T-MOBILE NORTHEAST LLC
SITE ID: 7WDC529A
SITE NAME: REPLACEMENT FOR 7WDC114A
T-MOBILE NSD CMP4 INSTALLATION, DESIGN 3SEC-67E5D998E 6160
BALLOU HIGH SCHOOL
3401 4TH STREET SE
WASHINGTON, DC 20032
DISTRICT OF COLUMBIA

DESIGN BASED ON RFDS VERSION:
7WDC529A_RF_DESIGN INFO_REPLACEMENT_1_FINAL_2024-06-27
DATED: 06/27/2024

NOTE TO GENERAL CONTRACTOR

NO WORK IS TO BE PERFORMED ON THIS SITE WITHOUT REVIEW OF THE APPROVED STRUCTURAL ANALYSIS. IF ANY DISCREPANCIES ARE FOUND THE GENERAL CONTRACTOR SHALL NOTIFY ENGINEER IN WRITING. AT NO TIME WILL ANY ADDITIONAL ANTENNAS BE INSTALLED WITHOUT WRITTEN CONSENT FROM TOWER ENGINEER.

SITE INFORMATION

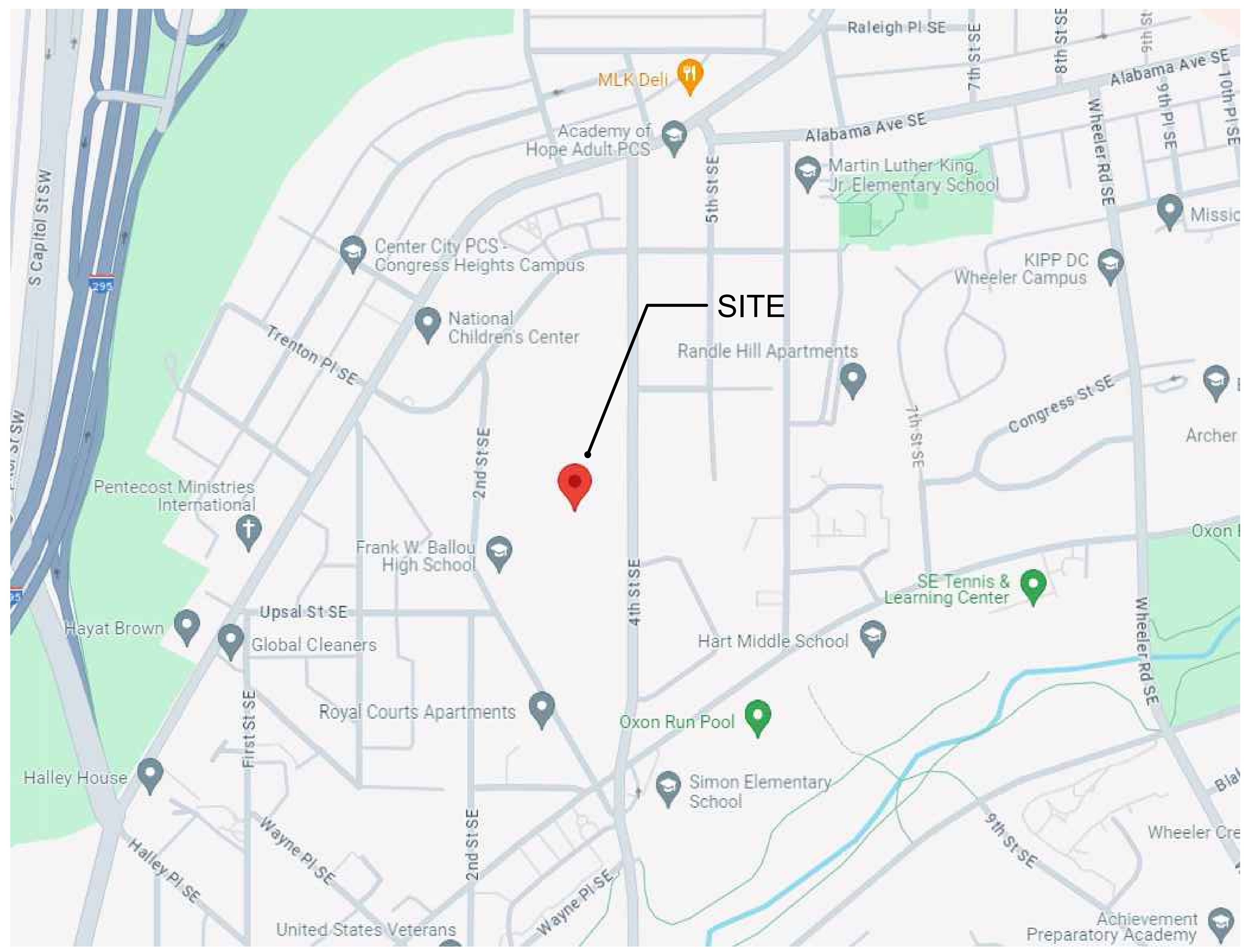
SCOPE OF WORK:	(9) PROPOSED ANTENNAS (6) PROPOSED RRH (3) 4480 B71+B85 AND (3) 4460 B25+B66 (2) PROPOSED 6x24 HYBRID CABLES (1) PROPOSED ANTENNA PLATFORM WITH (12) PROPOSED ANTENNA MOUNTS (1) RESERVED MICROWAVE DISH W/ (4) ODUS AND (4) 1/2" FEED LINES (1) PROPOSED EQUIPMENT PAD (1) PROPOSED GENERATOR PAD (1) PROPOSED PPC PANEL (1) PROPOSED AUTOMATIC TRANSFER SWITCH (1) PROPOSED 48 KW DIESEL GENERATOR (1) PROPOSED 6160 EQUIPMENT CABINET (1) PROPOSED B160 BATTERY CABINET (1) PROPOSED AAV FIBER EQUIPMENT CABINET (5) PROPOSED GROUND BARS (1) PROPOSED HYBRID FIBER CABLE DUCTBANK (1) PROPOSED ELECTRIC SERVICE BACKBOARD WITH PEPCO SERVICE TROUGH AND NEW INCOMING PEPCO ELECTRIC SERVICE (1) PROPOSED UTILITY METER AND FUSED SERVICE DISCONNECT SWITCH
PROJECT DESIGN:	T-MOBILE NEW CONSTRUCTION 3SEC-67E5D998E 6160
SITE ID NUMBER:	7WDC529A
911 SITE ADDRESS:	3401 4TH STREET SE WASHINGTON, DC 20032
CENTROID OF (3) SECTORS:	LAT. = 38.839908, LONG. = -77.001136
JURISDICTION:	DISTRICT OF COLUMBIA
ZONING:	RA-1 AND RF-1
SSL NUMBER:	PAR 02430059
PARCEL AREA:	715,059 SQ FT
PARCEL OWNER:	DISTRICT OF COLUMBIA
ADDRESS:	2000 14TH STREET NW, 8TH FLOOR WASHINGTON, DC 20009
GROUND ELEVATION:	165.00' AMSL (AVG)
STRUCTURE TYPE:	PROPOSED MONOPOLE TOWER
STRUCTURE USE GROUP:	UTILITY (U)
PROPOSED WORK USE GROUP:	UTILITY (U)
STRUCTURE HEIGHT:	120'-0" AGL (TOP OF PROPOSED MONOPOLE) 119'-0" AGL (TOP OF HIGHEST APPURTENANCE) 140'-0" AGL (TOP OF FUTURE EXTENSION / HIGHEST POINT)
MAXIMUM HEIGHT WITH APPURTENANCES:	285.00' AMSL

PROJECT TEAM

APPLICANT:	T-MOBILE NORTHEAST LLC 12050 BALTIMORE AVENUE BELTSVILLE, MD 20705 OFFICE: (240) 264-8600 FAX: (240) 264-8610
PROJECT MANAGEMENT FIRM:	NETWORK BUILDING + CONSULTING, LLC. 6095 MARSHALEE DRIVE, SUITE 300 ELKRIDGE, MD 21075 (410) 712-7092
ENGINEERING FIRMS:	TELEGENT ENGINEERING INC. 2216 COMMERCE ROAD, SUITE 1 FOREST HILL, MD 21050 (410) 692-5816 MORRIS & RITCHIE ASSOCIATES, INC. 1220-B EAST JOPPA ROAD, SUITE 400K TOWSON, MD 21286 (410) 821-1690

RAND MCNALLY LICENSE # R.L.04-S-97

VICINITY PLAN



INDEX OF DRAWINGS

DO NOT SCALE DRAWINGS

THESE DRAWINGS ARE FORMATTED TO BE FULL-SIZE AT 24"X36". CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE DESIGNER / ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR MATERIAL ORDERS OR BE RESPONSIBLE FOR THE SAME. CONTRACTOR SHALL USE BEST MANAGEMENT PRACTICE TO PREVENT STORM WATER POLLUTION DURING CONSTRUCTION.

CODE ANALYSIS

APPLICABLE BUILDING CODE:	2015 IBC WITH 2017 DCMR12A SUPPLEMENT
APPLICABLE ELECTRIC CODE:	NEC 2014
REFER TO SHEET GN-1 FOR COMPLETE CODE LIST	
USE GROUP:	UTILITY (U)
CONSTRUCTION TYPE:	IIB

GENERATOR USE

THE PROPOSED T-MOBILE GENERATOR IS AN OPTIONAL STAND-BY UNIT AND DOES NOT SUPPLY LIFE SAFETY EQUIPMENT. THE GENERATOR IS USED TO BACKUP THE TELEPHONE EXCHANGE EQUIPMENT IN ORDER TO KEEP THE CELL SITE IN FULL OPERATION IN THE EVENT OF NORMAL UTILITY POWER FAIL. THEREFORE, NFPA 110 DOES NOT APPLY.

DIRECTIONS TO SITE

FROM BELTSVILLE:
- HEAD SOUTHEAST TOWARD US-1 S/BALTIMORE AVE
- TURN RIGHT ONTO US-1 S/BALTIMORE AVE
- TURN LEFT ONTO POWDER MILL RD
- TURN RIGHT ONTO MD-201 S
- MERGE ONTO I-495 S/I-95 S VIA THE RAMP TO BELTWAY S/RICHMOND VLY/ANDREWS AIR FORCE BASE
- TAKE THE EXIT ONTO BALTIMORE-WASHINGTON PKWY
- CONTINUE ONTO MD-201
- CONTINUE ONTO STATE HWY 295
- STATE HWY 295 TURNS SLIGHTLY RIGHT AND BECOMES I-295 S
- TAKE EXIT 2 B TO MERGE ONTO S CAPITOL ST SW
- MERGE ONTO S CAPITOL ST SW
- USE THE LEFT LANE TO STAY ON S CAPITOL ST SW
- TURN LEFT ONTO MARTIN LUTHER KING JR AVE SE
- TURN RIGHT ONTO 4TH ST SE
- DESTINATION WILL BE ON THE RIGHT

APPROVAL BLOCK

		APPROVED	APPROVED AS NOTED	DISAPPROVED/ REVISE
PROPERTY OWNER	DATE	☐	☐	☐
SITE ACQUISITION	DATE	☐	☐	☐
CONSTRUCTION MANAGER	DATE	☐	☐	☐
ZONING	DATE	☐	☐	☐
RF ENGINEER	DATE	☐	☐	☐

T-MOBILE NORTHEAST LLC
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SITE ID:
7WDC529A
SITE NAME:
REPLACEMENT FOR 7WDC114A

SITE ADDRESS:
3401 4TH STREET SE
WASHINGTON, DC 20032
DISTRICT OF COLUMBIA

REVISION BLOCK

NO.	DESCRIPTION	DATE
1	PERMIT DWGS	07/19/24

DISTRICT OF COLUMBIA TIMOTHY ... SCHMIDT No. 10346 REGISTERED PROFESSIONAL ENGINEER
07/19/2024

PROFESSIONAL CERTIFICATION

I AM RESPONSIBLE FOR DETERMINING THAT THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION ARE IN COMPLIANCE WITH ALL LAWS AND REGULATIONS OF THE DISTRICT OF COLUMBIA. I HAVE PERSONALLY PREPARED, OR DIRECTLY SUPERVISED THE DEVELOPMENT OF THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION.

DRAWN BY:	MBR
DESIGNED BY:	MBR
ORIGINAL DATE:	06/18/2024
TEI PROJECT #:	24016E
DESIGN SCALE:	AS NOTED

SHEET TITLE

COVER SHEET

SHEET NUMBER

CS-1

TEI#24016E

Board of Zoning Adjustment
District of Columbia
CASE NO.21284
EXHIBIT NO.6

GENERAL NOTES

1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
2. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE CARRIER TEAM REPRESENTATIVES OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES, THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
4. THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
6. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
8. THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
9. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
11. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVEMENTS, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
12. THE CONTRACTOR SHALL MAINTAIN THE GENERAL WORK AREA AS CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
13. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
14. THE CONTRACTOR SHALL NOTIFY THE T-MOBILE REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE CARRIER TEAM REPRESENTATIVES.
15. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
16. THE PLAN IS SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD.
17. THIS FACILITY IS UNMANNED AND NOT INTENDED FOR HUMAN HABITATION (NO HANDICAPPED ACCESS).
18. THIS FACILITY IS UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SANITARY SERVICE. INTERRUPTING RATING (AIC) NOT LESS THAN THE MAXIMUM CURRENT TO WHICH THEY MAY BE SUBJECTED.
19. THIS FACILITY IS UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SANITARY SERVICE.

SIGNAGE NOTES

SIGNS MOUNTED ON GENERATOR ENCLOSURE/DOOR (ON ALL 4 SIDES)

1. DANGER - DIESEL FUEL - FLAMMABLE - NO MATCHES, SMOKING, OR OPEN FLAMES
2. DANGER - THIS EQUIPMENT STARTS AUTOMATICALLY
3. WARNING - EYE AND EAR PROTECTION REQUIRED
4. SAFETY - FUELING COMPANY: CHECK FUEL LINES PRIOR TO DEPARTURE TO PREVENT SPILLS
5. NOTICE - FUELING COMPANY: REFUELING A RUNNING GENERATOR MUST BE DONE AT 50% OF NORMAL FILL RATE
6. NFPA DIAMOND FOR "DIESEL" (1,2,0)
7. OWNED BY T-MOBILE.
8. FUEL TANK CAPACITY 211 GALLONS (MOUNTED TO TANK).
9. NOTE: SIGNS CAN BE PURCHASED FROM PREFERRED VENDOR ORR SAFETY VIA T-MOBILE MARKETPLACE SYSTEM

   ALTERNATE: HTTP://WWW.SPEEDYSIGNS.COM/SIGNS/OSHA_READYMADE.ASP
   ALTERNATE: HTTPS://WWW.COMPLIANCESIGNS.COM

GROUNDING NOTES

1 ALL GROUND CONNECTIONS BELOW GRADE SHALL BE EXOTHERMIC (CADWELD).

2 GROUNDING CONNECTIONS TO GROUND RODS, GROUND RING WIRE, TOWER BASE, AND FENCE POSTS SHALL BE EXOTHERMIC (CADWELD) UNLESS NOTED OTHERWISE. CLEAN SURFACES TO SHINY METAL. WHERE GROUND WIRES ARE CADWELDED TO GALVANIZED SURFACES, SPRAY CADWELD WITH GALVANIZING PAINT.

3 ALL GROUNDING DEVICES SHALL BE UL APPROVED FOR THEIR INTENDED USE.

4 ALL GROUND CONDUCTORS SHALL BE #2 AWG, BARE, TINNED, SOLID COPPER GROUND CONDUCTOR UNLESS NOTED OTHERWISE.

5 GROUNDING CONNECTIONS TO THE GROUND BAR ARE TO BE TWO-HOLE BRASS MECHANICAL CONNECTORS WITH STAINLESS STEEL HARDWARE (INCLUDING SCREW SET). CLEAN GROUND BAR TO SHINY METAL. AFTER MECHANICAL CONNECTION, TREAT WITH PROTECTIVE ANTIOXIDANT COATING.

6 GROUND COAXIAL CABLE SHIELDS AT BOTH ENDS WITH MANUFACTURER'S GROUNDING KITS.

7 ROUTE GROUNDING CONDUCTORS THE SHORTEST AND STRAIGHTEST PATH POSSIBLE. BEND GROUNDING LEADS WITH A MINIMUM 12" RADIUS. 90 DEGREE BENDS ARE PROHIBITED.

8 GROUND CONDUCTORS ABOVE GRADE SHALL BE #2 AWG, GREEN INSULATED, STRANDED COPPER CONDUCTOR UNLESS NOTED OTHERWISE.

9 REFER TO GROUNDING PLAN FOR GROUND BAR LOCATIONS. GROUNDING CONNECTIONS SHALL BE EXOTHERMIC TYPE (CADWELD) TO ANTENNA MOUNTS AND GROUND RING. REMAINING GROUNDING CONNECTIONS SHALL BE COMPRESSION FITTINGS. CONNECTION TO GROUND BARS SHALL BE MADE WITH TWO-HOLE LUGS.

10 THE GROUND ELECTRODE SYSTEM SHALL CONSIST OF DRIVEN GROUND RODS POSITIONED ACCORDING TO GROUNDING PLAN. THE GROUND RODS SHALL BE 5/8" X 10'-0" COPPER CLAD STEEL INTERCONNECTED WITH #2 , BARE, TINNED. SOLID COPPER WIRE BURIED 36" BELOW GRADE. GROUND RODS SHALL BE SPACED A MAXIMUM OF 15' APART, AND A MINIMUM OF 8' APART.

11 IF ROCK IS ENCOUNTERED GROUND RODS SHALL BE PLACED AT AN OBLIQUE ANGLE NOT TO EXCEED 45 DEGREES.

12 EXOTHERMIC WELDS SHALL BE MADE IN ACCORDANCE WITH ERICO PRODUCTS BULLETIN A-AT.

13 CONSTRUCTION OF GROUND RING AND CONNECTIONS TO EXISTING GROUND RING SYSTEM SHALL BE DOCUMENTED WITH PHOTOGRAPHS PRIOR TO BACKFILLING THE SITE. PROVIDE PHOTOS TO THE T-MOBILE CONSTRUCTION MANAGER.

14 GROUND RING AND CONNECTIONS TO IT SHALL BE #2 AWG, SOLID, BARE, TINNED, COPPER WIRE. EQUIPMENT GROUND CONNECTIONS TO MGB SHALL BE #2 AWG, STRANDED, INSULATED WIRE.

15 PRIOR TO INSTALLING LUGS ON GROUND WIRES, APPLY THOMAS & BETTS KOPR-SHIELD (TM OF JET LUBE INC.). PRIOR TO BOLTING GROUND WIRE LUGS TO GROUND BAR, APPLY KOPR-SHIELD OR EQUAL.

16 ENGAGE AN INDEPENDENT ELECTRICAL TESTING FIRM TO TEST AND VERIFY THAT IMPEDANCE DOES NOT EXCEED FIVE (5) OHMS TO GROUND BY MEANS OF "FALL OF POTENTIAL TEST". TEST SHALL BE WITNESSED BY A T-MOBILE REPRESENTATIVE AND RECORDED ON THE "GROUND RESISTANCE TEST FORM".

17 WHERE BARE COPPER GROUND WIRES ARE ROUTED FROM ANY CONNECTION ABOVE GRADE TO GROUND RING, INSTALL WIRE IN 3/4" PVC SLEEVE FROM 1" BELOW GRADE AND SEAL TOP WITH SILICONE.

18 PREPARE ALL BONDING SURFACES FOR GROUNDING CONNECTIONS BY REMOVING ALL PAINT AND CORROSION DOWN TO SHINY METAL. FOLLOWING CONNECTION, APPLY APPROPRIATE ANTI-OXIDIZATION PAINT.

19 ANY SITE WHERE THE EQUIPMENT (BTS, CABLE BRIDGE, PPC, GENERATOR, ETC.) IS LOCATED WITH-IN 6'-0" OF METAL FENCING, THE GROUND RING SHALL BE BONDED TO THE NEAREST FENCE POST USING THREE (3) RUNS OF #2, BARE, TINNED, SOLID, COPPER WIRE.

20 TOWER BASE BUSS BAR REQUIRES TWO (2) SOLID LEADS CADWELD TO THE BUSS BAR.

21 MAIN EQUIPMENT BUSS BAR REQUIRES TWO (2) SOLID LEADS CADWELD TO IT AND THE GROUND RING.

22 ALL SOLID LEADS TERMINATED TO EITHER A BUSS BAR OR EQUIPMENT SHALL BE PROTECTED WITH CARFLEX.

23 ALL SOLID GROUND LEADS NOT BEING USED SHALL BE COILED UP (PIGTAILS) FOR FUTURE USE AS NEEDED.

24 5 OHMS TO GROUND IS REQUIRED FOR ACCEPTANCE. PHOTOS OF THE TESTS ARE REQUIRED AS WELL AS TEST RESULTS IN FORMAL DOCUMENTATION FORMAT.

CODE ANALYSIS

APPLICABLE BUILDING CODES:	INDUSTRY STANDARDS:
2017 DC BUILDING CODE	ASCE/SEI 7-2010
2015 IBC WITH 2017 DCMR12A SUPPLEMENT	2010 ANSI/AISC 360
2015 IEBC WITH 2017 DCMR12J SUPPLEMENT.	2010 ANSI/AISC 341
2014 NEC WITH 2017 DCMR12C SUPPLEMENT	2010 ANSI S1000-07/S2
2015 IFGC WITH 2017 DCMR12D SUPPLEMENT.	2009 AISI S1000-07/S1
2015 IFC WITH 2017 DCMR12H SUPPLEMENT	2004 ASTM A325 OR A490
2012 IGCC WITH 2017 DCMR12K SUPPLEMENT	2015 AWS D1.1
2015 IECC WITH 2017 DCMR12I SUPPLEMENT	2014 ACI 318
2015 IPC WITH 2017 DCMR12G SUPPLEMENT	2011 ACI 530
2015 IMC WITH 2017 DCMR12E SUPPLEMENT	2011 ACI 530.1
	2016 TIA 222-G
	2015 TIA 607-C
	2012 IEEE81
	2005 IEEE1100
	2002 IEEE C62.41
	TELCORDIA GR-1275
	TELCORDIA GR-1503
	1991 ANSI T1.311 FOR TELECOM
	2011 NFPA 780
	LIGHTNING PROTECTION CODE 2011

ELECTRICAL NOTES

1 ALL ELECTRICAL WORK SHALL BE PERFORMED IN A NEAT AND WORKMANLIKE MANNER AND SHALL BE IN STRICT ACCORDANCE WITH THE LATEST NATIONAL ELECTRICAL CODE AND ALL STATE AND LOCAL CODES. ALL WORK IS SUBJECT TO THE APPROVAL OF THE T-MOBILE REPRESENTATIVE.

2 THE CONTRACTOR SHALL OBTAIN ALL PERMITS AND SHALL PAY ALL ASSOCIATED CHARGES. CONTRACTOR SHALL ARRANGE FOR ALL INSPECTIONS.

3 THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ALL SPECIFIED MATERIALS AND EQUIPMENT. ALL MATERIALS SHALL BE U.L. LISTED.

4 CONTRACTOR SHALL COORDINATE ALL WORK BETWEEN TRADES AND ALL OTHER SCHEDULING AND PROVISIONARY CIRCUMSTANCES SURROUNDING THE PROJECT.

5 WIRE, UNLESS OTHERWISE INDICATED, SHALL BE 600 VOLT, TYPE THWN/THHN INSULATION FOR EXTERIOR USE. CONDUCTORS SHALL BE SIZED AND RUN AS INDICATED. CONDUCTORS SHALL BE SOFT DRAWN COPPER OF NOT LESS THAN 98% CONDUCTIVITY. MINIMUM CONDUCTOR SIZE IS #12 UNLESS NOTED OTHERWISE.

6 THE ENTIRE SYSTEM SHALL BE SOLIDLY GROUNDED USING DOUBLE LOCKNUTS ON CONDUITS AND PROPERLY BONDED GROUND CONDUCTORS.

7 SUBMITTAL OF BIDS INDICATES THAT THE CONTRACTOR IS COGNIZANT OF ALL JOB SITE CONDITIONS AND WORK TO BE PERFORMED UNDER THIS CONTRACT.

8 ALL ELECTRICAL EQUIPMENT EXPOSED TO WEATHER SHALL BE PROTECTED IN NEMA 3R ENCLOSURES.

9 ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT ENGRAVED PHENOLIC PLASTIC NAMEPLATES. PPC, METER, DISCONNECT, RAC35, PBC05, AND HF JUNCTION BOX. BACKGROUND SHALL BE BLACK WITH WHITE LETTERS; EXCEPT AS REQUIRED BY CODE TO FOLLOW A DIFFERENT SCHEME.

10 CONTRACTOR SHALL COORDINATE FINAL SERVICE TERMINATION LOCATIONS WITH TELEPHONE AND ELECTRIC UTILITY COMPANIES IN THE FIELD.

11 CONTRACTOR SHALL UPDATE PANEL SCHEDULES AND IDENTIFY ALL MISCELLANEOUS CIRCUITS NOT INDICATED ON SCHEDULES.

12 CONTRACTOR SHALL PERFORM ALL VERIFICATIONS, OBSERVATION TESTS, AND EXAMINATION WORK PRIOR TO ORDERING OF ANY EQUIPMENT AND THE ACTUAL CONSTRUCTION. CONTRACTOR SHALL ISSUE A WRITTEN NOTICE OF ALL FINDINGS TO THE PROJECT MANAGER LISTING ALL THE MALFUNCTIONS, FAULTY EQUIPMENT AND DISCREPANCIES.

13 THESE PLANS ARE DIAGRAMMATIC ONLY. FOLLOW AS CLOSELY AS POSSIBLE.

14 CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, INSURANCE, EQUIPMENT, INSTALLATION CONSTRUCTION TOOLS, TRANSPORTATION, ETC. FOR COMPLETE AND CONSTRUCTION. CONTRACTOR SHALL ISUUE A WRITTEN NOTICE OF ALL FINDINGS TO THE FUNCTIONALLY OPERATING SYSTEMS ENERGIZED AND READY TO USE THROUGHOUT AS INDICATED ON DRAWINGS. AS SPECIFIED HEREIN AND/OR AS OTHERWISE REQUIRED.

15 ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND IN PERFECT CONDITION WHEN INSTALLED AND SHALL BE OF THE BEST GRADE AND OF THE SAME MANUFACTURER THROUGHOUT FOR EACH CLASS OR GROUP OF EQUIPMENT. ELECTRICAL MATERIALS SHALL BE LISTED AND APPROVED BY UL AND SHALL BEAR THE INSPECTION LABEL "J" WHERE SUBJECT TO SUCH APPROVAL. MATERIALS SHALL MEET THE APPROVAL OF ALL GOVERNING BODIES HAVING JURISDICTION OVER THE CONSTRUCTION. MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH ALL CURRENT APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA, AND NBFU. ALL MATERIALS AND EQUIPMENT SHALL BE APPROVED FOR THEIR INTENDED USE AND LOCATION.

16 CONDUIT: ALL ABOVE GRADE CONDUITS SHALL BE RIGID & LFMC TO 6' AS STATED BELOW
   A. RIGID CONDUIT SHALL BE UL LABELED GALVANIZED ZINC COATED WITH ZINC INTERIOR AND SHALL BE USED WHEN INSTALLED WHEN EXPOSED TO EXTERIOR ELEMENTS. RIGID
   B. ELECTRICAL METALLIC TUBING (EMT) SHALL HAVE UL LABEL, FITTINGS SHALL BE GLAND RING COMPRESSION TYPE. EMT SHALL BE USED FOR INTERIOR RUNS ONLY.
   C. LIQUID TIGHT FLEXIBLE METAL CONDUIT SHALL BE UL LISTED AND SHALL BE USED AT FINAL CONNECTIONS TO MECHANICAL EQUIPMENT & RECTIFIERS AND WHERE PERMITTED BY CODE. ALL CONDUIT IN EXCESS OF SIX FEET SHALL CONTAIN A FULL SIZE GROUND CONDUCTOR.
   D. CONDUIT RUNS SHALL BE SURFACE MOUNTED ON CEILINGS OR WALLS UNLESS NOTED OTHERWISE. ALL CONDUIT SHALL RUN PARALLEL OR PERPENDICULAR TO WALLS, FLOOR, CEILING, OR BEAMS. VERIFY EXACT ROUTING OF ALL EXPOSED CONDUIT WITH THE PROJECT MANAGER PRIOR TO INSTALLATION.
   E. PVC CONDUIT MAY BE PROVIDED ONLY WHERE SHOWN, OR IN UNDERGROUND INSTALLATIONS. PROVIDE UV-RESISTANT CONDUIT WHERE EXPOSED TO THE ATMOSPHERE ATMOSPHERE. PROVIDE A GROUND CONDUCTOR IN ALL PVC RUNS; EXCEPT WHERE PERMITTED BY CODE TO OMIT.

