



PROJECT: NEW SITE BUILD  
 SITE NAME: TOMPKINS COMMUNITY COLLEGE  
 SITE CASCADE: AL90XC488\_A  
 CROWN CASTLE ID: 5800126 / APP 456831  
 SITE ADDRESS: 20 FAR VIEW DRIVE DRYDEN, NY 13053  
 SITE TYPE: 140'-0" MONOPOLE



**TOMPKINS COMMUNITY COLLEGE**  
**AL90XC488\_A**

CONSTRUCTION DRAWINGS	
D	09/14/18 ISSUED AS FINAL
C	09/12/18 REVISED PER COMMENTS
B	08/27/18 REVISED PER COMMENTS
A	04/23/18 ISSUED FOR REVIEW

**Dewberry**  
 Dewberry Engineers Inc.  
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 NEW YORK LICENSE NO. 088682  
 IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER TO ALTER THIS DOCUMENT.

DRAWN BY:	NRS
REVIEWED BY:	BSH
CHECKED BY:	GHN
PROJECT NUMBER:	50102274
JOB NUMBER:	50102278
SITE ADDRESS:	

20 FAR VIEW DRIVE  
 DRYDEN, NY 13053

SHEET TITLE  
 TITLE SHEET  
 SHEET NUMBER

T-1

**SITE INFORMATION**

**TOWER INFORMATION:**

LATITUDE (NAD83): N 42°-29'-59.45"  
 LONGITUDE (NAD83): W 76°-16'-47.60"  
 ANTENNA CENTERLINE: 126'-0"± A.G.L.  
 JURISDICTION: TOMPKINS COUNTY TOWN OF DRYDEN

**SITE ADDRESS:**

20 FAR VIEW DRIVE  
 DRYDEN, NY 13053

**APPLICANT:**

SPRINT  
 6391 SPRINT PARKWAY  
 OVERLAND PARK, KS 66251

**TOWER OWNER:**

CROWN CASTLE  
 3 CORPORATE PARK DRIVE, SUITE 101  
 CLIFTON PARK, NY 12065

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**VICINITY MAP**



**AERIAL MAP**



**PROJECT DESCRIPTION**

- INSTALL (1) 10'-0"x10'-0" EQUIPMENT PLATFORM WITHIN 12'-0"x20'-0" LEASE AREA
- INSTALL (1) CABLE BRIDGE FROM PLATFORM TO TOWER
- INSTALL (1) ANTENNA PLATFORM WITH HANDRAIL ON TOWER
- INSTALL (6) PANEL ANTENNAS ON TOWER
- INSTALL (12) RRH'S ON TOWER
- INSTALL (3) HYBRID CABLES

**APPLICABLE CODES**

- ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.
- 2015 INTERNATIONAL BUILDING CODE - NEW YORK EDITION.
- TIA-EIA-222-G.
- NFPA 780 - LIGHTNING PROTECTION CODE.
- NFPA 70 (2014 NATIONAL ELECTRIC CODE).
- ANSI/TIA 607-B-COMMERCIAL BUILDING GROUNDING & BONDING REQUIREMENTS FOR TELECOMMUNICATIONS.
- ANSI T1.333-2001-GROUNDING & BONDING OF TELECOMMUNICATIONS EQUIPMENT.
- LOCAL BUILDING CODE.
- CITY/COUNTY ORDINANCES.

**GENERAL NOTES**

THIS IS AN UNMANNED TELECOMMUNICATION FACILITY AND NOT FOR HUMAN HABITATION:  
 - ADA COMPLIANCE NOT REQUIRED.  
 - POTABLE WATER OR SANITARY SERVICE IS NOT REQUIRED.  
 - NO OUTDOOR STORAGE OR ANY SOLID WASTE RECEPTACLES REQUIRED.

CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON JOB SITE. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. FAILURE TO NOTIFY THE ARCHITECT/ENGINEER PLACE THE RESPONSIBILITY ON THE CONTRACTOR TO CORRECT THE DISCREPANCIES AT THE CONTRACTOR'S EXPENSE.

