

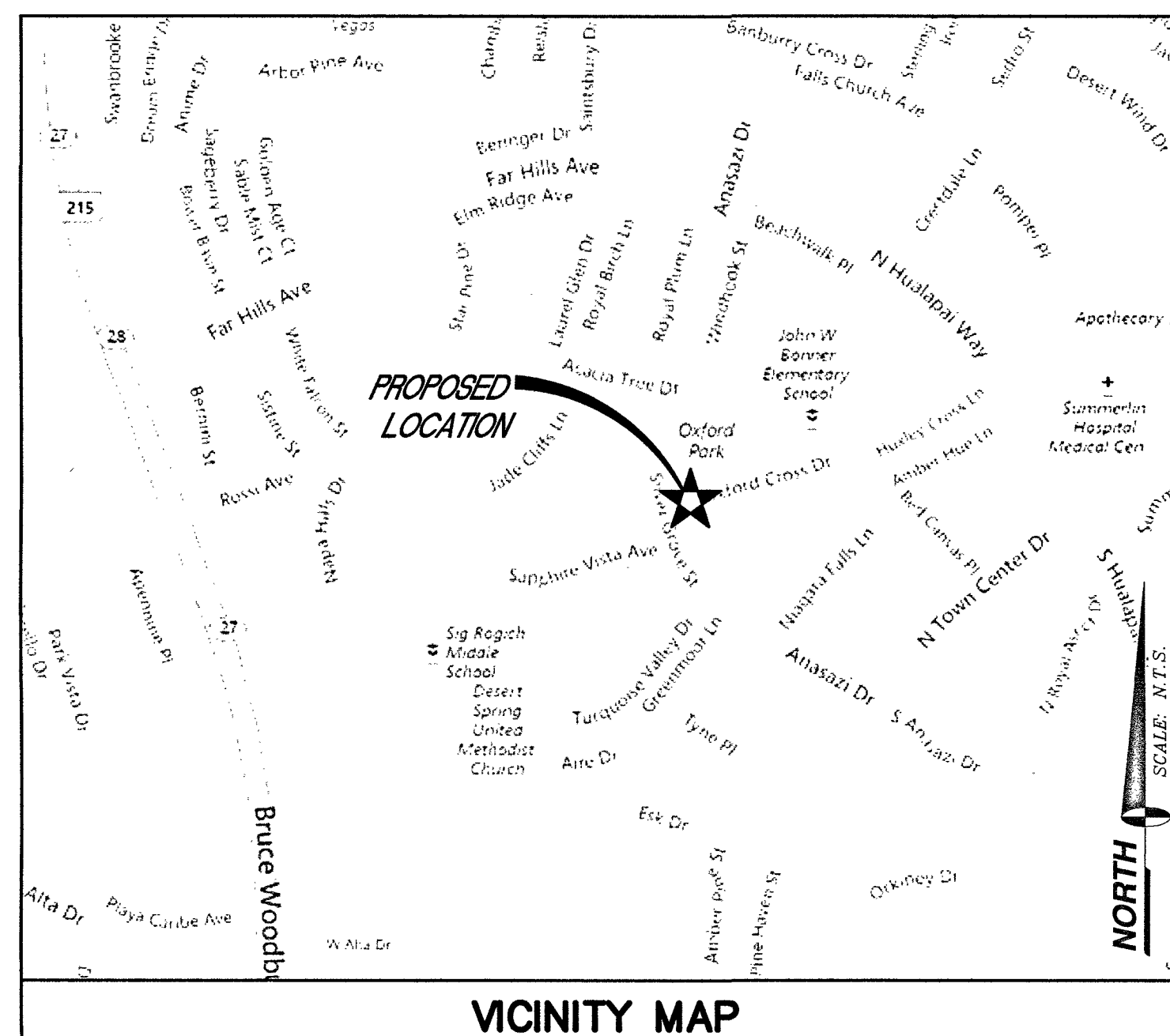


CROWN CASTLE ID #
LV005

10480 OXFORD CROSS DRIVE
LAS VEGAS, NEVADA 89144

- REPLACEMENT OF AN EXISTING CONCRETE LIGHT POLE WITH NEW POLE TOP ANTENNA AND RADIO

TOTAL ENCROACHMENT NOTE



VICINITY MAP

APPLICANT/LESSEE
CROWN CASTLE NG WEST LLC
2055 SOUTH STEARMAN DRIVE
CHANDLER, ARIZONA 85286

CONTACT: MATT BOND
MOBILE: (480) 586-4306

PROPERTY INFORMATION
OWNER: N/A
OCCUPANCY TYPE: U
CONSTRUCTION TYPE: V-B
CURRENT ZONING: RESIDENTIAL PLANNED
DEVELOPMENT DISTRICT (R-PD7)
JURISDICTION: CITY OF LAS VEGAS
APN: 137-25-397-003
LATITUDE: 36.179
LONGITUDE: -115.327
HANDICAP REQUIREMENTS: FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAPPED ACCESS NOT REQUIRED.

PROJECT SUMMARY

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

- INTERNATIONAL BUILDING CODE 2018 W/STATE AMENDMENTS
- INTERNATIONAL EXISTING BUILDING CODE 2018 W/STATE AMENDMENTS
- INTERNATIONAL ENERGY CONSERVATION CODE 2018
- UNIFORM MECHANICAL CODE 2018
- UNIFORM PLUMBING CODE 2018
- NATIONAL ELECTRIC CODE 2017
- INTERNATIONAL FIRE CODE 2018
- ANSI/EIA-222-G LIFE SAFETY CODE
- LOCAL BUILDING CODE(S)
- CITY AND/OR COUNTY ORDINANCES

CODE COMPLIANCE

SPECIAL INSPECTIONS ARE REQUIRED FOR THE TYPES OF WORK DESCRIBED BELOW:

- HIGH-STRENGTH BOLTS. (IF REQUIRED)
- WELDING: FIELD WELDING OF STRUCTURAL STEEL AND REINFORCING STEEL. (IF REQUIRED)
- STRUCTURAL STEEL. (IF REQUIRED)
- CONCRETE: REINFORCING STEEL AND PLACEMENT.
- CONCRETE WITH DESIGN GREATER THAN 2500 PSI.
- PILE, PIER OR CAISSON FOUNDATIONS.
- SOILS: SITE PREPARATION, FILL PLACEMENT, IN-PLACE DENSITY.

SPECIAL INSPECTIONS

CIVIL ENGINEER
SPECTRUM SERVICES, INC.
4850 WEST OQUENDO ROAD
LAS VEGAS, NEVADA 89118
CHRIS WENER
PHONE: (702) 367-7705
FAX: (702) 367-8733
ELECTRICAL ENGINEER:
DGS CONSULTING ENGINEERING SERVICES LLC
9811 W. CHARLESTON BOULEVARD, SUITE 2539
LAS VEGAS, NEVADA 89117
DEREK G. STEFUREAC
PHONE: (702) 885-1552

PROJECT TEAM

SHEET	DESCRIPTION	REV.
C1	TITLE SHEET	4
C2	SITE PHOTO, GENERAL & CONSTRUCTION NOTES	4
C3	SITE PLAN	4
C4	EXISTING AND PROPOSED WEST ELEVATIONS	4
C5	CONSTRUCTION DETAILS	4
C6	CONCRETE FOUNDATION DETAILS	4
G1	GROUNDING LAYOUT, DETAILS & NOTES	4
FOUNDATION AMERON CONCRETE POLES - FOUNDATION DESIGN		
-	AMERON DRAWING NO: 1811-033	
ISSUED FOR:		
SHEET INDEX		PERMIT

CITY OF LAS VEGAS
APPROVED FOR CONSTRUCTION

THIS APPROVAL IS FOR WORK IN CITY OF LAS VEGAS EASEMENTS ONLY. OBTAINING PERMISSION OR EASEMENTS FOR WORK SHOWN ON PRIVATE PROPERTY IS THE RESPONSIBILITY OF THE UTILITY.

Chris Wener
APPROVAL

9/16/19
DATE

CROWN CASTLE
CROWN CASTLE NG WEST LLC
2055 SOUTH STEARMAN DRIVE
CHANDLER, ARIZONA 85286

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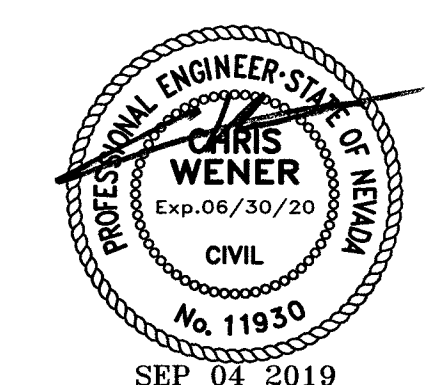
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0	09/17/18	90% PERMITTING	R.C.

PLANS PREPARED BY:

SPECTRUM

DGS
CONSULTING ENGINEERING SERVICES LLC

LICENSURE:



SHEET TITLE:

TITLE SHEET

SHEET NUMBER: REVISION:

C1 4

107V 8012-F1B

2ND

9/10/19
L19-01477



SITE PHOTO

PROJECT GENERAL NOTES

CONSTRUCTION NOTES

1. THE FACILITY IS AN UNOCCUPIED SPECIALIZED MOBILE RADIO FACILITY.
2. PLANS ARE NOT TO BE SCALED AND ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY, UNLESS NOTED OTHERWISE. THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
3. PRIOR TO THE SUBMISSION OF BIDS, THE CONTRACTORS SHALL VISIT THE JOB SITE AND BE RESPONSIBLE FOR ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE PROJECT MANAGER.
4. THE CONTRACTOR SHALL RECEIVE IN WRITING, AUTHORIZATION TO PROCEED BEFORE STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONTRACT DOCUMENTS.
5. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY OTHERWISE INDICATED OR WHERE LOCAL CODES, OR REGULATION TAKE PRECEDENCE.
6. ALL WORK PERFORMED AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY BEARING ON THE PERFORMANCE OF THE WORK. MECHANICAL AND ELECTRICAL SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
7. THE GENERAL CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK, USING BEST SKILLS AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT MANAGER AND WITH LANDLORD'S AUTHORIZED REPRESENTATIVE.
8. SEAL PENETRATIONS THROUGH FIRE RATED AREAS WITH U.L. LISTED AND FIRE CODE APPROVED MATERIALS.
9. PROVIDE A PORTABLE FIRE EXTINGUISHER WITH A RATING OF NOT LESS THAN 2-A OR 2-10B/C WITHIN 75 FEET TRAVEL DISTANCE TO ALL PORTIONS OF THE PROJECT AREA DURING CONSTRUCTION.
10. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH CHAPTER 16 OF THE INTERNATIONAL BUILDING CODE REGARDING EARTHQUAKE PIPING, LIGHT FIXTURES, CEILING GRID, INTERIOR PARTITIONS AND MECHANICAL EQUIPMENT. ALL WORK MUST BE IN ACCORDANCE WITH LOCAL EARTHQUAKE CODES AND REGULATIONS.
11. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS ON THE SITE AND NOTIFY THE PROJECT MANAGER OF ANY DISCREPANCIES BEFORE STARTING ANY WORK.
12. 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.
13. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, PAVING, CURBS, GALVANIZED SURFACES, ETC., AND UPON COMPLETION OF WORK, REPAIR ANY DAMAGE THAT OCCURRED DURING CONSTRUCTION TO THE SATISFACTION OF THE PROJECT MANAGER.
14. KEEP GENERAL AREA CLEAN, HAZARD FREE, AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. LEAVE PREMISES IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
15. CONTRACTOR TO PROVIDE COMPLETE SET OF AS BUILT DRAWINGS WITHIN 10 WORKING DAYS OF PROJECT COMPLETION.
16. CONTRACTOR IS TO SPRAY WITH EPA APPROVED WEED CONTROL PRIOR TO PLACING 4" AGGREGATE BASE GEOTECH FABRIC AND CRUSHED ROCK. TYPICAL INSIDE ENTIRE SITE.

