



VERIZON SITE NAME  
 NAPLES DT NAP002  
 VERIZON SITE NUMBER  
 #15033511

RIGHT-OF-WAY OF 4TH STREET S  
 AT 12TH AVENUE S  
 NAPLES, FLORIDA 34102  
 (COLLIER COUNTY)

INSTALLATION OF PROPOSED SMALL CELL  
 EQUIPMENT TO PROPOSED METAL POLE

REV	DATE	DESCRIPTION
0	08/25/22	FINAL PLANS ISSUED
1	09/16/22	REVISED PER COMMENTS
2	10/11/22	REVISED PER COMMENTS

PROJECT NO.: 22-5415  
 DRAWN BY: J.MENDEZ  
 PROJECT MANAGER: M. MURPHY  
 CHECKED BY: M. MURPHY

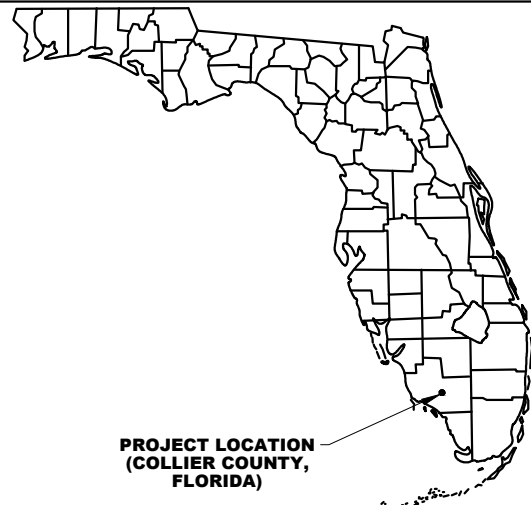
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12979 TELECOM PARKWAY N  
 TEMPLE TERRACE, FLORIDA 33637  
 (813) 615-1422  
 CERTIFICATE OF AUTHORIZATION 33693



LOCAL MAP



PROPERTY SUMMARY

PARCEL #: N/A (R.O.W.)  
 LATITUDE: 26° 07' 56.14" N (NAD83)  
 26.132261 N  
 LONGITUDE: 81° 48' 01.51" W (NAD83)  
 -81.800419 W  
 JURISDICTION: CITY OF NAPLES

SCOPE OF WORK

INSTALLATION OF PROPOSED SMALL CELL EQUIPMENT TO PROPOSED METAL POLE  
 A. INSTALLATION OF 1 METAL POLE  
 B. INSTALLATION OF 1 ANTENNA  
 C. INSTALLATION OF 1 ENCLOSURE CABINET

CONTACTS

**APPLICANT:**  
 VERIZON WIRELESS  
 7701 TELECOM PARKWAY EAST  
 TEMPLE TERRACE, FLORIDA 33637  
 (813) 632-5900

**SMW ENGINEERING GROUP, INC. ARCHITECT/ENGINEER:**  
 12979 TELECOM PARKWAY N  
 TEMPLE TERRACE, FLORIDA 33637  
 MIKE MURPHY (813) 781-4181

**POLE OWNER:**  
 VERIZON WIRELESS  
 7701 TELECOM PARKWAY EAST  
 TEMPLE TERRACE, FLORIDA 33637  
 (813) 632-5900

INDEX OF DRAWINGS

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APPLICABLE CODES

THE CONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) OVER THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

BUILDING CODE: FLORIDA BUILDING CODE (FBC), 7TH EDITION (2020).  
 NATIONAL ELECTRICAL CODE: 2017 EDITION.  
 ELECTRICAL CODE: NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70  
 MECHANICAL CODE: MECHANICAL CODE, 7TH EDITION.  
 FIRE CODE: FLORIDA FIRE PREVENTION CODE, 7TH EDITION.  
 LIFE SAFETY CODE: NFPA-101-2018  
 2017 UTILITY ACCOMMODATION MANUAL (6-30-2017)  
 DEPARTMENT OF TRANSPORTATION ADA STANDARDS FOR TRANSPORTATION FACILITIES

ASCE 7 - 16: ULTIMATE WIND SPEED = 166 MPH  
 RISK CATEGORY = II  
 EXPOSURE = C

ANSI/ TIA-222-H  
 STRUCTURE CLASS = II  
 TOPOGRAPHIC CATEGORY = 1

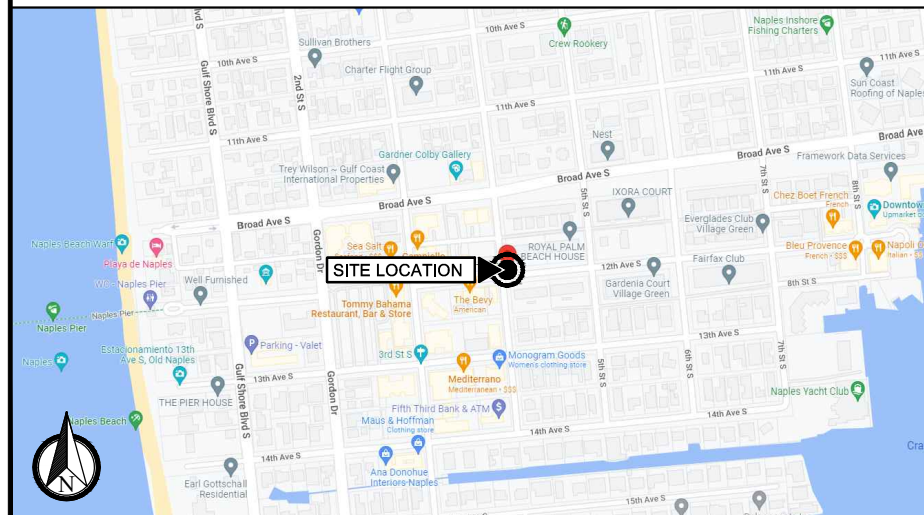
THE CONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS; AMERICAN CONCRETE INSTITUTE (ACI) 318-14 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE; AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), 14th EDITION; TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-H, STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES; TIA-607-B, COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS.

INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVITY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM; IEEE 1100 (2005) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT.

IEEE C62.41, GUIDE ON THE SURGE ENVIRONMENT IN LOW-VOLTAGE AC POWER CIRCUITS (FOR LOCATION CATEGORY "C3" AND "HIGH SYSTEM EXPOSURE").

TELCORDIA GR-1275, GENERAL INSTALLATION REQUIREMENTS; TELCORDIA GR-1503, COAXIAL CABLE CONNECTIONS; ANSI T1.311, FOR TELECOM - DC POWER SYSTEMS - TELECOM, ENVIRONMENTAL PROTECTION.

VICINITY MAP



DRIVING DIRECTIONS

FROM THE VERIZON OFFICE IN TAMPA, GET ON I-75 S FROM E TELECOM PKWY AND E FLETCHER AVE. FOLLOW I-75 S TO COUNTY RD 886/GOLDEN GATE PKWY IN COLLIER COUNTY. TAKE EXIT 105 FROM I-75 S. CONTINUE ON COUNTY RD 886/GOLDEN GATE PKWY. TAKE GOODLETTE RD S/GOODLETTE-FRANK RD TO 4TH ST S IN NAPLES. DESTINATION WILL BE ON THE LEFT-HAND SIDE OF THE ROAD.

CONSTRUCTION SCHEDULE

CONSTRUCTION TO START WITHIN 90 DAYS OF PERMIT APPROVAL  
 CONTRACTOR TO FINALIZE WITHIN 270 DAYS OF PERMIT APPROVAL  
 CONSTRUCTION SET TO BEGIN TENTATIVELY FEBRUARY 2023.

APPROVALS

PROPERTY OWNER \_\_\_\_\_  
 RF ENGINEER \_\_\_\_\_  
 CONSTRUCTION \_\_\_\_\_  
 SITE ACQUISITION \_\_\_\_\_  
 ZONING \_\_\_\_\_  
 NETWORK \_\_\_\_\_  
 OPERATIONS \_\_\_\_\_  
 CONTRACTOR \_\_\_\_\_

NAPLES DT NAP002  
 #15033511

RIGHT-OF-WAY OF 4TH STREET S  
 AT 12TH AVENUE S  
 NAPLES, FLORIDA 34102  
 (COLLIER COUNTY)

SHEET NAME

TITLE SHEET

SHEET NUMBER

T1

1. FOR THE PURPOSES OF THESE CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:

OWNER - VERIZON WIRELESS  
ENGINEER - SMW ENGINEERING GROUP, INC.  
CONTRACTOR - GENERAL CONTRACTOR (CONSTRUCTION)

2. PRIOR TO SUBMITTING HIS BID, THE CONTRACTOR SHALL VISIT THE JOB SITE IN ORDER TO (1) VERIFY ALL EXISTING CONDITIONS, (2) CONFIRM WHETHER ALL DIMENSIONS ARE AS SHOWN ON THE PLANS AND (3) CONFIRM WHETHER THE WORK MAY BE ACCOMPLISHED AS SHOWN. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER.
3. A 9-FOOT HORIZONTAL CLEARANCE DISTANCE SHALL BE MAINTAINED FROM ALL EXISTING POWER LINES.
4. THE CONTRACTOR'S USE OF A CONSTRUCTION STAGING AREA SHALL BE COORDINATED WITH THE OWNER WELL IN ADVANCE OF THE CONSTRUCTION START DATE.
5. LABOR, MATERIAL, TOOLS, EQUIPMENT, TRANSPORTATION AND TEMPORARY POWER SERVICES NECESSARY FOR AND INCIDENTAL TO COMPLETION OF ALL WORK SHALL BE PROVIDED AS INDICATED ON THE DRAWINGS AND/OR AS SPECIFIED HEREIN. LABOR AND MATERIALS SHALL BE FURNISHED AS REQUIRED FOR COMPLETE SYSTEMS, INCLUDING ALL ELEMENTS OBVIOUSLY OR REASONABLY INCIDENTAL TO A COMPLETE INSTALLATION, WHETHER OR NOT SPECIFICALLY INDICATED ON THE PLANS.
6. FOR TASKS REQUIRED TO BE PERFORMED BUT NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL NOT START WORK ON SUCH TASKS WITHOUT HAVING RECEIVED WRITTEN AUTHORIZATION FROM THE CONSTRUCTION MANAGER TO PROCEED.
7. THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND EQUIPMENT UNLESS OTHERWISE INDICATED BY DIMENSIONS OR DETAILS. EXACT EQUIPMENT LOCATIONS MAY BE MODIFIED AS REQUIRED BY ACTUAL FIELD CONDITIONS. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE ENGINEER AND THE CONSTRUCTION MANAGER.
8. THE CONTRACTOR SHALL OBTAIN, PAY FOR AND DELIVER ALL REQUIRED PERMITS, CERTIFICATES OF INSPECTION, INCLUDING UTILITY CONNECTION FEES, ETC., REQUIRED BY THE AUTHORITIES HAVING JURISDICTION AND SHALL DELIVER SUCH DOCUMENTS TO THE OWNER PRIOR TO FINAL ACCEPTANCE OF THE WORK.
9. THE CONTRACTOR'S OPERATIONS SHALL BE CONFINED TO AREAS OF NEW CONSTRUCTION.
10. ALL NECESSARY PROVISIONS SHALL BE MADE TO PROTECT EXISTING IMPROVEMENTS, PAVING, CURBS, GALVANIZED SURFACES, ETC. AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO SAME RESULTING FROM THE CONSTRUCTION WORK. ALL DISTURBED AND DAMAGED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION OR BETTER UPON COMPLETION OF ALL WORK TO THE SATISFACTION OF THE CONSTRUCTION MANAGER.
11. THE FOLLOWING CLEANUP TASKS SHALL BE PERFORMED AS FOLLOWS: (1) ON A DAILY BASIS, KEEP THE GENERAL AREA CLEAN AND HAZARD FREE, REMOVING ALL WASTE, DEBRIS AND TRASH FROM THE SITE AND DISPOSING OF SAME IN A LEGAL MANNER. (2) UPON COMPLETION, LEAVE THE PREMISES IN A CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
12. ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE RESPECTIVE MANUFACTURER'S RECOMMENDATIONS EXCEPT WHERE IT IS SPECIFICALLY INDICATED OTHERWISE IN THE CONTRACT DOCUMENTS OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
13. ALL WORK PERFORMED AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY HAVING JURISDICTION OVER THE PERFORMANCE OF THE WORK. MECHANICAL AND ELECTRICAL SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AS WELL AS LOCAL AND STATE CODES, ORDINANCES AND APPLICABLE REGULATIONS.
14. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AT ALL TIMES, USING THE BEST SKILLS AND ATTENTION. HE SHALL BE SOLELY RESPONSIBLE FOR ALL OF THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK, INCLUDING CONTACT AND COORDINATION WITH THE CONSTRUCTION MANAGER AND WITH THE OWNER'S AUTHORIZED REPRESENTATIVE.
15. WITHIN TEN (10) WORKING DAYS AFTER PROJECT COMPLETION, THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF AS-BUILT DRAWINGS, SWEEP TEST, CYLINDER TESTS, LIEN RELEASES, AND OTHER CLOSEOUT DOCUMENTATION AS REQUIRED BY THE OWNER. ALL SYSTEMS SHALL BE COMPLETELY ASSEMBLED, TESTED, ADJUSTED AND DEMONSTRATED TO BE READY FOR OPERATION PRIOR TO THE OWNER'S ACCEPTANCE.
16. THE PROPOSED INSTALLATION WILL NOT:
  - INTERFERE WITH THE SAFE OPERATION OF TRAFFIC CONTROL EQUIPMENT;
  - INTERFERE WITH SIGHT LINES OR CLEAR ZONES FOR TRANSPORTATION, PEDESTRIANS, OR PUBLIC SAFETY PURPOSES;
  - INTERFERE WITH COMPLIANCE WITH THE AMERICANS WITH DISABILITIES ACT OR SIMILAR FEDERAL OR STATE STANDARDS
 VERIZON WIRELESS MEETS ALL FCC'S PLANNING IN REGARDS TO FREQUENCY AND POWER ASSIGNMENTS. THIS TAKES INTO ACCOUNT PUBLIC SAFETY AS WELL AS COMMERCIAL DEPLOYMENTS OF WIRELESS SYSTEMS. IN DOING SO, ISSUES WITH INTERFERENCE ARE VERY RARE BY DESIGN AND VERIZON WIRELESS ADHERES, TO ESTABLISHED FCC PROCEDURES SHOULD ANYTHING ARISE.

GENERAL NOTES

1

1. THE APPROPRIATE UTILITY LOCATING SERVICES SHALL BE CONTACTED PRIOR TO THE START OF CONSTRUCTION IN ORDER TO VERIFY THE EXACT LOCATION OF ALL EXISTING UNDERGROUND UTILITIES.
2. THE INSTALLATION OF NEW UTILITIES SHALL BE COORDINATED WITH LOCAL AUTHORITIES.
3. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES. WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SUCH UTILITIES SHALL BE RELOCATED AS DIRECTED BY THE CONSTRUCTION MANAGER. EXTREME CAUTION SHALL BE USED WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES.
4. RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
5. ALL EXISTING INACTIVE SEWER, WATER, STORM WATER, GAS, ELECTRIC AND OTHER UTILITIES THAT INTERFERE WITH THE EXECUTION OF THE WORK SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS THAT WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF THE LANDLORD AND/OR LOCAL UTILITIES.
6. DISTURBANCE TO THE EXISTING SITE DURING CONSTRUCTION SHALL BE MINIMIZED.
7. ANY AREAS OF THE CONSTRUCTION SITE DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE. SUCH GRADING SHALL CAUSE SURFACE WATER TO FLOW AWAY FROM ANY EQUIPMENT SHELTER AND TOWER AREAS AND THE SOIL SHALL BE STABILIZED TO PREVENT EROSION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
8. THE SUB-GRADE SHALL BE COMPACTED AND BROUGHT TO A UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
9. BACKFILL SHALL CONSIST OF CLEAN SAND FILL APPROVED FOR USE BY THE ENGINEER. NO UNAPPROVED MATERIAL WILL BE ALLOWED. CLEAN SAND FILL SHALL BE FREE OF ALL ROOTS, BOULDERS, OR OTHER DELETERIOUS MATERIAL.
10. THE CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS TO EQUAL TO OR BETTER CONDITION THAN ORIGINAL.
11. SITE SIGNAGE SHALL BE PROVIDED IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS FOR SUCH SIGNAGE AS MAY BE CONTAINED IN THESE DRAWINGS.

