



SATELLITE
RADIO

INSPECTOR'S COPY

SITE NAME: PITTSBURG WATER PLANT
SITE ID NUMBER: SFX-255A

GENERAL NOTES

1. THIS FACILITY IS UNMANNED AND NOT FOR HUMAN OCCUPANCY.
2. ALL WORK SHALL CONFORM TO APPLICABLE CODES AND TO THE LOCAL BUILDING CODE.
3. INSTALLATION OF EQUIPMENT, ANTENNAS, AND ANTENNA CABLES SHALL BE IN ACCORDANCE WITH LOCAL CODES & STANDARDS
4. NORTH SHOWN HAS BEEN ESTABLISHED USING COMPASS AND IS APPROXIMATE. VERIFY TRUE NORTH PRIOR TO INSTALLATION OF ANTENNAS.

PROJECT INDEX

APPLICANT: XM SATELLITE RADIO
3497 BREAKWATER COURT
HAYWARD CA 94545
(510) 784-8505

PLANNING: LCC INTERNATIONAL, INC.
3497 BREAKWATER COURT
HAYWARD CA 94545
(510) 784-8505
CONTACT: FRANKLIN DANCY

PROPERTY OWNER: CITY OF PITTSBURG
CITY HALL, 65 CIVIC DR.,
PITTSBURG, CA 94565

LANDLORD: CITY OF PITTSBURG
CITY HALL, 65 CIVIC DR.,
PITTSBURG, CA 94565

ARCHITECT: MSA ASSOCIATES, INC.
2062 BUSINESS CENTER DRIVE #150
IRVINE, CA 92612
2148 MARKET STREET
SAN FRANCISCO, CA 94114
CONTACT: ROBERT ZEHM
PHONE: (415) 503-1363
FAX: (415) 503-1362

LEGAL DESCRIPTION

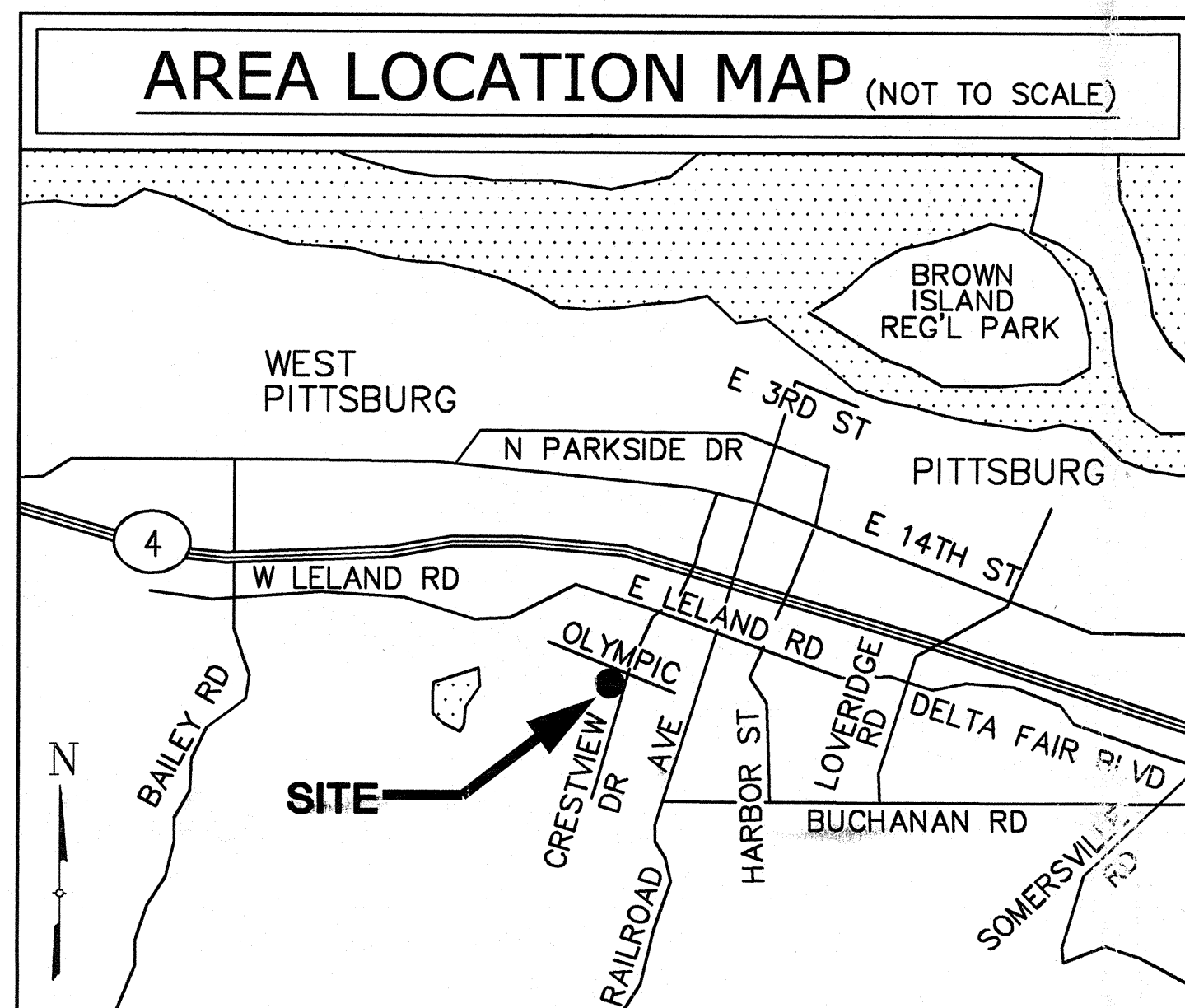
LEGAL DESCRIPTION:
APN: 87-090-05
ZONING: GOVERNMENT

GEODETTIC COORDINATES

LATITUDE (NAD27) = 038-00-29.2
LONGITUDE (NAD27) = 121-54-12.8

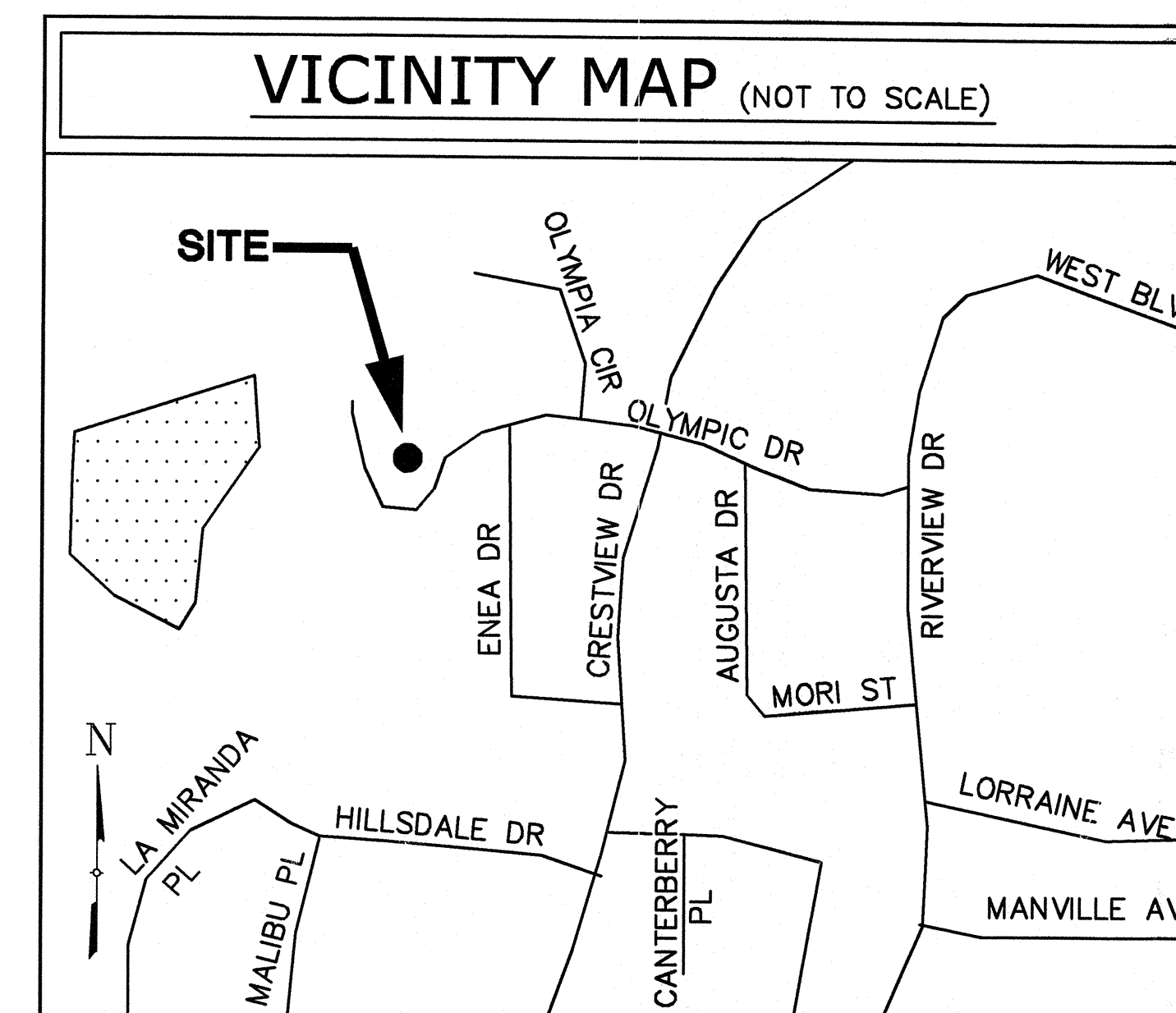
PROJECT SUMMARY

THE PROPOSED PROJECT INCLUDES
-ONE (1) 40" PANEL ANTENNA TO BE MOUNTED ON (E) TOWER.
-ONE (1) EQUIPMENT CABINET ON GROUND FLOOR CONCRETE SLAB.
-ONE (1) 26" SATELLITE DISH ANTENNA ON SOUTHERN WALL.



DRAWING LIST		
SHEET NO.	SHEET TITLE	REV.
T1	TITLE SHEET	0
T2	GENERAL NOTES	0
A1	SITE PLAN, ENLARGED PLAN	0
A2	ELEVATIONS, DETAILS	0
A3	ELEVATIONS	0
E1	ELECTRICAL DETAILS	0
E2	EQUIPMENT & ELECTRICAL DETAILS	0

THESE PLANS SHALL NOT BE UTILIZED AS CONSTRUCTION DOCUMENTS UNTIL ISSUANCE OF A BUILDING PERMIT AND ALL SHEETS HAVE BEEN ISSUED "FOR CONSTRUCTION".



INSPECTOR'S COPY

MATERIAL LIST: (NOT FOR BID PURPOSES)

ITEM NO.	DESCRIPTION	SIZE	QUANTITY	LENGTH	MODEL #	MANUFACTURER
1	COAX CABLE FOR DISH	7/8"	1	35 FT	EC5-50	EUPEN
2	COAX CABLE FOR ANTENNA	1 5/8"	1	65 FT	EC7-50	EUPEN
3	JUMPER FOR ANTENNA CABLE TOP/BOTTOM	1/2"	2	6 FT	78061	TESSCO SRVCS
4	(DISH TOP) DIN MALE TO DIN MALE JUMPER	1/2"	1	6 FT	82364	TESSCO SRVCS
5	(DISH BOTTOM) DIN MALE TO N MALE JUMPER	1/2"	1	3 FT	82372	TESSCO SRVCS
6	CONNECTOR FOR DISH CABLE	7/16"	2	N/A	716F-F078C	TERACOM
7	CONNECTOR FOR ANTENNA CABLE	7/16"	2	N/A	716F-F158B	TERACOM
8	CONNECTOR FOR ANTENNA JUMPER CABLE	7/16"	4	N/A	716M-F078C	TERACOM
9	OMNI GROUND KIT	7/16"	2	N/A	EARK-F158-A	TERACOM
10	OMNI HOISTING GRIP	1 5/8"	1	N/A	WHG-158	WIRELESS SOLUTIONS
11	DISH GROUND KIT	7/8"	3	N/A	EARK-F078-A	TERACOM
12	DISH HOISTING GRIP	7/8"	1	N/A	WHG-78	WIRELESS SOLUTIONS

APPROVALS:	DATE:
Zoning	
Construction	
Site Acquisition	
Radio Engineer	
Project Manager	
Landlord	

ANTENNA DATA				
TYPE:	AZIMUTH	MODEL NO.	TILT	NUMBER
PANEL	45°	TA-2304-2-LCC	NONE	1
SATELLITE	124°TN	TA-2324-LHCP	+28°	1
MANUFACTURER: TIL-TEK LTD				
ANTENNA DIMENSIONS:				
TYPE:	PANEL	PARABOLIC		
HEIGHT:	40"	-		
DIA.:	-	26"		

CONDITIONS OF APPROVAL

1. REFER TO CITY OF PITTSBURG PLANNING COMMISSION FILE #DR-01-01 CONDITION OF APPROVAL PRIOR TO BUILDING PERMIT AND CONSTRUCTION.

CITY OF PITTSBURG
Community Development Department
65 Civic Avenue
Telephone 252-4910

THESE PLANS ARE APPROVED by the City of Pittsburg
Any changes or alterations to these plans and specifications must be submitted to the Community Development Department for approval.

This approval on these plans does not relieve the Contractor or Craftsmen of any violations or provisions of the Uniform Codes or any City Ordinances.

Building Division
Engineering Division
Planning Division

RECEIVED
MAY 21 2001

BUILDING DIVISION

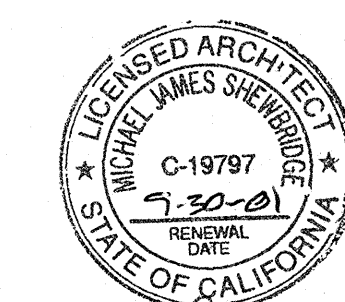


PITTSBURG WATER PLANT

300 OLYMPIA DR.
PITTSBURG, CA 94565

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	11/1/00	90% ZONING			
2	11/13/00	100% ZONING			
3	12/18/00	90% CONSTRUCTION DRAWING			
4	01/09/01	100% CONSTRUCTION DRAWING			
5	02/26/01	100% CONSTRUCTION REVISED			
6					
7					

SCALE AS NOTED DESIGNED BY: DRAWN BY:



Michael J. Shumbridge

ENGINEER'S OR ARCHITECTS
LICENSE NUMBER

PLANS PREPARED BY:
MSA ASSOCIATES
Architectural, Planning & Site Acquisition
2062 Business Center Drive Suite 150, Irvine, Ca 92612
949.251.1177 fax 949.251.1120
2148 Market Street, San Francisco, CA 94114
415.503.1363 fax 415.503.1362

SITE NO. SFX-255A MSA WO:
TITLE SHEET DWG. NO.: REV
04-26-01 T1

GENERAL CONSTRUCTION NOTES

- ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE LOCAL BUILDING CODE, THE LATEST EDITION AND ALL OTHER APPLICABLE CODES AND ORDINANCES, 1997 UBC, UFC, UMC, UPC, TITLE 24 AND 1996 NEC.
- CONTRACTOR SHALL VISIT THE JOB SITE AND SHALL FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND SHALL MAKE PROVISIONS AS TO THE COST THEREOF. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.
- PLANS ARE NOT TO BE SCALED. THESE PLANS ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY UNLESS OTHERWISE NOTED. THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT AND APPURTENANCES, AND LABOR NECESSARY TO EFFECT ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS OTHERWISE NOTED. SPACING BETWEEN EQUIPMENT IS REQUIRED CLEARANCE. THEREFORE, IT IS CRITICAL TO FIELD VERIFY DIMENSIONS, SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, EXISTING CONDITIONS AND/OR DESIGN INTENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM AUTHORIZED REPRESENTATIVE OF LCCI OR THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK.
- DETAILS ARE INTENDED TO SHOW END RESULT OF DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK.
- CONTRACTOR SHALL RECEIVE CLARIFICATION IN WRITING, AND SHALL RECEIVE IN WRITING AUTHORIZATION TO PROCEED BEFORE STARTING WORK ON ANY ITEMS NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONTRACT DOCUMENTS.
- CONTRACTOR SHALL NOTIFY THE ENGINEER OF ALL PRODUCTS OR ITEMS NOTED AS "EXISTING" WHICH ARE NOT FOUND TO BE IN THE FIELD.
- CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE BEST CONSTRUCTION SKILLS AND ATTENTION. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER CONTRACT, UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF THE WORK AREA, BY THE WORK UNDER THIS CONTRACT. WORK SHALL CONFORM TO ALL OSHA REQUIREMENTS.
- CONTRACTOR SHALL COORDINATE HIS WORK WITH THE SUPERINTENDENT OF BUILDINGS & GROUNDS AND SCHEDULE HIS ACTIVITIES AND WORKING HOURS IN ACCORDANCE WITH THE REQUIREMENTS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS WORK WITH THE WORK OF OTHERS AS IT MAY RELATE TO RADIO EQUIPMENT, ANTENNAS AND ANY OTHER PORTIONS OF THE WORK.
- CONTRACTOR SHALL PROVIDE ACCESS TO THE SITE AND ASSIST THE RADIO EQUIPMENT VENDOR AND THE ANTENNA INSTALLATION CONTRACTOR AS THEY MAY REQUIRE.
- PROVIDE 48 HOURS WRITTEN NOTICE TO THE ENGINEER, LCCI & OWNER PRIOR TO COMMENCEMENT OF WORK.
- CONTRACTOR SHALL MAINTAIN LIABILITY INSURANCE TO PROTECT THE OWNER, AGENT & LCCI.
- PROVIDE A PORTABLE FIRE EXTINGUISHER WITH A RATING OF NOT LESS THAN 2-A OR 2-A/10-BC WITHIN 75 FEET TRAVEL DISTANCE TO ALL PORTIONS OF THE WORK AREA DURING CONSTRUCTION.
- INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS UNLESS SPECIFICALLY OTHERWISE INDICATED OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
- VERIFY FINAL EQUIPMENT LOCATIONS WITH THE RADIO EQUIPMENT VENDOR.
- MAKE NECESSARY PROVISIONS TO PROTECT EXISTING SURFACES, EQUIPMENT, IMPROVEMENTS, PIPING ETC. AND IMMEDIATELY REPAIR ANY DAMAGE THAT OCCURS DURING CONSTRUCTION.
- IN DRILLING HOLES INTO CONCRETE WHETHER FOR FASTENING OR ANCHORING PURPOSES, OR PENETRATIONS THROUGH THE FLOOR FOR CONDUIT RUNS, PIPE RUNS, ETC., IT MUST BE CLEARLY UNDERSTOOD THAT REINFORCING STEEL SHALL NOT BE DRILLED INTO, CUT OR DAMAGED UNDER ANY CIRCUMSTANCES (UNLESS OTHERWISE NOTED). LOCATIONS OF REINFORCING STEEL ARE NOT DEFINITELY KNOWN AND THEREFORE MUST BE SEARCHED FOR BY APPROPRIATE METHODS AND EQUIPMENT.
- REPAIR ALL EXISTING WALL SURFACES DAMAGED DURING CONSTRUCTION SUCH THAT THEY MATCH AND BLEND IN WITH ADJACENT SURFACES.
- SEAL PENETRATIONS THROUGH FIRE RATED AREAS WITH U.L. LISTED AND FIRE CODE APPROVED MATERIALS.
- KEEP CONTRACT AREA CLEAN, HAZARD FREE, AND DISPOSE OF ALL DIRT, DEBRIS, AND RUBBISH. EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY OF THE OWNER SHALL BE REMOVED. LEAVE PREMISES IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL ITEMS UNTIL COMPLETION OF CONSTRUCTION.
- COMPLETE JOB SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR AFTER THE DATE OF ACCEPTANCE BY LCCI. ANY WORK, MATERIALS, OR EQUIPMENT FOUND TO BE DEFECTIVE DURING THAT PERIOD SHALL BE CORRECTED IMMEDIATELY UPON WRITTEN NOTIFICATION AT NO ADDITIONAL COST TO LCCI.
- MINIMUM BEND RADIUS OF ANTENNA CABLES SHALL BE IN ACCORDANCE WITH CABLE MANUFACTURERS RECOMMENDATIONS.

