CONTRACTOR SHALL CONTACT AHEAD ENGINEERING PRIOR TO ORDERING MATERIALS OR BEGINNING OF CONSTRUCTION TO ENSURE THAT THEY HAVE THE LATEST REVISION OF THE CONSTRUCTION DOCUMENTS.

CROWN CASTLE

SITE ID: PRC-050

SCU #: 520667

LATITUDE: 40.3517975699978
LONGITUDE: -74.6633702005757

PROPOSED SMALL CELL NODE INSTALLATION

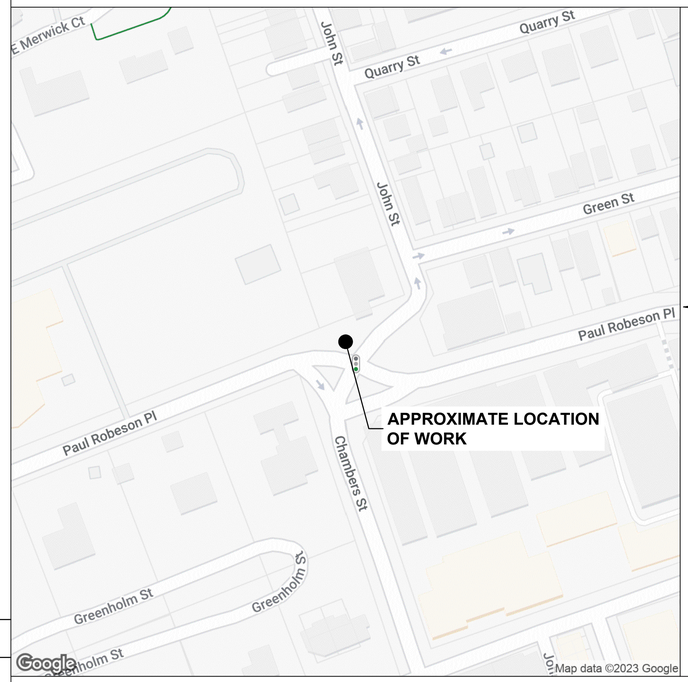
DWG.	DWG. TITLE
C1	COVER PAGE
GN1	GENERAL NOTES
S1	SITE PLANS
S2	SITE ELEVATIONS
S3	SPECIFICATIONS AND DETAILS
S4	DETAILS
S5	CONSTRUCTION DETAILS
S6	POLE SPECIFICATIONS
S7	FOUNDATION DETAIL
S8	RF PLUMBING DIAGRAM
S9	LANDSCAPING DETAIL
E1	UTILITY AND GROUNDING DETAILS
E2	ELECTRICAL SPECIFICATIONS AND DETAILS
MPT - 1	MPT - PLAN
MPT - 2	MPT - NOTES

TYPICAL DRAFTING STANDARDS

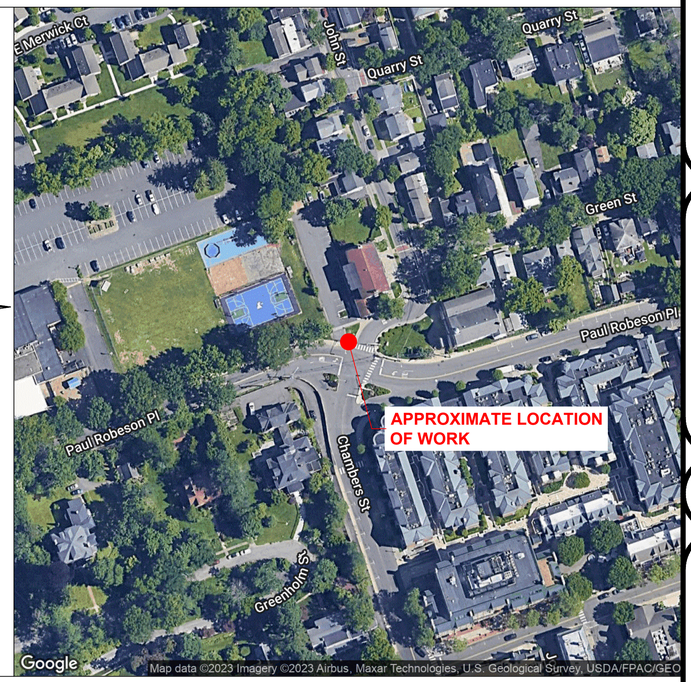
Existing	*Light, Upper And Lower Case Lettering When Labeling Existing Features*
PROPOSED	**BOLD, UPPER CASE LETTERING WHEN LABELING PROPOSED FEATURES**
————	*Light Lines Represent Existing Features*
▬▬▬	**DARK LINES REPRESENT PROPOSED FEATURES**

811 Know what's **below.** **Call** before you dig.

LOCATION MAP
NOT TO SCALE



KEY MAP
NOT TO SCALE



APPLICABLE CODES AND STANDARDS

ALL WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN. ALL THIRD PARTY ATTACHMENTS ARE TO BE IN COMPLIANCE WITH THE LATEST VERSION OF PSE&G ENGINEERING AND CONSTRUCTION GUIDELINES FOR THIRD PARTY ANTENNA SYSTEMS MOUNTED ON PSE&G DISTRIBUTION WOOD POLES

PSE&G SAFETY, ENGINEERING AND CONSTRUCTION DESIGN SPECIFICATION STANDARDS

PSE&G/VERIZON JOINT POLE AGREEMENT

BUILDING CODE:
2021 INTERNATIONAL BUILDING CODE (IBC), AS ADOPTED BY NEW JERSEY

ELECTRICAL CODE:
NFPA 70-2020, NATIONAL ELECTRIC CODE

LIGHTNING PROTECTION CODE:
NFPA 780 - 2006, LIGHTNING PROTECTION

IEEE C2 NATIONAL ELECTRIC SAFETY CODE (NESC), LATEST CODE BOOK EDITION

AASHTO LFRD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS 2015 WITH 2020 INTERIMS

TIA-222-H, STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES, TIA 607 COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS

AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE) 7-16: MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES

AMERICAN CONCRETE INSTITUTE (ACI) 318-14, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE

AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) 360-16, SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, MANUAL OF STEEL CONSTRUCTION, ASD, 14TH EDITION

NJDOT ROADWAY DESIGN MANUAL, 2015, AND NJDOT UPDATED STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2007

MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) 2009 EDITION

TELCORDIA GR-63-CORE, NEBS REQUIREMENTS: PHYSICAL PROTECTION

TELCORDIA GR-78-CORE, GENERIC REQUIREMENTS FOR THE PHYSICAL DESIGN AND MANUFACTURE OF TELECOMMUNICATIONS EQUIPMENT

TELCORDIA GR-1275 GENERAL INSTALLATION REQUIREMENTS

ANSI T1.311, FOR TELECOM - DC POWER SYSTEMS - TELECOM, ENVIRONMENTAL PROTECTION

INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVITY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM IEEE 1100 (1999) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

SCOPE OF WORK

- REMOVAL AND REPLACEMENT OF EXISTING METAL TRAFFIC SIGNAL POLE, INSTALLATION OF PROPOSED ANTENNA ATTACHED TO TRAFFIC SIGNAL POLE, INSTALLATION OF EQUIPMENT CABINET AT GRADE, INSTALLATION OF PROPOSED LOAD CENTER AND METER ATTACHED TO EQUIPMENT CABINET, AND INSTALLATION OF (1) FIBER HANDHOLE AND (1) ELECTRICAL HANDHOLE AT GRADE, WITH ASSOCIATED AC CABLING, RF CABLING, AND APPURTENANCES
- HANDICAP ACCESS REQUIREMENTS ARE NOT REQUIRED
- FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
- FACILITY WILL BE REMOTELY MONITORED AND MAY BE VISITED APPROXIMATELY ONCE PER MONTH FOR STANDARD MAINTENANCE.
- FACILITY HAS NO PLUMBING OR REFRIGERANTS
- THIS FACILITY SHALL MEET OR EXCEED ALL FAA AND FCC REGULATORY REQUIREMENTS
- ALL PROPOSED MATERIAL SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR UNLESS NOTED OTHERWISE. CABINETS, ANTENNAS/RRU AND CABLES FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR

PROJECT SUMMARY

NODE ID:	PRC-050
LOCATION:	120 JOHN STREET
JURISDICTION:	PRINCETON
COUNTY:	MERCER
BLOCK:	17.04
LOT:	2
ZONE:	R-4 B
SITE COORDINATES:	
LATITUDE:	40.3517975699978 N (NAD83)
LONGITUDE:	-74.6633702005757 W (NAD83)
POLE TYPE:	METAL - TRAFFIC SIGNAL
POLE NUMBER:	NT
POWER COMPANY:	PSE&G
POLE OWNER:	PRINCETON
APPLICANT:	CROWN CASTLE FIBER LLC 10980 GRANTCHESTER WAY 4TH FLOOR COLUMBIA, MD 21044
CROWN CASTLE PROJECT MANAGER:	DAN POLISKY (267) 400-6223
ENGINEER:	AHEAD ENGINEERING LLC 27 PINE HILL RD ANNANDALE, NJ 08801
CONTACT:	KYLE MCGINLEY, PE (908) 325-1775 EXT 105

SPECIAL INSPECTIONS

INSPECTION TYPE	VALUE	FREQUENCY
SOIL	SOIL BEARING CAPACITY: 1500 PSF LATERAL BEARING CAPACITY: 100 PSF COEFFICIENT OF SLIDING FRICTION: 0.20	ONCE AT INSTALLATION
REINFORCING STEEL	AS PER FOUNDATION DRAWINGS	ONCE AT INSTALLATION
CONCRETE PLACEMENT	AS PER FOUNDATION DRAWINGS	ONCE AT INSTALLATION

FLOOD ZONE INFORMATION

THIS SITE IS LOCATED WITHIN FLOOD HAZARD ZONE X.

AHEAD ENGINEERING
27 PINE HILL ROAD
ANNANDALE, NJ 08801
T: 908-325-1775

STATE OF NEW JERSEY · KYLE McGINLEY · No. 24GE05406500 · LICENSED PROFESSIONAL ENGINEER

KYLE J. MCGINLEY
NJ PE # 24GE05406500

APPLICANT:

CROWN CASTLE

PROJECT:
NODE ID: PRC-050

SCU: 520667

LOCATION:
120 JOHN STREET
PRINCETON, NJ 08542

DATE: 10/10/23

SCALE: AS NOTED

AE PROJECT #: 23003CRNNJ

DWG BY: CB | CHK BY: KJM

#	DATE	DESCRIPTION
3	08/14/24	SHROUD UPDATE
4	09/18/24	DESIGN UPDATE
5	09/25/24	PAINT NOTE
6	03/19/25	POLE UPDATES
7	06/24/25	PLANT NOTE

DRAWING TITLE:
COVER PAGE

DRAWING # C1 | PAGE # 1 OF 15

CONTRACTOR SHALL CONTACT AHEAD ENGINEERING PRIOR TO ORDERING MATERIALS OR BEGINNING OF CONSTRUCTION TO ENSURE THAT THEY HAVE THE LATEST REVISION OF THE CONSTRUCTION DOCUMENTS.

GENERAL NOTES

PART 1 - GENERAL REQUIREMENTS

1.1 THE WORK SHALL COMPLY WITH APPLICABLE NATIONAL CODES AND STANDARDS, LATEST EDITION, AND PORTIONS THEREOF, INCLUDED BUT NOT LIMITED TO THE FOLLOWING:

A. GR-63-CORE NEBS REQUIREMENTS: PHYSICAL PROTECTION
B. GR-78-CORE GENERIC REQUIREMENTS FOR THE PHYSICAL DESIGN AND MANUFACTURE OF TELECOMMUNICATIONS EQUIPMENT.
C. NATIONAL FIRE PROTECTION ASSOCIATION CODES AND STANDARDS (NFPA) INCLUDING NFPA 70 (NATIONAL ELECTRICAL CODE - "NEC").
D. NFPA 101 (LIFE SAFETY CODE).
E. AMERICAN SOCIETY FOR TESTING OF MATERIALS (ASTM).
F. INSTITUTE OF ELECTRONIC AND ELECTRICAL ENGINEERS (IEEE).
G. DOT STANDARD SPECIFICATIONS; STANDARD DETAILS OF CONSTRUCTION; RULES OF THE HIGHWAY OPERATIONS; GUIDELINES FOR THE DESIGN OF INFRASTRUCTURE COMPONENTS (AS APPLICABLE).
H. PSE&G/VERIZON JOINT POLE AGREEMENT (AS APPLICABLE).

1.2 DEFINITIONS:

A. WORK: THE SUM OF TASKS AND RESPONSIBILITIES IDENTIFIED IN THE CONTRACT DOCUMENTS.
B. COMPANY: APPLICANT
C. ENTITY: AN ENTITY WHICH HAS BEEN GRANTED THE RIGHT TO INSTALL TELECOMMUNICATIONS EQUIPMENT AND FACILITIES ON CITY OWNED STREETLIGHT POLES AND TRAFFIC SIGNAL POLES
D. ENGINEER: SYNONYMOUS WITH ARCHITECT & ENGINEER AND "A&E". THE DESIGN PROFESSIONAL HAVING PROFESSIONAL RESPONSIBILITY FOR DESIGN OF THE PROJECT.
E. CONTRACTOR: CONSTRUCTION CONTRACTOR; CONSTRUCTION VENDOR; INDIVIDUAL OR ENTITY WHO AFTER EXECUTION OF A CONTRACT IS BOUND TO ACCOMPLISH THE WORK.
F. THIRD PARTY VENDOR OR AGENCY: A VENDOR OR AGENCY ENGAGED SEPARATELY BY THE COMPANY, A&E, OR CONTRACTOR TO PROVIDE MATERIALS OR TO ACCOMPLISH SPECIFIC TASKS RELATED TO BUT NOT INCLUDED IN THE WORK.

1.3 POINT OF CONTACT: COMMUNICATION BETWEEN THE COMPANY AND THE CONTRACTOR SHALL FLOW THROUGH THE SINGLE COMPANY SITE DEVELOPMENT SPECIALIST OR OTHER PROJECT COORDINATOR APPOINTED TO MANAGE THE PROJECT FOR THE COMPANY.

1.4 ON-SITE SUPERVISION: THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL EMPLOY A COMPETENT SUPERINTENDENT WHO SHALL BE IN ATTENDANCE AT THE SITE AT ALL TIMES DURING PERFORMANCE OF THE WORK.

1.5 DRAWINGS, SPECIFICATIONS AND DETAILS REQUIRED AT JOBSITE: THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN A FULL SET OF THE CONSTRUCTION DRAWINGS, STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES, AND THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES AT THE JOBSITE FROM MOBILIZATIONS THROUGH CONSTRUCTION COMPLETION.

A. THE JOBSITE DRAWINGS, SPECIFICATIONS AND DETAILS SHALL BE CLEARLY MARKED DAILY IN PENCIL WITH ANY CHANGES IN CONSTRUCTION OVER WHAT IS DEPICTED IN THE DOCUMENTS. AT CONSTRUCTION COMPLETION, THE JOBSITE MARKUP SET SHALL BE DELIVERED TO THE COMPANY OR COMPANY'S DESIGNATED REPRESENTATIVE TO BE FORWARDED TO THE COMPANY'S A&E VENDOR FOR PRODUCTION OF "AS-BUILT" DRAWINGS.

1.6 USE OF JOB SITE: THE CONTRACTOR SHALL CONFINE ALL CONSTRUCTION AND RELATED OPERATIONS INCLUDING STAGING AND STORAGE OF MATERIALS AND EQUIPMENT, PARKING, TEMPORARY FACILITIES, AND WASTE STORAGE TO THE LEASE PARCEL UNLESS OTHERWISE PERMITTED BY THE CONTRACT DOCUMENTS.

1.7 NOTICE TO PROCEED:

A. NO WORK SHALL COMMENCE PRIOR TO COMPANY'S WRITTEN NOTICE TO PROCEED.
B. UPON RECEIVING NOTICE TO PROCEED, CONTRACTOR SHALL FULLY PERFORM ALL WORK NECESSARY TO PROVIDE COMPANY WITH AN OPERATIONAL WIRELESS FACILITY.

1.8. CONTRACTOR SHALL REPAIR ANY UTILITIES DAMAGED AS A RESULT OF CONSTRUCTION AND SHALL COORDINATE REPAIRS WITH THE APPLICABLE UTILITY COMPANY.

1.9. CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL OF TRASH AND CONSTRUCTION DEBRIS AT THE END OF EVERY WORK DAY.

1.10. CONTRACTOR MUST RESTORE ALL AREAS DISTURBED BY CONSTRUCTION TO THEIR PREVIOUS CONDITION AFTER THE COMPLETION OF EACH WORK PHASE AND SHALL RESTORE AND REPAIR ANY DAMAGED AREAS CAUSED BY CONSTRUCTION.

1.11. DO NOT SCALE DRAWINGS. ROUTING SHOWN IN THESE CONSTRUCTION DOCUMENTS WAS COMPLETED WITHOUT AN UNDERGROUND UTILITY SURVEY IS APPROXIMATE. UNDERGROUND CONDITIONS MAY RESULT IN AN ALTERNATE ROUTE AND THE CONTRACTOR IS TO UTILIZE THE MOST EFFICIENT ROUTING DURING CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING FIELD CHANGES WITH THE AHJ.

PART 2 - EXECUTION

2.1 TEMPORARY UTILITIES AND FACILITIES: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY UTILITIES AND FACILITIES NECESSARY EXCEPT AS OTHERWISE INDICATED IN THE CONSTRUCTION DOCUMENTS. TEMPORARY UTILITIES AND FACILITIES INCLUDE POTABLE WATER, HEAT, HVAC, ELECTRICITY, SANITARY FACILITIES, WASTE DISPOSAL FACILITIES, AND TELEPHONE/COMMUNICATION SERVICES. PROVIDE TEMPORARY UTILITIES AND FACILITIES IN ACCORDANCE WITH OSHA AND THE AUTHORITY HAVING JURISDICTION. CONTRACTOR MAY UTILIZE THE COMPANY ELECTRICAL SERVICE IN THE COMPLETION OF THE WORK WHEN IT BECOMES AVAILABLE. USE OF THE LESSORS OR SITE OWNER'S UTILITIES OR FACILITIES IS EXPRESSLY FORBIDDEN EXCEPT AS OTHERWISE ALLOWED IN THE CONTRACT DOCUMENTS.