SITE WORK NOTES

2

1. MATERIAL:
  - A. ALL STRUCTURAL STEEL WORK SHALL CONFORM TO THE LATEST EDITION OF THE AISC "STEEL CONSTRUCTION MANUAL".
  - B. ALL STRUCTURAL STEEL WF BEAMS SHALL BE ASTM A992 AND "HOT DIPPED" GALVANIZED IN ACCORDANCE WITH ASTM A123 AND ASTM A153 STANDARDS.
  - C. ALL STRUCTURAL PLATES, ANGLES, AND CHANNELS SHALL BE ASTM A36 AND "HOT DIPPED" GALVANIZED IN ACCORDANCE WITH ASTM A123 AND ASTM A153 STANDARDS.
  - D. ALL HSS/TS MEMBERS SHALL BE ASTM A500 GRADE B (Fy=46ksi), AND "HOT DIPPED" GALVANIZED IN ACCORDANCE WITH ASTM A123 AND ASTM A153 STANDARDS.
  - E. ALL STRUCTURAL PIPE MEMBERS SHALL BE ASTM A500 GRADE B (Fy=42ksi), AND "HOT DIPPED" GALVANIZED IN ACCORDANCE WITH ASTM A123 AND ASTM A153 STANDARDS.
  - F. ALL NON-STRUCTURAL PIPE MEMBERS SHALL BE ASTM A53 GRADE B, AND "HOT DIPPED" GALVANIZED IN ACCORDANCE WITH ASTM A123 AND ASTM A153 STANDARDS.
2. DESIGN, FABRICATION, AND CONSTRUCTION OF ALL CONNECTIONS SHALL CONFORM TO AISC STEEL CONSTRUCTION MANUAL.
3. WELDING:
  - A. ALL WELDS, WELDERS, AND WELD INSPECTIONS SHALL CONFORM TO THE REQUIREMENTS OF AWS D 1.1, LATEST REVISION.
  - B. ALL WELDS SHALL BE MADE WITH E70XX LOW HYDROGEN ELECTRODES.
  - C. ALL STEEL SHALL BE SPRAY GALVANIZED AFTER WELDING.
4. ALL BOLTS SHALL BE GALVANIZED 3/4" DIAMETER, A325-N, UNLESS NOTED OTHERWISE AND TIGHTENED TO A "SNUG TIGHT" CONDITION AS DEFINED BY AISC. SECURE NUT WITH LOCKING WASHER.
5. ANCHOR BOLTS SHALL CONFORM TO ASTM A307, UNLESS NOTED OTHERWISE.
6. THE CONTRACTOR/STEEL FABRICATOR SHALL LOCATE ANY REINFORCEMENT IN THE STRUCTURAL MEMBERS IN SUCH A MANNER SO THAT THERE WILL NOT BE CONFLICT WITH THE REINFORCEMENT WHEN INSTALLING ANCHORS. THE ANCHORS SHALL BE INSTALLED PER THE MANUFACTURER'S INSTRUCTION.
7. THE CONTRACTOR/STEEL FABRICATOR SHALL CONFORM TO THE MINIMUM EDGE DISTANCE REQUIREMENTS IN ACCORDANCE WITH THE AISC MANUAL OF STEEL CONSTRUCTION.
8. ALL STRUCTURAL STEEL SHALL BE FABRICATED TO FIT AT BOLTED CONNECTIONS WITHIN 1/8 INCH TOLERANCE. STRUCTURAL STEEL SHALL NOT BE FLAME CUT UNDER ANY CIRCUMSTANCES WITHOUT APPROVAL OF THE ENGINEER.
9. THE CONTRACTOR/STEEL FABRICATOR SHALL CAP OR SEAL ALL PIPES AS REQUIRED TO PREVENT RAINWATER INTRUSION.
10. THE CONTRACTOR/STEEL FABRICATOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO ANY STEEL FABRICATION. AT THE CONTRACTOR'S OPTION, FIELD SPLICES MAY BE USED FOR ERECTION PURPOSES. IF FIELD SPLICES ARE USED, THE SHOP DRAWINGS SHALL INCLUDE ALL DETAILS FOR THE PROPOSED FIELD SPLICES.
11. AT THE CONTRACTOR'S OPTION, SHOP WELDS MAY BE USED INSTEAD OF FIELD WELDS.
12. SUBMIT ORIGINAL SHOP DRAWINGS, INCLUDING COMPLETE DETAILS, SCHEDULES OF FABRICATION AND ASSEMBLY, PROCEDURES, AND DIAGRAMS. INCLUDE DETAILS OF CUTS, CONNECTIONS, CAMBER, HOLE, AND OTHER PERTINENT DATA. INDICATE WELDS BY STANDARD AWS A2.1 AND A2.4 SYMBOLS, AND SHOW SIZE, LENGTH, AND TYPE OF WELD. PROVIDE SETTING DRAWINGS, TEMPLATES, AND DIRECTIONS FOR INSTALLATION OF ANCHOR BOLTS AND OTHER ANCHORAGES TO BE INSTALLED AS WORK OF OTHERS' SECTIONS.

STRUCTURAL STEEL NOTES

3

REV	DATE	DESCRIPTION
0	08/25/22	FINAL PLANS ISSUED
PROJECT NO.:		22-5415
DRAWN BY:		J.MENDEZ
PROJECT MANAGER:		M. MURPHY
CHECKED BY:		M. MURPHY

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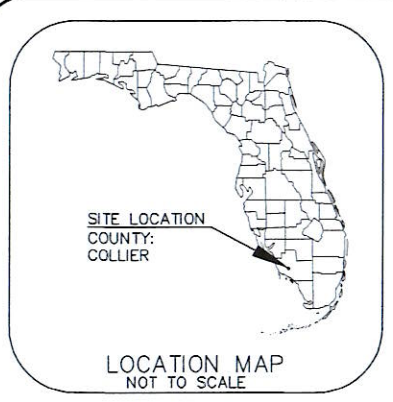


7701 TELECOM PARKWAY EAST  
TEMPLE TERRACE, FLORIDA 33637

THIS DOCUMENT HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY JEREMY D. SHARIT, PE (#75137) USING A DIGITAL SIGNATURE IN ACCORDANCE WITH F.A.C. 61G15-23.004, WITH A DIGITAL CERTIFICATE ISSUED BY ENTRUST, INC. PLEASE REFERENCE SHEET T1 TO VIEW THE SIGNATURE AND VERIFY ITS PROPERTIES. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

NAPLES DT NAP002  
#15033511  
RIGHT-OF-WAY OF 4TH STREET S  
AT 12TH AVENUE S  
NAPLES, FLORIDA 34102  
(COLLIER COUNTY)

SHEET NAME
NOTES
SHEET NUMBER
N1

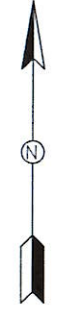
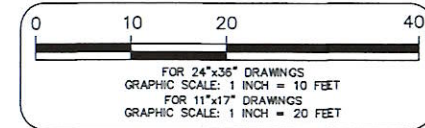
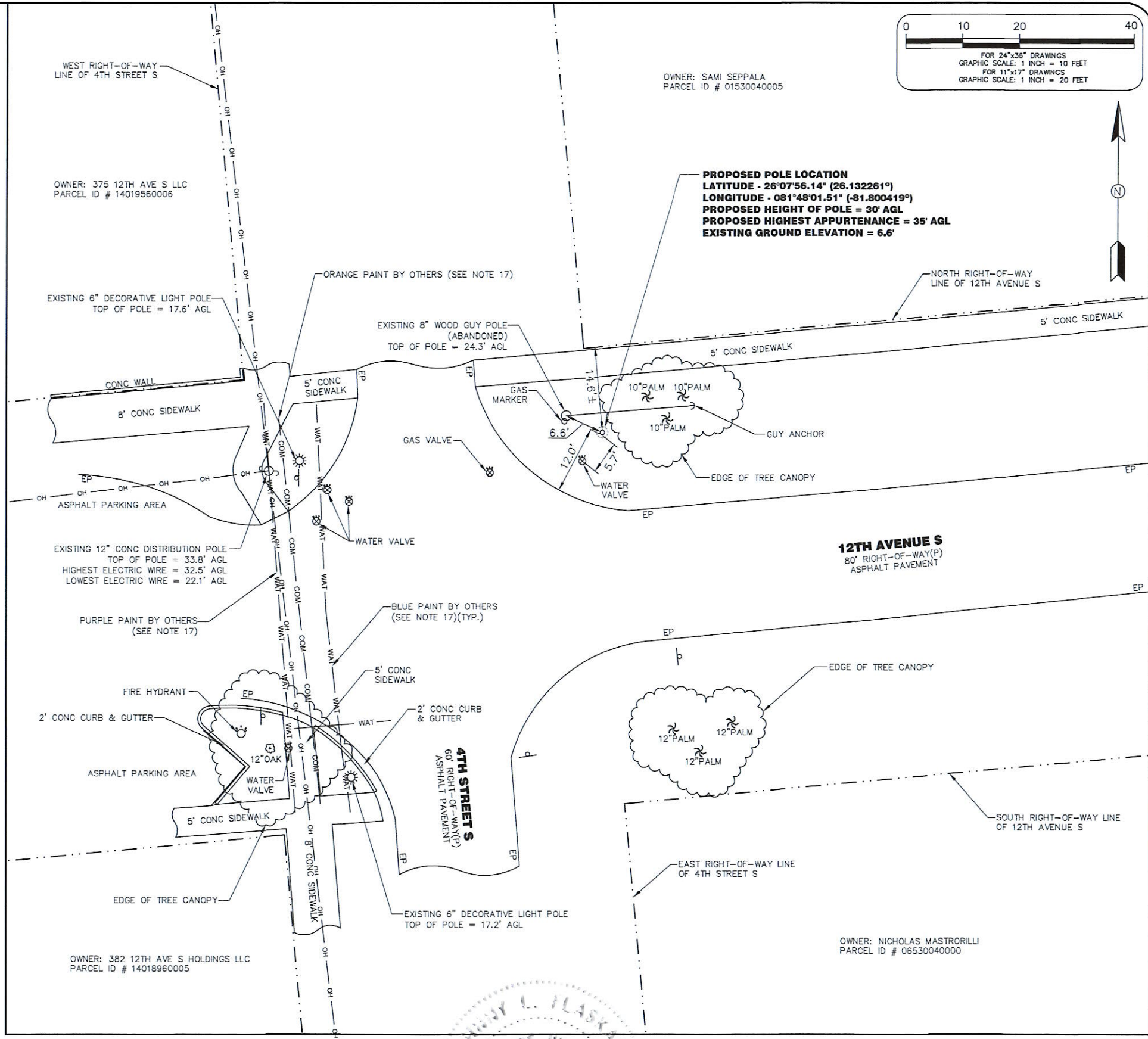


**SURVEYOR'S NOTES:**

1. THIS SURVEY WAS PERFORMED ON THE GROUND ON AUGUST 4, 2022 UNDER THE SUPERVISION OF A FLORIDA PROFESSIONAL SURVEYOR & MAPPER.
2. THE SUBJECT PROJECT AREA APPEARS TO BE WITHIN ZONE "AE", MAP NUMBER 12021C0393H, COMMUNITY NUMBER 125130, PANEL NUMBER 0393, SUFFIX H WITH AN EFFECTIVE DATE OF 05/16/2012. HAVING A BASE FLOOD ELEVATION OF 8' (NORTH AMERICAN VERTICAL DATUM OF 1988).
3. ALL DIMENSIONS SHOWN ARE IN FEET AND DECIMAL PARTS THEREOF.
4. THIS SURVEY DOES NOT REFLECT OR DETERMINE OWNERSHIP.
5. NO UTILITIES (UNDERGROUND OR ABOVE-GROUND) WERE LOCATED EXCEPT AS SHOWN HEREON.
6. NO SEARCH FOR VISIBLE EVIDENCE OF EXISTING OR FORMER AREAS OF FACILITIES WHICH MAY HAVE INVOLVED THE USE OF STORAGE OF HAZARDOUS MATERIALS WAS MADE.
7. NO WETLAND AREAS OR JURISDICTIONAL WETLANDS WERE LOCATED OR ARE SHOWN ON THIS SURVEY.
8. THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE COMMITMENT; NO ABSTRACT EXAMINATION IS IMPLIED.
9. INFORMATION SHOWN HEREON MAY BE SUBJECT TO EASEMENTS, RESTRICTIONS AND RESERVATIONS OF RECORD.
10. REPRODUCTIONS OF THIS SURVEY ARE NOT VALID UNLESS SIGNED AND SEALED WITH AN ORIGINAL RAISED SURVEYOR'S SEAL.
11. ADDITIONS OR DELETIONS TO THIS SURVEY MAP BY ANY OTHER THAN THE SIGNING SURVEYOR ARE PROHIBITED WITHOUT THE WRITTEN CONSENT OF THE SURVEYOR OF RECORD.
12. THIS SURVEY WAS CREATED TO SHOW THE PROPOSED LOCATION OF A POLE STRUCTURE ALONG WITH DEPICTING THE RIGHT-OF-WAY LINES OF 4TH STREET S, AND TOPOGRAPHIC LOCATION OF IMPROVEMENTS WITHIN AN AREA DETERMINED BY CLIENT TO HELP IN THEIR DESIGN OF A TELECOMMUNICATIONS STRUCTURE.
13. THE SYMBOL SHOWN FOR THE PROPOSED POLE IS SHOWN AS A 10" DIAMETER POLE CENTERED ON A 2' DIAMETER FOUNDATION. ALL DIMENSIONS SHOWN ARE TO THE EDGE OF THE 10" DIAMETER PROPOSED POLE.
14. THIS SURVEY MAP IS INTENDED TO BE DISPLAYED AT A SCALE OF 1 INCH = 10 FEET FOR 24"x36" DRAWINGS AND 1 INCH = 20 FEET FOR 11"x17" DRAWINGS OR SMALLER.
15. THE COORDINATES SHOWN HEREON ARE IN NORTH AMERICAN DATUM OF 1983, ARE TO THE THIRD ORDER OF ACCURACY, AND IS BASED ON MULTI FREQUENCY GNSS CORRECTIONS OBTAINED FROM THE FLORIDA DEPARTMENT OF TRANSPORTATIONS FLORIDA PERMANENT REFERENCE NETWORK (FPRN).
16. THE ELEVATIONS SHOWN HEREON ARE IN NORTH AMERICAN VERTICAL DATUM OF 1988, ARE TO THE THIRD ORDER OF ACCURACY, AND IS BASED ON MULTI FREQUENCY GNSS CORRECTIONS OBTAINED FROM THE FLORIDA DEPARTMENT OF TRANSPORTATIONS FLORIDA PERMANENT REFERENCE NETWORK (FPRN).
17. UNDERGROUND UTILITY PAINT MARKS SHOWN HEREON WERE MADE BY OTHERS, AND ARE SHOWN FOR GRAPHICAL PURPOSES ONLY. THIS SURVEYOR TAKES NO RESPONSIBILITY FOR THEIR ACCURACY.

**LEGEND:**

- |   |                           |
|---|---------------------------|
| (C) = CALCULATED                              | CONC = CONCRETE           |
| (F) = FIELD                                   | ELEV = ELEVATION          |
| (P) = PLAT                                    | T = TOWNSHIP              |
| (D) = DEED                                    | R = RANGE                 |
| F.D.T. = FLORIDA DEPARTMENT OF TRANSPORTATION | O.R. = OFFICIAL RECORDS   |
| NO. = NUMBER                                  | ID = IDENTIFICATION       |
| LB = LICENSED BUSINESS                        | W/ = WITH                 |
| RCP = REINFORCED CONCRETE PIPE                | MES = MITERED END SECTION |
| CMP = CORRUGATED METAL PIPE                   | TYP. = TYPICAL            |
| TPED = TELEPHONE PEDESTAL                     | CLF = CHAIN LINK FENCE    |
| TSV = TRAFFIC SIGNAL VAULT                    | OH = OVERHEAD LINE        |
| TGB = TOP OF BANK                             | U = UTILITY POLE          |
| EP = EDGE OF PAVEMENT                         | T = TRAFFIC SIGN          |
| AGL = ABOVE GROUND LEVEL                      | ⌘ = PALM TREE             |
|   | ⊙ = MISCELLANEOUS TREE    |



**SPECIFIC PURPOSE SURVEY OF PROPOSED POLE LOCATION AND TOPOGRAPHIC LOCATION OF IMPROVEMENTS**

REVISIONS		
1	CHANGED PROPOSED NODE LOCATION PER CLIENTS REQUEST. NO FIELD WORK WAS PERFORMED AS PART OF THIS REVISION.	JLF 8/18/22

PREPARED FOR:

7701 E. TELECOM PARKWAY  
TEMPLE TERRACE, FLORIDA 33637

NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR & MAPPER.

JOHNNY L. FLASKAMP  
FLORIDA PROFESSIONAL SURVEYOR & MAPPER NO. 6601

DRAWING INFORMATION:	
FIELD DATE:	08-04-2022
DRAWN DATE:	08-05-2022
CHECK DATE:	08-09-2022
SEC.-TWP.-RGE.:	09-50S-25E

SITE INFORMATION:	
<b>15033511 NAPLES DT NAP002</b>	
RIGHT-OF-WAY OF 4TH STREET S AT 12TH AVENUE S NAPLES, FLORIDA 34102	
SMW PROJECT NUMBER:	22-5415
SURVEY SHEET 1 OF 1	

16' 0' 8' 16'

FOR 24"x36" DRAWINGS  
GRAPHIC SCALE: 1/8" = 1'-0"

FOR 11"x17" DRAWINGS  
GRAPHIC SCALE: 1/16" = 1'-0"

**FLOOD NOTE:**

- THE SUBJECT PROJECT AREA APPEARS TO BE WITHIN ZONE "AE", MAP NUMBER 12021C0393H, COMMUNITY NUMBER 125130 PANEL NUMBER 0393, SUFFIX H WITH AN EFFECTIVE DATE OF 05/16/2012, HAVING A BASE FLOOD ELEVATION OF 9' (NORTH AMERICAN VERTICAL DATUM OF 1988).

