



SITE ID: KS-S00000002

CARRIER ID: KC015

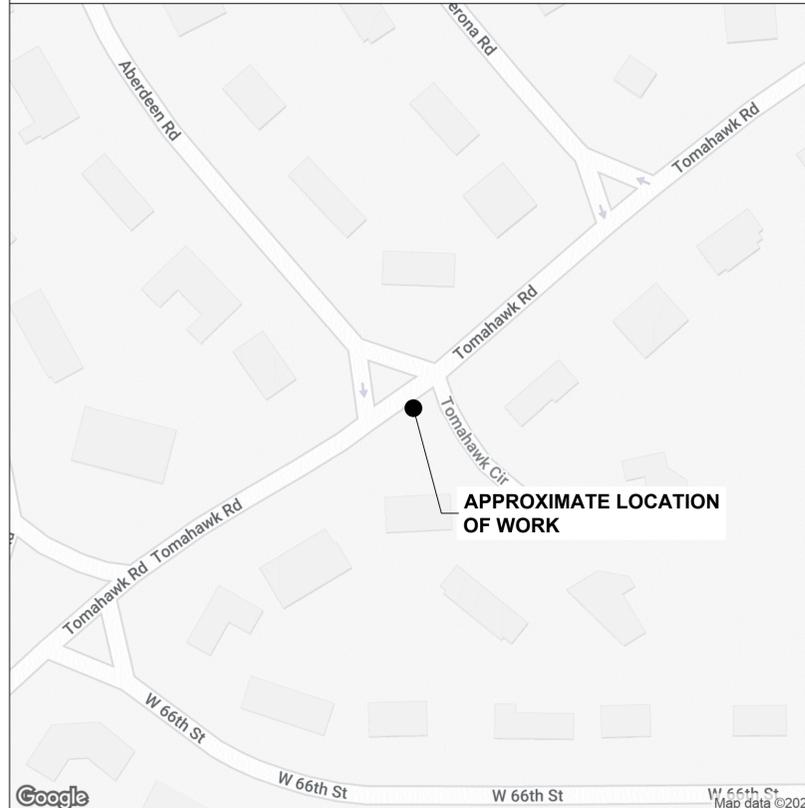
PROGRAM ID: PRG-300010114

POLE #: MH0289

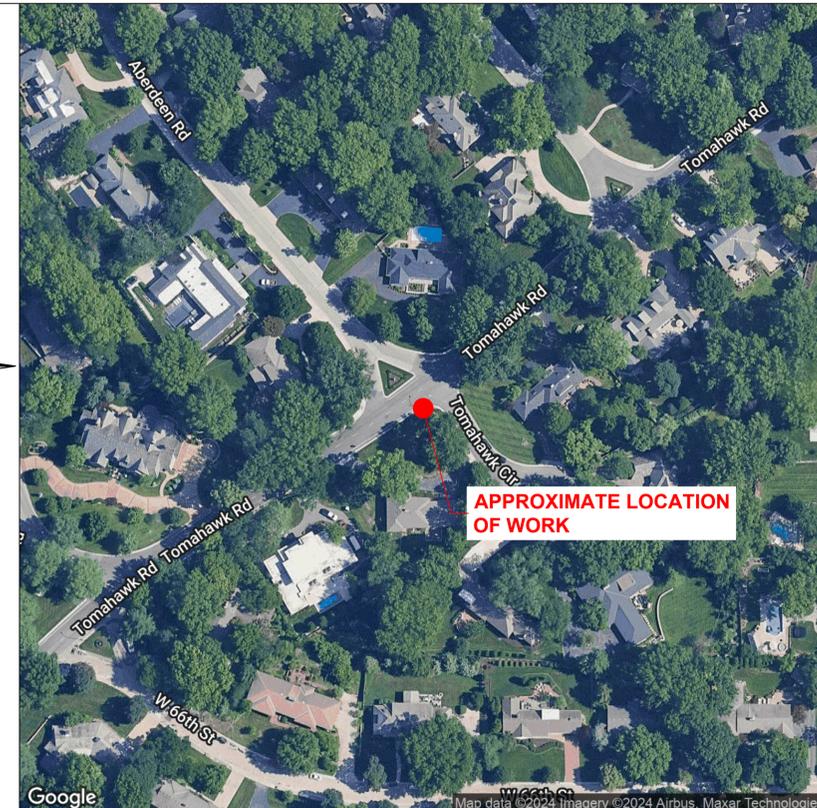
LATITUDE: 39.01087
LONGITUDE: -94.618809

PROPOSED SMALL CELL NODE
INSTALLATION

LOCATION MAP
NOT TO SCALE

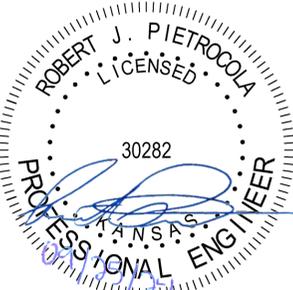


KEY MAP
NOT TO SCALE



AHEAD ENGINEERING

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



ROBERT PIETROCOLA
KS PE LIC # 30282

APPLICANT:



PROJECT:

SITE ID: KS-S00000002
CARRIER SITE ID: KC015
PROGRAM ID: PRG-300010114
POLE #: MH0289
LOCATION:
2901 TOMAHAWK RD
MISSION HILLS, KS 66208

DATE: 09/05/24

SCALE: AS NOTED

AE PROJECT #:

DWG BY: RAW | CHK BY: KJM

#	DATE	DESCRIPTION
0	09/05/24	ISSUED FOR SUBMISSION
1	09/20/24	POLE UPDATE

DRAWING TITLE:

COVER PAGE

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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.

EVERGY ELECTRIC EQUIPMENT JOINT USE STANDARDS

BUILDING CODE:
2018 INTERNATIONAL BUILDING CODE (IBC), AS ADOPTED BY KANSAS

KANSAS ADMINISTRATIVE REGULATIONS

ELECTRICAL CODE:
NFPA 70-2017, NATIONAL ELECTRIC CODE LIGHTNING PROTECTION CODE:
NFPA 780 - LATEST EDITION, LIGHTNING PROTECTION

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

MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) 2009 EDITION

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

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

OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970

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

- INSTALLATION OF PROPOSED ANTENNA ATTACHED TO TOP OF PROPOSED REPLACEMENT METAL POLE, AND INSTALLATION OF PROPOSED RADIO UNITS AND POWER SUPPLY WITHIN PROPOSED EQUIPMENT SHROUD ATTACHED TO SIDE OF PROPOSED REPLACEMENT METAL POLE, WITH ASSOCIATED APPURTENANCES, AC, DC, AND RF CABLING.
- 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

SITE ID: KS-S00000002

ADDRESS: 2901 TOMAHAWK RD
CITY/TOWN: MISSION HILLS
JURISDICTION: MISSION HILLS
COUNTY: JOHNSON
ZONE: R-1-(20)
SCTM: LP27000019 0019

SITE COORDINATES:
LATITUDE: 39.01087 N (NAD83)
LONGITUDE: -94.618809 W (NAD83)

POLE TYPE: METAL - REPLACEMENT
POLE NUMBER: MH0289

POWER COMPANY: EVERGY
POLE OWNER: MISSION HILLS

APPLICANT: EXTENET SYSTEMS
5849 JOHN HICKMAN PKWY, SUITE 600
FRISCO, TX 75034

EXTENET PROJECT MANAGER: TED JACOBSON
(425) 791-4062

ENGINEER ADDRESS: AHEAD ENGINEERING LLC
27 PINE HILL RD
ANNANDALE, NJ 08801

ENGINEERING CONTACT INFORMATION: KYLE MCGINLEY, PE
(908) 325-1775 EXT 105

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



Know what's below.
Call before you dig.