1. ELEVATIONS ARE NORTH AMERICAN VERTICAL DATUM 1988.
2. NO SURVEY PERFORMED; SITE MAPPING ONLY.
3. THE ENGINEER SPECTRUM SERVICES, INC. AND REPRESENTATIVES OF THE OWNER, MUST BE NOTIFIED AT LEAST TWO FULL DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION AT (702) 367-7705.
4. DO NOT EXCAVATE OR DISTURB BEYOND THE PROPERTY LINES OR LEASE LINES, UNLESS OTHERWISE NOTED.
5. DO NOT SCALE BUILDING DIMENSIONS FROM DRAWINGS.
6. ANY DRAIN AND/OR FIELD TILE ENCOUNTERED DURING CONSTRUCTION SHALL BE RETURNED TO ITS ORIGINAL CONDITION PRIOR TO COMPLETION OF WORK. SIZE, LOCATION AND TYPE OF ANY UNDERGROUND UTILITIES OR IMPROVEMENTS SHALL BE ACCURATELY NOTED AND PLACED ON AS-CONSTRUCTED DRAWINGS BY GENERAL CONTRACTOR AND ISSUED TO ARCHITECT/ENGINEER AT COMPLETION OF PROJECT.
7. ALL EXISTING UTILITIES, FACILITIES, CONDITIONS, AND THEIR DIMENSIONS SHOWN ON PLANS HAVE BEEN PLOTTED FROM AVAILABLE RECORDS. THE ARCHITECT/ENGINEER AND OWNER ASSUME NO RESPONSIBILITY WHATSOEVER AS TO THE SUFFICIENCY OR ACCURACY OF THE INFORMATION SHOWN ON THE PLANS OR THE MANNER OF THEIR REMOVAL OR ADJUSTMENT. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING EXACT LOCATION OF ALL EXISTING UTILITIES AND FACILITIES PRIOR TO START OF CONSTRUCTION. CONTRACTOR SHALL ALSO OBTAIN FROM EACH UTILITY COMPANY DETAILED INFORMATION RELATIVE TO WORKING SCHEDULES AND METHODS OF REMOVING OR ADJUSTING EXISTING UTILITIES.
8. CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES BOTH HORIZONTALLY AND VERTICALLY PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES OR DOUBTS AS TO THE INTERPRETATION OF PLANS SHOULD BE IMMEDIATELY REPORTED TO THE ARCHITECT/ENGINEER FOR RESOLUTION AND INSTRUCTION, AND NO FURTHER WORK SHALL BE PERFORMED UNTIL THE DISCREPANCY IS CHECKED AND CORRECTED BY THE ARCHITECT/ENGINEER. FAILURE TO SECURE SUCH INSTRUCTION MEANS CONTRACTOR WILL HAVE WORKED AT HIS/HER OWN RISK AND EXPENSE. CONTRACTOR SHALL CALL LOCAL DIGGER HOT LINE FOR UTILITY LOCATIONS 48 HOURS PRIOR TO START OF CONSTRUCTION.
9. ALL NEW AND EXISTING UTILITY STRUCTURES ON SITE AND IN AREAS TO BE DISTURBED BY CONSTRUCTION SHALL BE ADJUSTED TO FINISH ELEVATIONS PRIOR TO FINAL INSPECTION OF WORK.
10. THE BUILDING DEPARTMENT ISSUING THE BUILDING PERMIT SHALL BE NOTIFIED AT LEAST TWO WORKING DAYS PRIOR TO THE COMMENCEMENT OF WORK OR AS STIPULATED BY THE CODE ENFORCEMENT OFFICIAL HAVING JURISDICTION.
11. GRADING OF THE SITE WORK AREA IS TO BE SMOOTH AND CONTINUOUS IN SLOPE AND IS TO FEATHER INTO EXISTING GRADES AT THE GRADING LIMITS.
12. ALL TEMPORARY EXCAVATIONS FOR THE INSTALLATION OF FOUNDATIONS, UTILITIES, ETC., SHALL BE PROPERLY LAID BACK OR BRACED IN ACCORDANCE WITH CORRECT OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REQUIREMENTS.
13. STRUCTURAL FILLS SUPPORTING PAVEMENTS SHALL BE COMPACTED TO 100% OF MAXIMUM STANDARD PROCTOR DRY DENSITY.
14. NEW GRADES NOT IN BUILDING AND DRIVEWAY IMPROVEMENT AREA TO BE ACHIEVED BY FILLING WITH APPROVED CLEAN FILL AND COMPACTED TO 95% OF STANDARD PROCTOR DENSITY.
15. ALL FILL SHALL BE PLACED IN UNIFORM LIFTS. THE LIFTS THICKNESS SHOULD NOT EXCEED THAT WHICH CAN BE PROPERLY COMPACTED THROUGHOUT ITS ENTIRE DEPTH WITH THE EQUIPMENT AVAILABLE.
16. ANY FILLS PLACED ON EXISTING SLOPES THAT ARE STEEPER THAN 10 HORIZONTAL TO 1 VERTICAL SHALL BE PROPERLY BENCHED INTO THE EXISTING SLOPE AS DIRECTED BY A GEOTECHNICAL ENGINEER.
17. THE GRADES WITHIN THE FENCED IN AREA ARE TO BE ACHIEVED BY COMPACTING CLEAN FILL TO A DENSITY OF 90% OF STANDARD PROCTOR AND REPAVING WITH ASPHALT CONCRETE TO MATCH EXISTING.
18. CONTRACTOR SHALL CLEAN ENTIRE SITE AFTER CONSTRUCTION SUCH THAT NO PAPERS, TRASH, WEEDS, BRUSH OR ANY OTHER DEPOSITS WILL REMAIN. ALL MATERIALS COLLECTED DURING CLEANING OPERATIONS SHALL BE DISPOSED OF OFF-SITE BY THE GENERAL CONTRACTOR.
19. DRIVEWAY CONSTRUCTION, GRADING AND DRAINAGE WORK SHALL CONFORM TO NEVADA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATION FOR THE ROAD AND BRIDGE CONSTRUCTION", LATEST EDITIONS, AND ALL APPLICABLE PROVISIONS OR LOCAL COUNTY ORDINANCES.
20. ALL SITE WORK SHALL BE CAREFULLY COORDINATED BY GENERAL CONTRACTOR WITH LOCAL UTILITY COMPANY, TELEPHONE COMPANY, AND ANY OTHER UTILITY COMPANIES HAVING JURISDICTION OVER THIS LOCATION.
21. SPECIAL INSPECTION:
SPECIAL INSPECTIONS ARE REQUIRED FOR HIGH STRENGTH BOLTING BY THIRD PARTY INSPECTOR.
22. CONCRETE: IF THE CONCRETE MIX ACHIEVES ITS DESIGN STRENGTH PRIOR TO 28 DAY BREAK TEST, IT IS ACCEPTABLE FOR FINAL REPORT.
23. COMPRESSIVE STRENGTH TEST SPECIMENS WITH DIMENSIONS OF 4" x 8" MAY BE USED.



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2055 SOUTH STEARMAN DRIVE
CHANDLER, ARIZONA 85286

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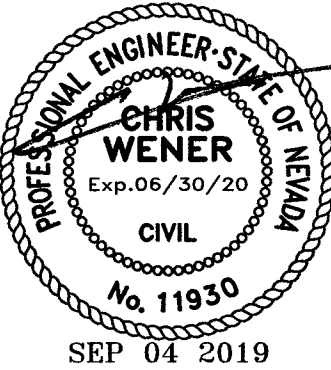
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PLANS PREPARED BY:



SPECTRUM SERVICES, INC.
4850 WEST OQUENDO ROAD
LAS VEGAS, NEVADA 89118
PHONE: (702) 367-7705
FAX: (702) 367-8733

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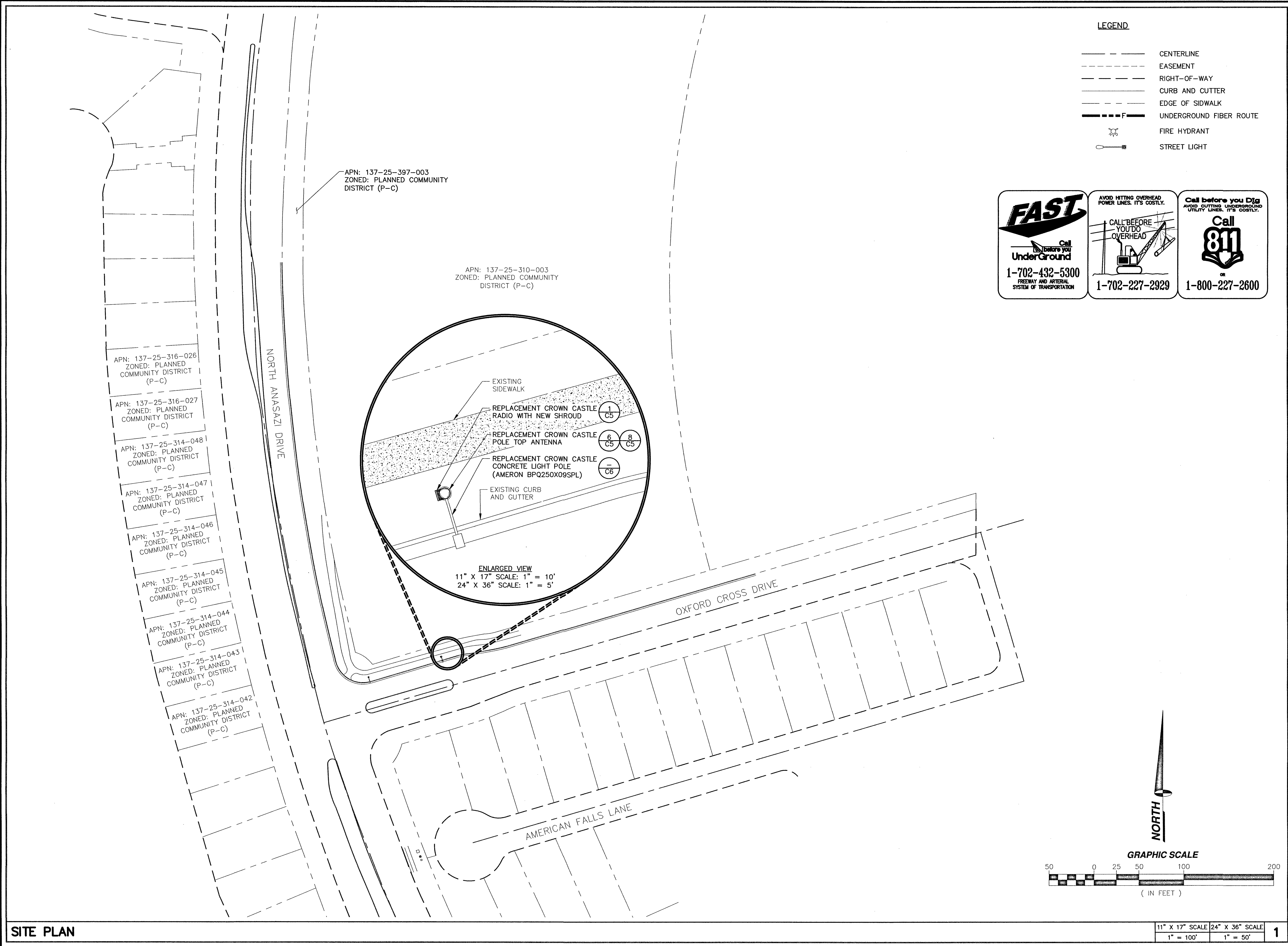


SHEET TITLE:

SITE PHOTO, GENERAL &
CONSTRUCTION NOTES

SHEET NUMBER: REVISION:

C2 4



- LEGEND
- CENTERLINE
 - EASEMENT
 - RIGHT-OF-WAY
 - CURB AND CUTTER
 - EDGE OF SIDEWALK
 - UNDERGROUND FIBER ROUTE
 - FIRE HYDRANT
 - STREET LIGHT

FAST
Call before you Dig
Underground
1-702-432-5300
FREEWAY AND ARTERIAL
SYSTEM OF TRANSPORTATION

AVOID HITTING OVERHEAD
POWER LINES. IT'S COSTLY.

CALL BEFORE
YOU DO
OVERHEAD

1-702-227-2929

Call before you Dig
AVOID CUTTING UNDERGROUND
UTILITY LINES. IT'S COSTLY.