THIS DOCUMENT WAS DEVELOPED TO REFLECT A SPECIFIC SITE AND ITS SITE CONDITIONS AND IS NOT TO BE USED FOR ANOTHER SITE OR WHEN OTHER CONDITIONS PERTAIN. REUSE OF THIS DOCUMENT IS AT THE SOLE RISK OF THE USER.

**SHEET INDEX**

SHT NO.	SHEET TITLE
T-1	TITLE SHEET
SP-1	SPRINT SPECIFICATIONS I
SP-2	SPRINT SPECIFICATIONS II
SP-3	SPRINT SPECIFICATIONS III
A-1	COMPOUND PLAN & ELEVATION
A-2	EQUIPMENT PLAN
A-3	PROPOSED ANTENNA PLAN & ANTENNA SCHEDULE
A-4	CONSTRUCTION DETAILS I
A-5	CONSTRUCTION DETAILS II
A-6	CONSTRUCTION DETAILS III
A-7	CONSTRUCTION DETAILS IV
A-8	CONSTRUCTION DETAILS V
A-9	CABLE ROUTING & COLOR CODING INFORMATION
S-1	STEEL PLATFORM FRAMING PLAN
S-2	STRUCTURAL DETAILS
E-1	ELECTRICAL RISER DIAGRAM & NOTES
E-2	ELECTRICAL DETAILS I
E-3	ELECTRICAL DETAILS II
E-4	GROUNDING PLAN & NOTES
E-5	GROUNDING RISER DIAGRAM & DETAILS
E-6	GROUNDING DETAILS

THESE OUTLINE SPECIFICATIONS IN CONJUNCTION WITH THE SPRINT STANDARD CONSTRUCTION SPECIFICATIONS, INCLUDING CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

**SECTION 01 100 – SCOPE OF WORK**

**THE WORK:**  
SHALL COMPLY WITH APPLICABLE NATIONAL CODES AND STANDARDS, LATEST EDITION, AND PORTIONS THEREOF. ALSO SEE SPRINT METHOD OF PROCEDURE (MOP) AND SPRINT STANDARDS AT THE TIME OF CONSTRUCTION START.

**PRECEDENCE:**  
SHOULD CONFLICTS OCCUR BETWEEN THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES INCLUDING THE STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES AND THE CONSTRUCTION DRAWINGS, INFORMATION ON THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE ALONG WITH SPRINT CONSTRUCTION MANAGER APPROVAL.

**SITE FAMILIARITY:**  
CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS PRIOR TO PROCEEDING WITH CONSTRUCTION.

**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.

**DRAWINGS, SPECIFICATIONS AND DETAILS REQUIRED AT JOBSITE:**  
THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN A FULL SET OF THE CONSTRUCTION DRAWINGS AT THE JOBSITE FROM MOBILIZATION THROUGH CONSTRUCTION COMPLETION.

A. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. PROVIDE ALL MATERIALS AND LABOR AS REQUIRED TO PROVIDE A COMPLETE AND FUNCTIONING SYSTEM. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK.

B. CONTRACTOR SHALL NOTIFY SPRINT CONSTRUCTION MANAGER OF ANY VARIATIONS PRIOR TO PROCEEDING WITH THE WORK. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS NOTED OTHERWISE. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK.

C. MARK THE FIELD SET OF DRAWINGS IN RED, DOCUMENTING ANY CHANGES FROM THE CONSTRUCTION DOCUMENTS.

**METHODS OF PROCEDURE (MOPS) FOR CONSTRUCTION:**  
CONTRACTOR SHALL PERFORM WORK AS DESCRIBED IN THE FOLLOWING INSTALLATION AND COMMISSIONING MOPS. CONTRACTOR IS RESPONSIBLE TO USE LATEST MOP'S.