ANTENNA MOUNTING NOTES (CONT'D.)

- AT WOOD STUDS WALL
2- 3/8" x 4" LONG LAG BOLTS TOP AND BOTTOM CENTER AT STUDS.
- AT STL. STUDS WALL
USE 2-1/2" THRU BOLTS TOP AND BOTTOM TO UNISTRUT BACKING
- AT CONCRETE WALL
USE 2-1/2" HILTI KWIK BOLTS II TOP AND BOTTOM EMBED 3" MIN. ICBO# 4627
- AT BLOCK WALLS "WHERE REQUIRED":
1- SOLID GROUTED WALLS
2-1/2" EPOXY BOLT (ALL THREADS) @ TOP AND BOTTOM USE HILTI HY-150 EPOXY ICBO #5193, MIN. EMBED 3 1/2"
2- AT HOLLOW MASONRY WALL AND UNREINFORCED MASONRY WALL
2-1/2" EPOXY BOLTS (ALL THREADS) @ TOP AND BOTTOM USE HILTI C-20 EPOXY WITH MIN. 6 5/8" EMBED WITH SCREEN TUBE ICBO#4815
- NORTH SHOWN HAS BEEN ESTABLISHED USING COMPASS AND IS APPROXIMATE. VERIFY TRUE NORTH PRIOR TO INSTALLATION OF ANTENNAS.

STRUCTURAL NOTES

- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE ENGINEER.
- DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", LATEST EDITION.
- STRUCTURAL AND MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36 "STRUCTURAL STEEL", UNLESS OTHERWISE INDICATED.
- STEEL TUBING SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE B.
- STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE B, OR ASTM A53 "PIPE, STEEL, BLACK AND HOT-DIPPED, ZINC-COATED WELDED AND SEAMLESS", TYPE E OR S, GRADE B.
- FIELD CONNECTIONS SHALL BE BOLTED UNLESS OTHERWISE INDICATED.
- STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS AND CONFORM TO ASTM A325 "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS", LATEST EDITION. BOLTS SHALL BE 3/4 INCH DIA. UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES".
- ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.
- DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY COLD GALVANIZING IN ACCORDANCE WITH ASTM A780.
- SUBMIT SHOP DETAIL DRAWINGS OF ALL STRUCTURAL AND MISCELLANEOUS STEEL TO THE ENGINEER FOR APPROVAL, AND INCORPORATE ALL COMMENTS PRIOR TO FABRICATION.
- GRATING SHALL BE GALVANIZED SERRATED WELDED STEEL BAR GRATING WITH 1"x3/16" BEARING BARS AT 1-3/16" OC. FASTEN TO SUPPORTING MEMBERS WITH SADDLE-TYPE CLIPS AND BAND ALL EXPOSED EDGES.
- SLEEVE ANCHORS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 3, CLASS 3, AS MANUFACTURED BY HILTI FASTENING SYSTEMS OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. MINIMUM EMBEDMENT SHALL BE THREE (3) INCHES.
- EXPANSION BOLTS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 4, CLASS 1, HILTI KWIK BOLT II OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. MINIMUM EMBEDMENT SHALL BE FOUR (4) INCHES.
- "WHERE REQUIRED": EPOXY ANCHORING SYSTEM SHALL BE THE HILTI HIT HY20 FOR MASONRY CONSTRUCTION WITH HOLLOW BRICK OR BLOCK & THE HILTI HIT HY150 INJECTION ADHESIVE ANCHOR FOR GROUT FILLED CONCRETE. MASONRY UNITS AND CONCRETE. EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" STAINLESS STEEL ANCHOR ROD W/NUTS & WASHERS, AN INTERNALLY THREADED INSERT(OPTIONAL), A SCREEN TUBE FOR THE HY20 ONLY & AN EPOXY ADHESIVE (8" MIN EMBEDMENT U.N.O.). THE INSTALLATION PROCEDURE SHALL BE AS FOLLOWS
A. DRILL THE HOLE USING MANUFACTURER RECOMMENDED DRILL BIT UP TO SPECIFIED DEPTH. HAMMERING IS NOT PERMITTED.
B. CLEAN THE HOLE USING NYLON BRUSH AND/OR COMPRESSED AIR. THE HOLE SHOULD BE CLEAR OF ANY LOOSE MATERIAL. IF WET, THE MASONRY SHOULD BE ALLOWED TO DRY FULLY BEFORE ANCHOR INSTALLATION.
C. INSERT SPECIFIED SCREEN TUBE INTO THE HOLE.
D. FILL THE SCREEN TUBE COMPLETELY WITH ADHESIVE, BEGINNING AT THE BOTTOM END.
E. INSERT ANCHOR ROD OR INTERNALLY THREADED INSERT INTO THE ADHESIVE-FILLED SCREEN TUBE, TWISTING SLIGHTLY.
F. LOAD FASTENER ONLY AFTER MANUFACTURER SPECIFIED CURE TIME HAS ELAPSED.
- INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE ENGINEER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE ENGINEER APPROVAL.
- ALL WORK SHALL BE INSPECTED BY THE ENGINEER DURING, AND AT THE COMPLETION OF CONSTRUCTION.

ROOFING NOTES

- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO ORDERING MATERIAL AND COMMENCING WORK. REPORT ANY UNUSUAL CONDITIONS TO THE ENGINEER.
- ALL COMPONENTS OF THE NEW ROOFING SYSTEM SHALL AT A MINIMUM MEET UL CLASS A REQUIREMENTS.
- NEW ROOF SHALL BE INSTALLED BY A MANUFACTURER AUTHORIZED APPLICATOR, WITH 5 YEARS OF EXPERIENCE.
- FURNISH A 15 YEAR MANUFACTURER'S FULL SYSTEM ROOFING GUARANTEE/WARRANTY. FURNISH A 2 YEAR CONTRACTOR'S GUARANTEE.
- REMOVE ALL EXISTING EPDM ROOF MEMBRANE AND FLASHINGS, UNDERLYING INSULATION AND THE VAPOR BARRIER TO EXPOSE THE CONCRETE ROOF DECK.
- INSTALL NEW TORCH-APPLIED MODIFIED BITUMEN MEMBRANE WITH RELATED FLASHINGS, STRIPPINGS, AND ROOF ACCESSORIES INTEGRAL TO THE ROOF INSTALLATION.

ROOFING NOTES (CONT'D.)

- INSTALL ONE NEW PRIMARY ROOF DRAIN AND ONE NEW OVERFLOW DRAIN, CONNECTED WITH EXTRA HEAVY SERVICE CAST IRON PIPE, TO THE EXISTING VERTICAL DRAIN LINE IN THE TOWER.
- REPAIR THE SURFACE OF THE CONCRETE DECK WITH FAST SETTING POLYMER MODIFIED REPAIR MORTAR; THORO SYSTEMS - STRUCTURITE, PRIOR TO INSTALLING ASPHALT PRIMER.
- USE PRODUCTS FURNISHED BY A SINGLE MANUFACTURER, EITHER SOPREMA, FIRESTONE OR JOHNS MANVILLE AS FOLLOWS:
1. PRIMER - ASTM D41
2. BASE SHEET - SOPREMA ELASTOPHENE FLAM; FIRESTONE APP160; JM NORDPOLY 200
3. FIELD SHEET - SOPREMA SOPRELENE FLAM; FIRESTONE APP 170; JM NORDPOLY 200.
4. CAP AND FLASHING SHEET - SOPREMA SOPRELENE FLAM 180 GRANULE; FIRESTONE APP 180 GRANULE; JM NORDPOLY 4.5M
- INSTALL EACH LAYER OF THE THREE PLY SYSTEM OFFSETTING ALL PLY LINES AND END LAPS AT LEAST 18 INCHES BETWEEN LAYERS.
- ROOF DRAINS TO BE JOSAM SERIES 21500 WITH CAST IRON RING AND DOME.
- WALK PADS TO BE 3/4 INCH ASPHALT COMPOSITION MEADOWS WHITE WALK.

GENERAL ELECTRICAL NOTES

- CONTRACTOR SHALL PERFORM ALL VERIFICATION OBSERVATION TESTS, AND EXAMINATION WORK PRIOR TO THE ORDERING OF THE ELECTRICAL EQUIPMENT AND THE ACTUAL CONSTRUCTION. CONTRACTOR SHALL ISSUE A WRITTEN NOTICE OF ALL FINDINGS TO THE ENGINEER LISTING ALL MALFUNCTIONS, FAULTY EQUIPMENT AND DISCREPANCIES.
- CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, INSURANCE, EQUIPMENT, INSTALLATION, CONSTRUCTION TOOLS, TRANSPORTATION, ETC., FOR A COMPLETE AND PROPERLY OPERATIVE SYSTEM ENERGIZED THROUGHOUT AND AS INDICATED ON DRAWINGS, AS SPECIFIED HEREIN AND/OR AS OTHERWISE REQUIRED.
- ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND IN PERFECT CONDITION WHEN INSTALLED AND SHALL BE OF THE BEST GRADE AND OF THE SAME MANUFACTURER THROUGHOUT FOR EACH CLASS OR GROUP OF EQUIPMENT. MATERIALS SHALL BE LISTED AND APPROVED BY UNDERWRITER'S LABORATORIES (U.L.) AND SHALL BEAR THE INSPECTION LABEL "J" WHERE SUBJECT TO SUCH APPROVAL. MATERIALS SHALL MEET WITH APPROVAL OF ALL GOVERNING BODIES HAVING JURISDICTION. AND SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA AND NBU.
- CONTRACTOR TO COORDINATE WITH BUILDING OWNER FOR CONNECTION OF TEMPORARY AND PERMANENT POWER TO THE SITE. THE TEMPORARY POWER AND ALL HOOKUP COSTS TO BE PAID BY CONTRACTOR.
- ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT ENGRAVED PLASTIC LABELS.
- ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING RATING NOT LESS THAN THE MAXIMUM SHORT CIRCUIT CURRENT TO WHICH THEY MAY BE SUBJECTED, AS INDICATED BY UTILITY COMPANY AND A MINIMUM OF 22,000 A.I.C.
- METER SOCKET AMPERES, VOLTAGE, AND NUMBER OF PHASES SHALL BE AS NOTED AND SHALL BE MANUFACTURED BY SQUARE "D" COMPANY, SANGAMO, OR APPROVED EQUAL. METER SOCKET SHALL BE APPROVED BY UTILITY COMPANY PRIOR TO INSTALLATION.
- WIRE AND CABLE CONDUCTORS SHALL BE COPPER #12 AWG MINIMUM WITH TYPE THWN INSULATION UNLESS SPECIFICALLY NOTED OTHERWISE.
- EACH CONDUCTOR OF EVERY SYSTEM SHALL BE PERMANENTLY TAGGED IN EACH PANELBOARD, PULLBOX, J-BOX, SWITCH BOX, ETC., IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT (O.S.H.A.)
- CONDUIT:
A. RIGID CONDUIT SHALL BE U.L. LABEL GALVANIZED ZINC COATED WITH ZINC INTERIOR AND SHALL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLABS, IN CONTACT WITH THE EARTH, UNDER PUBLIC ROADWAYS, IN MASONRY WALLS OR EXPOSED ON BUILDING EXTERIOR.
B. ELECTRICAL METALLIC TUBING (EMT) SHALL HAVE U.L. LABEL, FITTINGS SHALL BE GLAND RING COMPRESSION TYPE. EMT SHALL BE USED ONLY FOR INTERIOR RUNS. NO SET SCREW OR CRIMP TYPE FITTINGS SHALL BE USED.
C. FLEXIBLE METALLIC CONDUIT SHALL HAVE U.L. LABEL AND MAY BE USED WHERE PERMITTED BY CODE. FITTINGS SHALL BE "JAKE" OR "SQUEEZE" TYPE. SEAL TIGHT FLEXIBLE CONDUIT. ALL CONDUIT IN EXCESS OF SIX FEET IN LENGTH SHALL HAVE FULL SIZE GROUND WIRE.
D. PVC CONDUIT AND FITTINGS SHALL HAVE U.L. LABEL AND SHALL BE PVC SCHEDULE 40.
E. CONDUIT SHALL BE SIZED PER NEC OR ANY GOVERNING LOCAL CODE, AND AS SHOWN.
F. CONDUIT RUNS MAY BE SURFACE MOUNTED IN CEILINGS OR WALLS UNLESS INDICATED OTHERWISE. CONDUIT INDICATED SHALL RUN PARALLEL OR AT RIGHT ANGLES TO CEILING, FLOOR OR BEAMS, VERIFY EXACT ROUTING OF ALL EXPOSED CONDUIT WITH OWNER PRIOR TO INSTALLING.
G. ALL CONDUIT ONLY (C.O.) RUNS SHALL HAVE A PULL WIRE OR ROPE.
- REFER TO MANUFACTURERS MANUAL FOR RECOMMENDED FUSE AND WIRE SIZES.
- ALL FINAL CONNECTIONS TO THE EQUIPMENT ARE TO BE OF FLEXIBLE WEATHERPROOF CONDUIT TO MEET APPLICABLE CODES.
- PROVIDE LCCI WITH ONE SET OF COMPLETE ELECTRICAL "AS INSTALLED" DRAWINGS AT THE COMPLETION OF THE JOB, SHOWING ACTUAL DIMENSIONS, ROUTINGS, AND CIRCUITS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH, GAINING APPROVALS AND PAYING ALL FEES ASSESSED BY UTILITY COMPANY FOR ELECTRICAL SERVICE.
- SEAL PENETRATIONS THROUGH FIRE RATED AREAS WITH UL LISTED AND CODE APPROVED MATERIALS.

GENERAL ELECTRICAL NOTES (CONT'D.)

- TELCO CONDUIT RUN IN/ON BUILDINGS SHALL BE 2" DIA. AND HAVE MINIMUM 12" RADIUS BENDS & ELBOWS. CONDUIT RUNS SHALL HAVE ONE 18"x18"x8" PULL BOX AT DEMARC LOCATION, OR AS SPECIFIED BY LOCAL SERVICE PLANNER. TWO (2) PULL ROPES SHALL BE INSTALLED IN TELCO CONDUIT.
- CONTRACTOR TO INSTALL BRASS TAGS ON THE COAX CABLE AT THE ANTENNA END & AT THE EQUIPMENT END. THE TAGS MUST INCLUDE SECTOR NO.# AND CABLE LENGTH.
- CONTRACTOR TO CONTACT "UNDERGROUND UTILITY SERVICE" (I.E. DIG ALERT) PRIOR TO ANY EXCAVATION ON OR AROUND SITE.