**KEY:**

- v — WATER MAIN
- - - RECLAIMED WATER LINE
- SW - STORMWATER MAIN
- SAN - SANITARY GRAVITY MAIN

REV	DATE	DESCRIPTION
0	08/25/22	FINAL PLANS ISSUED
1	09/16/22	REVISED PER COMMENTS
2	10/11/22	REVISED PER COMMENTS

PROJECT NO.: 22-5415

DRAWN BY: J.MENDEZ

PROJECT MANAGER: M. MURPHY

CHECKED BY: M. MURPHY

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(813) 615-1422

CERTIFICATE OF AUTHORIZATION 33693

**verizon**

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TEMPLE TERRACE, FLORIDA 33637

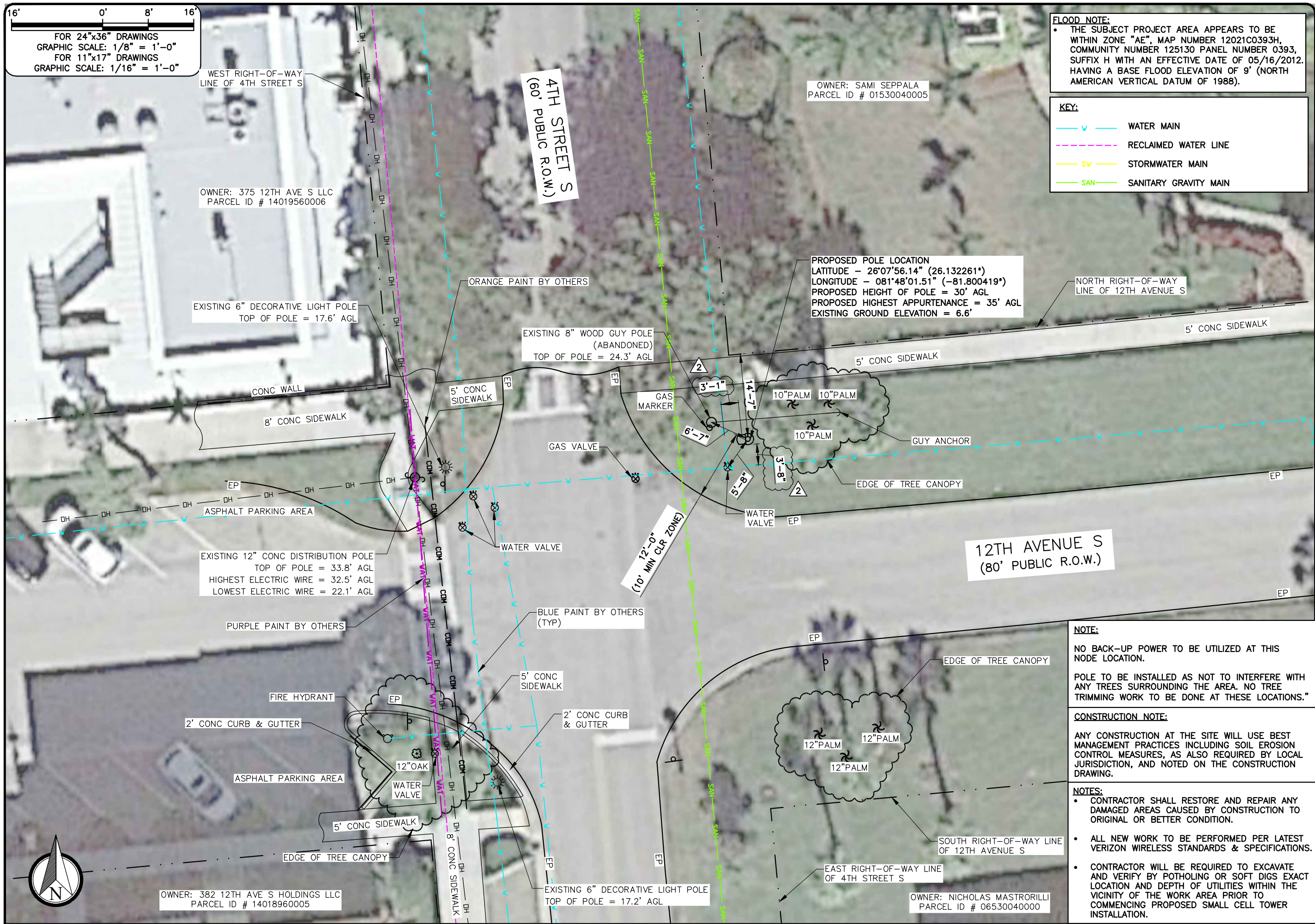
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NAPLES DT NAP002  
#15033511

RIGHT-OF-WAY OF 4TH STREET S  
AT 12TH AVENUE S  
NAPLES, FLORIDA 34102  
(COLLIER COUNTY)

SHEET NAME  
SITE PLAN  
W/ AERIAL

SHEET NUMBER  
C1



**NOTE:**

NO BACK-UP POWER TO BE UTILIZED AT THIS NODE LOCATION.

POLE TO BE INSTALLED AS NOT TO INTERFERE WITH ANY TREES SURROUNDING THE AREA. NO TREE TRIMMING WORK TO BE DONE AT THESE LOCATIONS."

**CONSTRUCTION NOTE:**

ANY CONSTRUCTION AT THE SITE WILL USE BEST MANAGEMENT PRACTICES INCLUDING SOIL EROSION CONTROL MEASURES, AS ALSO REQUIRED BY LOCAL JURISDICTION, AND NOTED ON THE CONSTRUCTION DRAWING.

**NOTES:**

- CONTRACTOR SHALL RESTORE AND REPAIR ANY DAMAGED AREAS CAUSED BY CONSTRUCTION TO ORIGINAL OR BETTER CONDITION.
- ALL NEW WORK TO BE PERFORMED PER LATEST VERIZON WIRELESS STANDARDS & SPECIFICATIONS.
- CONTRACTOR WILL BE REQUIRED TO EXCAVATE AND VERIFY BY POTHOLES OR SOFT DIGS EXACT LOCATION AND DEPTH OF UTILITIES WITHIN THE VICINITY OF THE WORK AREA PRIOR TO COMMENCING PROPOSED SMALL CELL TOWER INSTALLATION.

16' 0' 8' 16'  
 FOR 24"x36" DRAWINGS  
 GRAPHIC SCALE: 1/8" = 1'-0"  
 FOR 11"x17" DRAWINGS  
 GRAPHIC SCALE: 1/16" = 1'-0"

**FLOOD NOTE:**  
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REV	DATE	DESCRIPTION
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PROJECT NO.:	22-5415
DRAWN BY:	J.MENDEZ
PROJECT MANAGER:	M. MURPHY
CHECKED BY:	M. MURPHY

**KEY:**  
 WATER MAIN  
 RECLAIMED WATER LINE  
 STORMWATER MAIN  
 SANITARY GRAVITY MAIN

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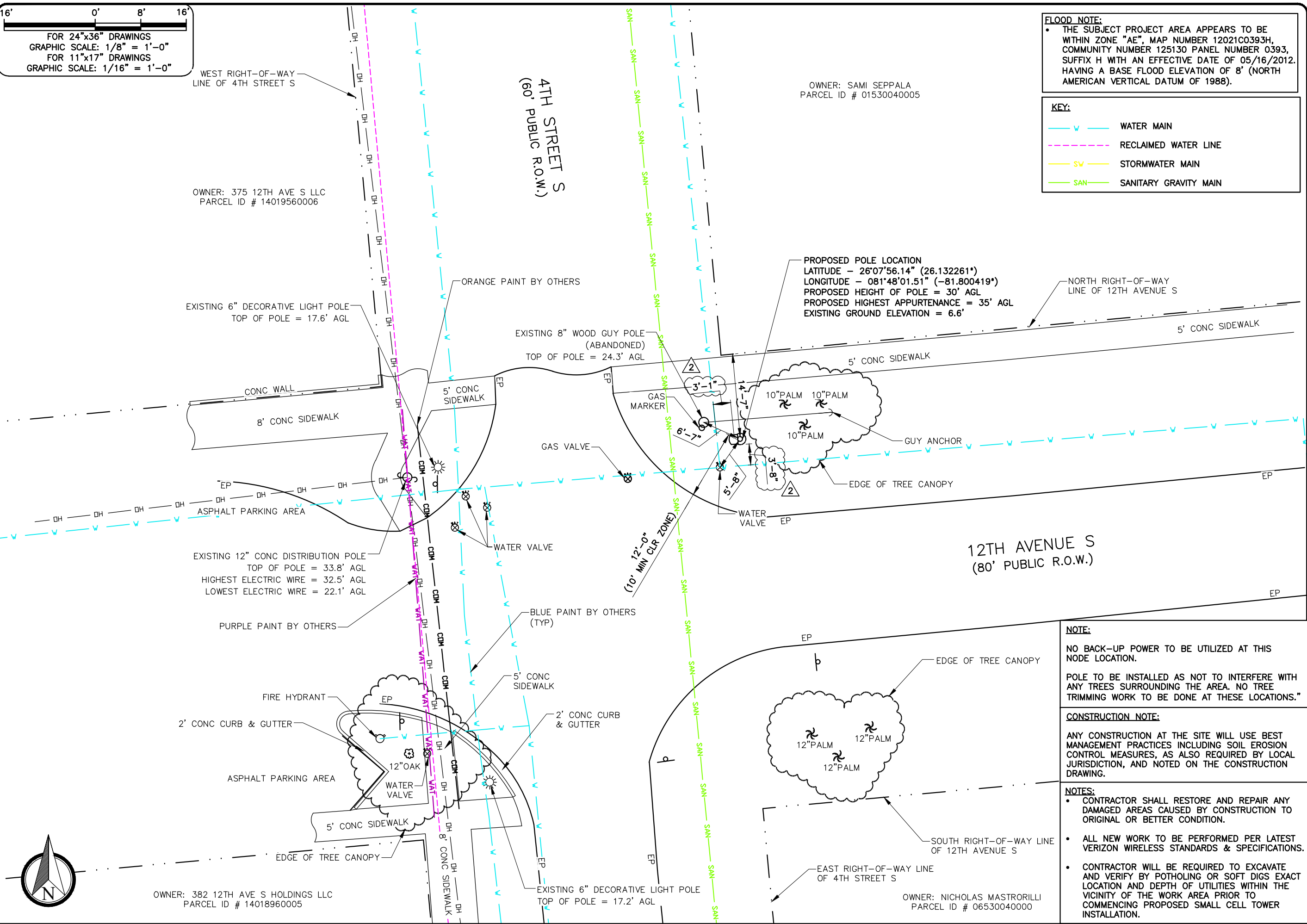
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NAPLES DT NAP002  
 #15033511

RIGHT-OF-WAY OF 4TH STREET S  
 AT 12TH AVENUE S  
 NAPLES, FLORIDA 34102  
 (COLLIER COUNTY)

SHEET NAME  
 SITE PLAN

SHEET NUMBER  
 C2



**NOTE:**  
 NO BACK-UP POWER TO BE UTILIZED AT THIS NODE LOCATION.  
 POLE TO BE INSTALLED AS NOT TO INTERFERE WITH ANY TREES SURROUNDING THE AREA. NO TREE TRIMMING WORK TO BE DONE AT THESE LOCATIONS."

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 • CONTRACTOR WILL BE REQUIRED TO EXCAVATE AND VERIFY BY POTHOLES OR SOFT DIGS EXACT LOCATION AND DEPTH OF UTILITIES WITHIN THE VICINITY OF THE WORK AREA PRIOR TO COMMENCING PROPOSED SMALL CELL TOWER INSTALLATION.

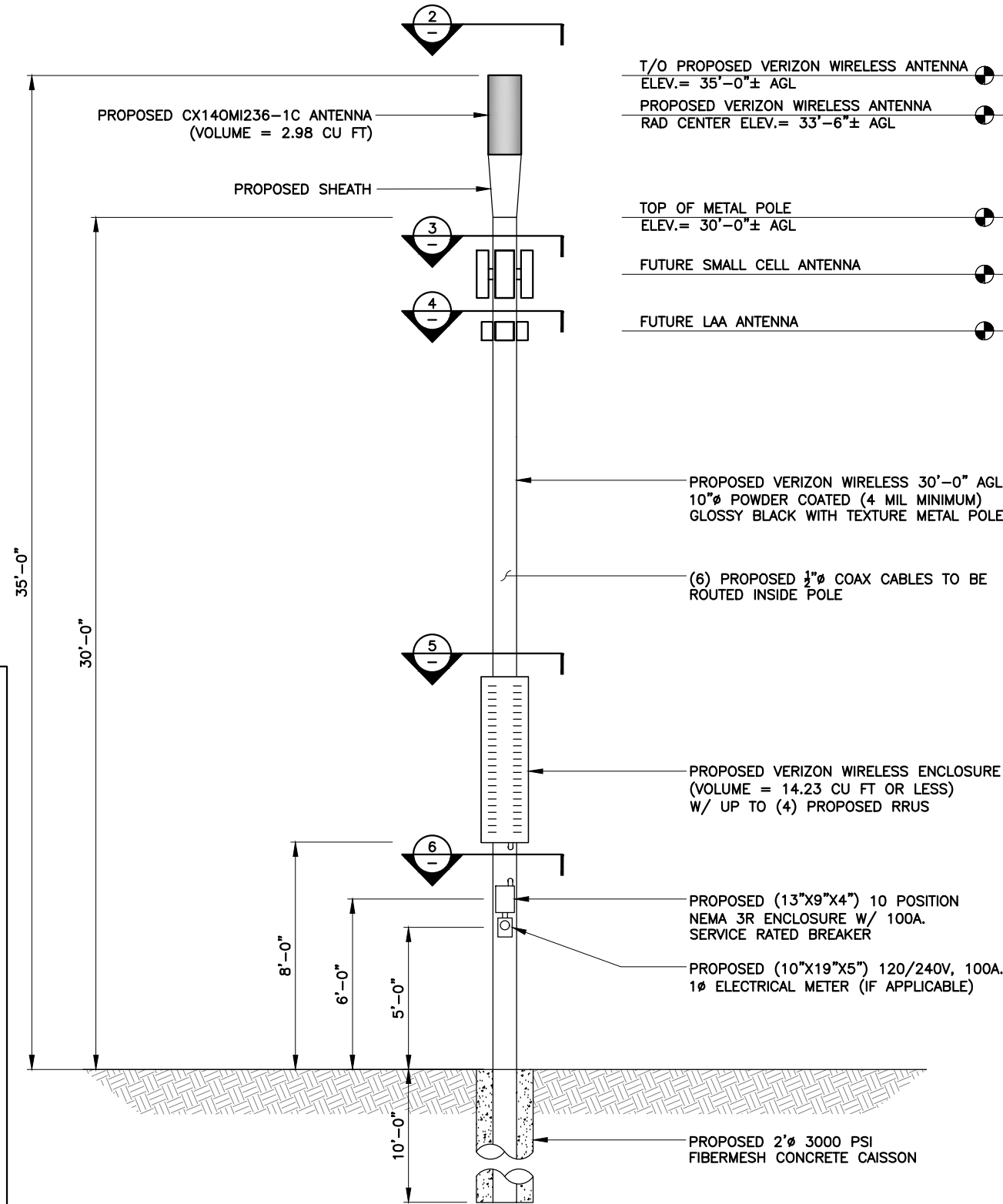
4' 0' 2' 4'

FOR 24"x36" DRAWINGS  
GRAPHIC SCALE: 3/8" = 1'-0"

FOR 11"x17" DRAWINGS  
GRAPHIC SCALE: 3/16" = 1'-0"

POLE WILL BE POWDER COATED (4 MIL MINIMUM) GLOSSY BLACK WITH TEXTURE AND AS REGULAR MAINTENANCE OCCURS, IF AFFECTED BY WEATHER/WEAR AND TEAR WILL BE REPAINTED TO UPKEEP QUALITY OF AESTHETICS.

ALL ATTACHED HARDWARE AND EQUIPMENT TO BE POWDER COATED (4 MIL MINIMUM) GLOSSY BLACK WITH TEXTURE. ANTENNA, SHROUD, EQUIPMENT CABINET, METER & DISCONNECT.



**NOTE:**

- CONTRACTOR TO FIELD VERIFY ANTENNA MOUNT CONFIGURATION AND PROVIDE MOUNTS OR ADDITIONAL HARDWARE IF REQUIRED TO SUPPORT PROPOSED EQUIPMENT.
- ALL EQUIPMENT AND MOUNTING HARDWARE SHALL CONFORM TO DESIGN REQUIREMENTS PER FLORIDA BUILDING CODE (7TH EDITION 2020) AND ANSI/TIA-222-H STRUCTURAL STANDARD FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS; ULTIMATE WIND SPEED 166 MPH, 3 SECOND GUST.
- AZIMUTH INFO TAKEN FROM VERIZON WIRELESS RF SITE DESIGN DATA.
- PROPOSED POLE INFORMATION BASED ON STRUCTURAL ANALYSIS REPORT COMPLETED BY SMW ENGINEERING GROUP, INC. ENGINEER OF RECORD SHALL NOTIFY THE CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION IF ANY PART OF THE CURRENT DESIGN DOES NOT SUFFICE.