- A. BASE BAND UNIT IN EXISTING UNIT
- B. INSTALLATION OF BATTERIES
- C. INSTALLATION OF FIBER CABLE
- D. INSTALLATION OF RRU'S
- E. CABLING
- F. TS-0200 REV 5 – ANTENNA LINE ACCEPTANCE STANDARDS
- G. SPRINT CELL SITE ENGINEERING NOTICE – EN 2012-001, REV 1.
- H. COMMISSIONING MOPS

**SECTION 01 200 – COMPANY FURNISHED MATERIAL AND EQUIPMENT**

COMPANY FURNISHED MATERIAL AND EQUIPMENT IS IDENTIFIED ON THE RF DATA SHEET IN THE CONSTRUCTION DRAWINGS.

CONTRACTOR IS RESPONSIBLE FOR SPRINT PROVIDED MATERIAL AND EQUIPMENT TO ENSURE IT IS PROTECTED AND HANDLED PROPERLY THROUGHOUT THE CONSTRUCTION DURATION.

CONTRACTOR RESPONSIBLE FOR RECEIPT OF SPRINT FURNISHED EQUIPMENT AT CELL SITE OR CONTRACTOR'S LOCATION. CONTRACTOR TO COMPLETE SHIPPING AND RECEIPT DOCUMENTATION IN ACCORDANCE WITH COMPANY PRACTICE. CONTRACTOR MAY BE REQUIRED TO PICK UP MATERIAL AT LOCATION PRESCRIBED BY SPRINT.

**SECTION 01 300 – CELL SITE CONSTRUCTION CO.**

**NOTICE TO PROCEED:**  
NO WORK SHALL COMMENCE PRIOR TO COMPANY'S WRITTEN NOTICE TO PROCEED AND THE ISSUANCE OF WORK ORDER.

**SITE CLEANLINESS:**  
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.

**SECTION 01 400 – SUBMITTALS & TESTS**

**ALTERNATES:**  
AT THE COMPANY'S REQUEST, ANY ALTERNATIVES TO THE MATERIALS OR METHODS SPECIFIED SHALL BE SUBMITTED TO SPRINTS CONSTRUCTION MANAGER FOR APPROVAL. SPRINT WILL REVIEW AND APPROVE ONLY THOSE REQUESTS MADE IN WRITING. NO VERBAL APPROVALS WILL BE CONSIDERED.

**TESTS AND INSPECTIONS:**

- A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTS, INSPECTIONS AND PROJECT DOCUMENTATION.
- B. CONTRACTOR SHALL ACCOMPLISH TESTING INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
  - 1. COAX SWEEPS AND FIBER TESTS PER TS-0200 REV 5 ANTENNA LINE ACCEPTANCE STANDARDS.
  - 2. AZIMUTH AND DOWNTILT PROVIDE AN AUTOMATED REPORT UPLOADED TO SITERRA USING A COMMERCIAL MADE-FOR THE PURPOSE ELECTRONIC ANTENNA ALIGNMENT TOOL (AAT) INSTALLED AZIMUTH, CENTERLINE AND DOWNTILT MUST CONFORM WITH RF CONFIGURATION DATA
  - 3. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL CORRECTIONS TO ANY WORK IDENTIFIED AS UNACCEPTABLE IN SITE INSPECTION ACTIVITIES AND/OR AS A RESULT OF TESTING.
  - 4. ALL TESTING REQUIRED BY APPLICABLE INSTALLATION MOPS.