2.2 ACCESS TO WORK: THE CONTRACTOR SHALL PROVIDE ACCESS TO THE JOB SITE FOR AUTHORIZED COMPANY PERSONNEL AND AUTHORIZED REPRESENTATIVES OF THE ARCHITECT/ENGINEER DURING ALL PHASES OF THE WORK.

2.3 TESTING: REQUIREMENTS FOR TESTING BY THIS CONTRACTOR SHALL BE AS INDICATED HEREWITH, ON THE CONSTRUCTION DRAWINGS, AND IN THE INDIVIDUAL SECTIONS OF THESE SPECIFICATIONS. SHOULD COMPANY CHOOSE TO ENGAGE ANY THIRD-PARTY TO CONDUCT ADDITIONAL TESTING, THE CONTRACTOR SHALL COOPERATE WITH AND PROVIDE A WORK AREA FOR COMPANY'S TEST AGENCY.

2.4 COMPANY FURNISHED MATERIAL AND EQUIPMENT: ALL HANDLING, STORAGE AND INSTALLATION OF COMPANY FURNISHED MATERIAL AND EQUIPMENT SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.

A. CONTRACTOR SHALL PROCURE ALL OTHER REQUIRED WORK RELATED MATERIALS NOT PROVIDED BY COMPANY TO SUCCESSFULLY CONSTRUCT A WIRELESS FACILITY.

2.5 DIMENSIONS: VERIFY DIMENSIONS INDICATED ON DRAWINGS WITH FIELD DIMENSIONS BEFORE FABRICATION OR ORDERING OF MATERIALS. DO NOT SCALE DRAWINGS.

2.6 EXISTING CONDITIONS: NOTIFY THE COMPANY REPRESENTATIVE OF EXISTING CONDITIONS DIFFERING FROM THOSE INDICATED ON THE DRAWINGS. DO NOT REMOVE OR ALTER STRUCTURAL COMPONENTS WITHOUT PRIOR WRITTEN APPROVAL FROM THE ARCHITECT AND ENGINEER.

PART 3 - RECEIPT OF MATERIAL & EQUIPMENT

3.1 RECEIPT OF MATERIAL AND EQUIPMENT: CONTRACTOR IS RESPONSIBLE FOR COMPANY PROVIDED MATERIAL AND EQUIPMENT AND UPON RECEIPT SHALL:

A. ACCEPT DELIVERIES AS SHIPPED AND TAKE RECEIPT.
B. VERIFY COMPLETENESS AND CONDITION OF ALL DELIVERIES.
C. TAKE RESPONSIBILITY FOR EQUIPMENT AND PROVIDE INSURANCE PROTECTION AS REQUIRED IN AGREEMENT.
D. RECORD ANY DEFECTS OR DAMAGES WITHIN TWENTY-FOUR HOURS AFTER RECEIPT AND REPORT TO COMPANY OR ITS DESIGNATED PROJECT REPRESENTATIVE OF SUCH.
E. PROVIDE SECURE AND NECESSARY WEATHER PROTECTED WAREHOUSING.
F. COORDINATE SAFE AND SECURE TRANSPORTATION OF MATERIAL AND EQUIPMENT, DELIVERING AND OFF-LOADING FROM CONTRACTOR'S WAREHOUSE TO SITE.

PART 4 - GENERAL REQUIREMENTS FOR CONSTRUCTION

4.1 CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH. AT THE COMPLETION OF THE WORK, CONTRACTOR SHALL REMOVE FROM THE SITE ALL REMAINING RUBBISH, IMPLEMENTS, TEMPORARY FACILITIES, AND SURPLUS MATERIALS.

4.2 EQUIPMENT AREA SHALL AT ALL TIMES BE MAINTAINED "BROOM CLEAN" AND CLEAR OF DEBRIS.

4.3 CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO DISCOVER AND LOCATE ANY HAZARDOUS CONDITION.

A. IN THE EVENT CONTRACTOR ENCOUNTERS ANY HAZARDOUS CONDITION WHICH HAS NOT BEEN ABATED OR OTHERWISE MITIGATED, CONTRACTOR AND ALL OTHER PERSONS SHALL IMMEDIATELY STOP WORK IN THE AFFECTED AREA AND NOTIFY COMPANY IN WRITING. THE WORK IN THE AFFECTED AREA SHALL NOT BE RESUMED EXCEPT BY WRITTEN NOTIFICATION BY COMPANY.
B. CONTRACTOR AGREES TO USE CARE WHILE ON THE SITE AND SHALL NOT TAKE ANY ACTION THAT WILL OR MAY RESULT IN OR CAUSE THE HAZARDOUS CONDITION TO BE FURTHER RELEASED IN THE ENVIRONMENT, OR TO FURTHER EXPOSE INDIVIDUALS TO THE HAZARD.

4.4 CONTRACTOR'S ACTIVITIES SHALL BE RESTRICTED TO THE PROJECT LIMITS. SHOULD AREA OUTSIDE THE PROJECT LIMITS BE AFFECTED BY CONTRACTOR'S ACTIVITIES, CONTRACTOR SHALL IMMEDIATELY RETURN THEM TO ORIGINAL CONDITION.

4.5 CONDUCT TESTING AS REQUIRED HEREIN.

4.6 INSTALLATION, MAINTENANCE, AND REPAIR UNDER ENERGIZED CONDITIONS SHALL BE CONDUCTED USING APPROPRIATE INSULATED EQUIPMENT SUCH AS RUBBER GLOVES, SLEEVES, AND TEMPORARY RUBBER CONDUCTOR INSULATION TO LIMIT SERVICE INTERRUPTIONS.

4.7 ALL HARDWARE USED TO SUPPORT THE EQUIPMENT SHALL BE GALVANIZED IN NEW CONDITION, MADE BY A REPUTABLE MANUFACTURER, DESIGNED SPECIFICALLY FOR THE INTENDED USE AND CAPABLE OF WITHSTANDING ALL DESIGNED LOADS.

PART 5 - TEST AND INSPECTIONS

5.1 TESTS AND INSPECTIONS:

A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTS, INSPECTIONS AND PROJECT DOCUMENTATION.
B. CONTRACTOR SHALL COORDINATE TEST AND INSPECTION SCHEDULES WITH COMPANY'S REPRESENTATIVE WHO MUST BE ON SITE TO WITNESS SUCH TESTS AND INSPECTIONS.
C. THE THIRD PARTY TESTING AGENCY IS TO BE FAMILIAR WITH THE APPLICABLE REQUIREMENTS FOR THE TESTS TO BE DONE, EQUIPMENT TO BE USED, AND ASSOCIATED HEALTH AND SAFETY ISSUES.
D. SITE RESISTANCE TO EARTH TESTING PER EXHIBIT: CELL SITE GROUNDING SYSTEM DESIGN.
E. ANTENNA AND COAX SWEEP TESTS PER EXHIBIT: ANTENNA TRANSMISSION LINE ACCEPTANCE STANDARDS.
F. ALL OTHER TESTS REQUIRED BY COMPANY OR JURISDICTION.

PART 6 - TRENCHING AND BACKFILLING

6.1 TRENCHING AND BACKFILLING:

A. THE CONTRACTOR SHALL PERFORM ALL EXCAVATION OF EVERY DESCRIPTION AND OF WHATEVER SUBSTANCES ENCOUNTERED, TO THE DEPTHS INDICATED ON THE CONSTRUCTION DRAWINGS OR AS OTHERWISE SPECIFIED.
B. PROTECTION OF EXISTING UTILITIES: THE CONTRACTOR SHALL CHECK WITH THE LOCAL UTILITIES AND THE RESPECTIVE UTILITY LOCATOR COMPANIES PRIOR TO STARTING EXCAVATION OPERATIONS IN EACH RESPECTIVE AREA TO ASCERTAIN THE LOCATIONS OF KNOWN UTILITY LINES. THE LOCATIONS, NUMBER AND TYPES OF EXISTING UTILITY LINES DETAILED ON THE CONSTRUCTION DRAWINGS ARE APPROXIMATE AND DO NOT REPRESENT EXACT INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ALL LINES DAMAGED DURING EXCAVATION AND ALL ASSOCIATED OPERATIONS. ALL UTILITY LINES UNCOVERED DURING THE EXCAVATION OPERATIONS SHALL BE PROTECTED FROM DAMAGE DURING EXCAVATION AND ASSOCIATED OPERATIONS. ALL REPAIRS SHALL BE APPROVED BY THE UTILITY COMPANY OPERATIONS. ALL REPAIRS SHALL BE APPROVED BY THE UTILITY COMPANY.
C. HAND DIGGING: UNLESS APPROVED IN WRITING OTHERWISE, ALL DIGGING IS TO BE DONE BY HAND.
D. DURING EXCAVATION, MATERIAL SUITABLE FOR BACKFILLING SHALL BE STOCKPILED IN AN ORDERLY MANNER A SUFFICIENT DISTANCE FROM THE BANKS OF THE TRENCH TO AVOID OVERLOADING AND TO PREVENT SLIDES OR CAVE-INS. ALL EXCAVATED MATERIALS NOT REQUIRED OR SUITABLE FOR BACKFILL SHALL BE REMOVED AND DISPOSED OF AT THE CONTRACTOR'S EXPENSE.
E. GRADING SHALL BE DONE AS MAY BE NECESSARY TO PREVENT SURFACE WATER FROM FLOWING INTO TRENCHES OR OTHER EXCAVATIONS, AND ANY WATER ACCUMULATING THEREIN SHALL BE REMOVED BY PUMPING OR BY OTHER APPROVED METHOD.
F. SHEETING AND SHORING SHALL BE DONE AS NECESSARY FOR THE PROTECTION OF THE WORK AND FOR THE SAFETY OF PERSONNEL. UNLESS OTHERWISE INDICATED, EXCAVATION SHALL BE BY OPEN CUT, EXCEPT THAT SHORT SECTIONS OF A TRENCH MAY BE TUNNELED IF THE CONDUIT CAN BE SAFELY AND PROPERLY INSTALLED AND BACKFILL CAN BE PROPERLY TAMPED IN SUCH TUNNEL SECTIONS. EARTH EXCAVATION SHALL COMPRISE ALL MATERIALS AND SHALL INCLUDE CLAY, SILT, SAND, MUCK, GRAVEL, HARDPAN, LOOSE SHALE, AND LOOSE STONE.
G. TRENCHES SHALL BE OF NECESSARY WIDTH FOR THE PROPER LAYING OF THE CONDUIT OR CABLE, AND THE BANKS SHALL BE AS NEARLY VERTICAL AS PRACTICABLE. THE BOTTOM OF THE TRENCHES SHALL BE ACCURATELY GRADED TO PROVIDE UNIFORM BEARING AND SUPPORT FOR EACH SECTION OF THE CONDUIT OR CABLE ON UNDISTURBED SOIL AT EVERY POINT ALONG ITS ENTIRE LENGTH. EXCEPT WHERE ROCK IS ENCOUNTERED, CARE SHALL BE TAKEN NOT TO EXCAVATE BELOW THE DEPTHS INDICATED. WHERE ROCK EXCAVATIONS ARE NECESSARY, THE ROCK SHALL BE EXCAVATED TO A MINIMUM OVER DEPTH OF 6 INCHES BELOW THE TRENCH DEPTHS INDICATED ON THE CONSTRUCTION DRAWINGS OR SPECIFIED. OVER DEPTHS IN THE ROCK EXCAVATION AND UNAUTHORIZED OVER DEPTHS SHALL BE THOROUGHLY BACK FILLED AND TAMPED TO THE APPROPRIATE GRADE. WHENEVER WET OR OTHERWISE UNSTABLE SOIL THAT IS INCAPABLE OF PROPERLY SUPPORTING THE CONDUIT OR CABLE IS ENCOUNTERED IN THE BOTTOM OF THE TRENCH, SUCH SOLID SHALL BE REMOVED TO A MINIMUM OVER DEPTH OF 6 INCHES AND THE TRENCH BACKFILLED TO THE PROPER GRADE WITH EARTH OF OTHER SUITABLE MATERIAL, AS HEREINAFTER SPECIFIED.
H. BACKFILLING OF TRENCHES: TRENCHES SHALL NOT BE BACKFILLED UNTIL ALL SPECIFIED TESTS HAVE BEEN PERFORMED AND ACCEPTED. WHERE COMPACTED BACKFILL IS NOT INDICATED THE TRENCHES SHALL BE CAREFULLY BACKFILLED WITH SELECT MATERIAL SUCH AS EXCAVATED SOILS THAT ARE FREE OF ICE, SNOW, ROOTS, SOD, RUBBISH OR STONES, DEPOSITED IN 6 INCH LAYERS AND THOROUGHLY AND CAREFULLY RAMMED UNTIL THE CONDUIT OR CABLE HAS A COVER OF NOT LESS THAN 1 FOOT. THE REMAINDER OF THE BACKFILL MATERIAL SHALL BE GRANULAR IN NATURE AND SHALL NOT CONTAIN ICE, SNOW, ROOTS, SOD, RUBBISH, OR STONES OF 2-1/2 INCH MAXIMUM DIMENSION. BACKFILL SHALL BE CAREFULLY PLACED IN THE TRENCH AND IN 1 FOOT LAYERS AND EACH LAYER TAMPED. SETTLING THE BACKFILL WITH WATER WILL BE PERMITTED. THE SURFACE SHALL BE GRADED TO A REASONABLE UNIFORMITY AND THE MOUNDING OVER THE TRENCHES LEFT IN A UNIFORM AND NEAT CONDITION.

GENERAL REQUIREMENTS

1. ALL EQUIPMENT MOUNTING HARDWARE TO BE STAINLESS STEEL OR GALVANIZED.
2. OWNER AND CONTACT INFORMATION TO BE CLEARLY MARKED AND READABLE FROM GROUND LEVEL.
3. PROPER OSHA SIGNS AND SYMBOLS TO BE CLEARLY MARKED AND READABLE FROM GROUND LEVEL AND MAINTAINED BY OWNER.
4. AC DISCONNECT SWITCH TO BE CLEARLY MARKED.
5. CONDUIT TO BE INSTALLED IN A MANNER AS TO PREVENT WATER ENTRY.
6. ELECTRICAL EQUIPMENT TO BE CONNECTED TO DRIVEN GROUND ROD IN COMPLIANCE WITH ALL APPLICABLE CODES.
7. FINAL CONFIGURATION AND APPURTENANCE HEIGHTS DEPICTED IN ELEVATIONS MAY VARY PENDING ANY POTENTIAL MAKE READY WORK REQUIRED BY UTILITY COMPANIES.
8. VERTICAL CONDUIT ROUTING TO BE INSTALLED SO AS NOT TO INTERFERE WITH EXISTING OBSTRUCTIONS.
9. CONTRACTOR TO NOTIFY ENGINEER IF UTILITY POLE APPURTENANCES DIFFER FROM DRAWINGS AND/OR INTERFERE WITH PROPOSED INSTALLATIONS.
10. CONTRACTOR SHALL CONSULT THE ENGINEER FOR POTENTIAL REMEDIATION MEASURES IN THE EVENT THAT PREEXISTING DAMAGE OR DEFICIENCIES TO THE POLE ARE OBSERVED.
11. IF ADJUSTMENTS TO EXISTING POLE GEOMETRY AND SPAN LENGTHS ARE REQUIRED, CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO CONSTRUCTION.

PROJECT INFORMATION

THIS IS AN UNMANNED AND RESTRICTED ACCESS EQUIPMENT FACILITY AND WILL BE USED FOR THE TRANSMISSION OF RADIO SIGNALS FOR THE PURPOSE OF PROVIDING PUBLIC WIRELESS COMMUNICATIONS SERVICE.

NO POTABLE WATER SUPPLY IS TO BE PROVIDED AT THIS LOCATION.

NO WASTE WATER WILL BE GENERATED AT THIS LOCATION.

NO SOLID WASTE WILL BE GENERATED AT THIS LOCATION.

COMPANY MAINTENANCE CREW (TYPICALLY ONE PERSON) WILL MAKE AN AVERAGE OF ONE TRIP PER MONTH AT ONE HOUR PER VISIT.

CONSTRUCTION NOTES

1. GC TO REMOVE/CLEAN ALL DEBRIS, NAILS, STAPLES, OR NON-USED VERTICALS OFF THE POLE.
2. CONTRACTOR TO CALL ONE CALL 72 HOURS PRIOR TO EXCAVATING.
3. ALL LANDSCAPING TO BE RESTORED TO ORIGINAL CONDITION OR BETTER.

GROUNDING NOTES

1. GROUND TESTED AT 25 OHMS OR LESS.
2. GROUND RODS SHALL BE "COPPER WELD" STEEL, ⅝" DIA X 8' LONG.
3. GROUND CONDUCTOR TRUNK SHALL BE MEDIUM HARD DRAWN, SOLID, INSULATED NO. 4 AWG COPPER. INSULATION THICKNESS SHALL BE 60 MILS OF UNFILLED, BLACK, CROSS-LINKED POLYETHYLENE BEARING THE MANUFACTURER'S NAME AND YEAR OF MANUFACTURE IMPRINTED ON THE CONDUCTOR AT INTERVALS OF APPROXIMATELY ONE FOOT.
4. GROUND CONDUCTOR TRUNK SHALL BE CLEARLY IDENTIFIED WITH A BRASS TAG OR OTHER ACCEPTABLE MEANS, ATTACHED TO THE CONDUCTOR AT THE BASE OF THE POLE, INDICATING COMPANY'S IDENTIFICATION.
5. ALL CONNECTORS SHALL BE BRASS.
6. ALL METALLIC PARTS OF THE INSTALLATION ON THE POLE SHALL BE BONDED TOGETHER AND GROUNDED TO COMPANY'S GROUNDING SYSTEM.
7. CONTRACTOR SHALL LEAVE GROUND VISIBLE UNTIL ELECTRICAL INSPECTION COMPLETED, THEN DRIVE 6" BELOW GRADE.