Call
811
1-800-227-2600

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LICENSURE:

SHEET TITLE:

SITE PLAN

SHEET NUMBER: REVISION:

C3	4
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SITE PLAN

11" X 17" SCALE 24" X 36" SCALE
1" = 100' 1" = 50' 1



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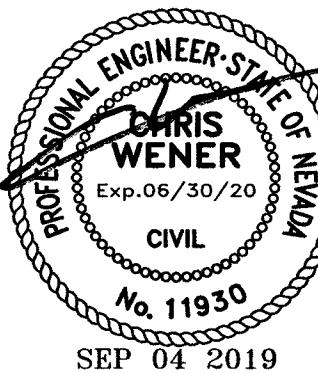
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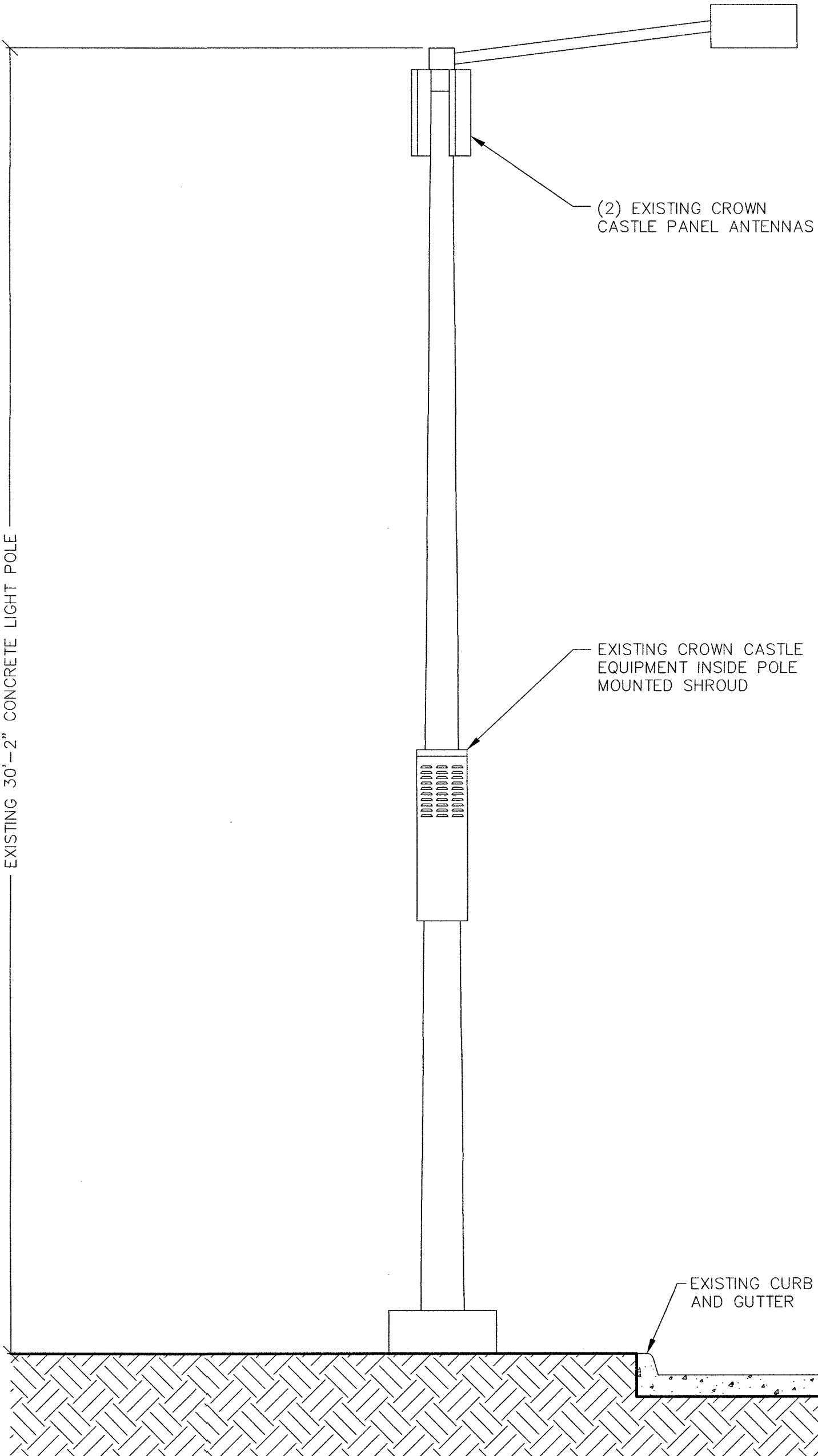
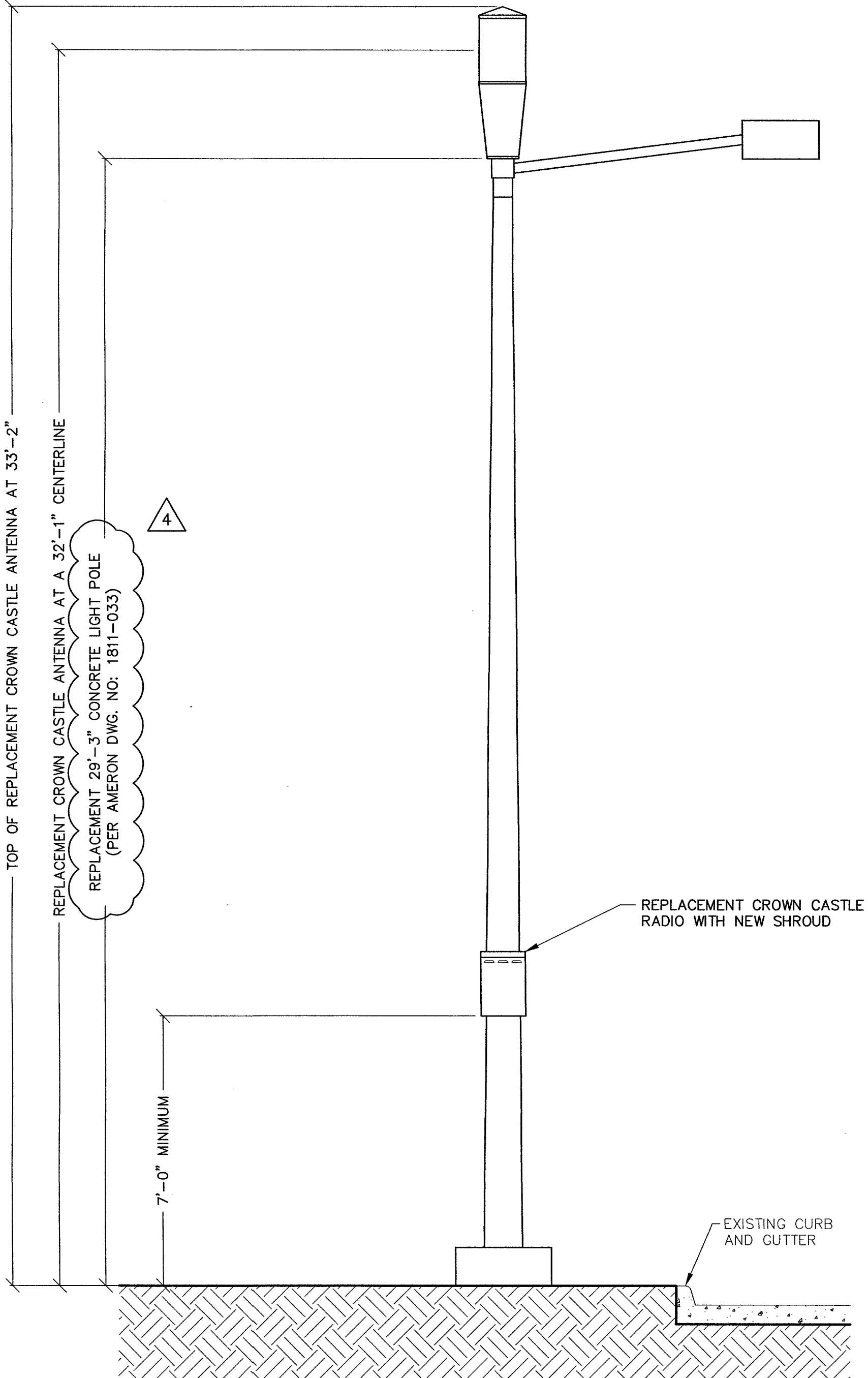


SHEET TITLE:

EXISTING AND PROPOSED
WEST ELEVATION

SHEET NUMBER: REVISION:

C4 4



PROPOSED WEST ELEVATION

11" X 17" SCALE 24" X 36" SCALE
1" = 5' 1" = 2'-6"

2 EXISTING WEST ELEVATION

11" X 17" SCALE 24" X 36" SCALE
1" = 5' 1" = 2'-6"

1



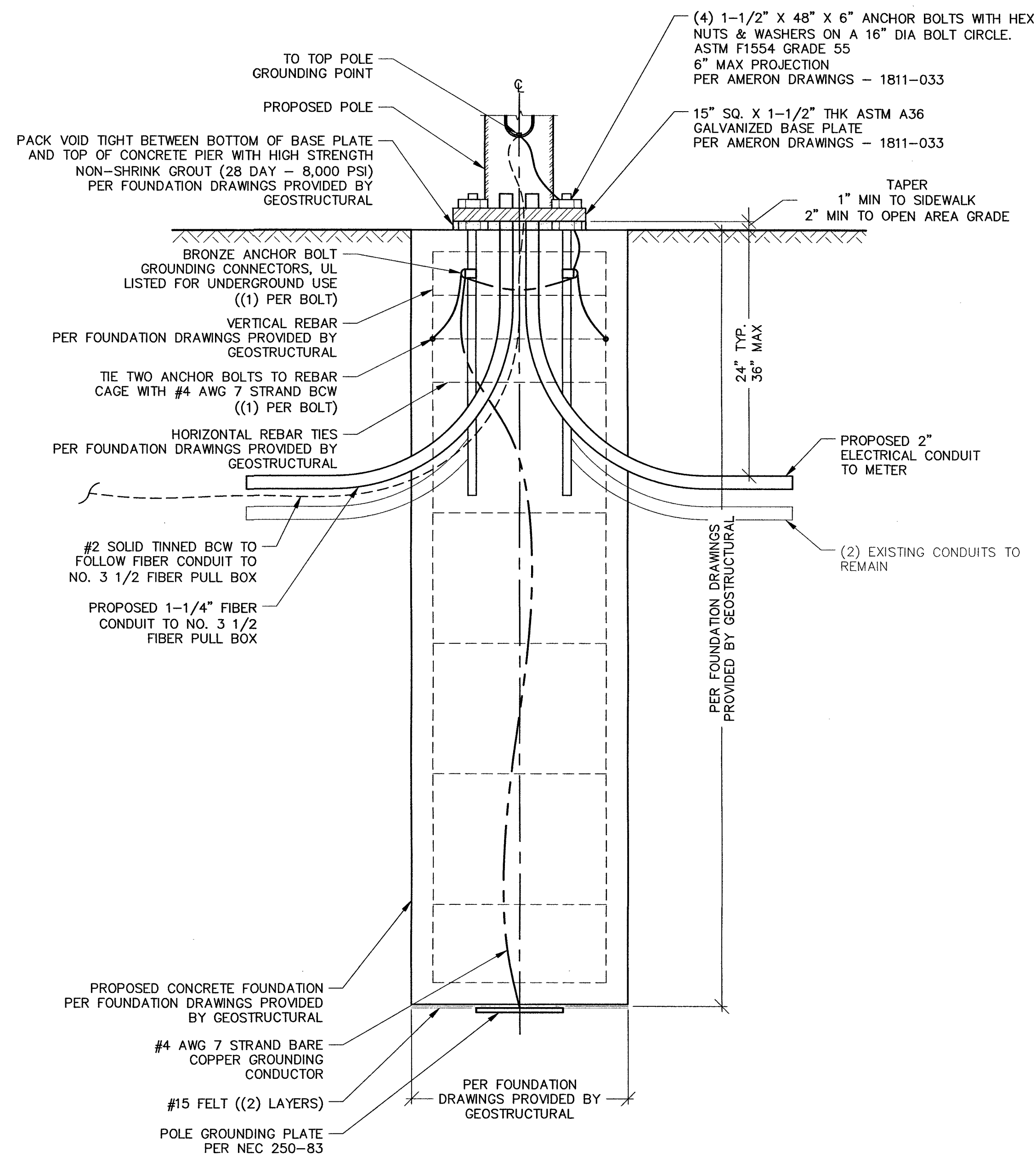
C5	4
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Diagram illustrating the components of the replacement light pole assembly:

- 5 NOKIA RADIO MOUNTING CHANNEL
- 3 NOKIA RADIO BRACKET
- 4 NOKIA RADIO IN NEW SHROUD
- 2 SHROUD AND BACKPLATE
- 9 STAINLESS STEEL BANDING FOR POLE ATTACHMENT