C. REQUIRED CLOSEOUT DOCUMENTATION INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:

- 1. AZIMUTH, DOWNTILT, AGL FROM SUNSIGHT INSTRUMENTS OR 3Z – ANTENNA ALIGN ALIGNMENT TOOL (AAT)
- 2. SWEEP AND FIBER TESTS
- 3. SCANABLE BARCODE PHOTOGRAPHS OF TOWER TOP AND INACCESSIBLE SERIALIZED EQUIPMENT
- 4. ALL AVAILABLE JURISDICTIONAL INFORMATION
- 5. PDF SCAN OF REDLINES PRODUCED IN FIELD
- 6. A PDF SCAN OF REDLINE MARK-UPS SUITABLE FOR USE IN ELECTRONIC AS-BUILT DRAWING PRODUCTION
- 7. LIEN WAIVERS
- 8. FINAL PAYMENT APPLICATION
- 9. REQUIRED FINAL CONSTRUCTION PHOTOS
- 10. CONSTRUCTION AND COMMISSIONING CHECKLIST COMPLETE WITH NO DEFICIENT ITEMS
- 11. ALL POST NTP TASKS INCLUDING DOCUMENT UPLOADS COMPLETED IN SITERRA (SPRINTS DOCUMENT REPOSITORY OF RECORD)
- 12. CLOSEOUT PHOTOGRAPHS:
  - D. PROVIDE PHOTOGRAPHS OF FINAL PROJECT PER THE FOLLOWING LIST. ADDITIONAL PHOTOGRAPHS MAY BE REQUIRED TO SUPPORT ACCEPTANCE PROCESSES.
    - (i) BACK MAIN HYBRID CABLE ROUTE (MINIMUM TWO PHOTOS).
    - (ii) OF EACH ANTENNA AND RRU.
    - (iii) MANUFACTURERS NAME TAG FOR ALL SERIALIZED EQUIPMENT.
    - (iv) PULL AND DISTRIBUTION BOXES INTERMEDIATE BETWEEN RRU'S AND MMBTS (DOOR OPEN).
    - (v) MMBTS CABINET WITH DOOR OPEN SHOWING MODIFICATIONS.
    - (vi) POWER CABINET, DOORS OPEN, BATTERIES INSTALLED.
    - (vii) BREAK OUT CYLINDERS.
    - (viii) ASR SIGNAGE FOR SPRINT OWNED TOWERS.
    - (ix) RADIATION EXPOSURE WARNING SIGNS.
    - (x) PHOTOGRAPH FROM EACH SECTOR FROM APPROXIMATE RAD CENTER OF ANY NEW ANTENNA AT HORIZON.
  - E. LOAD PHOTOS TO SITERRA PROJECT LIBRARY 15. IN 15 CREATE NEW CATEGORY: 2.5 DEPLOYMENT, AND SECTION: PERMANENT CONSTRUCTION. LABEL PHOTOS WITH SITE CASCADE AND VIEW BEING DEPICTED. CAMERAS USED TO TAKE PHOTOGRAPHS SHALL GPS ENABLED SUCH THAT THE GPS COORDINATES ARE INCLUDED IN THE PHOTO MEDIA-FILE INFORMATION.

**COMMISSIONING:**  
PERFORM ALL COMMISSIONING AS REQUIRED BY APPLICABLE MOPS

**INTEGRATION:**  
PERFORM ALL INTEGRATION ACTIVITIES AS REQUIRED BY APPLICABLE MOPS

**SECTION 11 700 – ANTENNA ASSEMBLY, REMOTE RADIO UNITS AND CABLE INSTALLATION**

**SUMMARY:**  
THIS SECTION SPECIFIES INSTALLATION OF ANTENNAS, RRU'S, AND CABLE EQUIPMENT, INSTALLATION, AND TESTING OF COAXIAL FIBER CABLE.

**ANTENNAS AND RRU'S:**  
THE NUMBER AND TYPE OF ANTENNAS AND RRU'S TO BE INSTALLED IS DETAILED ON THE CONSTRUCTION DRAWINGS.

**HYBRID CABLE:**  
HYBRID CABLE WILL BE DC/FIBER AND FURNISHED FOR INSTALLATION AT EACH SITE. CABLE SHALL BE INSTALLED PER THE CONSTRUCTION DRAWINGS AND THE APPLICABLE MANUFACTURER'S REQUIREMENTS.

**JUMPERS AND CONNECTORS:**  
FURNISH AND INSTALL 1/2" COAX JUMPER CABLES BETWEEN THE RRU'S AND ANTENNAS. JUMPERS SHALL BE TYPE LDF 4, FLC 12-50, CR 540, OR FXL 540. SUPER-FLEX CABLES ARE NOT ACCEPTABLE. JUMPERS BETWEEN THE RRU'S AND ANTENNAS OR TOWER TOP AMPLIFIERS SHALL CONSIST OF 1/2 INCH FOAM DIELECTRIC, OUTDOOR RATED COAXIAL CABLE. MIN LENGTH FOR JUMPER SHALL BE SO AS TO ALLOW FOR THE PROPER BEND RADIUS PER MANUFACTURER OR SPRINT SPECIFICATIONS.