17 ENTIRE JOB SHALL BE GAURANTEED FOR A PERIOD OF ONE (1) YEAR AFTER THE DATE OF JOB ACCEPTANCE. ALL WORK, MATERIAL, AND EQUIPMENT FOUND TO BE FAULTY DURING THAT PERIOD SHALL BE CORRECTED AT ONCE, UPON WRITTEN NOTIFICATION, AT THE EXPENSE OF THE CONTRACTOR.

18 THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED IN ACCORDANCE WITH NEC 250 & 810 AND THE UTILITY COMPANY STANDARDS.

19 COORDINATE WITH UTILITY COMPANY OR PROPERTY OWNER FOR CONNECTION OF TEMPORARY AND PERMANENT POWER TO THE SITE. THE TEMPORARY POWER AND ALL HOOKUP COSTS SHALL BE PAID BY THE CONTRACTOR.

20 ALL CIRCUIT BREAKERS, FUSES, AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING RATING (AIC) NOT LESS THAN THE MAXIMUM CURRENT TO WHICH THEY MAY BE SUBJECTED.

21 RED-LINED AS-BUILT PLANS SHALL BE PROVIDED TO THE CONSTRUCTION MANAGER.

T-Mobile
T-MOBILE NORTHEAST LLC

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OFFICE: (240) 264-8600
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SITE ID:
7WDC529A
SITE NAME:
REPLACEMENT FOR 7WDC114A

SITE ADDRESS:
3401 4TH STREET SE
WASHINGTON, DC 20032
DISTRICT OF COLUMBIA

REVISION BLOCK

NO.	DESCRIPTION	DATE
1	PERMIT DWGS	07/19/24

DISTRICT OF COLUMBIA REGISTERED PROFESSIONAL ENGINEER No. 10346

07/19/2024

PROFESSIONAL CERTIFICATION

I AM RESPONSIBLE FOR DETERMINING THAT THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION ARE IN COMPLIANCE WITH ALL LAWS AND REGULATIONS OF THE DISTRICT OF COLUMBIA. I HAVE PERSONALLY PREPARED, OR DIRECTLY SUPERVISED THE DEVELOPMENT OF THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION.

DRAWN BY:	MBR
DESIGNED BY:	MBR
ORIGINAL DATE:	06/18/2024
TEI PROJECT #:	24016E
DESIGN SCALE:	AS NOTED

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-1

GENERAL NOTES:

1. BUILDING CODES

   A. ALL CONSTRUCTION SHALL CONFORM WITH THE 2015 INTERNATIONAL BUILDING CODE (IBC 2015) AND THE DCMR12 2017 MUNICIPAL REGULATIONS, AND ALL SUBSEQUENT SUPPLEMENTS.

   B. ANSI/TIA-222-H-2017 "STRUCTURAL STANDARD FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS", AND ALL SUBSEQUENT SUPPLEMENTS.

   C. IN ADDITION, ALL CONSTRUCTION SHALL CONFORM WITH THE GOVERNING LOCAL BUILDING CODE.

2. DESIGN LOADS

   A. THE MINIMUM DESIGN DEAD LOADING FOR ALL FRAMING IS BASED ON THE CONSTRUCTION MATERIALS SHOWN ON THE DRAWINGS AND INDICATED IN THE SPECIFICATIONS.

   B. THE MINIMUM DESIGN LOADING FOR ALL FRAMING IS AS FOLLOWS:

WIND LOAD:	BASIC WIND SPEED (ULTIMATE 3-SECOND GUST):	113 MPH
	BASIC WIND SPEED (NOMINAL 3-SECOND GUST):	40 MPH
	RISK CATEGORY:	II
	WIND EXPOSURE CATEGORY:	C

3. MISCELLANEOUS

   A. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS SHOWN ON THE CONTRACT DRAWINGS BEFORE PROCEEDING WITH CONSTRUCTION. ALL DISCREPANCIES AND OMISSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT.

   B. THE CONTRACTOR SHALL NOT SUBMIT REPRODUCTIONS OF THE STRUCTURAL CONTRACT DOCUMENTS AS SHOP DRAWINGS.

4. STRUCTURAL AND MISCELLANEOUS STEEL

   A. ALL STEEL CONSTRUCTION SHALL CONFORM TO THE LATEST EDITION OF THE AISC STEEL CONSTRUCTION MANUAL "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" (ANSI/AISC 360) AND THE AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES".

   B. ALL STRUCTURAL STEEL WIDE FLANGE SHAPES, AND SHAPES CUT THEREOF, SHALL CONFORM TO ASTM A992 (Fy = 50 KSI).

   C. ALL MISCELLANEOUS STEEL (ANGLES, CHANNELS, PLATES, AND BARS) SHALL CONFORM TO ASTM A36 (Fy = 36 KSI).

   D. ALL HSS ROUND SHAPES SHALL CONFORM TO ASTM A500, GRADE B (Fy = 42 KSI).

   E. ALL HSS SQUARE OR RECTANGULAR SHAPES SHALL CONFORM TO ASTM A500, GRADE B (Fy = 46 KSI).

   F. ALL PIPE SHALL CONFORM TO ASTM A53, GRADE B (Fy = 35 KSI)

   G. ALL BEAM CONNECTIONS SHALL DEVELOP THE FULL UNIFORM LOAD CAPACITY OF THE MEMBER WITH DUE CONSIDERATION OF CONCENTRATED LOADS. BOLTED CONNECTIONS SHALL USE NO LESS THAN TWO 3/4" DIA ASTM A325 OR A490 HIGH STRENGTH BOLTS. CONFORM TO AISC SPECIFICATION "STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS".

   H. ANCHOR RODS SHALL USE ASTM F1554, GRADE 36 STEEL UNLESS OTHERWISE INDICATED

   I. ALL WELDED CONNECTIONS SHALL USE E70XX ELECTRODES.

   J. ALL NUTS SHALL CONFORM TO ASTM A563.

   K. ALL WASHERS SHALL CONFORM TO ASTM F436.

   L. ALL CONNECTIONS, UNLESS OTHERWISE NOTED, SHALL BE DOUBLE ANGLE OR SINGLE PLATE SHEAR CONNECTIONS DESIGNED AND DETAILED IN ACCORDANCE WITH THE AISC MANUAL OF STEEL CONSTRUCTION WITH A MINIMUM EDGE DISTANCE OF 1 1/2 INCHES AND BOLT SPACING OF 3 INCHES.

   M. ALL SHOP AND FIELD WELDS SHALL BE PERFORMED BY CERTIFIED WELDERS AND CONFORM TO THE AMERICAN WELDING SOCIETY CODE FOR BUILDINGS AWS D1.1. WELDS SHALL DEVELOP THE FULL STRENGTH OF MATERIALS BEING WELDED UNLESS OTHERWISE INDICATED.

   N. ALL CONNECTIONS TO EXISTING STEEL FRAMING SHALL BE FIELD BOLTED UNLESS OTHERWISE INDICATED. THE CONTRACTOR MAY SUBSTITUTE WELDED CONNECTIONS PROVIDED THE EXISTING STEEL IS TESTED TO DETERMINE STRENGTH AND CHEMICAL PROPERTIES. TEST METHODS AND RESULTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO ANY FIELD WELDING TO EXISTING STEEL.

   O. ALL EXPOSED STRUCTURAL STEEL SHALL CONFORM TO THE AISC "SPECIFICATION FOR ARCHITECTURALLY EXPOSED STRUCTURAL STEEL".

   P. THE CONTRACTOR SHALL NOT SPLICE OR CUT OPENINGS IN STEEL MEMBERS NOT SHOWN ON CONTRACT DRAWINGS WITHOUT THE PERMISSION OF THE STRUCTURAL ENGINEER.

   Q. HEADED STUDS SHALL BE MANUFACTURED OF COLD DRAWN STEEL CONFORMING TO ASTM A108 AND SHALL BE AUTOMATICALLY END WELDED WITH SUITABLE STUD WELDING EQUIPMENT IN THE SHOP OR FIELD.

   R. ALL STRUCTURAL STEEL SHALL BE SHOP PAINTED WITH AN APPROVED CORROSION RESISTANT PRIMER AND SHALL BE PERFORMED IN STRICT ACCORDANCE WITH AISC AND SSPC SPECIFICATIONS AND THE MANUFACTURER'S RECOMMENDATIONS. PRIMER SHALL BE STANDARD LEAD- AND CHROMATE-FREE, NONASPHALTIC, RUSTINHIBITING PRIMER.

   S. AN INDEPENDENT INSPECTION AGENCY SHALL INSPECT ALL STRUCTURAL STEEL AND VERIFY THAT IT CONFORMS TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. FIELD INSPECTION REPORTS SHALL BE SUBMITTED TO THE ENGINEER WITHIN 5 DAYS OF THE INSPECTION. THE CONTRACTOR SHALL NOTIFY THE INSPECTION AGENCY OF ALL PHASES OF STEEL CONSTRUCTION AND WELDING.

   T. STEEL MEMBERS, FABRICATIONS AND ASSEMBLIES INDICATED TO BE GALVANIZED SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A 123 AFTER FABRICATION. ALL BOLTS, SCREWS, WASHERS & NUTS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM F2329.

   U. GROUT FOR BASE AND BEARING PLATES SHALL BE NON-SHRINK, NON-METALLIC GROUT CONFORMING TO ASTM C1107 WITH MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI AT 28 DAYS.

   V. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS INDICATING THE SIZES, EXTENT, AND LOCATION OF ALL STRUCTURAL AND MISCELLANEOUS STEEL FRAMING INCLUDING ALL CONNECTIONS, FASTENERS, AND BEARINGS.

5. CONCRETE FOUNDATION DESIGN ASSUMES 2000 PSF MINIMUM SOIL BEARING CAPACITY. IF OTHER CONDITIONS EXIST, THE FOUNDATION SHALL BE REDESIGNED. CONTRACTOR SHALL HAVE SOIL BEARING CAPACITY VERIFIED BY A LICENSED PROFESSIONAL GEOTECHNICAL ENGINEER PRIOR TO PLACING THE CONCRETE SLAB. ALL BACKFILL SHALL BE THOROUGHLY COMPACTED TO A MINIMUM OF 95% MODIFIED PROCTOR DENSITY.

6. ALL WELDING SHALL BE IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF AWS D1.1, STRUCTURAL WELDING CODE - STEEL, USING E70XX ELECTRODES. ALL WELDERS SHALL BE CERTIFIED IN ACCORDANCE WITH AWS REQUIREMENTS.

7. STEEL ANTENNA SUPPORTS AND STRUCTURAL STEEL, INCLUDING ALL BOLTS AND ACCESSORIES, SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123. ALL AREAS OF FIELD WELDING AND BOLTING AND ANY OTHER AREAS WITH DAMAGED COATING SHALL BE FIELD REPAIRED WITH SSPC PAINT 20 GALVANIZING REPAIR PAINT APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

8. ALL DIMENSIONS AFFECTED BY THE GEOMETRICS AND/OR LOCATION OF THE EXISTING STRUCTURE ARE TO BE CHECKED IN THE FORLD BY THE CONTRACTOR BEFORE ANY CONSTRUCTION IS DONE AND BEFORE ANY MATERIAL IS ORDERED OR FABRICATED. NOTIFY ENGINEER WHERE OBSTRUCTIONS TO NEW CONSTRUCTION OCCUR BEFORE ANY CONSTRUCTION IS DONE AND BEFORE ANY MATERIAL IS ORDERED OR FABRICATED.

9. SUBMIT SHOP DRAWINGS FOR ALL STEEL WORK TO VERIZON WIRELESS PRIOR TO FABRICATION.

10. CONTRACTOR SHALL VERIFY CONSTRUCTABILITY AND DELIVERABILITY OF ALL MATERIALS PRIOR TO START OF WORK. ANY REQUESTS FOR REVISIONS OR SUBSTITUTIONS SHALL BE SUBMITTED TO VERIZON WIRELESS BEFORE ANY MATERIAL IS ORDERED OR FABRICATED.

11. CONTRACTOR SHALL PREPARE AND SUBMIT TO VERIZON WIRELESS, AS-BUILT, MARK-UP DRAWINGS FOR ALL APPLICABLE CHANGES OR DEVIATIONS FROM THE CONTRACT DOCUMENTS.

12. CAST IN PLACE CONCRETE

   A. ALL CONCRETE CONSTRUCTION SHALL CONFORM TO THE "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS (ACI 301)"; AND TO THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318)".

   B. IN ADDITION TO THE ABOVE, ALL CONCRETE WORK SHALL CONFORM TO THE FOLLOWING:

      1. RECOMMENDED PRACTICE FOR HOT WEATHER CONCRETING (ACI 305)
      2. RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING (ACI 306).
      3. RECOMMENDED PRACTICE FOR CONCRETE FORMWORK (ACI 347).

   C. ALL CONCRETE EXPOSED TO PUBLIC VIEW SHALL CONFORM TO THE REQUIREMENTS FOR ARCHITECTURAL CONCRETE CONTAINED IN ACI 301.

   D. ALL CONCRETE, UNLESS NOTED OTHERWISE, SHALL BE STONE AGGREGATE CONCRETE HAVING A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4500 PSI. ALL CONCRETE EXPOSED TO WEATHER SHALL HAVE AN AIR ENTRAINMENT OF 6% +/- 1%. NO ADMIXTURES CONTAINING CALCIUM CHLORIDE SHALL BE PERMITTED. MAXIMUM AGGREGATE SIZE SHALL BE 1", AND MAXIMUM SLUMP SHALL BE 5", 4" FOR SLABS ON GRADE. ALL CONCRETE, EXCEPT FOOTINGS, SHALL CONTAIN A WATER REDUCING ADMIXTURE. PORTLAND CEMENT SHALL CONFORM TO ASTM C 150 AND NORMAL WEIGHT AGGREGATES SHALL CONFORM TO ASTM C 33.

   E. ALL REINFORCING BARS SHALL BE NEW BILLET STEEL CONFORMING TO ASTM A 615 GRADE 60. ALL WELDED WIRE FABRIC (W.W.F.) SHALL CONFORM TO ASTM A 185. LAP ALL REINFORCING BARS A MINIMUM OF 48 BAR DIAMETERS AND ALL W.W.F. A MINIMUM OF TWO FULL GRIDS, UNLESS OTHERWISE INDICATED.

   F. ALL REINFORCING SHALL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH THE CRSI "MANUAL OF STANDARD PRACTICE", ACI 315" DETAILS AND DETAILING OF CONCRETE REINFORCEMENT", ACI SP 66 "DETAILING MANUAL".

   G. ALL CONCRETE MIX DESIGNS, INCLUDING CEMENT CONTENT, WATER CEMENT RATIO, FINE AND COARSE AGGREGATE CONTENT AND ALL ADMIXTURES, SHALL BE REVIEWED BY ENGINEER PRIOR TO PLACING FIRST CONCRETE.

   H. ALL CONCRETE SHALL BE SAMPLED AND TESTED BY THE TESTING AGENCY. THE CONTRACTOR SHALL NOTIFY THE TESTING AGENCY 48 HOURS PRIOR TO THE PLACING OF ANY CONCRETE.

   I. GROUND BLAST FURNACE SLAG MAY BE USED TO REPLACE UP TO 50 PERCENT OF THE PORTLAND CEMENT IN A CONCRETE MIX, AND FLY ASH OR POZZOLAN MAY BE USED TO REPLACE UP TO 25 PERCENT OF PORTLAND CEMENT, SUBJECT TO THE APPROVAL OF THE STRUCTURAL ENGINEER AND SHALL CONFORM TO ASTM C 989.

   J. MINIMUM COVER FOR ALL REINFORCING SHALL BE AS FOLLOWS UNLESS OTHERWISE INDICATED ON DRAWINGS:

      SLABS ON GRADE: 3 INCHES (BOTT)

T-MOBILE NORTHEAST LLC

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Fax: (410) 821-1748

DISTRICT OF COLUMBIA
JACOB TORONEY
No. PE908081
STRUCTURAL
PROFESSIONAL ENGINEER
07/19/24

I AM RESPONSIBLE FOR DETERMINING THAT THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION ARE IN COMPLIANCE WITH ALL LAWS AND REGULATIONS OF THE DISTRICT OF COLUMBIA. I HAVE PERSONALLY PREPARED, OR DIRECTLY SUPERVISED THE DEVELOPMENT OF THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION.

SITE ID:
7WDC529A
SITE NAME:
7WDC529A (REPLACEMENT FOR 7WDC114A)
SITE ADDRESS:
3401 4TH STREET SE
WASHINGTON, DC 20032
DISTRICT OF COLUMBIA

REVISION BLOCK

NO.	DESCRIPTION	DATE
1	PERMIT DWGS	07/19/24

DRAWN BY:	DNT
DESIGNED BY:	JT
REVIEWED BY:	JT
ORIGINAL DATE:	03/26/2024
MRA PROJECT #:	19981.050

811
Know what's **below.**
Call before you dig.
PROTECT YOURSELF, GIVE THREE WORKING DAYS NOTICE

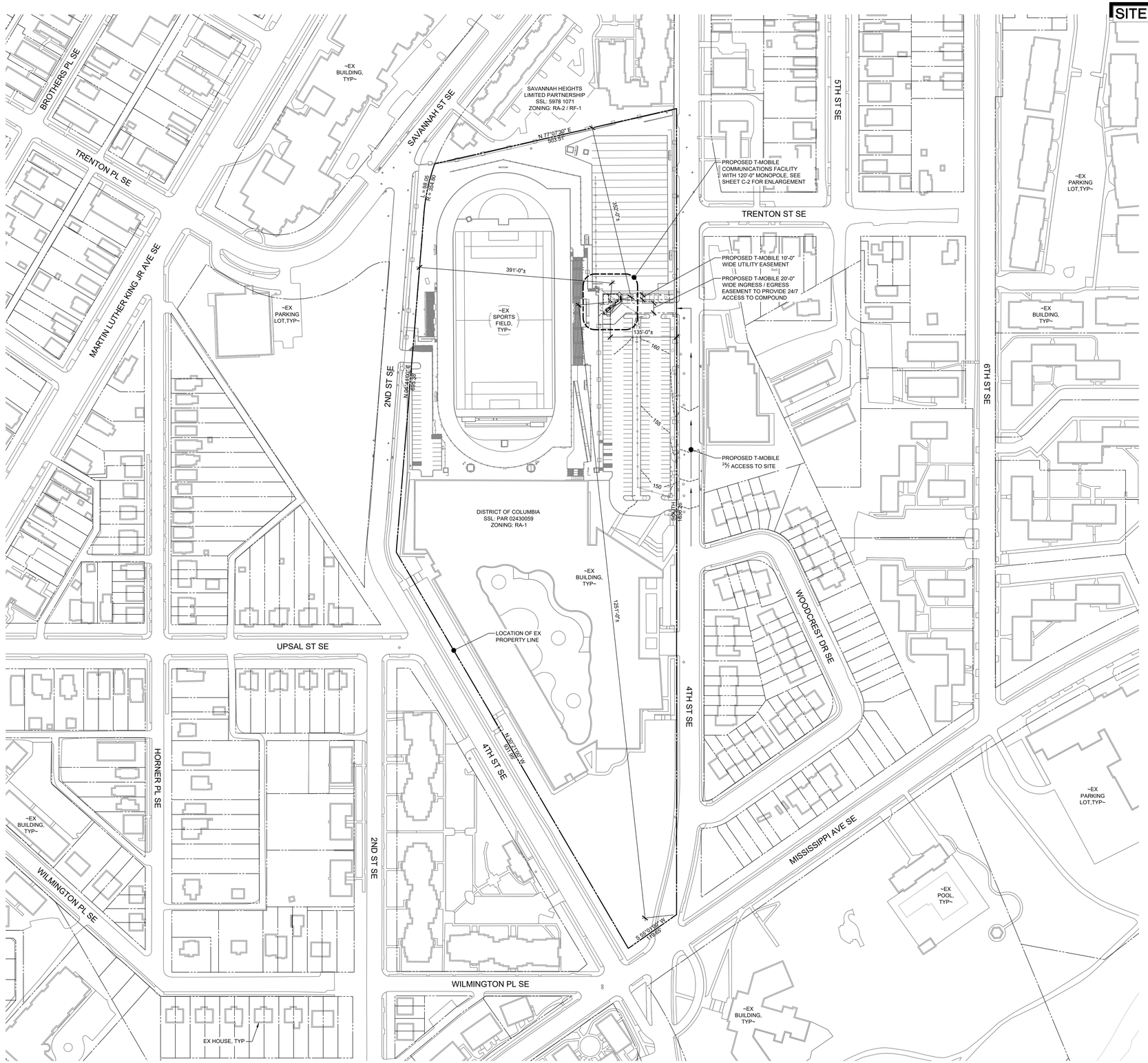
THIS DRAWING DOES NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. ALL CONSTRUCTION MUST BE DONE IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AND ALL RULES AND REGULATIONS THERE TO APPURTENANT.

SHEET TITLE

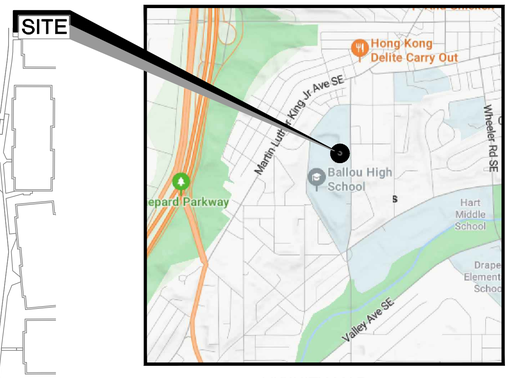
General Structural Notes

SHEET NUMBER

GN-2



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



VICINITY MAP
SCALE: 1" = 1000'

SITE NOTES:

1. APPLICANT: T-MOBILE NORTHEAST LLC
12050 BALTIMORE AVENUE
BELTSVILLE, MD 20705
TEL: (240) 264-8600
FAX (240) 264-8610
2. PROPERTY OWNER: DISTRICT OF COLUMBIA
2000 14TH ST NW 6TH FLOOR
WASHINGTON, DC 20009
3. SITE DATA: SSL ID: PAR 02430059
TRACT AREA: 715,059 SF
NEIGHBORHOOD: 016
ADDRESS: 3401 4TH ST SE
WASHINGTON, DC 20032
EXISTING USE: HIGH SCHOOL / TELECOMMUNICATIONS
4. ZONING: RA-1
5. HORIZONTAL AND VERTICAL CONTROL SHOWN HEREON IS BASED ON A GPS LATITUDE BY MORRIS & RITCHIE ASSOCIATES, INC., DATED JUNE 19, 2024. (COORDINATES ARE BASED ON NAD83/COORS11 AND NAVD88 WITH A TOLERANCE OF 10 FEET HORIZONTALLY AND 3 FEET VERTICALLY)
LATITUDE: N38° 50' 23.67" (38.839908°)
LONGITUDE: W77° 00' 04.09" (-77.001136°)
GROUND ELEVATION: 165.00' AMSL (AVG.)
PROPOSED STRUCTURE HEIGHT: 120.00' AGL
TOP OF HIGHEST APPURTENANCE: 119.00' AGL
MAXIMUM HEIGHT w/ APPURTENANCES (AMSL): 285.00' AMSL
6. TOTAL DISTURBED AREA = 1,150 SF
7. THE PROPOSED FACILITIES WILL CONSIST OF ONE (1) 12'-0" LONG x 4'-0" WIDE CONCRETE EQUIPMENT PAD AND ONE (1) 10'-0" LONG x 4'-0" WIDE CONCRETE GENERATOR PAD IN A PROPOSED 1,150 SQ FT FENCED COMPOUND. NINE (9) ANTENNAS SHALL BE MOUNTED ON A PROPOSED 120'-0" MONOPOLE WITH A RAD CENTER AT AN ELEVATION OF 115'-0"± ABOVE GRADE LEVEL FOR THE RECEPTION OF T-MOBILE COMMUNICATIONS.
8. THE STRUCTURE WILL NOT SUPPORT LIGHTS OR SIGNS UNLESS REQUIRED FOR AIRCRAFT WARNING OR OTHER SAFETY RECORDS.
9. THE APPLICANT WILL PROVIDE A CERTIFICATION FROM A REGISTERED ENGINEER THAT THE STRUCTURE WILL MEET THE APPLICABLE DESIGN STANDARDS FOR WIND LOADS PER THE REQUIREMENTS OF THE TELECOMMUNICATIONS INDUSTRY ASSOCIATION.
10. IF THE ANTENNAS ARE NO LONGER USED FOR TELECOMMUNICATIONS PURPOSES FOR A CONTINUOUS PERIOD OF ONE (1) YEAR, THEY SHALL BE REMOVED BY THE ANTENNA OWNER AT ITS EXPENSE.
11. NO WATER OR SANITARY UTILITIES ARE REQUIRED FOR THE OPERATION OF THIS FACILITY.
12. STORMWATER MANAGEMENT NOTE: NO STORMWATER MANAGEMENT IS REQUIRED FOR THIS SITE.
13. BOUNDARY SHOWN PER COUNTY RECORDS.
15. THIS PLAN PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT. PLAN IS SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD.
16. ALL DETAILS SHOWN ARE "STANDARD" OR "TYPICAL" FOR REFERENCE ONLY. FOR ACTUAL DETAILS, SEE ARCHITECTURAL, STRUCTURAL, OR CONSTRUCTION PLANS BY OTHERS.
17. STRUCTURAL ANALYSIS/DESIGN TO BE PERFORMED BY OTHERS AT CLIENT AND/OR OWNER'S DISCRETION PRIOR TO COMMENCEMENT OF ANY WORK.
18. THE COMMUNICATION EQUIPMENT SHALL BE UNMANNED, WITH INFREQUENT VISITS (FOUR OR FEWER PER YEAR) BY MAINTENANCE PERSONNEL, AND WITH ACCESS AND PARKING FOR NO MORE THAN ONE VEHICLE. THE PROPOSED FACILITY IS NOT FOR HUMAN HABITATION AND THEREFORE HANDICAP ACCESS IS NOT REQUIRED.
19. THE PROPOSED COMMUNICATIONS EQUIPMENT, ANTENNAS AND RELATED MOUNTING DEVICES DO NOT EXCEED TWELVE (12) FEET IN TOTAL HEIGHT.

GENERAL NOTES

1. CONTRACTOR SHALL NOTIFY "MISS UTILITY" (811) 48 HOURS PRIOR TO DOING ANY EXCAVATION IN THIS AREA. CONTRACTOR SHALL CONTACT A SUBSURFACE UTILITY LOCATOR FOR LOCATION OF EXISTING UTILITIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL VERIFY EXISTING UTILITY LOCATIONS BY TEST PIT AS NECESSARY. LOCATION OF UTILITIES SHOWN ON THIS PLAN ARE APPROXIMATE AND FOR PLANNING PURPOSES ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. DAMAGE TO UTILITIES OR PROPERTY OF OTHER BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE REPAIRED TO PRECONSTRUCTION CONDITIONS BY THE CONTRACTOR.
2. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH ALL STATE AND LOCAL CODES AND ORDINANCES, THE LATEST EDITION THEREOF.
3. ANY PERMITS WHICH MUST BE OBTAINED SHALL BE THE CONTRACTOR'S RESPONSIBILITY. CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS FOR THIS PROJECT FROM ALL APPLICABLE GOVERNMENTAL AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
4. CONTRACTOR SHALL COORDINATE ALL UTILITY CONNECTIONS WITH APPROPRIATE UTILITY OWNERS.
5. THESE PLANS ARE NOT FOR RECORDATION OR CONVEYANCE.
6. EXISTING PAVEMENT AND OTHER SURFACES DISTURBED BY CONTRACTOR (WHICH ARE NOT TO BE REMOVED) SHALL BE REPAIRED TO PRECONSTRUCTION CONDITIONS BY THE CONTRACTOR.