REPLACEMENT LIGHT POLE

SCALE:	
NONE	



- NOTES:
1. CONCRETE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4500 PSI, IN ACCORDANCE WITH ACI 318-11. BASE PLATE GROUT STRENGTH AT 8000 PSI.
 2. USE TYPE V PORTLAND CEMENT AND A MAXIMUM WATER-CEMENT RATIO OF 0.45.
 3. REBAR TO CONFORM TO ASTM SPECIFICATION A615 GRADE 60.
 4. ALL REBAR TO HAVE A MINIMUM OF 3" CONCRETE COVER.
 5. ALL EXPOSED CONCRETE CORNERS TO BE CHAMFERED 3/4".
 6. SEE THE GEOTECHNICAL REPORT FOR DRILLED PIER INSTALLATION REQUIREMENTS, IF SPECIFIED.
 7. SEE USD NO. 320, 320.1, 313 AND 321 FOR REFERENCE
 8. ANCHOR RODS ARE TO BE (4) 1-1/2" DIAMETER ASTM F1554 GRADE 55 ON A 16" DIAMETER BOLT CIRCLE. MINIMUM LENGTH OF ANCHOR RODS IS 48", WITH A MAXIMUM PROJECTION OF 6" ABOVE CONCRETE.
 9. FOR ADDITIONAL GROUNDING FOR CROWN EQUIPMENT, SEE SHEET G1

STREETLIGHT FOUNDATION DESIGN

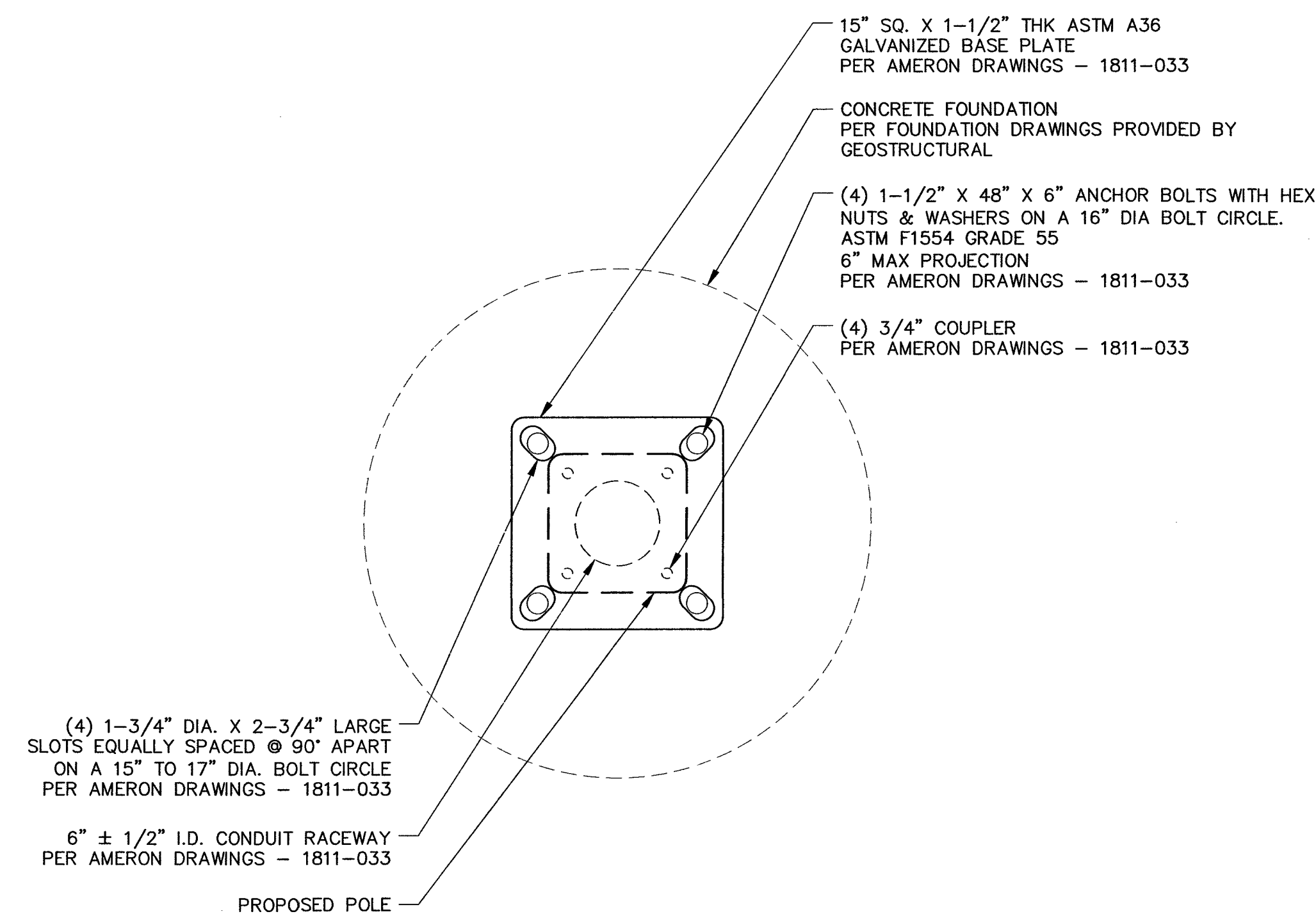
SCALE:
NONE

2

STREETLIGHT PLACEMENT ON CONCRETE FOUNDATION

SCALE:
NONE

1



NOTE:
BOLT HOLES IN BASE PLATE MUST BE AT LEAST 4" EDGE DISTANCE FROM SIDE OF FOUNDATION



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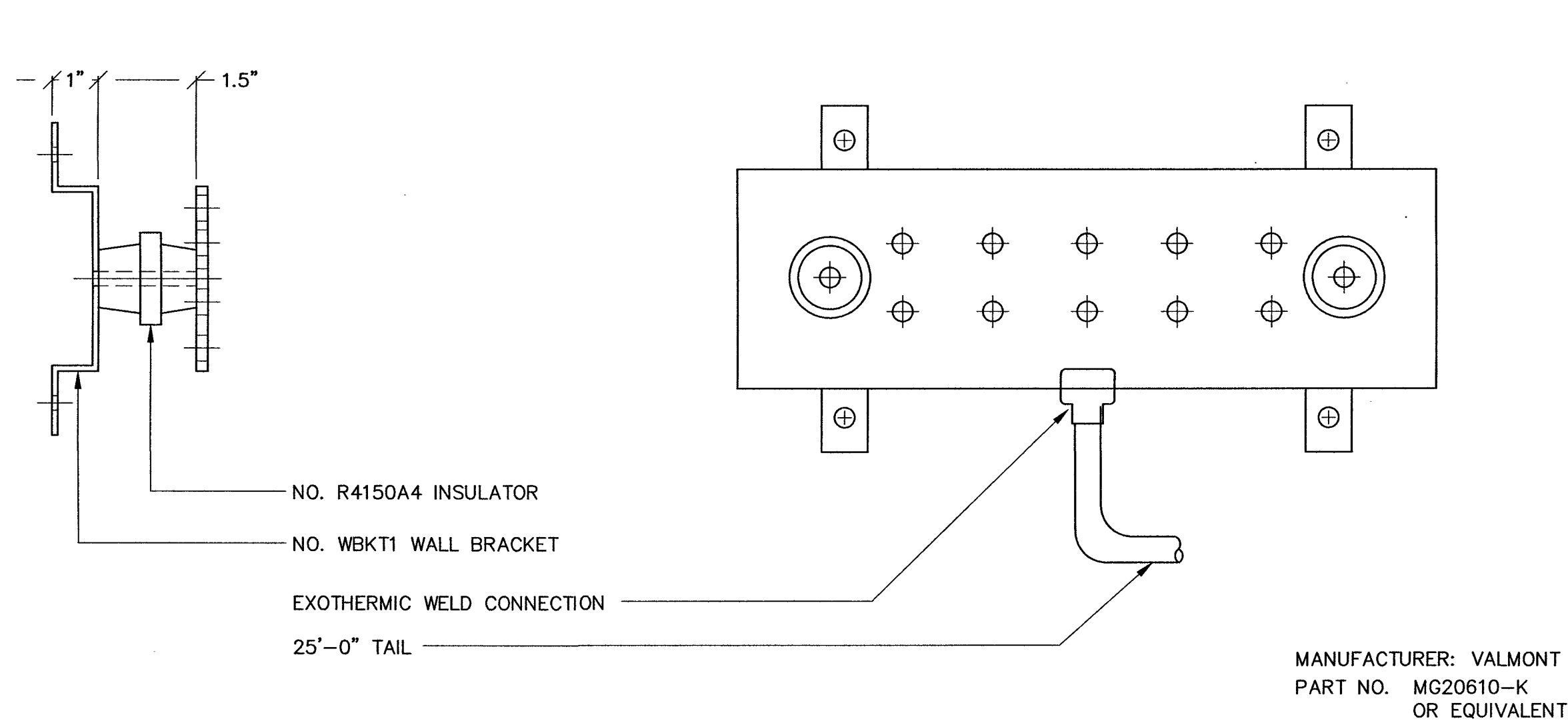
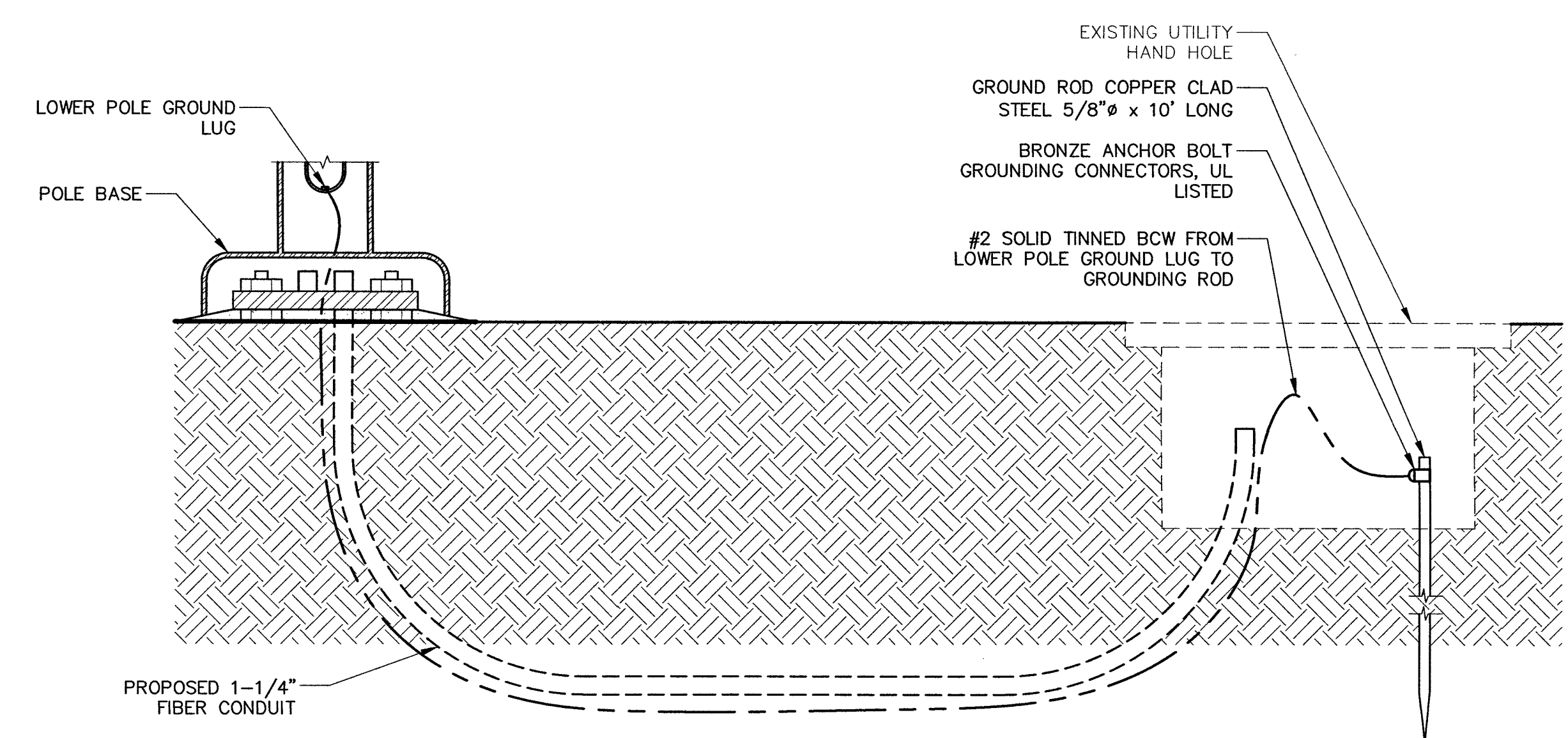


