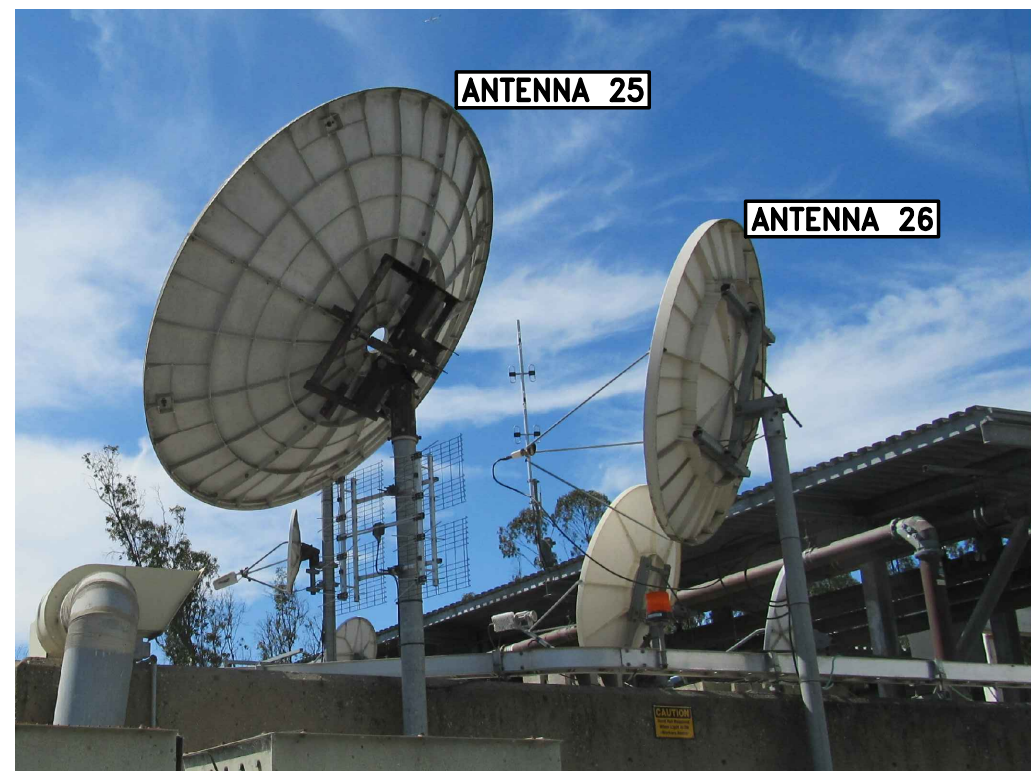
8 ANTENNAS 15 THROUGH 20



9 ANTENNAS 21, 22 AND 23



10 ANTENNA 24



11 ANTENNAS 25 & 26

Consultant

NOT FOR CONSTRUCTION

No.	Date	ISSUED FOR SITE PERMIT Description	ROH By
9/18/15			

**EQUIPMENT SCREEN
SUTRO TOWER
1 LA AVANZADA STREET
SAN FRANCISCO, CALIFORNIA**

Project

**ANTENNA
PHOTOGRAPHS**

Drawing Title

Project No. 067199.12	Checked BW	Date 06/17/15
Drawn JT	Approved ROH	Scale AS NOTED

Seal

S6.0