CONCRETE NOTES

- DESIGN AND CONSTRUCTION SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" ACI 318.
- ULTIMATE COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS SHALL BE 2500 PSI.
- CONCRETE WORK AND MATERIALS SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS", ACI 301.
- CEMENT SHALL BE PORTLAND CEMENT CONFORMING TO ASTM C150 TYPE 1.
- CONCRETE SLUMP SHALL NOT EXCEED 5 INCHES UNLESS SPECIFICALLY AUTHORIZED BY THE ENGINEER. SLUMP SHALL BE DETERMINED IN ACCORDANCE WITH ASTM C143.
- READY MIX CONCRETE SHALL COMPLY WITH ACI-304 AND ASTM C-94 WITH A MAXIMUM WATER CEMENT RATIO OF 0.50. TIME BETWEEN INTRODUCTION OF WATER AND THE PLACEMENT OF CONCRETE SHALL NOT EXCEED 1-1/2 HOURS.
- PROVIDE AIR ENTRAINMENT IN EXTERIOR EXPOSED CONCRETE TO OBTAIN TOTAL AIR CONTENT OF 5 % ± 1% IN ACCORDANCE WITH ACI 301.
- CONCRETE COVER FOR REINFORCING SHALL BE 3 INCHES FOR CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH. AT ALL OTHER CONCRETE SURFACES, MINIMUM COVER SHALL BE 2 INCHES FOR #6 AND LARGER BARS, AND 1 1/2 INCHES FOR #5 AND SMALLER BARS.
- REMOVE ALL LOOSE MATERIAL AND DEBRIS FROM SURFACE PRIOR TO PLACING CONCRETE.
- EXTERIOR WALKING SURFACES SHALL RECEIVE A BROOM FINISH.
- THROUGHOUT CONSTRUCTION, THE CONCRETE WORK SHALL BE ADEQUATELY PROTECTED AGAINST DAMAGE DUE TO EXCESSIVE LOADING, CONSTRUCTION EQUIPMENT, MATERIALS OR METHODS, ICE, RAIN, SNOW, EXCESSIVE HEAT AND FREEZING.
- DRYING OUT OF CONCRETE, ESPECIALLY DURING THE FIRST 24 HOURS, SHALL BE CAREFULLY GUARDED AGAINST, ALL SURFACES SHALL BE MOIST CURED OR PROTECTED USING A MEMBRANE CURING AGENT APPLIED AS SOON AS FORMS ARE REMOVED. IF MEMBRANE CURING AGENT IS USED, EXERCISE CARE NOT TO DAMAGE SURFACE.

GROUNDING NOTES

- THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED AS REQUIRED BY ALL APPLICABLE CODES.
- ALL BUS CONNECTORS SHALL BE TWO-HOLE, LONG-BARREL TYPE COMPRESSION LUGS, T&B OR EQUAL UNLESS OTHERWISE NOTED ON DRAWINGS. ALL LUGS SHALL BE ATTACHED TO BUSES USING BOLTS, NUTS, AND LOCK WASHERS. NO WASHERS ARE ALLOWED BETWEEN THE ITEMS BEING GROUNDED.
- ALL CONNECTORS SHALL BE CRIMPED USING HYDRAULIC CRIMPING TOOLS, T&B #TBM 8 OR EQUIVALENT.
- ALL CONNECTIONS SHALL BE MADE TO BARE METAL. ALL PAINTED SURFACES SHALL BE FILED TO ENSURE PROPER CONTACT. NO WASHERS ARE ALLOWED BETWEEN THE ITEMS BEING GROUNDED. ALL CONNECTIONS ARE TO HAVE A NON-OXIDIZING AGENT APPLIED PRIOR TO INSTALLATION.
- ALL COPPER BUSES SHALL BE CLEANED, POLISHED, AND A NON-OXIDIZING AGENT APPLIED. NO FINGERPRINTS OR DISCOLORED COPPER WILL BE PERMITTED.
- ALL BENDS SHALL BE AS SHALLOW AS POSSIBLE, WITH NO TURN SHORTER THAN AN 8-INCH NOMINAL RADIUS.
- GROUNDING CONDUCTORS SHALL BE SOLID TINNED COPPER AND ANNEALED #2. ALL GROUNDING CONDUCTORS SHALL RUN THROUGH PVC SLEEVES WHEREVER CONDUCTORS RUN THROUGH WALLS, FLOORS, OR CEILINGS. IF CONDUCTORS MUST RUN THROUGH EMT, BOTH ENDS OF CONDUIT SHALL BE GROUNDED. SEAL BOTH ENDS OF CONDUIT WITH SILICONE CAULK.
- GROUNDING SYSTEM RESISTANCE SHALL NOT EXCEED 5 OHMS. IF THE RESISTANCE VALUE IS EXCEEDED, NOTIFY THE PROJECT MANAGER FOR FURTHER INSTRUCTION ON METHODS FOR REDUCING THE RESISTANCE VALUE.
- ALL ROOF TOP ANTENNA MOUNTS SHALL BE GROUNDED WITH A #2 GROUND WIRE CONNECTED TO THE NEAREST GROUND BUS. ALL CONNECTIONS ARE TO BE CAD-WELDED IF POSSIBLE.
- UPON COMPLETION OF WORK, CONDUCT CONTINUITY, SHORT CIRCUIT, AND FALL OF POTENTIAL GROUNDING TESTS FOR APPROVAL. SUBMIT TEST REPORTS TO THE PROJECT MANAGER.
- GROUNDING CONNECTION TO TRAVEL IN A DOWNWARD DIRECTION.
- ALL EXPOSED #2 WIRE MUST BE TINNED BCW.
- MASTER GROUND BAR IS TO BE 4" x 1"-8". ALL OTHER GROUND BARS

ANTENNA MOUNTING NOTES

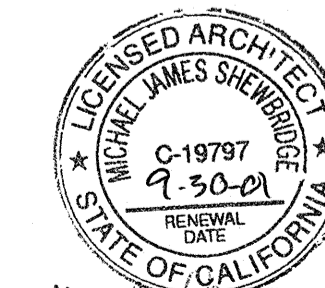
- ALL INSTALLATION OF WIRELESS RELATED EQUIPMENT, IE: CABINET, COAX, MOUNTING BRACKET, ANTENNAS, AND GROUNDING SHALL BE DONE TO "INDUSTRY STANDARDS".
- DESIGN AND CONSTRUCTION OF ANTENNA SUPPORTS SHALL CONFORM TO ANSIE/IA-222-F "STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES" OR APPLICABLE LOCAL CODES. DESIGN WIND SPEED = 80 MPH OR LOCAL CODES.
- ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.
- ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.
- DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY COLD GALVANIZING IN ACCORDANCE WITH ASTM A780.
- ALL ANTENNA MOUNTS SHALL BE INSTALLED WITH DOUBLE NUTS AND SHALL BE INSTALLED SNUG TIGHT.

PITTSBURG WATER PLANT

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SCALE AS NOTED		DESIGNED BY:	DRAWN BY:		



Michael J. Shumbrigg

ENGINEER'S OR ARCHITECTS LICENSE NUMBER

PLANS PREPARED BY:



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949.251.1177 fax 949.251.1120

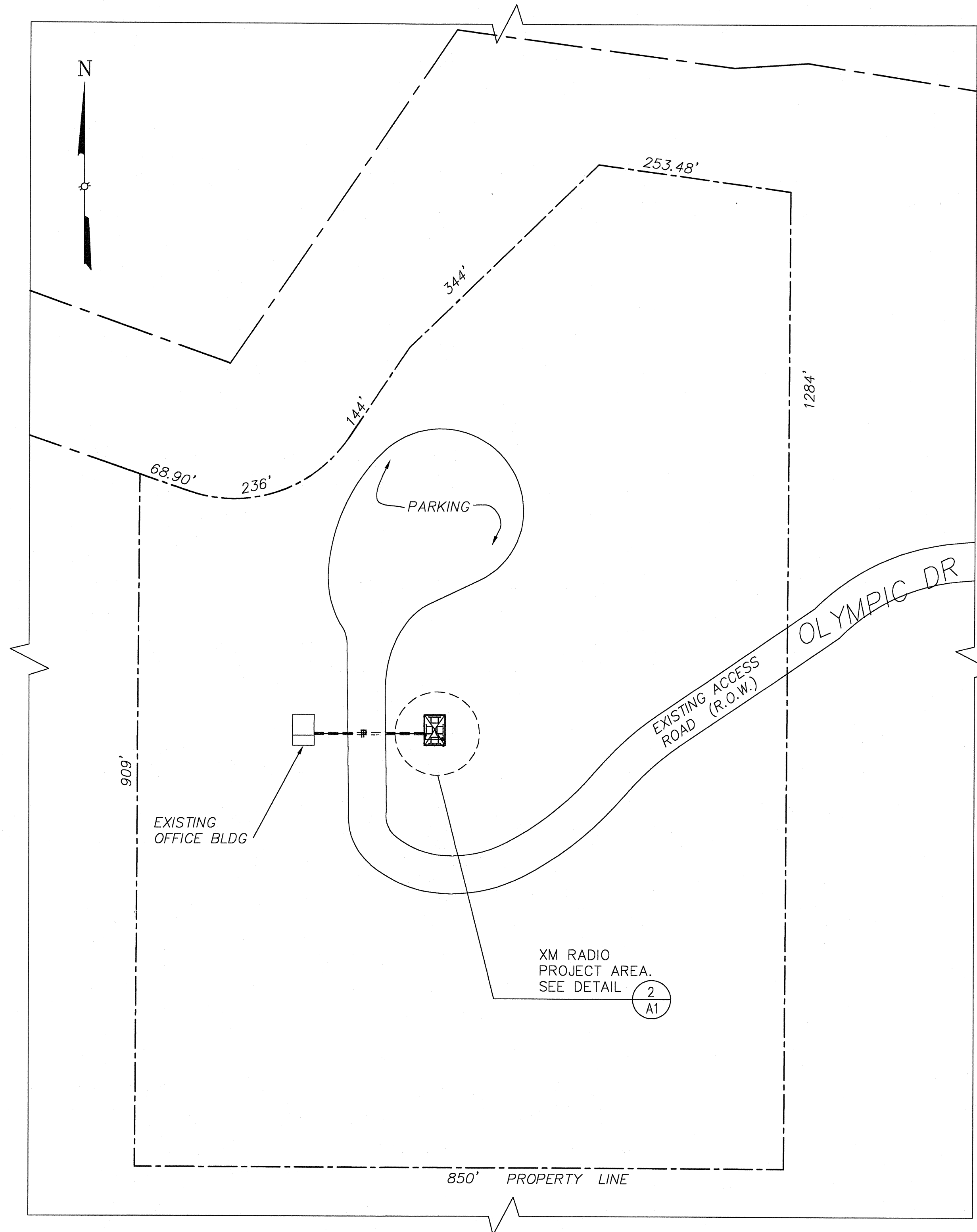
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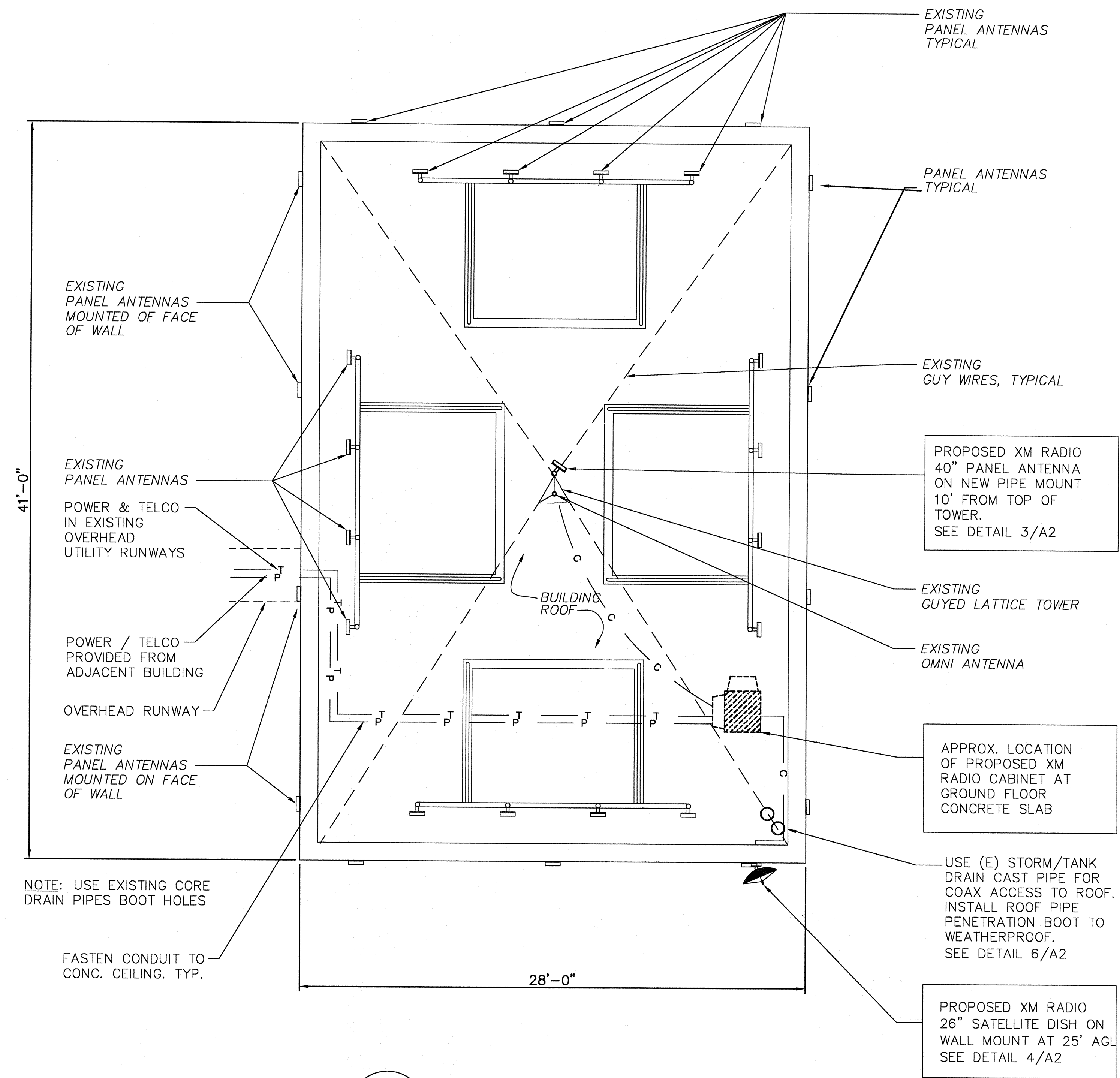
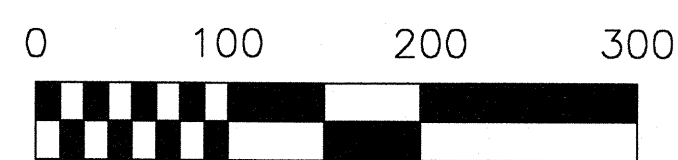
GENERAL NOTES

DWG. NO.: REV

04-26-01 T2



1 SITE PLAN
A1 SCALE: 1"=100'-0"



NOTE: USE EXISTING CORE DRAIN PIPES BOOT HOLES
FASTEN CONDUIT TO CONC. CEILING. TYP.