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"), NFPA 101 (LIFE SAFETY CODE)
 D. AMERICAN SOCIETY FOR TESTING OF MATERIALS (ASTM)
 E. INSTITUTE OF ELECTRONIC AND ELECTRICAL ENGINEERS (IEEE)
 F. DOT STANDARD SPECIFICATIONS, STANDARD DETAILS OF CONSTRUCTION, RULES OF THE HIGHWAY OPERATIONS, GUIDELINES FOR THE DESIGN OF INFRASTRUCTURE COMPONENTS (AS APPLICABLE)
 G. OSHA

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.

1.12. THE LOCATION OF ANY UTILITIES INDICATED ARE ONLY APPROXIMATE, BASED ON AVAILABLE AS-BUILTS AND G.I.S. DATA. AHEAD ENGINEERING, LLC HEREBY DISCLAIMS ANY RESPONSIBILITY TO THIRD PARTIES FOR THE ACCURACY OF THIS INFORMATION. PERSONS WORKING IN THE AREA COVERED BY THIS DRAWING MUST CONTACT THE STATEWIDE CALL-BEFORE-YOU-DIG SYSTEM TO ASCERTAIN THE LOCATION OF UNDERGROUND UTILITIES PRIOR TO PERFORMING ANY EXCAVATION

1.13. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES, AS SHOWN ON THESE PLANS, IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED UPON AS BEING EXACT OR

COMPLETE. THE CONTRACTOR MUST CALL THE LOCAL UTILITY LOCATION CENTER AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY PERTINENT LOCATIONS AND ELEVATIONS, ESPECIALLY AT THE CONNECTION POINTS AND AT POTENTIAL UTILITY CONFLICTS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES THAT CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THESE PLANS.

1.14. ADDRESS INDICATED IS FOR NAVIGATIONAL PURPOSES ONLY. REFER TO THE COORDINATES FOR ACTUAL NODE LOCATION.

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. CONTRACTOR SHALL BE RESPONSIBLE FOR THE POT HOLE AND LOCATING OF ALL EXISTING UTILITIES THAT CROSS THE PROPOSED TRENCH LINE AND MUST MAINTAIN A 1' MINIMUM VERTICAL CLEARANCE.
 D. HAND DIGGING: UNLESS APPROVED IN WRITING OTHERWISE, ALL DIGGING IS TO BE DONE BY HAND.
 E. 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.
 F. 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.
 G. 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.
 H. 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.
 I. 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

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

GROUNDING AND CONSTRUCTION NOTES

- GROUND TESTED AT 25 OHMS OR LESS.
- 1/2" X 8" (MINIMUM) COPPER GLAD GROUND ROD. IF EXISTING GROUND ROD IS PRESENT, PROPOSED GROUND ROD TO BE INSTALLED A MINIMUM OF 6' FROM UTILITY'S GROUND ROD.
- #6 BARE COPPER GROUND AND BOND WIRE.
- ALL EQUIPMENT TO BE BONDED.
- DO NOT LOCATE GROUND WIRE IN CLIMBING SPACE.
- 120/240V POWER REQUIRED.
- CONTRACTOR TO CALL ONE CALL 72 HOURS PRIOR TO EXCAVATING.



AHEAD ENGINEERING

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



ROBERT PIETROCOLA
KS PE LIC # 30282

APPLICANT:



PROJECT:

SITE ID: KS-S000000002
 CARRIER SITE ID: KC015
 PROGRAM ID: PRG-300010114
 POLE #: MH0289
 LOCATION:
 2901 TOMAHAWK RD
 MISSION HILLS, KS 66208

DATE: 09/05/24

SCALE: AS NOTED

AE PROJECT #:

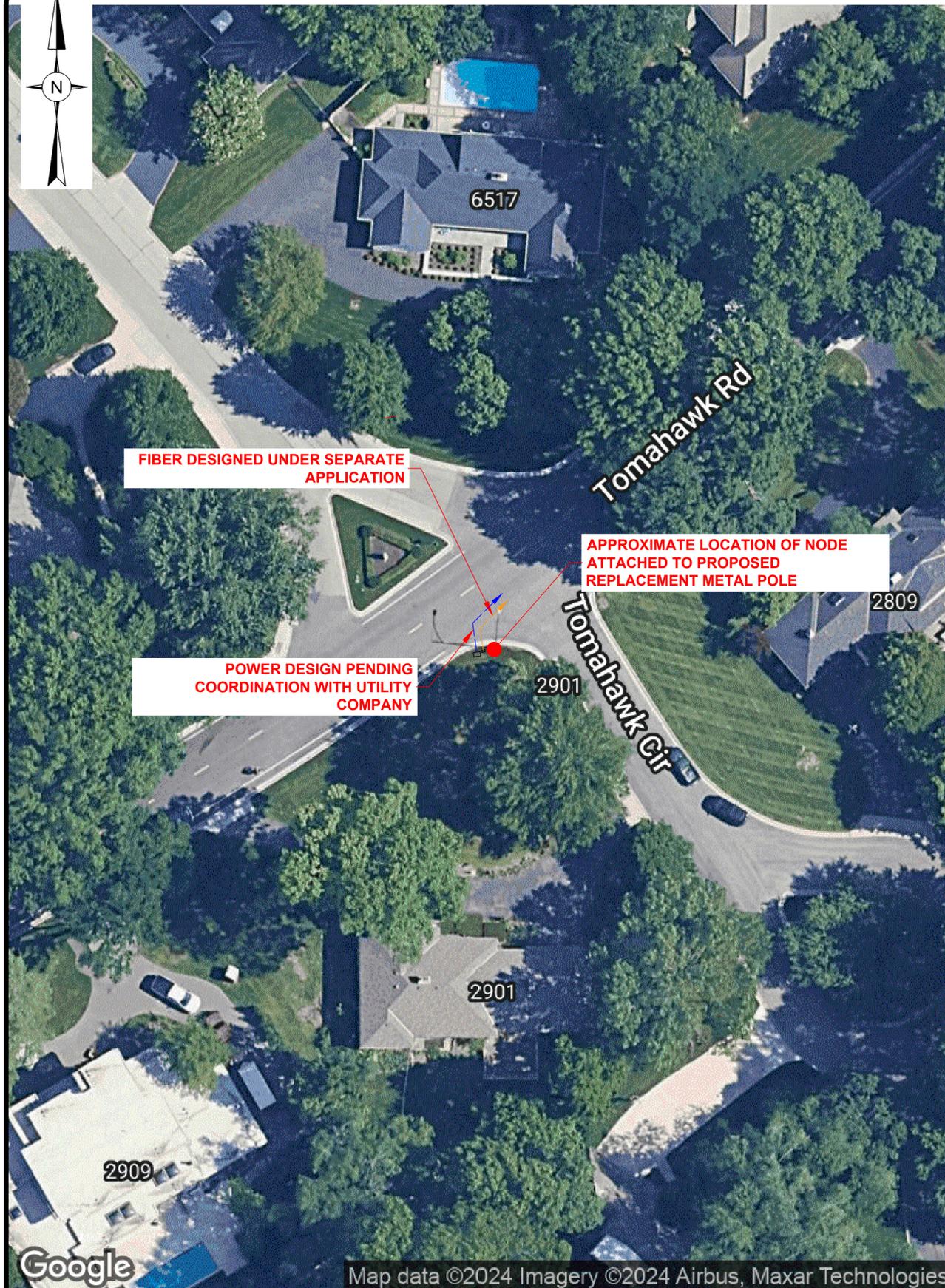
DWG BY: RAW CHK BY: KJM

#	DATE	DESCRIPTION
0	09/05/24	ISSUED FOR SUBMISSION
1	09/20/24	POLE UPDATE

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GENERAL NOTES

DRAWING #	PAGE #
GN1	2 OF 8



2 EXISTING SITE PHOTO

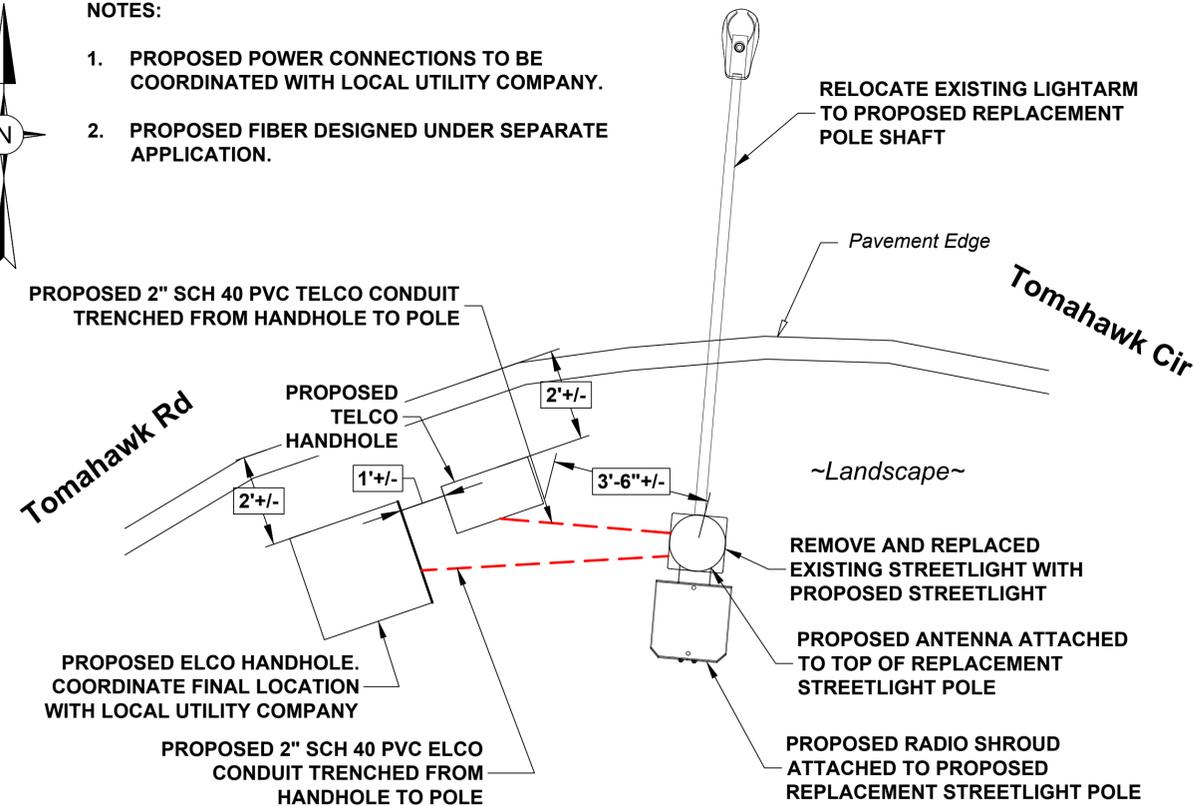
11x17 SCALE: NTS

22x34 SCALE: NTS



NOTES:

1. PROPOSED POWER CONNECTIONS TO BE COORDINATED WITH LOCAL UTILITY COMPANY.
2. PROPOSED FIBER DESIGNED UNDER SEPARATE APPLICATION.



3 PLAN VIEW

11x17 SCALE: 1/4"=1'-0"

22x34 SCALE: 1/2" = 1'-0"



AHEAD ENGINEERING

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



ROBERT PIETROCOLA
KS PE LIC # 30282

APPLICANT:



PROJECT:

SITE ID: KS-S00000002
CARRIER SITE ID: KC015
PROGRAM ID: PRG-300010114
POLE #: MH0289
LOCATION:
2901 TOMAHAWK RD
MISSION HILLS, KS 66208

DATE: 09/05/24

SCALE: AS NOTED

AE PROJECT #:

DWG BY: RAW | CHK BY: KJM

#	DATE	DESCRIPTION
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1	09/20/24	POLE UPDATE

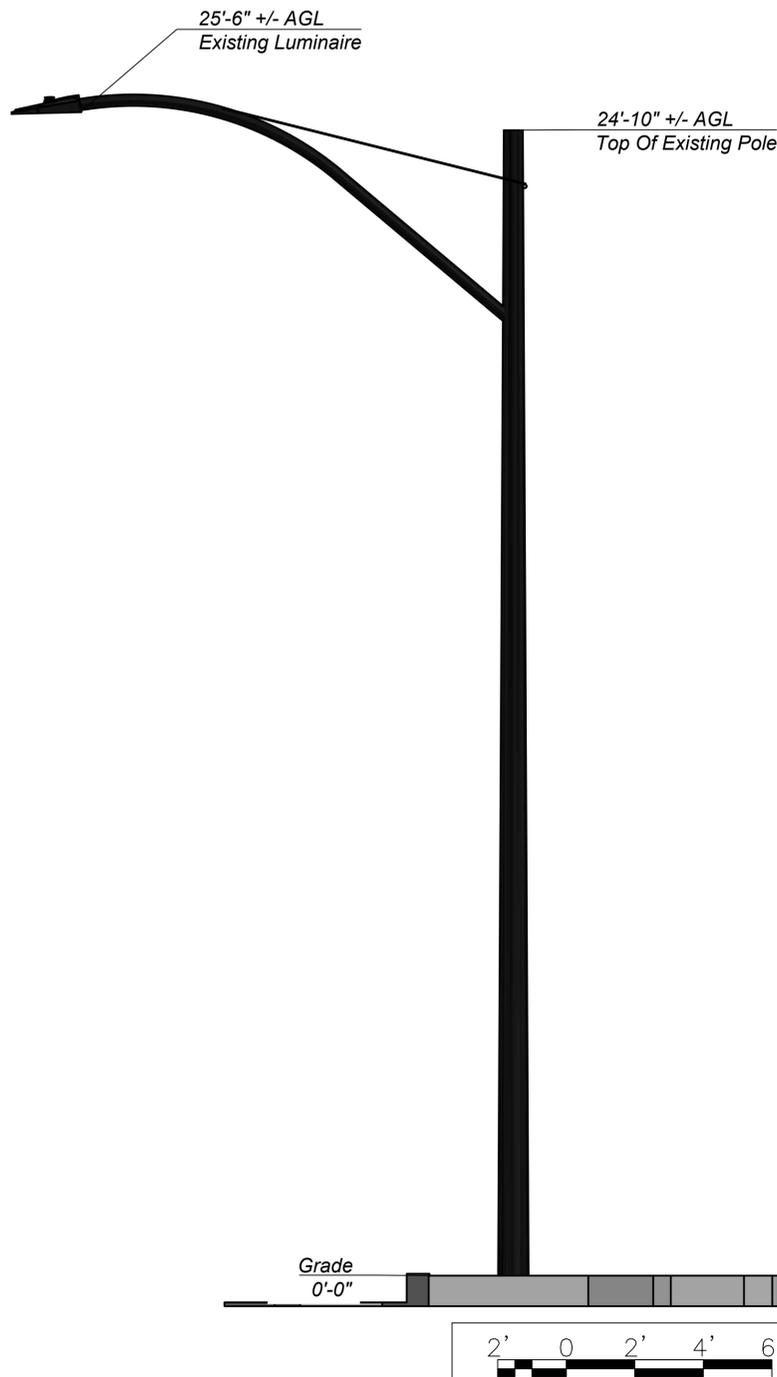
DRAWING TITLE:

SITE PLANS

DRAWING #	PAGE #
A1	3 OF 8

NOTE:

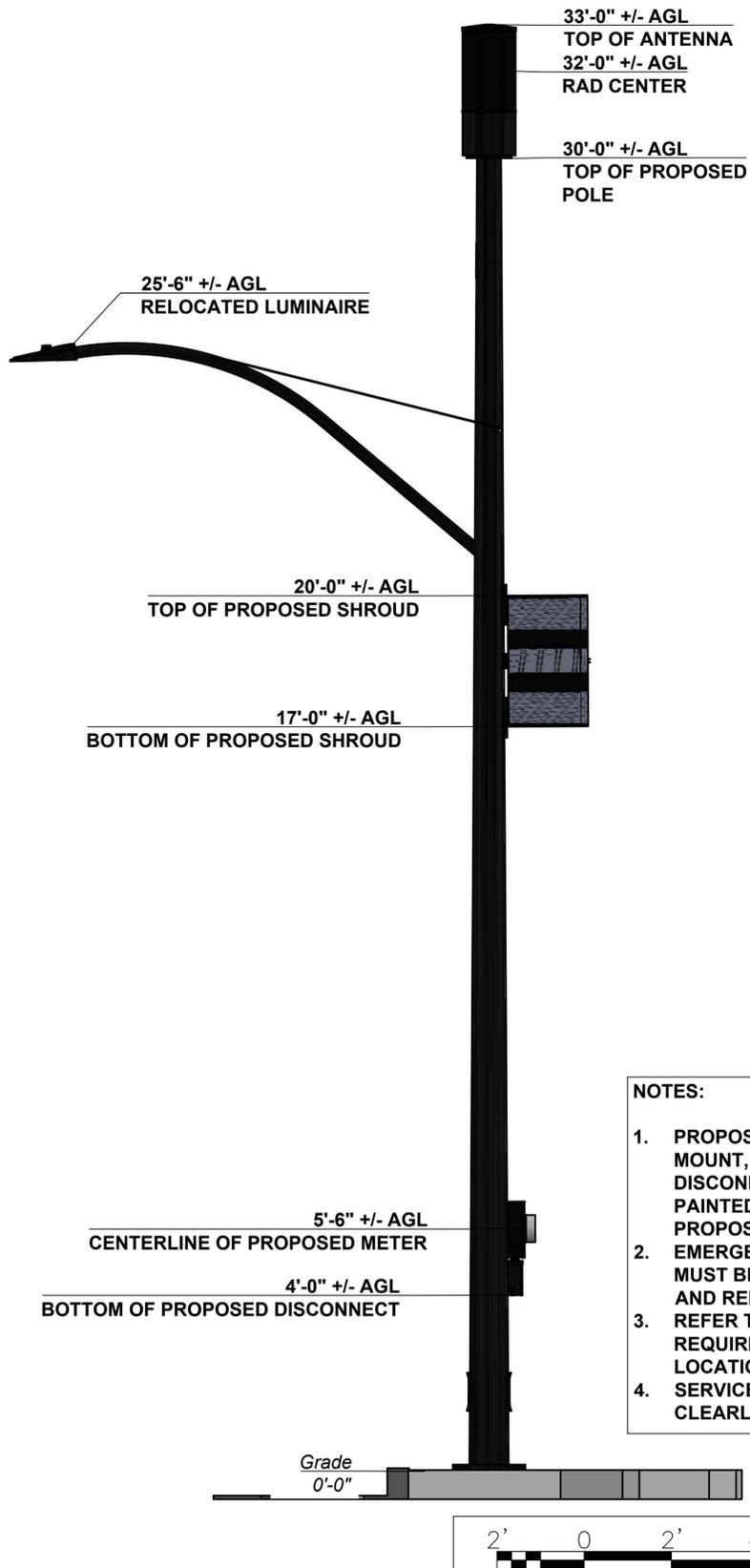
ELEVATIONS OF EXISTING POLE APPURTENANCES ARE BASED UPON FIELD SURVEY COMPLETED ON 04/24/2024.



