



Redlined Construction Drawings

Theresa Sianez

Theresa Sianez
Spectrum Services

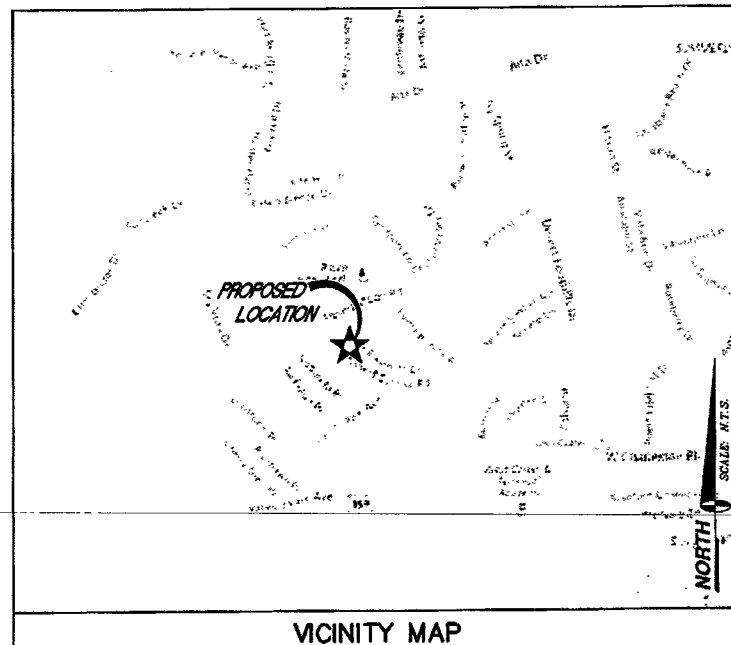
Date
11/8/19

CROWN CASTLE ID #
LV008

UNADDRESSED POLE
DESERT SUNRISE ROAD
AND DESERT MOON ROAD
LAS VEGAS, NEVADA 89138

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

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: PUBLIC RIGHT-OF-WAY
OCCUPANCY TYPE: U
CONSTRUCTION TYPE: V-B
CURRENT ZONING: PLANNED COMMUNITY DISTRICT (P-C)
JURISDICTION: CITY OF LAS VEGAS
APN: 137-34-497-004
LATITUDE: 36.16213
LONGITUDE: -115.36126
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.

1. INTERNATIONAL BUILDING CODE 2018 W/STATE AMENDMENTS
2. INTERNATIONAL EXISTING BUILDING CODE 2018 W/STATE AMENDMENTS
3. INTERNATIONAL ENERGY CONSERVATION CODE 2018
4. UNIFORM MECHANICAL CODE 2018
5. UNIFORM PLUMBING CODE 2018
6. NATIONAL ELECTRIC CODE 2017
7. INTERNATIONAL FIRE CODE 2018
8. ANSI/EIA-222-G LIFE SAFETY CODE
9. LOCAL BUILDING CODE(S)
9. CITY AND/OR COUNTY ORDINANCES

CODE COMPLIANCE

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

1. HIGH-STRENGTH BOLTS. (IF REQUIRED)
2. WELDING: FIELD WELDING OF STRUCTURAL STEEL AND REINFORCING STEEL. (IF REQUIRED)
3. STRUCTURAL STEEL. (IF REQUIRED)
4. CONCRETE: REINFORCING STEEL AND PLACEMENT.
5. CONCRETE WITH DESIGN GREATER THAN 2500 PSI.
6. PILE, PIER OR CAISSON FOUNDATIONS.
7. 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
PHONE: (702) 885-1552

PROJECT TEAM

SHEET	DESCRIPTION	REV.
C1	TITLE SHEET	2
C2	SITE PHOTO, GENERAL & CONSTRUCTION NOTES	2
C3	SITE PLAN	2
C4	EXISTING AND PROPOSED SOUTHEAST ELEVATIONS	3
C5	CONSTRUCTION DETAILS	2
C6	CONCRETE FOUNDATION DETAILS	3
E1	GROUNDING LAYOUT, NOTES & DETAILS	2
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.

APPROVAL
L19-00259

DATE
5 24 19
100V/7731-PIB



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

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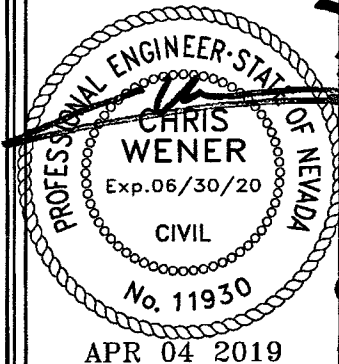
REV.	DATE	DESCRIPTION	BY
2	02/05/19	POLE REVISION	R.C.
1	10/16/18	100% PERMITTING	C.P.
0	09/17/18	90% PERMITTING	R.C.

PLANS PREPARED BY:



DGS
CONSULTING ENGINEERING SERVICES LLC

LICENSURE:

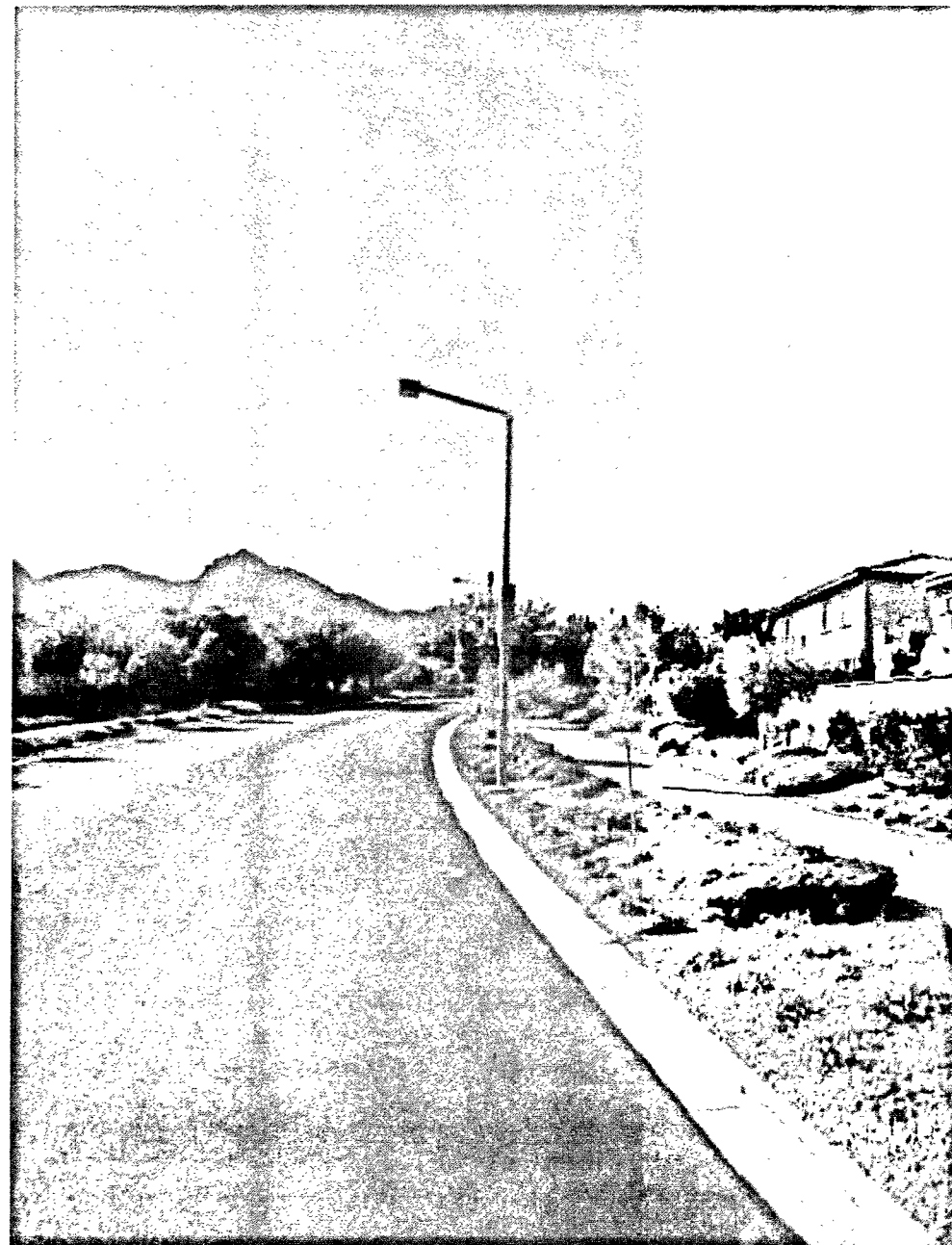


SHEET TITLE:

TITLE SHEET

SHEET NUMBER: REVISION:

C1 2



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1. THE FACILITY IS AN UNOCCUPIED SPECIALIZED MOBILE RADIO FACILITY.
2. PLANS ARE 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-A10BC 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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AND DESERT MOON ROAD
LAS VEGAS, NEVADA 89138

CURRENT ISSUE DATE: 04/04/19

ISSUED FOR: _____

PROPOSED WORK

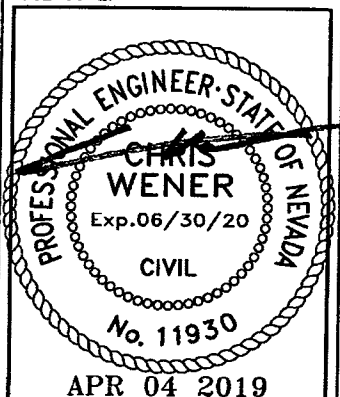
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2	02/05/19	POLE REVISION	R.C.
1	10/16/18	100% PERMITTING	C.P.
0	09/17/18	90% PERMITTING	R.C.

PLANS PREPARED BY: _____



CENSURE: _____

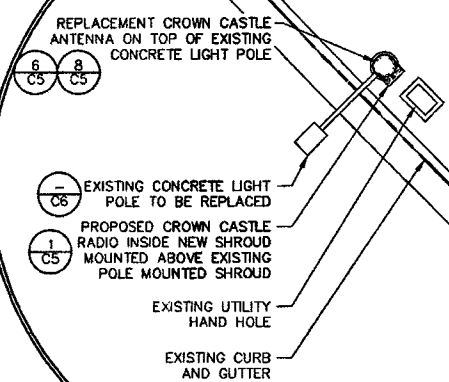
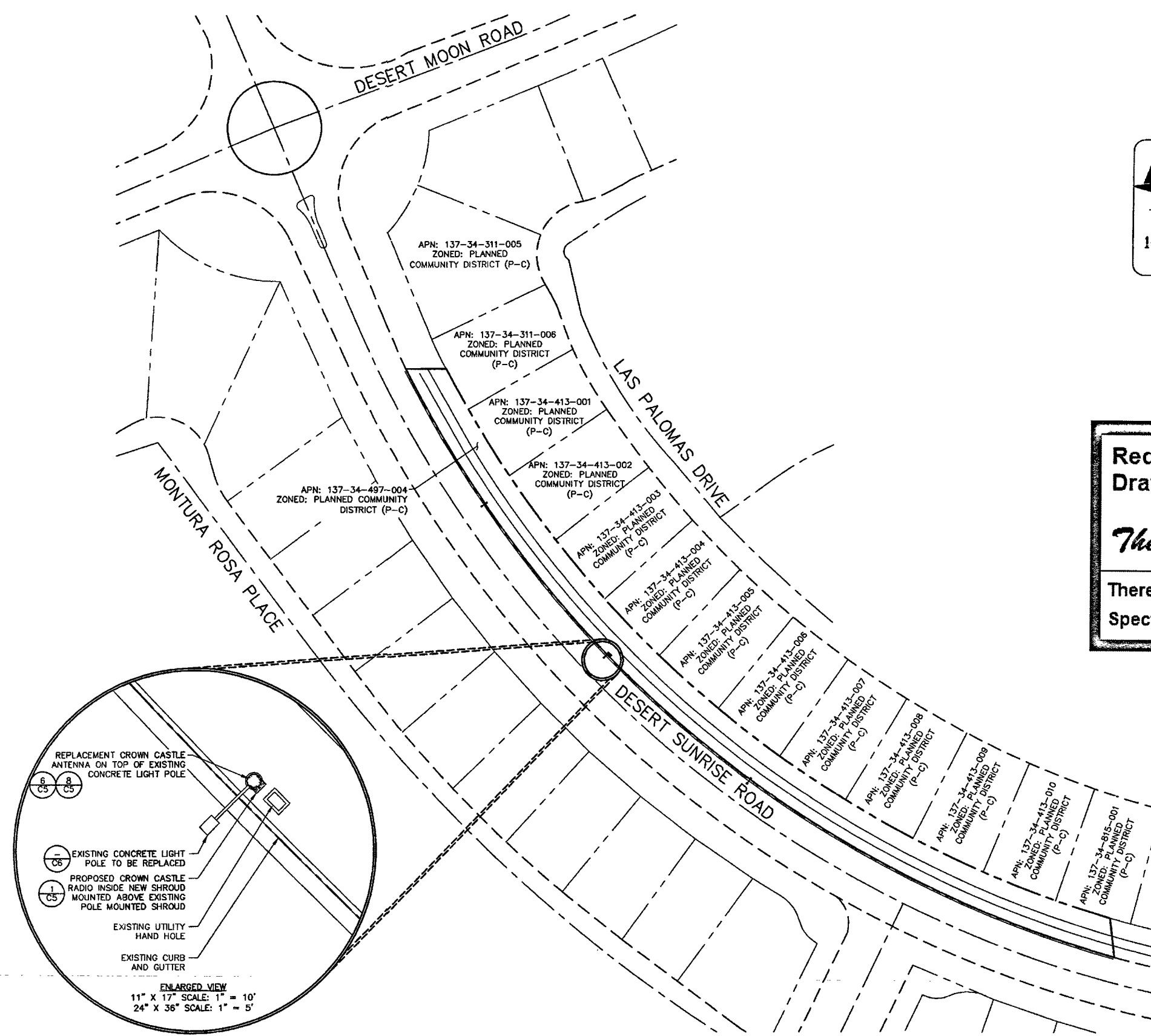