ELEVATION

SCALE AS NOTED

1

EQUIPMENT LAYOUT

NTS

6

ANTENNA LAYOUT

NTS

2

SMALL CELL LAYOUT

NTS

3

LAA LAYOUT

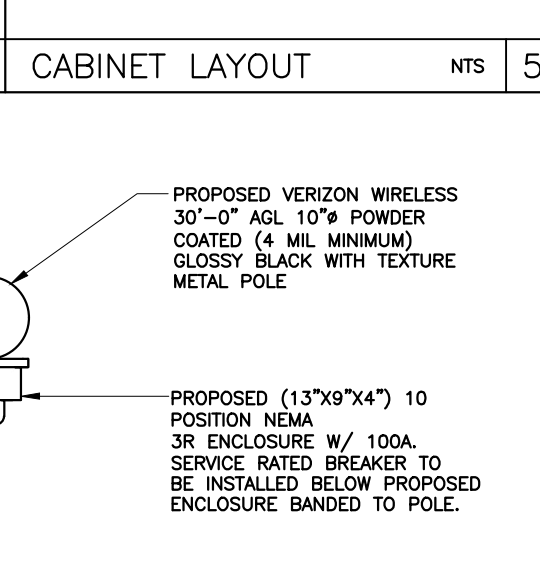
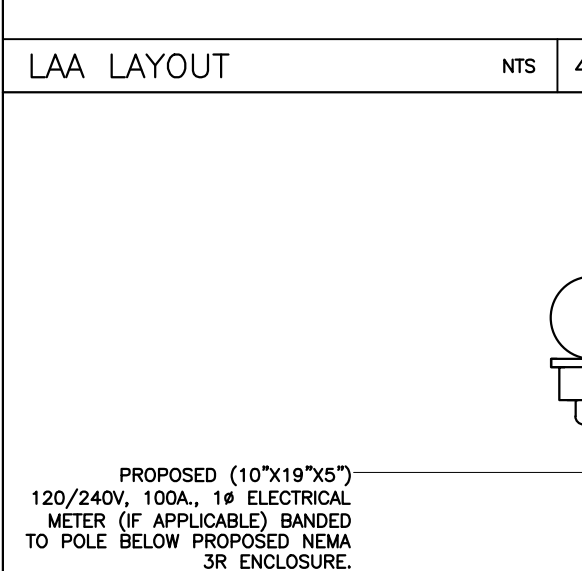
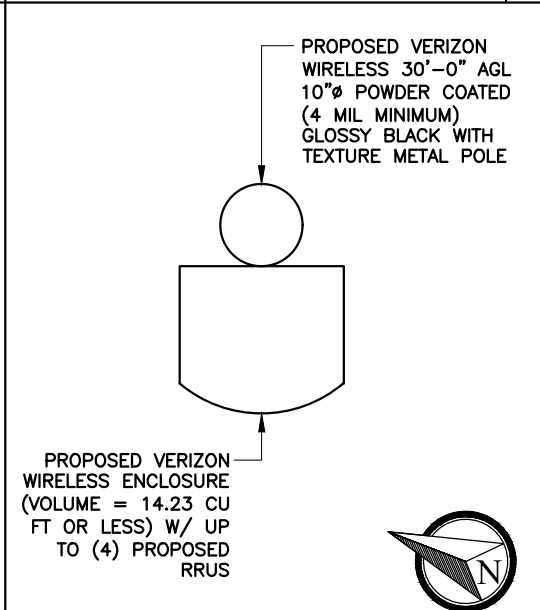
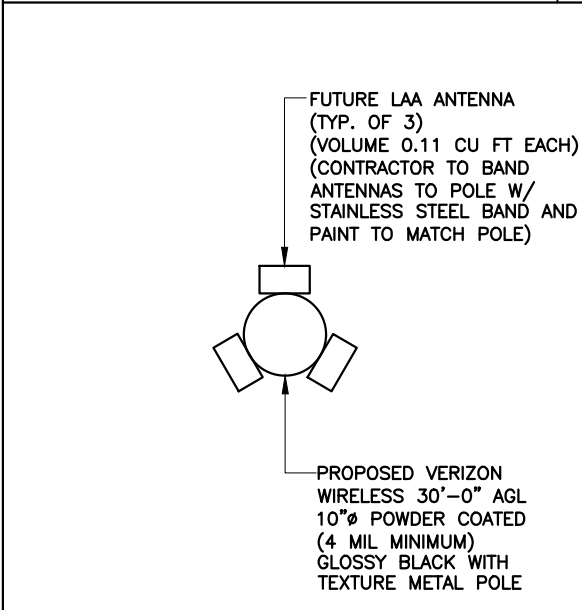
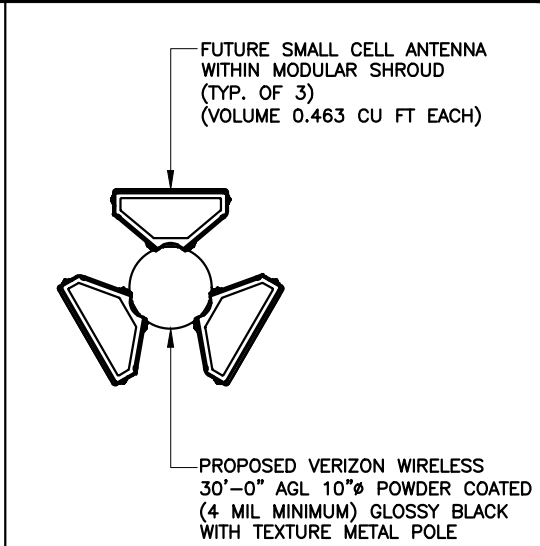
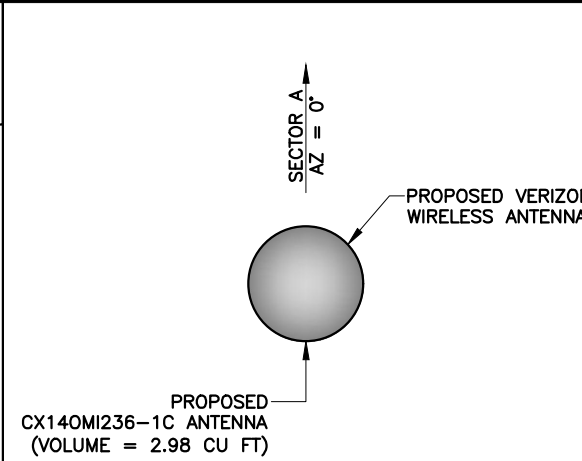
NTS

4

CABINET LAYOUT

NTS

5



REV	DATE	DESCRIPTION
0	08/25/22	FINAL PLANS ISSUED
1	09/16/22	REVISED PER COMMENTS

PROJECT NO.: 22-5415

DRAWN BY: J.MENDEZ

PROJECT MANAGER: M. MURPHY

CHECKED BY: M. MURPHY

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(813) 615-1422

CERTIFICATE OF AUTHORIZATION 33693

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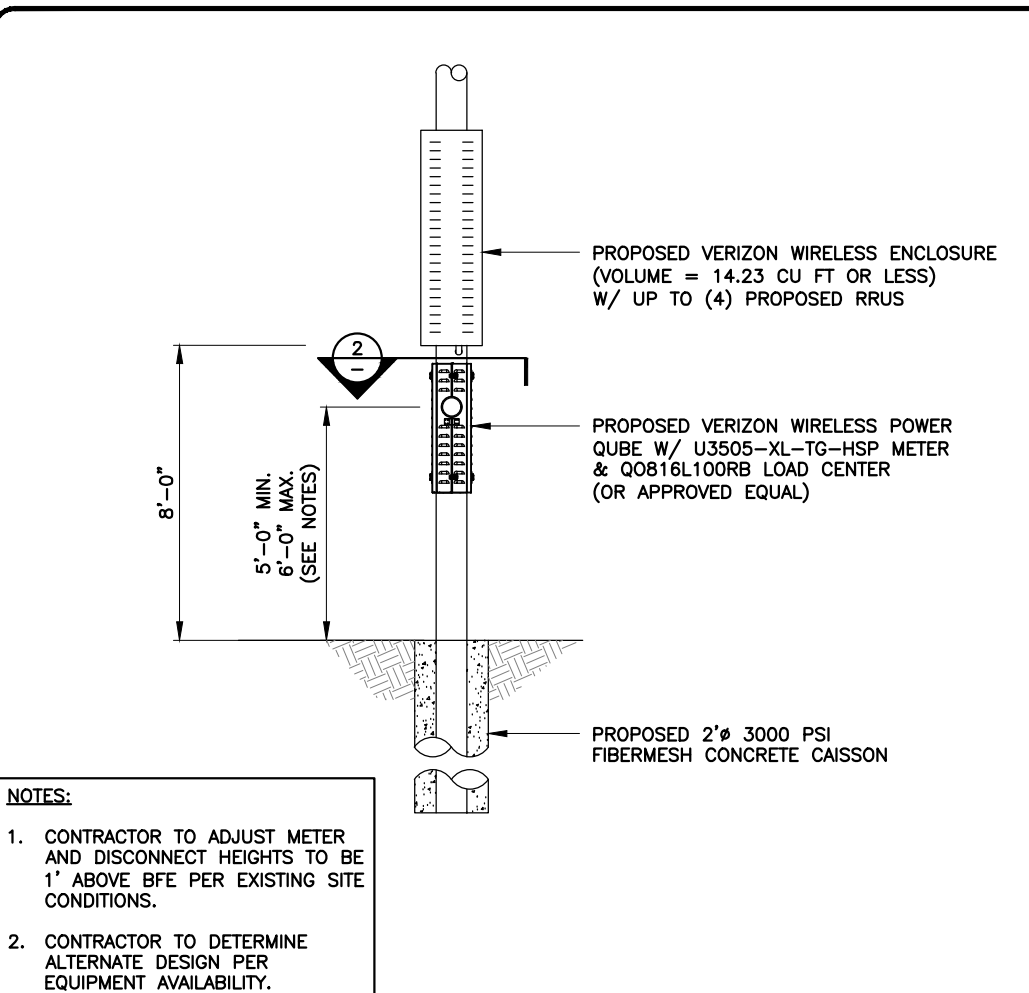
NAPLES DT NAP002  
#15033511

RIGHT-OF-WAY OF 4TH STREET S  
AT 12TH AVENUE S  
NAPLES, FLORIDA 34102  
(COLLIER COUNTY)