STRUCTURAL CERTIFICATION NOTES

1. "STRUCTURAL PLANS CERTIFIED AS PROVIDED IN SECTION 106.1.4.1 OF THE D.C. CONSTRUCTION CODES SUPPLEMENT AS AMENDED TO DATE."

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DISTRICT OF COLUMBIA
JACOB TORONEY
No. PE900081
STRUCTURAL
PROFESSIONAL ENGINEER
07/19/24

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SITE ID:
7WDC529A
SITE NAME:
7WDC529A (REPLACEMENT FOR 7WDC114A)
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WASHINGTON, DC 20032
DISTRICT OF COLUMBIA

REVISION BLOCK

NO.	DESCRIPTION	DATE
1	PERMIT DWGS	07/19/24

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REVIEWED BY:	JT
ORIGINAL DATE:	03/26/2024
MRA PROJECT #:	19981.050

811
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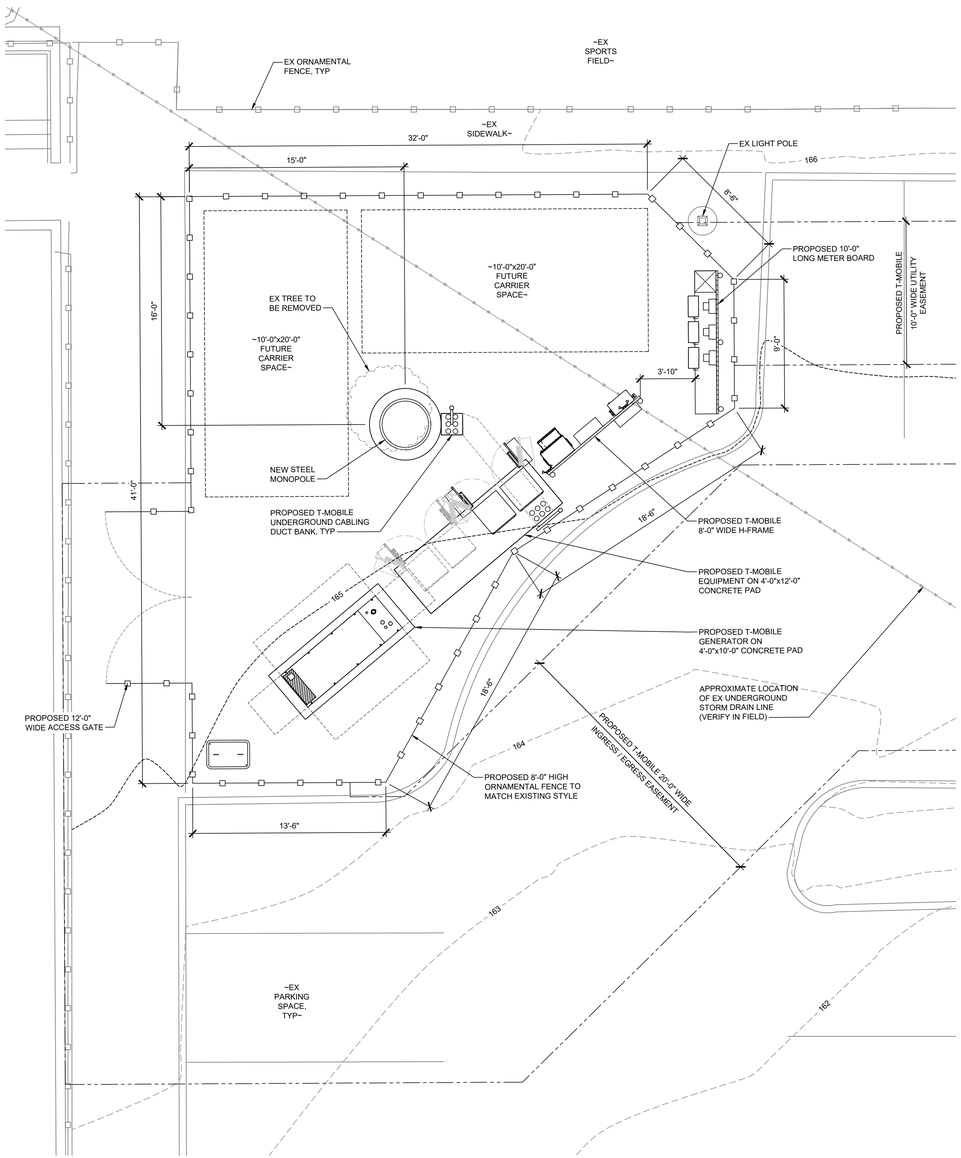
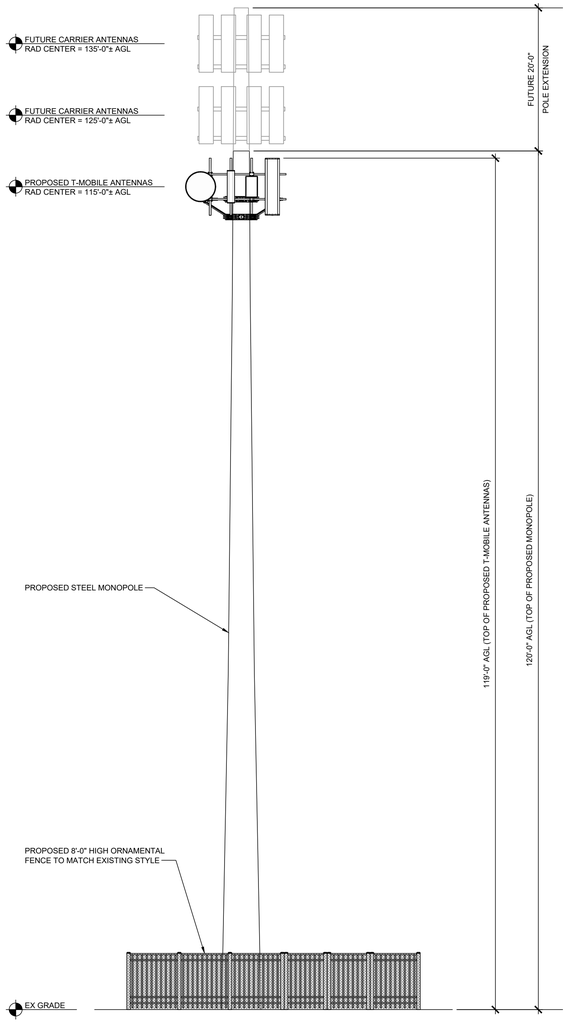
SHEET TITLE
Site Plan

SHEET NUMBER
C-1



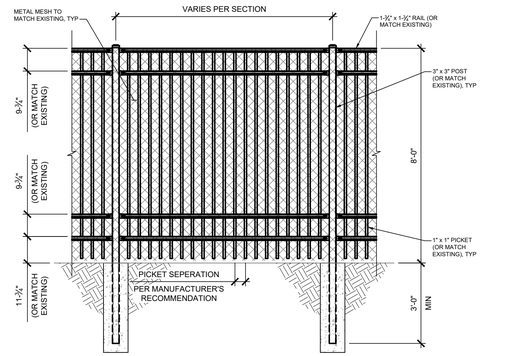
ENLARGED COMPOUND PLAN

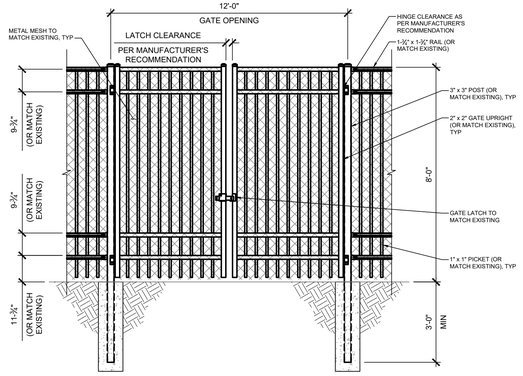
SCALE: 1" = 5'-0"



MONOPOLE ELEVATION

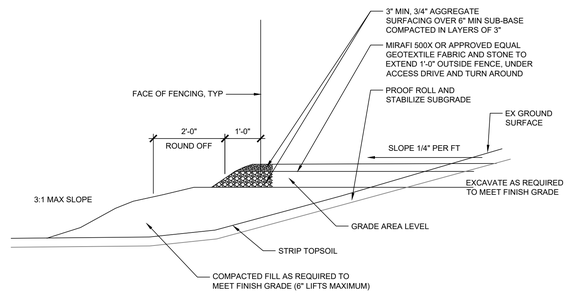
SCALE: 1" = 10'-0"





ORNAMENTAL FENCE & GATE DETAIL

SCALE: 3/8" = 1'-0"



CONSTRUCTION NOTES:

1. CLEAR AND GRUB THE LAND ALONG THE ACCESS DRIVE.
2. REMOVE ALL EXISTING ORGANIC MATERIAL TO SUITABLE SUBGRADE.
3. PLACE GEOTEXTILE FABRIC OVER SUBGRADE AND THEN PLACE AGGREGATE BASE.
4. GRAVEL SUBBASE SPECIFICATION:
   MARYLAND DOT: SECTION 304 GRADED AGGREGATE BASE COURSE
   VIRGINIA DHT: SECTION 210 AGGRGATE BASE COURSE

LEASE AREA, ACCESS DRIVE & TURN AROUND AREA SURFACING

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

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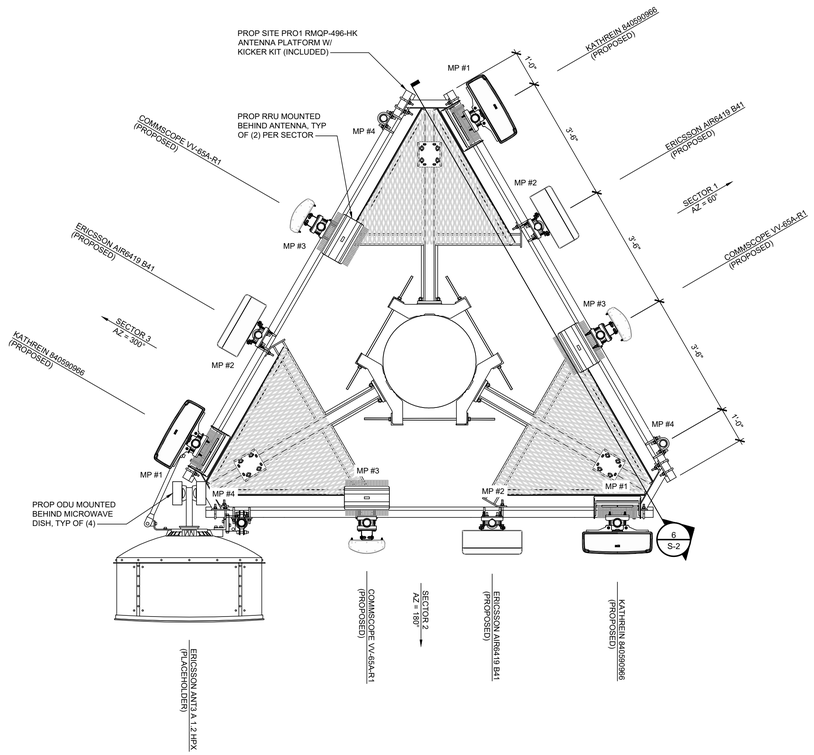
SHEET TITLE

Site Details

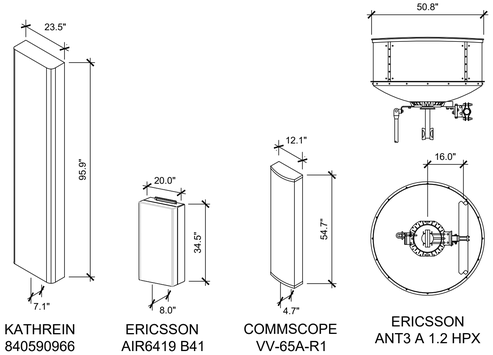
SHEET NUMBER

C-2



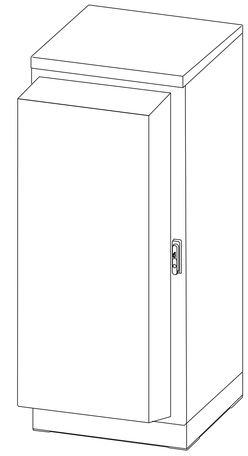
PROPOSED ANTENNA SECTOR PLAN

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



T-MOBILE ANTENNA DETAILS

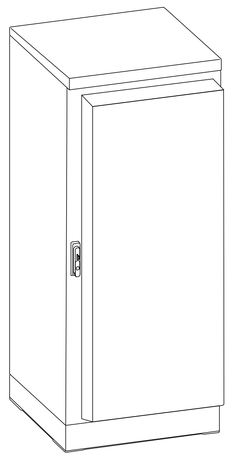
NOT TO SCALE



6160 EQUIPMENT CABINET:

MANUFACTURER:	ERICSSON
DIMENSIONS:	26"W x 26"D x 63"H (INCL. BASE)
WEIGHT (EMPTY):	320 LBS
WEIGHT (FULL):	1,500 LBS

ERICSSON 6160 ENCLOSURE



B160 BATTERY CABINET:

MANUFACTURER:	ERICSSON
DIMENSIONS:	26"W x 26"D x 63"H (INCL. BASE)
WEIGHT (EMPTY):	295 LBS
WEIGHT (FULL):	2,000 LBS

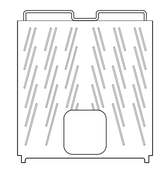
ERICSSON B160 ENCLOSURE

PROPOSED T-MOBILE CABINET DETAILS

NOT TO SCALE

PROPOSED ANTENNA SCHEDULE

SECTOR	POS	MANUFACTURER	MODEL #	ANTENNA DIMENSIONS	AZIMUTH	RAD CENTER (FT)	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	RRH QUANTITY & MODEL NO	CABLE QUANTITY & TYPE	HYBRID CABLE QUANTITY & LENGTH
SECTOR 1	1	KATHREIN	840590966	95.9"H x 23.5"W x 7.1"D	60°	115'-0"±	0	5	(1) RADIO 4480 B71+B85	(4) COAX JUMPER (10 FT) (2) FIBER JUMPER (15 FT)	(2) 6x24 HYBRID CABLES TO SERVICE ALL SECTORS 160'-0"± VERIFY IN FIELD
	2	ERICSSON	AIR6419 B41	34.5"H x 20.0"W x 8.0"D	60°	115'-0"±	0	6	N/A	(2) FIBER JUMPER (15 FT)	
	3	COMMSCOPE	VV-65A-R1	54.7"H x 12.1"W x 4.7"D	60°	115'-0"±	0	7	(1) RADIO 4460 B25+B66	(4) COAX JUMPER (10 FT) (2) FIBER JUMPER (15 FT)	
	4	EMPTY	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
SECTOR 2	1	KATHREIN	840590966	95.9"H x 23.5"W x 7.1"D	180°	115'-0"±	0	3	(1) RADIO 4480 B71+B85	(4) COAX JUMPER (10 FT) (2) FIBER JUMPER (15 FT)	
	2	ERICSSON	AIR6419 B41	34.5"H x 20.0"W x 8.0"D	180°	115'-0"±	0	2	N/A	(2) FIBER JUMPER (15 FT)	
	3	COMMSCOPE	VV-65A-R1	54.7"H x 12.1"W x 4.7"D	180°	115'-0"±	0	3	(1) RADIO 4460 B25+B66	(4) COAX JUMPER (10 FT) (2) FIBER JUMPER (15 FT)	
	4	ERICSSON (PLACEHOLDER)	ANT3 A 1.2 HPX (PLACEHOLDER)	50.8" DIAMETER	N/A	115'-0"±	N/A	N/A	(4) ODU MINI-LINK 6365 (PLACEHOLDER)	(4) 1/2" COAX (PLACEHOLDER)	
SECTOR 3	1	KATHREIN	840590966	95.9"H x 23.5"W x 7.1"D	300°	115'-0"±	0	2	(1) RADIO 4480 B71+B85	(4) COAX JUMPER (10 FT) (2) FIBER JUMPER (15 FT)	
	2	ERICSSON	AIR6419 B41	34.5"H x 20.0"W x 8.0"D	300°	115'-0"±	0	2	N/A	(2) FIBER JUMPER (15 FT)	
	3	COMMSCOPE	VV-65A-R1	54.7"H x 12.1"W x 4.7"D	300°	115'-0"±	0	2	(1) RADIO 4460 B25+B66	(4) COAX JUMPER (10 FT) (2) FIBER JUMPER (15 FT)	
	4	EMPTY	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	



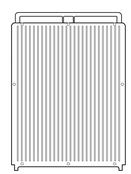
RADIO 4460 B25+B66: REMOTE RADIO UNIT:

MANUFACTURER:	ERICSSON
POWER SUPPLY:	-48VDC
DIMENSIONS:	17.0"H x 15.1"W x 11.9"D
WEIGHT:	109 LBS

NOTES:

1. INSTALL RRU PER MANUFACTURERS RECOMMENDATIONS.
2. FIBER, DC POWER & GROUND CONNECTIONS NOT SHOWN.

ERICSSON RADIO 4460 B25+B66 (PROPOSED)



RADIO 4480 B71+B85: REMOTE RADIO UNIT:

MANUFACTURER:	ERICSSON
POWER SUPPLY:	-48VDC
DIMENSIONS:	21.8"H x 15.7"W x 7.5"D
WEIGHT:	84.0 LBS

NOTES:

1. INSTALL RRU PER MANUFACTURERS RECOMMENDATIONS.
2. FIBER, DC POWER & GROUND CONNECTIONS NOT SHOWN.

ERICSSON RADIO 4480 B71+B85 (PROPOSED)

T-MOBILE NORTHEAST LLC

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BELTSVILLE, MARYLAND 20705
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DISTRICT OF COLUMBIA
JACOB TORONEY
No. PE908051
STRUCTURAL
PROFESSIONAL ENGINEER
07/19/24

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SITE ID:
7WDC529A
SITE NAME:
7WDC529A (REPLACEMENT FOR 7WDC114A)
SITE ADDRESS:
3401 4TH STREET SE
WASHINGTON, DC 20032
DISTRICT OF COLUMBIA

REVISION BLOCK

NO.	DESCRIPTION	DATE
1	PERMIT DWGS	07/19/24

DRAWN BY:	DNT
DESIGNED BY:	JT
REVIEWED BY:	JT
ORIGINAL DATE:	03/26/2024
MRA PROJECT #:	19981.050

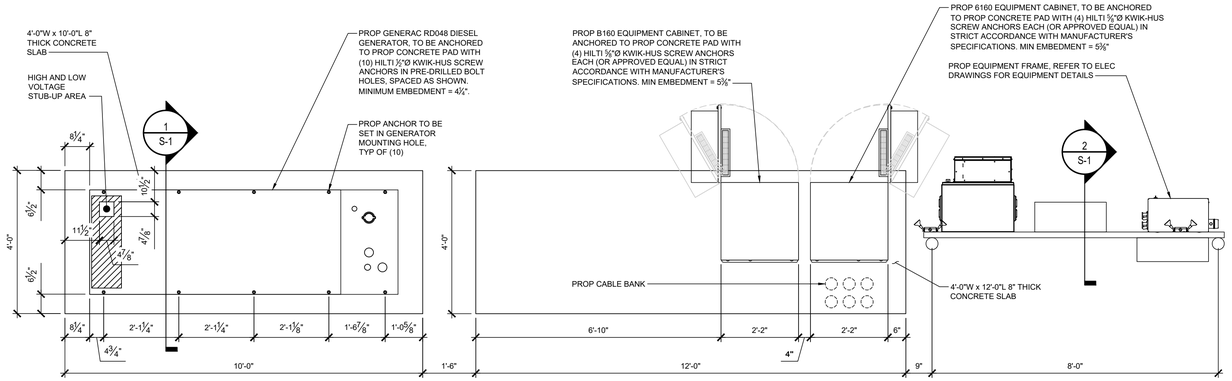
811
Know what's **below.**
Call before you dig.
PROTECT YOURSELF, GIVE THREE WORKING DAYS NOTICE
THIS DRAWING DOES NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. ALL CONSTRUCTION MUST BE DONE IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AND ALL RULES AND REGULATIONS THERE TO APPURTENANT.

SHEET TITLE

Antenna Details

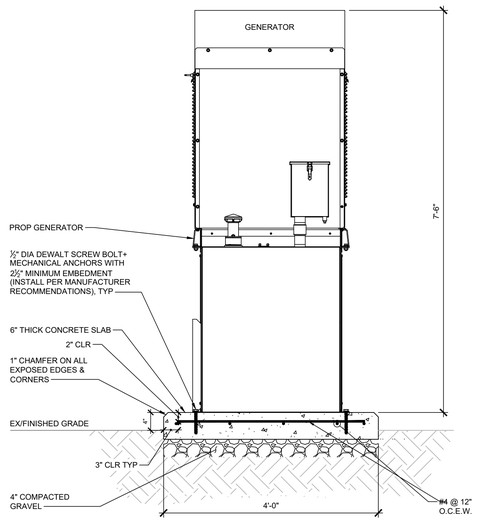
SHEET NUMBER

C-3



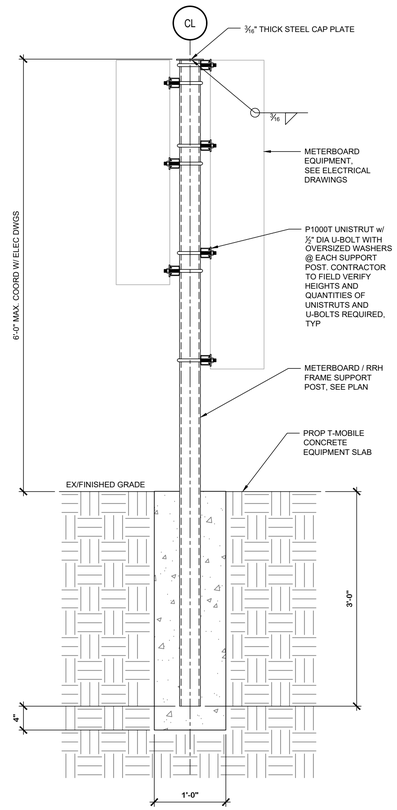
CONCRETE EQUIPMENT SLABS (PLAN VIEW)

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



1 S-1 CONCRETE PAD ELEVATION RD048 DIESEL GENERATOR

SCALE: 1" = 1'-0"



2 S-1 UTILITY FRAME DETAIL

SCALE: 1" = 1'-0"

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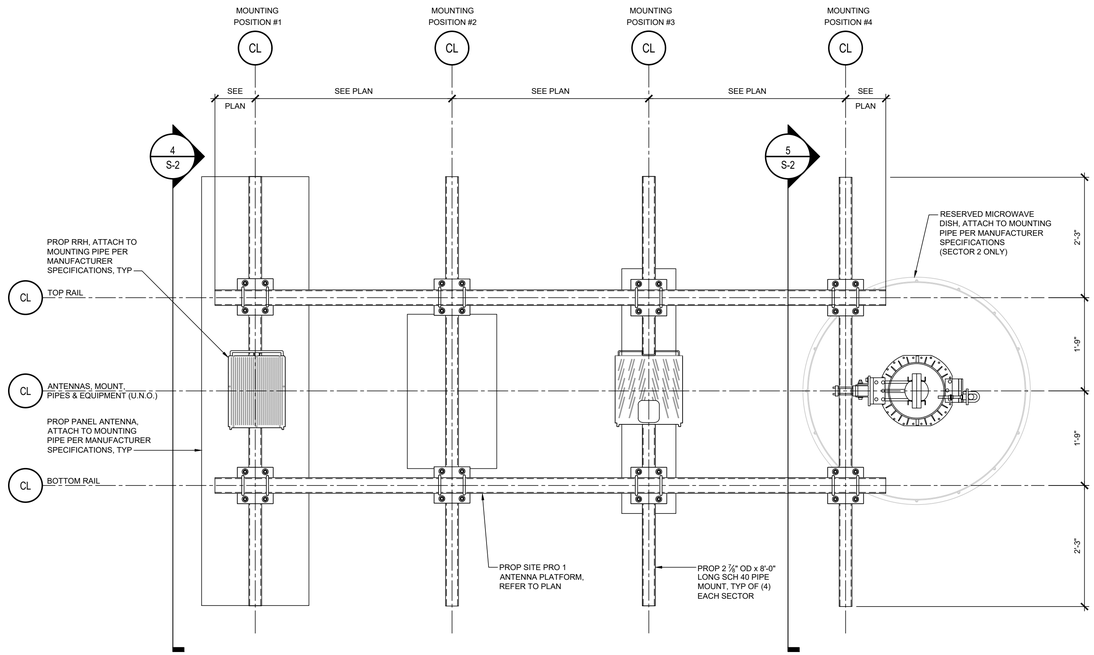
SHEET TITLE

Structural Details

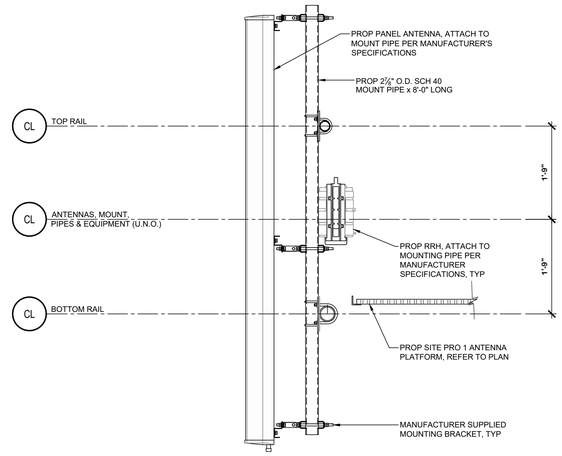
SHEET NUMBER

S-1



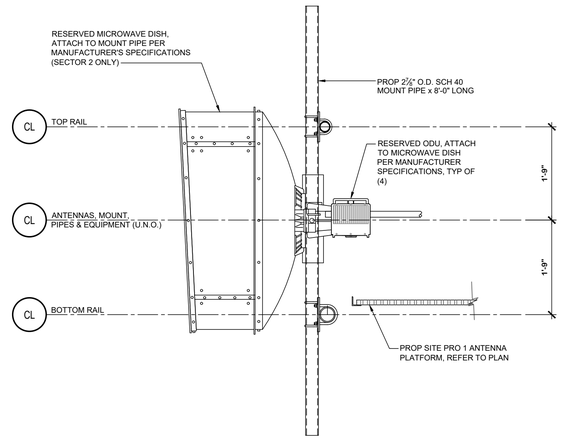
3 C-3 TYPICAL ANTENNA SECTOR REAR ELEVATION

SCALE: 3/4" = 1'-0"



4 S-2 TYPICAL ANTENNA & EQUIPMENT MOUNT SECTION

SCALE: 3/4" = 1'-0"



5 S-2 TYPICAL ANTENNA & EQUIPMENT MOUNT SECTION

SCALE: 3/4" = 1'-0"

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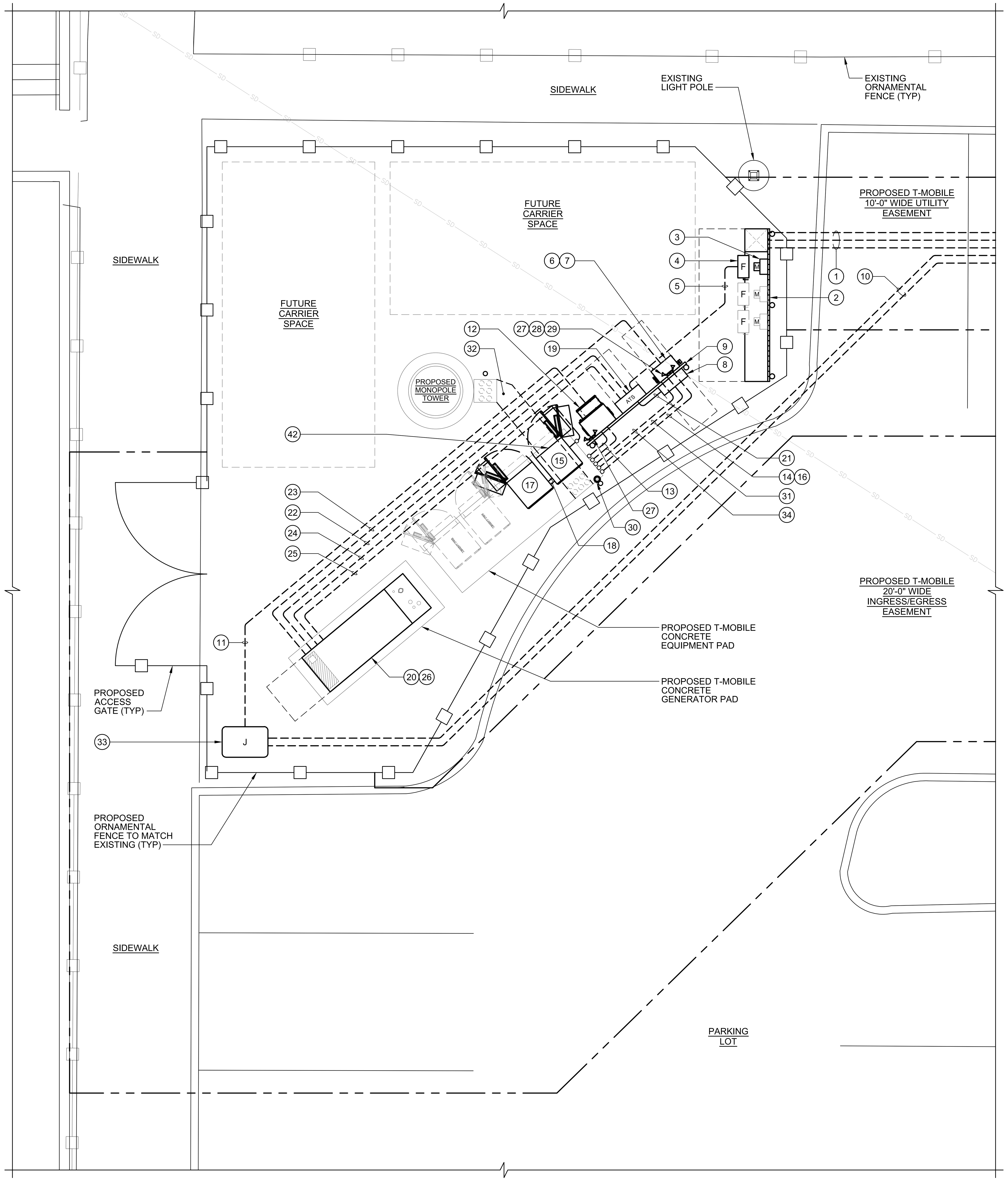
Structural Details

SHEET NUMBER

S-2



GENERAL CONTRACTOR TO PERFORM THE FOLLOWING UPON INSTALLATION OF THE T-MOBILE EQUIPMENT:

1. INSTALL ALL BAKELITE LABELS (T-MOBILE) ON METER CAN, ELECTRIC SERVICE DISCONNECT SWITCH, AND ALL EQUIPMENT CABINETS.

NOTE:
THE SITE PLAN IS SHOWN FOR INFORMATIONAL PURPOSES ONLY, AND THE EXACT LOCATION OF THE T-MOBILE EQUIPMENT PAD SHALL BE COORDINATED WITH FINAL CIVIL DRAWINGS PRIOR TO START OF WORK.