**REMOTE ELECTRICAL TILT (RET) CABLES:**

**MISCELLANEOUS:**  
INSTALL SPLITTERS, COMBINERS, FILTERS PER RF DATA SHEET, FURNISHED BY SPRINT.

**ANTENNA INSTALLATION:**  
THE CONTRACTOR SHALL ASSEMBLE ALL ANTENNAS ONSITE IN ACCORDANCE WITH THE INSTRUCTIONS SUPPLIED BY THE MANUFACTURER. ANTENNA HEIGHT, AZIMUTH, AND FEED ORIENTATION INFORMATION SHALL BE AS DESIGNATED ON THE CONSTRUCTION DRAWINGS.

- A. THE CONTRACTOR SHALL POSITION THE ANTENNA ON TOWER PIPE MOUNTS SO THAT THE BOTTOM STRUT IS LEVEL. THE PIPE MOUNTS SHALL BE PLUMB TO WITHIN 1 DEGREE.
- B. ANTENNA MOUNTING REQUIREMENTS: PROVIDE ANTENNA MOUNTING HARDWARE AS INDICATED ON THE DRAWINGS.

**FIBER CABLE INSTALLATION:**

A. THE CONTRACTOR SHALL ROUTE, TEST, AND INSTALL ALL CABLES AS INDICATED ON THE CONSTRUCTION DRAWINGS AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

B. THE INSTALLED RADIUS OF THE CABLES SHALL NOT BE LESS THAN THE MANUFACTURER'S SPECIFICATIONS FOR BENDING RADI.

C. EXTREME CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE CABLES DURING HANDLING AND INSTALLATION.

**1. FASTENING MAIN FIBER CABLES:**

a. **LATTICE AND GUYED TOWERS:**  
ALL CABLES SHALL BE PERMANENTLY FASTENED TO THE COAX LADDER AT 4'-0" OC USING NON-MAGNETIC STAINLESS STEEL CLIPS.

b. **MONOPOLE:**  
ALL CABLES SHALL BE PERMANENTLY SUPPORTED WITH HOISTING GRIPS AT INTERVALS OF NO MORE THAN 200 FEET (ONE HOISTING GRIP PER COAX). A HOISTING GRIP SHOULD BE INSTALLED AT MID-POINT IF CABLE RUN EXCEEDS 200' AS WELL AS TOP SIDE.

2. FASTENING INDIVIDUAL FIBER AND DC CABLES ABOVE BREAKOUT ENCLOSURE (MEDUSA), WITHIN THE MMBTS CABINET AND ANY INTERMEDIATE DISTRIBUTION BOXES:

a. FIBER: SUPPORT FIBER BUNDLES USING 1/2" VELCRO STRAPS OF THE REQUIRED LENGTH @ 18" OC. STRAPS SHALL BE UV, OIL AND WATER RESISTANT AND SUITABLE FOR INDUSTRIAL INSTALLATIONS AS MANUFACTURED BY TEXTOL OR APPROVED EQUAL.

b. DC: SUPPORT DC BUNDLES WITH ZIP TIES OF THE ADEQUATE LENGTH. ZIP TIES TO BE UV STABILIZED, BLACK NYLON, WITH TENSILE STRENGTH AT 12,000 PSI AS MANUFACTURED BY NELCO PRODUCTS OR EQUAL.

3. FASTENING JUMPERS: FASTENING OR SECURING JUMPERS SHOULD CONSIST OF STAINLESS STEEL CLIPS, 18" FROM REAR OF CONNECTOR AND 24" THEREAFTER AND AT NO TIME SHALL THEY CONTACT TOWER OR STRUCTURAL STEEL.