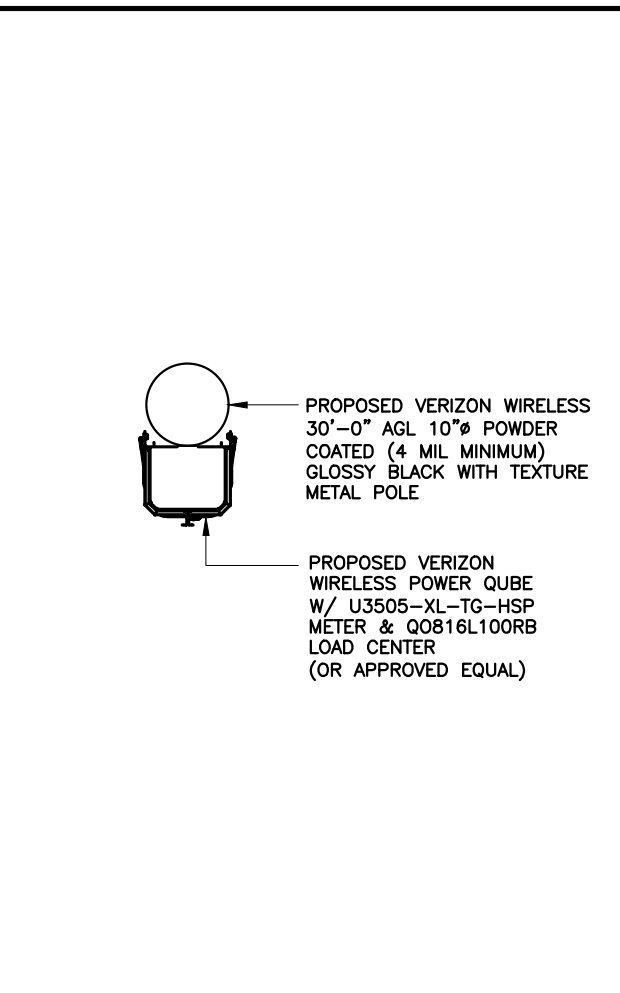
SHEET NAME  
ELEVATION & EQUIPMENT PLAN

SHEET NUMBER

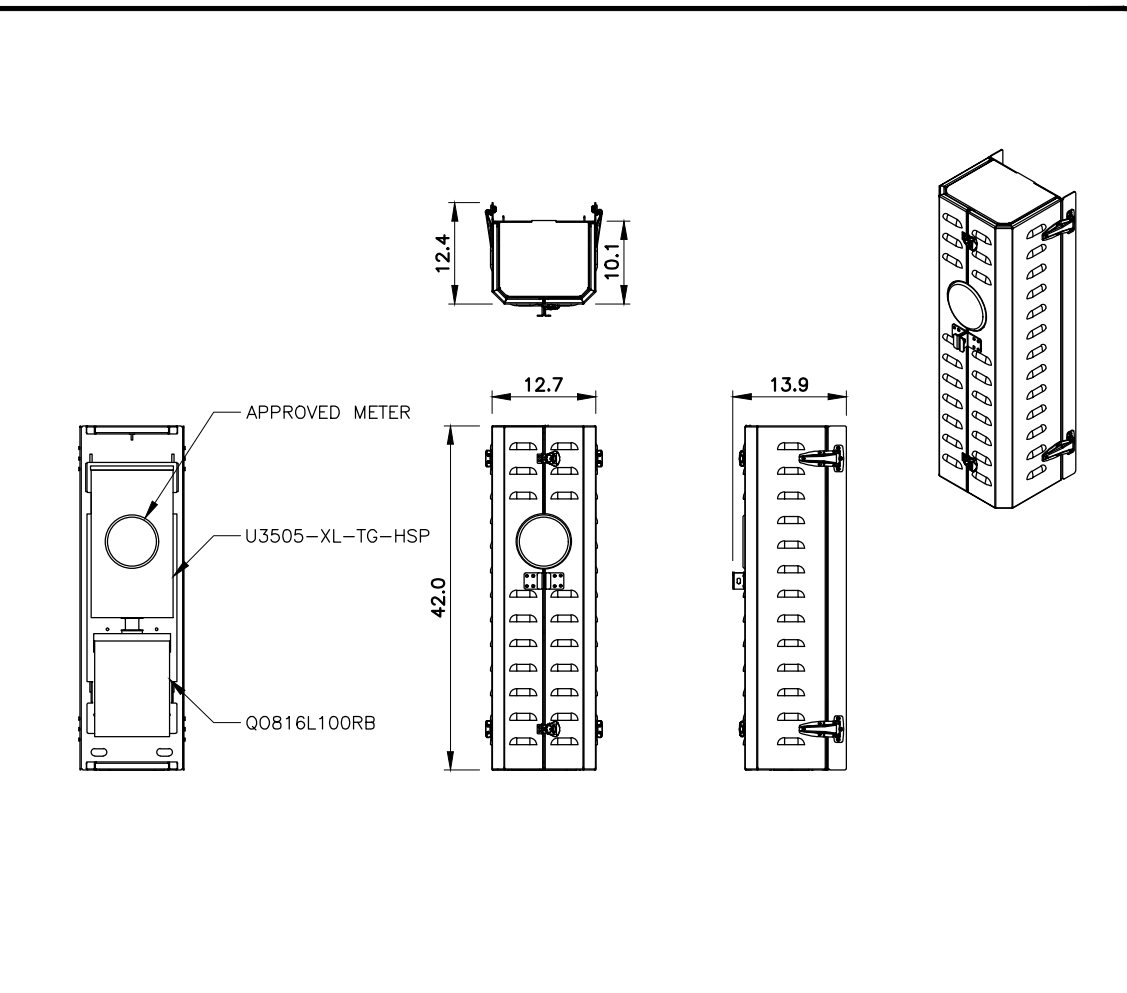
C3



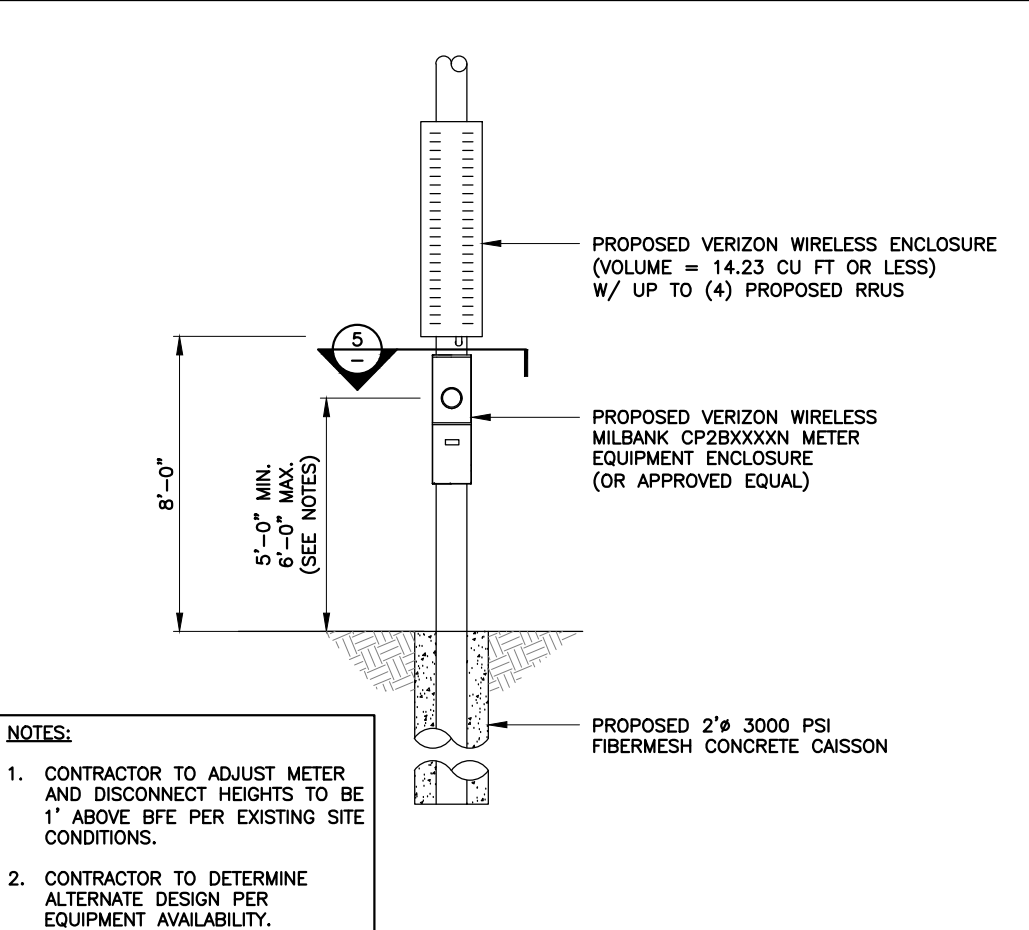
ALTERNATE ELEVATION NTS 1



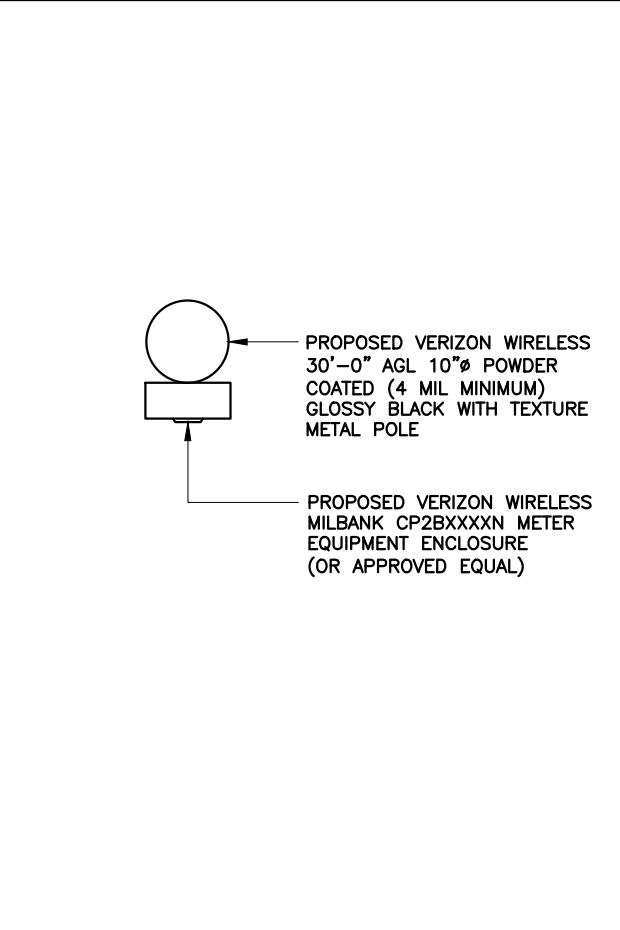
SECTION NTS 2



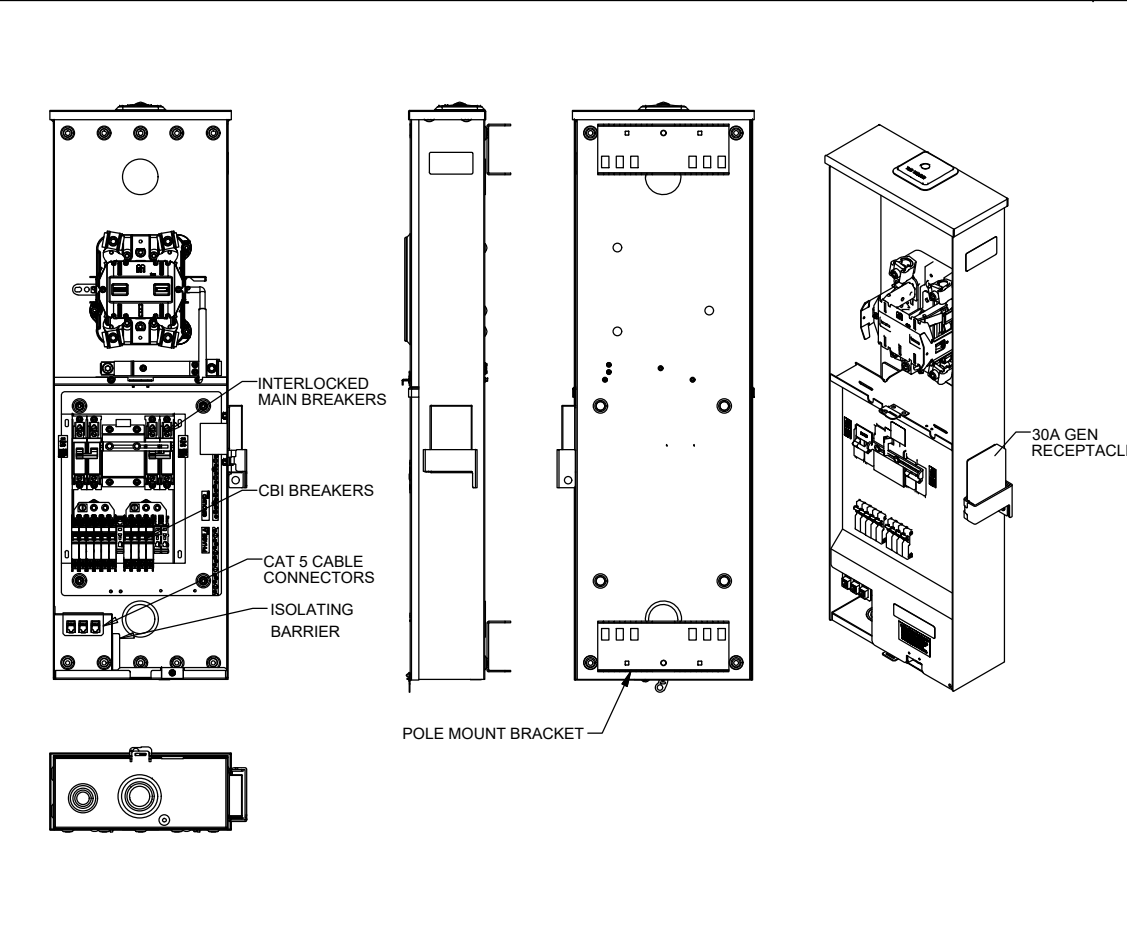
POWER QUBE SPECIFICATIONS NTS 3



ALTERNATE ELEVATION NTS 4



SECTION NTS 5



MILBANK EQUIPMENT ENCLOSURE SPECIFICATIONS NTS 6

REV	DATE	DESCRIPTION
0	08/25/22	FINAL PLANS ISSUED
1	09/16/22	REVISED PER COMMENTS

PROJECT NO.: 22-5415

DRAWN BY: J.MENDEZ

PROJECT MANAGER: M. MURPHY

CHECKED BY: M. MURPHY

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NAPLES DT NAP002  
#15033511

RIGHT-OF-WAY OF 4TH STREET S  
AT 12TH AVENUE S  
NAPLES, FLORIDA 34102  
(COLLIER COUNTY)

SHEET NAME  
**ELECTRICAL  
EQUIPMENT  
ALTERNATIVES**

SHEET NUMBER  
C4

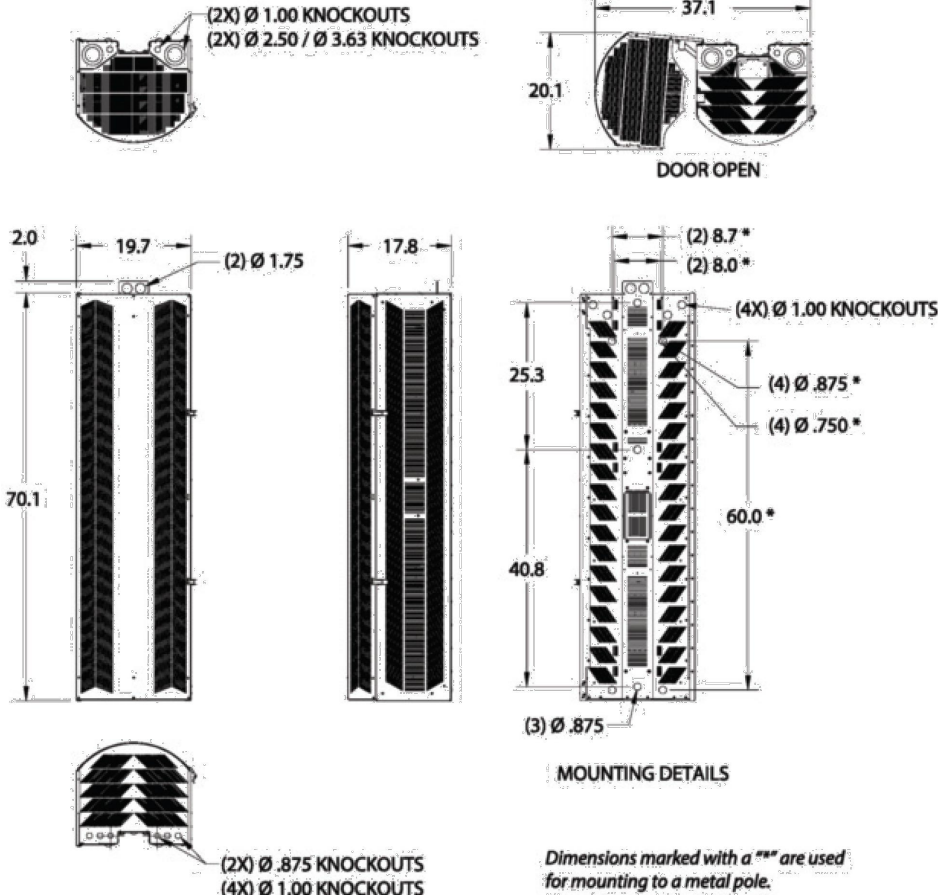
NOTES:

1. CONTRACTOR TO FOLLOW THE CONNECTION DETAILS TO POLE PER MANUFACTURER'S SPECIFICATIONS. CABINET MANUFACTURERS MAY VARY.
2. CONTRACTOR TO ENSURE PROPOSED CABINET HAS A LEFT SWING DOOR.
3. ALL ATTACHED HARDWARE AND EQUIPMENT TO CONFORM TO THE CITY'S UPDATED DESIGN, MATERIAL AND COLOR SIMILAR TO THE POLE COLOR & TEXTURE. ALL ABOVE GROUND EQUIPMENT INCLUDING - ANTENNA, SHROUD, EQUIPMENT CABINET, METER & DISCONNECT ON METAL POLE TO BE POWDER COATED (4 MIL MINIMUM) GLOSSY BLACK WITH TEXTURE METAL POLE.

HB687 - DEFINED CABINET BELOW OR SIMILAR NOT TO EXCEED 14.23 CUBIC FEET.

ENCLOSURE:

DIMENSIONS (HxWxD)	70"x20"x18"
CUBIC FEET	14.23 CU FT
WEIGHT	SEE STRUCTURAL ANALYSIS BY MANUFACTURER



70" HIGH SHRD60-401 DIMENSIONS (in.)

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DRAWN BY:	J.MENDEZ
PROJECT MANAGER:	M. MURPHY
CHECKED BY:	M. MURPHY

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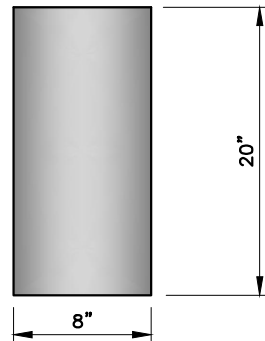
SHEET NAME  
 ENCLOSURE  
 DETAILS

SHEET NUMBER

C5



SMALL CELL ANTENNAS TO BE FLUSH MOUNTED TO POLE. CONTRACTOR TO PROVIDE MOUNT.



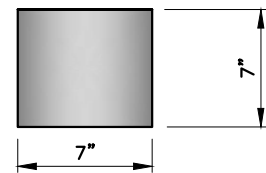
SMALL CELL ANTENNA	
DIMENSIONS (LxWxD)	..... 20"x8"x5"
ANTENNA WEIGHT	..... 53 LBS
VOL. IN CUBIC FT.	..... 0.463

SMALL CELL ANTENNA

NTS

1

LAA ANTENNAS TO BE BANDED TO POLE. CONTRACTOR TO PROVIDE MOUNT.



LAA ANTENNA	
DIMENSIONS (LxWxD)	..... 7"x7"x4"
ANTENNA WEIGHT	..... 12.24 LBS
VOL. IN CUBIC FT.	..... 0.11

LAA ANTENNA

NTS

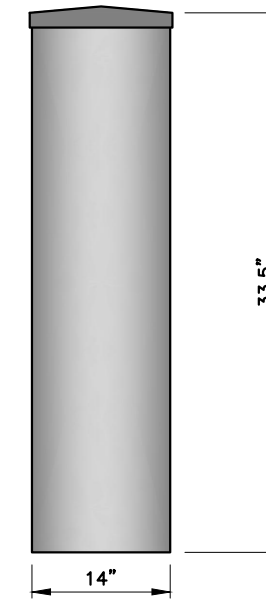
2

HB687 – DEFINES EACH ANTENNA TO NOT EXCEED 6 CUBIC FEET.

CONTRACTOR TO SUPPLY ANTENNA MOUNT. CONTRACTOR TO COORDINATE WITH ANTENNA MANUFACTURER.

ALL ATTACHED HARDWARE AND EQUIPMENT TO CONFORM TO THE CITY'S UPDATED DESIGN, MATERIAL AND COLOR. ALL ABOVE GROUND EQUIPMENT INCLUDING – ANTENNA, SHROUD, EQUIPMENT CABINET, METER & DISCONNECT.

JMA MODEL CX140MI236-1C	
DIMENSIONS (LxWxD)	..... 33.5"x14"Ø
ANTENNA WEIGHT	..... 35 LBS
FREQUENCY	..... 1695-2700 MHZ
VOL. IN CUBIC FT.	..... 2.98



Electrical specification (minimum/maximum)	Ports 1, 2			Ports 3, 4, 5, 6				
	698-798	824-894	880-960	1695-1880	1850-1990	1920-2180	2300-2500	2500-2690
Frequency bands, MHz								
Polarization	± 45°			± 45°				
Average gain over all tilts, dBi	5.5	5.3	5.6	9.3	9.5	9.6	9.7	9.8
Horizontal beamwidth (HBW), deg	360°			360°				
Vertical beamwidth, (VBW), deg <sup>1</sup>	45°	44°	31°	16.8°	16.7°	14.4°	14.0°	12.7°
Elec downtilt (EDT) range, deg	0° (FET)			2-8° (MET/RET)				
Min X polar isolation, P2P, dB	25	25	25	25	25	25	25	25
Max VSWR/return loss, dB	1.5:1/ -14.0			1.5:1/ -14.0				
PIM	-153			-153				
Maximum input power port	250			150				

Electrical specification (minimum/maximum)	Ports 7,8,9,10		Ports 11,12, 13,14			
	3550-3700	5150-5350	5350-5470	5470-5725	5725-5850	5850-5925
Frequency bands, MHz						
Polarization	± 45°		± 45°			
Average gain over all tilts, dBi	5.9	5.5	5.7	5.5	5.5	5.6
Horizontal beamwidth (HBW), deg	360°					
Vertical beamwidth, (VBW), deg <sup>1</sup>	30°	24°	24°	20°	14°	18°
Elec downtilt (EDT) range, deg	0° (FET)					
Min X polar isolation, P2P, dB	25	25				
Max VSWR/return loss, dB	1.5:1/ -14.0	1.5:1/ -14.0				
PIM	N/A					
Maximum input power port	10	.25	-	.25	1.0	-

ANTENNA SPECIFICATIONS

NTS

3

REV	DATE	DESCRIPTION
0	08/25/22	FINAL PLANS ISSUED

PROJECT NO.:	22-5415
DRAWN BY:	J.MENDEZ
PROJECT MANAGER:	M. MURPHY
CHECKED BY:	M. MURPHY

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NAPLES DT NAP002  
#15033511

RIGHT-OF-WAY OF 4TH STREET S  
AT 12TH AVENUE S  
NAPLES, FLORIDA 34102  
(COLLIER COUNTY)

SHEET NAME  
ANTENNA  
DETAILS

SHEET NUMBER

C6

REV	DATE	DESCRIPTION
0	08/25/22	FINAL PLANS ISSUED

PROJECT NO.:	22-5415
DRAWN BY:	J.MENDEZ
PROJECT MANAGER:	M. MURPHY
CHECKED BY:	M. MURPHY

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TEMPLE TERRACE, FLORIDA 33637

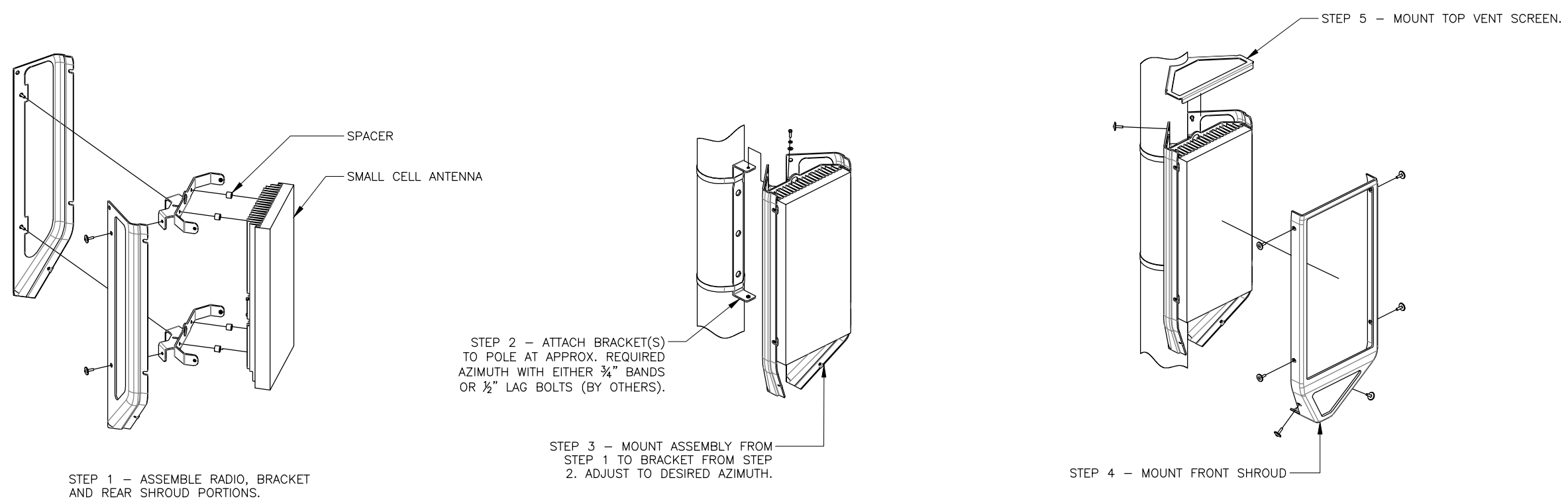
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NAPLES DT NAP002  
#15033511