2 ENLARGED PLAN
A1 SCALE: 1/4"=1'-0"



PITTSBURG WATER PLANT

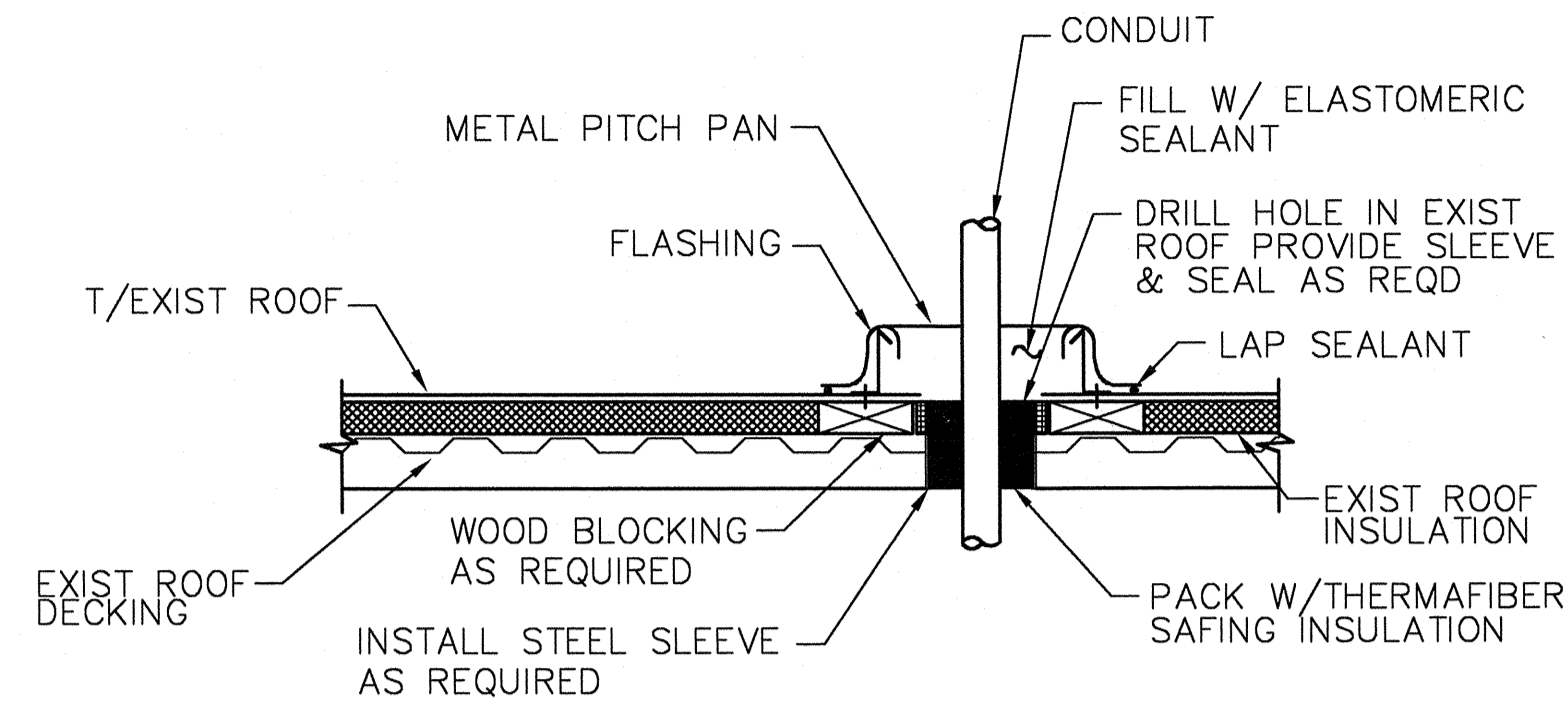
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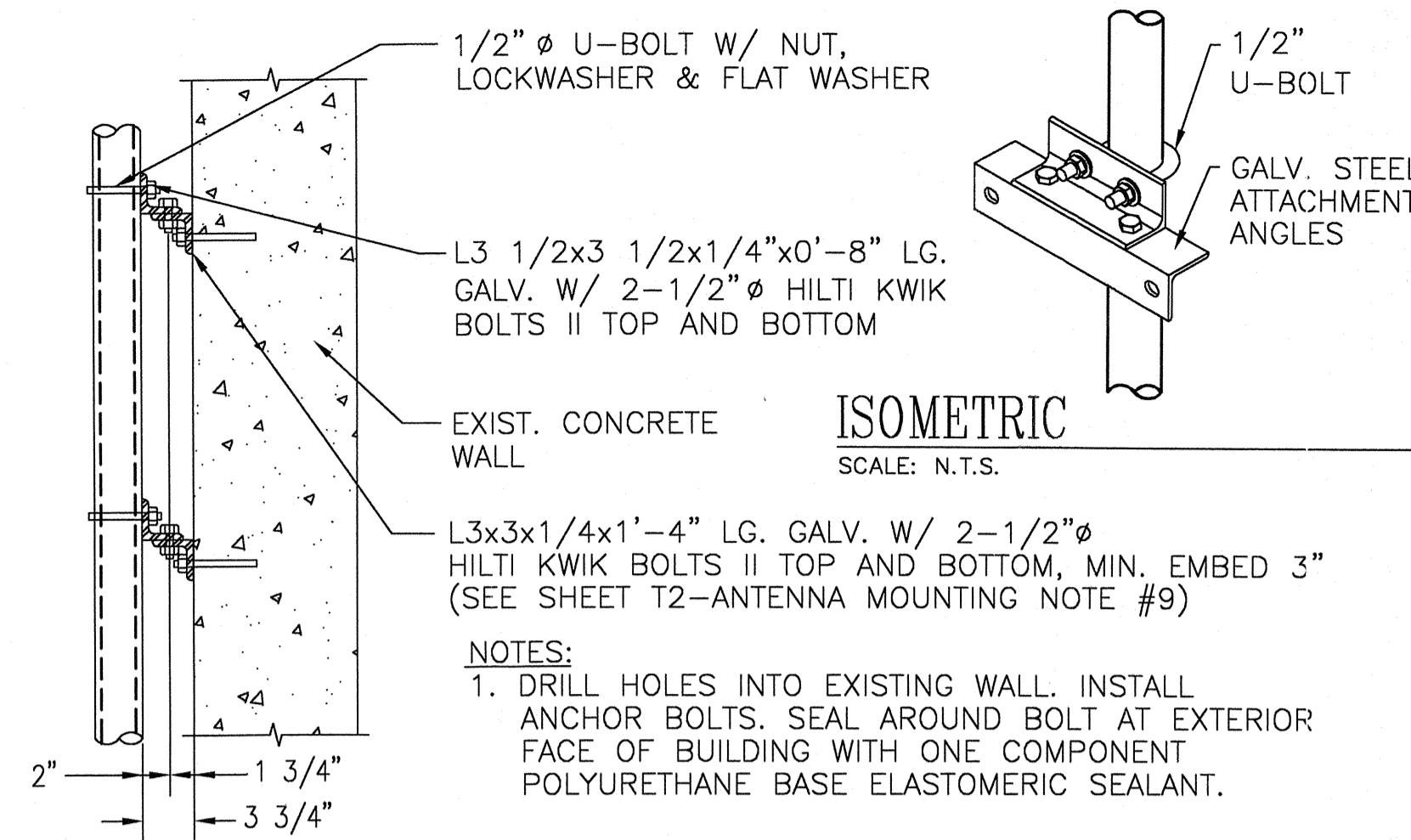
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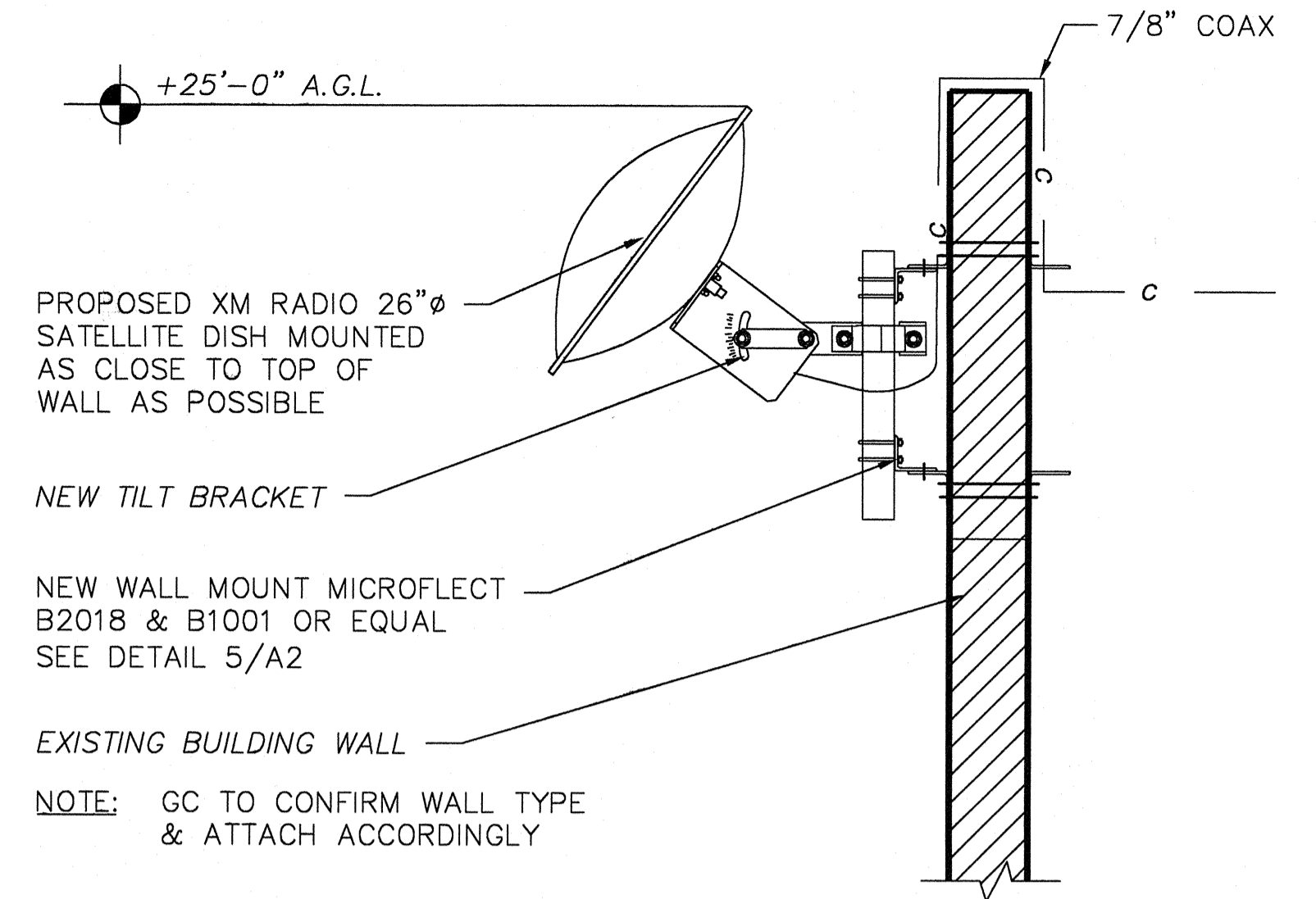
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 SITE PLAN, ENLARGED PLAN DWG. NO.: REV
 04-26-01 A1 -



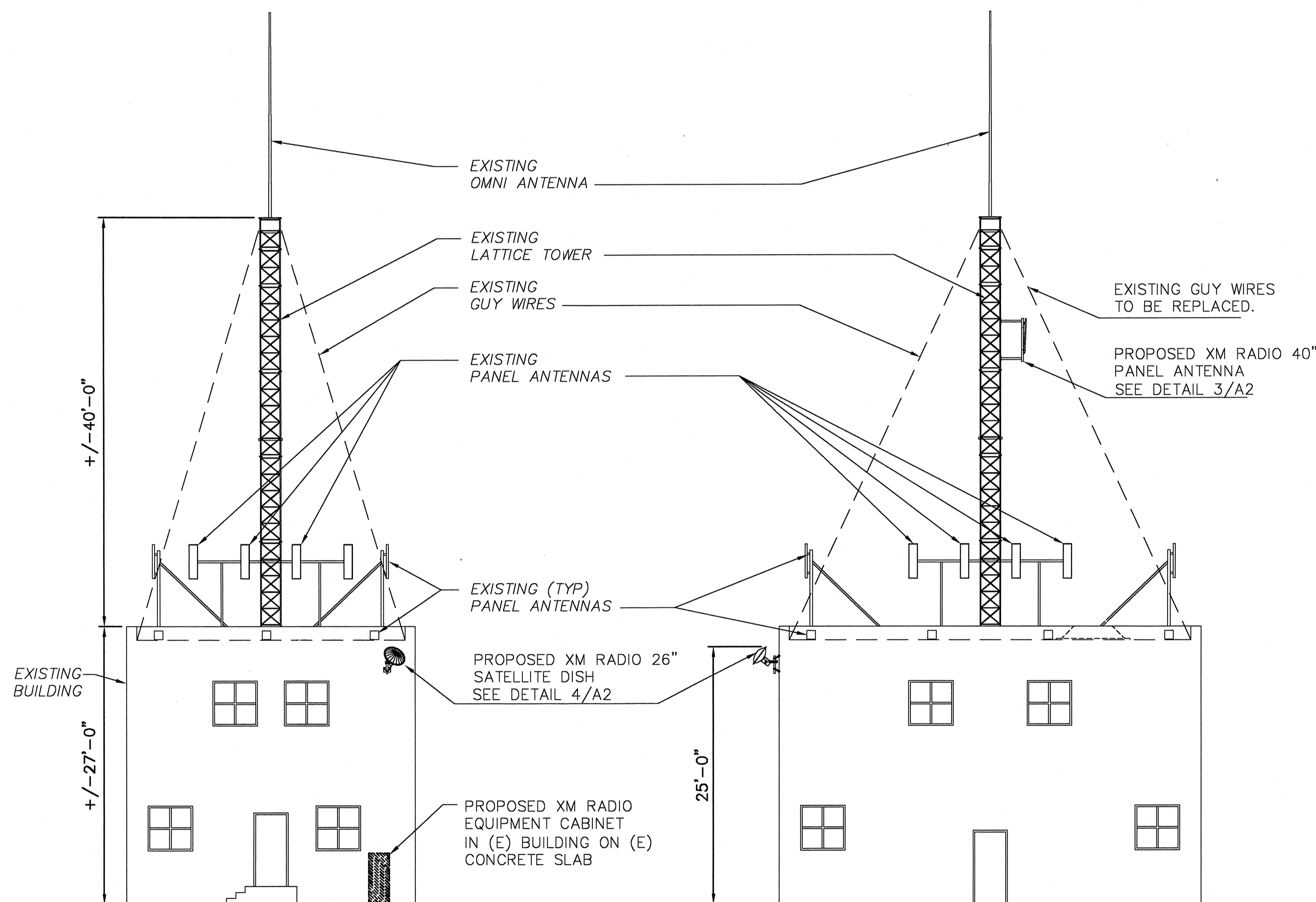
6 CONDUIT PENETRATION THRU ROOF
 SCALE: 1"=1'-0"