**4. CABLE INSTALLATION:**

a. INSPECT CABLE PRIOR TO USE FOR SHIPPING DAMAGE, NOTIFY THE CONSTRUCTION MANAGER.

b. CABLE ROUTING: CABLE INSTALLATION SHALL BE PLANNED TO ENSURE THAT THE LINES WILL BE PROPERLY ROUTED IN THE CABLE ENVELOP AS INDICATED ON THE DRAWINGS. AVOID TWISTING AND CROSSOVERS.

c. HOIST CABLE USING PROPER HOISTING GRIPS. DO NOT EXCEED MANUFACTURES RECOMMENDED MAXIMUM BEND RADIUS.

5. GROUNDING OF TRANSMISSION LINES: ALL TRANSMISSION LINES SHALL BE GROUNDED AS INDICATED ON DRAWINGS.

6. HYBRID CABLE COLOR CODING: ALL COLOR CODING SHALL BE AS REQUIRED PER LATEST VERSION OF TS 0200.

7. HYBRID CABLE LABELING: INDIVIDUAL HYBRID AND DC BUNDLES SHALL BE LABELED ALPHA-NUMERICALLY ACCORDING TO SPRINT CELL SITE ENGINEERING NOTICE – EN 2012-001, REV 1.

**WEATHERPROOFING EXTERIOR CONNECTORS AND HYBRID CABLE GROUND KITS:**

A. ALL FIBER & COAX CONNECTORS AND GROUND KITS SHALL BE WEATHERPROOFED.

WEATHERPROOFED USING ONE OF THE FOLLOWING METHODS. ALL INSTALLATIONS MUST BE DONE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND INDUSTRY BEST PRACTICES.

- 1. COLD SHRINK: ENCOMPASS CONNECTOR IN COLD SHRINK TUBING AND PROVIDE A DOUBLE WRAP OF 2" ELECTRICAL TAPE EXTENDING 2" BEYOND TUBING. PROVIDE 3M COLD SHRINK CXS SERIES OR EQUAL.
- 2. SELF-AMALGAMATING TAPE: CLEAN SURFACES. APPLY A DOUBLE WRAP OF SELF-AMALGAMATING TAPE 2" BEYOND CONNECTOR. APPLY A SECOND WRAP OF SELF-AMALGAMATING TAPE IN OPPOSITE DIRECTION. APPLY DOUBLE WRAP OF 2" WIDE ELECTRICAL TAPE EXTENDING 2" BEYOND THE SELF-AMALGAMATING TAPE.
- 3. 3M SLIM LOCK CLOSURE 716: SUBSTITUTIONS WILL NOT BE ALLOWED.
- 4. **OPEN FLAME ON JOB SITE IS NOT ACCEPTABLE.**



6391 SPRINT PARKWAY  
OVERLAND, KS 66251



3 CORPORATE PARK DRIVE, SUITE 101  
CLIFTON PARK, NY 12065

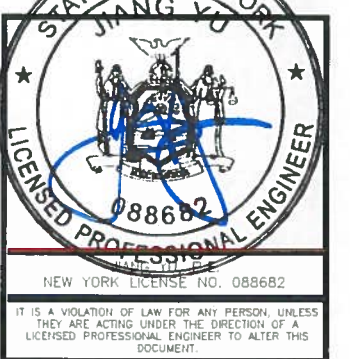
**TOMPKINS COMMUNITY COLLEGE**  
**AL90XC488\_A**

**CONSTRUCTION DRAWINGS**


D	09/14/18	ISSUED AS FINAL
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DRAWN BY: NRS

REVIEWED BY: BSH

CHECKED BY: GHN

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JOB NUMBER: 50102278

SITE ADDRESS:

20 FAR VIEW DRIVE  
DRYDEN, NY 13053

SHEET TITLE

SPRINT  
SPECIFICATIONS I

SHEET NUMBER

SP-1

**SECTION 11 800 - INSTALLATION OF MULTIMODAL BASE STATIONS (MMBTS) AND RELATED EQUIPMENT**

**SUMMARY:**

- A. THIS SECTION SPECIFIES MMBTS CABINETS, POWER CABINETS, AND INTERNAL EQUIPMENT INCLUDING BUT NOT LIMITED TO RECTIFIERS, POWER DISTRIBUTION UNITS, BASE BAND UNITS, SURGE ARRESTORS, BATTERIES, AND SIMILAR EQUIPMENT FURNISHED BY THE COMPANY FOR INSTALLATION BY THE CONTRACTOR (OFCI).
- B. CONTRACTOR SHALL PROVIDE AND INSTALL ALL MISCELLANEOUS MATERIALS AND PROVIDE ALL LABOR REQUIRED FOR INSTALLATION EQUIPMENT IN EXISTING CABINET OR NEW CABINET AS SHOWN ON DRAWINGS AND AS REQUIRED BY THE APPLICABLE INSTALLATION MOPS.
- C. COMPLY WITH MANUFACTURERS INSTALLATION AND START-UP REQUIREMENTS

**DC CIRCUIT BREAKER LABELING**

- A. NEW DC CIRCUIT IS REQUIRED IN MMBTS CABINET SHALL BE CLEARLY IDENTIFIED AS TO RRU BEING SERVICED.

**SECTION 26 100 - BASIC ELECTRICAL REQUIREMENTS**

**SUMMARY:**

THIS SECTION SPECIFIES BASIC ELECTRICAL REQUIREMENTS FOR SYSTEMS AND COMPONENTS.

**QUALITY ASSURANCE:**

- A. ALL EQUIPMENT FURNISHED UNDER DIVISION 26 SHALL CARRY UL LABELS AND LISTINGS WHERE SUCH LABELS AND LISTINGS ARE AVAILABLE IN THE INDUSTRY.
- B. MANUFACTURERS OF EQUIPMENT SHALL HAVE A MINIMUM OF THREE YEARS EXPERIENCE WITH THEIR EQUIPMENT INSTALLED AND OPERATING IN THE FIELD IN A USE SIMILAR TO THE PROPOSED USE FOR THIS PROJECT.
- C. MANUFACTURERS OF EQUIPMENT: ALL MATERIALS AND EQUIPMENT SPECIFIED IN DIVISION 26 OF THE SAME TYPE SHALL BE OF THE SAME MANUFACTURER AND SHALL BE NEW, OF THE BEST QUALITY AND DESIGN, AND FREE FROM DEFECTS.

**SUPPORTING DEVICES:**

- A. ALL EQUIPMENT FURNISHED UNDER DIVISION 26 SHALL CARRY UL LABELS AND LISTINGS WHERE SUCH LABELS AND LISTINGS ARE AVAILABLE IN THE INDUSTRY.
- B. MANUFACTURERS OF EQUIPMENT SHALL HAVE A MINIMUM OF THREE YEARS EXPERIENCE WITH THEIR EQUIPMENT INSTALLED AND OPERATING IN THE FIELD IN A USE SIMILAR TO THE PROPOSED USE FOR THIS PROJECT.
- C. MANUFACTURERS OF EQUIPMENT: ALL MATERIALS AND EQUIPMENT SPECIFIED IN DIVISION 26 OF THE SAME TYPE SHALL BE OF THE SAME MANUFACTURER AND SHALL BE NEW, OF THE BEST QUALITY AND DESIGN, AND FREE FROM DEFECTS.

**SUPPORTING DEVICES:**

- A. MANUFACTURED STRUCTURAL SUPPORT MATERIALS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCTS BY THE FOLLOWING:
  - 1. ALLIED TUBE AND CONDUIT
  - 2. B-LINE SYSTEM
  - 3. UNISTRUT DIVERSIFIED PRODUCTS
  - 4. THOMAS & BETTS
- B. FASTENERS: TYPES, MATERIALS, AND CONSTRUCTION FEATURES AS FOLLOWS:
  - 1. EXPANSION ANCHORS: CARBON STEEL WEDGE OR SLEEVE TYPE.
  - 2. POWER-DRIVEN THREADED STUDS: HEAT-TREATED STEEL, DESIGNED SPECIFICALLY FOR THE INTENDED SERVICE.
  - 3. FASTEN BY MEANS OF WOOD SCREWS ON WOOD.
  - 4. TOGGLE BOLTS ON HOLLOW MASONRY UNITS.
  - 5. CONCRETE INSERTS OR EXPANSION BOLTS ON CONCRETE OR SOLID MASONRY.
  - 6. MACHINE SCREWS, WELDED THREADED STUDS, OR SPRING-TENSION CLAMPS ON STEEL.
  - 7. EXPLOSIVE DEVICES FOR ATTACHING HANGERS TO STRUCTURE SHALL NOT BE PERMITTED.
  - 8. DO NOT WELD CONDUIT, PIPE STRAPS, OR ITEMS OTHER THAN THREADED STUDS TO STEEL STRUCTURES.
  - 9. IN PARTITIONS OF LIGHT STEEL CONSTRUCTION, USE SHEET METAL SCREWS.