RIGHT-OF-WAY OF 4TH STREET S  
AT 12TH AVENUE S  
NAPLES, FLORIDA 34102  
(COLLIER COUNTY)

SHEET NAME  
ANTENNA MOUNTING  
DETAIL

SHEET NUMBER  
C7



**A – GENERAL**

- A1. ALL ELECTRICAL WORK SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (EDITION ADOPTED BY LOCAL JURISDICTION) AND APPLICABLE LOCAL CODES.
- A2. GROUNDING SHALL COMPLY WITH ARTICLE 250 OF THE NATIONAL ELECTRIC CODE.
- A3. ALL ELECTRICAL EQUIPMENT AND ACCESSORIES SHALL BE U.L. APPROVED OR LISTED.
- A4. ALL POWER WIRING SHALL BE STRANDED COPPER, TYPE THHN/THHW, AND 90 DEGREES C RATED.
- A5. GROUNDING ELECTRODE CONDUCTORS SHALL BE BARE, TIN COATED COPPER AND EQUIPMENT GROUND CONDUCTORS SHALL BE GREEN INSULATED, UNLESS OTHERWISE NOTED.
- A6. ALL POWER WIRING SHALL BE INSTALLED IN GALVANIZED RIGID STEEL CONDUIT, PVC, OR FLEXIBLE LIQUIDTIGHT CONDUIT, AS INDICATED.
- A7. CONTRACTOR SHALL OBTAIN ALL PERMITS, PAY PERMIT FEES, AND SCHEDULE INSPECTIONS.
- A8. CONTRACTOR SHALL APPLY FOR ELECTRICAL SERVICE AS SOON AS POSSIBLE AND COORDINATE REQUIREMENTS, SERVICE ROUTING, AND METER SOCKET TYPE WITH LOCAL POWER COMPANY.
- A9. CONTRACTOR SHALL APPLY FOR TELEPHONE SERVICE AS SOON AS POSSIBLE AND COORDINATE REQUIREMENTS AND SERVICE ROUTING WITH TELEPHONE COMPANY.
- A10. CONTRACTOR TO PROVIDE ALL LABOR AND MATERIALS DESCRIBED IN THESE DRAWINGS, AND ALL ITEMS REQUIRED TO COMPLETE AND PRESENT THIS PROJECT AS FULLY OPERATIONAL.
- A11. WHERE LONG POWER CABLE RUNS PREVAIL, CONTRACTOR SHALL CALCULATE THE VOLTAGE DROP AND SIZE WIRES AND CONDUIT ACCORDINGLY.
- A12. WHEN TRANSFORMER IS REQUIRED FOR ELECTRICAL SERVICE, TRANSFORMER SECONDARY SHALL BE GROUNDED PER N.E.C., ARTICLE 250-26.
- A13. REFER TO SITE SPECIFIC DRAWINGS FOR ELEVATIONS.
- A14. ALL ELECTRICAL DEVICES EXPOSED TO WEATHER SHALL BE OF RAINPROOF CONSTRUCTION AND SHALL REQUIRE WATER TIGHT CONDUIT HUBS. NEMA 3R TYPICAL
- A15. CONTRACTOR SHALL COIL CABLES AT HAND HOLE WITH LENGTHS AS REQUIRED BY ELECTRICAL UTILITY FOR CONNECTION BY UTILITY.
- A16. ALL UNDERGROUND SERVICE ENTRANCE POWER CABLES SHALL BE TYPE FOR SUCH USE. CONTRACTOR SHALL CALCULATE VOLTAGE DROP AND RE-SIZE CABLES PER NEC REQUIREMENTS FOR CABLE RUNS EXCEEDING 250 FEET.

**B – POWER CABLE AND SERVICE**

- B1. CONTRACTOR SHALL PROVIDE CONDUIT AND WIRING TO BTS AND VERIFY EXACT CONDUIT ROUTING. RACEWAY SYSTEM MATERIALS AND DEVICES FURNISHED SHALL BE IN ACCORDANCE WITH APPLICABLE STANDARDS OF ANSI, NEMA, AND UL. RACEWAY SYSTEM COMPONENTS SHALL BE INSTALLED IN ACCORDANCE WITH APPLICABLE REQUIREMENTS OF THE N.E.C.
- B2. CONTRACTOR SHALL SEAL AROUND ALL CONDUIT PENETRATIONS THROUGH WALLS, FLOORS AND ROOFS TO PREVENT MOISTURE PENETRATION OR VERMIN INFESTATION.
- B3. CONDUCTORS RUNNING ALONG HORIZONTAL SURFACES (ROOF TOP OR SLAB) SHALL BE INSTALLED IN RIGID CONDUIT SUPPORTED WITH ELECTRICAL CONDUIT SUPPORT.
- B4. ALL VERTICAL RUNS OF POWER CABLE EXCEEDING 80 FEET IN LENGTH SHALL BE SUPPORTED PER N.E.C. ARTICLE 300 USING KELLEMS GRIPS OR ACCEPTABLE EQUAL CABLE SUPPORT SYSTEM.
- B5. WHERE A SEPARATE ELECTRICAL SERVICE DROP IS ADDED, CONTRACTOR SHALL INSTALL PERMANENT SERVICE DISCONNECT OR GROUPING THEREOF, DENOTING ALL OTHER SERVICE ENTRANCES, LOCATION OF EACH AND THE AREAS SERVED BY EACH.
- B6. WHERE ELECTRICAL POWER IS TO BE SUB-FED FROM AN EXISTING DISTRIBUTION SYSTEM, THE FOLLOWING SHALL APPLY:
  - A) CONTRACTOR SHALL PERFORM LOAD TESTING TO DETERMINE MAXIMUM FEEDER DEMAND PER N.E.C. ARTICLE 220-35.
  - B) CONTRACTOR SHALL VERIFY WHETHER EXISTING FEEDER CAPACITY EXCEEDS VALUE CALCULATED PER N.E.C. ARTICLE 220-35
  - C) EACH BRANCH CIRCUIT PROTECTIVE DEVICE SHALL HAVE SAME INTERRUPTING RATING AS EQUIPMENT SUPPLYING IT.
  - D) PREFERRED MEANS OF SUPPLY SHALL BE A BRANCH CIRCUIT PROTECTIVE DEVICE LOCATED IN EXISTING PANEL.
  - E) IF A BRANCH CIRCUIT PROTECTIVE DEVICE CANNOT BE OBTAINED OR SPACE IS NOT AVAILABLE, A BRANCH CIRCUIT MAY BE TAPPED FROM EXISTING FEEDER CONDUCTORS USING AN INSTALLED 2-POLE FUSED DISCONNECT AND METER BASE PER N.E.C. ARTICLE 240-21 WITH TEN FOOT (10) MAXIMUM TAP CONDUCTORS. FUSED DISCONNECT SHALL BE LISTED WITH SAME OR BETTER INTERRUPTING RATING AS EXISTING SOURCE OF SUPPLY.

**C – RF (COAX) AND LOW VOLTAGE CABLE**

- C1. RF CABLES AND LOW VOLTAGE CABLING BETWEEN BTS, LNA OR TMA AND ANTENNA SHALL BE SUPPORTED USING ANDREW "SNAP-IN" HANGERS OR ACCEPTABLE EQUAL.

**D – IDENTIFICATION**

- D1. LOCATE NAMEPLATE, MARKING, OR OTHER IDENTIFICATION MEANS ON OUTSIDE EQUIPMENT OR BOX FRONT COVERS.
- D2. PROVIDE NAMEPLATE ENGRAVED WITH EQUIPMENT DESIGNATION FOR EACH SAFETY SWITCH AND ALL OTHER ELECTRICAL CABINETS, ETC.
- D3. DURING TRENCH BACK-FILLING FOR EACH UNDERGROUND ELECTRICAL, TELEPHONE, SIGNAL AND COMMUNICATIONS LINE, PROVIDE A CONTINUOUS UNDERGROUND WARNING TAPE TWELVE INCHES BELOW FINISHED GRADE.

**A – GENERAL**

- A1. INSTALLATION OF GROUNDING ELECTRODE SYSTEM SHALL COMPLY WITH ARTICLE 250 OF THE NATIONAL ELECTRIC CODE AND WITH ALL BUILDING CODES OF AUTHORITIES HAVING JURISDICTION.
- A2. GROUNDING CONDUCTORS SHALL BE #2 AWG TINNED SOLID BARE COPPER BELOW AND ABOVE GRADE, UNLESS OTHERWISE NOTED AND SHALL BE ROUTED IN A DOWNWARD PATH TOWARDS GROUND BARS.
- A3. GROUNDING CONDUCTORS SHALL BE KEPT AS SHORT AND DIRECT AS POSSIBLE WITH MINIMUM BEND RADIUS OF 12 INCHES.
- A4. ALL BELOW GRADE CONNECTIONS SHALL BE CADWELD TYPE CONNECTIONS AND ALL CONNECTIONS TO EQUIPMENT AND GROUND BARS SHALL BE 2-HOLE BRONZE COMPRESSION CONNECTORS UNLESS OTHERWISE NOTED.
- A5. CONTRACTOR SHALL INSTALL NEW GROUNDING SYSTEM PER SPECIFICATIONS AND INTERCONNECT NEW SYSTEMS TO ANY EXISTING GROUNDING SYSTEMS AS REQUIRED BY NFPA 70 AND 780 (THIS APPLIES TO ELECTRICAL POWER DISTRIBUTION GROUNDING SYSTEM, LIGHTNING PROTECTION GROUNDING SYSTEM, COAX CABLE GROUNDING SYSTEM AND ANY OTHER EXISTING GROUNDING SYSTEMS).
- A6. GROUNDING CONDUCTORS SHALL BE BONDED TO ANTENNA FRAMES, AND ANY SUPPORT FRAMES OR RACKS USING CADWELD OR MECHANICAL CONNECTIONS.
- A7. CONTRACTOR SHALL PROVIDE LOCK WASHERS FOR ALL MECHANICAL CONNECTIONS FOR GROUND CONDUCTORS, STAINLESS STEEL HARDWARE SHALL BE USED THROUGHOUT.
- A8. GROUNDING CONDUCTORS EMBEDDED IN CONCRETE, PENETRATING WALLS, AND/OR FLOORS SHALL BE ENCASED IN PVC CONDUIT. NO METALLIC CONDUIT SHALL BE USED FOR GROUNDING CONDUCTORS UNLESS REQUIRED BY LOCAL CODES OR OTHERWISE INDICATED ON DRAWINGS. CONTRACTOR SHALL SEAL AROUND ALL CONDUIT PENETRATIONS TO PREVENT MOISTURE PENETRATION AND VERMIN INFESTATION.
- A9. CONTRACTOR SHALL BOND GROUNDING SYSTEM VIA THE MASTER GROUND BAR TO ALL METAL OBJECTS WITHIN 12 FEET OF EQUIPMENT, CONDUIT AND CABLES.
- A10. BONDING OF GROUNDED CONDUCTOR (NEUTRAL) AND GROUNDING CONDUCTOR SHALL BE AT SERVICE DISCONNECTING MEANS. BONDING JUMPER SHALL BE INSTALLED PER N.E.C. ARTICLE 250-28.
- A11. CONTRACTOR SHALL VERIFY EXACT CONDUIT ROUTING FOR GROUNDING CONDUCTORS WHERE APPLICABLE.
- A12. CONNECTIONS TO CGB SHALL BE ARRANGED IN THE FOLLOWING THREE GROUPS:
  - \* SURGE PRODUCERS (COAXIAL CABLE GROUND KITS, TELCO CABINET AND POWER PEDESTAL GROUND).
  - \* SURGE ABSORBERS (GROUNDING ELECTRODE RING OR BUILDING STEEL).
  - \* NON-SURGING OBJECTS (EGB GROUND IN BTS).
- A13. DOUBLING OR STACKING OF ANY GROUNDING CONNECTIONS IS NOT ACCEPTABLE.
- A14. ALL GROUND BARS SHALL BE INSTALLED WITH STAND OFF INSULATORS.

**B – PREPARATION**

- B1. SURFACES: ALL CONNECTIONS SHALL BE MADE TO BARE METAL. ALL PAINTED SURFACES SHALL BE FIELD INSPECTED TO ENSURE PROPER CONTACT. ALL GALVANIZED SURFACES ON WHICH GALVANIZING HAS BEEN REMOVED BY CUTTING, DRILLING, OR ANY OTHER OPERATION SHALL BE RE-GALVANIZED IN ACCORDANCE WITH ASTM A780 USING "ZINC RICH" COATING AS MANUFACTURED BY ZRC CHEMICAL PRODUCTS COMPANY (LOCATED IN QUINCY, MASSACHUSETTS), OR ACCEPTABLE EQUAL. NO WASHERS ARE ALLOWED BETWEEN ITEMS BEING GROUNDED. ALL CONNECTIONS ARE TO HAVE A NON-OXIDIZING AGENT ("COPPER SHIELD") APPLIED PRIOR TO INSTALLATION.
- B2. GROUND BAR: ALL COPPER GROUND BARS SHALL BE CLEANED, POLISHED AND HAVE A NON-OXIDIZING AGENT ("COPPER SHIELD") APPLIED. NO FINGER PRINTS OR DISCOLORED COPPER SHALL BE PERMITTED.

**C – LAND BUILDS AND CO-LOCATES**

- C1. THE GROUND ELECTRODE SYSTEM SHALL CONSIST OF DRIVEN GROUND RODS UNIFORMLY SPACED AROUND THE EQUIPMENT FOUNDATION AND AROUND THE PERIMETER OF THE TOWER FOUNDATION. THE GROUND RODS SHALL BE 3/8" X 10'-0" COPPER CLAD STEEL INTERCONNECTED WITH #2 SOLID TINNED BARE COPPER GROUND CONDUCTOR AT A DEPTH OF 30 INCHES BELOW THE SURFACE OF THE SOIL. A MINIMUM OF 1 FOOT AND A MAXIMUM OF 3 FEET CLEARANCES SHALL BE MAINTAINED FROM FOUNDATIONS. GROUND SYSTEMS SHALL BE INTERCONNECTED WITH TWO GROUNDING CONDUCTORS OF EQUAL LENGTH AND MATERIALS.
- C2. GROUND RODS SHALL BE BONDED TO INTERCONNECTING CONDUCTORS AT EQUAL INTERVALS OF APPROXIMATELY 10 FEET.
- C3. GROUND BARS SHALL BE BONDED TO GROUND SYSTEMS WITH SINGLE GROUNDING CONDUCTOR.
- C4. BONDS TO ANTENNA MASTS, FENCE POSTS, WAVEGUIDE BRIDGE, TOWER STEEL (UNLESS PROHIBITED BY TOWER MANUFACTURER) AND THOSE BELOW GRADE SHALL BE EXOTHERMIC TYPE (CADWELD). ALL OTHER BONDS SHALL BE BRONZE 2-HOLE COMPRESSION FITTINGS UNLESS OTHERWISE NOTED.
- C5. GROUNDING CONDUCTORS MAKING A TRANSITION FROM ABOVE TO BELOW GRADE SHALL BE INSULATED FROM EARTH CONTACT BY PASSING THROUGH PVC CONDUIT. THE CONDUIT SHALL EXTEND AT LEAST 6 INCHES ABOVE AND 12 INCHES BELOW GRADE LEVEL.

**D – GROUNDING REQUIREMENTS**

- D1. CONTRACTOR SHALL INSPECT AND TEST ANY NEW OR EXISTING VERIZON WIRELESS GROUNDING SYSTEM WITH A BIDDLE-MEGGER TESTER UTILIZING THE FALL OF POTENTIAL METHOD AND CONTACT CONSTRUCTION MANAGER IF RESISTANCE EXCEEDS 5 OHMS AND SHALL FIELD MODIFY GROUNDING SYSTEM AS NECESSARY TO ACHIEVE COMPLIANCE. TEST RESULTS AND CONCLUSIONS SHALL BE RECORDED FOR PROJECT CLOSE-OUT DOCUMENTATION.
- D2. COAX CABLE OUTER CONDUCTORS (SHIELDS) SHALL BE GROUNDED USING COAX GROUNDING KITS AT A MINIMUM OF TWO POINTS, INCLUDING AT ANTENNA AND AT MASTER GROUND BAR. THE COAXIAL CABLE SHALL NOT EXCEED 100 FEET BETWEEN GROUNDING KITS.