5 WALL MOUNTING DETAIL
 SCALE: 1"=1'-0"

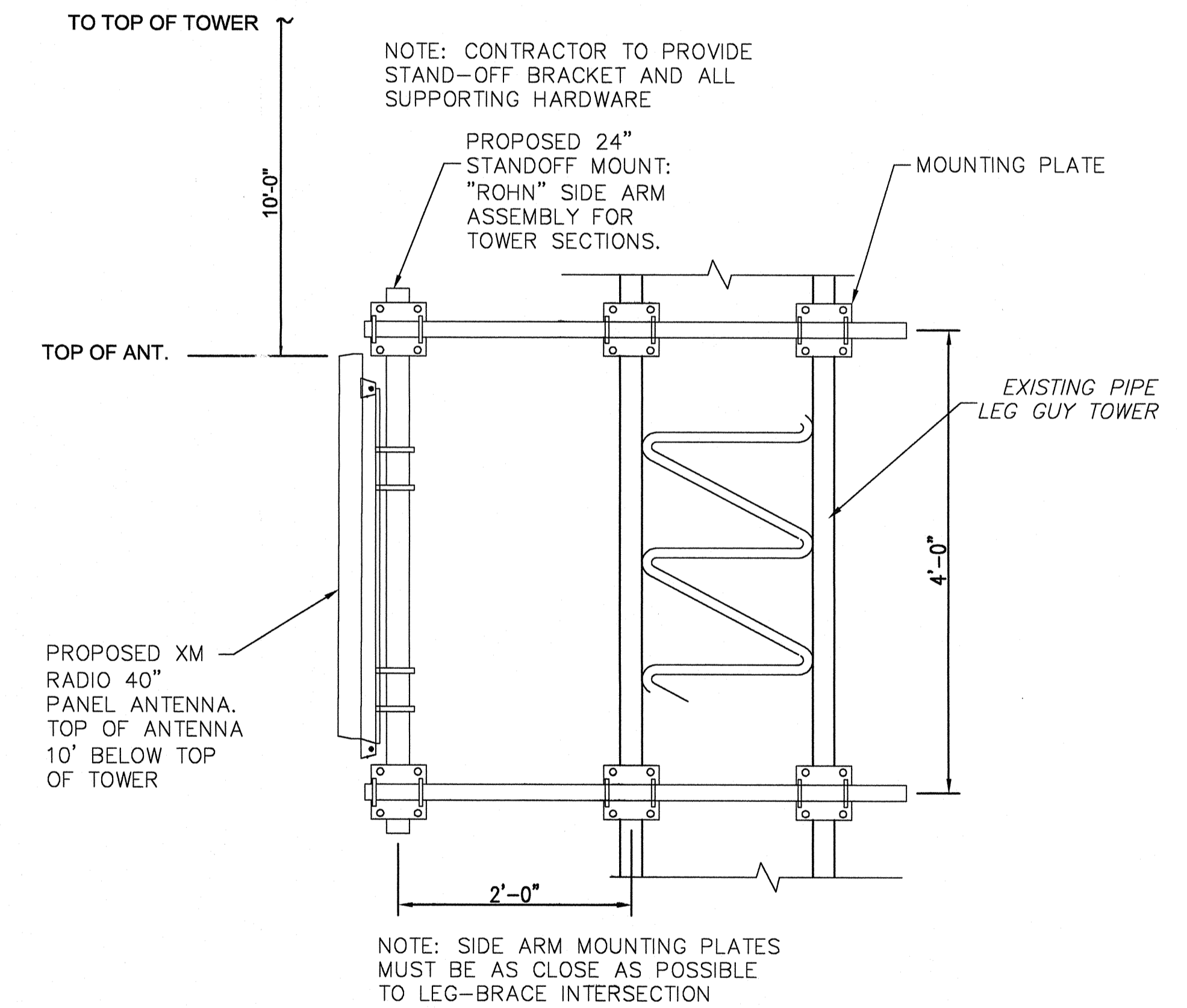


4 WALL MOUNTED SATELLITE DISH
 SCALE: 1"=1'-0"

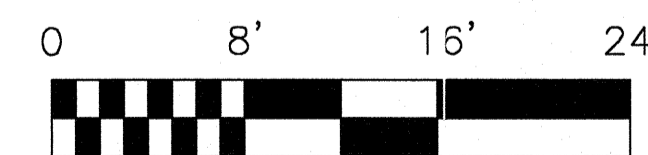


1 SOUTH ELEVATION
 SCALE: 1/8"=1'-0"

2 EAST ELEVATION
 SCALE: 1/8"=1'-0"



3 NEW TOWER MOUNTED PANEL ANTENNA
 SCALE: 1"=1'-0"



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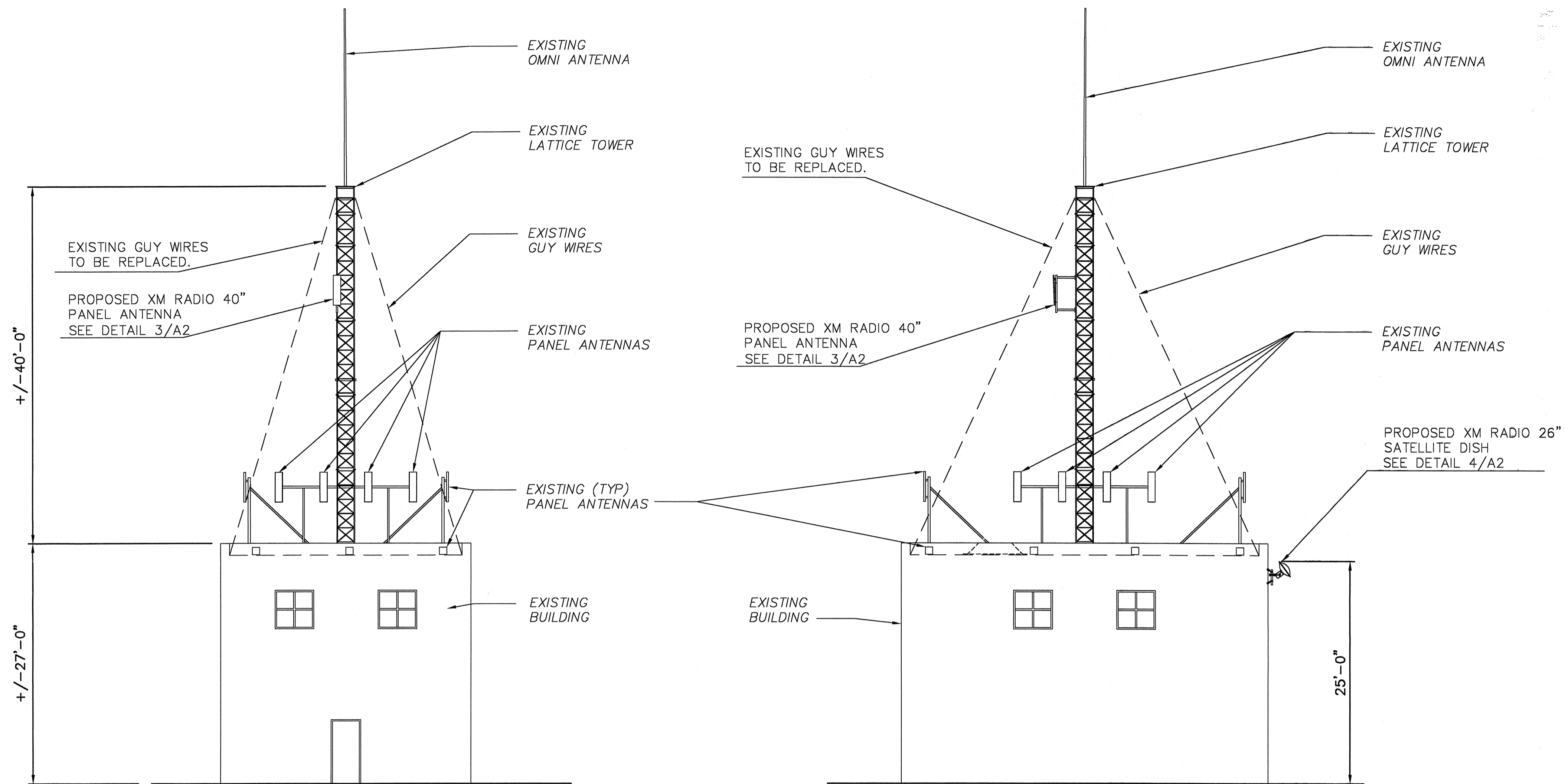
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 ELEVATIONS, DETAILS DWG. NO.: REV
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 HAYWARD, CA 94545
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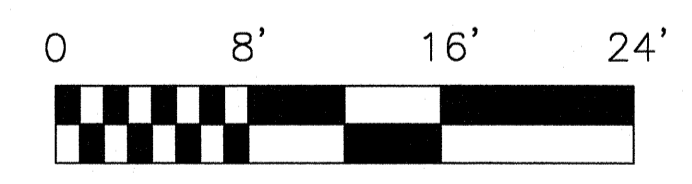
SATELLITE RADIO

PITTSBURG WATER PLANT
 300 OLYMPIC DR.
 PITTSBURG, CA 94565



1 NORTH ELEVATION
A3 SCALE: 1/8"=1'-0"

2 WEST ELEVATION
A3 SCALE: 1/8"=1'-0"



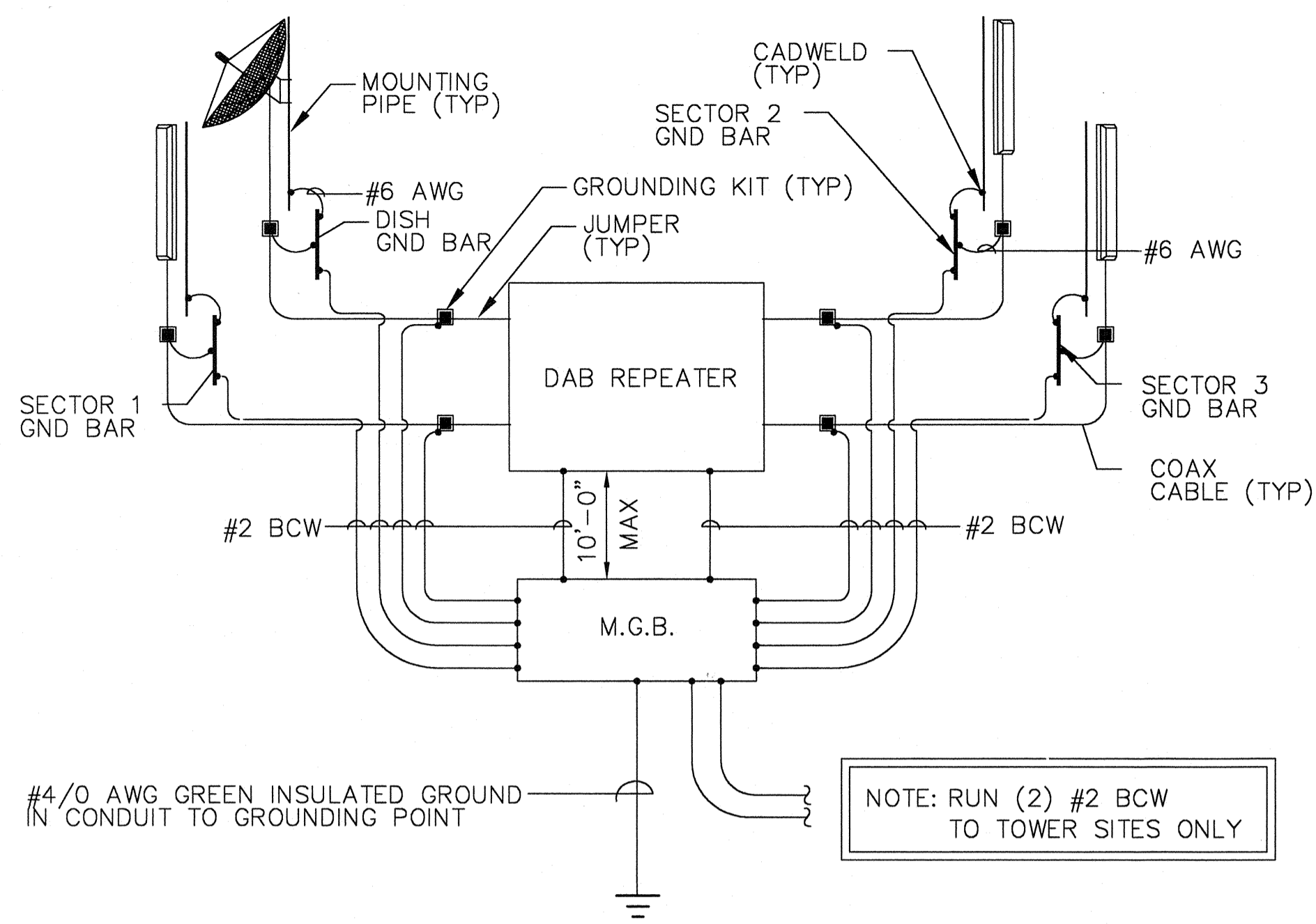
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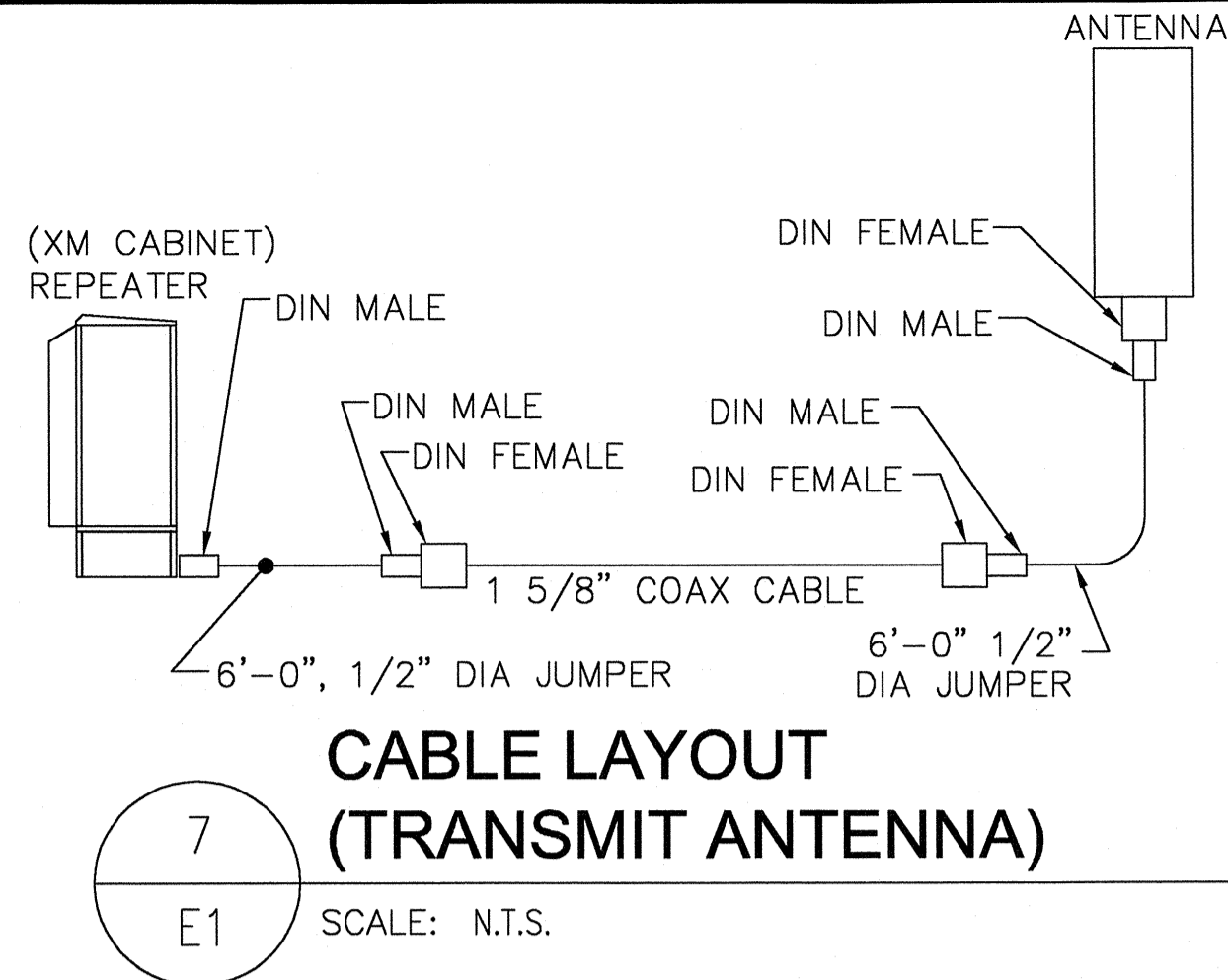
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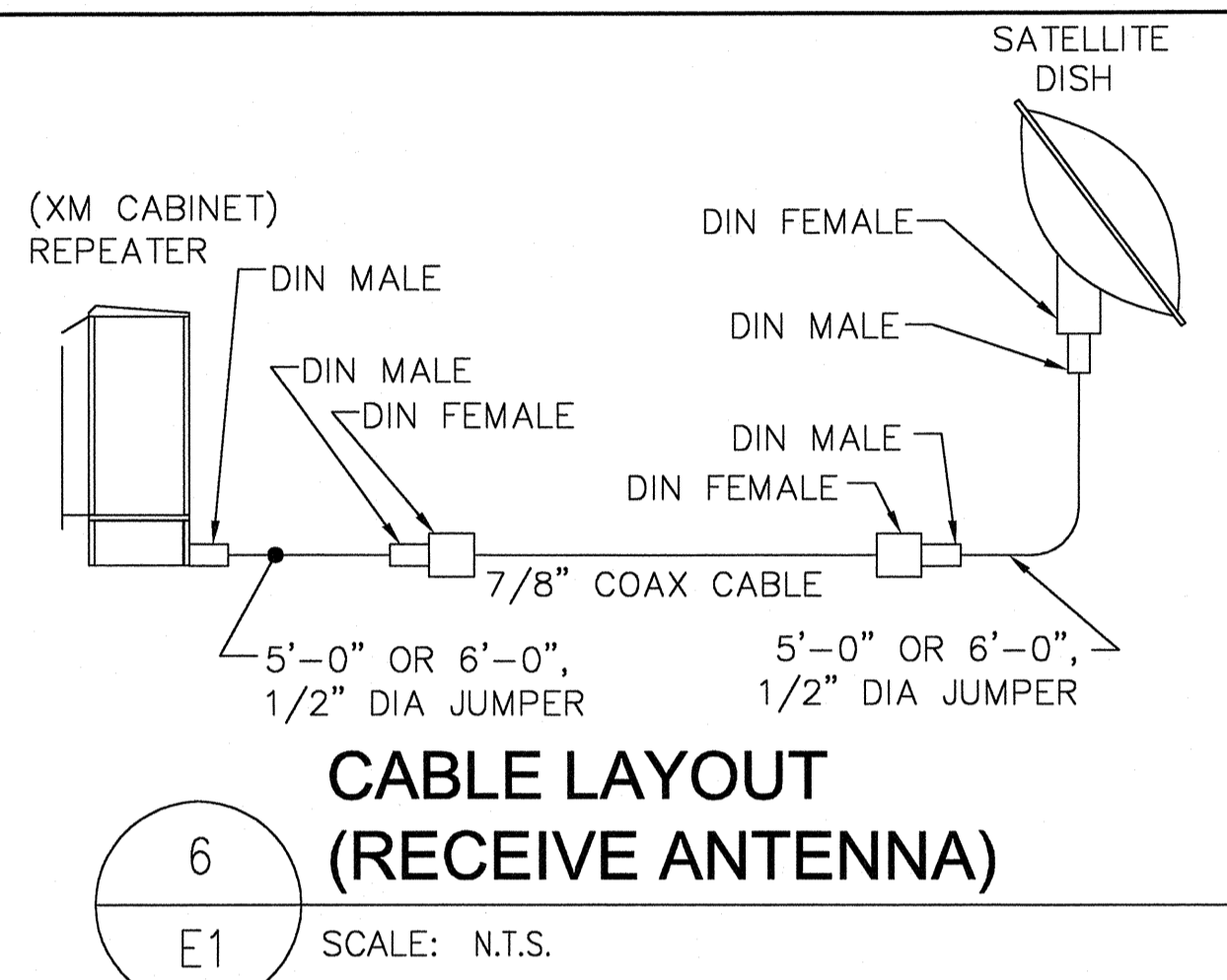
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ELEVATIONS
04-26-01 A3



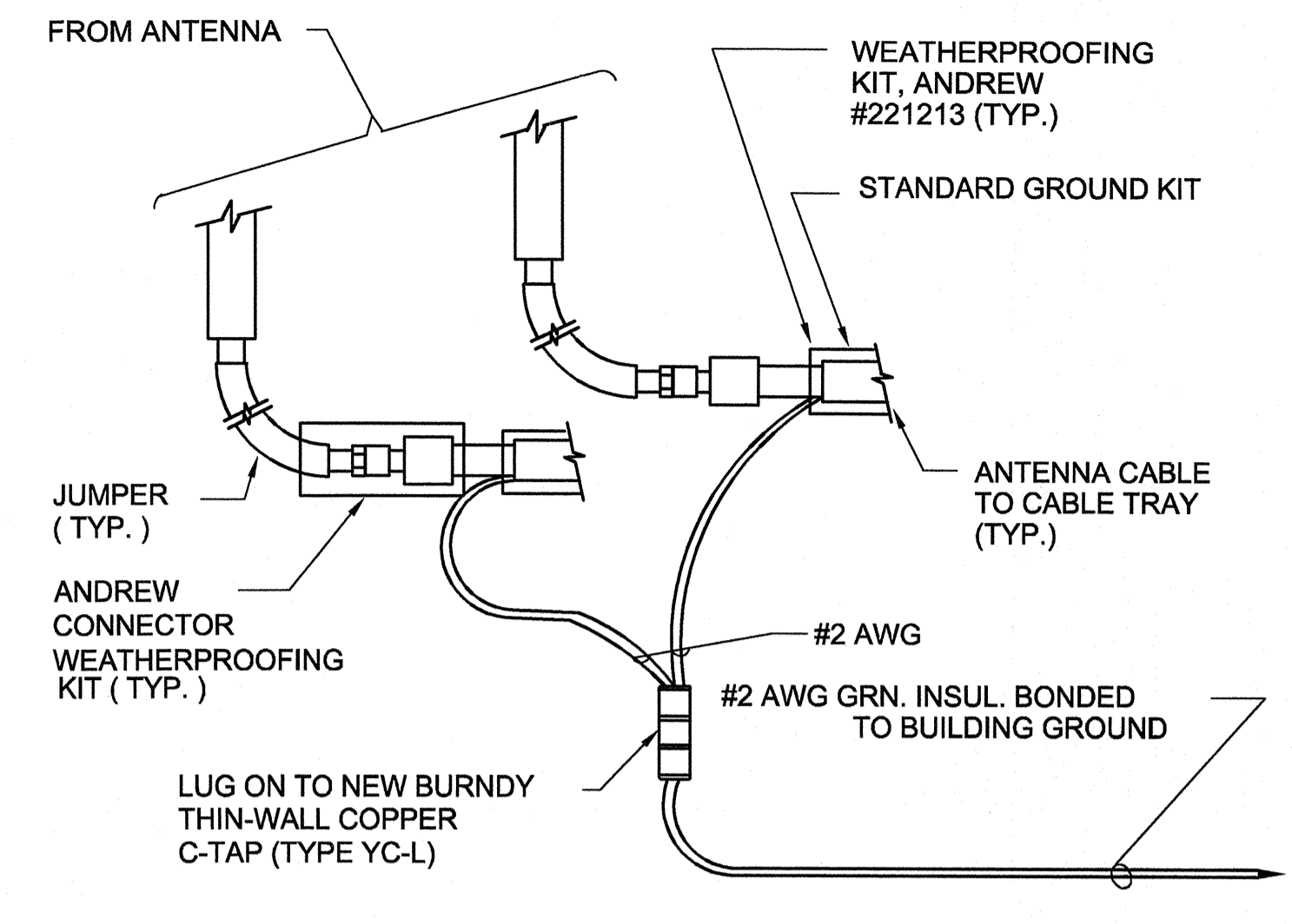
10 GROUNDING SCHEMATIC (SITE 1)
E1 SCALE: N.T.S.