(35)(36)(37)(38)(39)(40)(41)(42) EQUIPMENT POWER PLAN
SCALE: 1/4" = 1'-0"

DRAWING NOTES

1. EXTEND THREE (3) - 4" SCHEDULE 40 PVC CONCRETE ENCASED CONDUITS (3-WAY, 3H X 1V) BELOW GRADE FROM PROPOSED UTILITY COMPANY BACKBOARD TO 1'-0" BEYOND PROPERTY LINE FOR EXTENSION OF INCOMING ELECTRIC SERVICE CABLES BY UTILITY COMPANY (APPROXIMATELY 125 L.F.). DESIGN INTENT TO INCLUDE A UTILITY COMPANY PROVIDED AND INSTALLED POLE MOUNTED TRANSFORMER MOUNTED ON EXISTING UTILITY POLE #819382-1385. CONDUIT STUB AT PROPERTY LINE SHALL BE MARKED FOR LOCATING PURPOSES. COORDINATE EXACT ROUTING AND TERMINATION POINT WITH UTILITY COMPANY IN THE FIELD PRIOR TO START OF WORK. PROVIDE NYLON PULL ROPE AND ENDCAPS. REFER TO ROUTING SITE PLAN AND DETAIL, SHEET E-7 FOR ADDITIONAL INFORMATION. COORDINATE UTILITY SOURCE TO BE USED FOR EXTENSION OF PROPOSED INCOMING ELECTRIC SERVICE WITH UTILITY COMPANY PRIOR TO START OF WORK.
2. PROPOSED 10'-0" LONG UTILITY SERVICE BACKBOARD WITH 18"X18"X10'-0" SEALABLE WEATHERPROOF TROUGH. TROUGH COVERS MUST BE REMOVABLE AND MUST BE IN SECTIONS SMALL ENOUGH TO BE HANDLED BY ONE PERSON (A MAXIMUM OF 30" IN LENGTH PER SECTION). FINAL BACKBOARD AND TROUGH REQUIREMENTS SHALL COMPLY WITH PEPCO STANDARDS. REFER TO DETAILS ON SHEET E-4 FOR ADDITIONAL INFORMATION.
3. CONTRACTOR PROVIDED AND INSTALLED WEATHERPROOF, 120/240V, 1Ø, 3W, 200A METER CAN MOUNTED ON BACKBOARD. METER GLOBE PROVIDED AND INSTALLED BY UTILITY COMPANY. PROVIDE PHENOLIC NAMEPLATE READING "T-MOBILE" BELOW METER GLOBE.
4. PROVIDE AND INSTALL WEATHERPROOF, 240V SERVICE ENTRANCE RATED, 2P 200A SERVICE DISCONNECT SWITCH WITH TWO (2) 200A CLASS RK1 FUSES MOUNTED ON ELECTRIC SERVICE BACKBOARD. PROVIDE PHENOLIC NAMEPLATE READING "T-MOBILE". COORDINATE A.I.C. RATING WITH UTILITY COMPANY PRIOR TO ORDERING. PROVIDE CAUTION TWO SOURCES OF SUPPLY STICKER ON SERVICE DISCONNECT SWITCH. BACKGROUND SHALL BE YELLOW WITH BLACK BLOCK STYLE LETTERING. REFER TO DETAIL, SHEET E-2.
5. EXTEND 3#3/0 + #6 GRD - 2" CONDUIT BELOW GRADE (NORMAL FEEDER). COORDINATE EXACT ROUTING WITH T-MOBILE REPRESENTATIVE IN THE FIELD.
6. PROVIDE AND INSTALL WEATHERPROOF T-MOBILE 120/240V, 1Ø, 3W, 200A MCB RAYCAP POWER PROTECTION CABINET (PPC) WITH INTEGRAL GENERATOR CAM-LOK RECEPTACLE CONNECTORS, 15A GFCI RECEPTACLE AND SURGE PROTECTION MOUNTED ON NEW EQUIPMENT BACKBOARD. PROVIDE PHENOLIC NAMEPLATE ON PROPOSED T-MOBILE PANEL READING: "FED FROM FUSED SERVICE DISCONNECT SWITCH ON ELECTRIC SERVICE BACKBOARD". REFER TO PANEL SCHEDULE, SHEET E-4 FOR ADDITIONAL INFORMATION.
7. ELECTRICAL DISTRIBUTION EQUIPMENT PROVIDED WITH CABINET.
8. PROVIDE WEATHERPROOF, 8"X8"X24" LONG ELECTRIC SERVICE TROUGH MOUNTED ON REAR OF BACKBOARD. PROVIDE TWO (2)-2" HOLES IN TROUGH AND INTO ELECTRIC PORTION OF PPC CABINET (REAR) FOR EXTENSION OF BRANCH CIRCUIT WIRING. SEAL ALL EXTERIOR PENETRATIONS WEATHERPROOF.
9. PROPOSED T-MOBILE EQUIPMENT BACKBOARD. REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
10. EXTEND TWO (2) - 4" PVC CONDUITS FROM PROPOSED FIBER HANDHOLE TO EXISTING PROPERTY LINE AT 4TH STREET SE FOR EXTENSION OF FIBER SERVICE (APPROXIMATELY 125 L.F.). COORDINATE EXACT ROUTING AND TERMINATION POINT WITH UTILITY REPRESENTATIVE IN THE FIELD PRIOR TO START OF WORK. PROVIDE NYLON PULL ROPE AND ENDCAPS. REFER TO ROUTING SITE PLAN, SHEET E-7 FOR ADDITIONAL INFORMATION. COORDINATE UTILITY SOURCE TO BE USED FOR EXTENSION OF PROPOSED INCOMING FIBER SERVICE WITH UTILITY COMPANY PRIOR TO START OF WORK.
11. EXTEND ONE (1) - 2" CONDUIT WITH NYLON PULL ROPE BELOW GRADE FROM PROPOSED FIBER HANDHOLE TO PROPOSED FIBER EQUIPMENT AAV CABINET MOUNTED ON BACKBOARD FOR EXTENSION OF FIBER. COORDINATE EXACT ROUTING AND TERMINATION POINT AT AAV CABINET WITH T-MOBILE REPRESENTATIVE IN THE FIELD. A T-MOBILE APPROVED VENDOR SHALL INSTALL INNERDUCTS AS REQUIRED.
12. PROPOSED FIBER EQUIPMENT AAV CABINET MOUNTED ON EQUIPMENT BACKBOARD FOR EXTENSION OF FIBER. COORDINATE EXACT MOUNTING LOCATION AND ELECTRICAL REQUIREMENTS WITH T-MOBILE REPRESENTATIVE AND EQUIPMENT MANUFACTURER PRIOR TO START OF WORK.
13. EXTEND TWO (2) - 2" CONDUITS WITH NYLON PULL ROPE BELOW GRADE FROM PROPOSED FIBER EQUIPMENT AAV CABINET TO PROPOSED T-MOBILE 6160 EQUIPMENT CABINET MOUNTED ON CONCRETE PAD FOR EXTENSION OF FIBER AND DC POWER WIRING. ONE CONDUIT SHALL BE USED FOR EXTENSION OF FIBER CABLES AND ONE CONDUIT SHALL BE USED FOR EXTENSION OF DC WIRING. TURN CONDUITS UP AT EQUIPMENT PAD AND CONTINUE TO 6160 CABINET. COORDINATE EXACT TERMINATION POINT AT 6160 CABINET WITH T-MOBILE REPRESENTATIVE IN THE FIELD.
14. EXTEND SPARE 2" CONDUIT FROM EQUIPMENT BACKBOARD AND TERMINATE AT PROPOSED T-MOBILE 6160 EQUIPMENT CABINET. COORDINATE STUB UP LOCATION AT EQUIPMENT CABINET WITH T-MOBILE REPRESENTATIVE PRIOR TO START OF WORK.
15. PROPOSED T-MOBILE 6160 EQUIPMENT CABINET MOUNTED ON CONCRETE PAD. COORDINATE FINAL CABINET MOUNTING LOCATION AND ORIENTATION WITH T-MOBILE REPRESENTATIVE IN THE FIELD PRIOR TO START OF WORK.
16. EXTEND 3#1/0 AWG + #6 GRD - 2" CONDUIT BELOW GRADE FROM NEW 2P150AMP BREAKER IN T-MOBILE PANEL AND TERMINATE AT PROPOSED T-MOBILE 6160 EQUIPMENT CABINET. TURN CONDUIT UP AT EQUIPMENT PAD AND CONTINUE TO 6160 CABINET.
17. PROPOSED T-MOBILE B160 BATTERY CABINET MOUNTED ON CONCRETE PAD.COORDINATE FINAL CABINET MOUNTING LOCATION AND ORIENTATION WITH T-MOBILE REPRESENTATIVE IN THE FIELD PRIOR TO START OF WORK.
18. EXTEND TWO (2) - 2" EMPTY CONDUITS WITH PULLSTRING FROM 6160 EQUIPMENT CABINET TO B160 BATTERY CABINET FOR EXTENSION OF DC BATTERY CABLES AND ALARM AND TEMPERATURE WIRING. COORDINATE CONDUIT QUANTITY, SIZE, ROUTING, TERMINATION POINT AND BATTERY CABLE REQUIREMENTS WITH T-MOBILE REPRESENTATIVE IN THE FIELD PRIOR TO START OF WORK.
19. PROPOSED GENERAC GTS SERIES, 240 VOLT RATED, 1Ø, 2 POLE, 200 AMP NEMA 3R AUTOMATIC TRANSFER SWITCH MOUNTED ON PROPOSED BACKBOARD. WHEN DRILLING INTO ATS, CONTACTS SHALL BE COVERED TO AVOID METALLIC SHAVINGS DROPPING INTO ATS CONTACTS. AFTER DRILLING, CONTRACTOR SHALL VACUUM INSIDE OF ATS. COORDINATE EXACT ATS BEING UTILIZED AND FINAL MOUNTING LOCATION WITH T-MOBILE REPRESENTATIVE.
20. PROPOSED T-MOBILE 120/240V, 1Ø, 3W, 48 KW DIESEL GENERATOR MOUNTED ON PROPOSED GENERATOR PAD. COORDINATE ALL GENERATOR REQUIREMENTS WITH EQUIPMENT MANUFACTURER AND T-MOBILE REPRESENTATIVE PRIOR TO START OF WORK. REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
21. EXTEND 3#3/0 + #6 GRD - 2" CONDUIT (LOAD FEEDER). COORDINATE EXACT ROUTING WITH T-MOBILE REPRESENTATIVE IN THE FIELD.
22. EXTEND 3#3/0 + #6 GRD - 2" CONDUIT BELOW GRADE (EMERGENCY FEEDER). COORDINATE EXACT ROUTING WITH T-MOBILE REPRESENTATIVE IN THE FIELD.
23. EXTEND 2#12 AWG + #12 GRD (BATTERY CHARGER) AND 2#12 AWG + #12 GRD (BLOCK HEATER) IN 3/4" CONDUIT BELOW GRADE TO TWO (2), 1 POLE, 20 AMP BREAKERS IN T-MOBILE PANEL.
24. EXTEND CAT 5 ALARM CABLES IN ONE (1) - 1" CONDUIT BELOW GRADE FROM AUTOMATIC TRANSFER SWITCH TO GENERATOR FOR GENERATOR CONTROLS AND ALARMING (GENERATOR FAULT/TROUBLE, GENERATOR LOW FUEL AND GENERATOR RUN). COORDINATE ALL REQUIREMENTS WITH GENERATOR MANUFACTURER AND T-MOBILE REPRESENTATIVE PRIOR TO START OF WORK.
25. EXTEND CAT 5 ALARM CABLES IN ONE (1) - 1" CONDUIT BELOW GRADE FROM GENERATOR TO PROPOSED T-MOBILE 6160 EQUIPMENT CABINET FOR GENERATOR CONTROLS AND ALARMING (GENERATOR FAULT/TROUBLE, GENERATOR LOW FUEL AND GENERATOR RUN). TURN CONDUIT UP AT EQUIPMENT PAD AND CONTINUE TO 6160 CABINET. COORDINATE ALL REQUIREMENTS WITH GENERATOR MANUFACTURER AND T-MOBILE REPRESENTATIVE PRIOR TO START OF WORK.
26. CONTRACTOR SHALL BOX OUT PORTION OF CONCRETE SLAB BELOW GENERATOR STUB UP AREA FOR EXTENSION OF CONDUITS UP THROUGH BOTTOM OF GENERATOR. ALL CONDUIT STUB-UP LOCATIONS SHALL BE WITHIN DESIGNATED CONDUIT STUB-UP AREA AND TURN UP THROUGH BOX OUT IN SLAB. COORDINATE FINAL CONDUIT BOX OUT LOCATION IN THE FIELD WITH SITE CONDITIONS (GENERATOR FUEL TYPE, BOLT PATTERN, ETC.). REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
27. PROVIDE EXTERIOR GRADE FLOOD LIGHT MOUNTED ON EQUIPMENT BACKBOARD (TYP OF 2). FIXTURE SHALL BE HOME DEPOT ADJUSTABLE FLOOD LIGHT WITH LED LAMPS (SEA GULL LIGHTING MODEL#9607-12) OR APPROVED EQUAL. REFER TO DETAIL ON SHEET E-4.
28. PROVIDE WEATHERPROOF SINGLE POLE SWITCH AND COVER FOR FIXTURE/RECEPTACLE CONTROL. COORDINATE MOUNTING LOCATION IN THE FIELD.
29. PROVIDE ONE (1) 1P20A CIRCUIT BREAKER IN PANEL "T-MOBILE" AND EXTEND 2#12 AWG + #12 GRD - 3/4" CONDUIT FOR CONVENIENCE LIGHT SERVICE.
30. PROPOSED GPS MOUNTING LOCATION. COORDINATE WRING REQUIREMENTS, MOUNTING LOCATION AND TERMINATION POINT WITH T-MOBILE REPRESENTATIVE PRIOR TO START OF WORK.
31. PROPOSED GFCI, 120 VOLT, 20 AMP, RECEPTACLE PROVIDED WITH 6160 EQUIPMENT CABINET. EXTEND 2#12 AWG + #12 GRD - 3/4" CONDUIT FROM NEW 1P20A CB IN PANEL "T-MOBILE" TO NEW GFCI RECEPTACLE PROVIDED INSIDE 6160 CABINET. TURN CONDUIT UP AT EQUIPMENT PAD AND CONTINUE TO 6160 CABINET.
32. PROPOSED LOCATION OF T-MOBILE 6 WAY (3HX2V) UNDERGROUND DUCTBANK FOR EXTENSION OF HYBRID FIBER CABLES BELOW GRADE. CONTRACTOR SHALL COORDINATE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO START OF WORK. REFER TO DETAILS, SHEET E-6, AND STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
33. PROPOSED FIBER HANDHOLE FOR EXTENSION OF FIBER. COORDINATE EXACT HANDHOLE LOCATION AND SPECIFICATIONS WITH UTILITY COMPANY REPRESENTATIVE IN THE FIELD PRIOR TO START OF WORK.
34. EXTEND ONE (1) 1" CONDUIT WITH NYLON PULL ROPE BELOW GRADE FROM 6160 CABINET TO T-MOBILE PPC PANEL FOR EXTENSION OF LOCP ALARM CABLE. TURN CONDUIT UP AT EQUIPMENT PAD AND CONTINUE TO 6160 CABINET. COORDINATE TERMINATION POINTS WITH T-MOBILE REPRESENTATIVE PRIOR TO START OF WORK.
35. ALL CONDUITS BELOW GRADE SHALL BE SCHEDULE 40 PVC. ALL CONDUITS ABOVE GRADE AND/OR EXPOSED TO WEATHER SHALL BE RIGID GALVANIZED STEEL. ALL CONDUITS EXTENDING BELOW AREAS SUBJECT TO VEHICULAR TRAFFIC SHALL BE SCHEDULE 80 PVC.
36. ALL UNISTRUT SHALL BE STAINLESS STEEL. HARDWARE SHALL BE HOT DIPPED GALVANIZED.
37. CONDUIT ROUTING IS DIAGRAMMATIC, EXACT CONDUIT ROUTE SHALL BE COORDINATED WITH T-MOBILE REPRESENTATIVE IN THE FIELD.
38. COORDINATE ALL UNDERGROUND SERVICES WITH MISS UTILITY 48 HOURS PRIOR TO DIGGING. CONTRACTOR SHALL HAND-DIG WITHIN 5'-0" OF ALL UNDERGROUND SERVICES.
39. REFER TO DRAWING PREPARED BY MRA FOR SITE PLAN.
40. **THE SPECIFIED OPTIONAL STAND-BY GENERATOR IS NOT A SEPARATELY DERIVED SYSTEM. THE CONTRACTOR SHALL VERIFY THAT THE AUTOMATIC TRANSFER SWITCH DOES NOT SWITCH THE NEUTRAL CONDUCTOR. IF THE MANUFACTURER INSTALLED A MAIN BONDING JUMPER IN THE GENERATOR, THE CONTRACTOR SHALL DISCONNECT AND REMOVE THE JUMPER TO PREVENT VIOLATING NEC ARTICLE 250.6, OBJECTIONABLE CURRENT OVER GROUNDING CONDUCTORS.**
41. **CONTRACTOR SHALL OBTAIN THE LATEST ELECTRIC SERVICE DESIGN DRAWINGS FROM THE UTILITY COMPANY PRIOR TO START OF WORK. UTILITY COMPANY DRAWINGS SHALL SUPERCEDE ELECTRIC SERVICE DESIGN AS SHOWN IN CONSTRUCTION DOCUMENTS. COORDINATE ALL REQUIREMENTS WITH UTILITY COMPANY AND T-MOBILE REPRESENTATIVE.**
42. TURN ALL CONDUITS EXTENDING TO 6160 EQUIPMENT CABINET UP AT PROPOSED T-MOBILE CONCRETE EQUIPMENT PAD AND CONTINUE ABOVE GRADE TO 6160 CABINET. COORDINATE EXACT ROUTING AND CONDUIT SUPPORT METHOD IN THE FIELD WITH ACTUAL EQUIPMENT LOCATION, CONFIGURATION, AND T-MOBILE REPRESENTATIVE PRIOR TO START OF WORK.

0 1 2 3 4 8 12
SCALE:1/4"=1'-0"

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DISTRICT OF COLUMBIA

REVISION BLOCK

NO.	DESCRIPTION	DATE
1	PERMIT DWGS	07/19/24

DISTRICT OF COLUMBIA No. 10346 REGISTERED PROFESSIONAL ENGINEER
07/19/2024

PROFESSIONAL CERTIFICATION
I AM RESPONSIBLE FOR DETERMINING THAT THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION ARE IN COMPLIANCE WITH ALL LAWS AND REGULATIONS OF THE DISTRICT OF COLUMBIA. I HAVE PERSONALLY PREPARED, OR DIRECTLY SUPERVISED THE DEVELOPMENT OF THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION.