NET TITLE: _____

SITE PHOTO, GENERAL & CONSTRUCTION NOTES

SET NUMBER: REVISION:

C2	2
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ENLARGED VIEW
11" X 17" SCALE: 1" = 10'
24" X 36" SCALE: 1" = 5'

LEGEND

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

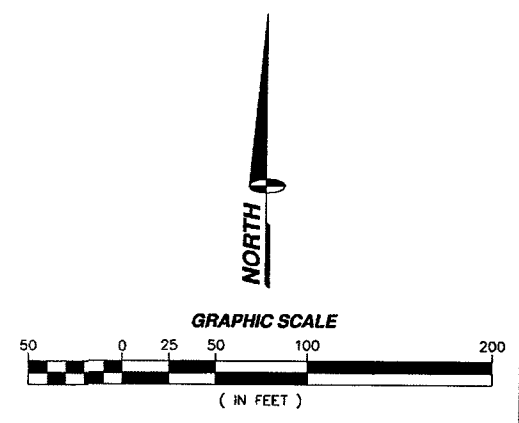


Redlined Construction Drawings

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Spectrum Services

Date
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CROWN CASTLE

CROWN CASTLE NG WEST LLC
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0	09/17/18	90% PERMITTING	R.C.

PLANS PREPARED BY:

SPECTRUM

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

LICENSURE:

APR 04 2019

SHEET TITLE:

SITE PLAN

SHEET NUMBER: C3

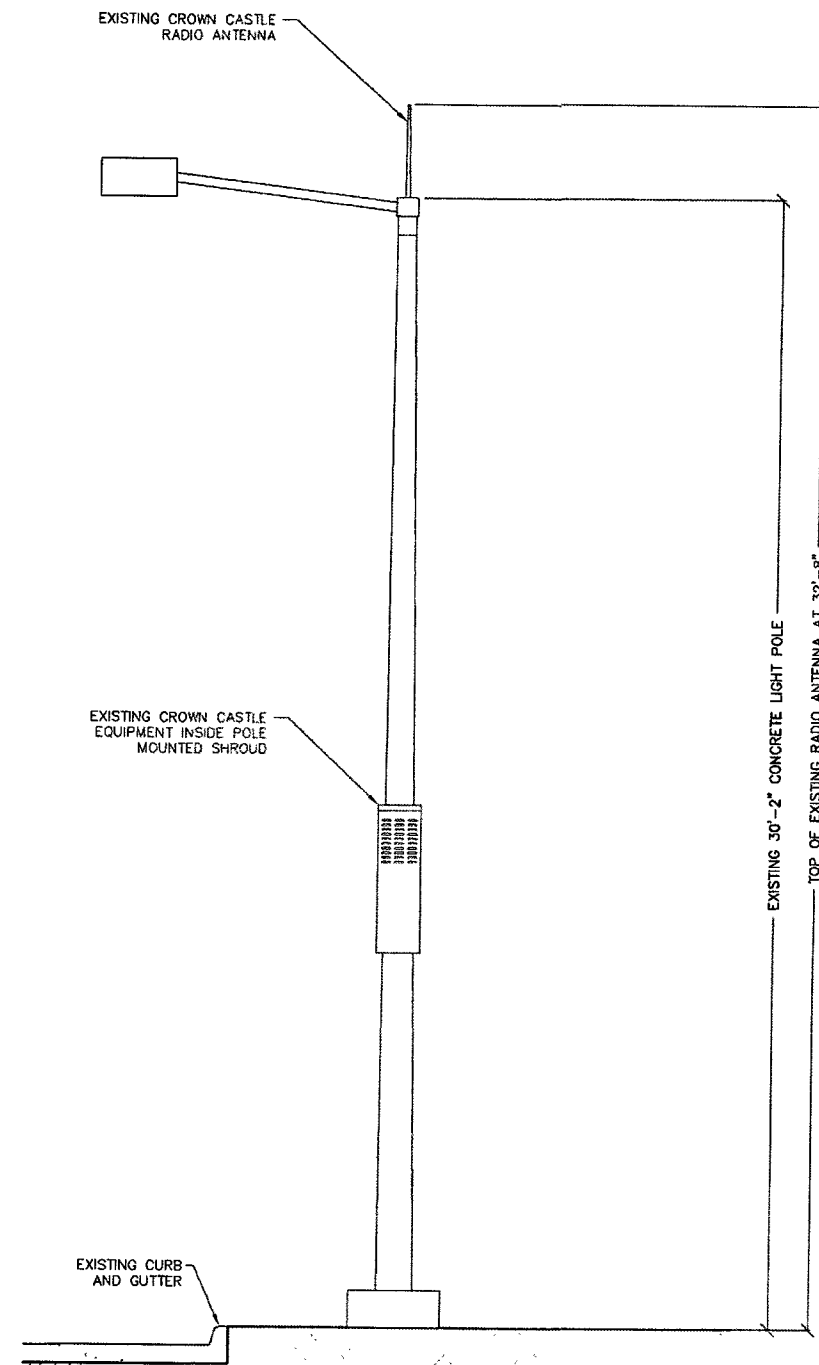
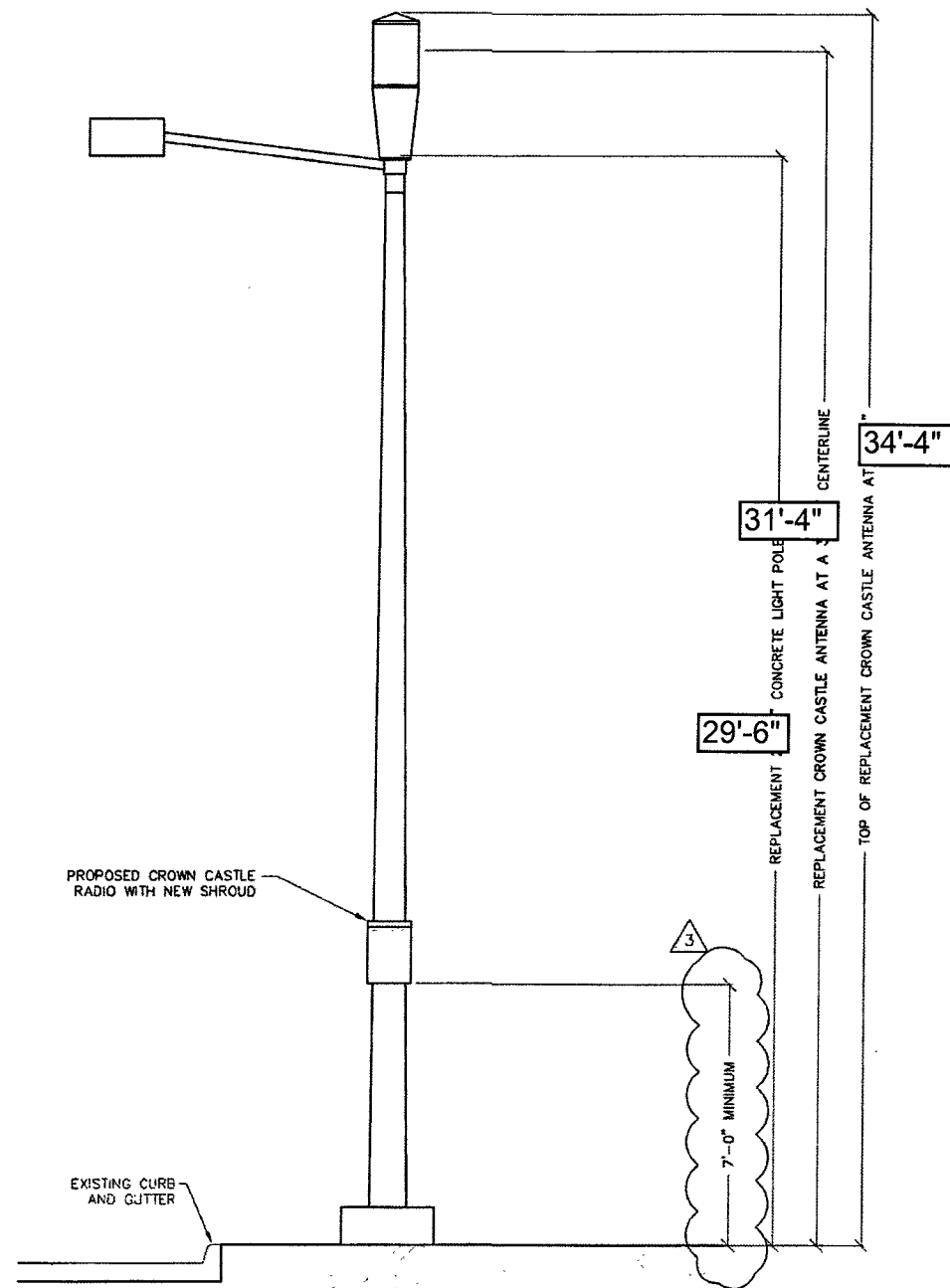
REVISION: 2

Redlined Construction Drawings

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CROWN CASTLE NC WEST LLC
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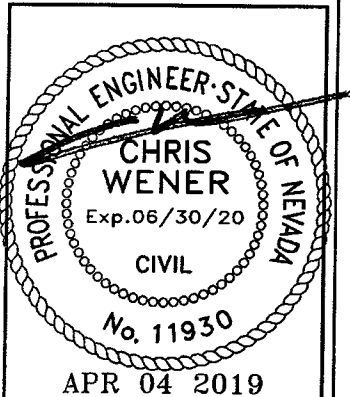
REV.: DATE: DESCRIPTION: BY:

REV.	DATE	DESCRIPTION	BY
3	04/04/19	LAND DEV. COMMENTS	R.S.
2	02/05/19	POLE REVISION	R.C.
1	10/16/18	100% PERMITTING	C.P.
0	09/17/18	90% PERMITTING	R.C.

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SPECTRUM
SPECTRUM SERVICES, INC.
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LAS VEGAS, NEVADA 89118
PHONE: (702) 367-7705
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LICENSURE:



SHEET TITLE:

EXISTING AND PROPOSED
SOUTHEAST ELEVATION

SHEET NUMBER: REVISION:

C4 **3**

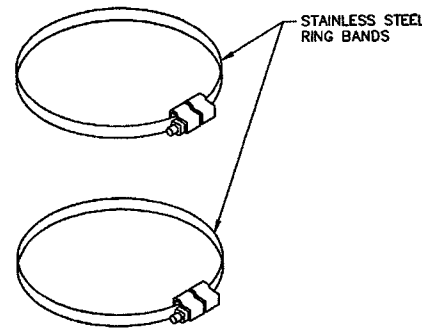
PROPOSED SOUTHEAST ELEVATION

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

2 EXISTING SOUTHEAST ELEVATION

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

1



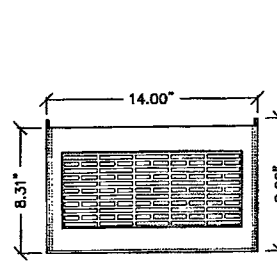
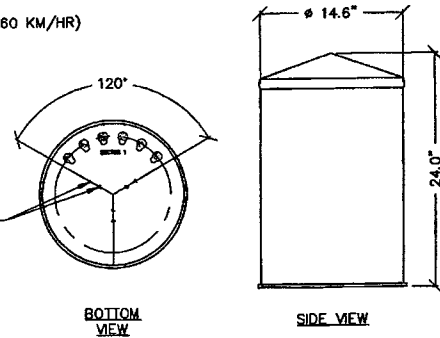
AMPHENOL 2C2U3MT360X06FY20 ANTENNA SPECIFICATIONS
INPUT CONNECTOR (2X) 4.3/10 OR 7/16-DIN / FEMALE / BOTTOM
DIMENSION (H x DIA.) 24.0 x 14.6 IN.
ANTENNA WEIGHT 22.1 LBS
LIGHTNING PROTECTION DIRECT GROUND

WIND SURVIVAL SPEED
241 KM/HR - 150 MPH

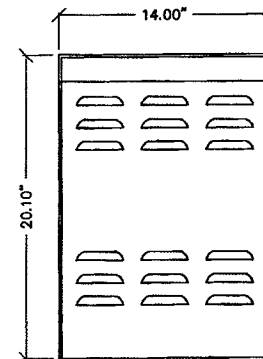
WIND LOAD @ 100 MPH (160 KM/HR)
191 N - 43 LBF

#4" & 6" @ BCD FOR
3/8"-16 UNC MOUNTING
STUDS (X6) AT 120°
APART THEY EXTEND 1
1/4" BELOW PLATE FOR
MOUNTING

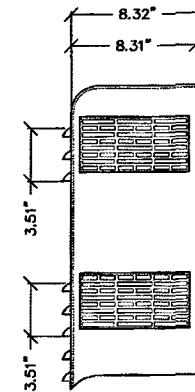
NOTES:
1. CONNECTOR HOLES ARE 2" FROM CENTER TO CENTER
APART IN EACH SECTOR



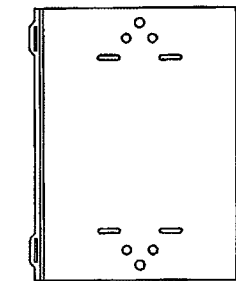
TOP VIEW



FRONT VIEW



RIGHT SIDE VIEW



BACK PLATE

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FAX: (702) 367-8733

LICENSURE:
PROFESSIONAL ENGINEER-STATE OF NEVADA
CHRIS WENER
Exp.06/30/20
CIVIL
No. 11930
APR 04 2019

SHEET TITLE:
CONSTRUCTION DETAILS

SHEET NUMBER: REVISION:

C5 2

STAINLESS STEEL RING BAND

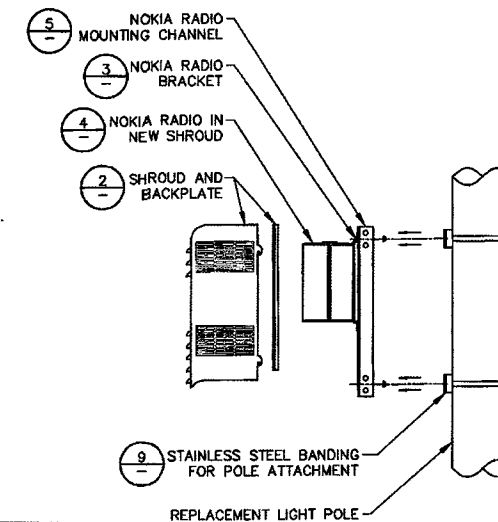
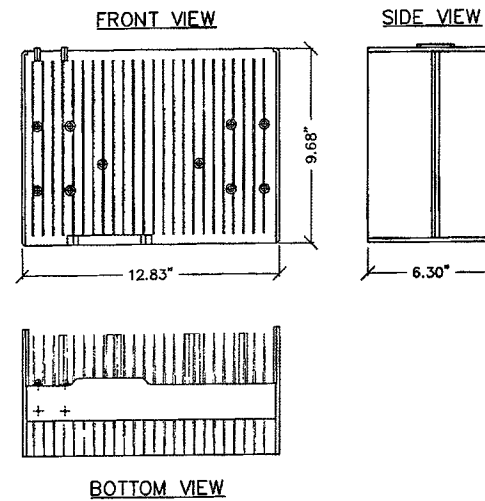
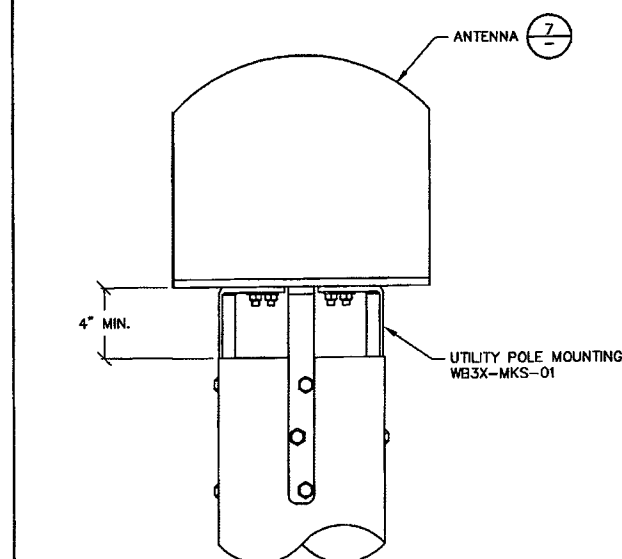
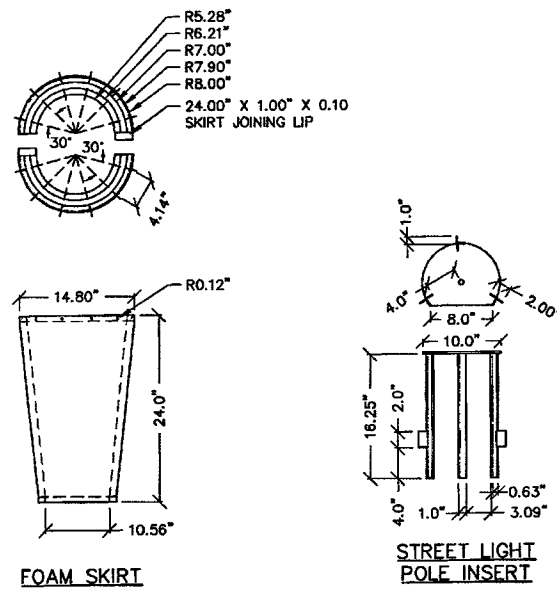
SCALE: NONE 9