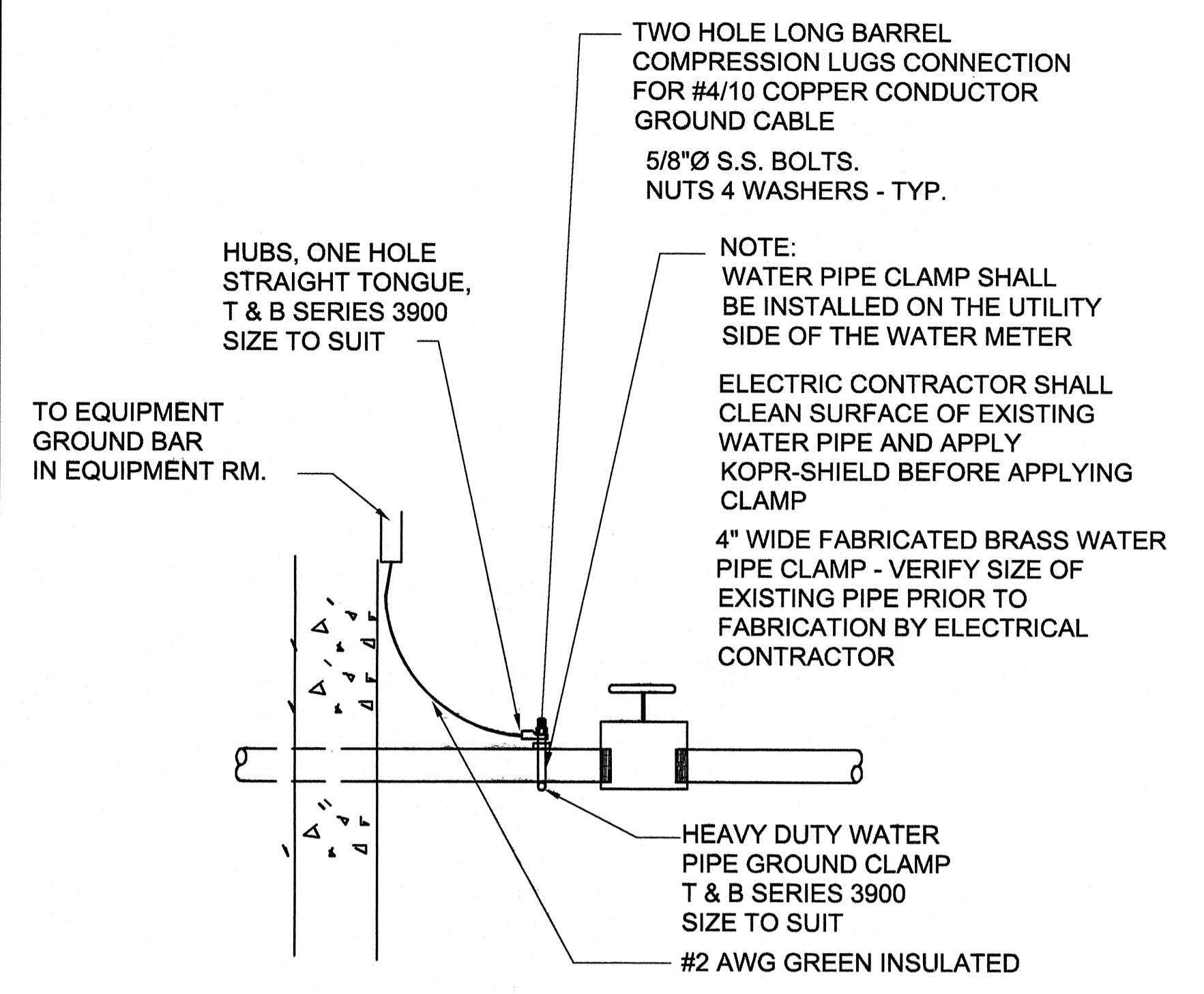
7 CABLE LAYOUT (TRANSMIT ANTENNA)
E1 SCALE: N.T.S.



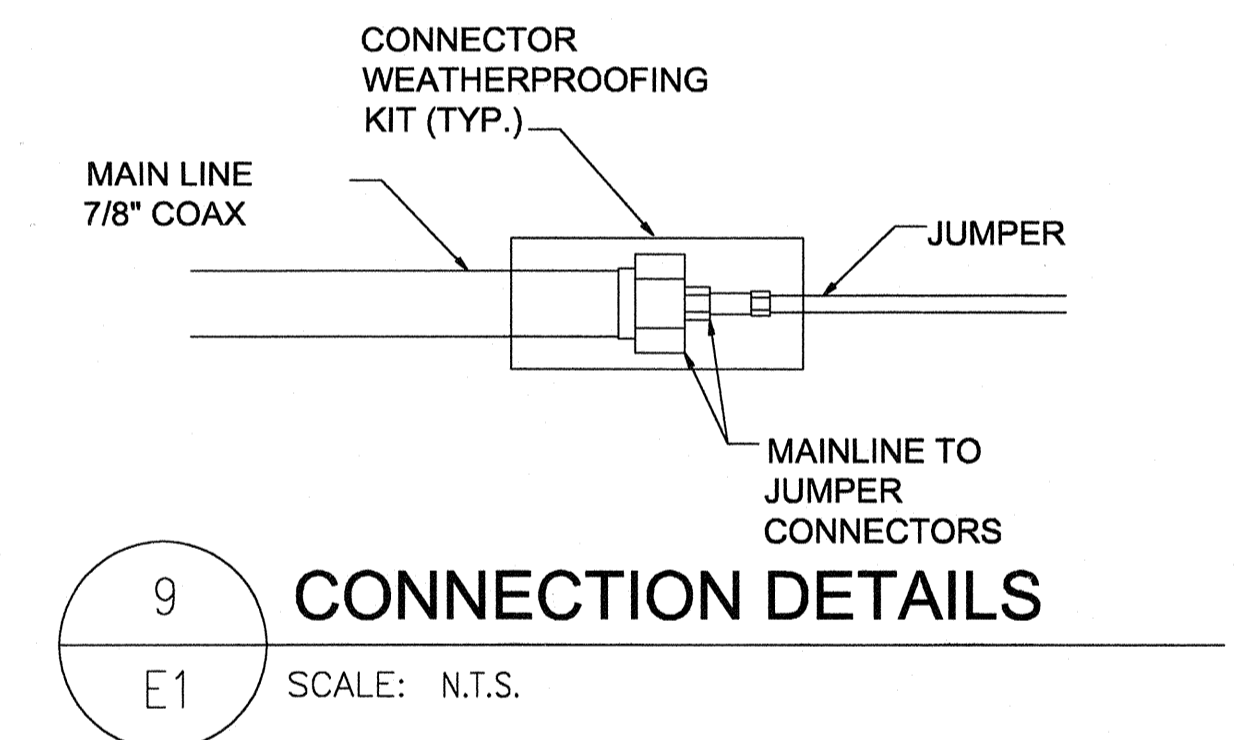
6 CABLE LAYOUT (RECEIVE ANTENNA)
E1 SCALE: N.T.S.



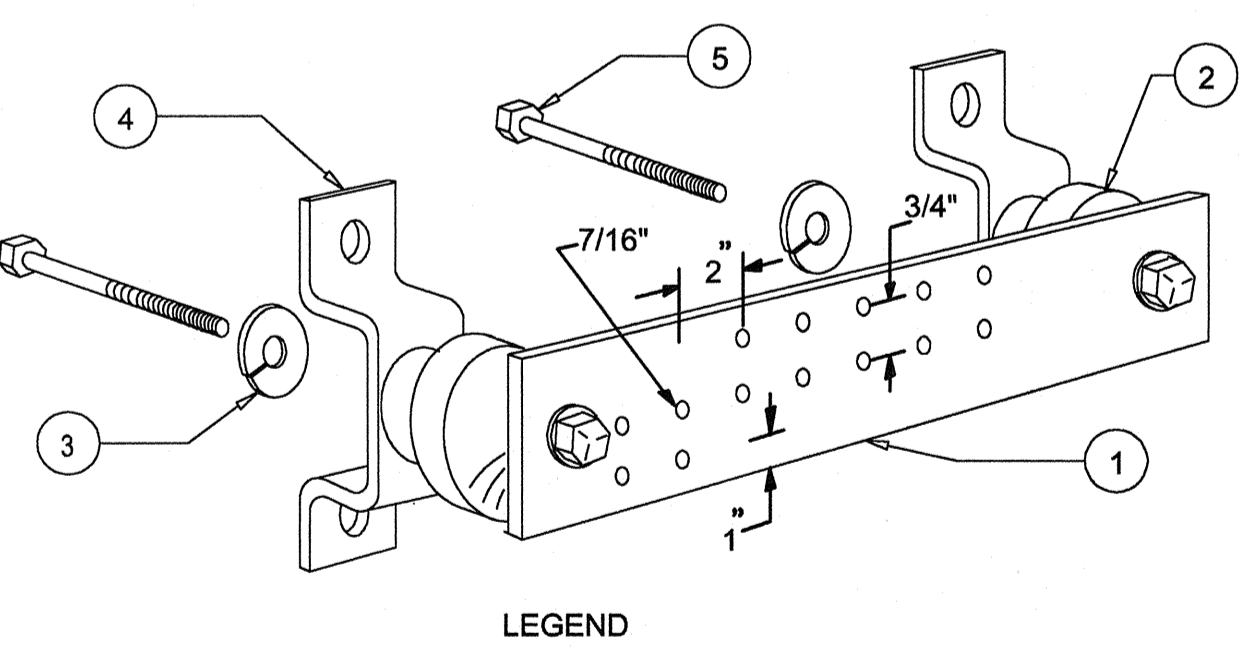
4 GROUNDING - STANDARD DETAIL CONNECTION OF GROUND WIRES TO COPPER C-TAP AT ANTENNAS
E1 SCALE: N.T.S.



2 GROUNDING - STANDARD DETAIL WATER MAIN GROUNDING
E1 SCALE: N.T.S.

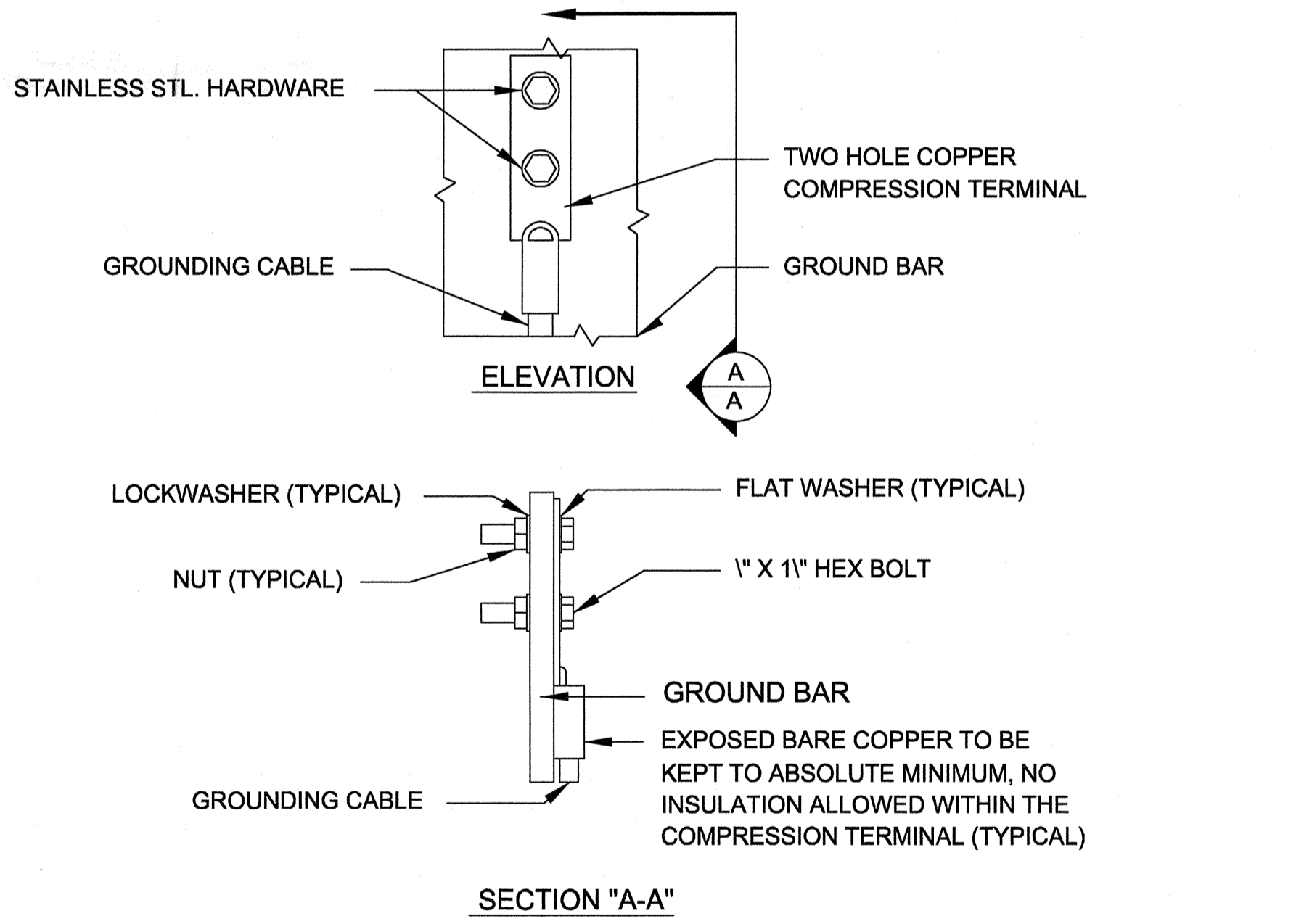


9 CONNECTION DETAILS
E1 SCALE: N.T.S.



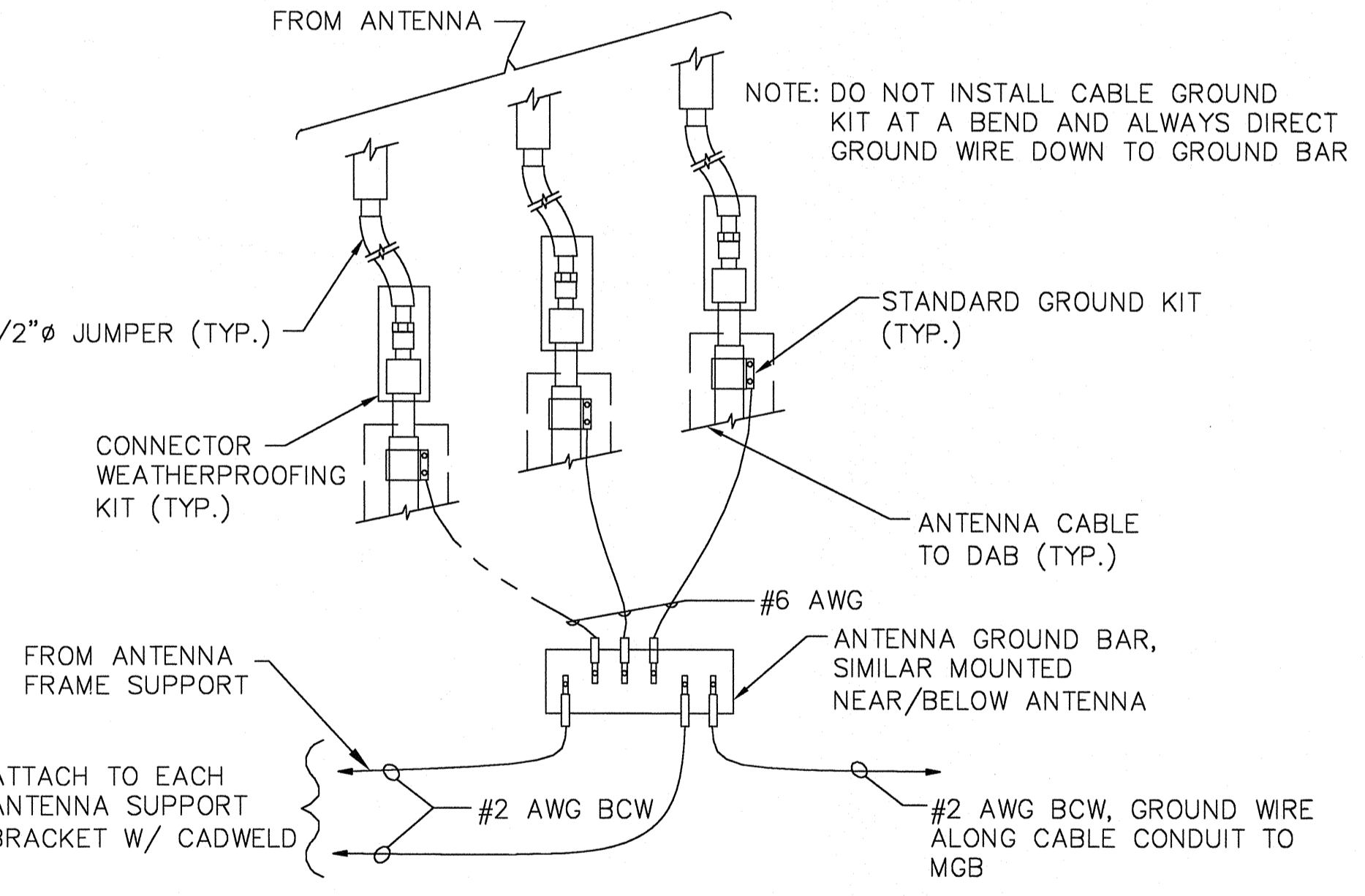
8 GROUNDING BAR DETAIL
E1 SCALE: N.T.S.