DRAWN BY:	MBR
DESIGNED BY:	MBR
ORIGINAL DATE:	06/18/2024
TEI PROJECT #:	24016E
DESIGN SCALE:	AS NOTED

SHEET TITLE
EQUIPMENT POWER PLAN AND NOTES

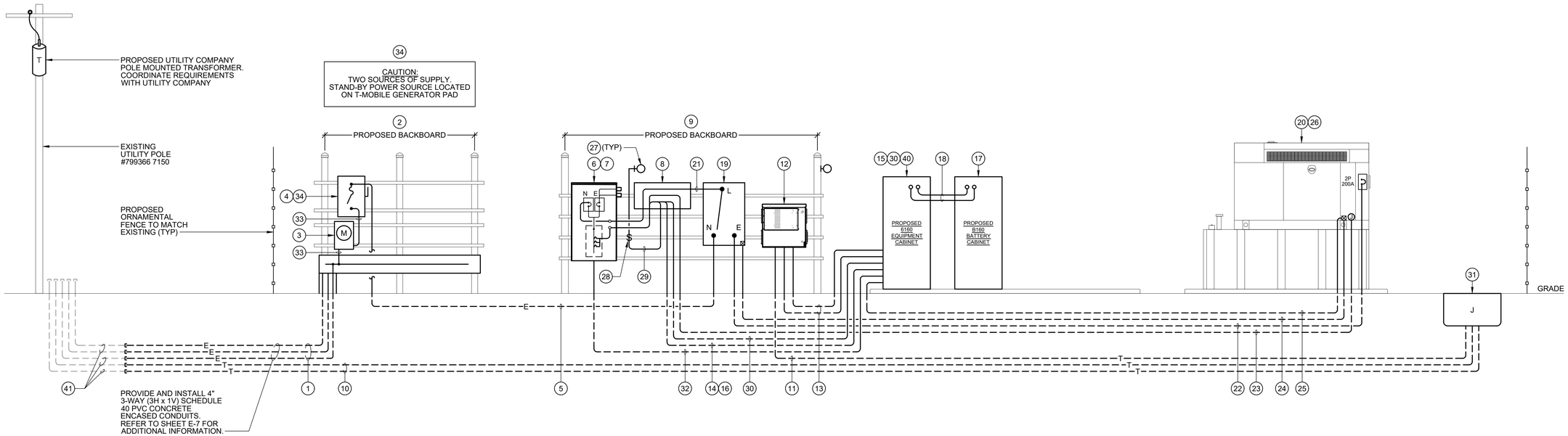
SHEET NUMBER
E-1

DRAWING NOTES

1. EXTEND THREE (3) - 4" SCHEDULE 40 PVC CONCRETE ENCASED CONDUITS (3-WAY, 3H X 1V) BELOW GRADE FROM PROPOSED UTILITY COMPANY BACKBOARD TO 1'-0" BEYOND PROPERTY LINE FOR EXTENSION OF INCOMING ELECTRIC SERVICE CABLES BY UTILITY COMPANY (APPROXIMATELY 125 L.F.). DESIGN INTENT TO INCLUDE A UTILITY COMPANY PROVIDED AND INSTALLED POLE MOUNTED TRANSFORMER MOUNTED ON EXISTING UTILITY POLE #819382-1385. CONDUIT STUB AT PROPERTY LINE SHALL BE MARKED FOR LOCATING PURPOSES. COORDINATE EXACT ROUTING AND TERMINATION POINT WITH UTILITY COMPANY IN THE FIELD PRIOR TO START OF WORK. PROVIDE NYLON PULL ROPE AND ENDCAPS. REFER TO ROUTING SITE PLAN AND DETAIL, SHEET E-7 FOR ADDITIONAL INFORMATION. COORDINATE UTILITY SOURCE TO BE USED FOR EXTENSION OF PROPOSED INCOMING ELECTRIC SERVICE WITH UTILITY COMPANY PRIOR TO START OF WORK.
2. PROPOSED 10'-0" LONG UTILITY SERVICE BACKBOARD WITH 18"X18"X10'-0" SEALABLE WEATHERPROOF TROUGH. TROUGH COVERS MUST BE REMOVABLE AND MUST BE IN SECTIONS SMALL ENOUGH TO BE HANDLED BY ONE PERSON (A MAXIMUM OF 30" IN LENGTH PER SECTION). FINAL BACKBOARD AND TROUGH REQUIREMENTS SHALL COMPLY WITH PEPCO STANDARDS. REFER TO DETAILS ON SHEET E-4 FOR ADDITIONAL INFORMATION.
3. CONTRACTOR PROVIDED AND INSTALLED WEATHERPROOF, 120/240V, 1Ø, 3W, 200A METER CAN MOUNTED ON BACKBOARD. METER GLOBE PROVIDED AND INSTALLED BY UTILITY COMPANY. PROVIDE PHENOLIC NAMEPLATE READING "T-MOBILE" BELOW METER GLOBE.
4. PROVIDE AND INSTALL WEATHERPROOF, 240V SERVICE ENTRANCE RATED, 2P 200A SERVICE DISCONNECT SWITCH WITH TWO (2) 200A CLASS RK1 FUSES MOUNTED ON ELECTRIC SERVICE BACKBOARD. PROVIDE PHENOLIC NAMEPLATE READING "T-MOBILE". COORDINATE A.I.C. RATING WITH UTILITY COMPANY PRIOR TO ORDERING.
5. EXTEND 3#3/0 + #6 GRD - 2" CONDUIT BELOW GRADE (NORMAL FEEDER). COORDINATE EXACT ROUTING WITH T-MOBILE REPRESENTATIVE IN THE FIELD.
6. PROVIDE AND INSTALL WEATHERPROOF T-MOBILE 120/240V, 1Ø, 3W, 200A MCB RAYCAP POWER PROTECTION CABINET (PPC) WITH INTEGRAL GENERATOR CAM-LOK RECEPTACLE CONNECTORS, 15A GFCI RECEPTACLE AND SURGE PROTECTION MOUNTED ON NEW EQUIPMENT BACKBOARD. PROVIDE PHENOLIC NAMEPLATE ON PROPOSED T-MOBILE PANEL READING: "FED FROM FUSED SERVICE DISCONNECT SWITCH ON ELECTRIC SERVICE BACKBOARD". REFER TO PANEL SCHEDULE, SHEET E-4 FOR ADDITIONAL INFORMATION.
7. ELECTRICAL DISTRIBUTION EQUIPMENT PROVIDED WITH CABINET.
8. PROVIDE WEATHERPROOF, 8"X8"X24" LONG ELECTRIC SERVICE TROUGH MOUNTED ON REAR OF BACKBOARD. PROVIDE TWO (2)-2" HOLES IN TROUGH AND INTO ELECTRIC PORTION OF PPC CABINET (REAR) FOR EXTENSION OF BRANCH CIRCUIT WIRING. SEAL ALL EXTERIOR PENETRATIONS WEATHERPROOF.
9. PROPOSED T-MOBILE EQUIPMENT BACKBOARD. REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
10. EXTEND TWO (2) - 4" PVC CONDUITS FROM PROPOSED FIBER HANDHOLE TO EXISTING PROPERTY LINE AT 4TH STREET SE FOR EXTENSION OF FIBER SERVICE (APPROXIMATELY 125 L.F.). COORDINATE EXACT ROUTING AND TERMINATION POINT WITH UTILITY REPRESENTATIVE IN THE FIELD PRIOR TO START OF WORK. PROVIDE NYLON PULL ROPE AND ENDCAPS. REFER TO ROUTING SITE PLAN, SHEET E-7 FOR ADDITIONAL INFORMATION. COORDINATE UTILITY SOURCE TO BE USED FOR EXTENSION OF PROPOSED INCOMING FIBER SERVICE WITH UTILITY COMPANY PRIOR TO START OF WORK.
11. EXTEND ONE (1) - 2" CONDUIT WITH NYLON PULL ROPE BELOW GRADE FROM PROPOSED FIBER HANDHOLE TO PROPOSED FIBER EQUIPMENT AAV CABINET MOUNTED ON BACKBOARD FOR EXTENSION OF FIBER. COORDINATE EXACT ROUTING AND TERMINATION POINT AT AAV CABINET WITH T-MOBILE REPRESENTATIVE IN THE FIELD. A T-MOBILE APPROVED VENDOR SHALL INSTALL INNERDUCTS AS REQUIRED.
12. PROPOSED FIBER EQUIPMENT AAV CABINET MOUNTED ON EQUIPMENT BACKBOARD FOR EXTENSION OF FIBER. COORDINATE EXACT MOUNTING LOCATION AND ELECTRICAL REQUIREMENTS WITH T-MOBILE REPRESENTATIVE AND EQUIPMENT MANUFACTURER PRIOR TO START OF WORK.
13. EXTEND TWO (2) - 2" CONDUITS WITH NYLON PULL ROPE BELOW GRADE FROM PROPOSED FIBER EQUIPMENT AAV CABINET TO PROPOSED T-MOBILE 6160 EQUIPMENT CABINET MOUNTED ON CONCRETE PAD FOR EXTENSION OF FIBER AND DC POWER WIRING. ONE CONDUIT SHALL BE USED FOR EXTENSION OF FIBER CABLES AND ONE CONDUIT SHALL BE USED FOR EXTENSION OF DC WIRING. TURN CONDUITS UP AT EQUIPMENT PAD AND CONTINUE TO 6160 CABINET. COORDINATE EXACT TERMINATION POINT AT 6160 CABINET WITH T-MOBILE REPRESENTATIVE IN THE FIELD.
14. EXTEND SPARE 2" CONDUIT FROM EQUIPMENT BACKBOARD AND TERMINATE AT PROPOSED T-MOBILE 6160 EQUIPMENT CABINET. COORDINATE STUB UP LOCATION AT EQUIPMENT CABINET WITH T-MOBILE REPRESENTATIVE PRIOR TO START OF WORK.
15. PROPOSED T-MOBILE 6160 EQUIPMENT CABINET MOUNTED ON CONCRETE PAD. COORDINATE FINAL CABINET MOUNTING LOCATION AND ORIENTATION WITH T-MOBILE REPRESENTATIVE IN THE FIELD PRIOR TO START OF WORK.
16. EXTEND 3#1/0 AWG + #6 GRD - 2" CONDUIT BELOW GRADE FROM NEW 2P150AMP BREAKER IN T-MOBILE PANEL AND TERMINATE AT PROPOSED T-MOBILE 6160 EQUIPMENT CABINET. TURN CONDUIT UP AT EQUIPMENT PAD AND CONTINUE TO 6160 CABINET.
17. PROPOSED T-MOBILE B160 BATTERY CABINET MOUNTED ON CONCRETE PAD.COORDINATE FINAL CABINET MOUNTING LOCATION AND ORIENTATION WITH T-MOBILE REPRESENTATIVE IN THE FIELD PRIOR TO START OF WORK.
18. EXTEND TWO (2) - 2" EMPTY CONDUITS WITH PULLSTRING FROM 6160 EQUIPMENT CABINET TO B160 BATTERY CABINET FOR EXTENSION OF DC BATTERY CABLES AND ALARM AND TEMPERATURE WIRING. COORDINATE CONDUIT QUANTITY, SIZE, ROUTING, TERMINATION POINT AND BATTERY CABLE REQUIREMENTS WITH T-MOBILE REPRESENTATIVE IN THE FIELD PRIOR TO START OF WORK.
19. PROPOSED GENERAC GTS SERIES, 240 VOLT RATED, 1Ø, 2 POLE, 200 AMP NEMA 3R AUTOMATIC TRANSFER SWITCH MOUNTED ON PROPOSED BACKBOARD. WHEN DRILLING INTO ATS, CONTACTS SHALL BE COVERED TO AVOID METALLIC SHAVINGS DROPPING INTO ATS CONTACTS. AFTER DRILLING, CONTRACTOR SHALL VACUUM INSIDE OF ATS. COORDINATE EXACT ATS BEING UTILIZED AND FINAL MOUNTING LOCATION WITH T-MOBILE REPRESENTATIVE.
20. PROPOSED T-MOBILE 120/240V, 1Ø, 3W, 48 KW DIESEL GENERATOR MOUNTED ON PROPOSED GENERATOR PAD. COORDINATE ALL GENERATOR REQUIREMENTS WITH EQUIPMENT MANUFACTURER AND T-MOBILE REPRESENTATIVE PRIOR TO START OF WORK. REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
21. EXTEND 3#3/0 + #6 GRD - 2" CONDUIT (LOAD FEEDER). COORDINATE EXACT ROUTING WITH T-MOBILE REPRESENTATIVE IN THE FIELD.
22. EXTEND 3#3/0 + #6 GRD - 2" CONDUIT BELOW GRADE (EMERGENCY FEEDER). COORDINATE EXACT ROUTING WITH T-MOBILE REPRESENTATIVE IN THE FIELD.
23. EXTEND 2#12 AWG + #12 GRD (BATTERY CHARGER) AND 2#12 AWG + #12 GRD (BLOCK HEATER) IN 3/4" CONDUIT BELOW GRADE TO TWO (2), 1 POLE, 20 AMP BREAKERS IN T-MOBILE PANEL.
24. EXTEND CAT 5 ALARM CABLES IN ONE (1) - 1" CONDUIT BELOW GRADE FROM AUTOMATIC TRANSFER SWITCH TO GENERATOR FOR GENERATOR CONTROLS AND ALARMING (GENERATOR FAULT/TROUBLE, GENERATOR LOW FUEL AND GENERATOR RUN). COORDINATE ALL REQUIREMENTS WITH GENERATOR MANUFACTURER AND T-MOBILE REPRESENTATIVE PRIOR TO START OF WORK.
25. EXTEND CAT 5 ALARM CABLES IN ONE (1) - 1" CONDUIT BELOW GRADE FROM GENERATOR TO PROPOSED T-MOBILE 6160 EQUIPMENT CABINET FOR GENERATOR CONTROLS AND ALARMING (GENERATOR FAULT/TROUBLE, GENERATOR LOW FUEL AND GENERATOR RUN). TURN CONDUIT UP AT EQUIPMENT PAD AND CONTINUE TO 6160 CABINET. COORDINATE ALL REQUIREMENTS WITH GENERATOR MANUFACTURER AND T-MOBILE REPRESENTATIVE PRIOR TO START OF WORK.
26. CONTRACTOR SHALL BOX OUT PORTION OF CONCRETE SLAB BELOW GENERATOR STUB UP AREA FOR EXTENSION OF CONDUITS UP THROUGH BOTTOM OF GENERATOR. ALL CONDUIT STUB-UP LOCATIONS SHALL BE WITHIN DESIGNATED CONDUIT STUB-UP AREA AND TURN UP THROUGH BOX OUT IN SLAB. COORDINATE FINAL CONDUIT BOX OUT LOCATION IN THE FIELD WITH SITE CONDITIONS (GENERATOR FUEL TYPE, BOLT PATTERN, ETC.). REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
27. PROVIDE EXTERIOR GRADE FLOOD LIGHT MOUNTED ON EQUIPMENT BACKBOARD (TYP OF 2). FIXTURE SHALL BE HOME DEPOT ADJUSTABLE FLOOD LIGHT WITH LED LAMPS (SEA GULL LIGHTING MODEL#9607-12) OR APPROVED EQUAL. REFER TO DETAIL ON SHEET E-4.
28. PROVIDE WEATHERPROOF SINGLE POLE SWITCH AND COVER FOR FIXTURE/RECEPTACLE CONTROL. COORDINATE MOUNTING LOCATION IN THE FIELD.
29. PROVIDE ONE (1) 1P20A CIRCUIT BREAKER IN PANEL "T-MOBILE" AND EXTEND 2#12 AWG + #12 GRD - 3/4" CONDUIT FOR CONVENIENCE LIGHT SERVICE.
30. PROPOSED GFCI, 120 VOLT, 20 AMP, RECEPTACLE PROVIDED WITH 6160 EQUIPMENT CABINET. EXTEND 2#12 AWG + #12 GRD - 3/4" CONDUIT FROM NEW 1P20A CB IN PANEL "T-MOBILE" TO NEW GFCI RECEPTACLE PROVIDED INSIDE 6160 CABINET. TURN CONDUIT UP AT EQUIPMENT PAD AND CONTINUE TO 6160 CABINET.
31. PROPOSED FIBER HANDHOLE FOR EXTENSION OF FIBER. COORDINATE EXACT HANDHOLE LOCATION AND SPECIFICATIONS WITH UTILITY COMPANY REPRESENTATIVE IN THE FIELD PRIOR TO START OF WORK.
32. EXTEND ONE (1) 1" CONDUIT WITH NYLON PULL ROPE BELOW GRADE FROM 6160 CABINET TO T-MOBILE PPC PANEL FOR EXTENSION OF LOCP ALARM CABLE. TURN CONDUIT UP AT EQUIPMENT PAD AND CONTINUE TO 6160 CABINET. COORDINATE TERMINATION POINTS WITH T-MOBILE REPRESENTATIVE PRIOR TO START OF WORK.
33. EXTEND 3#3/0 - 2" CONDUIT.
34. PROVIDE CAUTION TWO SOURCES OF SUPPLY STICKER ON SERVICE DISCONNECT SWITCH. BACKGROUND SHALL BE YELLOW WITH BLACK BLOCK STYLE LETTERING. REFER TO DETAIL, THIS SHEET.
35. ALL CONDUITS BELOW GRADE SHALL BE SCHEDULE 40 PVC. ALL CONDUITS ABOVE GRADE AND/OR EXPOSED TO WEATHER SHALL BE RIGID GALVANIZED STEEL. ALL CONDUITS EXTENDING BELOW AREAS SUBJECT TO VEHICULAR TRAFFIC SHALL BE SCHEDULE 80 PVC.
36. ALL UNISTRUT SHALL BE STAINLESS STEEL. HARDWARE SHALL BE HOT DIPPED GALVANIZED.
37. COORDINATE ALL UNDERGROUND SERVICES WITH MISS UTILITY 48 HOURS PRIOR TO DIGGING. CONTRACTOR SHALL HAND-DIG WITHIN 5'-0" OF ALL UNDERGROUND SERVICES.
38. **THE SPECIFIED OPTIONAL STAND-BY GENERATOR IS NOT A SEPARATELY DERIVED SYSTEM. THE CONTRACTOR SHALL VERIFY THAT THE AUTOMATIC TRANSFER SWITCH DOES NOT SWITCH THE NEUTRAL CONDUCTOR. IF THE MANUFACTURER INSTALLED A MAIN BONDING JUMPER IN THE GENERATOR, THE CONTRACTOR SHALL DISCONNECT AND REMOVE THE JUMPER TO PREVENT VIOLATING NEC ARTICLE 250.6, OBJECTIONABLE CURRENT OVER GROUNDING CONDUCTORS.**
39. **CONTRACTOR SHALL OBTAIN THE LATEST ELECTRIC SERVICE DESIGN DRAWINGS FROM THE UTILITY COMPANY PRIOR TO START OF WORK. UTILITY COMPANY DRAWINGS SHALL SUPERCEDE ELECTRIC SERVICE DESIGN AS SHOWN IN CONSTRUCTION DOCUMENTS. COORDINATE ALL REQUIREMENTS WITH UTILITY COMPANY AND T-MOBILE REPRESENTATIVE.**
40. TURN ALL CONDUITS EXTENDING TO 6160 EQUIPMENT CABINET UP AT PROPOSED T-MOBILE CONCRETE EQUIPMENT PAD AND CONTINUE ABOVE GRADE TO 6160 CABINET. COORDINATE EXACT ROUTING AND CONDUIT SUPPORT METHOD IN THE FIELD WITH ACTUAL EQUIPMENT LOCATION, CONFIGURATION, AND T-MOBILE REPRESENTATIVE PRIOR TO START OF WORK.
41. PROPOSED ROUTE OF INCOMING POWER AND FIBER UTILITY CONDUITS BELOW GRADE TO EXISTING UTILITY POLE #819382-1385. CONTRACTOR SHALL COORDINATE WITH RESPECTIVE UTILITY COMPANY AS TO WHO IS RESPONSIBLE FOR PROVIDING AND INSTALLING CONDUITS FROM EXISTING PROPERTY LINE TO EXISTING UTILITY POLE PRIOR TO START OF WORK. COORDINATE UTILITY SOURCE TO BE USED FOR EXTENSION OF PROPOSED INCOMING ELECTRIC AND FIBER SERVICE WITH EACH RESPECTIVE UTILITY COMPANY PRIOR TO START OF WORK.

GENERAL CONTRACTOR TO PERFORM THE FOLLOWING UPON INSTALLATION OF THE T-MOBILE EQUIPMENT:

1. INSTALL ALL BAKELITE LABELS (T-MOBILE) ON METER CAN, ELECTRIC SERVICE DISCONNECT SWITCH, AND ALL EQUIPMENT CABINETS.



35 36 37 38 39 POWER RISER

NO SCALE

T-MOBILE NORTHEAST LLC

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SITE ID:
7WDC529A
SITE NAME:
REPLACEMENT FOR 7WDC114A

SITE ADDRESS:
3401 4TH STREET SE
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DISTRICT OF COLUMBIA

REVISION BLOCK

NO.	DESCRIPTION	DATE
1	PERMIT DWGS	07/19/24

DISTRICT OF COLUMBIA
MICHAEL B. RAMIOT
No. 10346
REGISTERED
PROFESSIONAL ENGINEER

07/19/2024

PROFESSIONAL CERTIFICATION

I AM RESPONSIBLE FOR DETERMINING THAT THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION ARE IN COMPLIANCE WITH ALL LAWS AND REGULATIONS OF THE DISTRICT OF COLUMBIA. I HAVE PERSONALLY PREPARED, OR DIRECTLY SUPERVISED THE DEVELOPMENT OF THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION.

DRAWN BY:	MBR
DESIGNED BY:	MBR
ORIGINAL DATE:	06/18/2024
TEI PROJECT #:	24016E
DESIGN SCALE:	AS NOTED

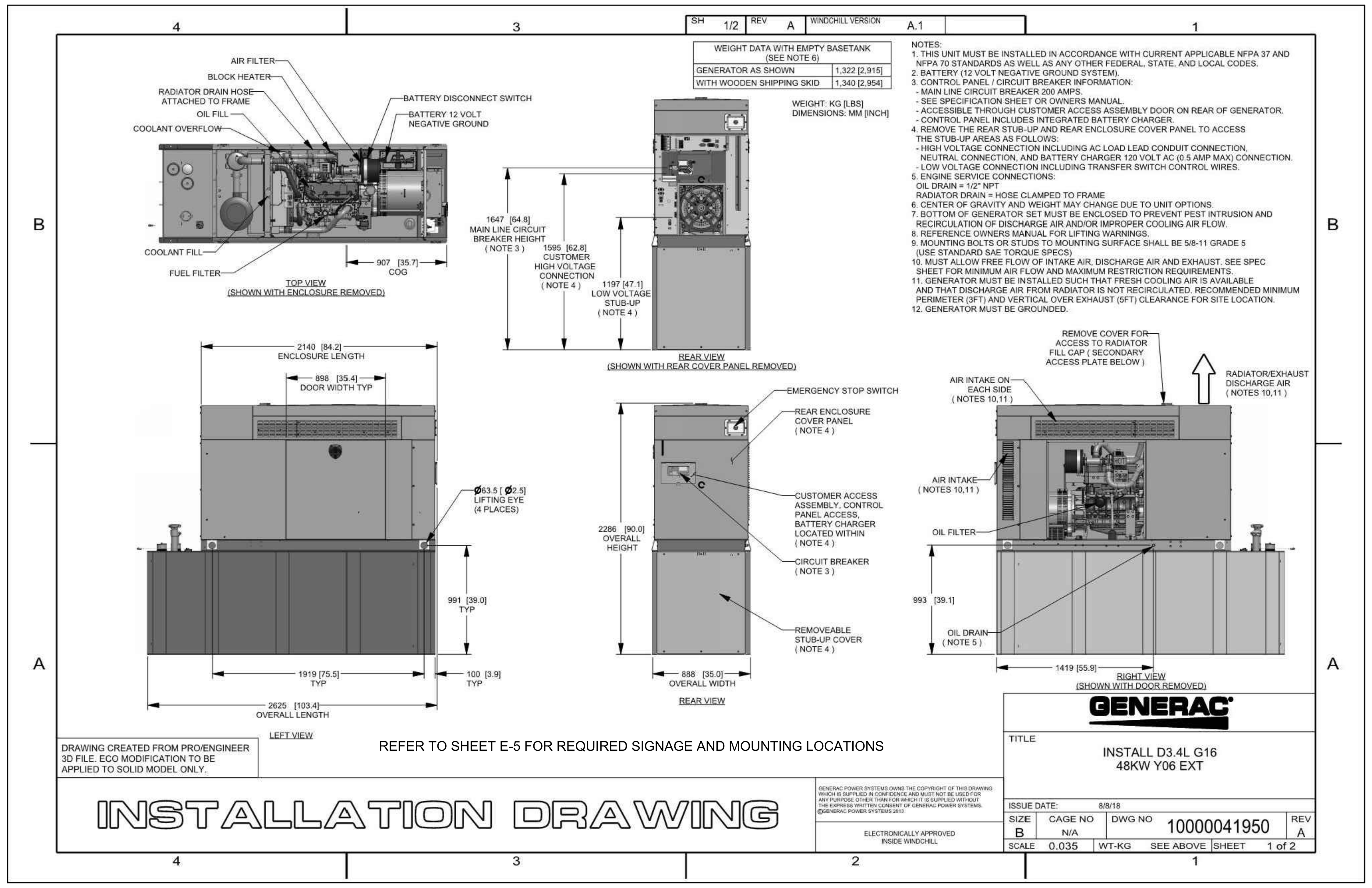
SHEET TITLE

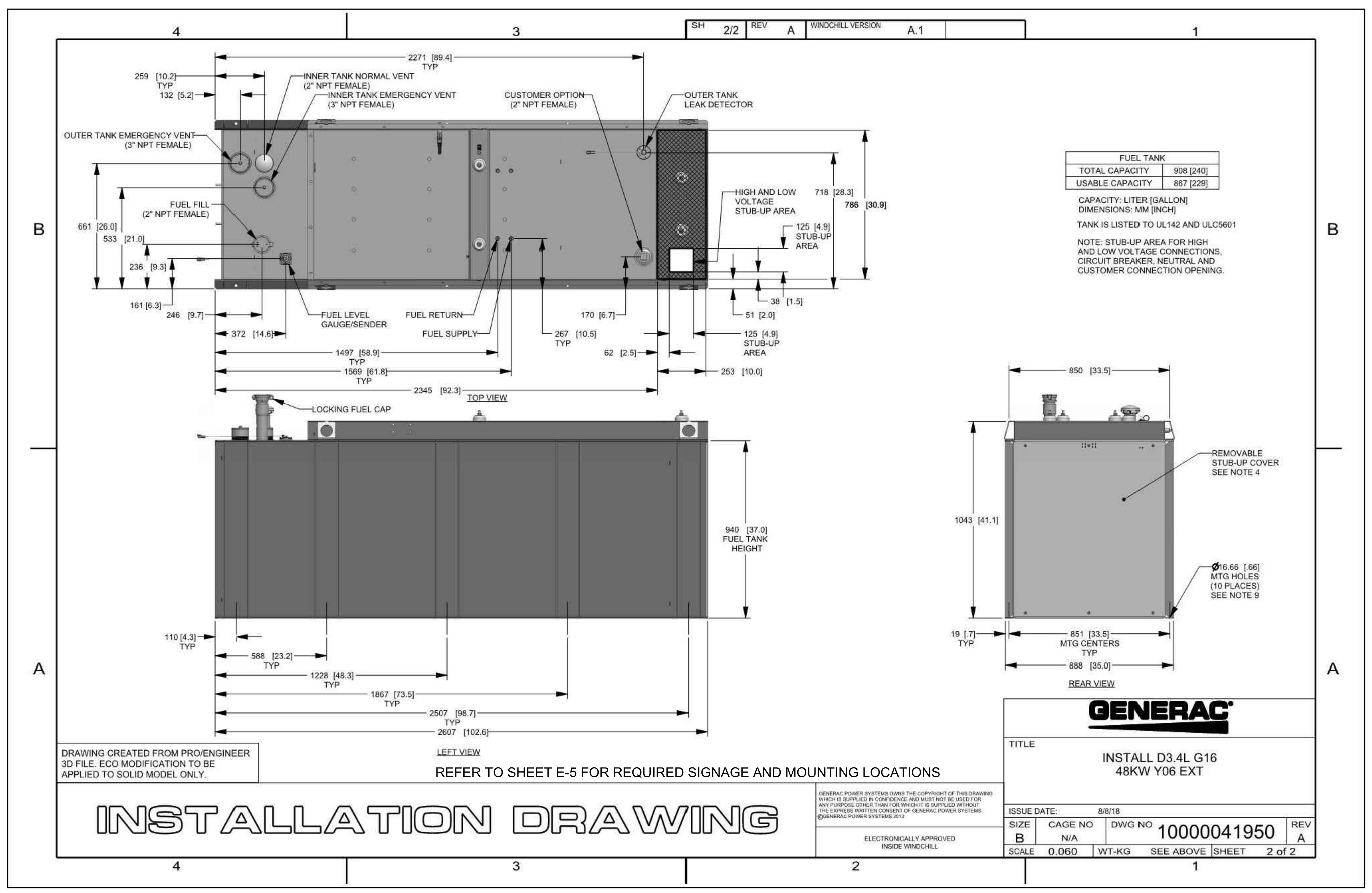
POWER RISER AND NOTES

SHEET NUMBER

E-2

TEI#24016E





DETAIL - GENERAC 48 KW DIESEL GENERATOR

NO SCALE

GENERAC | INDUSTRIAL POWER

100 - 400 Amps, 600 VAC

1 of 2

100 - 400 Amps, 600 VAC

Automatic Transfer Switches

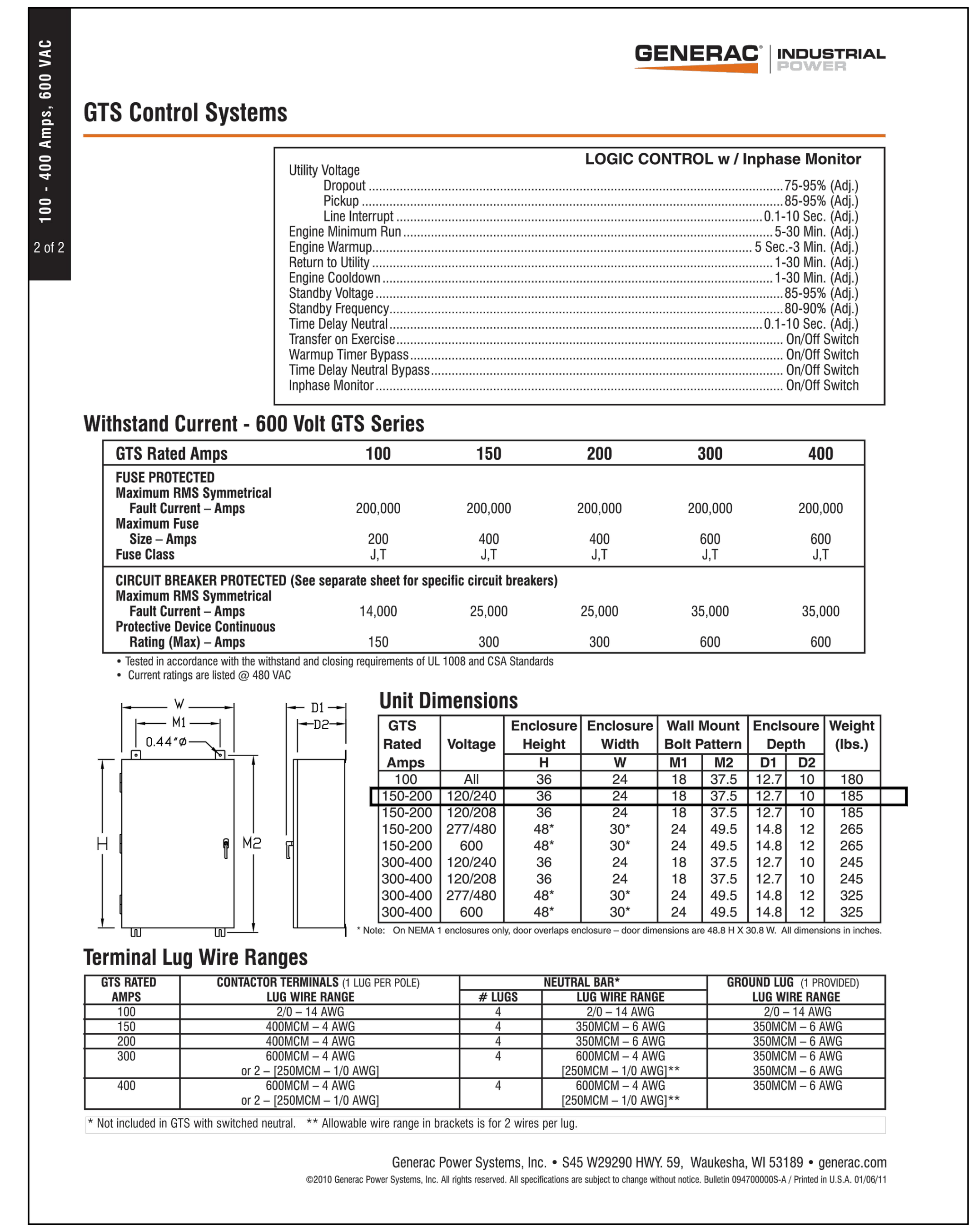
- **Standard time delay neutral will reduce switchover problems.**
- **Logic control with inphase monitor regulates switch functions and allows adjustable switch settings with LED indicators.**
- **Control switches located on the front of the door for ease of operation.**
- **All switches are UL 1008 listed and CSA certified.**
- **Electrically-operated, mechanically-held and interlocked main contacts with break before make design for fast, positive connections.**
- **Rated for all classes of load, 100% equipment rated, both inductive and resistive with no derations.**
- **2, 3, and 4 Pole 600 VAC contactors.**
- **160 millisecond transfer time.**

Standard Features

- Single coil design, electrically operated and mechanically held
- Programmable exerciser
- SPDT auxiliary contacts
- Main contacts are silver alloy to resist welding and sticking
- Conformal coating protects all printed circuit boards
- Indicating LED's for switch position—Normal, Emergency, and Standby Operating
- NEMA 1 enclosure with hinged door and key-locking handle
- Three-position switch—Fast Test, Auto, Normal Test
- Arc chutes on main contacts

Optional Accessories

- NEMA 12 enclosure
- NEMA 3R enclosure
- NEMA 4 & 4X enclosure
- Exterior AC meter package
- Controls accessible through door in door design on NEMA type 3R and 4 enclosures – key lock provided on access door
- 4-pole design for neutral isolation
- Two (2) sets of auxiliary contacts
- Preferred source selector switch
- Manual 3 position selector switch
- Remote automatic control circuit
- Signal before transfer contacts
- Return to normal timer bypass



100 - 400 Amps, 600 VAC

2 of 2

GENERAC | INDUSTRIAL POWER

GTS Control Systems

LOGIC CONTROL w / Inphase Monitor

Utility Voltage	
Dropout	75-95% (Adj.)
Pickup	85-95% (Adj.)
Line Interrupt	0.1-10 Sec. (Adj.)
Engine Minimum Run	5-30 Min. (Adj.)
Engine Warmup	5 Sec.-3 Min. (Adj.)
Return to Utility	1-30 Min. (Adj.)
Engine Cooldown	1-30 Min. (Adj.)
Standby Voltage	85-95% (Adj.)
Standby Frequency	80-90% (Adj.)
Time Delay Neutral	0.1-10 Sec. (Adj.)
Transfer on Exercise	On/Off Switch
Warmup Timer Bypass	On/Off Switch
Time Delay Neutral Bypass	On/Off Switch
Inphase Monitor	On/Off Switch

Withstand Current - 600 Volt GTS Series

GTS Rated Amps	100	150	200	300	400
FUSE PROTECTED					
Maximum RMS Symmetrical Fault Current – Amps	200,000	200,000	200,000	200,000	200,000
Maximum Fuse Size – Amps	200	400	400	600	600
Fuse Class	J,T	J,T	J,T	J,T	J,T
CIRCUIT BREAKER PROTECTED (See separate sheet for specific circuit breakers)					
Maximum RMS Symmetrical Fault Current – Amps	14,000	25,000	25,000	35,000	35,000
Protective Device Continuous Rating (Max) – Amps	150	300	300	600	600

- Tested in accordance with the withstand and closing requirements of UL 1008 and CSA Standards
- Current ratings are listed @ 480 VAC

Unit Dimensions

GTS Rated Amps	Voltage	Enclosure Height H	Enclosure Width W	Wall Mount Bolt Pattern M1	Wall Mount Bolt Pattern M2	Enclsoure Depth D1	Enclsoure Depth D2	Weight (lbs.)
100	All	36	24	18	37.5	12.7	10	180
150-200	120/240	36	24	18	37.5	12.7	10	185
150-200	120/208	36	24	18	37.5	12.7	10	185
150-200	277/480	48*	30*	24	49.5	14.8	12	265
150-200	600	48*	30*	24	49.5	14.8	12	265
300-400	120/240	36	24	18	37.5	12.7	10	245
300-400	120/208	36	24	18	37.5	12.7	10	245
300-400	277/480	48*	30*	24	49.5	14.8	12	325
300-400	600	48*	30*	24	49.5	14.8	12	325

* Note: On NEMA 1 enclosures only, door overlaps enclosure – door dimensions are 48.8 H X 30.8 W. All dimensions in inches.