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STATE OF NEW JERSEY
KYLE McGINLEY
No. 24GE05406500
LICENSED PROFESSIONAL ENGINEER

KYLE J. MCGINLEY
NJ PE # 24GE05406500

APPLICANT:

CROWN CASTLE

PROJECT:
NODE ID: PRC-050

SCU: 520667

LOCATION:
120 JOHN STREET
PRINCETON, NJ 08542

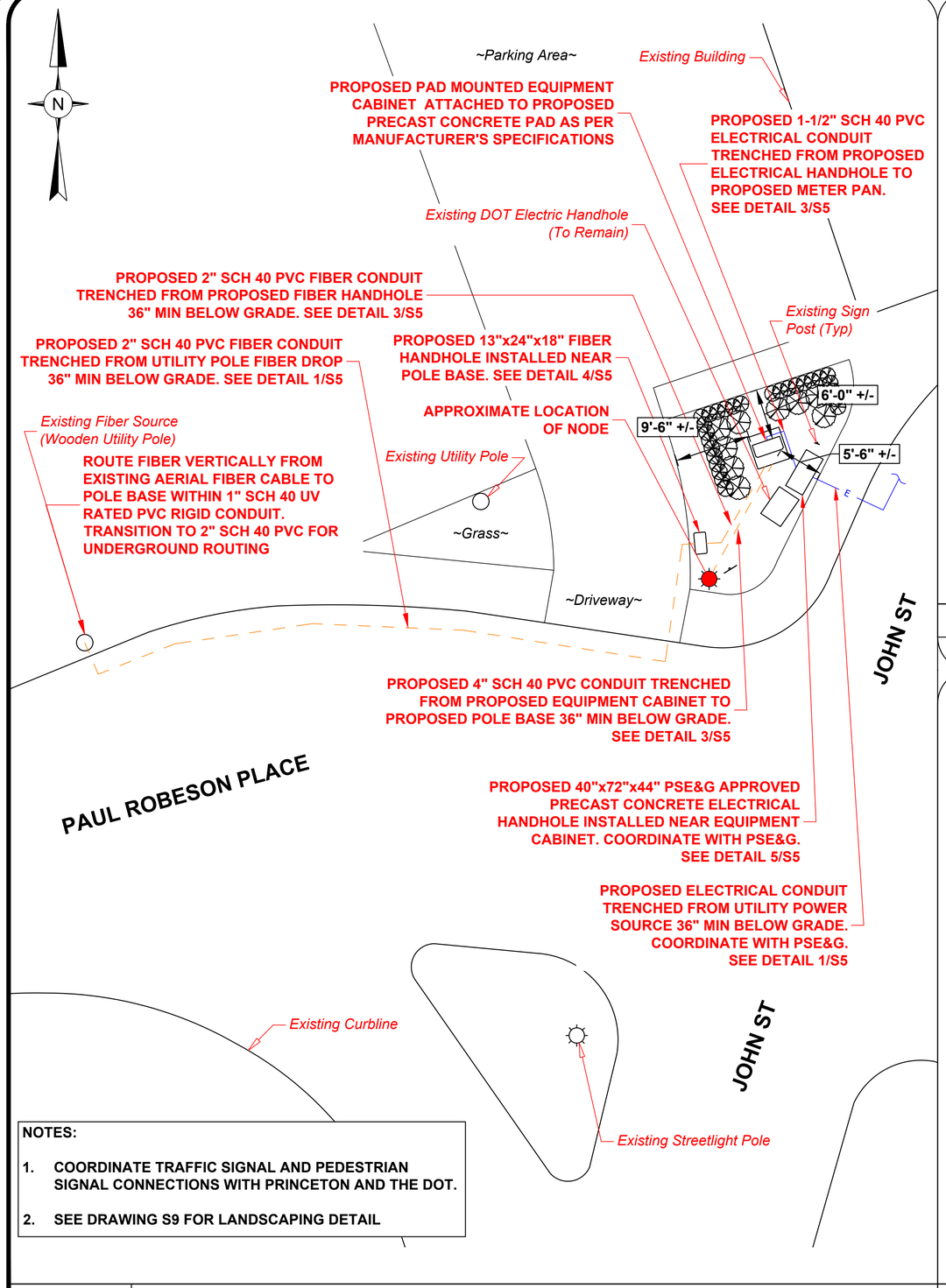
DATE: 10/10/23
SCALE: AS NOTED
AE PROJECT #: 23003CRNNJ
DWG BY: CB | CHK BY: KJM

#	DATE	DESCRIPTION
3	08/14/24	SHROUD UPDATE
4	09/18/24	DESIGN UPDATE
5	09/25/24	PAINT NOTE
6	03/19/25	POLE UPDATES
7	06/24/25	PLANT NOTE

DRAWING TITLE:
GENERAL NOTES

DRAWING #	PAGE #
GN1	2 OF 15

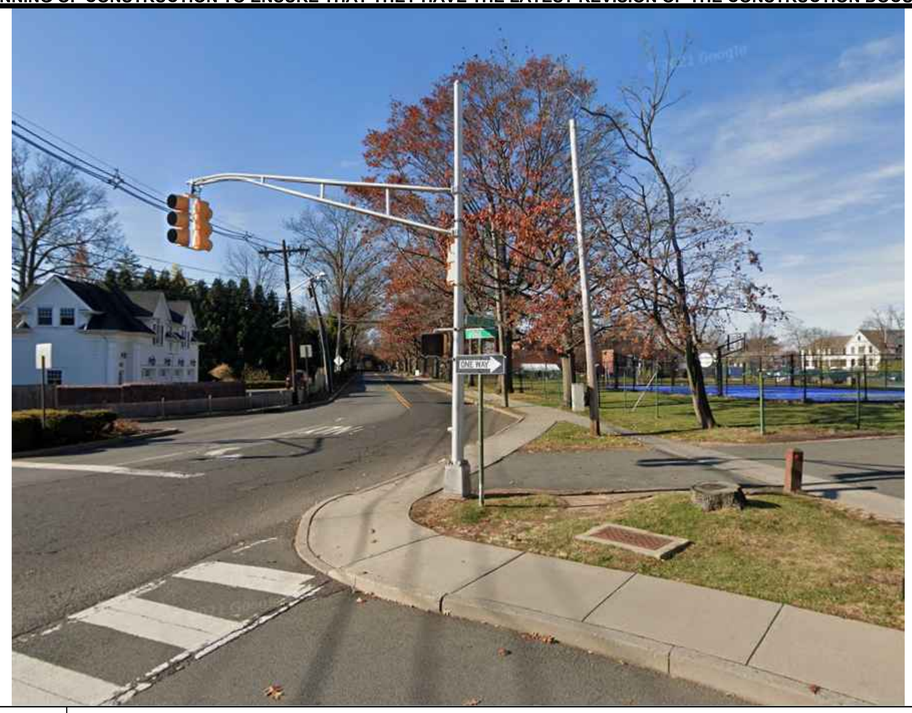
CONTRACTOR SHALL CONTACT AHEAD ENGINEERING PRIOR TO ORDERING MATERIALS OR BEGINNING OF CONSTRUCTION TO ENSURE THAT THEY HAVE THE LATEST REVISION OF THE CONSTRUCTION DOCUMENTS.



NOTES:

1. COORDINATE TRAFFIC SIGNAL AND PEDESTRIAN SIGNAL CONNECTIONS WITH PRINCETON AND THE DOT.
2. SEE DRAWING S9 FOR LANDSCAPING DETAIL

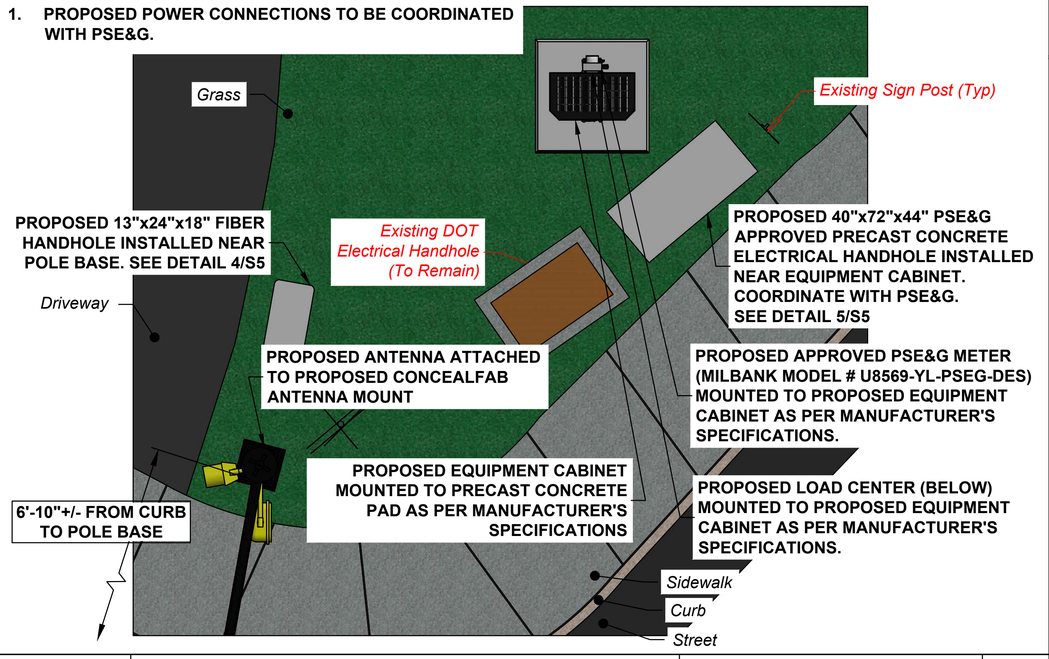
1	SITE PLAN
11x17 SCALE: PERSPECTIVE	22x34 SCALE: PERSPECTIVE



2	EXISTING SITE PHOTO
11x17 SCALE: NTS	22x34 SCALE: NTS

NOTE:

1. PROPOSED POWER CONNECTIONS TO BE COORDINATED WITH PSE&G.
2. REFER TO SHEET S9 FOR LANDSCAPING PLAN.



3	PLAN VIEW	1' 0 1' 2'
11x17 SCALE: 3/16"=1'-0"	22x34 SCALE: 3/8"=1'-0"	

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KYLE J. MCGINLEY
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APPLICANT:

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120 JOHN STREET
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DRAWING TITLE:

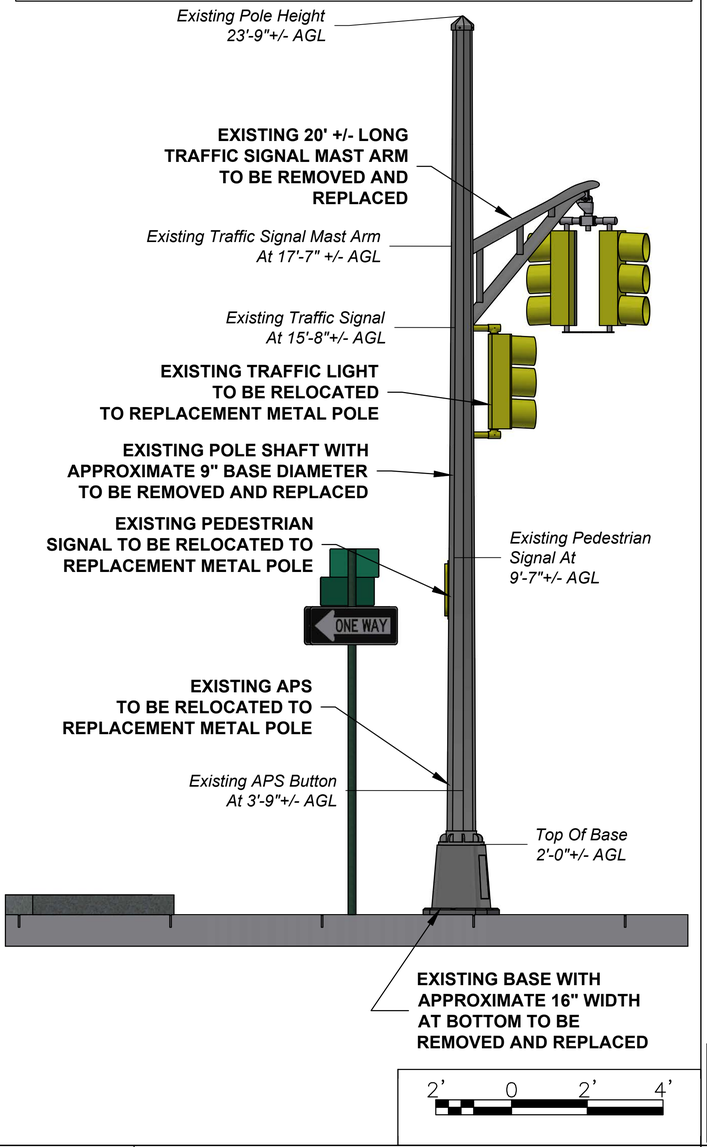
SITE PLANS

DRAWING #	PAGE #
S1	3 OF 15

CONTRACTOR SHALL CONTACT AHEAD ENGINEERING PRIOR TO ORDERING MATERIALS OR BEGINNING OF CONSTRUCTION TO ENSURE THAT THEY HAVE THE LATEST REVISION OF THE CONSTRUCTION DOCUMENTS.

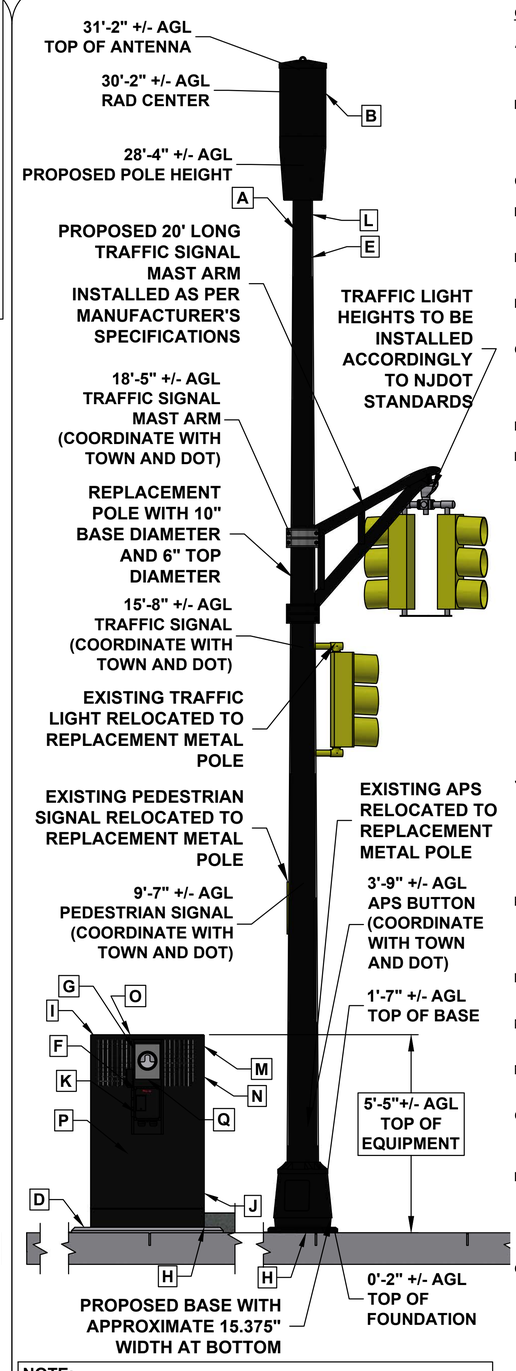
NOTES:

1. PROPOSED POWER CONNECTIONS TO BE COORDINATED WITH PSE&G.
2. 24-HR CONTACT SIGN WITH SITE IDENTIFICATION TO BE INSTALLED VISIBLE FROM GRADE.
3. SERVICE DISCONNECT TO BE CLEARLY MARKED.
4. RF SIGNAGE TO BE INSTALLED IN COMPLIANCE WITH EME REPORT REQUIREMENTS. REFER TO EME REPORT FOR LATEST RF SIGNAGE REQUIRED.
5. ALL EQUIPMENT - POLE, TRAFFIC MAST ARM, ANTENNA, EQUIPMENT SHROUD/CABINET, METER, DISCONNECT, AND ASSOCIATED EQUIPMENT - TO BE PAINTED BLACK WITH MATTE FINISH



1 EXISTING ELEVATION - SIDEVIEW

11x17 SCALE: 1/4"=1'-0" | 22x34 SCALE: 1/2"=1'-0"



NOTE:

COORDINATE TRAFFIC SIGNAL AND PEDESTRIAN SIGNAL CONNECTIONS WITH PRINCETON AND THE DOT.

2 PROPOSED ELEVATION - SIDE VIEW

11x17 SCALE: 1/4"=1'-0" | 22x34 SCALE: 1/2"=1'-0"

CONSTRUCTION NOTES:

A. REMOVE EXISTING METAL LIGHT POLE AND FOUNDATION. INSTALL PROPOSED FOUNDATION AND CONCEALFAB METAL LIGHT POLE. PROPOSED POLE IS TAPERED.