- LEGEND
- 1- COPPER GROUND BAR, 1/4" X 3" X 1/2", "COPPER BUS BAR". HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION
 - 2- INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061-4
 - 3- 5/8" LOCKWASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8
 - 4- WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT. NO. A-6056
 - 5- 5/8-11 X 1" H.C.S. BOLTS, NEWTON INSTRUMENT CO. CAT. NO. 3012-1

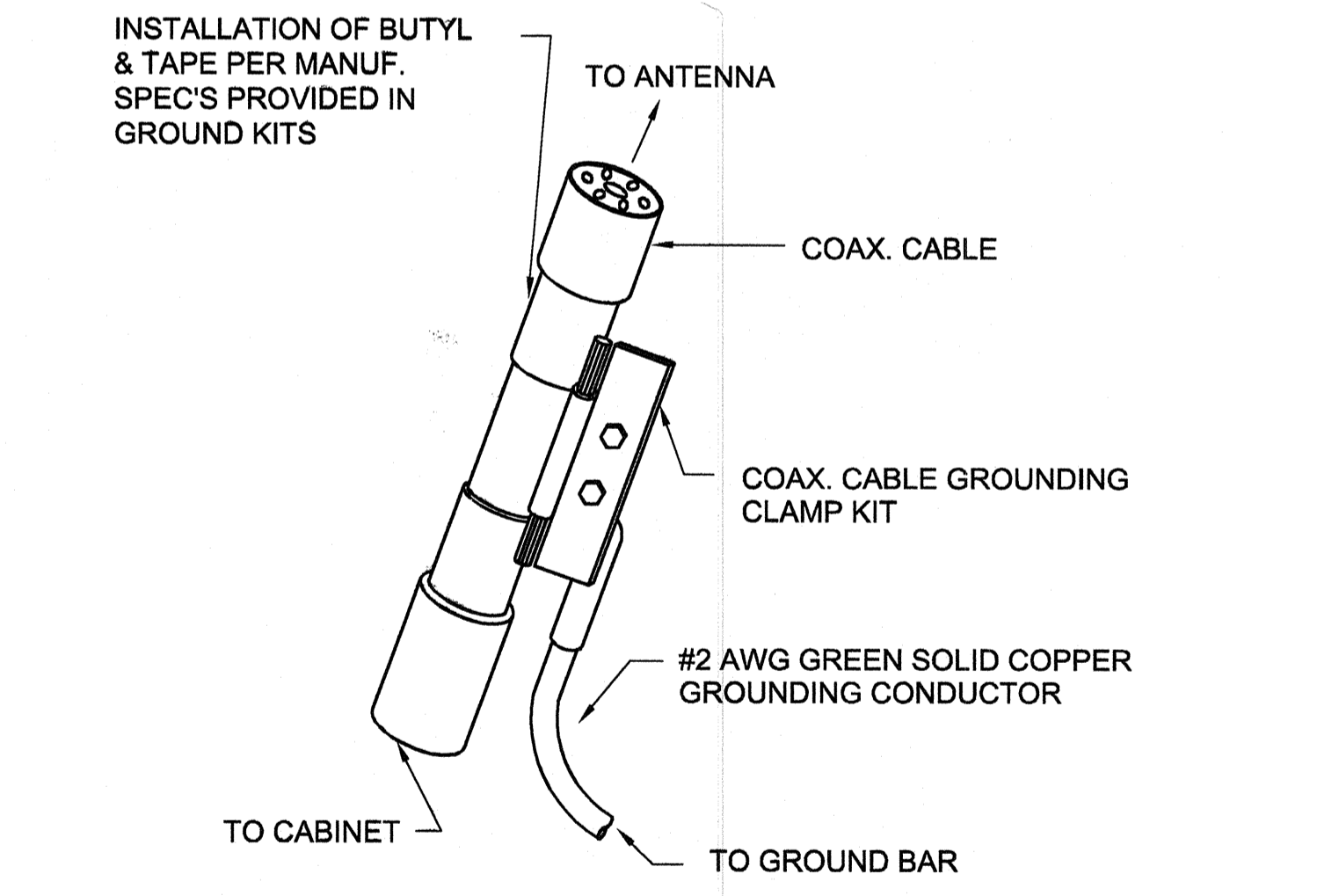


- NOTE:
1. "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.
 2. "NO-OX" OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.

5 GROUNDING TYPICAL GROUND BAR CONNECTIONS DETAIL
E1 SCALE: N.T.S.



3 GROUNDING WIRING TO GROUNDING BAR DETAIL
E1 SCALE: N.T.S.



1 GROUNDING - STANDARD DETAIL AT ANTENNA CABLES
E1 SCALE: N.T.S.

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Michael J. Shubert

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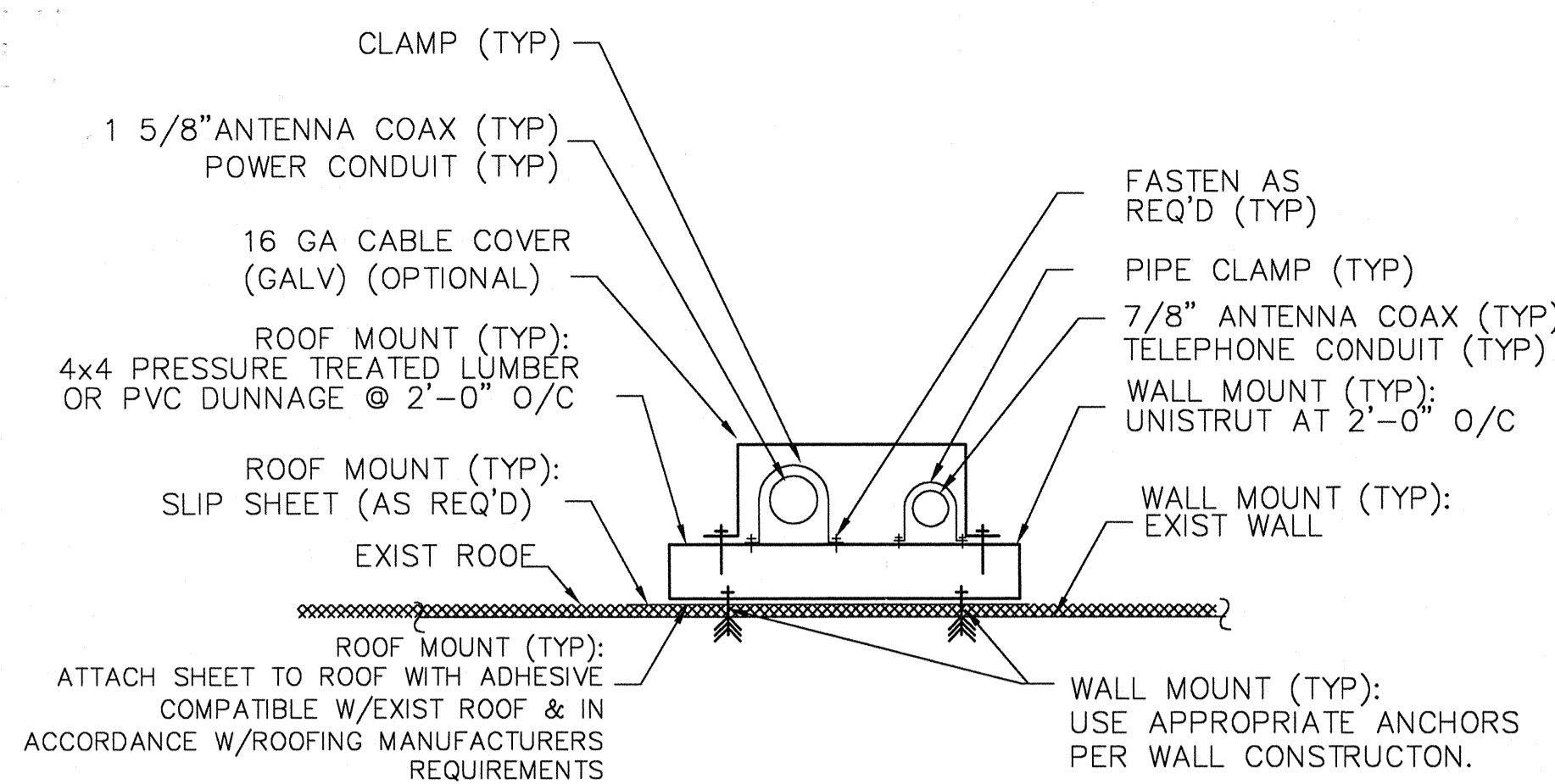
DETAILS DWG. NO.: REV
04-26-01 E1

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SATELLITE RADIO

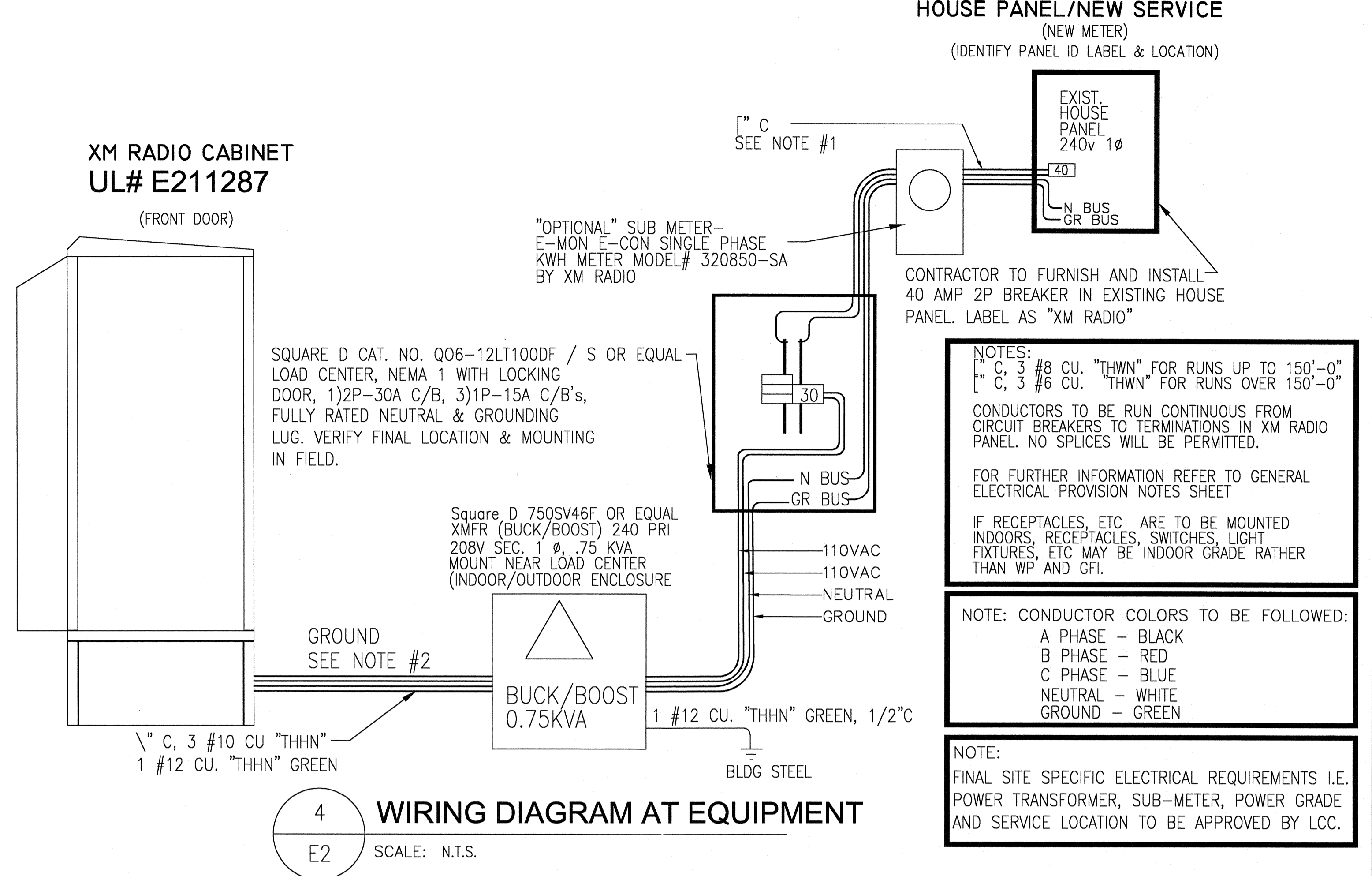
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SECTION @ COAX AND CONDUITS ROOF & WALL

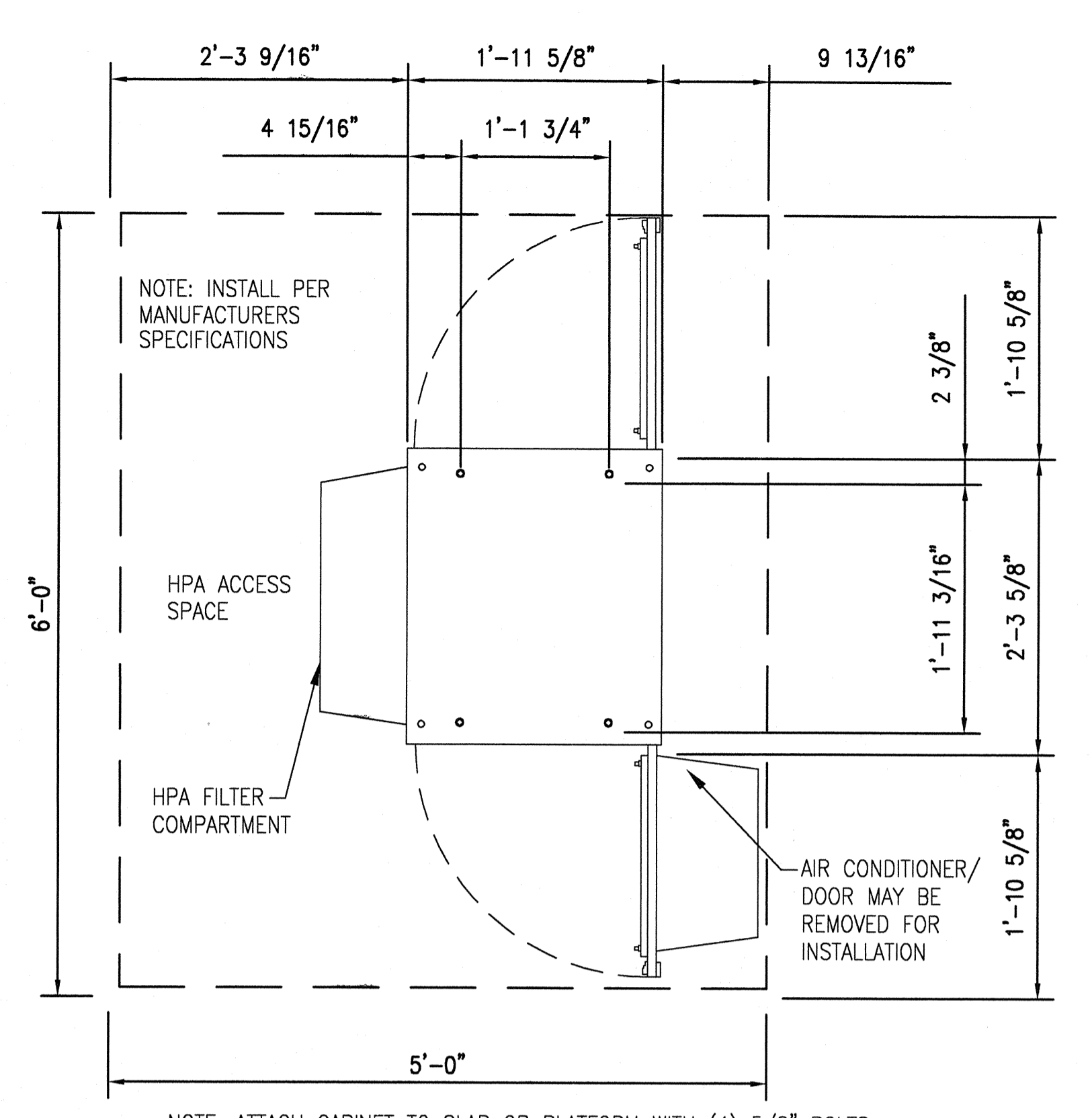
7
E2
SCALE: N.T.S.