SHEET TITLE:

CONCRETE FOUNDATION
DETAILS

SHEET NUMBER: REVISION:

C6 4



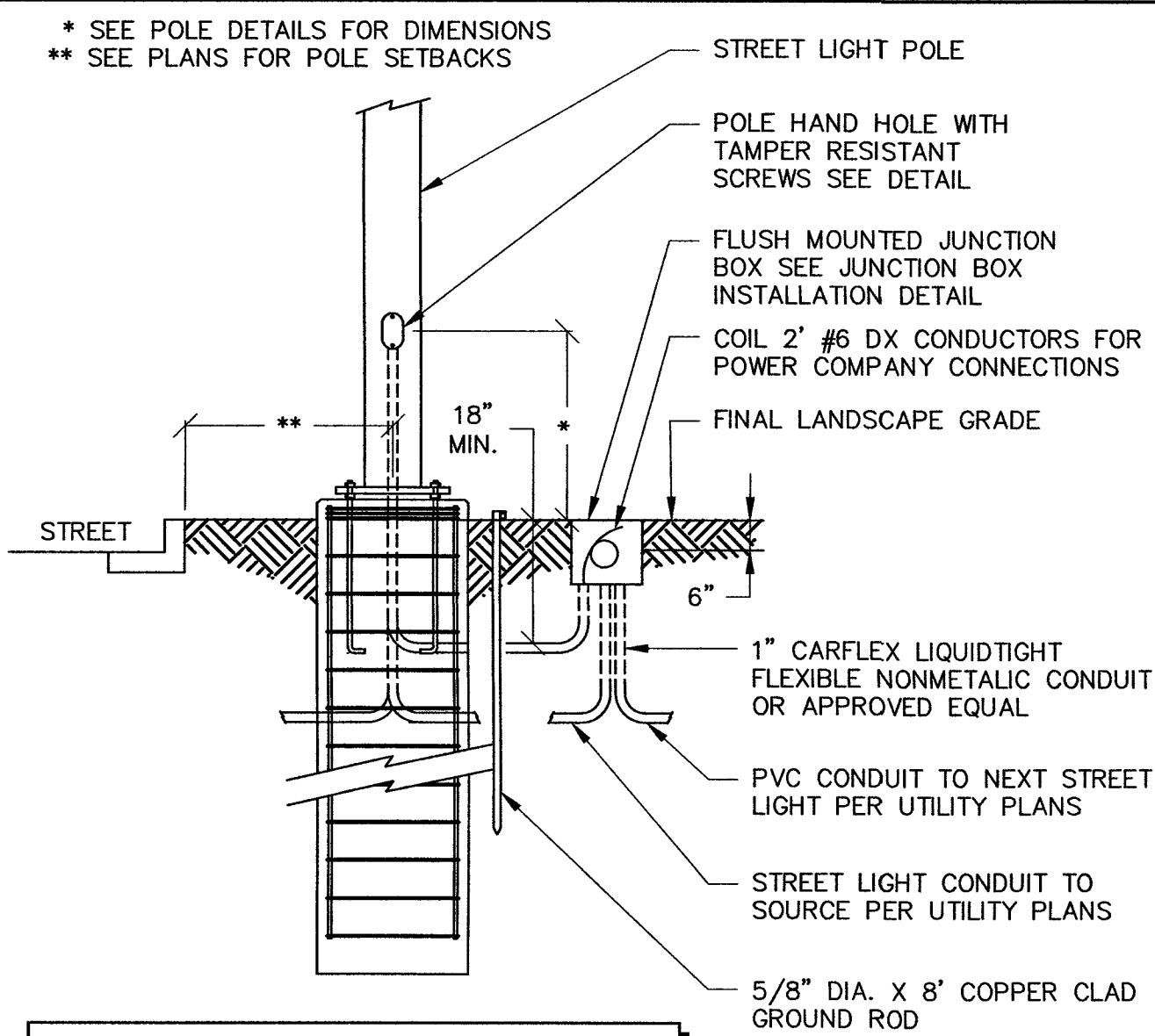
GROUND ROD

SCALE: NONE 4

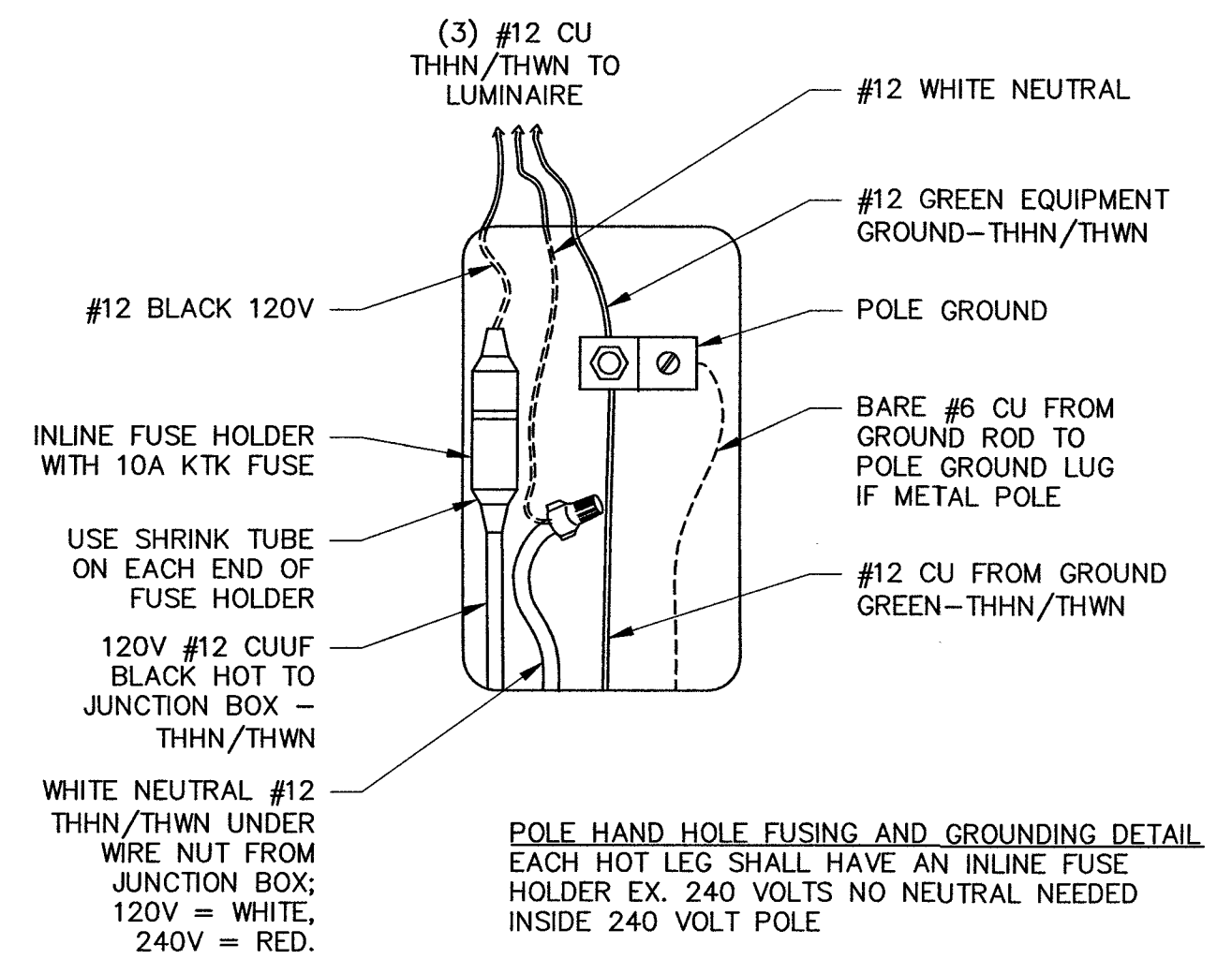
GROUND BAR

SCALE: NONE 2

1. ALL DETAILS ARE SHOWN IN GENERAL TERMS. ACTUAL INSTALLATION REQUIREMENTS AND CONSTRUCTION ACCORDING TO SITE CONDITIONS AND CARRIER GROUNDING STANDARD, LATEST REVISION.
2. ALL GROUNDING CONDUCTORS: #2 AWG SOLID BARE TINNED COPPER WIRE UNLESS OTHERWISE NOTED.
3. GROUND RING TO GROUND BAR CONNECTIONS SHALL BE CADWELED QTY. (2) #2 AWG SOLID BARE TINNED COPPER WIRE UNLESS OTHERWISE NOTED.
4. GROUND BAR TO EQUIPMENT AND CABLES SHALL BE #2 AWG BTCW W/ DOUBLE LUG CONNECTIONS.
5. GROUND BAR LOCATED IN BASE OF EQUIPMENT WILL BE PROVIDED, FURNISHED AND INSTALLED BY THE VENDOR.
6. GROUND BAR LOCATED BELOW WAVEGUIDE ENTRY PORT. CABLES SHALL BE #2 AWG BTCW/DOUBLE LUG CONNECTIONS. TWO PATHS TO GROUND RING.
7. ALL BELOW GRADE CONNECTIONS: EXOTHERMIC WELD TYPE, ABOVE GRADE CONNECTIONS: EXOTHERMIC WELD TYPE.
8. EXTERIOR GROUNDING CONDUCTORS: BURIED TO A MINIMUM DEPTH OF 1'-6" BELOW FINISHED GRADE TO ALLOW FOR FUTURE CONSTRUCTION.
9. INSTALL GROUND CONDUCTORS AND GROUND ROD MINIMUM OF 1'-0" FROM EQUIPMENT CONCRETE SLAB, SPREAD FOOTING, OR FENCE.
10. EXOTHERMIC WELD GROUND CONNECTION TO FENCE POST: TREAT WITH A COLD GALVANIZED SPRAY.
11. GROUND BARS:
EQUIPMENT GROUND BUSS BAR (EGB) LOCATED AT BOTTOM OF ANTENNA POLE/MAST FOR MAKING GROUNDING JUMPER CONNECTIONS TO COAX FEEDER CABLES SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR. JUMPERS (FURNISHED BY OWNERS) SHALL BE INSTALLED AND CONNECTED BY ELECTRICAL CONTRACTOR.
MAIN GROUND BUSS BAR (MGB) LOCATED NEAR THE BASE OF THE RADIO EQUIPMENT CABINET(S) SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.
12. ALL GROUNDING INSTALLATIONS AND CONNECTIONS SHALL BE MADE BY ELECTRICAL CONTRACTOR.
13. ALL BOLTED TORQUE CONNECTORS SHALL BE LONG-BARRELED TYPES AND HAVE TWO HOLES FOR CONNECTION TO SURFACE AND NON-OXIDIZING AGENT APPLIED TO INHIBIT CORROSION.



NOTES:
THIS DETAIL IS DIAGRAMMATIC ONLY.
CONTRACTOR SHALL REFER TO POLE DRAWINGS AND CALCULATIONS FOR EXACT DETAIL.



- NOTE:
1. ALL GROUNDING TO BE INSTALLED IN ACCORDANCE WITH CROWN CASTLE STANDARD
 2. CONTRACTOR TO MODIFY OR ADD NECESSARY GROUNDING TO PROVIDE A MAX. RESISTANCE OF 5 OHMS

GROUNDING NOTES

SCALE: NONE 5

STREET LIGHT WIRING AND GROUNDING

SCALE: NONE 3

GROUNDING LAYOUT

11" X 17" SCALE 24" X 36" SCALE 1

CROWN CASTLE
CROWN CASTLE NG WEST LLC
2055 SOUTH STEARMAN DRIVE
CHANDLER, ARIZONA 85286

PROJECT INFORMATION:
CROWN CASTLE ID # LV005
10480 OXFORD CROSS DRIVE
LAS VEGAS, NEVADA 89144

CURRENT ISSUE DATE:
09/04/19

ISSUED FOR:
PROPOSED WORK

REV.	DATE	DESCRIPTION	BY
4	09/04/19	BP COMMENT	C.P.
3	07/23/19	POWER REVISION	J.Z.
2	02/04/19	POLE REVISION	R.S.
1	10/15/18	100% PERMITTING	C.P.
0	09/17/18	90% PERMITTING	R.C.