B. INSTALL PROPOSED ANTENNA - AMPHENOL 2C6U2VT360X06Fwxys4
- UTILIZE CONCEALFAB RECOMMENDED ANTENNA MOUNT

C. INSTALL PROPOSED 13"X24"X18" FIBER HANDHOLE

D. INSTALL PROPOSED 40"X72"X44" PSE&G APPROVED PRECAST CONCRETE ELECTRICAL HANDHOLE

E. INSTALL PROPOSED #6 AWG COPPER MAIN VERTICAL GROUND

F. INSTALL PROPOSED 120/240V, 100A, 1Ø LOAD CENTER WITH 22 kA MIN AIC RATING

G. INSTALL PROPOSED APPROVED PSE&G METER, MILBANK MODEL # U8569-YL-PSEG-DES OR EQUAL
- ATTACH TO EQUIPMENT CABINET AS PER MANUFACTURER'S SPECIFICATIONS

H. INSTALL GROUNDING RODS AS PER GROUNDING DETAIL

I. INSTALL PROPOSED EQUIPMENT CABINET RAYCAP APRAGF-234410-B ATTACHED TO PROPOSED PRECAST CONCRETE PAD.
- INSTALL (1) PROPOSED SAMSUNG B66 ON SUPPLIED BRACKET W/ (8) ¼" COAX JUMPERS TO PROPOSED DIPLEXER, (4) ½" LDF4 TO ANTENNA, LC CABLE TO OPEN, AND POWER CORD TO DELTA 2.0KW AC/DC CONVERTER TO DISCONNECT - RADIO GROUNDED TO PROPOSED SHROUD BUS BAR
- INSTALL (1) PROPOSED SAMSUNG B13 ON SUPPLIED BRACKET W/ (4) ½" COAX JUMPERS TO ANTENNA, (1) FIBER JUMPER TO OPEN, AND POWER CORD TO DELTA 2.0KW AC/DC CONVERTER TO DISCONNECT - RADIO GROUNDED TO PROPOSED SHROUD BUS BAR
- INSTALL (1) PROPOSED DIPLEXER ON SUPPLIED BRACKET - DIPLEXERS GROUNDED TO PROPOSED SHROUD BUS BAR
- INSTALL (2) PROPOSED DELTA 2.0KW AC/DC CONVERTERS ON SUPPLIED BRACKET - PSU GROUNDED TO PROPOSED SHROUD BUS BAR

J. INSTALL (4) PROPOSED PROPOSED 1/2" COAX CABLES FROM PROPOSED DIPLEXER TO PROPOSED ANTENNA
- COAX CABLES TO BE ROUTED FROM PROPOSED EQUIPMENT CABINET TO PROPOSED ANTENNA WITHIN PROPOSED CONDUIT AND METAL POLE SHAFT
- UXP-4MT-12 TO UXP-4MT-12 W/ GROUND KIT, WPS, AND CABLE GRIP

K. INSTALL CIRCUIT BREAKERS WITHIN PROPOSED LOAD CENTER:
- (2) 10 AMP BREAKERS - DELTA 2.0 KW AC/DC
- (1) 15 AMP BREAKER FOR EQUIPMENT CABINET FANS

L. INSTALL (1) "RF WARNING" SITE SIGNAGE WITHIN 5 FEET OF ANTENNA

M. INSTALL (1) "RF NOTICE" SITE SIGNAGE ON TOP OF PROPOSED EQUIPMENT CABINET

N. INSTALL (1) "SITE ID" SITE SIGNAGE ON PROPOSED EQUIPMENT CABINET DOOR

O. INSTALL (1) PSE&G SMALL CELL SITE SIGN ON PROPOSED EQUIPMENT CABINET IN PROXIMITY OF METER AND/OR DISCONNECT

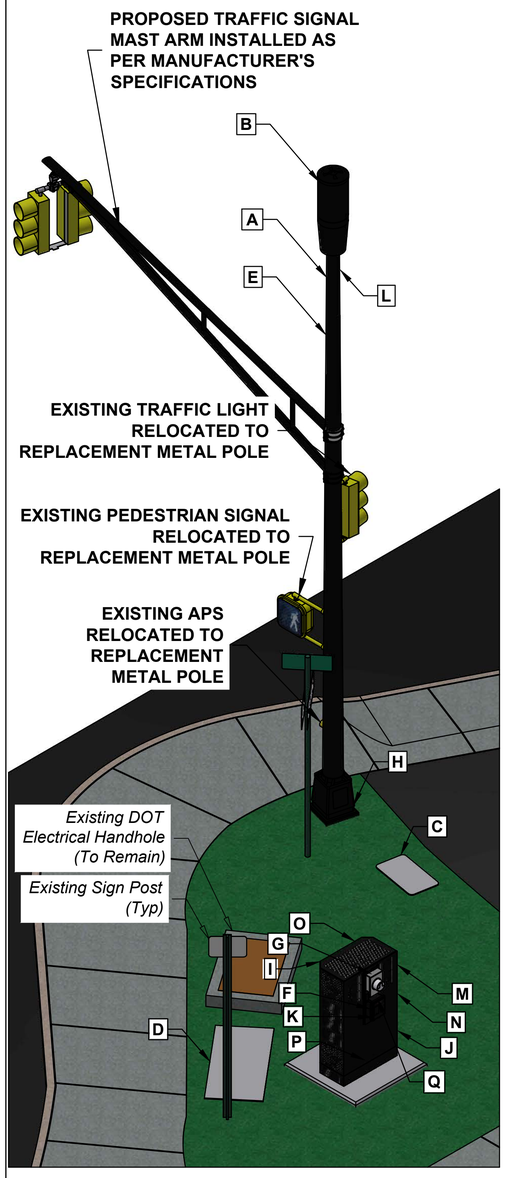
P. ROUTE (3) #3 AWG THWN-2 CONDUCTORS FROM PROPOSED ELECTRICAL HANDHOLE TO PROPOSED METER WITHIN 1-1/2" SCH 40 PVC. COORDINATE WITH PSE&G TO DETERMINE LOCATION OF UTILITY POWER SOURCE

Q. ROUTE (3) #3 AWG THWN-2 CONDUCTORS FROM PROPOSED METER TO PROPOSED LOAD CENTER WITHIN 1-1/4" TITAN 2 TYPE UL LFMC OR 1-1/4" SCH 80 PVC CONDUIT

2' 0 2' 4'

NOTE:

REFER TO SHEET S9 FOR LANDSCAPING PLAN.



3 PROPOSED ELEVATION - ISOMETRIC

11X17 SCALE: PERSPECTIVE | 22X34 SCALE: PERSPECTIVE

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DRAWING TITLE:

SITE ELEVATIONS

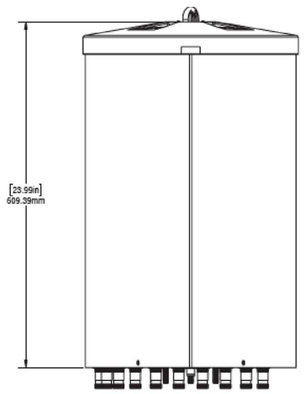
DRAWING # S2 | PAGE # 4 OF 15

CONTRACTOR SHALL CONTACT AHEAD ENGINEERING PRIOR TO ORDERING MATERIALS OR BEGINNING OF CONSTRUCTION TO ENSURE THAT THEY HAVE THE LATEST REVISION OF THE CONSTRUCTION DOCUMENTS.

MATERIAL LIST	
ITEM	QTY
AMPHENOL OMNI CANTENNA - 2C6U2VT360X06F040s4	1
CONCEALFAB TRAFFIC SIGNAL POLE	1
EQUIPMENT CABINET - RAYCAP APRAGF-234410-B	1
LOAD CENTER - RAYCAP RSCAC-9556-P-240-DL (OR EQUAL)	1
SAMSUNG B2 B66 RADIO	1
SAMSUNG B5 B13 RADIO	1
DELTA 2.0 KW AC/DC CONVERTER	2
METER - MILBANK U859-YL-PSEG-DES (OR PSE&G EQUAL)	1
FIBER HANDHOLE	1
PRECAST CONCRETE ELECTRICAL HANDHOLE	1
1.5" SCH 40 PVC CONDUIT (TO METER)	1
1.25" (MIN) TITAN 2 UL LFMC (OR EQUAL)(TO DISCONNECT)	1
2" SCH 40 PVC CONDUIT (TO FIBER HANDHOLE)	1
4" SCH 40 PVC CONDUIT (TO POLE)	1
#3 AWG THWN-2 CONDUCTORS (RISER TO METER/METER TO LC)	6
#6 AWG (MIN) BONDING JUMPERS	-
DIPLEXER	1
½" COAX CABLE	8
COAX JUMPERS	8
RADIO POWER CABLES	-
FIBER JUMPERS	2
MAIN DISCONNECT STICKER	1
CONTACT SIGN	1
PSE&G SMALL CELL SITE SIGN	1
RF NOTICE SIGN	1
RF WARNING SIGN	1

1 MATERIAL LIST

11x17 SCALE: NTS | 22x34 SCALE: NTS



Amphenol ANTENNA SOLUTIONS

BOTTOM VIEW

AMPHENOL TRI BAND OMNI CANISTER ANTENNA

- MODEL # 2C6U2VT360X06Fwxys4
- VOLUME: 2.33 FT^3
- HEIGHT: 24"
- DIAMETER: 14.6"
- WEIGHT: 28 LBS
- CONNECTORS: 20X 4.3/10; 1X N-TYPE FEMALE WITH OPTIONAL GPS UNIT

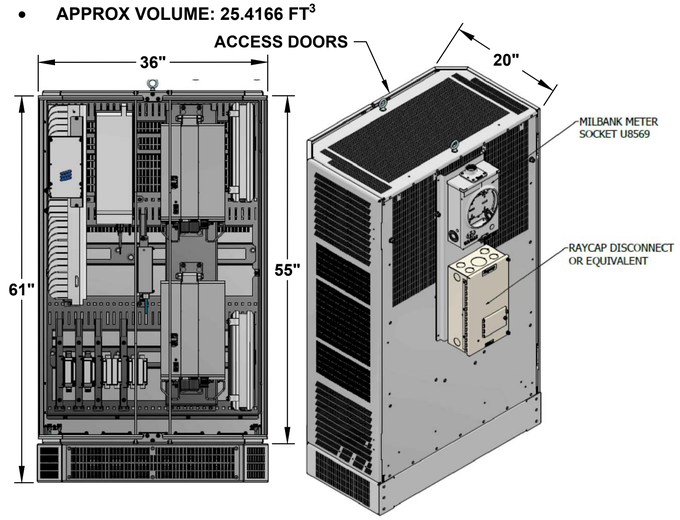
2 ANTENNA SPECIFICATION

11x17 SCALE: NTS | 22x34 SCALE: NTS

RAYCAP MODEL # APRAGF-234410-B

Raycap

- PAD MOUNTED RADIO EQUIPMENT CABINET WITH EQUIPMENT MOUNTING BRACKET
- APPROX WEIGHT WITH EQUIPMENT: 550 LBS
- APPROX VOLUME: 25.4166 FT^3



3 EQUIPMENT CABINET SPECIFICATION

11x17 SCALE: NTS | 22x34 SCALE: NTS

SAMSUNG

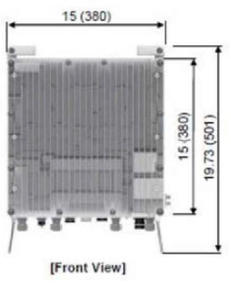
SAMSUNG LTE AWS/PCS RFV01U-D1A B2 B66 RADIO

- WEIGHT: 84.4 LBS
- INPUT VOLTAGE: -48 VDC (-38 VDC TO -57 VDC)
- POWER CONSUMPTION: APPROX 1270 WATT @ 100% RF LOAD

4 SAMSUNG B2 B66 RADIO SPECIFICATION

11x17 SCALE: PERSPECTIVE | 22x34 SCALE: PERSPECTIVE

SAMSUNG



SAMSUNG LTE 700/850 MHz RFV01U-D2A B5 B13 RADIO

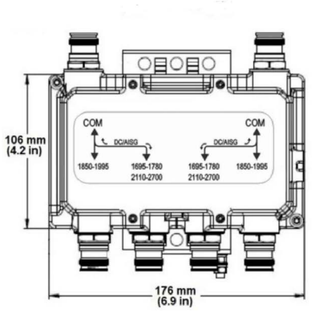
- WEIGHT: 70.3 LBS
- INPUT VOLTAGE: -48 VDC (-38 VDC TO -57 VDC)
- POWER CONSUMPTION: APPROX 1106 WATT @ 100% RF LOAD

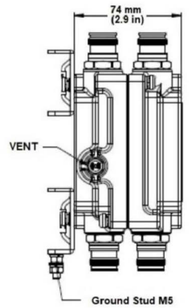
5 SAMSUNG B5 B13 RADIO SPECIFICATION

11x17 SCALE: PERSPECTIVE | 22x34 SCALE: PERSPECTIVE

COMMSCOPE QUAD-PACK DIPLEXER MODEL NUMBER SDX1926Q-43

- PRODUCT TYPE: DIPLEXER
- MODULARITY: 4-QUAD
- RF CONNECTOR INTERFACE: 4.3-10 (F)
- RF CONNECTOR INTERFACE BODY STYLE: LONG NECK





6 DIPLEXER SPECIFICATION

11x17 SCALE: NTS | 22x34 SCALE: NTS

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DRAWING TITLE:

DETAILS

DRAWING # S3 | PAGE # 5 OF 15

CROWN CASTLE www.crowncastle.com

FOR LEASE INFORMATION

FOR EMERGENCY 24 HOUR SERVICE:

SYSTEM NAME:

HUB BUSINESS UNIT NUMBER:

NODE BUSINESS UNIT NUMBER:

SITE ADDRESS:

NOTES:

1. SIGN TO BE LOCATED AS INDICATED ON DRAWING S2.
2. SIGN SHALL BE MADE FROM NON-METALLIC, VERY LONG LIFE, ULTRA VIOLET (UV) RESISTANT MATERIAL.

1	CONTACT SIGN		
11x17 SCALE: NTS	22x34 SCALE: NTS		

NOTES:

1. SIGN TO BE LOCATED AS INDICATED ON DRAWING S2.
2. SIGN TO BE IN COMPLIANCE WITH OSHA REGULATIONS.
3. PER ANSI Z535-2011 STANDARD, FOR FAVORABLE VIEWING CONDITIONS, A RATIO OF 25 FEET OF VIEWING DISTANCE PER INCH OF TEXT IS REQUIRED.
4. SIGN SHALL BE MADE FROM NON-METALLIC, VERY LONG LIFE, ULTRA VIOLET (UV) RESISTANT MATERIAL.

2	RF WARNING SIGN		
11x17 SCALE: NTS	22x34 SCALE: NTS		

4" x 8" DECAL

NOTES:

1. SIGN TO BE LOCATED AS INDICATED ON DRAWING S2.
2. SIGN TO BE IN COMPLIANCE WITH OSHA REGULATIONS.
3. PER ANSI Z535-2011 STANDARD, FOR FAVORABLE VIEWING CONDITIONS, A RATIO OF 25 FEET OF VIEWING DISTANCE PER INCH OF TEXT IS REQUIRED.
4. SIGN SHALL BE MADE FROM NON-METALLIC, VERY LONG LIFE, ULTRA VIOLET (UV) RESISTANT MATERIAL.

3	RF NOTICE SIGN		
11x17 SCALE: NTS	22x34 SCALE: NTS		

- MAIN DISCONNECT STICKER TO BE PLACED ON ELECTRICAL DISCONNECT SO AS TO BE VISIBLE FROM GRADE.
- MARKING SHALL BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT.
- OUTDOOR RATED VINYL LABEL, ORANGE WITH BLACK LETTERS.
- PERMANENT ADHESIVE.
- UV SUN RESISTANT LAMINATE.

4	ELECTRICAL DISCONNECT STICKER		
11x17 SCALE: NTS	22x34 SCALE: NTS		

NOTES:

1. SIGN TO BE LOCATED AS INDICATED ON DRAWING S2.
2. REFER TO PSE&G STANDARDS FOR ADDITIONAL INFORMATION.

5	SMALL CELL IDENTIFIER SIGN		
11x17 SCALE: NTS	22x34 SCALE: NTS		

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DRAWING TITLE:

DETAILS

DRAWING #	PAGE #
S4	6 OF 15

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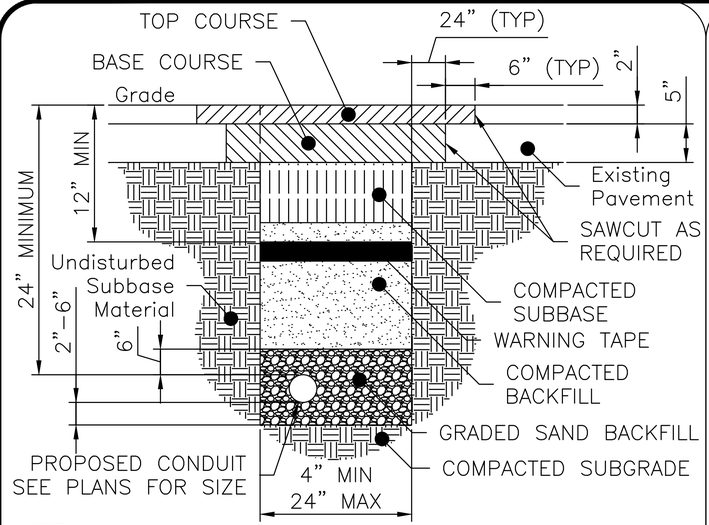
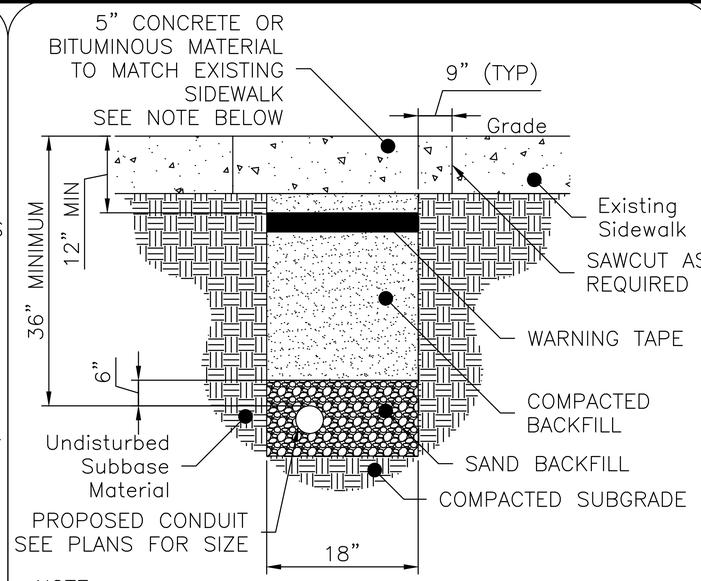


NOTES:

1) REPLACEMENT PAVEMENT STRUCTURE SHALL BE SIMILAR TO EXISTING PAVEMENT.