ANTENNA DETAIL

SCALE: NONE 7

RADIO SHROUD

SCALE: NONE 2

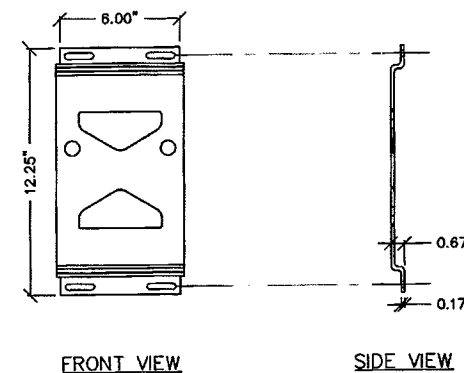
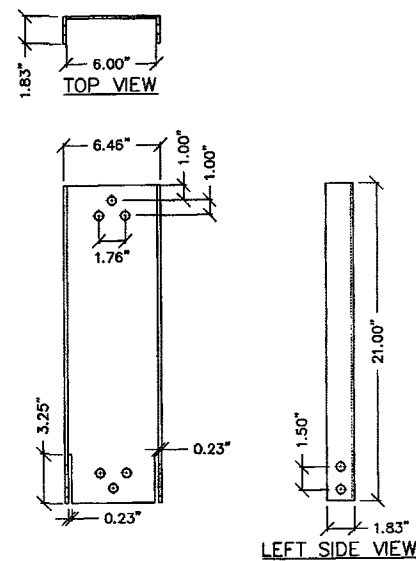
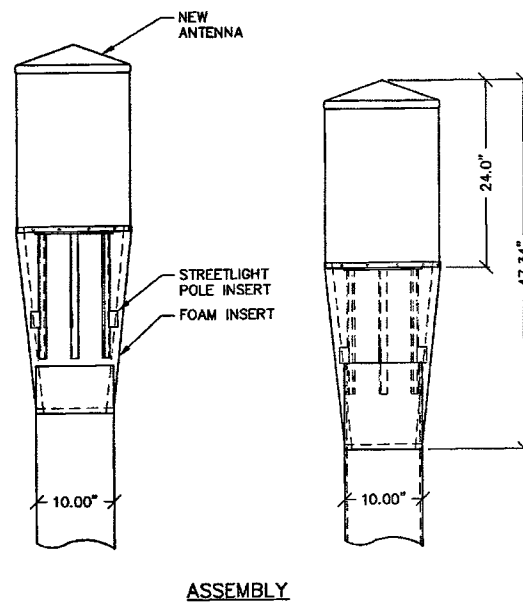


ANTENNA MOUNTING DETAIL

SCALE: NONE 6

NOKIA 20W RADIO

SCALE: NONE 4



Redlined Construction Drawings

Theresa Sianez

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Spectrum Services

Date
11/8/19

ANTENNA SHROUD

SCALE: NONE 8

NOKIA 20W RADIO MOUNTING CHANNEL

SCALE: NONE 5

NOKIA 20W RADIO BRACKET

SCALE: NONE 3

SHROUD ASSEMBLY

SCALE: NONE 1

PROJECT INFORMATION:

CROWN CASTLE ID #
LV008

UNADDRESSED POLE
DESERT SUNRISE ROAD
AND DESERT MOON ROAD
LAS VEGAS, NEVADA 89138

CURRENT ISSUE DATE:

04/04/19

ISSUED FOR:

PROPOSED WORK

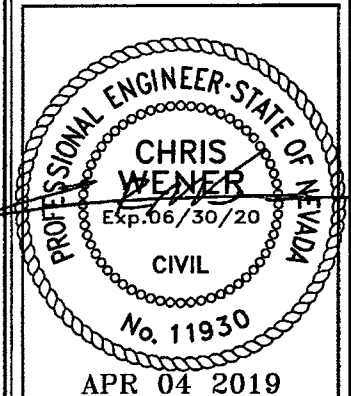
REV.: DATE: DESCRIPTION: BY:

REV.	DATE	DESCRIPTION	BY
3	04/04/19	LAND DEV. COMMENTS	R.S.
2	02/05/19	POLE REVISION	R.C.
1	10/16/18	100% PERMITTING	C.P.
0	09/17/18	90% PERMITTING	R.C.

PLANS PREPARED BY:

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

LICENSURE:



SHEET TITLE:

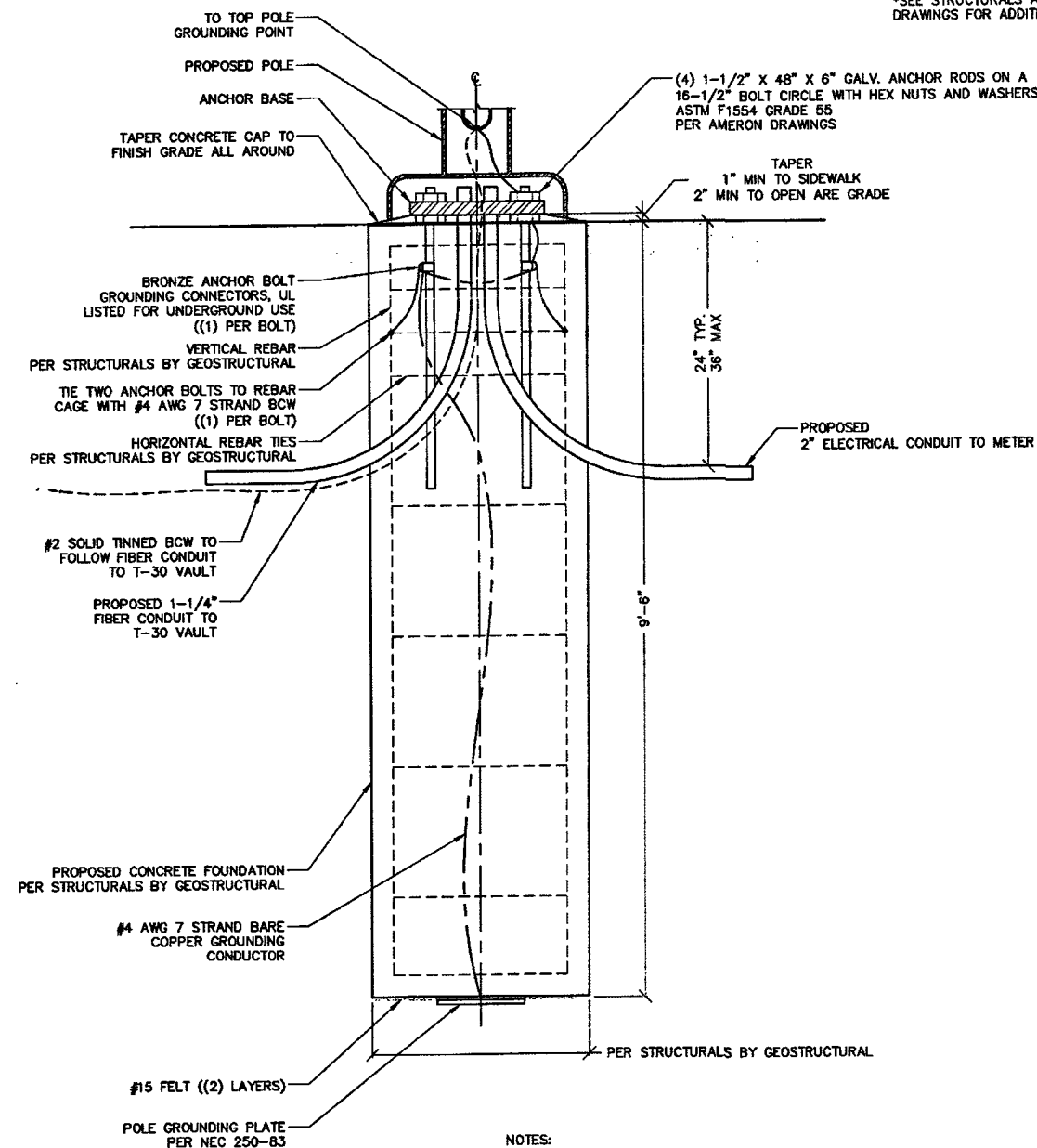
CONSTRUCTION DETAILS

SHEET NUMBER: REVISION:

C6 3

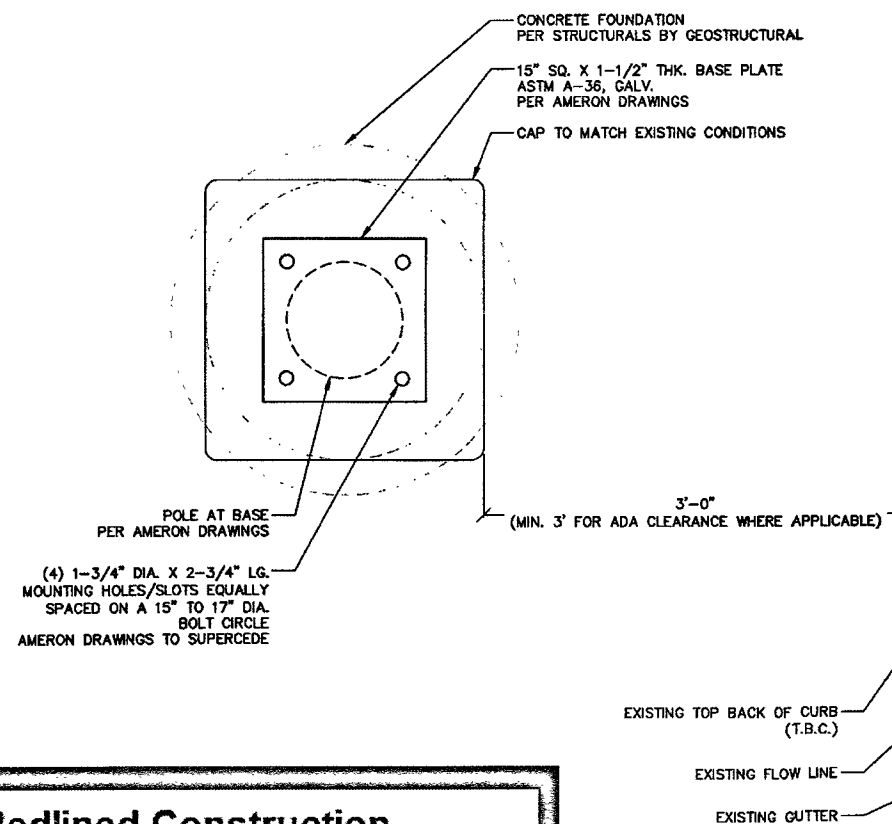
*SEE STRUCTURALS AND AMERON
DRAWINGS FOR ADDITIONAL INFORMATION

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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. ANCHOR RODS ARE TO BE (4) 1-1/2" DIAMETER ASTM F1554 GRADE 55 ON A 16"-1/2" DIAMETER BOLT CIRCLE. MINIMUM LENGTH OF ANCHOR RODS IS 48", WITH A MAXIMUM PROJECTION OF 5" ABOVE CONCRETE. AMERON DRAWINGS TO SUPERCEDE THIS NOTE.