PLANS PREPARED BY:
SPECTRUM

DGS
CONSULTING ENGINEERING SERVICES LLC

LICENSURE:

SEP 04 2019

SHEET TITLE:
GROUNDING LAYOUT, DETAILS & NOTES

SHEET NUMBER: **G1** REVISION: **4**

REV.	DATE	DESCRIPTION	DRN.	APPR.

"F" LEVEL CONFIG CODES		
OPTION CLASS	ENTRY	INFO
COATING	I	
HH COVER	66526E	
DOOR SCR	TMP	(4) REQ.
ADDITIONAL HH	66526E	(1) REQ.

"P" LEVEL CONFIG CODES		
OPTION CLASS	ENTRY	INFO
MIX	DR	
FINISH	3	
SPL. BASE PLATE	T.B.D.	
COLLAR	NONE	
POLE TOP CON.	MOD110	
CAST IN	MODDS250	
STRUCTURAL	MODMS	

STRAIGHT SQUARE NON-TAPERED BASE PLATE POLE

POLE DESIG-NATION	POLE HEIGHT A.G. (NOM.)	OVERALL POLE LENGTH	BOLT CIRCLE	BASE O.D.	ULTIMATE G.L. MOMENT (ft.-lbs.)	POLE WEIGHT (lbs.)
BPQ250X09SPL	29'-3"	29'-6"	17"	10"	73,960	2,460

() POLES REQUIRED (P/N: T.B.D.), EACH WITH:
(2) RECTANGULAR 8" ARM ASSEMBLIES (P/N:53389EP6A)
(1) TAMPER PROOF WRENCH (P/N:45126E)
(4) OPTIONAL ANCHOR BOLTS (P/N: T.B.D.)

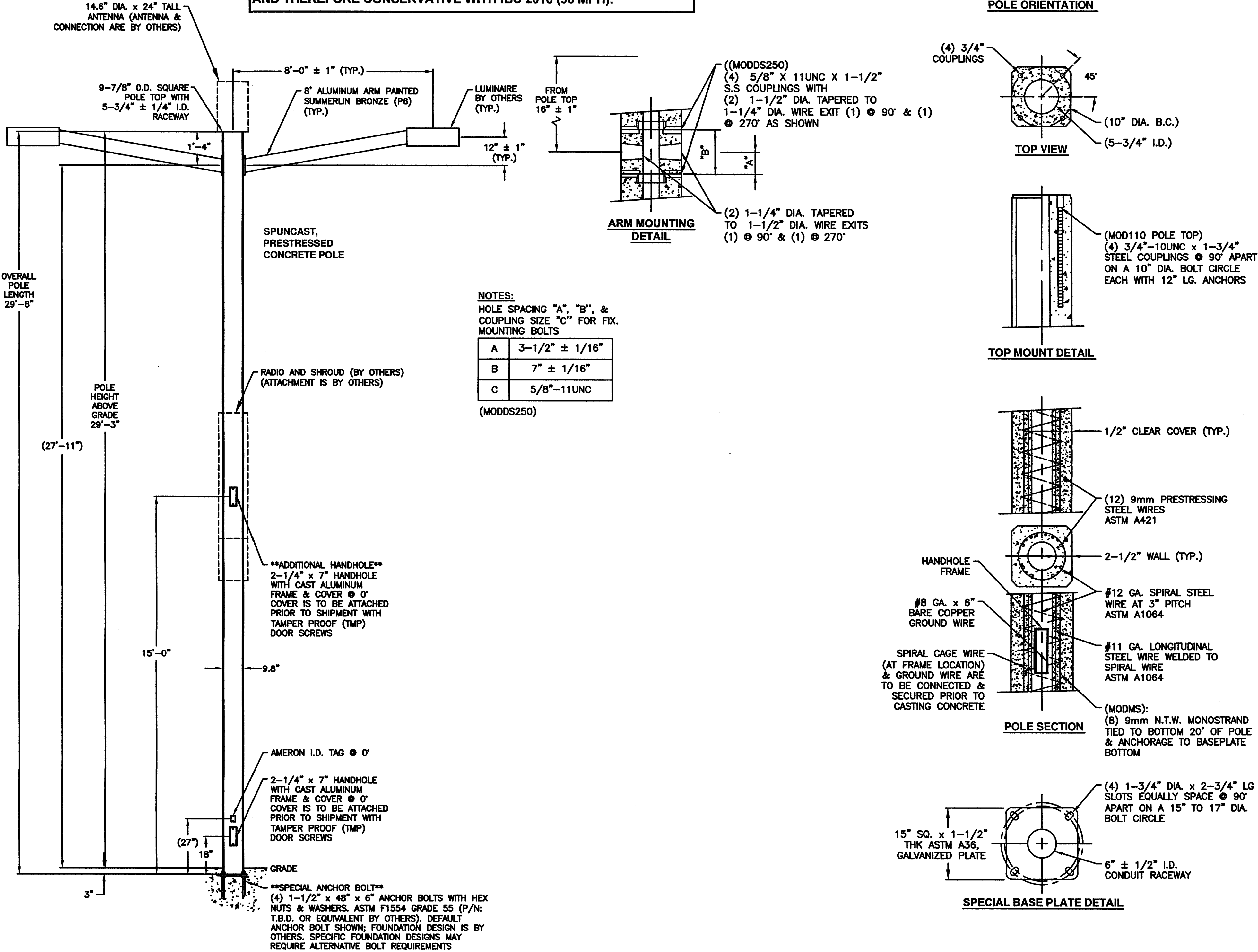
- NOTES:**
- MIX (DR3I): DESERT ROSE, EXPOSED AGGREGATE FINISH WITH AMERSHIELD ANTI-GRAFFITI COATING.
 - ASTM C-150 TYPE III GRAY CEMENT.
 - f'c @ 28 DAYS = 7,000 PSI, USING SPUN CYLINDER TEST.
 - f'c @ 28 DAYS = 5,000 PSI, USING ASTM C-31 CYLINDER TEST.
 - POLES MANUFACTURED PER ASTM C-1089-13 SPECIFICATIONS.
 - PROTECTIVE COAT EXPOSED P.C. WIRES AT POLE ENDS.
 - DUE TO THE NATURE & CHARACTERISTICS OF CONCRETE MANUFACTURING, SIDE MOUNT SPACING DIMENSIONS CAN ONLY BE TAKEN TO THE NEAREST 1/8".
 - THE 8" DOUBLE SIDE-MOUNTED ALUMINUM LMA ASSEMBLY (NOT TO EXCEED 5.83 SQ. FT. EPA, 35 LBS PER ARM SIDE) DEPICTED ON THIS DRAWING IS DESIGNED TO WITHSTAND THE LOADS IMPARTED BY A SINGLE LUMINAIRE (NOT TO EXCEED 1.6 SQ. FT. EPA, 40 LBS. EACH); THE POLE DEPICTED IS DESIGNED TO WITHSTAND THE LOADS IMPARTED BY THE SIDE-MOUNT LMA'S AND THE LUMINAIRES, (1) TOP MOUNT ANTENNA (NOT TO EXCEED 2.72 SQ. FT. EPA, 35 LBS. MAX.), & (1) RADIO & SHROUD (NOT TO EXCEED 13.2 SQ. FT. EPA, 150 LBS.) CENTERED NO HIGHER THAN 15'-0" A.G. PER THE ASCE 7-10 USING A 115 MPH WIND ZONE (3-SECOND GUST) CRITERIA. PLEASE CONTACT & ADVISE MANUFACTURER IF THE INTENDED LOADING EXCEEDS THESE VALUES.
 - CUSTOMER TO ENSURE COMPLIANCE TO NEC.

APPROVED BY		DATE	
CROWN CASTLE -- LAS VEGAS LAS VEGAS, NV BPQ250X09SPL POLE WITH DOUBLE 8' ARM			
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	DRAWN: A.F.	DATE: 11/20/2018	
	SCALE: N.T.S.	DWG. NO. 1811-033	REV —

***ARM/ANTENNA
CONNECTION IS BY
OTHERS***

NOTE: POLE CONSERVATIVELY DESIGNED FOR (2) LIGHT ARM ASSEMBLIES. THEREFORE, POLES W/ LESS LIGHT ARMS WILL HAVE ADEQUATE CAPACITY.

ADDITIONALLY, POLE DESIGNED FOR 115 MPH ULTIMATE WIND SPEED AND THEREFORE CONSERVATIVE WITH IBC 2018 (98 MPH).

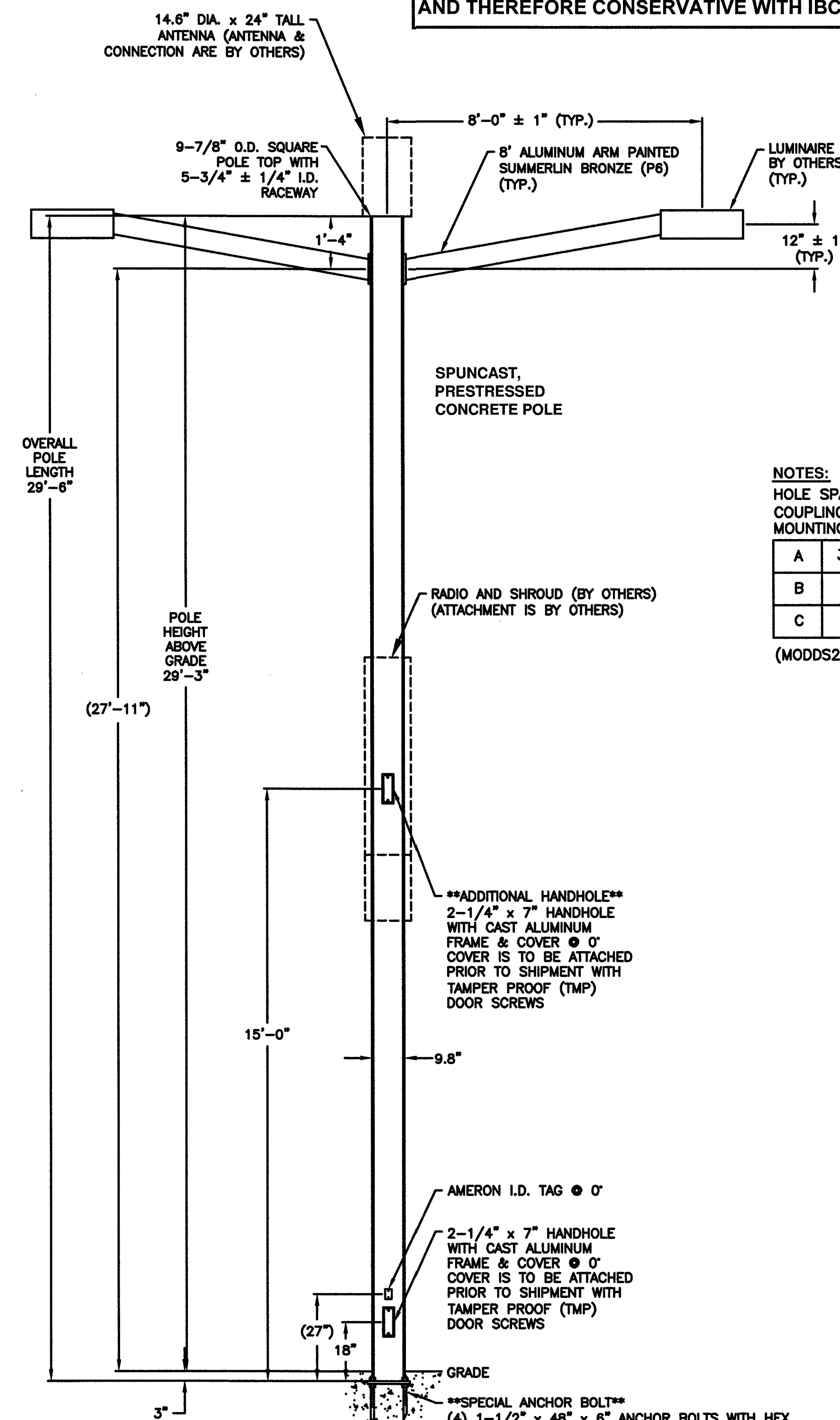


COMPLIANCE TO ANY CODE NOT EXPLICITLY LISTED ON THIS DRAWING IS NOT GUARANTEED. PLEASE CONTACT NATIONAL OILWELL VARCO IF YOU HAVE SPECIFIC CODE REQUIREMENTS.