2) REFER TO PRINCETON TYPICAL CONSTRUCTION DETAIL STD. DWG. NO.: PEX-01 FOR ADDITIONAL INFORMATION.

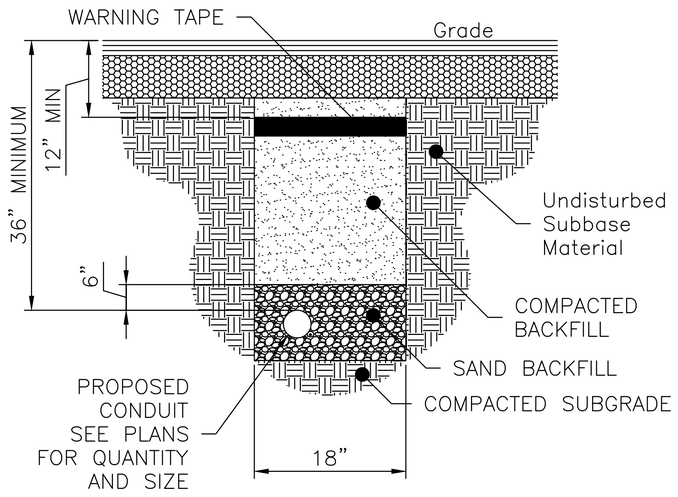
1	TRENCHING DETAIL – ROADWAY	
11x17 SCALE: NTS	22X34 SCALE: NTS	



NOTE:

CONCRETE SHALL BE EITHER CLASS C OR CLASS F. CLASS F SHALL BE USED WHEN EARLY OPENING TO TRAFFIC IS REQUIRED.

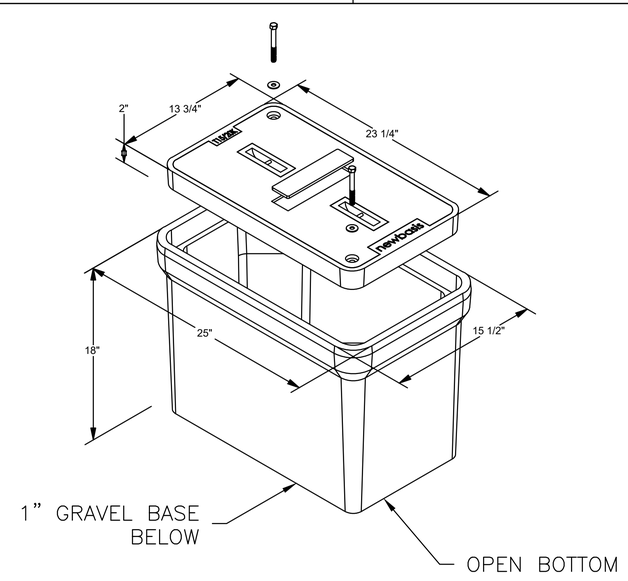
2	TRENCHING DETAIL - SIDEWALK	
11x17 SCALE: NTS	22X34 SCALE: NTS	



NOTE:

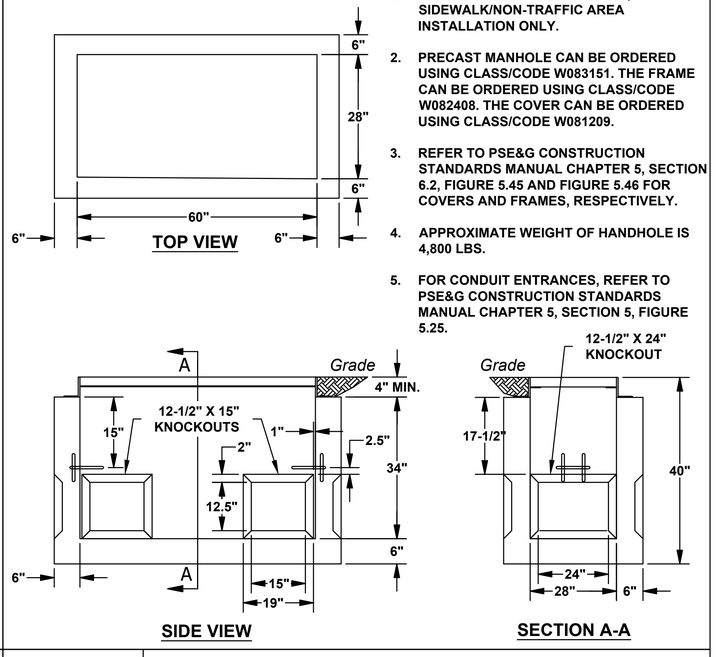
WHERE TRENCHING ALONG GRASSY AREAS, RESTORE TOPSOIL AND PLANTING IN KIND. BACKFILL SHALL BE PLACED IN 6" LOOSE LIFTS AND SHALL NOT CONTAIN ANY ORGANIC MATERIALS OR ROCKS.

3	TRENCHING DETAIL - EARTH	
11x17 SCALE: NTS	22x34 SCALE: NTS	



NEW BASIS 13"x24"x18" POLYMER CONCRETE HANDHOLE MODEL NUMBER PCA132418

4	HANDHOLE DETAIL	
11x17 SCALE: NTS	22X34 SCALE: NTS	



NOTES:

1. PRECAST MANHOLE INDICATED, FOR SIDEWALK/NON-TRAFFIC AREA INSTALLATION ONLY.
2. PRECAST MANHOLE CAN BE ORDERED USING CLASS/CODE W083151. THE FRAME CAN BE ORDERED USING CLASS/CODE W082408. THE COVER CAN BE ORDERED USING CLASS/CODE W081209.
3. REFER TO PSE&G CONSTRUCTION STANDARDS MANUAL CHAPTER 5, SECTION 6.2, FIGURE 5.45 AND FIGURE 5.46 FOR COVERS AND FRAMES, RESPECTIVELY.
4. APPROXIMATE WEIGHT OF HANDHOLE IS 4,800 LBS.
5. FOR CONDUIT ENTRANCES, REFER TO PSE&G CONSTRUCTION STANDARDS MANUAL CHAPTER 5, SECTION 5, FIGURE 5.25.

5	PSE&G HANDHOLE - PRECAST SIDEWALK TYPE	
11x17 SCALE: PERSPECTIVE	22x34 SCALE: PERSPECTIVE	

AHEAD ENGINEERING
27 PINE HILL ROAD
ANNANDALE, NJ 08801
T: 908-325-1775

KYLE J. MCGINLEY
NJ PE # 24GE05406500

APPLICANT:

CROWN CASTLE

PROJECT:

NODE ID: PRC-050

SCU: 520667

LOCATION:
120 JOHN STREET
PRINCETON, NJ 08542

DATE: 10/10/23

SCALE: AS NOTED

AE PROJECT #: 23003CRNNJ

DWG BY: CB | CHK BY: KJM

#	DATE	DESCRIPTION
3	08/14/24	SHROUD UPDATE
4	09/18/24	DESIGN UPDATE
5	09/25/24	PAINT NOTE
6	03/19/25	POLE UPDATES
7	06/24/25	PLANT NOTE

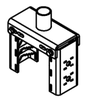
DRAWING TITLE:

CONSTRUCTION DETAILS

DRAWING #	PAGE #
S5	7 OF 15

NOTE: THE POLE ASSEMBLIES SHOWN INCLUDE FRANGIBLE DEVICES (TRANSFORMER BASES) TESTED BY THE FHWA FOR USE ON THE NATIONAL HIGHWAY SYSTEM WHERE A CRASHWORTHY ROADSIDE SAFETY DEVICE IS REQUIRED. THE TESTING OF THESE DEVICES CONSIDERED TYPICAL ROADWAY ARMS AND LUMINAIRES ONLY. ADDITION OF OTHER EQUIPMENT ON THE POLES CAN AFFECT THE DYNAMIC PERFORMANCE OF THE ASSEMBLY AND MAY NOT BE DEEMED ACCEPTABLE FOR USE WHERE A CRASHWORTHY DEVICE IS REQUIRED. THE OWNER/ SPECIFIER SHALL CONSIDER THE APPLICATION OF THIS PRODUCT FOR THE INTENDED USE AND ENSURE INSTALLATION DETAILS, INCLUDING QUICK DISCONNECTS, ARE IN ACCORDANCE WITH THE APPLICABLE STATUTES AND STANDARDS FOR ROADSIDE SAFETY.

CABLE SHROUD, STD. POLE TOP MOUNT S/N 007949-3 (ITEM SOLD SEPERATELY)



STD. POLE TOP MOUNT FITS O.D.'S 5.00" - 8.38" S/N 007948-3 (ITEM SOLD SEPERATELY)

CANTENNA SLEEVE, UNIVERSAL S/N 900192-3 (ITEM SOLD SEPERATELY)

CONCEALFAB EQUIPMENT DETAILS

TB1-17 **CAUTION** 1985 AASHTO

BEFORE THE INSTALLATION OF THIS BASE IN SERVICE, USER SHOULD ALWAYS CONSULT WITH AUTHORIZED DISTRIBUTOR REGARDING PROPOSED APPLICATION, LOADING TO BE SUSTAINED AND INSTALLATION INSTRUCTIONS. FAILURE(S) CAN RESULT FROM MISAPPLICATION, OVERLOADING/IMPROPER LOADING OR INCORRECT INSTALLATION.

TO APPROACH OPTIMUM STATIC LOADS, USE THE LARGEST POSSIBLE BOLT CIRCLES AND USE STEEL WASHER SIZES SPECIFIED BELOW:

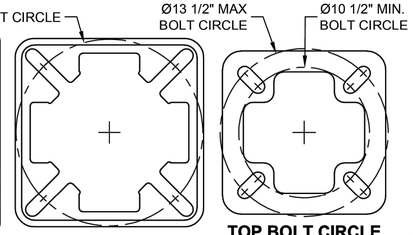
FOR 10 1/2" THRU 13 1/2" DIA. TOP BOLT CIRCLES
USE 2 1/2" DIA. X 1 1/16" I.D. X 3/8" TK. OR
2 3/4" DIA. X 1 1/16" OR 1 5/16" I.D. X 1/2" TK. WASHERS

FOR 13" THRU 15" DIA. BOTTOM BOLT CIRCLES
USE 2 3/4" DIA. X 1 1/16" OR 1 5/16" I.D. X 1/2" TK. WASHERS

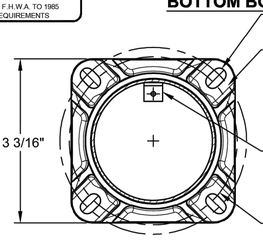
FOR ALL MOUNTINGS UNDER 13" DIA.
SEE SPECIAL MOUNTING INSTRUCTIONS

FOR OPTIMUM PERFORMANCE, MOUNT TRANSFORMER BASE ON A FLAT AND LEVEL FOUNDATION SURFACE. SHIM BASE WHEN REQUIRED, IF GAPS ARE PRESENT, THOROUGHLY FILL VOIDS WITH A NON-SHRINK GROUT. TORQUE GROUND MOUNTING NUTS TO 150 FT. LBS.

BREAKAWAY BASE
APPROVED BY F.H.W.A. TO 1985 AASHTO REQUIREMENTS

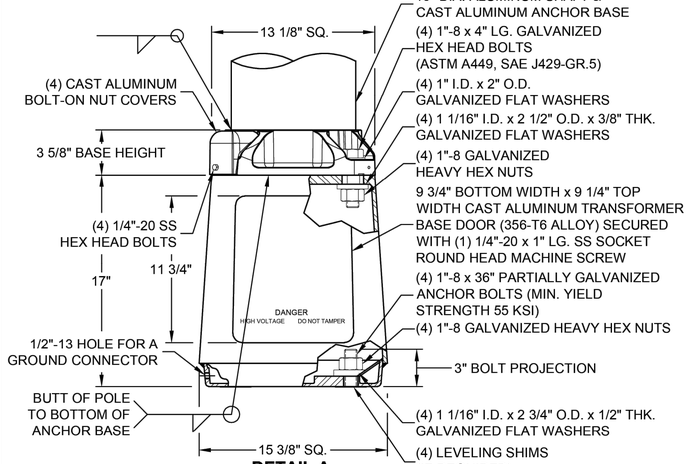


BOTTOM BOLT CIRCLE **TOP BOLT CIRCLE**



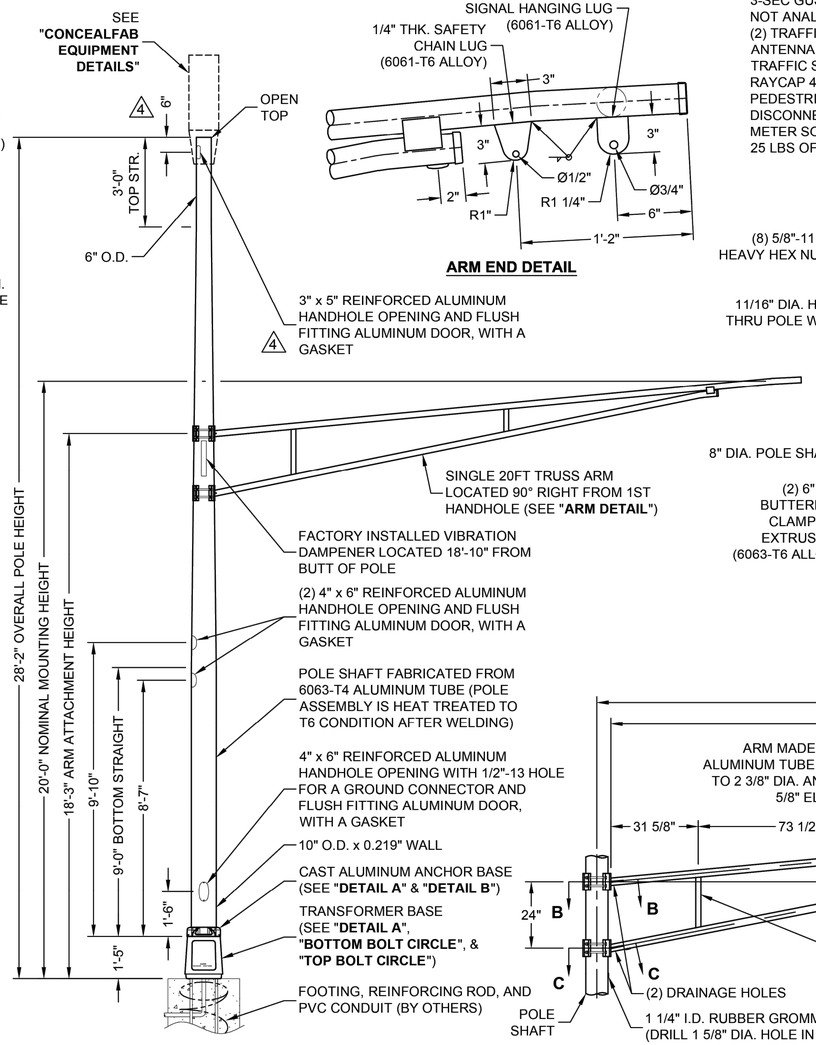
15" DIA. MAX. BOLT CIRCLE
NOTE: NUT COVERS NOT SHOWN
1/4" THK. ALUMINUM T-STOCK GRD. LUG WITH A 3/8"-16 HOLE FOR A GROUND CONNECTOR WELDED 1 1/2" UP FROM BUTT
13 1/2" DIA. MIN. BOLT CIRCLE

DETAIL B

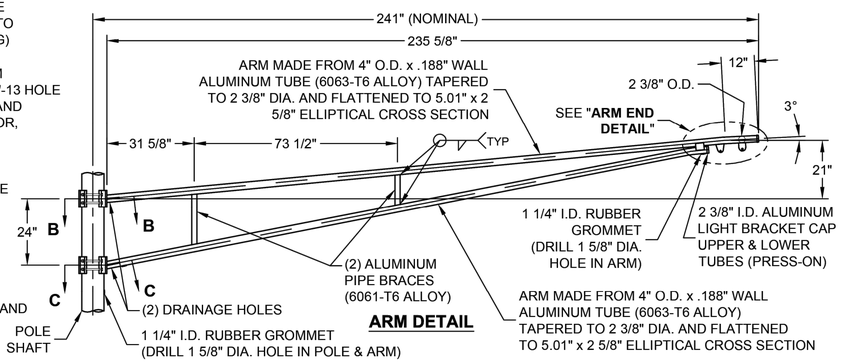


10" DIA. ALUMINUM SHAFT & CAST ALUMINUM ANCHOR BASE
(4) 1"-8 x 4" LG. GALVANIZED HEX HEAD BOLTS (ASTM A449, SAE J429-GR.5)
(4) 1" I.D. x 2" O.D. GALVANIZED FLAT WASHERS
(4) 1 1/16" I.D. x 2 1/2" O.D. x 3/8" THK. GALVANIZED FLAT WASHERS
(4) 1"-8 GALVANIZED HEAVY HEX NUTS
9 3/4" BOTTOM WIDTH x 9 1/4" TOP WIDTH CAST ALUMINUM TRANSFORMER BASE DOOR (356-T6 ALLOY) SECURED WITH (1) 1/4"-20 x 1" LG. SS SOCKET ROUND HEAD MACHINE SCREW
(4) 1"-8 x 36" PARTIALLY GALVANIZED ANCHOR BOLTS (MIN. YIELD STRENGTH 55 KSI)
(4) 1"-8 GALVANIZED HEAVY HEX NUTS
3" BOLT PROJECTION
(4) 1 1/16" I.D. x 2 3/4" O.D. x 1/2" THK. GALVANIZED FLAT WASHERS
(4) LEVELING SHIMS (IF REQUIRED)

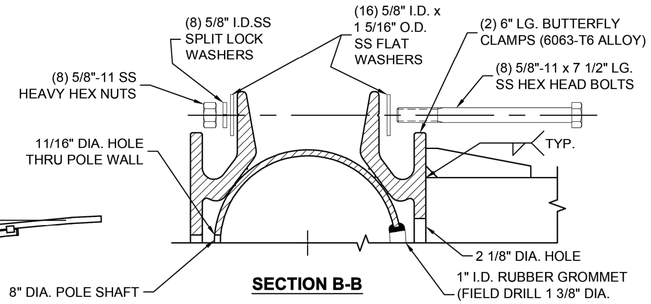
DETAIL A



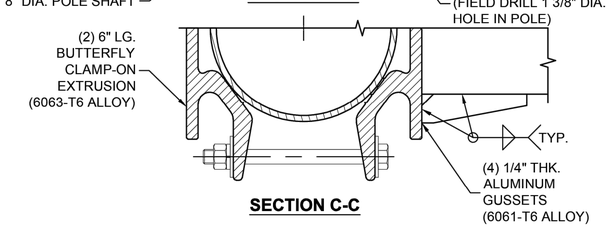
ARM END DETAIL



ARM DETAIL



SECTION B-B



SECTION C-C

ORIENTATION DETAIL

POLE RATING (PER AASHTO 2013):
3-SEC GUST WIND SPEED: 110 MPH MAX
NOT ANALYZED FOR FATIGUE
(2) TRAFFIC LIGHTS W/O BACKPLATE: 4.08 SQ. FT. MAX. AND 93 LBS MAX.
ANTENNA & MOUNT @ 30'-0" A.G.L. : 4.27 SQ. FT. AND 47 LBS
TRAFFIC SIGNAL W/O BACKPLATE @ 14'-2" A.G.L. : 4.08 SQ. FT. AND 47 LBS TOTAL
RAYCAP 4G RADIO SHROUD @ 12'-0" A.G.L. : 16.5 SQ. FT. AND 375 LBS
PEDESTRIAN TRAFFIC SIGNAL @ 9'-7" A.G.L. : 4 SQ. FT. AND 40 LBS
DISCONNECT @ 8'-6" A.G.L. : 0.97 SQ. FT. AND 8 LBS
METER SOCKET @ 6'-0" A.G.L. : 0.77 SQ. FT. AND 10 LBS
25 LBS OF CABLE (AXIALLY LOADED)

ConcealFab® A valmont COMPANY

****CONFIDENTIAL****
The information contained in this drawing is privileged and confidential, and may be protected from disclosure. Please be aware that any use or dissemination of this drawing may be subject to legal restriction or sanction.