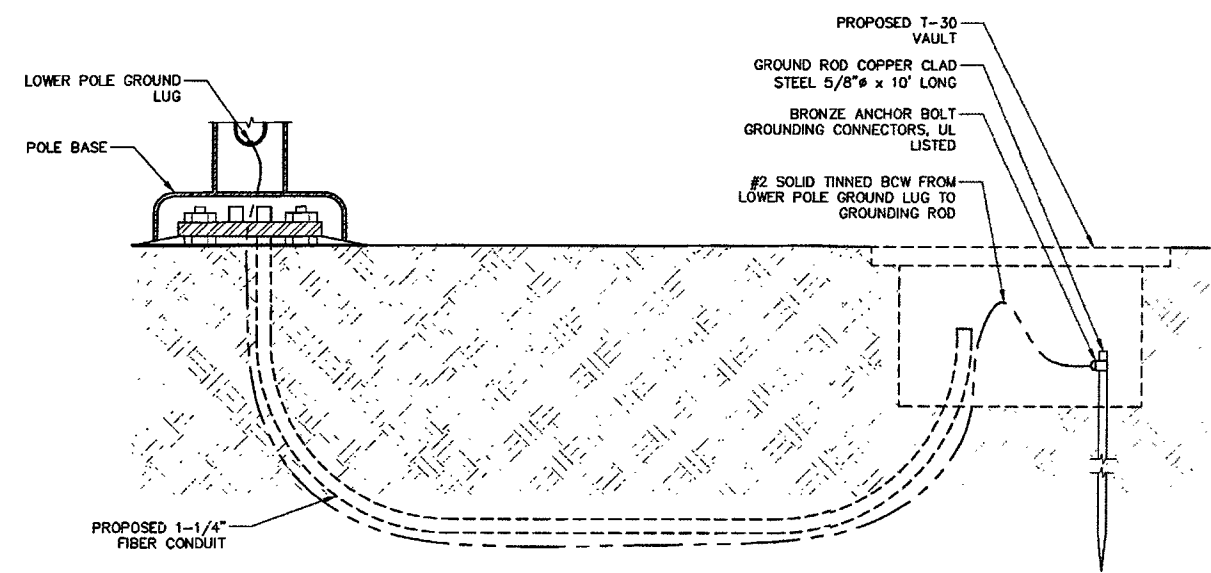


**Redlined Construction
Drawings**

Theresa Sianez

Theresa Sianez
Spectrum Services

Date
11/8/19



GROUND ROD

SCALE: NONE 4

1. ALL DETAILS ARE SHOWN IN GENERAL TERMS. ACTUAL GROUNDING 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.

NOT USED

SCALE: NONE 3

Redlined Construction Drawings

Theresa Sianez

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Spectrum Services

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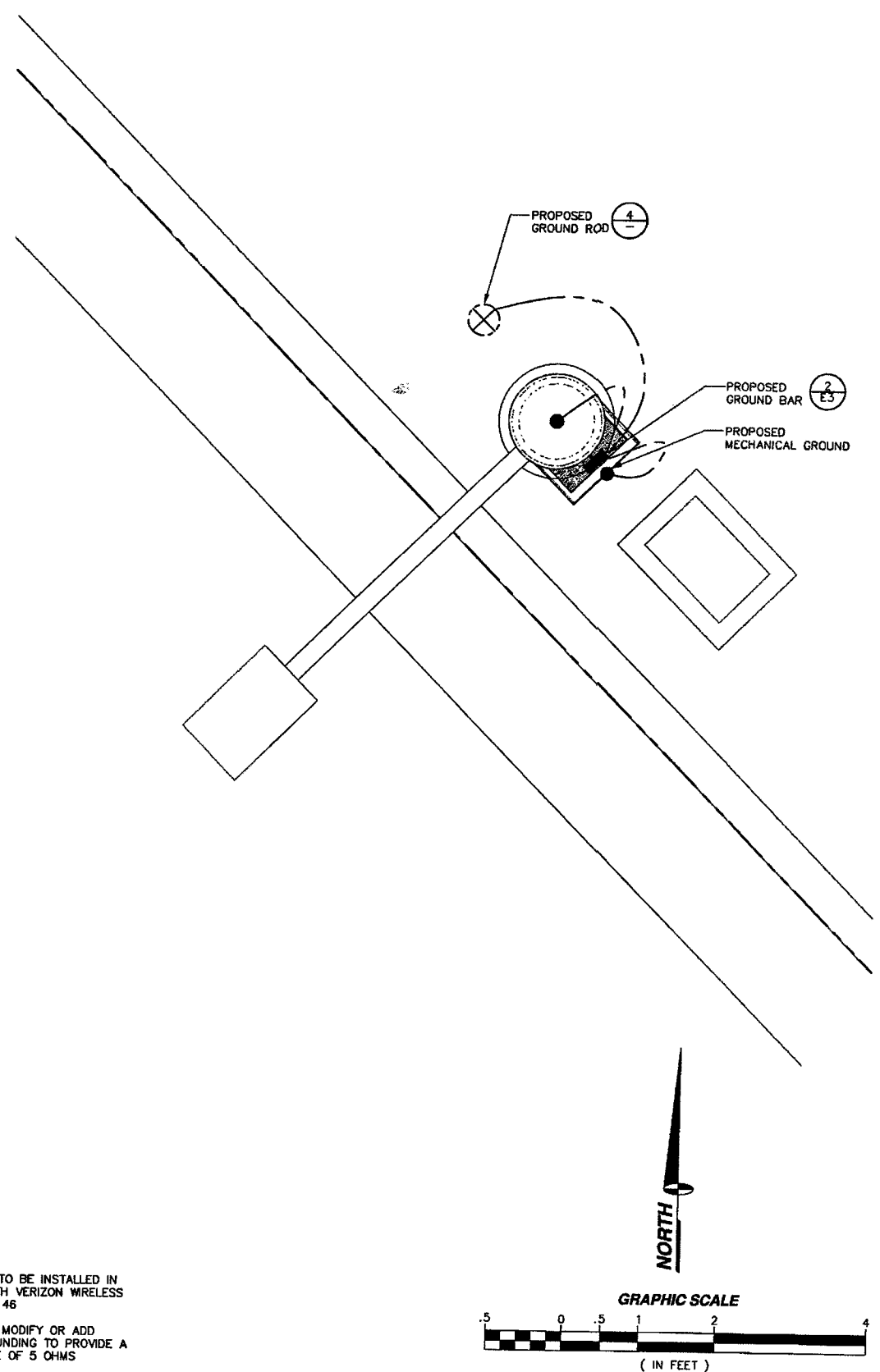
GROUNDING NOTES

SCALE: NONE 5 NOT USED

GROUNDING LAYOUT

SCALE: NONE 2

NOTE:
1. ALL GROUNDING TO BE INSTALLED IN ACCORDANCE WITH VERIZON WIRELESS STANDARD NSTD 46
2. CONTRACTOR TO MODIFY OR ADD NECESSARY GROUNDING TO PROVIDE A MAX. RESISTANCE OF 5 OHMS



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

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PLANS PREPARED BY:
SPECTRUM

DGS
CONSULTING ENGINEERING SERVICES LLC
LICENSURE:

REGISTERED PROFESSIONAL ENGINEER-STATE OF NEVADA
DEREK G. STEFUREAC
Exp. 06-30-20
ELECTRICAL
No. 17805
APR 04 2019

SHEET TITLE:
GROUNDING LAYOUT, NOTES & DETAILS
SHEET NUMBER: REVISION:

E12