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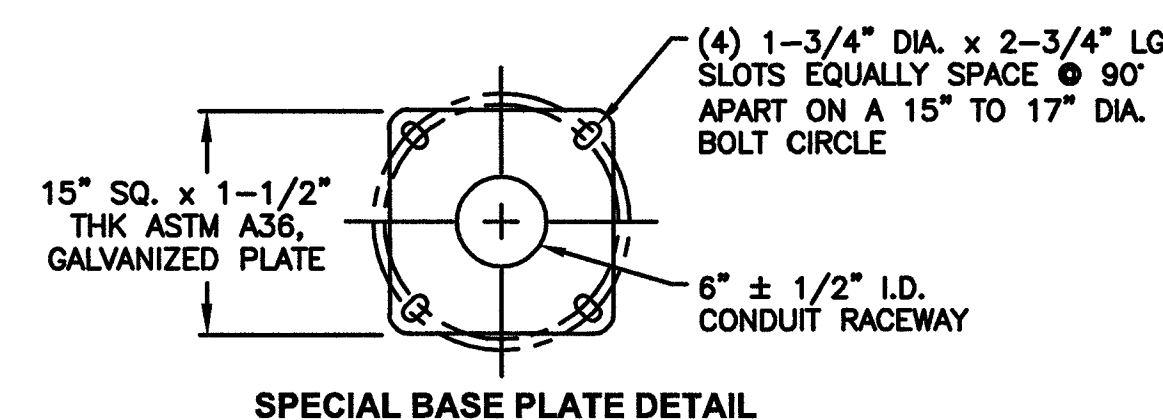
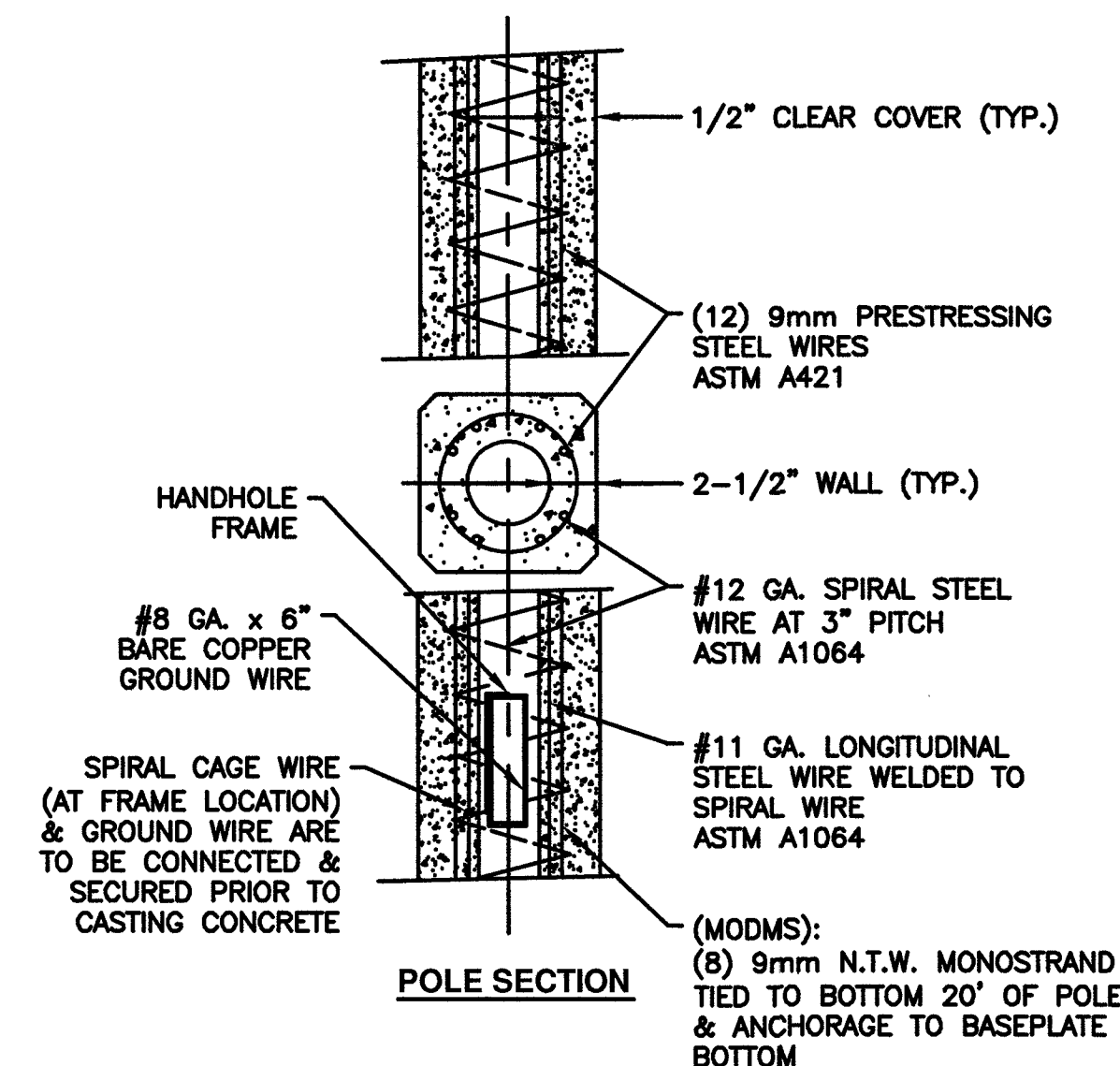
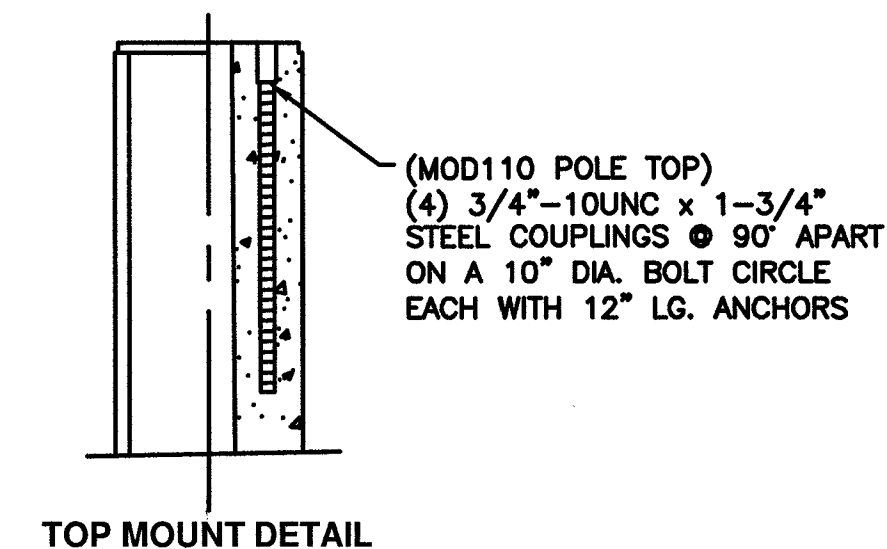
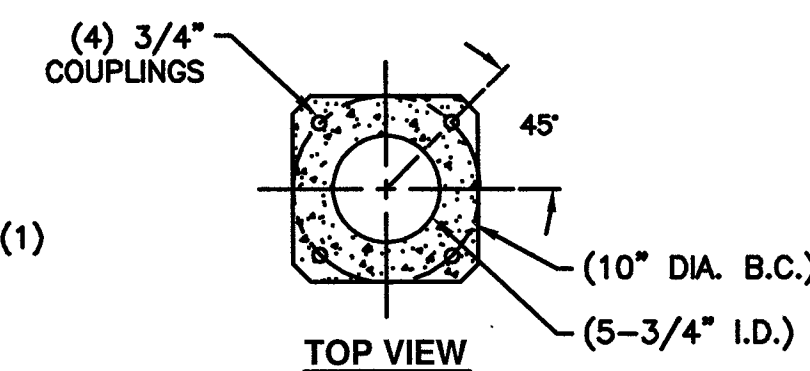
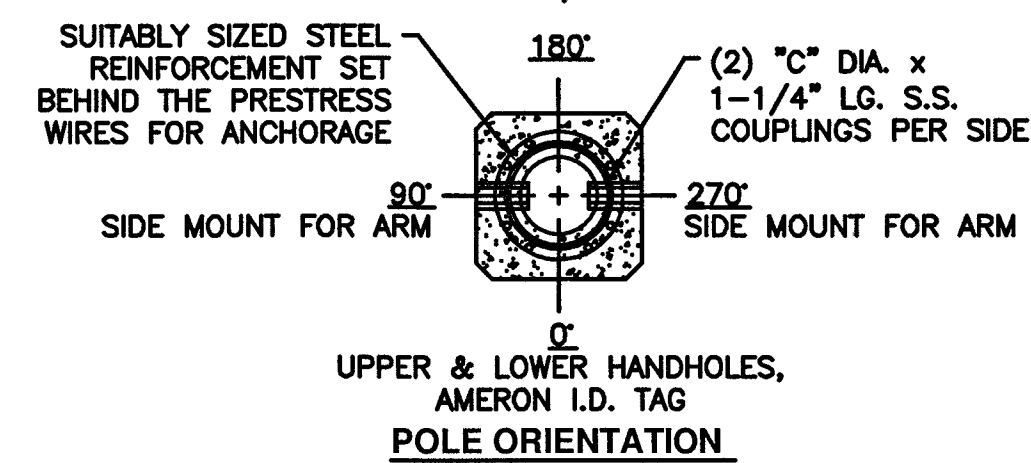
ADDITIONALLY, POLE DESIGNED FOR 115 MPH ULTIMATE WIND SPEED
AND THEREFORE CONSERVATIVE WITH IBC 2018 (98 MPH).



NOTES:
HOLE SPACING "A", "B", &
COUPLING SIZE "C" FOR FIX.
MOUNTING BOLTS

A	3-1/2" ± 1/16"
B	7" ± 1/16"
C	5/8"-11UNC

(MODDS250)



REV.	DATE	DESCRIPTION	DRN.	APPR.

"F" LEVEL CONFIG CODES		
OPTION CLASS	ENTRY	INFO
COATING	I	
HH COVER	66526E	
DOOR SCR	TMP	(4) REQ.
ADDITIONAL HH	66526E	(1) REQ.

"P" LEVEL CONFIG CODES		
OPTION CLASS	ENTRY	INFO
MIX	DR	
FINISH	3	
SPL. BASE PLATE	T.B.D.	
COLLAR	NONE	
POLE TOP CON.	MOD110	
CAST IN	MODDS250	
STRUCTURAL	MODMS	

STRAIGHT SQUARE NON-TAPERED BASE PLATE POLE

POLE DESIG- NATION	POLE HEIGHT A.G. (NOM.)	OVERALL POLE LENGTH	BOLT CIRCLE	BASE O.D.	ULTIMATE G.L. MOMENT (ft.-lbs.)	POLE WEIGHT (lbs.)
BPQ250X09SPL	29'-3"	29'-6"	17"	10"	73,960	2,460

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(1) TAMPER PROOF WRENCH (P/N:45126E)
(4) OPTIONAL ANCHOR BOLTS (P/N: T.B.D.)

NOTES:

- MIX (DR3I): DESERT ROSE, EXPOSED AGGREGATE FINISH WITH AMERSHIELD ANTI-GRAFFITI COATING.
- ASTM C-150 TYPE III GRAY CEMENT.
- f'c @ 28 DAYS = 7,000 PSI, USING SPUN CYLINDER TEST.
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- POLES MANUFACTURED PER ASTM C-1089-13 SPECIFICATIONS.
- PROTECTIVE COAT EXPOSED P.C. WIRES AT POLE ENDS.
- DUE TO THE NATURE & CHARACTERISTICS OF CONCRETE MANUFACTURING, SIDE MOUNT SPACING DIMENSIONS CAN ONLY BE TAKEN TO THE NEAREST 1/8".
- THE 8' DOUBLE SIDE-MOUNTED ALUMINUM LMA ASSEMBLY (NOT TO EXCEED 5.83 SQ. FT. EPA, 35 LBS PER ARM SIDE) DEPICTED ON THIS DRAWING IS DESIGNED TO WITHSTAND THE LOADS IMPARTED BY A SINGLE LUMINAIRE (NOT TO EXCEED 1.6 SQ. FT. EPA, 40 LBS. EACH); THE POLE DEPICTED IS DESIGNED TO WITHSTAND THE LOADS IMPARTED BY THE SIDE-MOUNT LMA'S AND THE LUMINAIRES, (1) TOP MOUNT ANTENNA (NOT TO EXCEED 2.72 SQ. FT. EPA, 35 LBS. MAX.), & (1) RADIO & SHROUD (NOT TO EXCEED 13.2 SQ. FT. EPA, 150 LBS.) CENTERED NO HIGHER THAN 15'-0" A.G. PER THE ASCE 7-10 USING A 115 MPH WIND ZONE (3-SECOND GUST) CRITERIA. PLEASE CONTACT & ADVISE MANUFACTURER IF THE INTENDED LOADING EXCEEDS THESE VALUES.
- CUSTOMER TO ENSURE COMPLIANCE TO NEC.