TITLE:	S BREAKAWAY TRANSFORMER BASE POLE
MODEL NO.:	
MATERIAL:	ALUMINUM ALLOY
FINISH:	TRAFFIC BLACK MATTE
PROJECT:	PRINCETON, NJ - PRC_050
SOLD TO:	CROWN CASTLE
SHIP TO:	
P.O. NO:	
REP:	
QTY:	1
DWN BY:	GGL
CHK'D BY:	RMN
APPR BY:	IW
DATE:	03-04-25
DWG NO:	901774
PAGE:	1 / 1

REV	DATE	REVISION DESCRIPTION	BY
4	04/02/25	ADDED 3"x5" HH 6" BELOW POLE TOP	GGL
3	03/04/25	WAS STEEL POLE DESIGN	GGL
2	02/13/25	MOUNTING HEIGHT WAS 23FT	RMN

AHEAD ENGINEERING
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T: 908-325-1775

STATE OF NEW JERSEY · KYLE McGINLEY · No. 24GE05406500 · LICENSED PROFESSIONAL ENGINEER

KYLE J. MCGINLEY
NJ PE # 24GE05406500

APPLICANT:

CROWN CASTLE

PROJECT:
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LOCATION:
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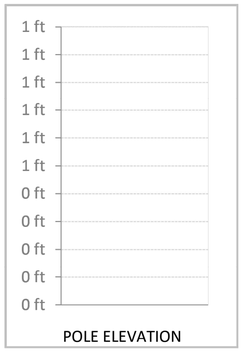
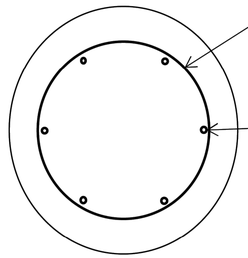
DRAWING TITLE:
POLE SPECIFICATIONS

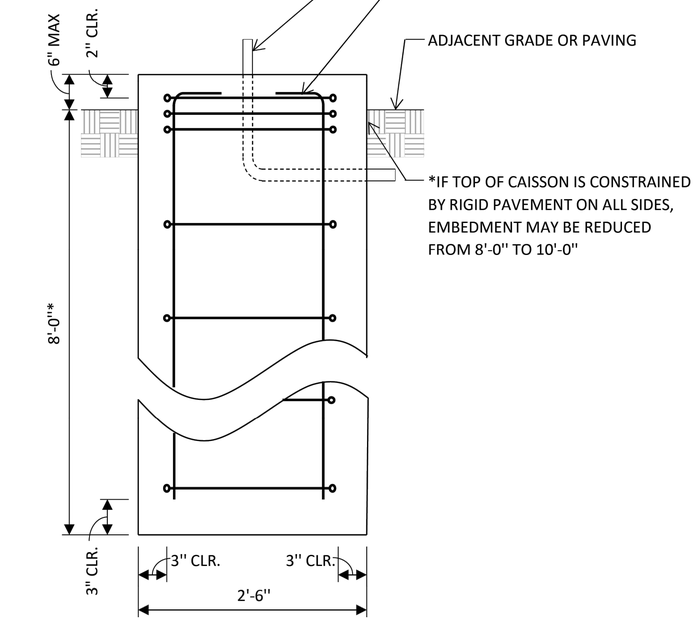
DRAWING #	PAGE #
S6	8 OF 15

1	POLE SPECIFICATIONS
11x17 SCALE: NTS	22x34 SCALE: NTS



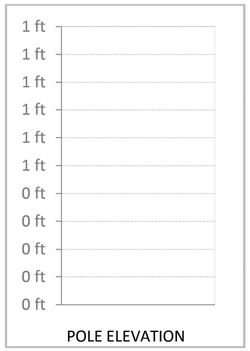


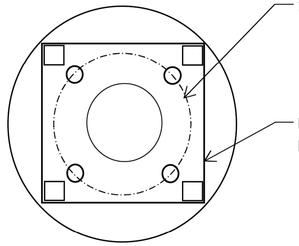
PLAN



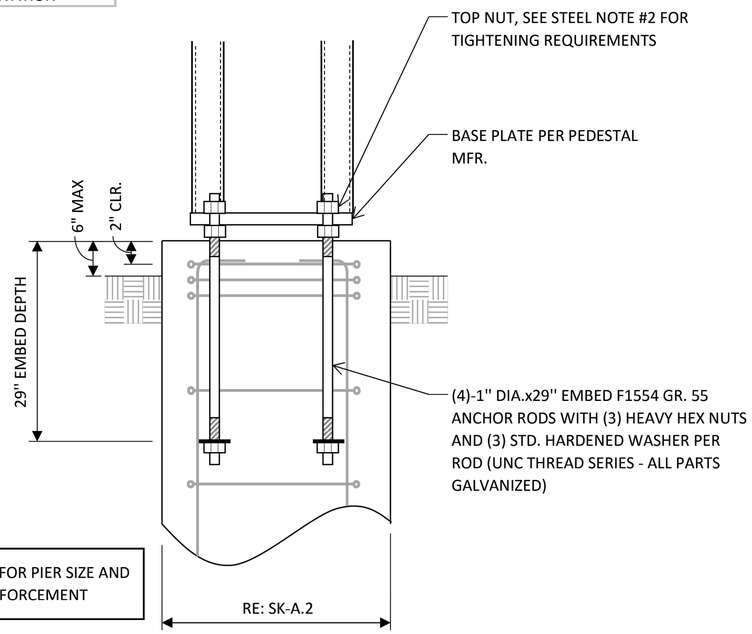
1 DRILLED CAISSON SECTION
N.T.S.

RE: SK-A.3 FOR BASE PLATE ANCHORAGE REQUIREMENTS





BASE PLATE PLAN VIEW



2 BASE PLATE ANCHORAGE DETAIL
N.T.S.

ConcealFab® A valmont COMPANY 901529	FDN. FOR 26'-7'' RTS - 20' TRAFFIC TRUSS ARM - TB1-17 Princeton, NJ FOUNDATION DETAILS	SK-A.2

ConcealFab® A valmont COMPANY 901529	FDN. FOR 26'-7'' RTS - 20' TRAFFIC TRUSS ARM - TB1-17 Princeton, NJ FOUNDATION DETAILS	SK-A.3

AHEAD ENGINEERING
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STATE OF NEW JERSEY · KYLE McGINLEY · No. 24GE05406500 · LICENSED PROFESSIONAL ENGINEER

KYLE J. MCGINLEY
NJ PE # 24GE05406500

APPLICANT:

CROWN CASTLE

PROJECT:
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LOCATION:
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PRINCETON, NJ 08542

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7	06/24/25	PLANT NOTE

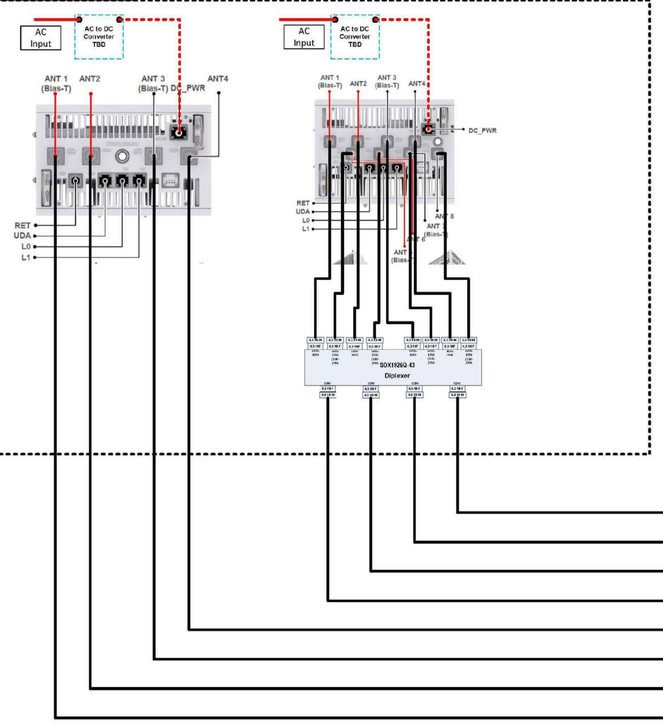
DRAWING TITLE:
FOUNDATION DETAIL

DRAWING # S7 | PAGE # 9 OF 15

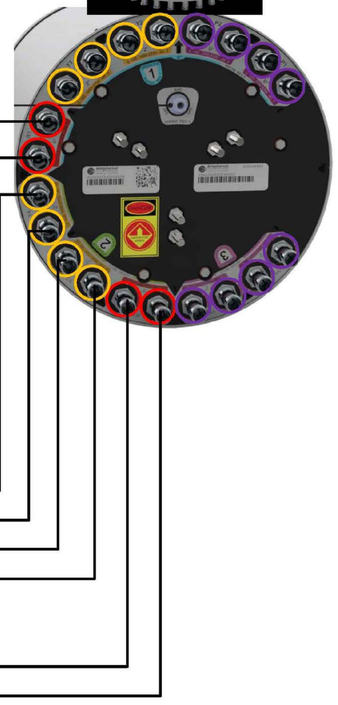
1	FOUNDATION DETAIL
11x17 SCALE: AS-NOTED	22x34 SCALE: AS-NOTED

Scenario Name:- Scenario 001		CROWN CASTLE	
Project:- Princeton		Date Created:- 01/07/2023	Cluster Name:- Philadelphia Market
Designed by:- Prashant Patel	Customer:- Verizon	Revision:- 1	Sheet:- 001

Shroud TBD



New Antenna



Carrier	Band (MHz)	Band Color	Description	Path 1	Path 2	Comments
Verizon	700		1x Red	Brown	Brown/Brown	
	850		2x Red	Brown	Brown/Brown	Alternatively named Cellular Band
	1900		3x Red	Brown	Brown/Brown	Alternatively named PCS Band
	2100		4x Red	Brown	Brown/Brown	Alternatively named AWS or 1700 Band
AT&T	700		1x Blue	Brown	Brown/Brown	
	850		2x Blue	Brown	Brown/Brown	Alternatively named Cellular Band
	1900		3x Blue	Brown	Brown/Brown	Alternatively named PCS Band
	2100		4x Blue	Brown	Brown/Brown	Alternatively named AWS or 1700 Band
	2300		5x Blue	Brown	Brown/Brown	Alternatively named WCS Band
T-Mobile	700		1x Green	Brown	Brown/Brown	
	1900		3x Green	Brown	Brown/Brown	Alternatively named PCS Band
	2100		4x Green	Brown	Brown/Brown	Alternatively named AWS or 1700 Band
Metro	2100		4x Purple	Brown	Brown/Brown	Alternatively named AWS or 1700 Band
Sprint	700		1x Yellow	Brown	Brown/Brown	
	850		2x Yellow	Brown	Brown/Brown	Alternatively named Cellular Band
	1900		3x Yellow	Brown	Brown/Brown	Alternatively named PCS Band
	2100		4x Yellow	Brown	Brown/Brown	Alternatively named AWS or 1700 Band
	2300		5x Yellow	Brown	Brown/Brown	Alternatively named WCS Band
	2500		6x Yellow	Brown	Brown/Brown	

ARRAY LAYOUT Topology

FREQUENCY	ARRAY	CONNECTOR	CONNECTOR TYPE
696-960 MHz	R1	1-2	(2x) 4.3-10 Female
696-960 MHz	R1	3-4	(2x) 4.3-10 Female
1695-2700 MHz	Y1	5-6	(2x) 4.3-10 Female
1695-2700 MHz	Y2	7-8	(2x) 4.3-10 Female
1695-2700 MHz	Y3	9-10	(2x) 4.3-10 Female

ARRAY LAYOUT Topology

FREQUENCY	ARRAY	CONNECTOR	CONNECTOR TYPE
1695-2700 MHz	Y4	11-12	(2x) 4.3-10 Female
1695-2700 MHz	Y5	13-14	(2x) 4.3-10 Female
1695-2700 MHz	Y6	15-16	(2x) 4.3-10 Female
3300-4200 MHz	P1	17-18	(2x) 4.3-10 Female
3300-4200 MHz	P2	19-20	(2x) 4.3-10 Female

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KYLE J. MCGINLEY
NJ PE # 24GE05406500

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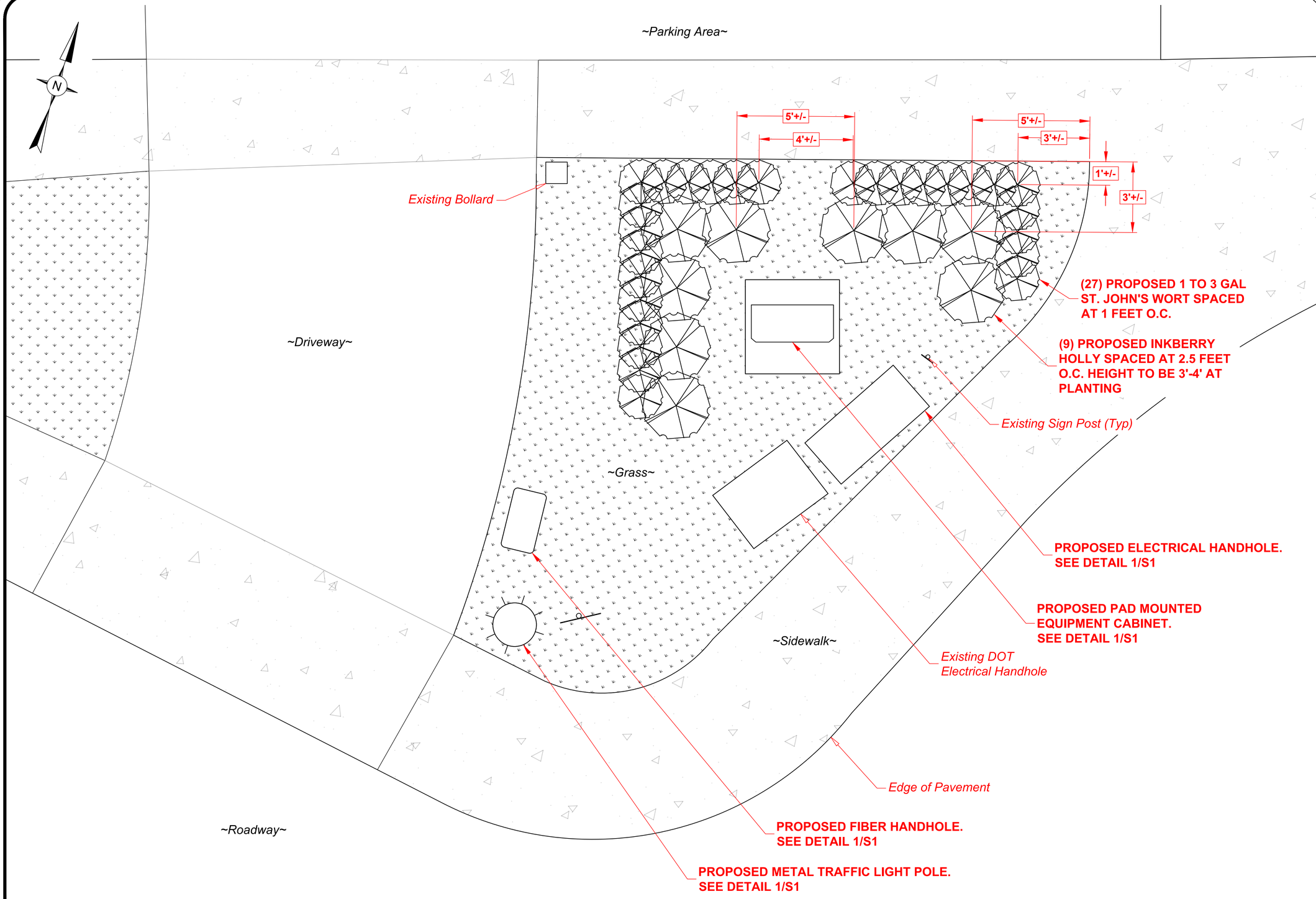
DRAWING TITLE:

RF PLUMBING DIAGRAM

DRAWING #	PAGE #
S8	10 OF 15

CONTRACTOR SHALL CONTACT AHEAD ENGINEERING PRIOR TO ORDERING MATERIALS OR BEGINNING OF CONSTRUCTION TO ENSURE THAT THEY HAVE THE LATEST REVISION OF THE CONSTRUCTION DOCUMENTS.