REV	DATE	DESCRIPTION
0	08/25/22	FINAL PLANS ISSUED

PROJECT NO.: 22-5415	
DRAWN BY:	J.MENDEZ
PROJECT MANAGER:	M. MURPHY
CHECKED BY:	M. MURPHY

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**SMW**  
ENGINEERING GROUP, INC.  
TOGETHER PLANNING A BETTER TOMORROW

12979 TELECOM PARKWAY N  
TEMPLE TERRACE, FLORIDA 33637  
(813) 615-1422

CERTIFICATE OF AUTHORIZATION 33693

7701 TELECOM PARKWAY EAST  
TEMPLE TERRACE, FLORIDA 33637

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NAPLES DT NAP002  
#15033511

RIGHT-OF-WAY OF 4TH STREET S  
AT 12TH AVENUE S  
NAPLES, FLORIDA 34102  
(COLLIER COUNTY)

SHEET NAME  
ELECTRICAL /  
GROUNDING NOTES

SHEET NUMBER  
E1

REV	DATE	DESCRIPTION
0	08/25/22	FINAL PLANS ISSUED
1	09/16/22	REVISED PER COMMENTS

PROJECT NO.: 22-5415

DRAWN BY:	J.MENDEZ
PROJECT MANAGER:	M. MURPHY
CHECKED BY:	M. MURPHY

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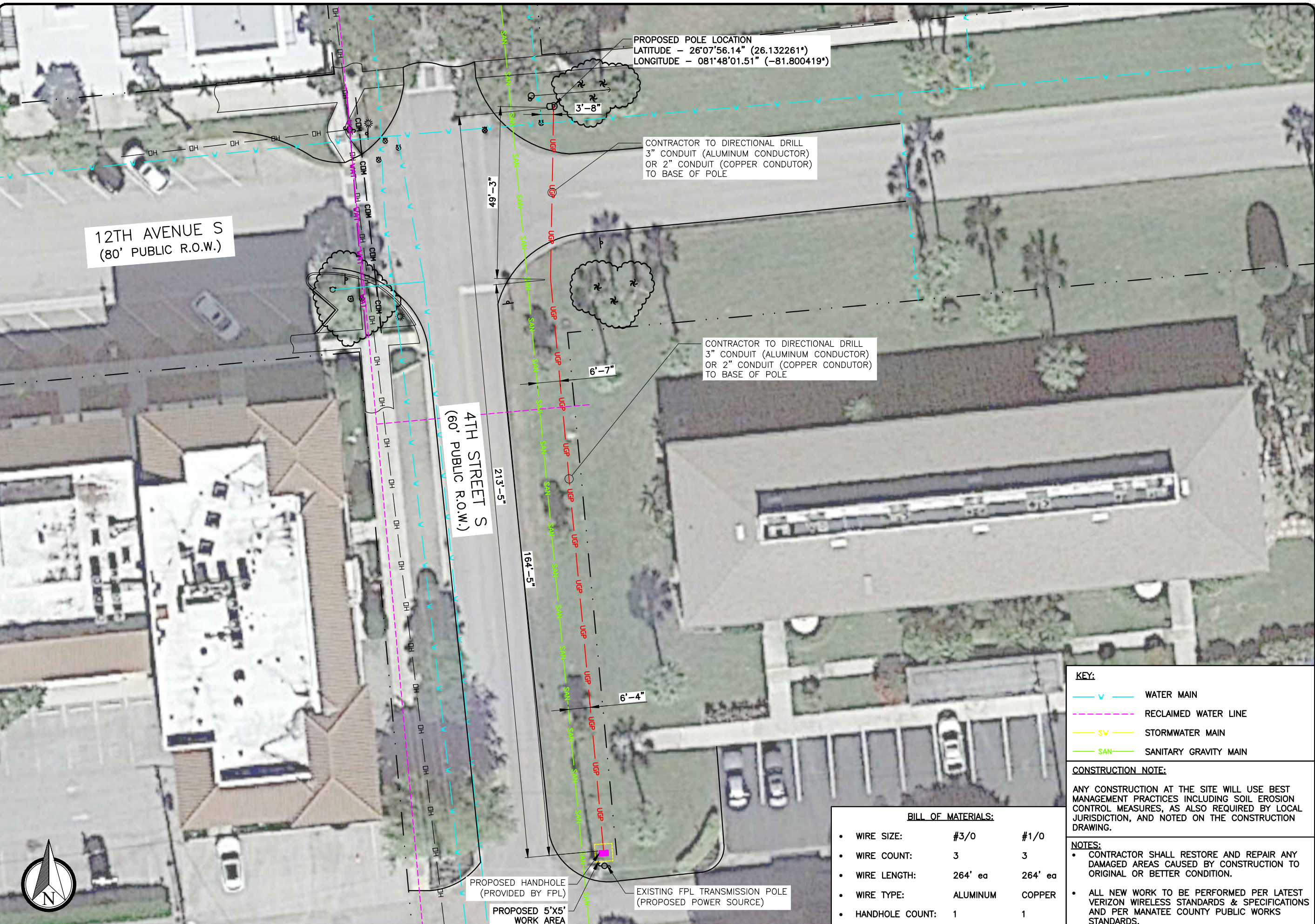
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NAPLES, FLORIDA 34102  
(COLLIER COUNTY)

SHEET NAME  
UTILITY  
POWER PLAN

SHEET NUMBER  
E2



**KEY:**

	WATER MAIN
	RECLAIMED WATER LINE
	STORMWATER MAIN
	SANITARY GRAVITY MAIN

**CONSTRUCTION NOTE:**

ANY CONSTRUCTION AT THE SITE WILL USE BEST MANAGEMENT PRACTICES INCLUDING SOIL EROSION CONTROL MEASURES, AS ALSO REQUIRED BY LOCAL JURISDICTION, AND NOTED ON THE CONSTRUCTION DRAWING.

- NOTES:**
- CONTRACTOR SHALL RESTORE AND REPAIR ANY DAMAGED AREAS CAUSED BY CONSTRUCTION TO ORIGINAL OR BETTER CONDITION.
  - ALL NEW WORK TO BE PERFORMED PER LATEST VERIZON WIRELESS STANDARDS & SPECIFICATIONS AND PER MANATEE COUNTY PUBLIC WORKS STANDARDS.

**BILL OF MATERIALS:**


	#3/0	#1/0
WIRE SIZE:	#3/0	#1/0
WIRE COUNT:	3	3
WIRE LENGTH:	264' ea	264' ea
WIRE TYPE:	ALUMINUM	COPPER
HANDHOLE COUNT:	1	1



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1	09/16/22	REVISED PER COMMENTS

PROJECT NO.:	22-5415
DRAWN BY:	J.MENDEZ
PROJECT MANAGER:	M. MURPHY
CHECKED BY:	M. MURPHY

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TEMPLE TERRACE, FLORIDA 33637

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RIGHT-OF-WAY OF 4TH STREET S  
AT 12TH AVENUE S  
NAPLES, FLORIDA 34102  
(COLLIER COUNTY)

SHEET NAME  
TYPICAL  
CROSS-SECTION

SHEET NUMBER  
E3

NOTES:

ALL UTILITIES NOT SHOWN IN R/W WILL BE LOCATED PRIOR TO CONSTRUCTION.

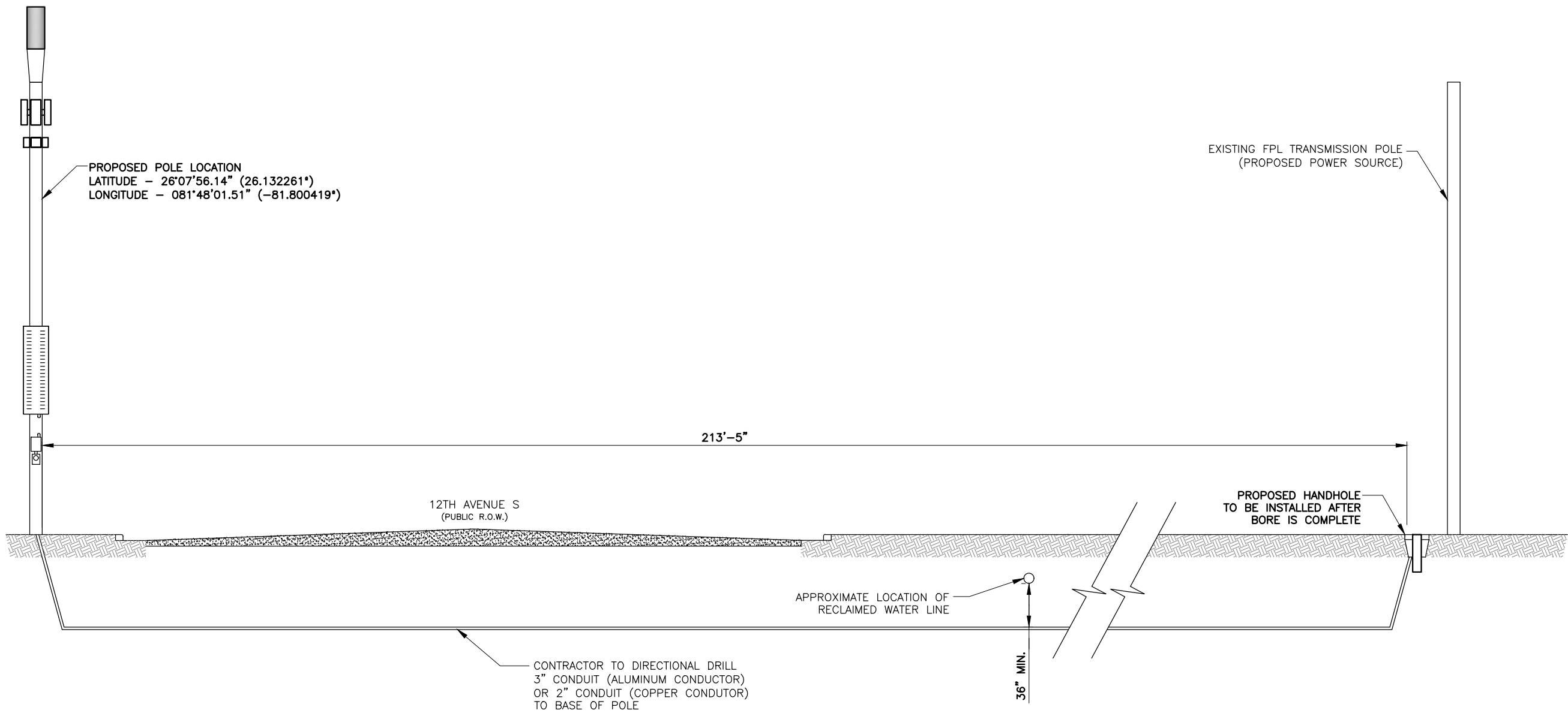
ALL UTILITIES IN AREA ARE APPROXIMATE. LOCATE PRIOR TO CONSTRUCTION.

MAINTAIN 36" MIN. HORIZONTAL AND 36" VERTICAL UTILITY SEPARATION.

DRIVEWAYS, TREES & CULVERTS WILL BE DIRECTIONAL BORED.

CONTRACTOR TO MAINTAIN 5' HORIZONTAL CLEARANCE IF DIRECTIONAL BORE IS USED PARALLEL TO AN EXISTING WASTEWATER PIPELINE.

RIGHT OF WAYS WILL BE RESTORED AS GOOD AS OR BETTER THAN ORIGINAL CONDITION & COMPACTED PER CITY OF NAPLES STANDARDS.



TYPICAL CROSS SECTION - WEST ELEVATION

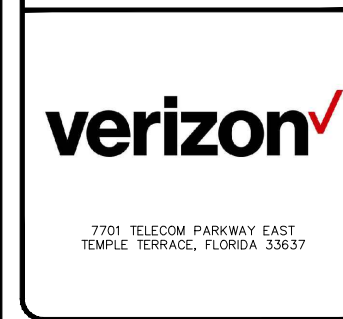
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DRAWN BY:	J.MENDEZ
PROJECT MANAGER:	M. MURPHY
CHECKED BY:	M. MURPHY

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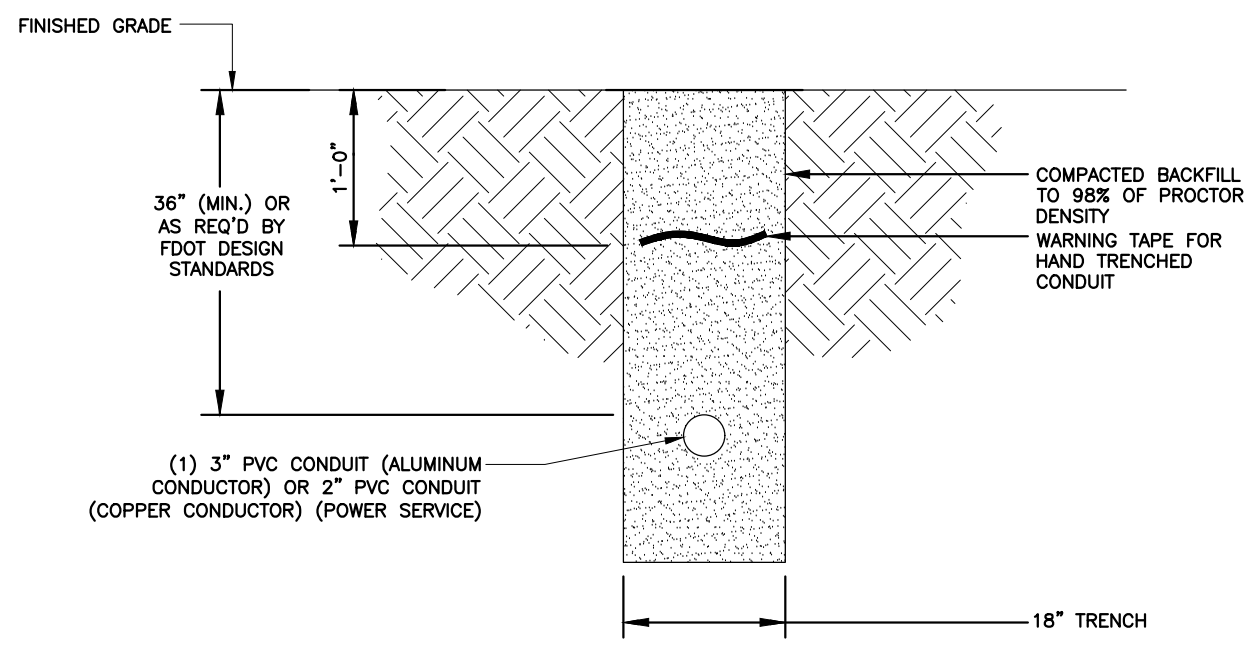


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 NAPLES, FLORIDA 34102  
 (COLLIER COUNTY)