1 EXISTING ELEVATION

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

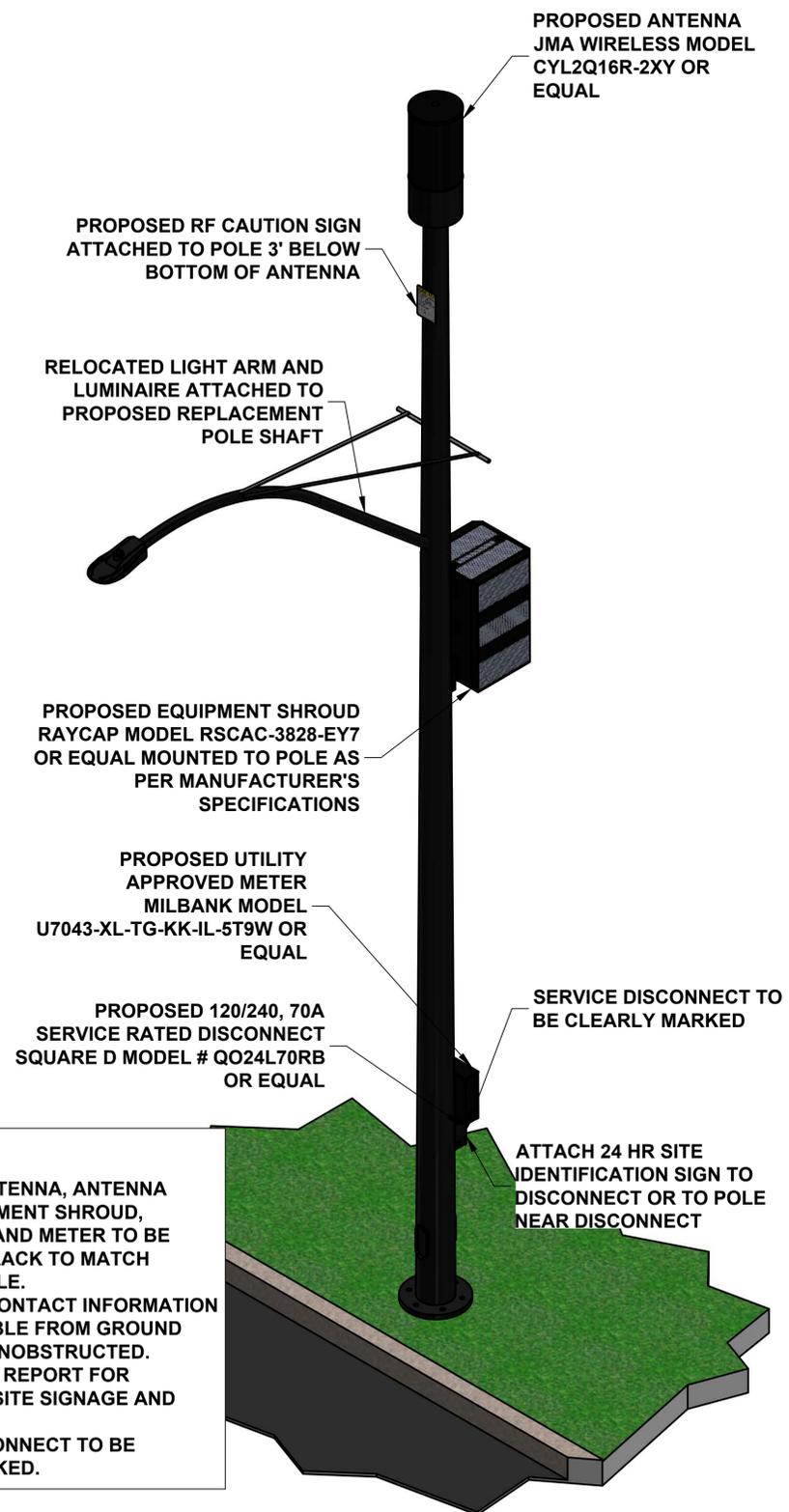
22x34 SCALE: 3/8"=1'-0"



2 PROPOSED ELEVATION

11x17 SCALE: 1/4"=1'-0"

22x34 SCALE: 1/2"=1'-0"



NOTES:

1. PROPOSED ANTENNA, ANTENNA MOUNT, EQUIPMENT SHROUD, DISCONNECT, AND METER TO BE PAINTED TO BLACK TO MATCH PROPOSED POLE.
2. EMERGENCY CONTACT INFORMATION MUST BE LEGIBLE FROM GROUND AND REMAIN UNOBSTRUCTED.
3. REFER TO EME REPORT FOR REQUIRED RF SITE SIGNAGE AND LOCATION.
4. SERVICE DISCONNECT TO BE CLEARLY MARKED.

3 PROPOSED ELEVATION - ISOMETRIC

11x17 SCALE: PERSPECTIVE

22x34 SCALE: PERSPECTIVE



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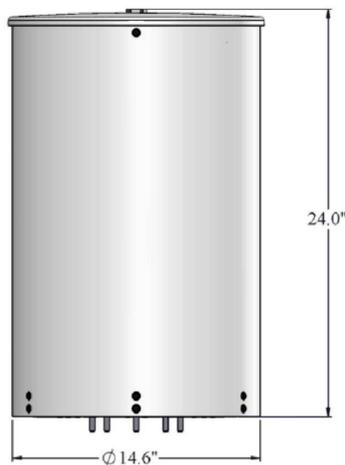
#	DATE	DESCRIPTION
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DRAWING TITLE:

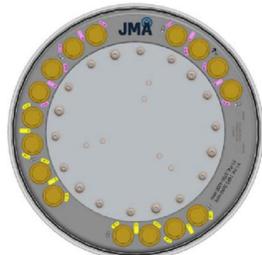
SITE ELEVATIONS

DRAWING #	PAGE #
A2	4 OF 8

JMA



NWAV



JMA 16-PORT CYLINDER ANTENNA
MODEL # CYL2Q16R-2xy

- DIMENSIONS: 24"H x 14.6"Ø
- VOLUME: 2.32 CU. FT.
- WEIGHT: 26 LBS
- CONNECTORS: 16 x 4.3-10 (F)
- WIND SURVIVAL RATING: 150 MPH

NOKIA

NOKIA AZHL AIRSCALE RRH 8T8R B41 320W

- DIMENSIONS: 13.8"Hx15.6"Wx7.5"D
- MAX WEIGHT: 55.2 LBS
- MAX VOLUME: 0.93 CFT
- SUPPLY VOLTAGE: DC-48 V
- POWER CONSUMPTION: 559 W TYPICAL
1140 W MAX
- VOLTAGE RANGE: -36V TO -60V
- NUMBER OF TX/RX PATHS: 8T/8R
- OUTPUT POWER: 40W / TRX (320 W TOTAL)
- ANTENNA PORTS: 8 x 4.3-10, 1 x 4 .3-10