1 | LANDSCAPE PLAN

11x17 SCALE: 1/4"=1'-0" | 22x34 SCALE: 1/2"=1'-0"

2' 0 2' 4'

AHEAD ENGINEERING

27 PINE HILL ROAD
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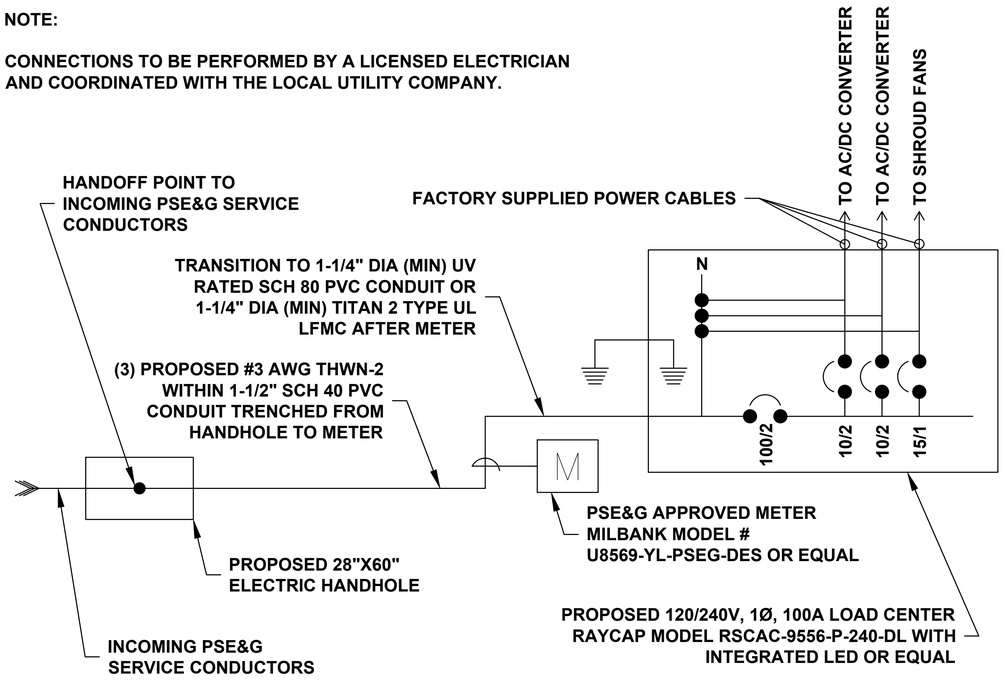
DRAWING TITLE:

LANDSCAPING PLAN

DRAWING # S9 | PAGE # 11 OF 15

NOTE:

CONNECTIONS TO BE PERFORMED BY A LICENSED ELECTRICIAN AND COORDINATED WITH THE LOCAL UTILITY COMPANY.



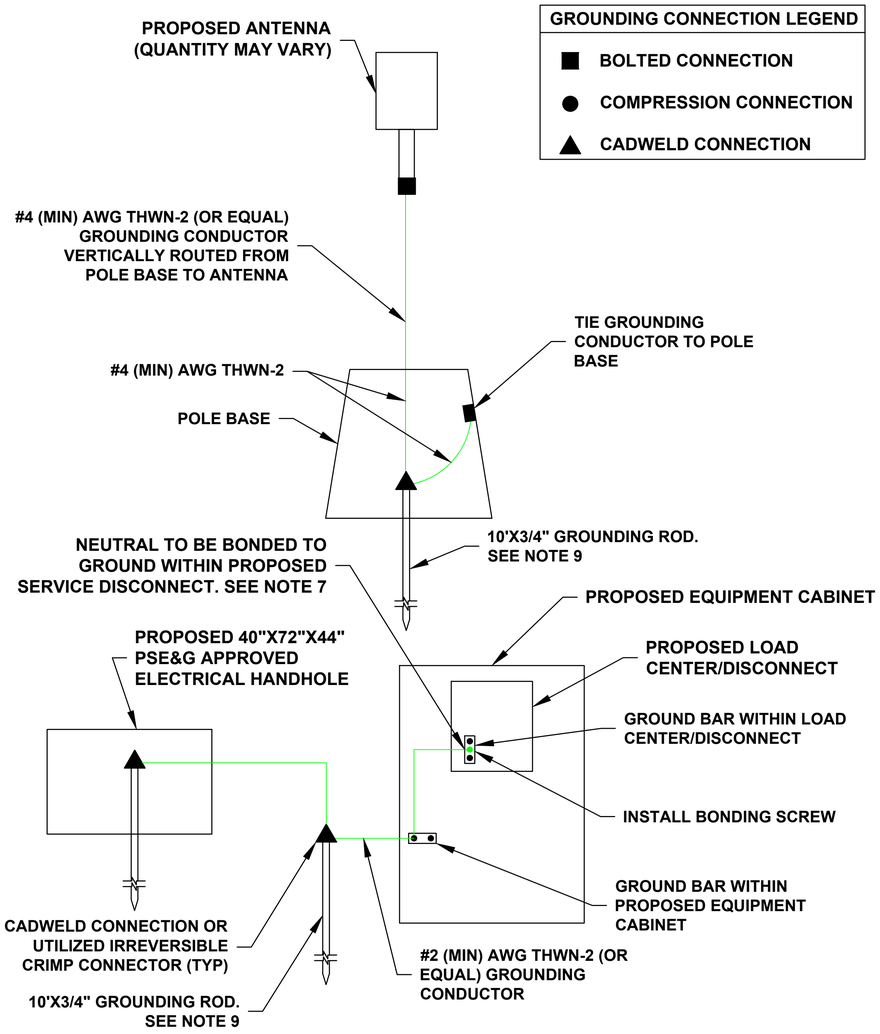
1 ELECTRICAL ONE-LINE DIAGRAM

11x17 SCALE: NTS | 22x34 SCALE: NTS

POWER CONSUMPTION			
ITEM	VOLTAGE	WATTS	AMPS
DELTA ADVANTAGE 2.0kW AC/DC CONVERTER	240	2062 (MAX)	8.6
DELTA ADVANTAGE 2.0kW AC/DC CONVERTER	240	2062 (MAX)	8.6
SHROUD FANS	120	600 (MAX)	5
	TOTAL:	4,724 (MAX)	

2 LOAD CALCULATION CHART

11x17 SCALE: NTS | 22x34 SCALE: NTS



3 TYPICAL GROUNDING SCHEMATIC

11x17 SCALE: NTS | 22x34 SCALE: NTS

NOTES:

1) ALL CONNECTORS SHALL BE BRASS OF THE DESIGN THAT PERMITS CIRCUMFERENTIAL CLAMPING ON BOTH WIRE AND ROD.
2) GROUNDING SYSTEM SHALL YIELD A GROUND RESISTANCE OF 25 OHMS OR LESS.
3) ALL PROPOSED METALLIC PARTS OF THE INSTALLATION ON THE POLE SHALL BE BONDED TOGETHER AND GROUNDED TO APPLICANT'S GROUNDING SYSTEM.
4) EQUIPMENT ENCLOSURE, MANUAL DISCONNECT, AND METER PAN TO BE ELECTRICALLY BONDED.
5) GROUND CONDUCTOR SHALL BE MEDIUM HARD DRAWN, SOLID, INSULATED #4 AWG COPPER AND SHALL MEET THE REQUIREMENTS OF ASTM B2. THE INSULATION THICKNESS SHALL BE 60 MILS OF UNFILLED BLACK, CROSS-LINKED POLYETHYLENE. THE MANUFACTURER'S NAME AND YEAR OF MANUFACTURE SHALL BE IMPRINTED AT INTERVALS OF APPROXIMATELY 1 FOOT.
6) GROUNDING WHIPS FROM EQUIPMENT TO MAIN GROUNDING TRUNK TO BE MINIMUM #6 AWG.
7) NEUTRAL TO BE BONDED TO GROUND WITHIN SERVICE DISCONNECT. ENSURE NEUTRAL IS NOT BONDED TO GROUND IN EXISTING LOAD CENTER OR SHROUD. REMOVE BONDING SCREW FROM EXISTING LOAD CENTER (IF APPLICABLE).
8) AVOID 90° BENDS WHERE POSSIBLE.
9) FINAL LENGTH OF GROUND ROD MAY VARY PENDING FIELD CONDITIONS.
10) DO NOT INSTALL CABLE GROUNDING KITS AT BENDS.

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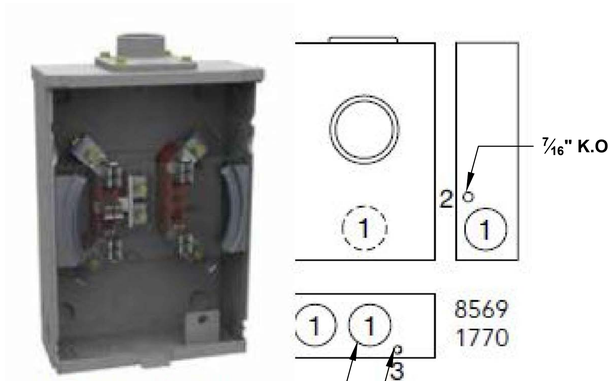
DRAWING TITLE:

UTILITY AND GROUNDING DETAILS

DRAWING # E1 | PAGE # 12 OF 15

MILBANK
ENERGY AT WORK



U8569-YL-PSEG-DES

- 125 AMP, 5 TERMINAL, 600 VAC METER PAN
- DIMENSIONS: 11.5"Hx8"Wx3-5/16"D
- HUB SIZE = 1-1/4"
- CONNECTORS (CU/AL): LINE = #6-2/0
  LOAD = #6-2/0

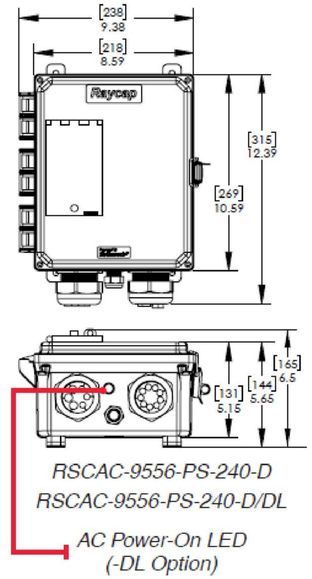
1 | PSE&G METER PAN SPECIFICATION

11x17 SCALE: NTS | 22x34 SCALE: NTS

Raycap

RAYCAP MODEL # RSCAC-9556-P-240-DL

- 100A, 2P MAIN BREAKER - #12-#2Ø AWG
- SUITABLE FOR USE AS SERVICE EQUIPMENT (SUSE) WITHOUT CONDITION PER UL AND NEC
- 22kA FAULT CURRENT RATING (K_{AIC})
- UP TO TWELVE CIRCUITS FOR INDIVIDUAL POWER CONTROL AND OVER CURRENT PROTECTION OF UP TO TWELVE SMALL CELL RADIO HEADS
- NEMA 4X OR IP 68 & NEMA 6/6P RATED ENCLOSURE
- DIMENSIONS: 12.39"Hx9.38"Wx5.65"D
- WEIGHT = APPROXIMATELY 8 LBS (3.62kg)
- POLYCARBONATE UL 94V CASE
- STRIKESORB ® 30-A-2CHV SURGE PROTECTION
- GREEN LED INDICATOR LIGHT INSTALLED ON EXTERIOR OF DISCONNECT



2 | SERVICE DISCONNECT SPECIFICATION

11x17 SCALE: NTS | 22x34 SCALE: NTS

AHEAD ENGINEERING
27 PINE HILL ROAD
ANNANDALE, NJ 08801
T: 908-325-1775

STATE OF NEW JERSEY
KYLE McGINLEY
No. 24GE05406500
LICENSED PROFESSIONAL ENGINEER

KYLE J. MCGINLEY
NJ PE # 24GE05406500

APPLICANT:

CROWN CASTLE

PROJECT:
NODE ID: PRC-050

SCU: 520667

LOCATION:
120 JOHN STREET
PRINCETON, NJ 08542

DATE: 10/10/23
SCALE: AS NOTED
AE PROJECT #: 23003CRNNJ
DWG BY: CB | CHK BY: KJM

#	DATE	DESCRIPTION
3	08/14/24	SHROUD UPDATE
4	09/18/24	DESIGN UPDATE
5	09/25/24	PAINT NOTE
6	03/19/25	POLE UPDATES
7	06/24/25	PLANT NOTE

DRAWING TITLE:
ELECTRICAL SPECIFICATIONS AND DETAILS

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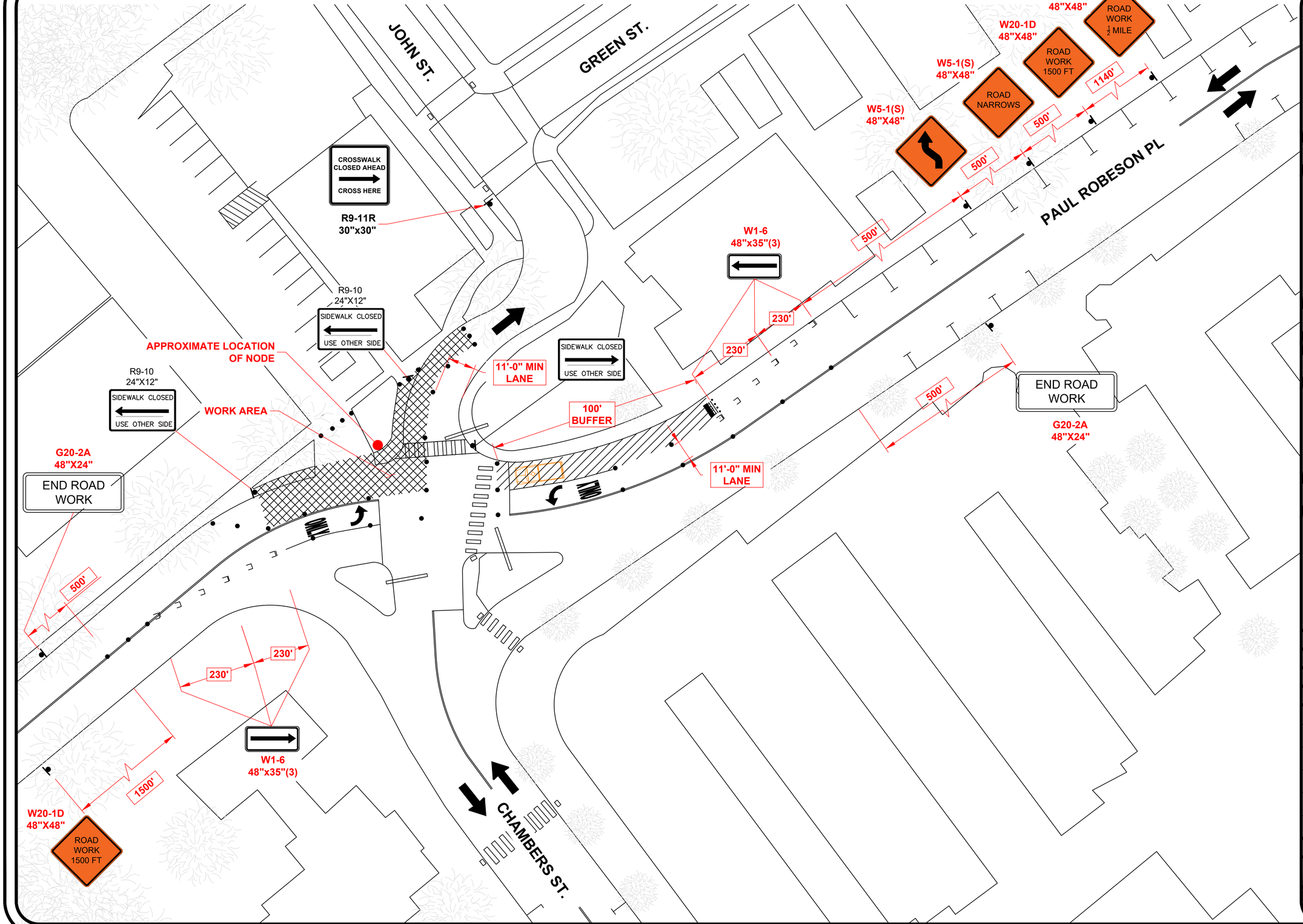
CONTRACTOR SHALL CONTACT AHEAD ENGINEERING PRIOR TO ORDERING MATERIALS OR BEGINNING OF CONSTRUCTION TO ENSURE THAT THEY HAVE THE LATEST REVISION OF THE CONSTRUCTION DOCUMENTS.