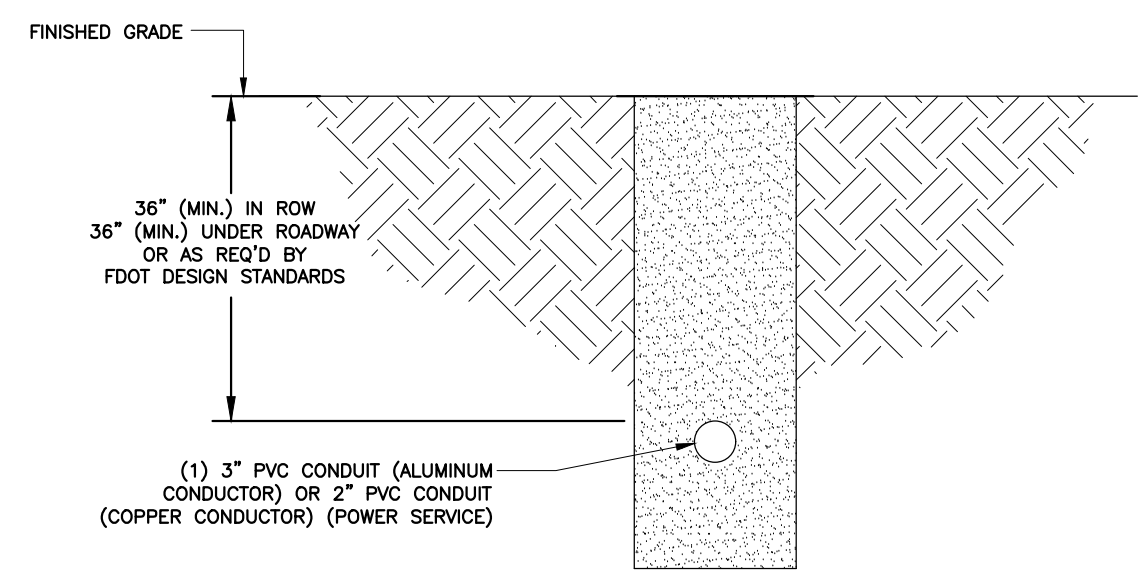
SHEET NAME  
 ELECTRICAL  
 DETAILS

SHEET NUMBER  
 E4



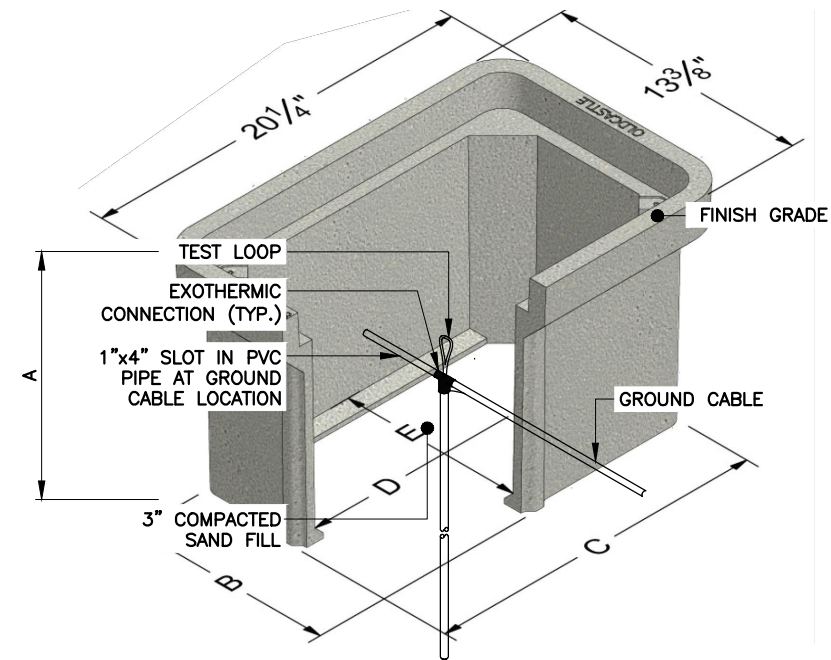
TRENCHING DETAIL

NTS 1



BORING DETAIL

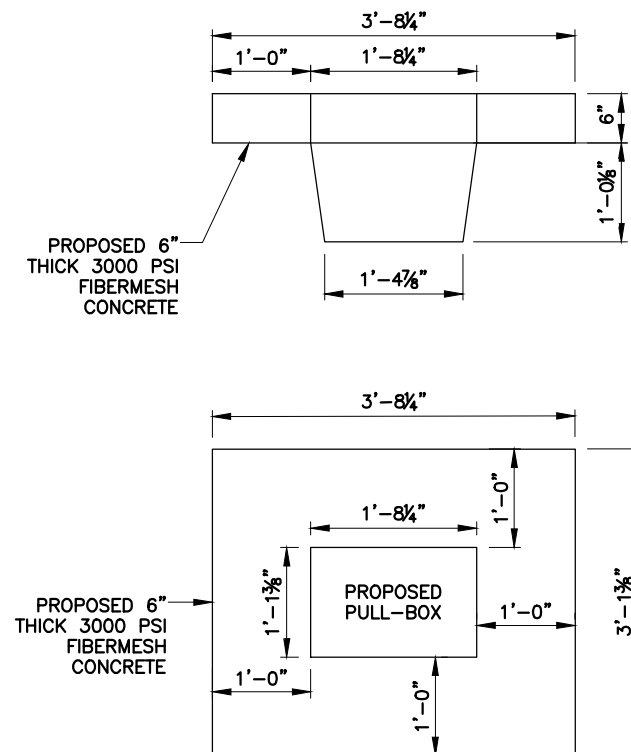
NTS 2



**NOTES:**

1. CONTRACTOR SHALL PROVIDE PRE-CAST CONCRETE INSPECTION WELL WITH CAST IRON TRAFFIC RATED LID WHEN WELL WILL BE IN AN AREA WHERE THEY CAN BE DAMAGED
2. ALL WORK SHALL CONFORM TO THE LOCAL BUILDING CODES. DEPTH MAY VARY.

	A	B	C	D	E
1118-12	12	11-3/16	18-1/16	16-7/16	9-9/16
1118-18	18	11-1/16	17-15/16	16-3/16	9-5/16



**NOTE:**

THIS ASSEMBLY IS RATED FOR A STATIC DESIGN LOAD OF 15,000 LBS. OVER A 10 X 10 AREA AND MUST PASS A MINIMUM STATIC TEST LOAD OF 22,500 LBS.

**NOTE:**

INSTALLATION OF APRON REQUIRED FOR NON-SIDEWALK INSTALLATIONS. IF PULL-BOX IS WITHIN CONCRETE SIDEWALK, APRON NOT REQUIRED.

REV	DATE	DESCRIPTION
0	08/25/22	FINAL PLANS ISSUED

PROJECT NO.: 22-5415

DRAWN BY:	J.MENDEZ
PROJECT MANAGER:	M. MURPHY
CHECKED BY:	M. MURPHY

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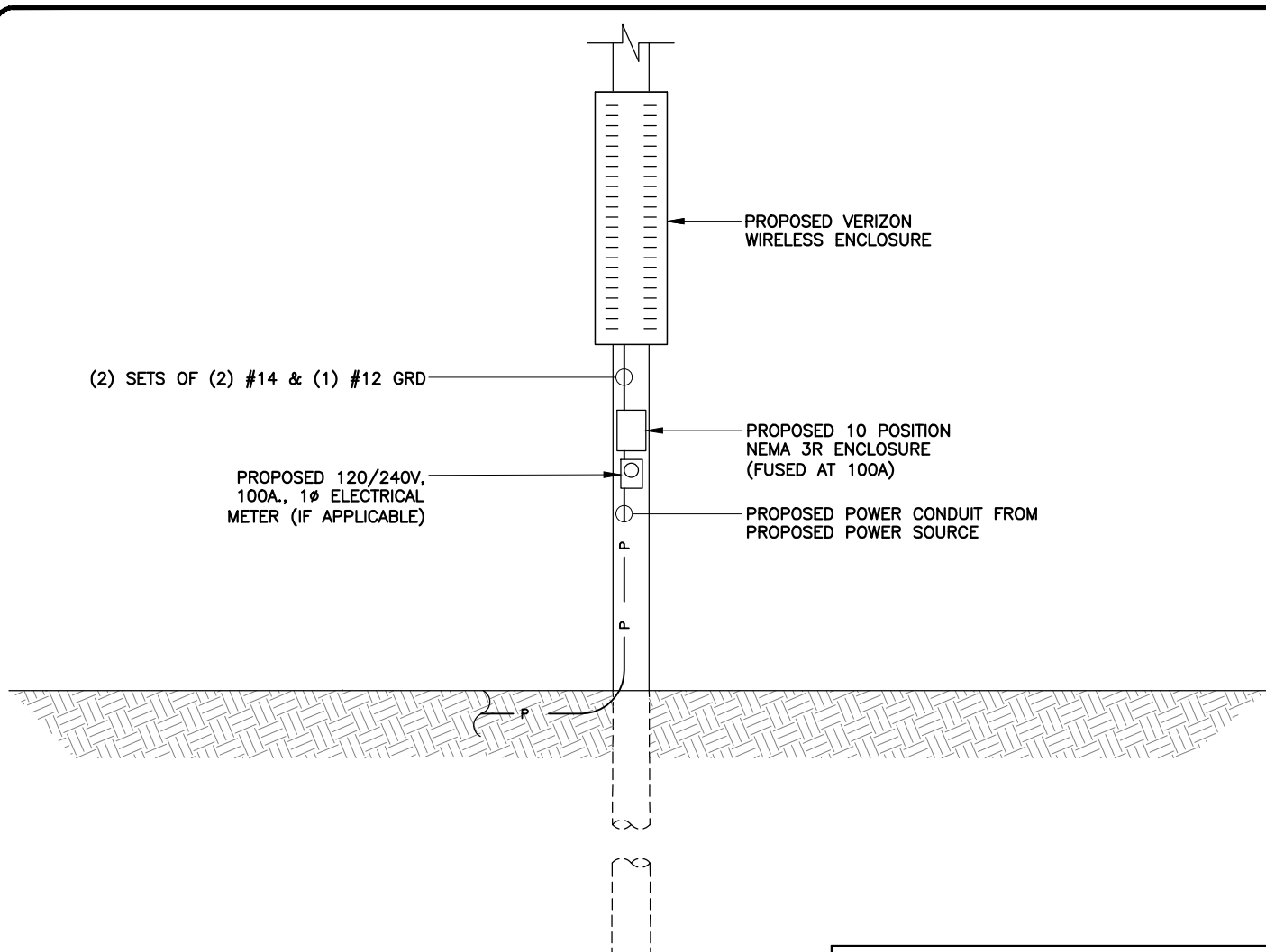
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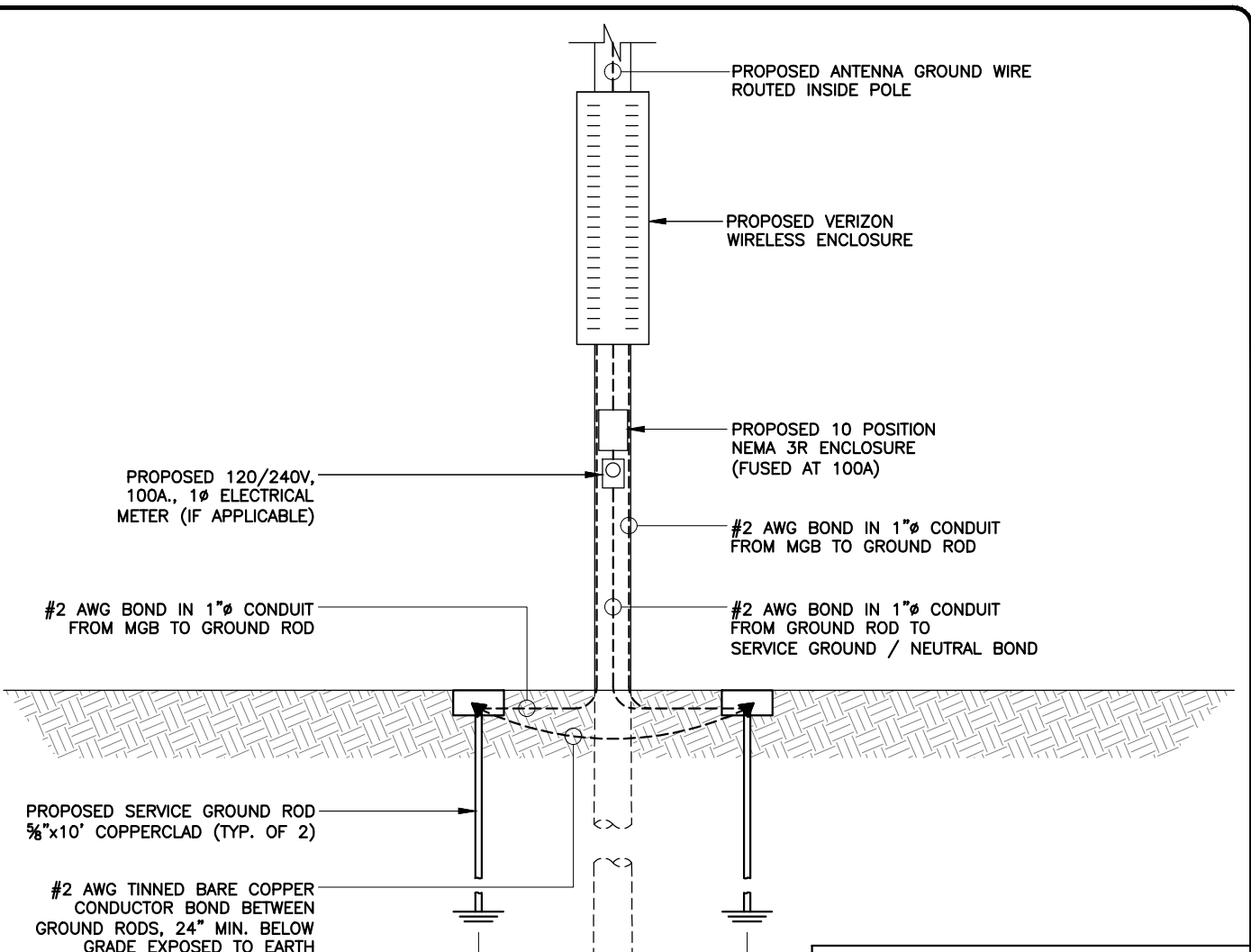
RIGHT-OF-WAY OF 4TH STREET S  
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NAPLES, FLORIDA 34102  
(COLLIER COUNTY)

SHEET NAME  
PULL-BOX  
DETAILS

SHEET NUMBER  
E5



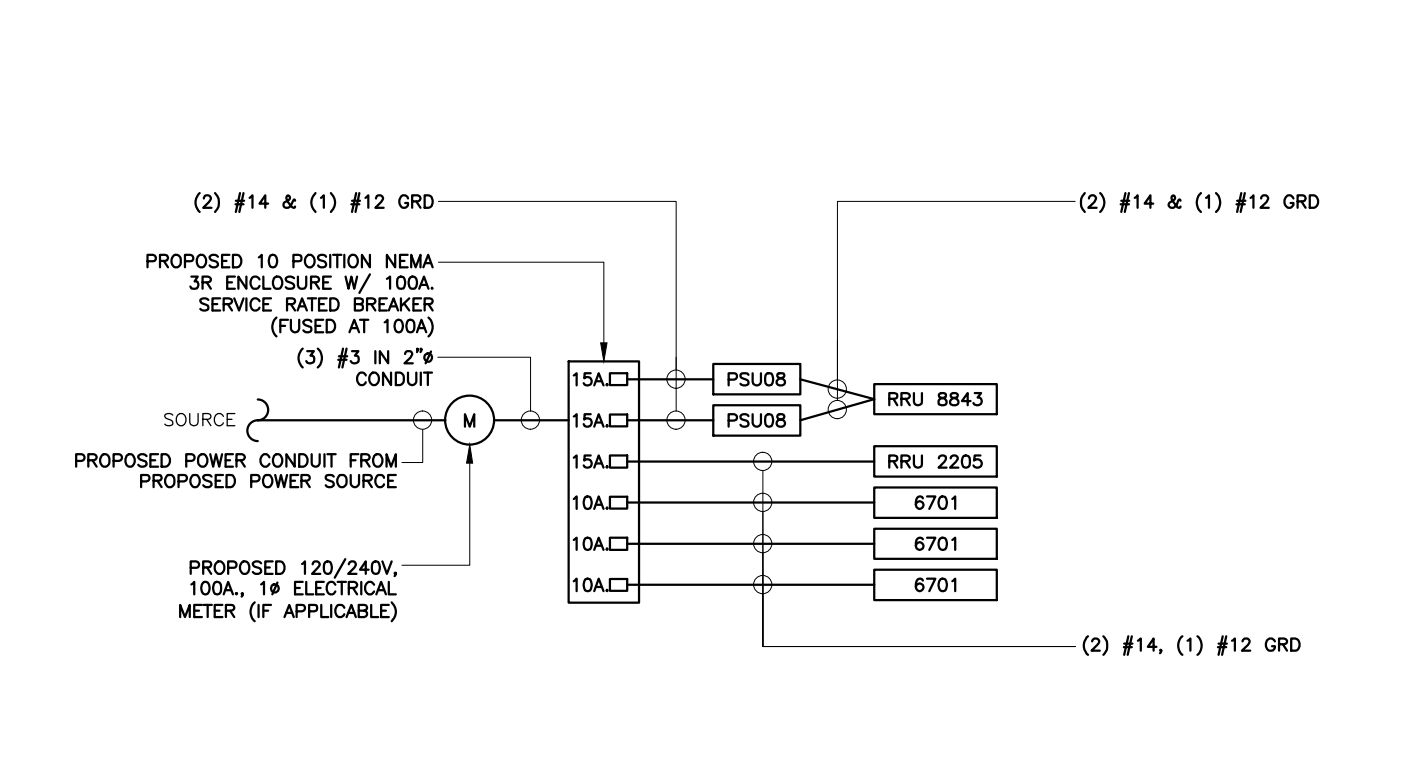
**NOTES:**  
1. ALL LINES AND CONDUITS TO BE ROUTED INSIDE POLE.



**NOTES:**  
1. ALL LINES AND CONDUITS TO BE ROUTED INSIDE POLE.

UTILITY ROUTING DETAIL NTS | 1

GROUNDING PLAN DETAIL NTS | 2



ONE-LINE DIAGRAM 3

PANEL NAME:		VERIZON WIRELESS			PANEL RATING			100 AMPS		
LOCATION:		NAPLES DT NAP002						120/240 VOLTS		
PHASE		1			X MCB 100 AMP					
WIRE		3			MAIN LUG ONLY					
CKT NO.	DESCRIPTION	KVA		AMP POLE	WIRE	GND	COND			
		A	B							
1	PSU08	1.0	-	15/1	#14	#12	-			
2	PSU08	-	1.0	15/1	#14	#12	-			
3	RRU 2205	0.1	-	15/1	#14	#12	-			
4	6701	-	0.4	10/1	#14	#12	-			
5	6701	-	0.4	10/1	#14	#12	-			
6	6701	-	0.4	10/1	#14	#12	-			
7	SPACE	-	-	-	-	-	-			
8	SPACE	-	-	-	-	-	-			
SUB TOTAL KVA (CONT)		1.5	1.8							
SUB TOTAL KVA (NON-CONT)		0	0							
TOTAL KVA					4.1					
NON-CONT + 125% CONT.					4.1					
TOTAL AMPS					17.2					

PANEL SCHEDULE 4

REV	DATE	DESCRIPTION
0	08/25/22	FINAL PLANS ISSUED

PROJECT NO.: 22-5415  
DRAWN BY: J.MENDEZ  
PROJECT MANAGER: M. MURPHY  
CHECKED BY: M. MURPHY

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ENGINEERING GROUP, INC.  
TOGETHER PLANNING A BETTER TOMORROW

12979 TELECOM PARKWAY N  
TEMPLE TERRACE, FLORIDA 33637  
(813) 615-1422

CERTIFICATE OF AUTHORIZATION 33693

7701 TELECOM PARKWAY EAST  
TEMPLE TERRACE, FLORIDA 33637

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NAPLES DT NAP002  
#15033511

RIGHT-OF-WAY OF 4TH STREET S  
AT 12TH AVENUE S  
NAPLES, FLORIDA 34102  
(COLLIER COUNTY)

SHEET NAME  
UTILITY ROUTING /  
GROUNDING PLAN

SHEET NUMBER  
E6