XM RADIO CABINET UL# E211287

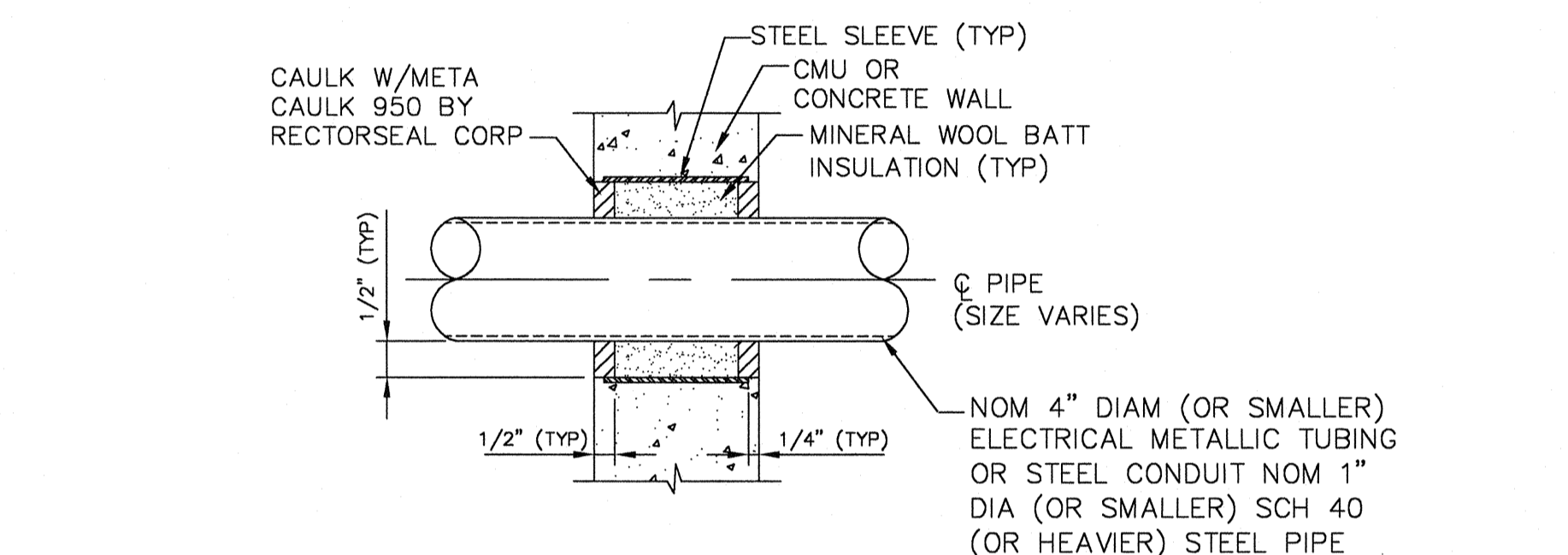
WIRING DIAGRAM AT EQUIPMENT

4
E2
SCALE: N.T.S.



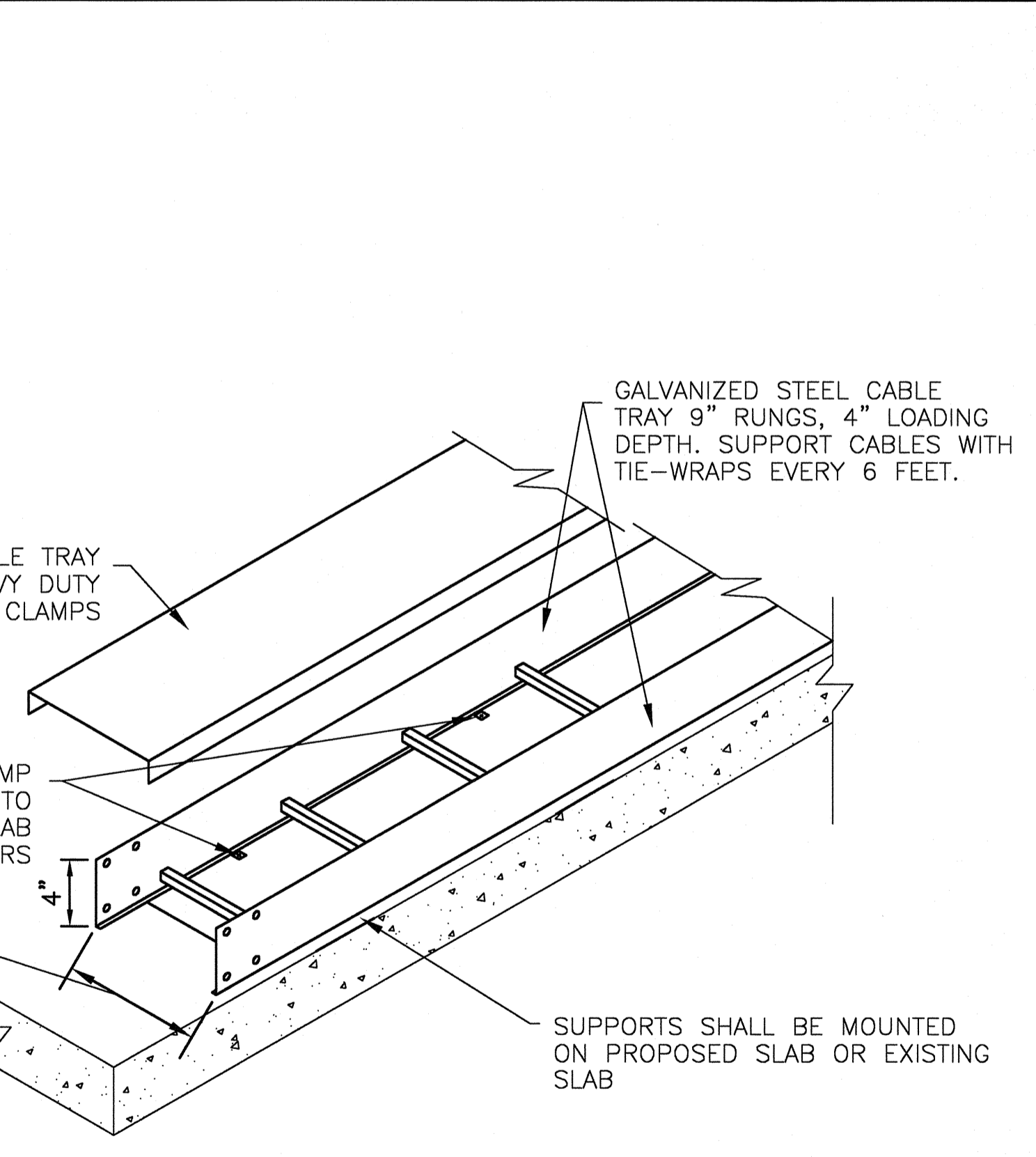
FOOTPRINT & MINIMUM CLEARANCES

2
E2
SCALE: N.T.S.



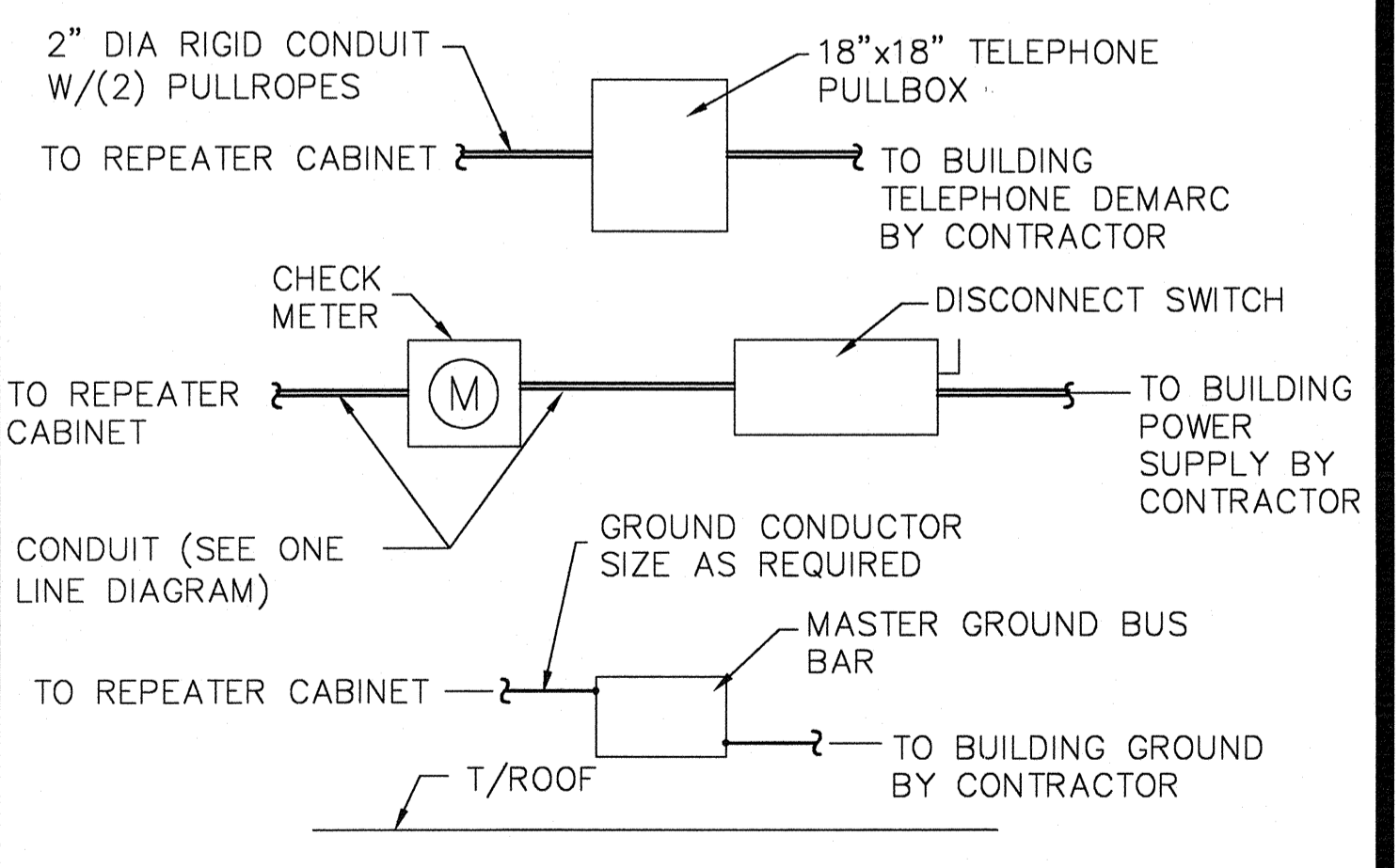
PIPE PENETRATION AT CMU WALL (CONC WALL SIMILAR)

6
E2
SCALE: N.T.S.



COAX CABLE TRAY

3
E2
SCALE: N.T.S.



UTILITIES DEMARC SCHEMATIC

5
E2
SCALE: N.T.S.

NOTE: SEE MATERIAL LIST FOR LIST OF MANUFACTURES AND MODEL NUMBERS

LEGEND

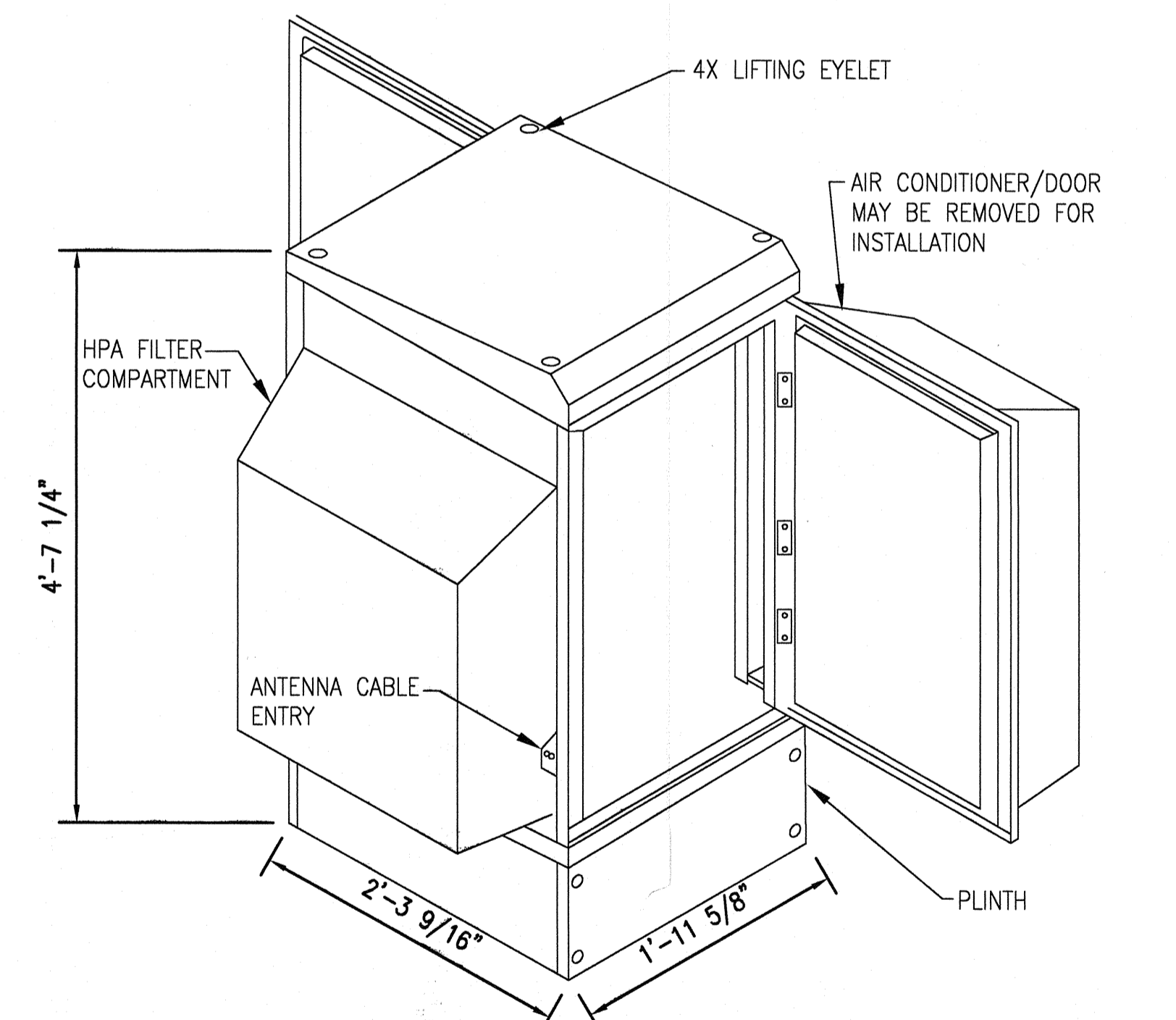
ELECTRICAL SYMBOLS

- COMPRESSION TYPE CONNECTION
- CADWELD TYPE CONNECTION
- GROUNDING WIRE
- C- 1-5/8" (W/ 36" MIN. BENDING RAD.) (TYP.) OR 7/8" COAX (18" MIN. BENDING RAD.) (TYP.)
- P- 1" POWER (TYP.)
- T- 2" TELCO (TYP.)

ABBREVIATIONS

- AWG AMERICAN WIRE GAUGE
- BCW BARE COPPER WIRE
- RWY RACEWAY
- TYP. TYPICAL
- RGS RIGID GALVANIZED STEEL
- EMT ELECTRICAL METALLIC TUBING
- DWG DRAWING
- IGR INTERIOR GROUND RING (HALO)
- MCB MASTER GROUND BAR
- AGB ANTENNA GROUND BAR
- GEN GENERATOR
- DAB REPEATER CABINET FOR XM
- MTG MOUNTING

NOTE: CONTRACTOR TO CONTACT "UNDERGROUND UTILITY SERVICE" (I.E. DIG ALERT) BEFORE ANY EXCAVATION ON OR AROUND SITE



CABINET DETAIL

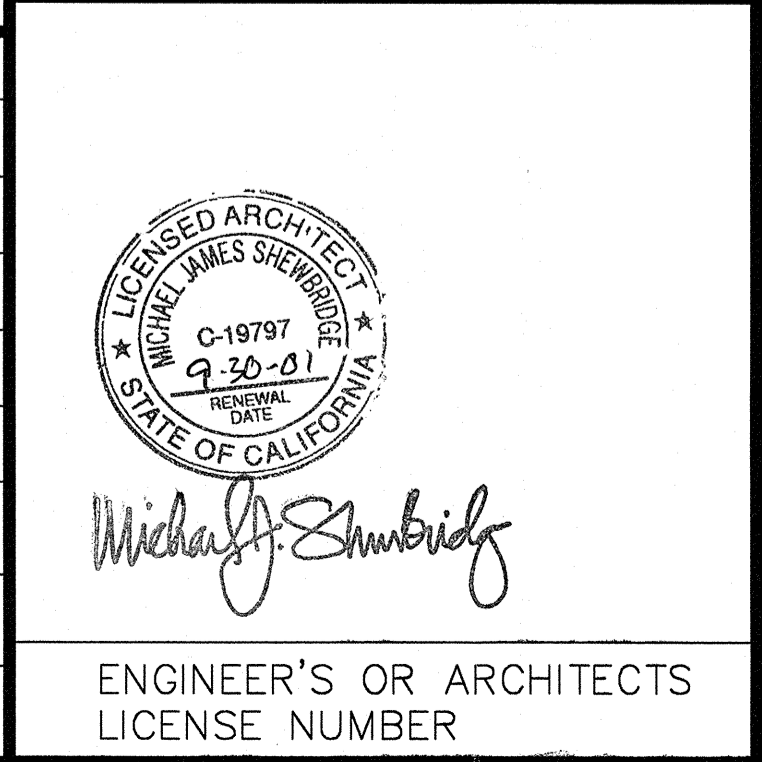
1
E2
SCALE: 1"=1'-0"



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