NOKIA

NOKIA AHFIB DUAL RRH 4T4R B25/66 320W,
AHFIB-474216A

- DIMENSIONS: 22.05"Hx12.13"Wx5.87"D
- MAX WEIGHT: 66.14 LBS
- MAX VOLUME: 0.92 CFT
- SUPPLY VOLTAGE: DC-48 V
- VOLTAGE RANGE: -36V TO -60V
- OUTPUT POWER: 40W PER BAND, 80W PER TX
- 4 ANTENNA PORTS, 4.3-10+
- CLASS II 5KA SURGE PROTECTION



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0	09/05/24	ISSUED FOR SUBMISSION
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DRAWING TITLE:

DETAILS

DRAWING #	PAGE #
A3	5 OF 8

1 ANTENNA SPECIFICATION

11x17 SCALE: NTS

22x34 SCALE: NTS

2 NOKIA AZHL RADIO SPECIFICATION

11x17 SCALE: NTS

22x34 SCALE: NTS

3 NOKIA AHFIB B25/66 RADIO SPECIFICATION

11x17 SCALE: NTS

22x34 SCALE: NTS

NOKIA

NOKIA APAM AIRSCALE AC-DC POWER UNIT 2300W

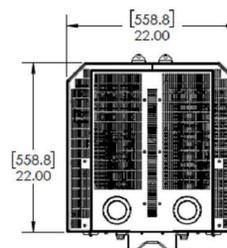
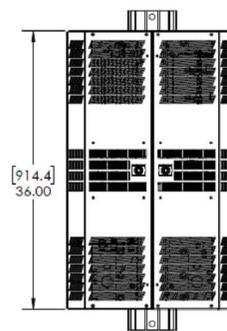
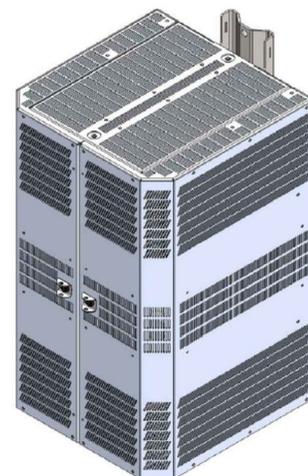
- DIMENSIONS: 12.99"Hx8.90"Wx2.95"D
- WEIGHT: 15.43 LBS
- VOLUME: 0.197 CFT
- SUPPLY VOLTAGE: DC -55 V
- POWER OUTPUT: 2300 W MAX
- EFFICIENCY: 95%
- VOLTAGE RANGE: -36V TO -60V



Raycap

RAYCAP MODEL NO. RSCAC-1028-NY4

- POLE MOUNTED RADIO CONCEALMENT SHROUD
- APPROX VOLUME: 10.08 CUBIC FEET
- APPROX WEIGHT WITH EQUIPMENT: 257.38 LBS



4 NOKIA APAM AC-DC CONVERTER SPECIFICATION

11x17 SCALE: NTS

22x34 SCALE: NTS

5 SHROUD SPECIFICATION

11x17 SCALE: NTS

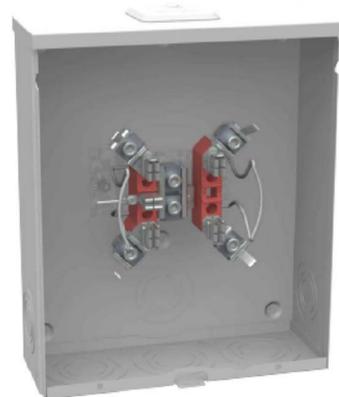
22x34 SCALE: NTS

SQUARE D LOAD CENTER - QO24L700RB

- DIMENSIONS: 9.37"Hx4.88"Wx4"D
- 120/240V AC
- MAX WEIGHT: 4.9 LBS
- RATED CURRENT: 70A
- MAX SHORT CIRCUIT CURRENT RATING: 65KA
- ENCLOSURE RATING: NEMA 3R OUTDOOR



- MODEL: U7043-XL-TG-KK-IL-5T9W
- 200 AMP, 5 TERMINAL, RINGLESS, 600 VAC METER PAN
- DIMENSIONS: 15.5"Hx13"Wx4.84"D
- SUITABLE FOR OVERHEAD OR UNDERGROUND
- CONNECTORS (CU/AL): LINE = #6-350 kcmil
LOAD = #6 350 kcmil



Property of Extenet Systems, Inc.
In case of an emergency please contact
Extenet NOC
1-866-892-5327

STATE: _____ SWITCH HUB: _____

SITE ID: _____

CARRIER ID: _____

NOTES:

1. SIGN SHALL BE MADE FROM NON-METALLIC, VERY LONG LIFE, ULTRA VIOLET (UV) RESISTANT MATERIAL.
2. SIGN APPEARANCE SUBJECT TO CHANGE PER POLE OWNER REQUIREMENTS.



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DRAWING TITLE:

DETAILS

DRAWING # | PAGE #

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1 DISCONNECT SPECIFICATION

11x17 SCALE: NTS

22x34 SCALE: NTS

2 METER SPECIFICATION

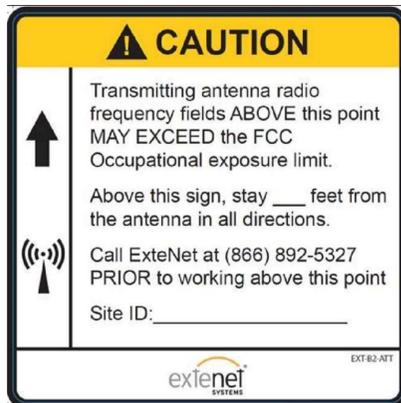
11x17 SCALE: NTS

22x34 SCALE: NTS

3 CONTACT SIGN

11x17 SCALE: NTS

22x34 SCALE: NTS



NOTES:

1. REFER TO EME REPORT FOR INSTALLATION LOCATION AND STAYBACK DISTANCE.
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.
5. SIGN APPEARANCE SUBJECT TO CHANGE PER EME REPORT AND/OR POLE OWNER REQUIREMENTS.