APPROVED BY

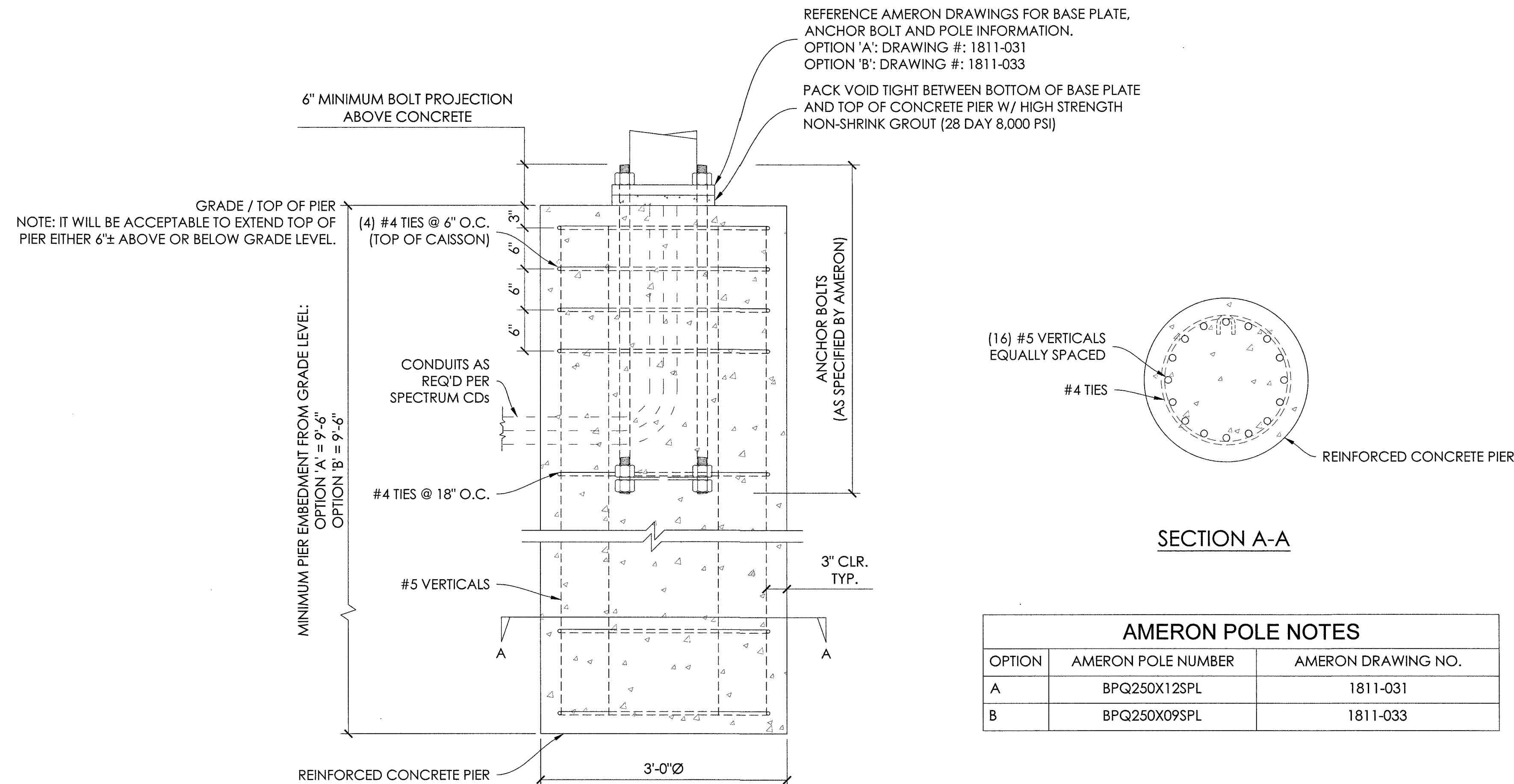
DATE

CROWN CASTLE -- LAS VEGAS
LAS VEGAS, NV
BPQ250X09SPL POLE WITH DOUBLE 8' ARM

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Amerson	DRAWN: A.F.	DATE: 11/20/2018	
	SCALE: N.T.S.	DWG. NO. 1811-033	REV -

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ELEVATION

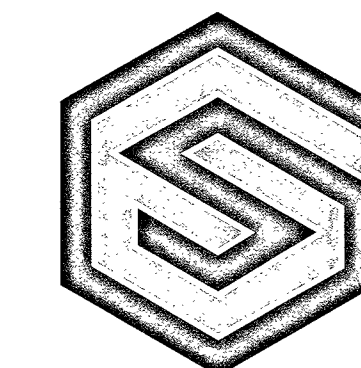
AMERON POLE NOTES		
OPTION	AMERON POLE NUMBER	AMERON DRAWING NO.
A	BPQ250X12SPL	1811-031
B	BPQ250X09SPL	1811-033

STRUCTURAL STEEL	
1.	PRE-QUALIFIED STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING MINIMUM GRADES UNLESS OTHERWISE NOTED: • ANCHOR BOLTS ASTM F1554 GR.55 (PER AMERON)
2.	ALL ANCHOR BOLTS AND THEIR ACCESSORIES, SHALL BE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM A153. ALL BOLT CONNECTIONS SHALL BE EQUIPPED WITH AN APPROVED NUT-LOCKING DEVICE.
3.	ALL WELDING WORK SHALL CONFORM TO THE AWS D1.1 STRUCTURAL WELDING CODE. ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS ONLY. WELDING ELECTRODES SHALL BE E70XX.
4.	ALL DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO AISC SPECS AND CODES, LATEST EDITION.
5.	AT HIS OWN DISCRETION, THE CONTRACTOR SHALL SUBMIT DETAILED, ENGINEERED, COORDINATED AND CHECKED SHOP DRAWINGS FOR ALL STRUCTURAL STEEL TO THE ENGINEER OF RECORD TO REVIEW FOR COMPLIANCE WITH DESIGN INTENT PRIOR TO THE START OF FABRICATION AND/OR ERECTION. GEOSTRUCTURAL IS ABSOLVED OF ALL LIABILITY ASSOCIATED WITH THE MISINTERPRETATION OF THE CONSTRUCTION DOCUMENTS IF CONTRACTOR CHOOSES NOT TO SUBMIT SHOP DRAWINGS.
6.	TORCH-CUTTING OF ANY KIND SHALL NOT BE PERMITTED.

CONCRETE NOTES	
1.	PRIOR TO EXCAVATION, CHECK THE AREA FOR UNDERGROUND FACILITIES.
2.	CONCRETE COMPRESSIVE STRENGTH SHALL BE 4,500 PSI @ 28 DAYS. CONCRETE SLUMP SHALL BE BETWEEN 1" TO 3".
3.	ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60.
4.	CONTRACTOR SHALL PROVIDE CLEARANCE FOR ALL REBAR OF 3" UNLESS NOTED OTHERWISE.
5.	ALL REBAR SHALL BE SUPPORTED ABOVE SOIL SURFACE WITH ACI-APPROVED METAL REBAR CHAIRS.
6.	STEEL REINFORCEMENT AND CONCRETE SHOULD BE PLACED IMMEDIATELY UPON COMPLETION OF THE FOUNDATION EXCAVATION. CONTRACTOR SHALL NOT ALLOW A COLD JOINT TO FORM IN THE CONCRETE. PORTION AT GRADE SHOULD BE FORMED. TEMPORARY CASING MAY BE REQUIRED TO PREVENT CAVING PRIOR TO CONCRETE PLACEMENT.

FIT-UP NOTE	
1.	ALL DIMENSIONS, SECTIONS AND DETAILS OF THE STRUCTURE ARE INCLUDED FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY ALL RELEVANT INFORMATION PRIOR TO CONSTRUCTION OR FABRICATION. FABRICATION AND/OR FIT-UP ISSUES ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR TO IDENTIFY PRIOR TO THE START OF CONSTRUCTION. SHOULD THERE BE ANY DISCREPANCIES, ERRORS, OR OMISSIONS ON THIS DRAWING, NOTIFY THE ENGINEER OF RECORD IMMEDIATELY FOR RESOLUTION. ALL NEW WORK SHALL ACCOMMODATE EXISTING CONDITIONS.
2.	CONTRACTOR SHALL REFER TO AND COORDINATE WITH THE FOLLOWING AMERON CONCRETE POLE DRAWINGS: OPTION 'A': DRAWING #: 1811-031 OPTION 'B': DRAWING #: 1811-033

CONSTRUCTION NOTES	
1.	STRUCTURAL DESIGN ACCEPTANCE IS VALID ONLY FOR POLE FOUNDATIONS INSTALLED ON LEVELED SURFACES. ANY FOUNDATION INSTALLED WITHIN (5ft) FROM A SLOPE WILL REQUIRE SLOPE STABILITY ANALYSIS AND CALCULATIONS WITH A SEPARATE STRUCTURAL REVIEW AND FEE. GEOTECHNICAL WILL BE NEEDED FOR THE REVIEW.
2.	SIDEWALKS MUST BE UNOBSTRUCTED AND HAVE AN ACCESS OF AT LEAST 3.0-ft FROM BACK OF CURB.
SPECIAL INSPECTION REQUIRED PERFORM THIRD PARTY SPECIAL INSPECTION FOR (STREET LIGHT FOUNDATION). SPECIAL INSPECTION IS REQUIRED.	
1.	INSPECTIONS SHALL BE PERFORMED BY AN ICC CERTIFIED INSPECTOR APPROVED BY CLARK COUNTY; EMPLOYED BY THE OWNER/DEVELOPER.
2.	PROVIDE SPECIAL INSPECTIONS IN ACCORDANCE WITH THE 2018 INTERNATIONAL BUILDING CODE FOR THE ITEMS LISTED BELOW. A. MASONRY-PERIODIC B. REINFORCING STEEL PLACEMENT-PERIODIC C. GROUT-CONTINUOUS D. CONCRETE PLACEMENT-CONTINUOUS E. CONCRETE STRENGTH-CONTINUOUS F. EPOXY FASTENED DOWELS AND ANCHORS-PERIODIC
3.	THE INSPECTOR SHALL SUBMIT A STATEMENT TO THE OWNER/DEVELOPER, AND STRUCTURAL ENGINEER INDICATING COMPLIANCE WITH THE PLANS AND SPECIFICATIONS.
4.	SPECIAL INSPECTION OF THE FILL AROUND THE ((STREET LIGHT FOUNDATION)) SHALL BE PROVIDED AT A FREQUENCY AS NECESSARY TO ENSURE THAT PROPER FILL AND COMPACTION IS ACHIEVED. COMPACTION TEST FOR EACH LIFT SHALL BE TAKEN PER CCAUSD 203.05.02. THE SPECIAL INSPECTOR SHALL SUBMIT A COMPLIANCE REPORT TO THE OWNER/DEVELOPER.



GEOSTRUCTURAL

PO BOX 2621, BOISE, ID 83701
P: 530.539.4787
E: CONTACT@GEOSTRUCTURAL.COM
WWW.GEOSTRUCTURAL.COM

REVISIONS

REV	DATE	DESCRIPTION	INT
1	09/03/19	ISSUED FOR CONSTRUCTION	GGD

CHECKED BY: GGD

THE INFORMATION CONTAINED IN THIS SET OF DOCUMENTS IS PROPRIETARY BY NATURE. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO THE CLIENT NAMES IS STRICTLY PROHIBITED.



CROWN CASTLE
AMERON CONCRETE POLES
OPTIONS A & B:
BPQ250X12SPL
BPQ250X09SPL

VARIOUS LOCATIONS

CLARK COUNTY, NEVADA

SHEET TITLE:

FOUNDATION DESIGN

SHEET NUMBER:

FD-1