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DRAWING TITLE:

MPT - PLAN

DRAWING #	PAGE #
MPT - 1	14 OF 15

LEGEND

- BREAKAWAY BARRICADES
- BREAKAWAY BARRICADES WITH SIGN
- CONSTRUCTION SIGNS
- DRUMS
- CONE
- CONSTRUCTION BARRIER CURB (TYPE SPECIFIED)
- DIRECTION OF TRAFFIC FLOW
- TRAFFIC DIRECTOR, FLAGGER
- TRAILER MOUNTED MOUNTED ARROW BOARD SHOWING CAUTION MODE
- ILLUMINATED FLASHING ARROW MOUNTED ON TOWING VEHICLE SHOWING ARROW PATTERN (LEFT, RIGHT, BOTH)

LEFT RIGHT BOTH

- TRAFFIC CONTROL TRUCK WITH MOUNTED CRASH CUSHION AND ARROW BOARD SHOWING CAUTION MODE
- TRAFFIC CONTROL TRUCK WITH MOUNTED CRASH CUSHION AND ARROW BOARD SHOWING ARROW PATTERN (LEFT, RIGHT, BOTH)

LEFT RIGHT BOTH

- TEMPORARY CRASH CUSHION, INERTIAL BARRIER SYSTEM
- TEMPORARY CRASH CUSHION, (ALL OTHER APPROVED)
- BUFFER ZONE
- WORK AREA
- PAINT STRIPING TRUCK OR OTHER OPERATING VEHICLE

REGULATORY APPROACH SPEED OF TRAFFIC MILES/HOUR	RECOMMENDED SIGHT DISTANCE TO BEGINNING OF CHANNELIZING TAPERS		
	DESIRABLE		MINIMUM
	RURAL FEET	URBAN FEET	RURAL AND URBAN FEET
25	375	525	150
30	450	625	200
35	525	725	250
40	600	825	325
45	675	925	400
50	750	1025	475
55	875	1150	550
60	1000	1275	650
65	1050		725

NOTES:

1. AVOIDANCE MANEUVER IS FOR A SPEED, PATH, AND / OR DIRECTION CHANGE PRIOR TO THE BEGINNING OF CHANNELIZING TAPERS.
2. RECOMMENDED DISTANCES BETWEEN TWO SEPARATE LANE CLOSURES ARE DOUBLE THE VALUES SHOWN ABOVE.
3. RURAL AND URBAN ROAD DESIGNATIONS ARE AS DEFINED IN THE NJDOT STATE HIGHWAY STRAIGHT LINE DIAGRAMS.
4. PROVIDE DESIRABLE VALUES WHEREVER POSSIBLE. IF IT IS NOT FEASIBLE OR PRACTICAL TO PROVIDE DESIRABLE VALUES BECAUSE OF HORIZONTAL OR VERTICAL CURVATURE OR IF RELOCATION OF THE TAPER IS NOT POSSIBLE, THEN MINIMUM VALUES CAN BE APPLIED. WHEN MINIMUM VALUES ARE USED, PAY SPECIAL ATTENTION TO THE USE OF SUITABLE TRAFFIC CONTROL DEVICES WHEN PROVIDING ADVANCED WARNING OF THE CONDITIONS THAT ARE LIKELY TO BE ENCOUNTERED.
5. LOCATE TAPERS TO MAXIMIZE THE VISIBILITY OF THEIR TOTAL LENGTH.

GENERAL NOTES:

1. ADVANCE WARNING SIGNS DISTANCES AND TAPER LENGTHS MAY BE EXTENDED, AT DIRECTION OF THE DEPARTMENT, TO ADJUST FOR REDUCED VISIBILITY DUE TO HORIZONTAL AND VERTICAL CURVATURE OF THE ROADWAY.
2. THE APPROXIMATE LOCATIONS OF THE ILLUMINATED FLASHING ARROW BOARDS ARE SHOWN ON THE TRAFFIC CONTROL PLANS. THESE LOCATIONS MAY BE MODIFIED AS APPROVED BY RE TO ADJUST FOR VISIBILITY DUE TO HORIZONTAL OR VERTICAL CURVATURE OF THE ROADWAY OR TO POSITION AT A SAFER LOCATION. ILLUMINATED FLASHING ARROW BOARDS ARE TO BE USED FOR TEMPORARY LANE CLOSINGS AND AT LOCATIONS SHOWN ON THE TRAFFIC CONTROL PLANS.
3. PRIOR TO ANY ROAD CONSTRUCTION, TRAFFIC CONTROL SIGNS AND DEVICES ARE TO BE IN PLACE.
4. RAMPS AND/OR SIDE STREETS ENTERING THE ROADWAY AFTER THE FIRST ADVANCE WARNING SIGN ARE TO BE PROVIDED WITH AT LEAST ONE W20-IF SIGN (ROAD WORK AHEAD) AS A MINIMUM.
5. ALL EXISTING ROAD SIGNS, PAVEMENT MARKINGS, AND / OR PLOWABLE PAVEMENT REFLECTORS WHICH CONFLICT WITH THE PROPOSED TRAFFIC CONTROL PLAN ARE TO BE COVERED, REMOVED, OR RELOCATED AS DIRECTED BY THE RE.
6. CONFLICTING OR NON-OPERATING SIGNAL INDICATIONS ON EITHER THE EXISTING, TEMPORARY,OR PROPOSED TRAFFIC SIGNAL SYSTEMS ARE TO BE BAGGED OR COVERED.
7. MAINTENANCE AND PROTECTION OF TRAFFIC TO BE IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES - PART VI "STANDARDS AND GUIDES FOR TRAFFIC CONTROL FOR STREET AND HIGHWAY CONSTRUCTION, MAINTENANCE, UTILITY, AND INCIDENT MANAGEMENT OPERATIONS", UNLESS OTHERWISE NOTED IN THE PLANS AND SPECIFICATIONS.
8. CONSTRUCTION SIGN W99-2 (GIVE US A BRAKE) TO BE LOCATED 200 FEET IN ADVANCE OF PROJECT LIMITS.
9. A W1-6 (ARROW) SIGN MOUNTED ON A BREAKAWAY BARRICADE AND CENTERED ON THE CLOSED WIDTH TO BE LOCATED 100 FEET BEYOND EACH INTERSECTION OR MAIN ACCESS POINT WITHIN THE AREA OF A LANE OR SHOULDER CLOSURE.
10. CONSTRUCTION SIGNS R11-4 (ROAD CLOSED TO THRU TRAFFIC) TO BE PLACED AT THE INTERSECTING STREETS WHICH ARE CLOSED TO TRAFFIC BECAUSE OF CONSTRUCTION.
11. CONSTRUCTION SIGNS W8-9A (SYMBOL FOR UNEVEN PAVEMENT) AND W8-14A (GROOVED PAVEMENT) TO BE USED WHEN SUCH PAVEMENT CONDITIONS EXIST.
12. MOVING WORK AREAS IN A LANE CLOSURE REQUIRE A TRAILER MOUNTED ILLUMINATED FLASHING ARROW TO REMAIN AT THE END OF THE TAPER, THE TRAFFIC CONTROL TRUCK WITH MOUNTED CRASH CUSHION THAT IS TO MOVE WITH THE WORK AREAS TO KEEP A 70 FEET MIN. AND 150 FEET MAX. BUFFER IN ADVANCE OF EACH WORK AREA.
13. THE CONTRACTOR TO SUBMIT A PLAN FOR THE SAFE ACCESS OF CONSTRUCTION VEHICLES THROUGHOUT THE WORK SITE WHERE SPACE CONSTRAINTS PREVENT THE USE OF LANE CLOSURES. THE PLAN TO BE SUBMITTED TO THE RE AS SPECIFIED IN THE SPECIFICATIONS.
14. BACKFILL ALL EXCAVATED AREAS WITHIN OR ADJACENT TO THE ROADWAY AND PLACE ON AT LEAST 6H:1V SLOPE BEFORE THE END OF EACH WORK DAY. OTHER EXCAVATED AREA WITHIN THE CLEAR ZONE ARE TO BE BACKFILLED.
15. WHERE REQUIRED, THE CONTRACTOR IS TO MAKE PROVISIONS FOR MAINTAINING PEDESTRIAN CROSSING LOCATIONS AND TYPE AS DIRECTED BY THE RE.
16. BITUMINOUS CONCRETE PLACED DURING THE VARIOUS CONSTRUCTION STAGES TO BE TRANSITIONED ON A MINIMUM 20H:1V SLOPE TO MEET THE ADJACENT EXISTING GRADE AT THE LONGITUDINAL AND TRANSVERSE LIMITS OF THE STAGE CONSTRUCTION AREAS UNLESS OTHERWISE NOTED ON THE STAGE CONSTRUCTION PLANS.
17. THE PLACEMENT AND / OR RELOCATION OF CONSTRUCTION BARRIER CURB TO BE DONE DURING ALLOWABLE LANE CLOSURE HOURS.
18. CONSTRUCTION ZONE SPEED LIMIT WILL BE DETERMINED BY THE BUREAU OF TRAFFIC ENGINEERING, REGIONAL TRAFFIC ENGINEER - WORK ZONE, AT THE TIME OF OR DURING CONSTRUCTION, AS REQUESTED BY THE RE.
19. THE SPEED LIMIT, R2-1 (BLACK ON WHITE) WITH ADDED WORK ZONE PLATE (BLACK ON ORANGE) SIGNS TO BE LOCATED THROUGH WORK AREAS AS DIRECTED BY THE BUREAU OF TRAFFIC ENGINEERING, REGIONAL TRAFFIC ENGINEER - WORK ZONE.
20. THE REDUCED SPEED AHEAD SIGN, W3-5(S) (BLACK ON ORANGE) TO BE LOCATED IN ADVANCE OF SPEED LIMIT R2-1 SIGNS WHICH REDUCE THE NORMAL POSTED SPEED LIMIT THROUGH THE CONSTRUCTION ZONE.
21. TRAFFIC FINES DOUBLED IN WORK AREA R(NJ)5-17(S) , 4 FEET BY 2.5 FEET SIGN TO BE LOCATED 500 FEET AFTER THE FIRST ADVANCE WARNING SIGN, (W20 SERIES) AT EACH WORK AREA LOCATED WITHIN URBAN AREAS. THIS SIGN TO ALSO BE USED ON PROJECTS REQUIRING MOVING OPERATIONS IN WHICH CASE THE SIGN IS TO BE MOUNTED ON A SLOW MOVING CONSTRUCTION VEHICLE.
22. DO NOT CONSTRUCT THE FINAL HMA SURFACE PAVEMENT UNTIL THE FINAL STAGE OF THE PROJECT UNLESS OTHERWISE DIRECTED BY THE RE OR INDICATED ON THE PLANS. SET MANHOLES AND INLETS TO FINISHED GRADE AND CONSTRUCT TEMPORARY PAVEMENT RAMPS AROUND THEM WITH A MINIMUM 20H:1V SLOPE IN ALL DIRECTIONS USING HOT MIX ASPHALT PAVEMENT. THIS TEMPORARY MATERIAL WILL BE REMOVED IMMEDIATELY PRIOR TO PLACING THE SURFACE COURSE.
23. **THE CONTRACTOR SHALL INSTALL A TEMPORARY TRAFFIC SIGNAL BEFORE REMOVING THE EXISTING TRAFFIC SIGNAL TO MAINTAIN SAFE TRAFFIC OPERATIONS.**
24. **THE EXISTING SIGNAL SHALL ONLY BE REMOVED AFTER CONFIRMING THAT THE TEMPORARY SIGNAL IS FUNCTIONING CORRECTLY.**
23. PLACE TRAFFIC CONTROL DEVICES FOR LANE CLOSURES INCLUDING SIGNS, CONES, BARRICADES, ETC. AS SHOWN ON PLANS. NO SIGNS ARE TO BE PLACED WITHOUT ACTUAL LANE CLOSURES AND REMOVE IMMEDIATELY UPON REMOVAL OF THE CLOSURES.
24. CONES MAY BE SUBSTITUTED FOR DRUMS AND INSTALLED UPON THE APPROVAL OF THE RE.
25. TRAFFIC IMPACT NOTICES AND CHANGES

A. TERMS:
WHEN THE FOLLOWING TERMS ARE USED, THE INTENT AND MEANING IS AS FOLLOWS:

i. IMPACTS TO NORMAL TRAFFIC FLOW - WORK THAT REQUIRES A PORTION OF THE PAVED ROADWAY BEING BLOCKED OR CLOSED WITH SAFETY DEVICES OR VEHICLES, INCLUDING, BUT NOT LIMITED TO, FULL OR PARTIAL LANE CLOSURES, FULL OR PARTIAL RAMP CLOSURES, SHOULDER CLOSURES, MOVING OPERATIONS SUCH AS TRAFFIC STRIPING OR SWEEPING, LANE SHIFTS, OR ALTERNATING TRAFFIC. THIS APPLIES EVEN WHEN DETOURS ARE PROVIDED.

ii. TEMPORARY LANE CLOSURES - WORK DESCRIBED UNDER "IMPACTS TO NORMAL TRAFFIC FLOW" WHICH IS ROUTINELY SET UP AND REMOVED ON A DAILY BASIS.

iii. PERMANENT LANE CLOSURES - WORK DESCRIBED UNDER "IMPACTS TO NORMAL TRAFFIC FLOW" WHICH REMAINS IN PLACE CONTINUOUSLY FOR 24 HOURS OR MORE.

B. ADVANCE NOTICES

FOR THE INITIAL START OF WORK THAT REQUIRES "IMPACTS TO NORMAL TRAFFIC FLOW", THE CONTRACTOR IS TO NOTIFY THE RE IN WRITING, ON THE ADVANCE FORM TO-103 PROVIDED BY THE DEPARTMENT, OF THE PROPOSED DATE. THE NOTICE IS TO BE SUBMITTED AT LEAST TWENTY-EIGHT CALENDAR DAYS, BUT NOT MORE THAN SIXTY CALENDAR DAYS, BEFORE THE PROPOSED DATE. START OF WORK THAT IMPACTS NORMAL TRAFFIC FLOW WILL NOT BE PERMITTED PRIOR TO THE DATE STATED IN THE NOTICE. THE CONTRACTOR IS TO CONFIRM, IN WRITING TO THE RE, THE PROPOSED DATE SEVEN (AND/OR FOURTEEN) CALENDAR DAYS BEFORE STARTING THE ESTABLISHMENT OF THE TRAFFIC CONTROL MEASURES FOR THE TRAFFIC IMPACT. THE CONTRACTOR IS TO IMMEDIATELY NOTIFY THE RE IF THE PROPOSED ESTABLISHMENT CANNOT BE COMPLETED ON THE PROPOSED DATE.

FOR A "PERMANENT LANE CLOSURE", THE CONTRACTOR IS TO NOTIFY THE RE IN WRITING, ON ADVANCE FORM TO-103, OF THE PROPOSED DATE A NEW TRAFFIC PATTERN WILL BE ESTABLISHED. THE NOTICE IS TO BE SUBMITTED AT LEAST TWENTY-EIGHT CALENDAR DAYS, BUT NOT MORE THAN SIXTY CALENDAR DAYS, IN ADVANCE OF THE PROPOSED DATE. START OF A NEW TRAFFIC PATTERN WILL NOT BE PERMITTED PRIOR TO THE DATE STATED IN THE NOTICE. THE CONTRACTOR IS TO CONFIRM, IN WRITING TO THE RE, THE PROPOSED DATE OF THE NEW TRAFFIC PATTERN SEVEN (AND/OR FOURTEEN) DAYS BEFORE STARTING TRAFFIC CONTROL MEASURES FOR THE ESTABLISHMENT OF THE NEW PATTERN. THE CONTRACTOR IS TO IMMEDIATELY NOTIFY THE RE IF THE PROPOSED ESTABLISHMENT CANNOT BE COMPLETED ON THE PROPOSED DATE.

STARTING THE ESTABLISHMENT OF A NEW PERMANENT TRAFFIC PATTERN IS TO BEGIN NO EARLIER THAN 11:00 PM FRIDAY AND BE COMPLETED AND READY FOR OPERATIONS BY 6:00 PM THE FOLLOWING SUNDAY. THE ESTABLISHMENT IS TO BE COMPLETED IN ACCORDANCE WITH THE LANE CLOSURE HOURS SPECIFIED IN THE CONTRACT.

ADVANCE NOTICES SENT PRIOR TO THE PRE-CONSTRUCTION MEETING ARE TO BE ADDRESSED TO THE CONTACT PERSON AS SPECIFIED IN SUBSECTION 101.04 OF THE SPECIAL PROVISIONS.

C. PROGRESS NOTICES

ALL "IMPACTS TO NORMAL TRAFFIC FLOW" SCHEDULED FOR THE SEVEN DAY PERIOD STARTING ON THE FOLLOWING MONDAY ARE TO BE SUBMITTED TO THE RE BY 9:00 AM OF EACH FRIDAY ON WEEKLY FORM TO-100 PROVIDED BY THE DEPARTMENT.

EACH DAY OF "TEMPORARY LANE CLOSURES" ARE TO BE SUBMITTED TO THE RE BY 9:00 AM THE DAY IN ADVANCE OF THE START OF THOSE OPERATIONS ON DAILY FORM TO-101 PROVIDED BY THE DEPARTMENT.

"TEMPORARY LANE CLOSURES" FOR WEEKENDS ARE TO BE SUBMITTED TO THE RE BY 9:00 AM ON THE IMMEDIATELY PRECEDING FRIDAY ON THE DAILY FORM TO-101 PROVIDED BY THE DEPARTMENT.

D. CHANGES TO THE SCHEDULED CLOSURES
REQUEST FOR A CHANGE TO THE TRAFFIC CONTROL REQUIREMENTS IN THE CONTRACT DOCUMENTS ARE TO BE SUBMITTED IN WRITING TO THE RE AS FOLLOWS:

CHANGES TO THE SCHEDULED HOURS FOR "TEMPORARY LANE CLOSURES" ARE TO BE SUBMITTED TO THE RE AT LEAST EIGHT CALENDAR DAYS IN ADVANCE OF WHEN THE CHANGE IS PROPOSED TO START.

OTHER PROPOSED CHANGES TO "TEMPORARY LANE CLOSURES" AND ALL CHANGES TO "PERMANENT LANE CLOSURES" ARE TO BE SUBMITTED TO THE RE AS SPECIFIED IN THE SPECIFICATIONS.

RECOMMENDED TAPER LENGTH AND SPACING FOR CHANNELIZING TAPERS						RECOMMENDED SPACING ALONG TANGENTS
REGULATORY APPROACH SPEED OF TRAFFIC MILES /HOUR	MINIMUM TAPER RATIO IN LENGTH PER FOOT OF WIDTH	MINIMUM TAPER LENGTH L – FOR LANE WIDTHS			MAXIMUM DEVICE (B) SPACING ALONG TAPERS IN FEET	MAXIMUM DEVICE (D) SPACING ALONG TANGENTS IN FEET
		10′	11′	12′		
25	10.5:1	105	115	125	25	50
30	15:1	150	165	180	30	60
35	20.5:1	205	225	245	35	70
40	27:1	270	300	325	40	80
45	45:1	450	495	540	45	90
50	50:1	500	550	600	50	100
55	55:1	550	605	660	55	110
60	60:1	600	660	720	60	120
65	65:1	650	715	780	65	130

NOTE:
THE MAXIMUM DEVICE SPACING ALONG CURVES IS DEFINED FOR TAPERS (B) IN THE ABOVE TABLE.

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DRAWING TITLE:
MPT - NOTES

DRAWING # MPT- 2 | PAGE # 15 OF 15