Terminal Lug Wire Ranges

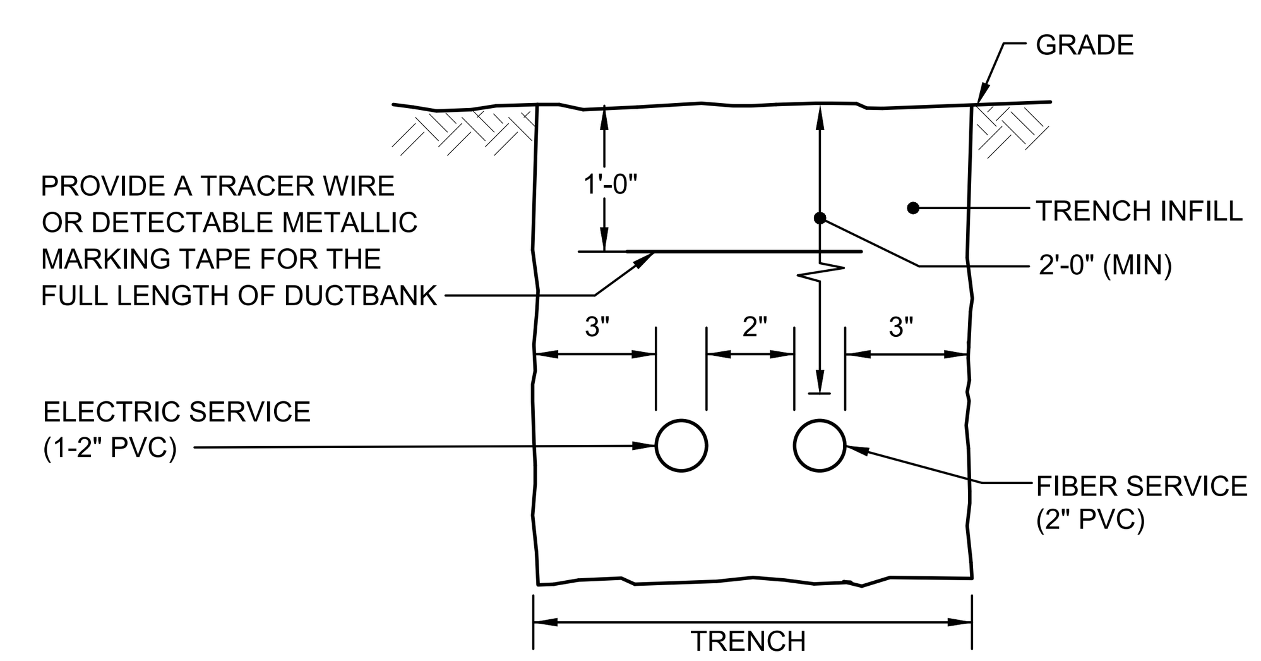
GTS RATED AMPS	CONTACTOR TERMINALS (1 LUG PER POLE) LUG WIRE RANGE	NEUTRAL BAR* # LUGS	NEUTRAL BAR* LUG WIRE RANGE	GROUND LUG (1 PROVIDED) LUG WIRE RANGE
100	2/0 – 14 AWG	4	2/0 – 14 AWG	2/0 – 14 AWG
150	400MCM – 4 AWG	4	350MCM – 6 AWG	350MCM – 6 AWG
200	400MCM – 4 AWG	4	350MCM – 6 AWG	350MCM – 6 AWG
300	600MCM – 4 AWG or 2 – [250MCM – 1/0 AWG]	4	600MCM – 4 AWG [250MCM – 1/0 AWG]**	350MCM – 6 AWG 350MCM – 6 AWG
400	600MCM – 4 AWG or 2 – [250MCM – 1/0 AWG]	4	600MCM – 4 AWG [250MCM – 1/0 AWG]**	350MCM – 6 AWG

* Not included in GTS with switched neutral. ** Allowable wire range in brackets is for 2 wires per lug.

Generac Power Systems, Inc. • S45 W29290 HWY. 59, Waukesha, WI 53189 • generac.com

DETAIL - GENERAC GTS AUTOMATIC TRANSFER SWITCH

NO SCALE



DETAIL - CONDUIT SECTION

NO SCALE (WITH-IN COMPOUND)

Evolution Controller Customer Connections	Nokia FSEB Alarm Connections 13-24	T-Mobile Standard Alarms
NC#8-Gen Running	NC 4110 grd 4111 pin 13	Generator Running
NC#11-Not In Auto	NC 4110 grd 4111 pin 14	Generator Alarm Critical
NC#2-Door Alarm	NC 4110 grd 4111 pin 15	Generator Alarm NSI
NC#5-Low Fuel	NC 4110 grd 4111 pin 16	Low Fuel
RXSC200A3-Auxiliary Contacts	NC 4110 grd 4111 pin 17	ATS in Emergency Position

Evolution Controller Customer Connections	Ericsson Alarm 8expConnections	T-Mobile Standard Alarms
NC#8- Gen. Running	NC - A5	Generator Running
NC#11-Not In Auto	NC - A6	Generator Alarm Critical
NC#2-Door Alarm	NC - A7	Generator Alarm NSI
NC#5-Low Fuel	NC - A8	Low Fuel
RXSC200A3-Auxiliary Contacts	NC - A9	ATS in Emergency Position

NOTE:

1 CONTRACTOR SHALL EXTEND PAIR OF ALARM CONDUCTORS FROM OUTER TANK LEAK DETECTOR TO EQUIPMENT CABINET ON SITE. CONDUCTORS SHALL TERMINATE ON ALARMS TERMINALS TO ALERT NOC IN THE EVENT OF A FUEL TANK LEAK.

DETAIL - GENERATOR ALARMS

NO SCALE

T-Mobile
T-MOBILE NORTHEAST LLC
12050 BALTIMORE AVENUE
BELTSVILLE, MARYLAND 20705
OFFICE: (240) 264-8600
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TELEGENT ENGINEERING INC.
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SITE ID:
7WDC529A
SITE NAME:
REPLACEMENT FOR 7WDC114A

SITE ADDRESS:
3401 4TH STREET SE
WASHINGTON, DC 20032
DISTRICT OF COLUMBIA

REVISION BLOCK

NO.	DESCRIPTION	DATE
1	PERMIT DWGS	07/19/24

DISTRICT OF COLUMBIA · No. 10346 · REGISTERED PROFESSIONAL ENGINEER

07/19/2024

PROFESSIONAL CERTIFICATION

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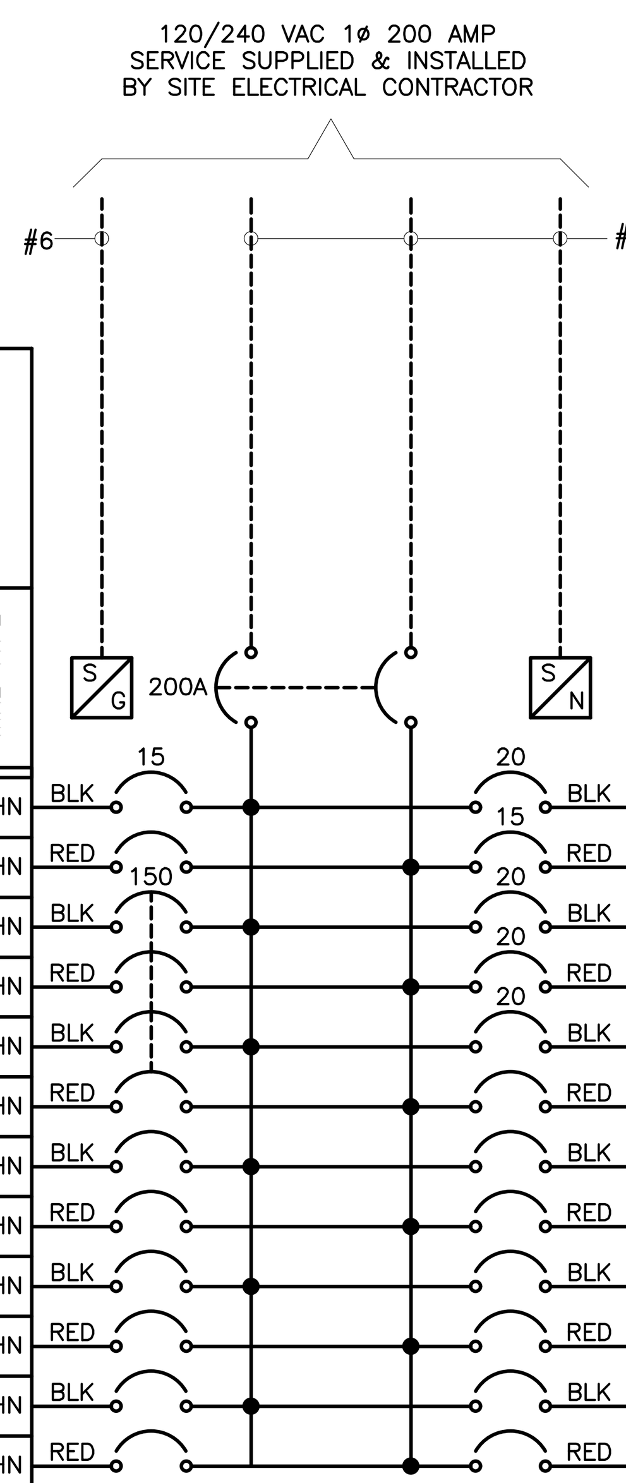
DRAWN BY:	MBR
DESIGNED BY:	MBR
ORIGINAL DATE:	06/18/2024
TEI PROJECT #:	24016E
DESIGN SCALE:	AS NOTED

SHEET TITLE

DETAILS

SHEET NUMBER

E-3



PANEL CIRCUIT AND LOAD SCHEDULE

CKT	LOAD: DESCRIPTION	QTY.	UNIT V.A.	LOAD PER PHASE (VA): PHASE A	LOAD PER PHASE (VA): PHASE B	LOADS CONTINUOUS	LOADS NON-CONTINUOUS	TRIP	POLES	WIRE SIZE	A.I.C.	WIRE TYPE
1	PPC GFI RECEPTACLE	1	180	180			X	15	1	12	10,000	THHN
3	SPACE	–	–		–						10,000	THHN
5	T–MOBILE EQUIPMENT CABINET (6160)	1	6,240	6,240,		X		150	2	1/0	10,000	THHN
7		1	6,240		6,240	X		150	2	1/0	10,000	THHN
9		1	6,240	6,240		X		150	2	1/0	10,000	THHN
11		1	6,240		6,240	X		150	2	1/0	10,000	THHN
13	SPACE	–	–	–							10,000	THHN
15	SPACE	–	–		–						10,000	THHN
17	SPACE	–	–	–							10,000	THHN
19	SPACE	–	–		–						10,000	THHN
21	SPACE	–	–	–							10,000	THHN
23	SPACE	–	–		–						10,000	THHN
		SUBTOTAL CONTINUOUS		12,480	12,480							
		SUBTOTAL NON–CONTINUOUS		180	–							

VOLTAGE: 120/240	CYCLE: 60	PHASE: 1	WIRE: 3
NEUTRAL: 200 AMPS			
MAIN BREAKER: 200 AMP FRAME		A.I.C.: 65,000	TRIP: 200 AMPS
MAIN LUGS: AMPS	MAIN COPPER BUS: 200 AMPS		
MAINS: TOP [X] BOTTOM [ ]			

SERVICE: 120/240 VAC , 1ø, 3W
DESIGNATION: T–MOBILE A/C POWER PANEL
LOCATION: T–MOBILE EQUIPMENT PAD

WIRE TYPE	A.I.C.	WIRE SIZE	POLES	TRIP	LOADS NON-CONTINUOUS	LOADS CONTINUOUS	LOAD PER PHASE (VA): PHASE A	LOAD PER PHASE (VA): PHASE B	UNIT V.A.	QTY.	LOAD: DESCRIPTION	CKT
THHN	10,000	12	1	20		X	240		240	1	FLOOD LIGHT	2
THHN	10,000	12	1	15	X			180	180	1	GFI RECEPTACLE	4
THHN	10,000	12	1	20	X		700		700	1	GENERATOR BATTERY CHARGER	6
THHN	10,000	12	1	20	X			1500	1500	1	GENERATOR BLOCK HEATER	8
THHN	10,000	12	1	20	X		180		180	1	6160 GFI RECEPTACLE	10
THHN	10,000							–	–	–	SPACE	12
THHN	10,000						–		–	–	SPACE	14
THHN	10,000							–	–	–	SPACE	16
THHN	10,000						–		–	–	SPACE	18
THHN	10,000							–	–	–	SPACE	20
THHN	10,000						–		–	–	SPACE	22
THHN	10,000							–	–	–	SPACE	24
							240	–	SUBTOTAL CONTINUOUS			
							880	1,680	SUBTOTAL NON–CONTINUOUS			

MANUFACTURER: RAYCAP (NEMA 3R 200A POWER PROTECTION CABINET)	
MODEL NUMBER: RTMAC–2465–P–240–MTS	
NO EQUAL: [X] APPROVED EQUAL: [ ]	
MOUNTING: SURFACE: [X] FLUSH: [ ]	
TOTAL KVA CONTINUOUS x 1.25	31.50
TOTAL KVA NON-CONTINUOUS	2.740
TOTAL KVA	34.24
TOTAL AMPS	142.67

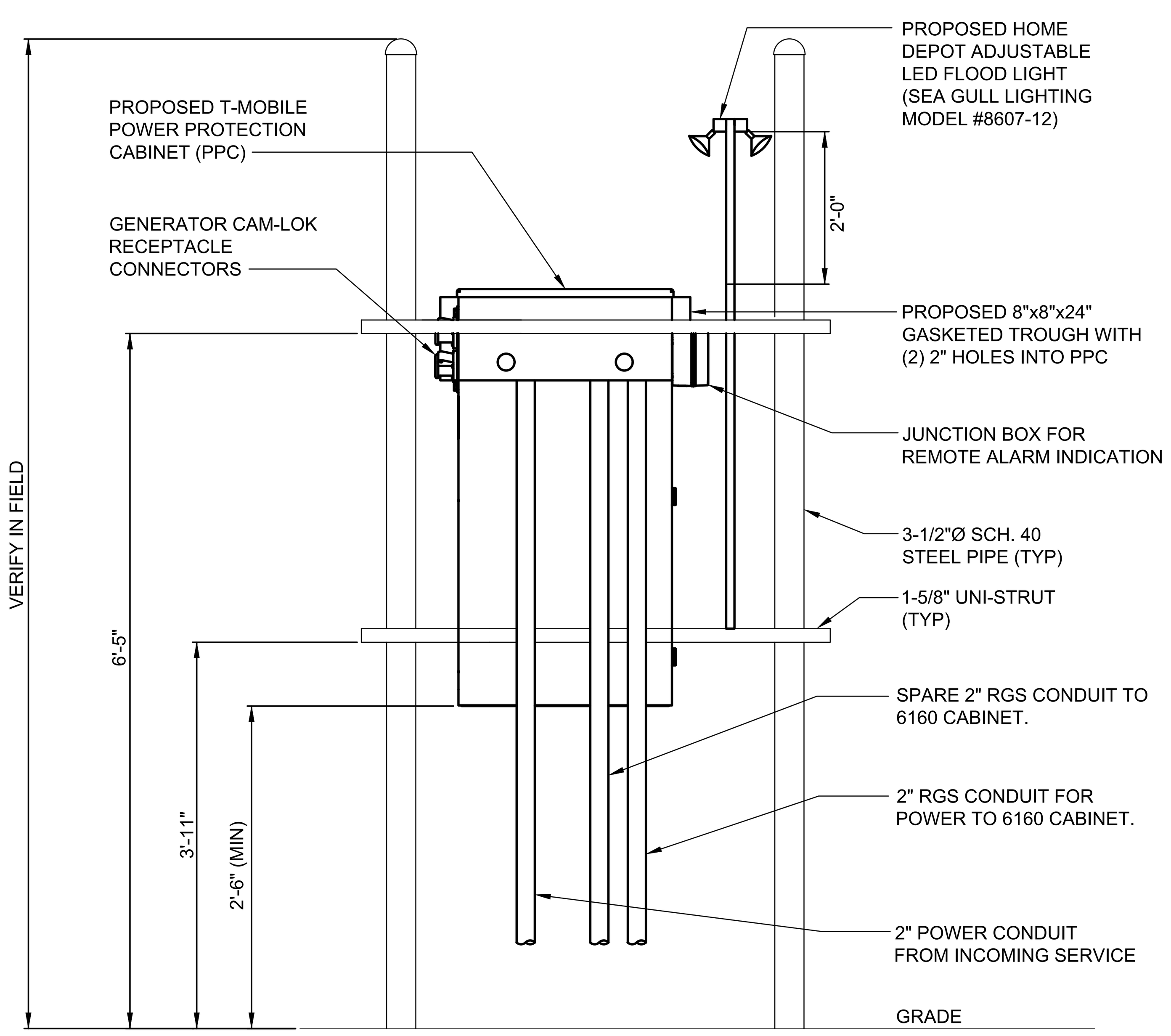
ELECTRICAL SYMBOLS LIST

NOTE: ALL MOUNTING HEIGHTS ARE TO CENTER LINE OF THE OUTLET BOX UNLESS OTHERWISE INDICATED.

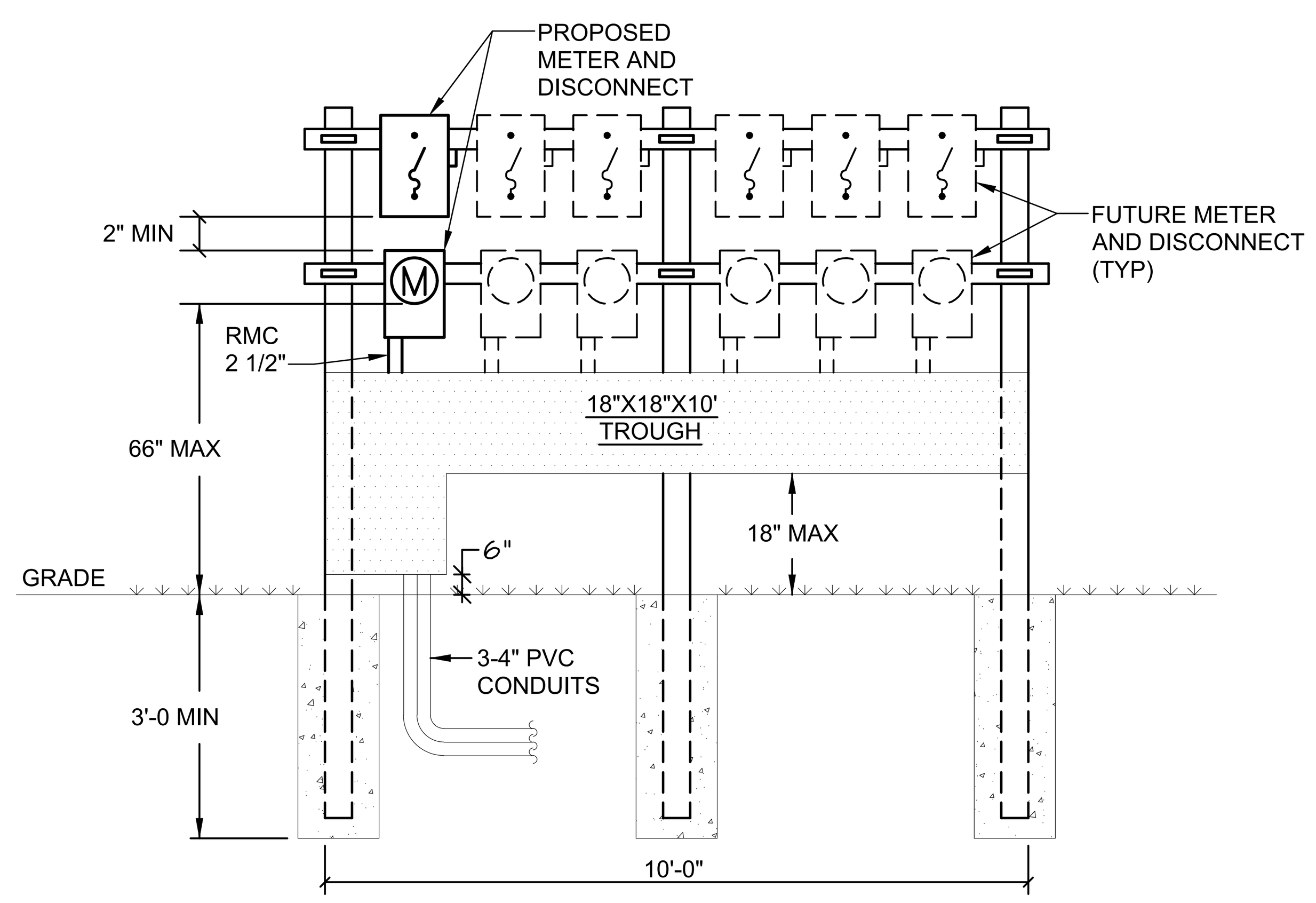
- DISCONNECT SWITCH - FUSED/NON FUSED
- 120/240V, 1Ø, PANELBOARD
- EQUIPMENT MOUNTING BACKBOARD
- DRAWING NOTE
- BURIED ELECTRIC FEEDERS
- BURIED TELEPHONE SERVICE
- BURIED BRANCH CIRCUIT
- METER
- GROUND CONDUCTOR BELOW GRADE
- BURIED GROUND ROD
- DESIGNATES FRONT
- DRY TYPE TRANSFORMER 208V, 3Ø
- LIGHT FIXTURE - SURFACE MOUNT
- SWITCH - 120V, SINGLE POLE, 20A - TIMER
- AUTOMATIC TRANSFER SWITCH

ABBREVIATIONS

AFF	- ABOVE FINISHED FLOOR	MTD	- MOUNTED
ATS	- AUTOMATIC TRANSFER SWITCH	UG	- UNDERGROUND
C, CDT	- CONDUIT	V	- VOLTS
DN	- DOWN	W/	- WITH
GRD	- GROUND	WP	- WEATHERPROOF
MH	- MOUNTING HEIGHT		



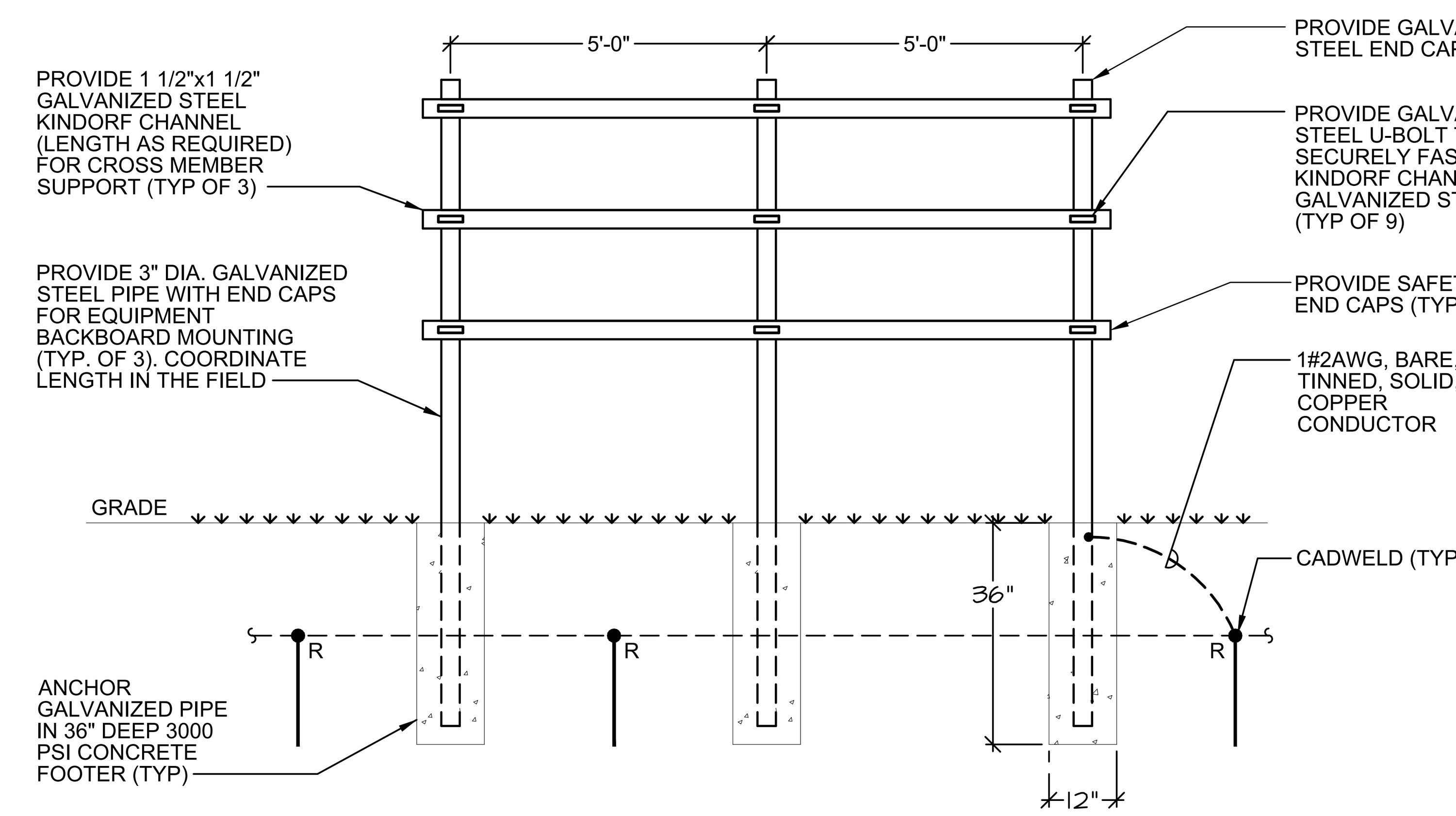
DETAIL - PPC CABINET DETAIL
NO SCALE



DETAIL - ELECTRIC SERVICE BACKBOARD
NO SCALE

NOTES - ELECTRIC SERVICE BACKBOARD

1. TROUGH MUST BE GROUNDED BY A CONNECTION TO AN EIGHT (8') GROUND ROD CONFORMING TO NATIONAL ELECTRIC CODE STANDARDS.
2. TROUGH COVERS MUST BE REMOVABLE AND MUST BE IN SECTIONS SMALL ENOUGH TO BE HANDLED BY ONE PERSON (A MAXIMUM OF 30" IN LENGTH PER SECTION).
3. THE INSTALLATION OF ALL SERVICE EQUIPMENT MUST CONFORM TO ALL APPLICABLE LOCAL, COUNTY, STATE, AND NATIONAL CODES AND STANDARDS.
4. THE FACILITIES OF ALL SHOWN ARE TO BE BUILT, OWNED, MAINTAINED BY THE CUSTOMER FOR PEPCO'S USE.
5. DISCONNECTS MAY BE MOUNTED ABOVE METER SOCKETS OR ON THE BACKSIDE OF THE H FRAME, PER NOTE 3. IN NO CASE SHOULD THE DISCONNECT INTERFERE WITH THE INSTALLATION OF ADDITIONAL EQUIPMENT.
6. INSTALL NEUTRAL BLOCK PER PEPCO DEFINITIVE DESIGN DRAWING. UPON AWARDING OF CONTRACT, ELECTRICAL CONTRACTOR SHALL CONTACT ENGINEER FOR COPY OF PEPCO DRAWING CE 01.15.