4 RF CAUTION SIGN

11x17 SCALE: NTS

22x34 SCALE: NTS

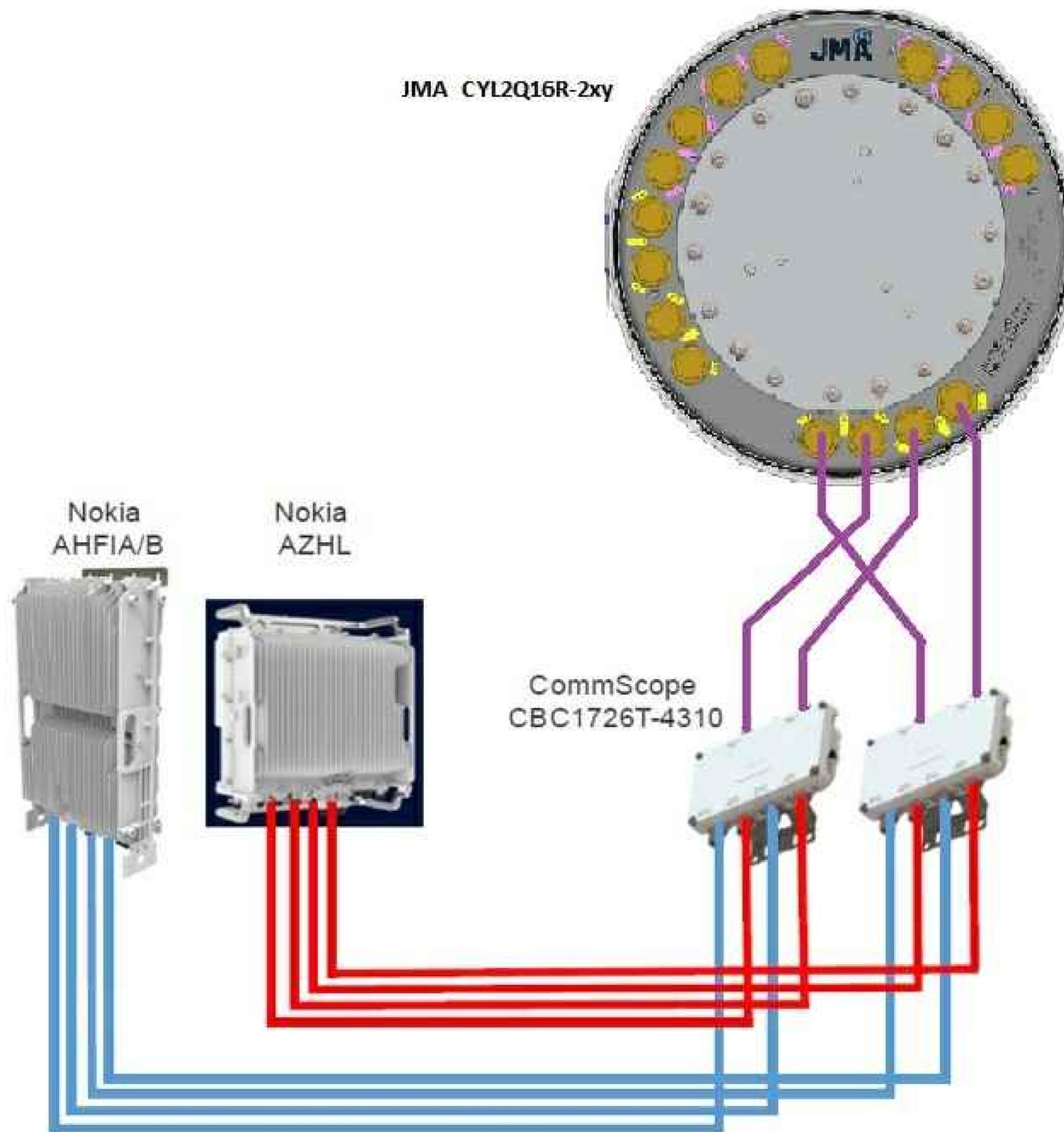


- MAIN DISCONNECT STICKER TO BE PLACED ON ELECTRICAL DISCONNECT SO AS TO BE VISIBLE FROM GRADE.
- MARKING SHALL BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT.
- OUTDOOR RATED VINYL LABEL, ORANGE WITH BLACK LETTERS.
- PERMANENT ADHESIVE.
- UV SUN RESISTANT LAMINATE.

5 ELECTRICAL DISCONNECT STICKER

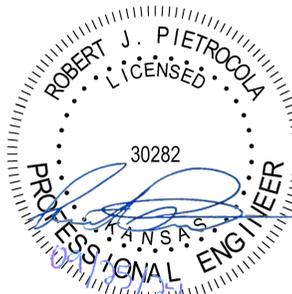
11x17 SCALE: NTS

22x34 SCALE: NTS



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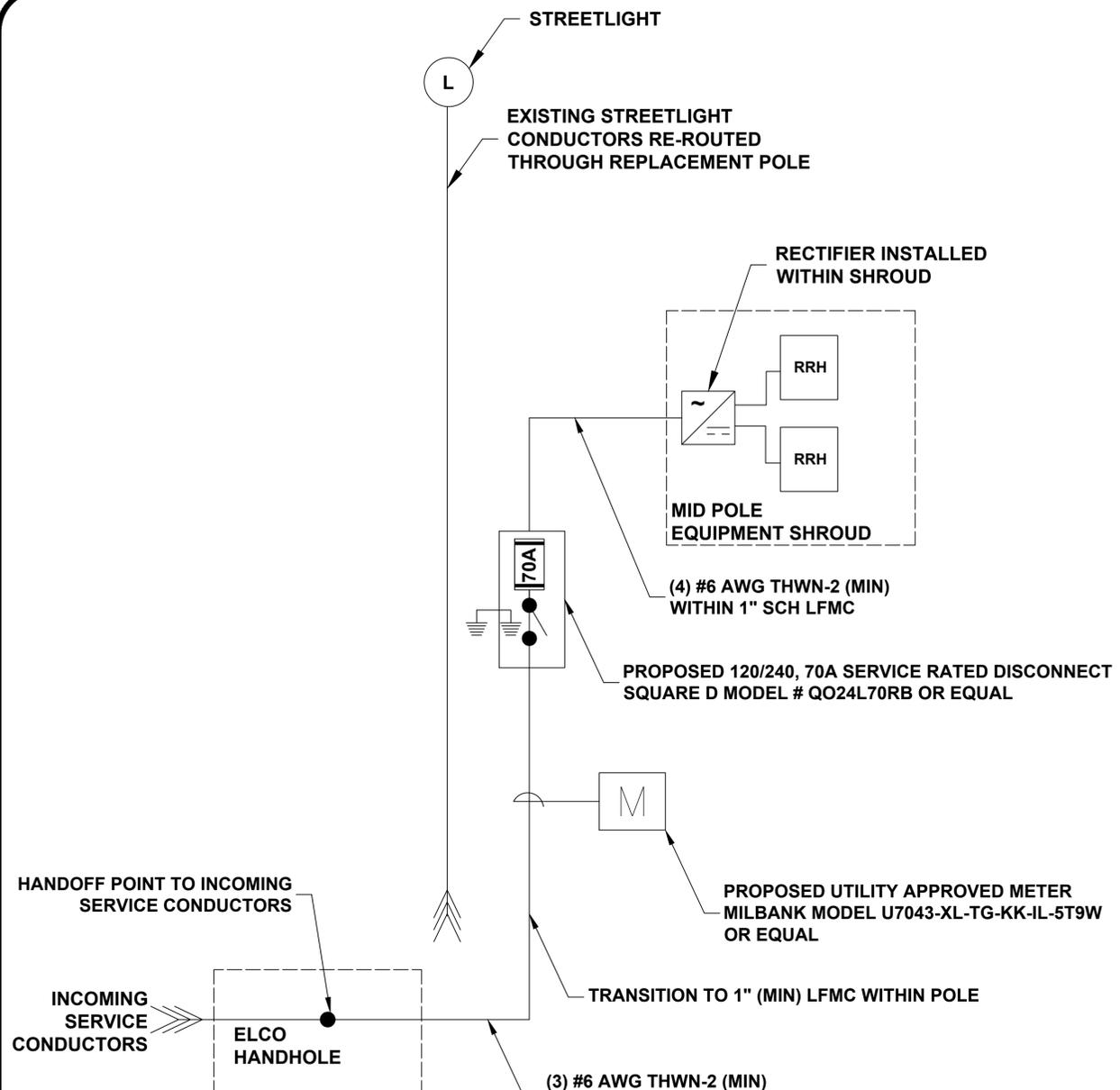
DWG BY: RAW | CHK BY: KJM