ALL METALLIC ITEMS (POSTS, HARDWARE, UNISTRUT, ETC.) SHALL BE GALVANIZED STEEL. ALL FIELD CUTS ON METALLIC ITEMS SHALL BE BRUSH PAINTED WITH MARINE GRADE GALVANIZING.

DETAIL - ELECTRIC SERVICE BACKBOARD
NO SCALE

T-Mobile
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DISTRICT OF COLUMBIA No. 10346 REGISTERED PROFESSIONAL ENGINEER
07/19/2024

PROFESSIONAL CERTIFICATION
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DRAWN BY:	MBR
DESIGNED BY:	MBR
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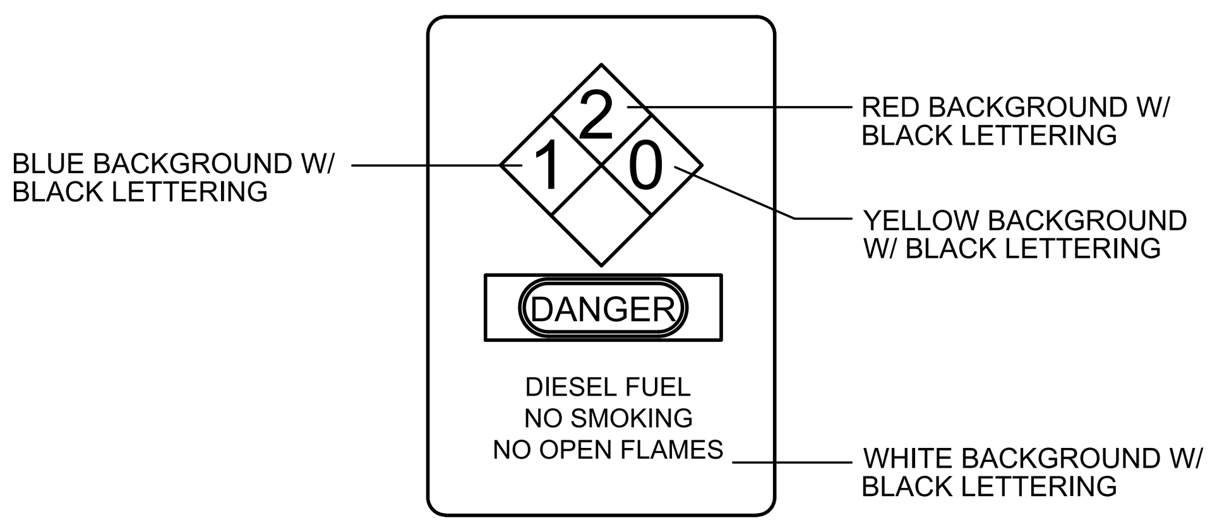
DESIGN SCALE:	AS NOTED

SHEET TITLE
ELECTRICAL SYMBOLS LIST, SCHEDULE, AND DETAILS

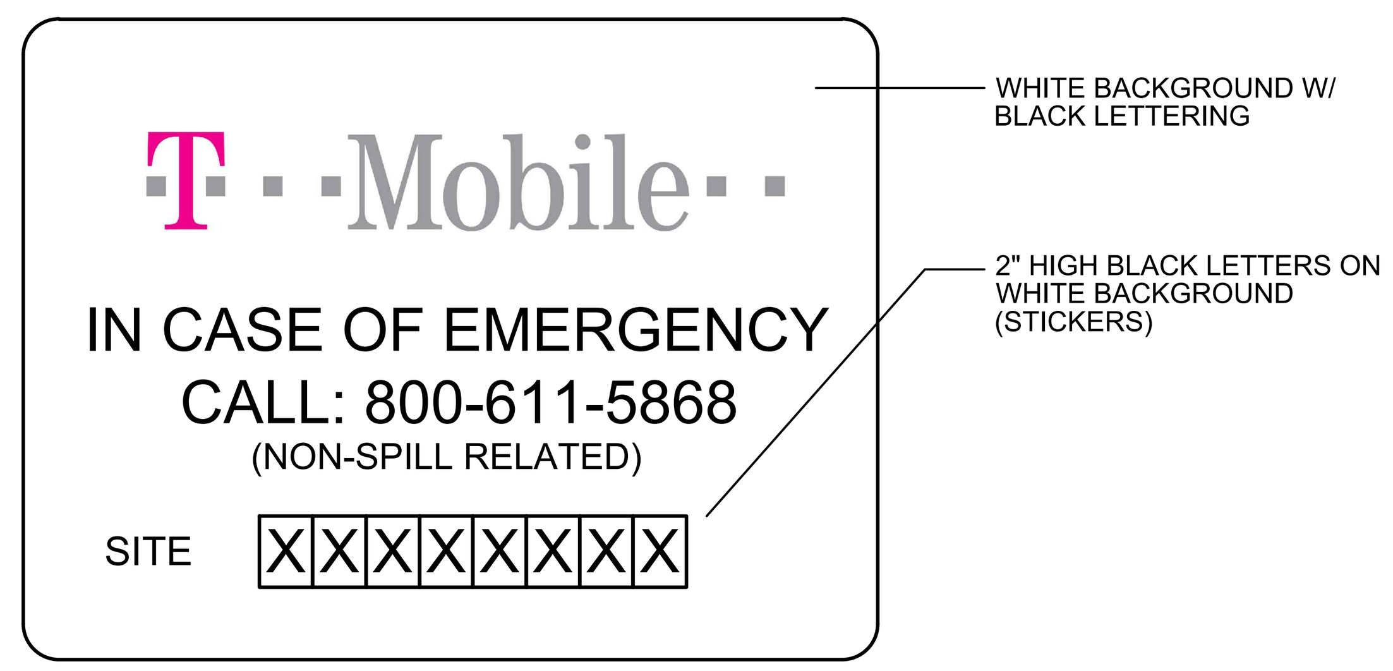
SHEET NUMBER
E-4

A B C D E F G H J K L M N P Q



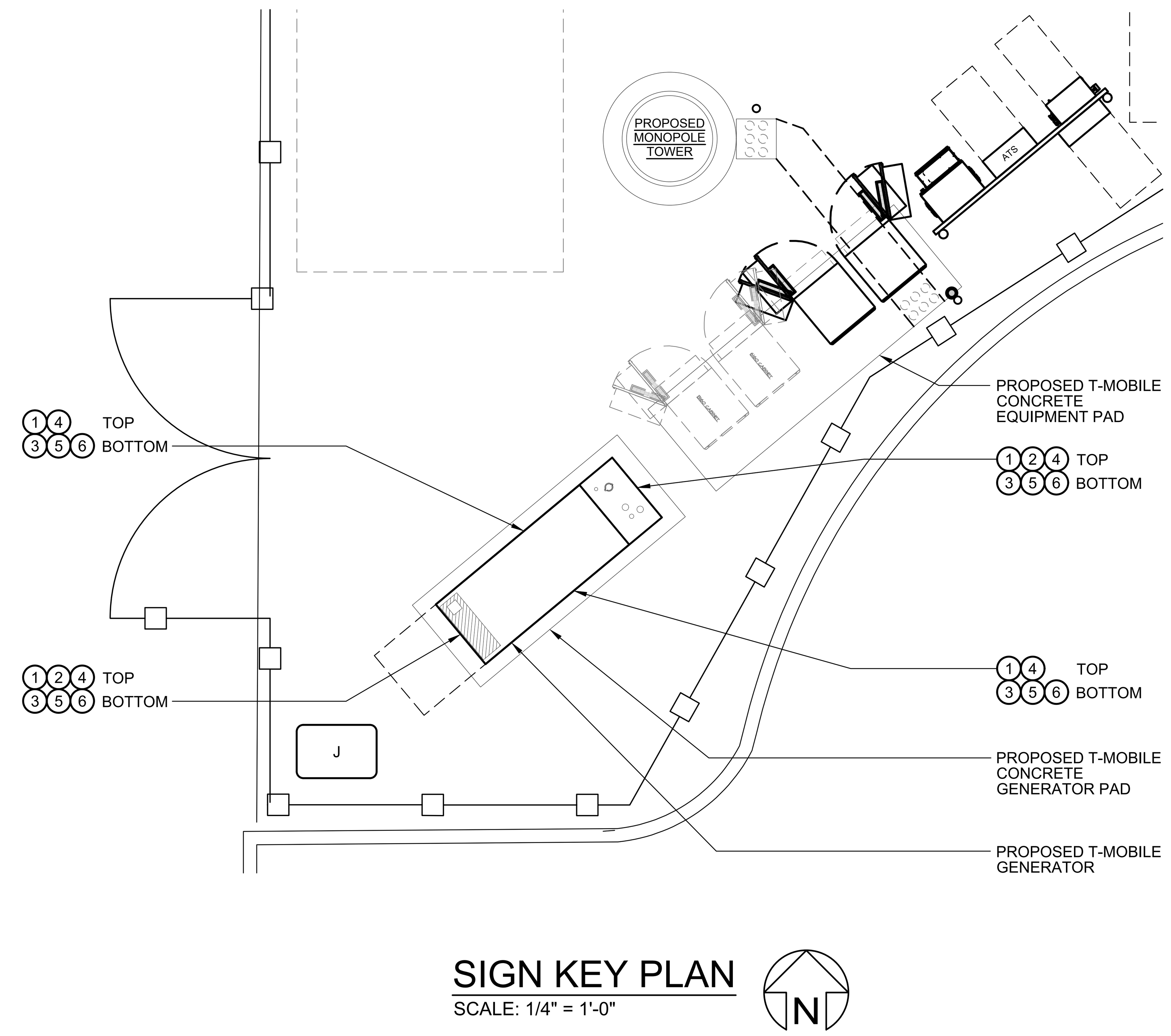
① DANGER - DIESEL FUEL

9¾" WIDE X 14" HIGH



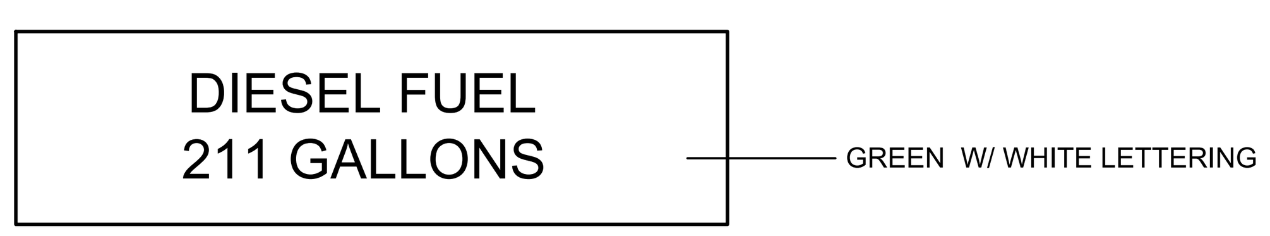
② T-MOBILE-SITE ID SIGN

20" HIGH X 14" WIDE



SIGN KEY PLAN

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



③ FUEL TANK SIGN

30" WIDE X 12" HIGH

④ EMERGENCY RESPONSE SIGN

10" WIDE X 3" HIGH

⑤ COMBUSTIBLE TANK SIGN

4" WIDE X 4" HIGH

⑥ NO SMOKING SIGN

10" WIDE X 3" HIGH

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

T · · Mobile · ·
T-MOBILE NORTHEAST LLC

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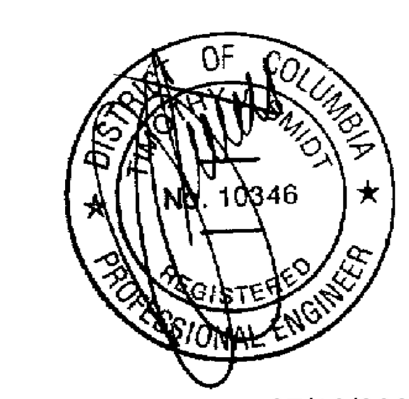

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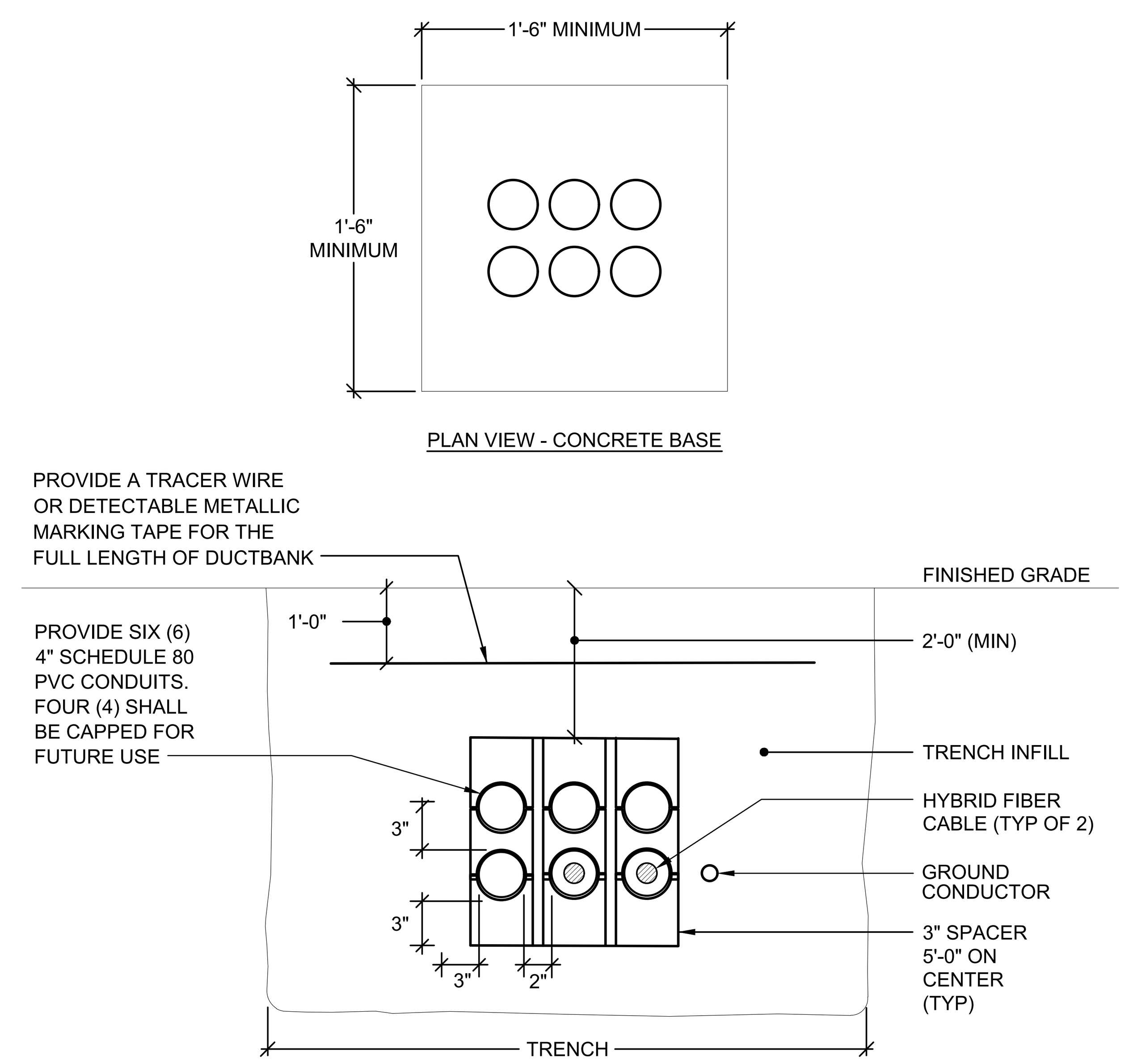
SHEET TITLE

SITE SIGNAGE

SHEET NUMBER

E-5

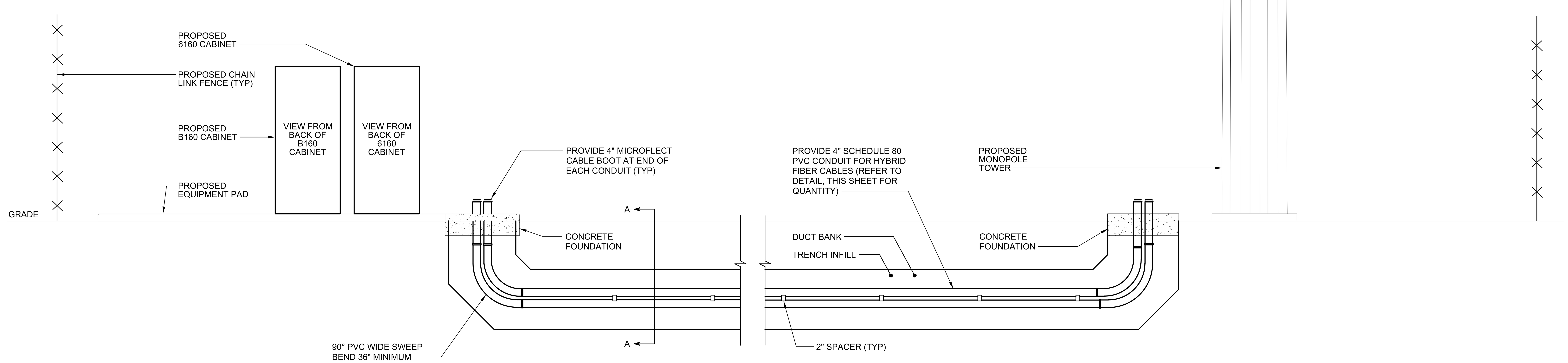
1 2 3 4 5 6 7 8 9 10 11



SECTION A-A

DETAIL - TYPICAL HYBRID FIBER CONDUIT DUCTBANK SECTION

NO SCALE



DETAIL - HYBRID FIBER CABLE CONDUIT DUCTBANK

NO SCALE

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07/19/2024

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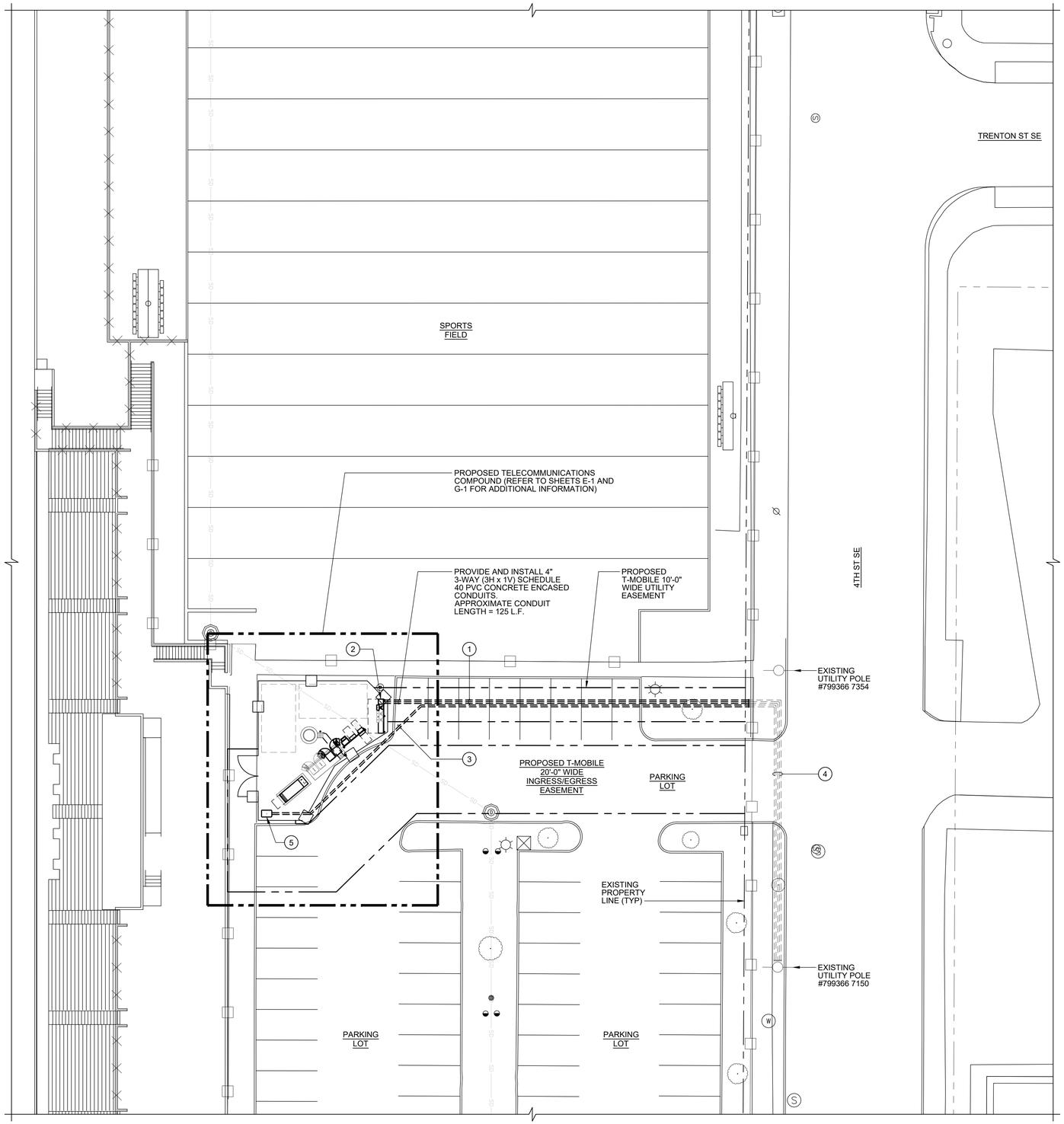
SHEET TITLE

DUCTBANK DETAILS

SHEET NUMBER

E-6

TEI#24016E

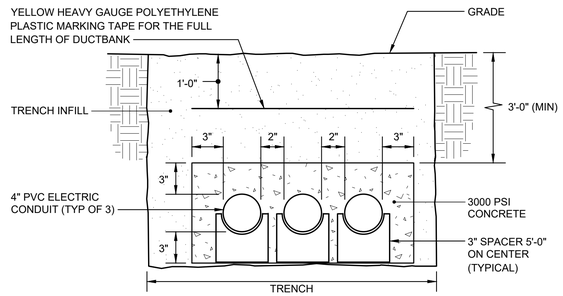


6789 ROUTING SITE PLAN
SCALE: 1/16" = 1'-0"

N

DRAWING NOTES

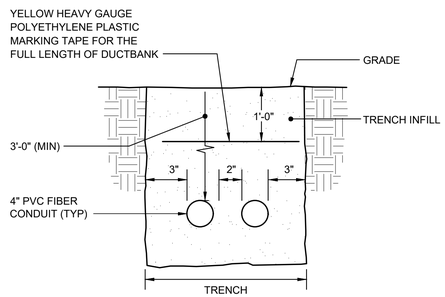
1. EXTEND THREE (3) - 4" SCHEDULE 40 PVC CONCRETE ENCASED CONDUITS (3-WAY, 3H X 1V) BELOW GRADE FROM PROPOSED UTILITY COMPANY BACKBOARD TO 1'-0" BEYOND PROPERTY LINE FOR EXTENSION OF INCOMING ELECTRIC SERVICE CABLES BY UTILITY COMPANY (APPROXIMATELY 125 L.F.). DESIGN INTENT TO INCLUDE A UTILITY COMPANY PROVIDED AND INSTALLED POLE MOUNTED TRANSFORMER MOUNTED ON EXISTING UTILITY POLE #819382-1385. CONDUIT STUB AT PROPERTY LINE SHALL BE MARKED FOR LOCATING PURPOSES. COORDINATE EXACT ROUTING AND TERMINATION POINT WITH UTILITY COMPANY IN THE FIELD PRIOR TO START OF WORK. PROVIDE NYLON PULL ROPE AND ENDCAPS. COORDINATE UTILITY SOURCE TO BE USED FOR EXTENSION OF PROPOSED INCOMING ELECTRIC SERVICE WITH UTILITY COMPANY PRIOR TO START OF WORK.
2. PROPOSED 10'-0" LONG UTILITY SERVICE BACKBOARD WITH 18"X18"X10'-0" SEALABLE WEATHERPROOF TROUGH. TROUGH COVERS MUST BE REMOVABLE AND MUST BE IN SECTIONS SMALL ENOUGH TO BE HANDLED BY ONE PERSON (A MAXIMUM OF 30" IN LENGTH PER SECTION). FINAL BACKBOARD AND TROUGH REQUIREMENTS SHALL COMPLY WITH PEPCO STANDARDS. REFER TO DETAILS ON SHEET E-4 FOR ADDITIONAL INFORMATION.
3. EXTEND TWO (2) - 4" PVC CONDUITS FROM PROPOSED FIBER HANDHOLE TO EXISTING PROPERTY LINE AT FOR EXTENSION OF FIBER SERVICE (APPROXIMATELY 125 L.F.). COORDINATE EXACT ROUTING AND TERMINATION POINT WITH UTILITY REPRESENTATIVE IN THE FIELD PRIOR TO START OF WORK. PROVIDE NYLON PULL ROPE AND ENDCAPS. COORDINATE UTILITY SOURCE TO BE USED FOR EXTENSION OF PROPOSED INCOMING FIBER SERVICE WITH UTILITY COMPANY PRIOR TO START OF WORK.
4. PROPOSED ROUTE OF INCOMING POWER AND FIBER UTILITY CONDUITS BELOW GRADE TO EXISTING UTILITY POLE #819382-1385. CONTRACTOR SHALL COORDINATE WITH RESPECTIVE UTILITY COMPANY AS TO WHO IS RESPONSIBLE FOR PROVIDING AND INSTALLING CONDUITS FROM EXISTING PROPERTY LINE TO EXISTING UTILITY POLE PRIOR TO START OF WORK. COORDINATE UTILITY SOURCE TO BE USED FOR EXTENSION OF PROPOSED INCOMING ELECTRIC AND FIBER SERVICE WITH EACH RESPECTIVE UTILITY COMPANY PRIOR TO START OF WORK.
5. PROPOSED FIBER HANDHOLE LOCATED WITHIN COMPOUND FOR EXTENSION OF FIBER. COORDINATE EXACT HANDHOLE LOCATION AND SPECIFICATIONS WITH UTILITY COMPANY REPRESENTATIVE IN THE FIELD PRIOR TO START OF WORK.
6. CONTRACTOR SHALL COORDINATE INSTALLATION METHOD FOR CONDUITS BEING EXTENDED BELOW GRADE (ASPHALT/ GRAVEL DRIVE, GRASS AREAS, ETC.) WITH LANDLORD PRIOR TO START OF WORK. COORDINATE FINAL ROUTING WITH ALL EXISTING UNDERGROUND UTILITIES.
7. **CONTRACTOR SHALL COORDINATE EXACT LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO START OF WORK AND SHALL HAND-DIG WITHIN 5'-0" OF ALL UNDERGROUND SERVICES.**
8. **CONTRACTOR SHALL OBTAIN THE LATEST ELECTRIC SERVICE DESIGN DRAWINGS FROM THE UTILITY COMPANY PRIOR TO START OF WORK. UTILITY COMPANY DRAWINGS SHALL SUPERCEDE ELECTRIC SERVICE DESIGN AS SHOWN IN CONSTRUCTION DOCUMENTS. COORDINATE ALL REQUIREMENTS WITH UTILITY COMPANY AND T-MOBILE REPRESENTATIVE.**
9. ALL CONDUITS BELOW GRADE SHALL BE SCHEDULE 40 PVC. ALL CONDUITS ABOVE GRADE AND/OR EXPOSED TO WEATHER SHALL BE RIGID GALVANIZED STEEL. ALL CONDUITS EXTENDING BELOW AREAS SUBJECT TO VEHICULAR TRAFFIC SHALL BE SCHEDULE 80 PVC.



DUCTBANK SHALL COMPLY WITH ALL PEPCO REQUIREMENTS.

DETAIL - UTILITY DUCTBANK SECTION

NO SCALE (INCOMING ELECTRIC SERVICE TO COMPOUND)



DETAIL - UTILITY CONDUIT SECTION

NO SCALE (INCOMING FIBER TO COMPOUND)

0 4 8 12 16 32 48
SCALE:1/16"=1'-0"

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07/19/2024

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DESIGNED BY:	MBR
ORIGINAL DATE:	06/18/2024
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DESIGN SCALE:	AS NOTED

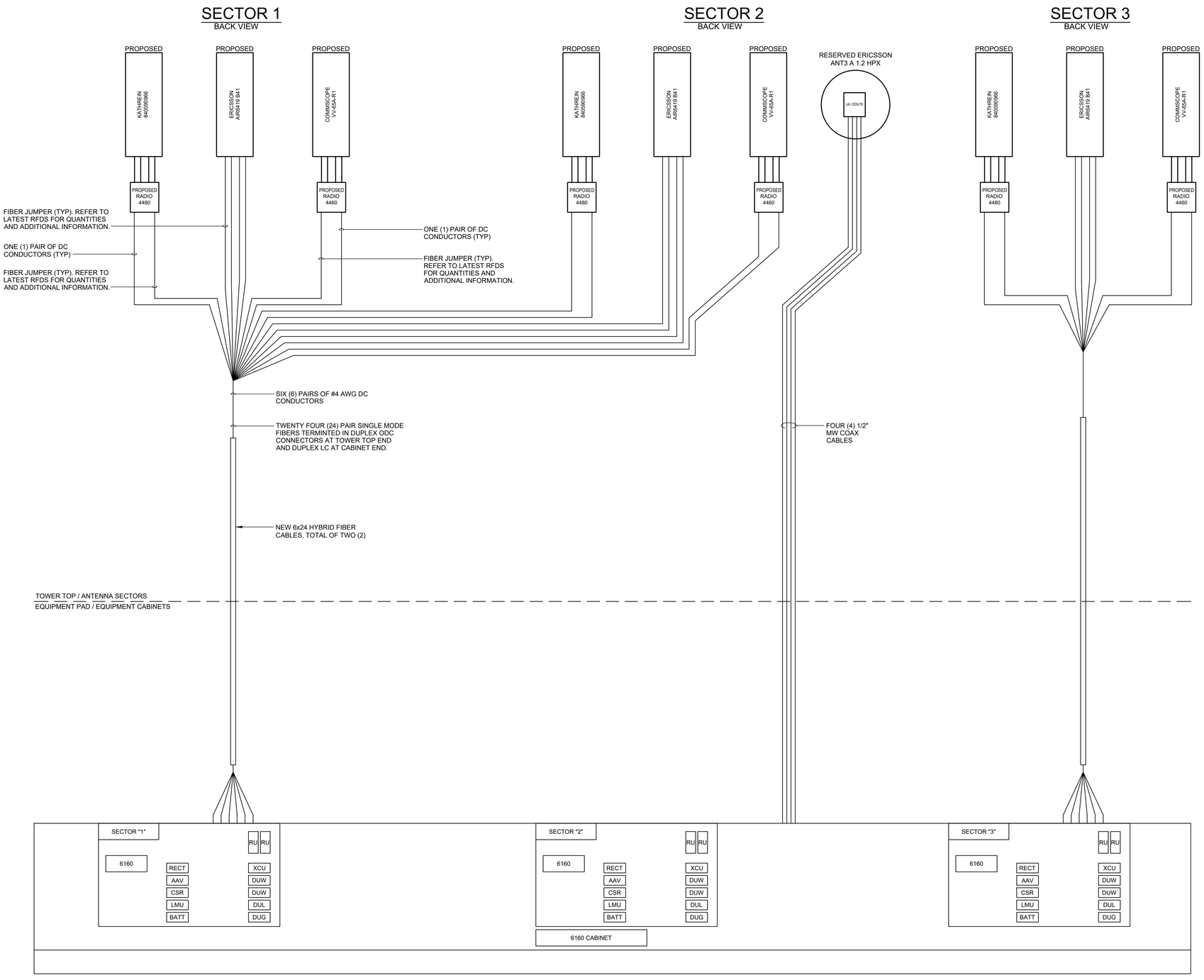
SHEET TITLE

ROUTING SITE PLAN, DETAILS, AND NOTES

SHEET NUMBER

E-7

TEI#24016E



ANTENNA & RF CABLING SCHEMATIC DIAGRAM
NO SCALE

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NO.	DESCRIPTION	DATE
1	PERMIT DWGS	07/19/24

DISTRICT OF COLUMBIA
MICHAEL B. RAMIOT
No. 10346
REGISTERED
PROFESSIONAL ENGINEER
07/19/2024

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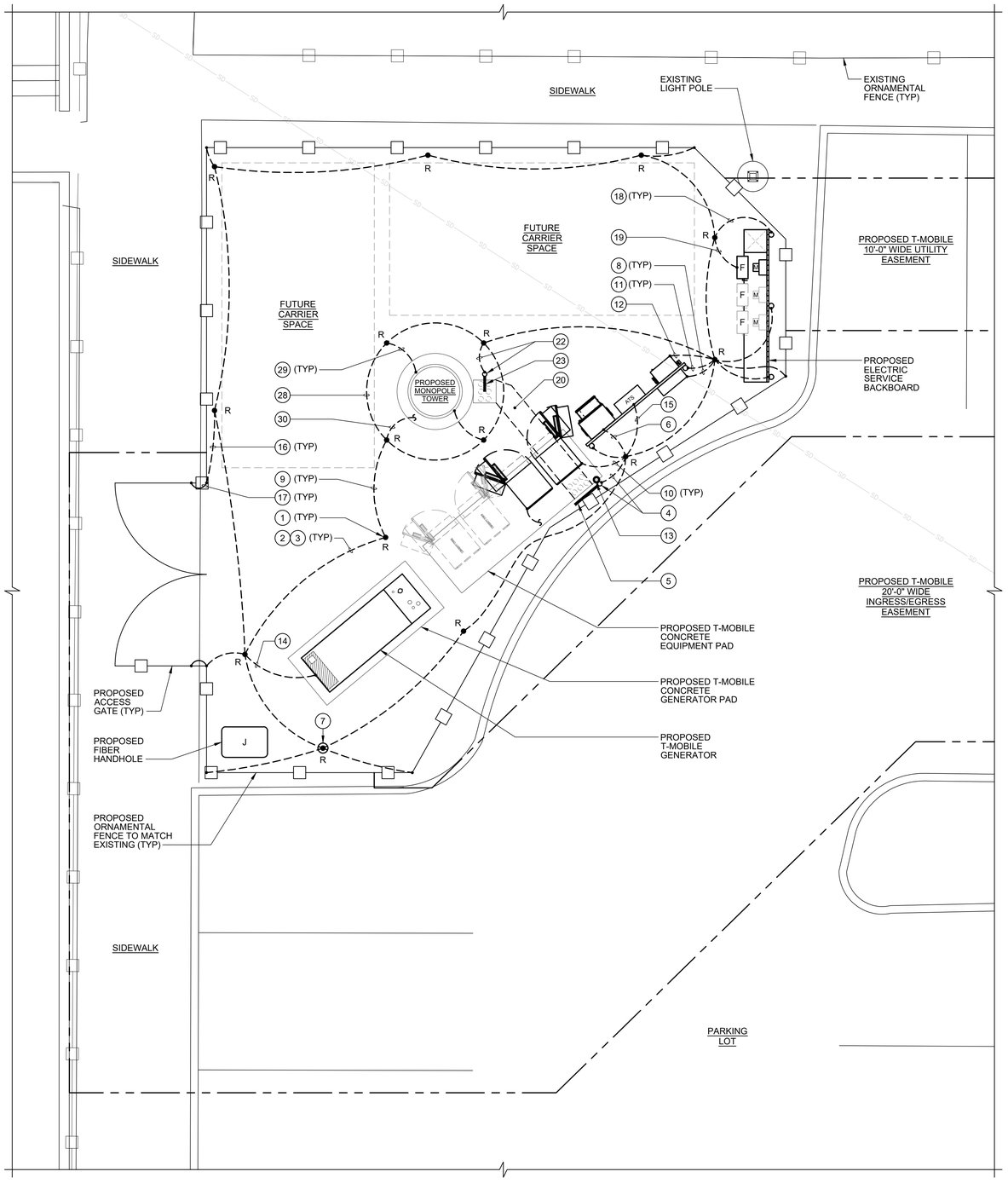
DESIGN SCALE:	AS NOTED

SHEET TITLE

ANTENNA SCHEMATIC DIAGRAM

SHEET NUMBER

E-8



NOTE:
ALL GROUNDS BARS ARE TO BE GALVANIZED AND WELDED TO METAL PIPE OR TO PLATFORM.

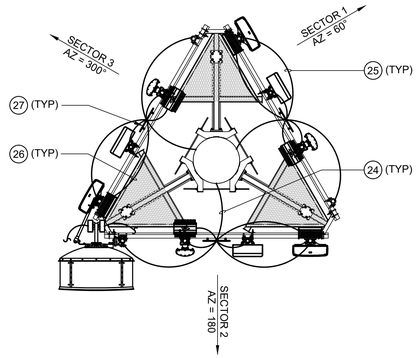
(21) GROUNDING PLAN

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

N

DRAWING NOTES

1. PROVIDE 10'-0" (MINIMUM) x 5/8" COPPER CLAD STEEL GROUND ROD. TOP OF GROUND ROD SHALL BE AT THE SAME DEPTH AS THE GROUND RING.
2. BURIED GROUND RING SHALL BE #2 AWG, BARE, TINNED, SOLID COPPER.
3. BURIED GROUND RING SHALL BE WITHIN 24" TO 36" OF THE STRUCTURE (WHERE FEASIBLE). THE GROUND RING SHALL BE AT A DEPTH OF AT LEAST 30" BELOW FINISHED GRADE.
4. PROVIDE VERTICAL SUPPORT POST FOR MOUNTING MASTER GROUND BAR. BOND SUPPORT POST TO NEAREST GROUND ROD USING 1#2 AWG, BARE, TINNED COPPER CONDUCTORS WITH CADWELD CONNECTIONS.
5. PROVIDE 4"x30"x1/4" THICK MASTER GROUND BAR (MGB) WELDED AT LOCATION OF EQUIPMENT CABINET. BOND MGB TO GROUND RING USING 1#2 AWG, BARE, TINNED SOLID COPPER CONDUCTOR IN 3/4" PVC CONDUIT AT TWO LOCATIONS. COORDINATE MOUNTING METHOD/LOCATION IN FIELD WITH T-MOBILE REPRESENTATIVE.
6. EXTEND 1#2 AWG, BARE, TINNED, SOLID COPPER GROUND CONDUCTOR FROM NEAREST BURIED GROUND ROD AND BOND TO FIBER EQUIPMENT AAV CABINET PER MANUFACTURERS REQUIREMENTS.
7. PROVIDE 6' LONG TEST PIG TAIL FROM GROUND RING AND COIL INSIDE OF 6" SCHEDULE 40 PVC CONDUIT SLEEVE WITH CLEAN OUT STUBBED UP 6" ABOVE FINISH GRADE.
8. CONTRACTOR SHALL BOND ALL METAL OBJECTS (EQUIPMENT BACK BOARD, WIRETROUGH, ETC.) TO BURIED GROUND RING USING 1#2 AWG, BARE TINNED COPPER CONDUCTOR. PROVIDE CAD WELD CONNECTION TO BURIED GROUND RING.
9. EXTEND 1#2 AWG, BARE, TINNED, SOLID COPPER GROUND CONDUCTOR FROM NEW T-MOBILE BURIED GROUND RING AND CADWELD TO PROPOSED BURIED GROUND RING SURROUNDING TOWER.
10. BOND 6160 AND B160 CABINETS TO BURIED GROUND RING USING 1#2 AWG, BARE, TINNED, SOLID COPPER GROUND CONDUCTOR (TYP OF 2, ONE FOR 6160 AND ONE FOR B160 CABINET).
11. EXTEND 1#2 AWG, BARE, TINNED, SOLID COPPER GROUND CONDUCTOR FROM NEW BACKBOARD SUPPORT POST AND CADWELD TO NEAREST BURIED GROUND ROD.
12. BOND GROUND BUS FURNISHED IN POWER CABINET TO BURIED GROUND RING USING 1#2 AWG, BARE, TINNED, COPPER CONDUCTOR.
13. PROPOSED T-MOBILE GPS ANTENNA MOUNTED ON PROPOSED SUPPORT POST. PROVIDE 1#2 AWG, BARE, TINNED COPPER CONDUCTOR FROM BURIED GROUND RING TO 1" CONDUIT MOUNT FOR GPS ANTENNA. COORDINATE EXACT GPS LOCATION WITH T-MOBILE REPRESENTATIVE IN THE FIELD. PORTIONS OF CONDUCTOR ABOVE GRADE SHALL BE RAN IN SEALTIGHT CONDUIT.
14. EXTEND 1#2 AWG, BARE, TINNED, SOLID COPPER GROUND CONDUCTOR FROM NEAREST BURIED GROUND ROD, TURN UP THROUGH CONDUIT STUB-UP AREA, AND BOND TO INTERIOR FRAME OF GENERATOR PER MANUFACTURER'S RECOMMENDATIONS. COORDINATE ALL GENERATOR GROUNDING REQUIREMENTS WITH EQUIPMENT MANUFACTURER AND T-MOBILE REPRESENTATIVE PRIOR TO START OF WORK.
15. EXTEND 1#2 AWG, BARE, TINNED, SOLID COPPER CONDUCTOR FROM NEAREST BURIED GROUND ROD AND BOND TO AUTOMATIC TRANSFER SWITCH.
16. EXTEND 1#2 AWG, BARE, TINNED, SOLID COPPER GROUND CONDUCTOR FROM NEAREST BURIED GROUND ROD AND BOND TO NEW METALLIC FENCE POST. CONNECTION TO FENCE POST SHALL BE BELOW GRADE.
17. PROVIDE FLEXIBLE GROUND STRAP (T & B SERIES) CONNECTING METALLIC GATE FRAME TO ADJACENT METALLIC FENCE POST. REFER TO DETAIL, SHEET G-2.
18. EXTEND 1#2 AWG, BARE, TINNED, SOLID COPPER GROUND CONDUCTOR FROM ELECTRIC SERVICE BACKBOARD SUPPORT POST AND CADWELD TO NEAREST BURIED GROUND ROD. CONNECTION TO POST SHALL BE MADE BELOW GRADE.
19. EXTEND 1#2 AWG, BARE, TINNED, SOLID COPPER GROUND CONDUCTOR FROM ELECTRIC SERVICE DISCONNECT SWITCH AND CADWELD TO NEAREST EXISTING ELECTRIC SERVICE BURIED GROUND ROD. REFER TO DETAIL, SHEET G-2.
20. PROPOSED LOCATION OF T-MOBILE 6 WAY (3Hx2V) UNDERGROUND DUCTBANK FOR EXTENSION OF HYBRID FIBER CABLES BELOW GRADE. CONTRACTOR SHALL COORDINATE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO START OF WORK. REFER TO DETAILS, SHEET E-6, AND STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
21. PROVIDE BONDING CONNECTION TO OUTER CONDUCTOR OF HYBRID FIBER CABLE VIA COAX GROUNDING KIT.
22. PROVIDE VERTICAL SUPPORT POST FOR MOUNTING GROUND BAR AT TOWER. BOND SUPPORT POST TO BURIED GROUND RING SURROUNDING THE TOWER USING 1#2 AWG, BARE, TINNED COPPER CONDUCTORS WITH CADWELD CONNECTIONS. COORDINATE MOUNTING METHOD AND LOCATION IN FIELD WITH T-MOBILE REPRESENTATIVE.
23. PROVIDE 4"X12"X1/4" THICK COPPER COAX GROUND BUS MOUNTED AT TOWER ON VERTICAL SUPPORT POST. BOND BUS TO BURIED GROUND RING SURROUNDING THE TOWER USING 1#2 AWG, BARE, TINNED COPPER CONDUCTORS IN 3/4" PVC CDT (AT 2 LOCATIONS). COORDINATE MOUNTING METHOD AND LOCATION IN FIELD WITH T-MOBILE REPRESENTATIVE.
24. EXTEND 1#2 AWG, GREEN, INSULATED, STRANDED COPPER GROUND CONDUCTOR FROM EACH ANTENNA SECTOR GROUND BUS AND BOND TO PROPOSED TOWER (TYP OF 3).
25. BOND ANTENNA COAX CABLE AND ANTENNA MAST TO SECTOR GROUND BUS USING 1#2 AWG, GREEN, INSULATED, STRANDED COPPER GROUND CONDUCTOR (TYP).
26. BOND RADIO HEAD TO SECTOR GROUND BUS, USING 1#2 AWG GREEN, INSULATED, STRANDED COPPER GROUND CONDUCTOR (TYP).
27. PROVIDE 4"X12"X1/4" THICK COPPER SECTOR GROUND BUS MOUNTED WITHIN TEN (10) FEET OF THE ANTENNAS ON NEW ANTENNA SECTOR FRAME. CONTRACTOR SHALL INTERCONNECT EACH SECTOR GROUND BAR TO ADJACENT GROUND BAR USING 1#2 AWG, INSULATED, STRANDED COPPER CONDUCTOR.
28. CONTRACTOR SHALL ENCIRCLE TOWER CAISSON WITH #2 AWG, BARE, TINNED, SOLID COPPER CONDUCTOR BELOW GRADE. GROUND RING SHALL BE AT LEAST 30" BELOW GRADE AND SHALL BE 24" AWAY FROM TOWER FOUNDATION.
29. CONTRACTOR SHALL BOND TOWER TO BURIED GROUND RING USING #2 AWG, BARE, TINNED, SOLID COPPER CONDUCTOR IN TWO (2) LOCATIONS, 180° APART. PROVIDE CADWELD CONNECTIONS.
30. CONTRACTOR SHALL INVESTIGATE IF A METAL CAISSON IS LEFT IN PLACE. IF A METAL CAISSON EXISTS, IT SHALL BE BONDED (CADWELDED) TO THE BURIED GROUND RING.



(21) ANTENNA SECTOR PLAN

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

N

0 1 2 3 4 8 12

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

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410-692-5816
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SITE ID:
7WDC529A
SITE NAME:
REPLACEMENT FOR 7WDC114A

SITE ADDRESS:
3401 4TH STREET SE
WASHINGTON, DC 20032
DISTRICT OF COLUMBIA

REVISION BLOCK

NO.	DESCRIPTION	DATE
1	PERMIT DWGS	07/19/24

DISTRICT OF COLUMBIA — NO. 10946 — REGISTERED PROFESSIONAL ENGINEER

07/19/2024

PROFESSIONAL CERTIFICATION

I AM RESPONSIBLE FOR DETERMINING THAT THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION ARE IN COMPLIANCE WITH ALL LAWS AND REGULATIONS OF THE DISTRICT OF COLUMBIA. I HAVE PERSONALLY PREPARED, OR DIRECTLY SUPERVISED THE DEVELOPMENT OF THE ENGINEERING DESIGNS INCLUDED IN THIS APPLICATION.

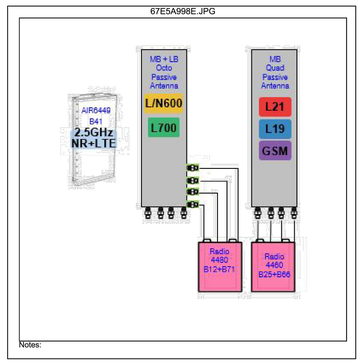
DRAWN BY:	MBR
DESIGNED BY:	MBR
ORIGINAL DATE:	06/18/2024
TEI PROJECT #:	24016E
DESIGN SCALE:	AS NOTED

SHEET TITLE

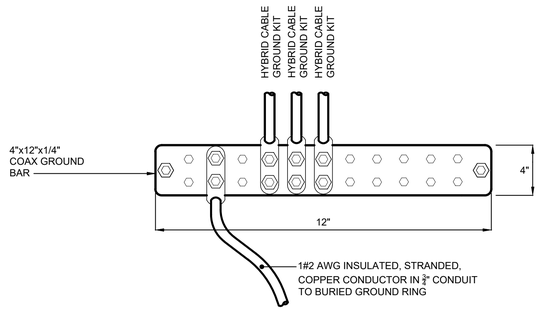
GROUNDING PLANS AND NOTES

SHEET NUMBER

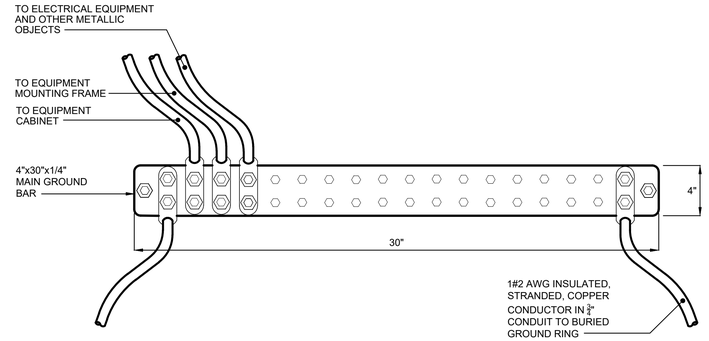
G-1



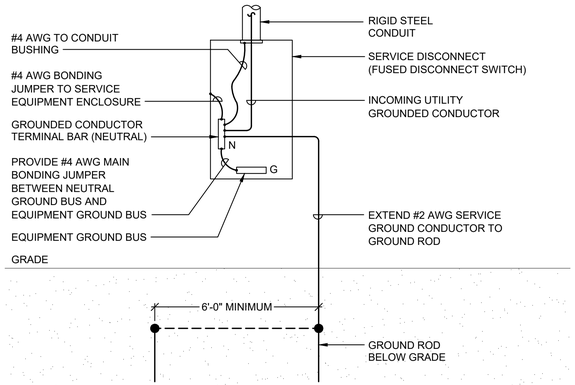
DETAIL - ANTENNA PLUMBING DIAGRAM
NO SCALE



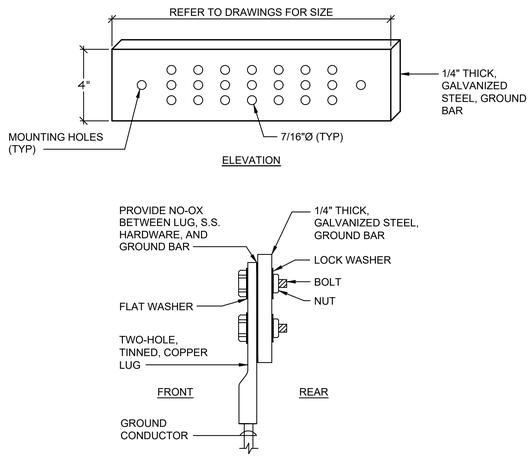
DETAIL - ANTENNA COAX GROUND BAR
NO SCALE



DETAIL - MAIN GROUND BAR
NO SCALE

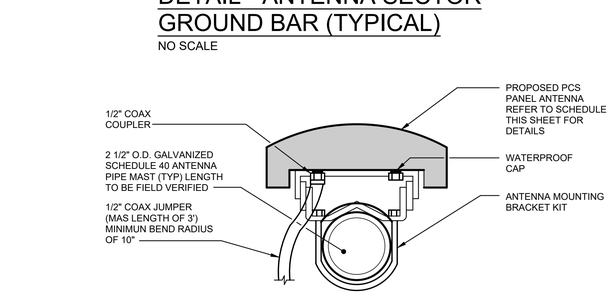


DETAIL - TYPICAL ELECTRIC SERVICE GROUNDING ELECTRODE
NO SCALE

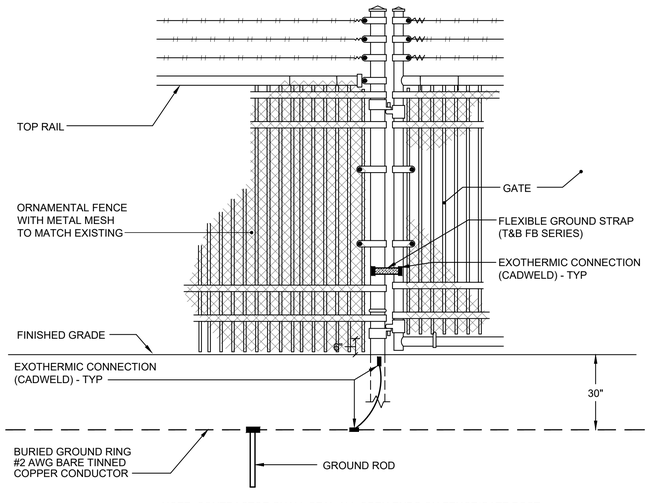


GROUND BAR AND ALL ASSOCIATED "ANTI-THEFT" MOUNTING HARDWARE, ISOLATORS, ETC. ARE INCLUDED WITH GROUND BAR KIT BY ELECTRIC MOTION COMPANY (EMC), INC.

DETAIL - EXTERIOR GROUND BAR (MGB)
NO SCALE

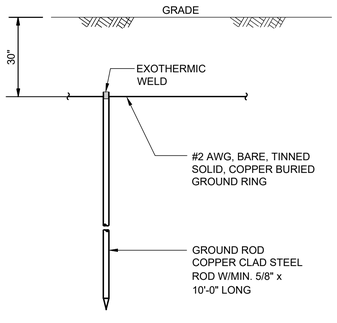


DETAIL - ANTENNA SECTOR GROUND BAR (TYPICAL)
NO SCALE



NOTE: CONTRACTOR SHALL SEAL ALL OPEN ENDS ON FENCE/GATE POST TO AVOID BEES NESTING.

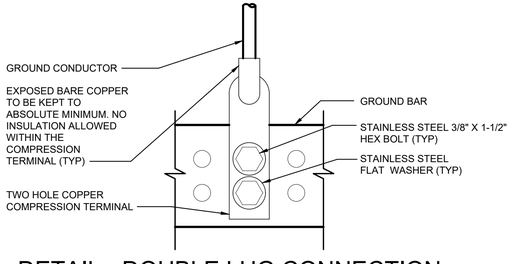
DETAIL - GATE GROUNDING
NO SCALE



GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL.

DETAIL - GROUND ROD
NO SCALE

DETAIL- ANTENNA MOUNTED
NO SCALE



DETAIL - DOUBLE LUG CONNECTION
NO SCALE

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07/19/2024

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DESIGNED BY:	MBR
ORIGINAL DATE:	06/18/2024
TEI PROJECT #:	24016E
DESIGN SCALE:	AS NOTED

SHEET TITLE

GROUNDING DETAILS

SHEET NUMBER

G-2