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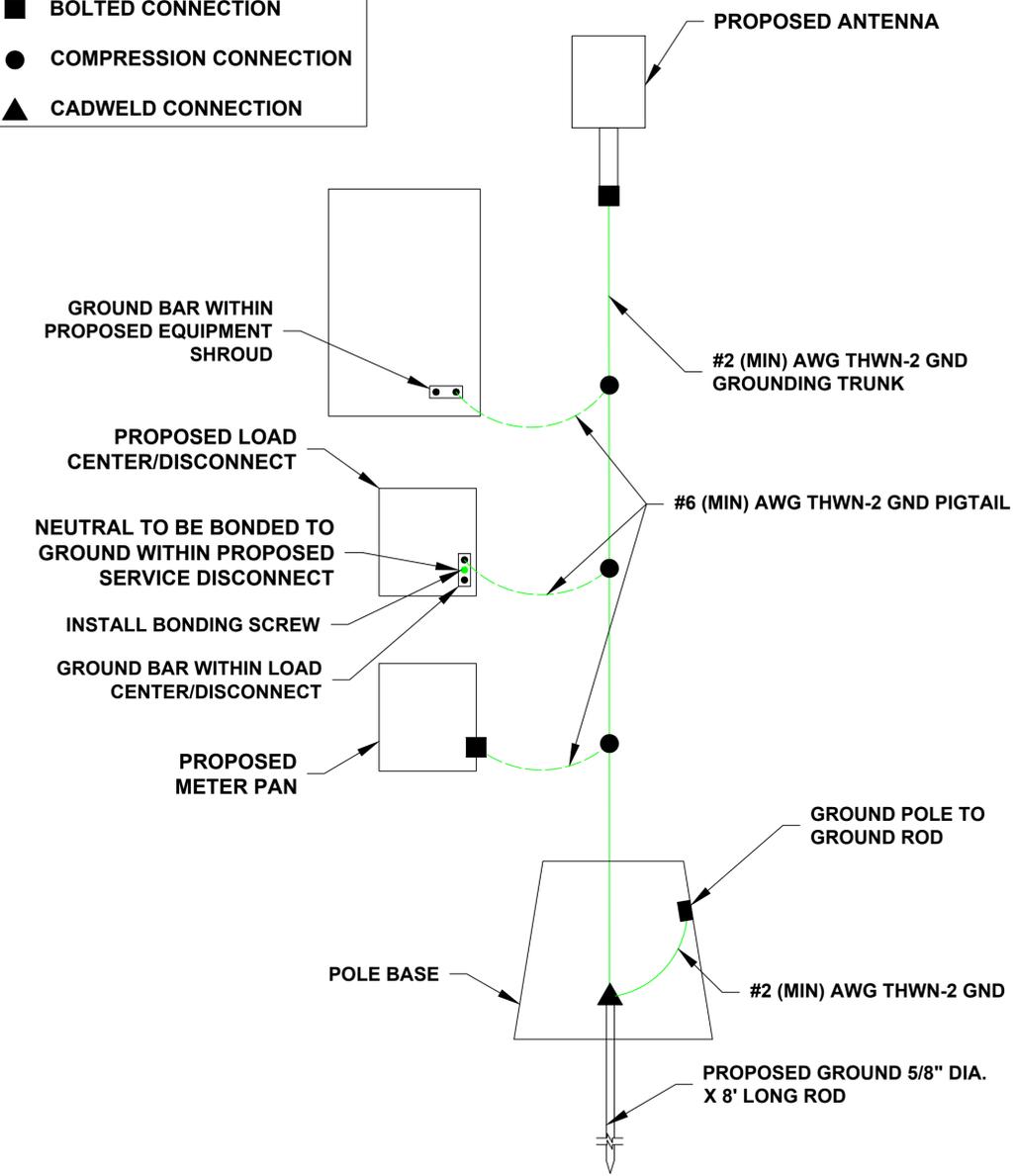
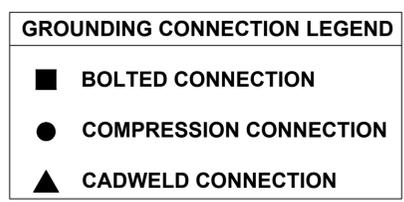
DRAWING TITLE:

RF PLUMBING DIAGRAM

DRAWING #	PAGE #
A5	7 OF 8



NOTE:
ALL CONNECTIONS TO BE COMPLETED BY A LICENSED ELECTRICIAN AND COORDINATED WITH THE LOCAL UTILITY COMPANY. FINAL INSTALLATION MAY VARY PENDING UTILITY COORDINATION.



- 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) GROUNDING WHIPS FROM EQUIPMENT TO MAIN GROUNDING TRUNK TO BE MINIMUM #6 AWG.
 - 6) AVOID 90° BENDS WHERE POSSIBLE.
 - 7) FINAL LENGTH OF GROUND ROD MAY VARY PENDING FIELD CONDITIONS.
 - 8) DO NOT INSTALL CABLE GROUNDING KITS AT BENDS.



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DRAWING TITLE:
UTILITY AND GROUNDING DETAILS

DRAWING #	PAGE #
E1	8 OF 8

1	ELECTRICAL ONE-LINE DIAGRAM
11x17 SCALE:NTS	22x34 SCALE:NTS

POWER CONSUMPTION			
ITEM	VOLTAGE	WATTS	AMPS
AC/DC CONVERTER - NOKIA APAM	240	2,421 (MAX)	10.1A
TOTAL:		2,421 (MAX)	

2	LOAD CALCULATION CHART
11x17 SCALE:NTS	22x34 SCALE:NTS

3	TYPICAL GROUNDING SCHEMATIC
11x17 SCALE: NTS	22x34 SCALE: NTS