**SUPPORTING DEVICES:**

- A. INSTALL SUPPORTING DEVICES TO FASTEN ELECTRICAL COMPONENTS SECURELY AND PERMANENTLY IN ACCORDANCE WITH NEC.
- B. COORDINATE WITH THE BUILDING STRUCTURAL SYSTEM AND WITH OTHER TRADES.
- C. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, FASTEN ELECTRICAL ITEMS AND THEIR SUPPORTING HARDWARE SECURELY TO THE STRUCTURE IN ACCORDANCE WITH THE FOLLOWING:
  - 1. ENSURE THAT THE LOAD APPLIED BY ANY FASTENER DOES NOT EXCEED 25 PERCENT OF THE PROOF TEST LOAD.
  - 2. USE VIBRATION AND SHOCK-RESISTANT FASTENERS FOR ATTACHMENTS TO CONCRETE SLABS

**ELECTRICAL IDENTIFICATION:**

- A. UPDATE AND PROVIDE TYPED CIRCUIT BREAKER SCHEDULES IN THE MOUNTING BRACKET, INSIDE DOORS OF AC PANEL BOARDS WITH ANY CHANGES MADE TO THE AC SYSTEM.
- B. BRANCH CIRCUITS FEEDING AVIATION OBSTRUCTION LIGHTING EQUIPMENT SHALL BE CLEARLY IDENTIFIED AS SUCH AT THE BRANCH CIRCUIT PANELLOAD.

**SECTION 26 200 - ELECTRICAL MATERIALS AND EQUIPMENT CONDUIT:**

- A. RIGID GALVANIZED STEEL (RGS) CONDUIT SHALL BE USED FOR EXTERIOR LOCATIONS ABOVE GROUND AND IN UNFINISHED INTERIOR LOCATIONS AND FOR ENCASED RUNS IN CONCRETE. RIGID CONDUIT AND FITTINGS SHALL BE STEEL, COATED WITH ZINC EXTERIOR AND INTERIOR BY THE HOT DIP GALVANIZING PROCESS. CONDUIT SHALL BE PRODUCED TO ANSI SPECIFICATIONS C80.1, FEDERAL SPECIFICATION WW-C-581 AND SHALL BE LISTED WITH THE UNDERWRITERS' LABORATORIES. FITTINGS SHALL BE THREADED - SET SCREW OR COMPRESSION FITTINGS WILL NOT BE ACCEPTABLE. RGS CONDUITS SHALL BE MANUFACTURED BY ALLIED, REPUBLIC OR WHEATLAND.
- B. UNDERGROUND CONDUIT IN CONCRETE SHALL BE POLYVINYLCHLORIDE (PVC) SUITABLE FOR DIRECT BURIAL AS APPLICABLE. JOINTS SHALL BE BELLED, AND FLUSH SOLVENT WELDED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. CONDUIT SHALL BE CARLON ELECTRICAL PRODUCTS OR APPROVED EQUAL.
- C. TRANSITIONS BETWEEN PVC AND RIGID (RGS) SHALL BE MADE WITH PVC COATED METALLIC LONG SWEEP RADIUS ELBOWS.
- D. EMT OR RIGID GALVANIZED STEEL CONDUIT MAY BE USED IN FINISHED SPACES CONCEALED IN WALLS AND CEILING. EMT SHALL BE MILD STEEL, ELECTRICALLY WELDED, ELECTRO-GALVANIZED OR HOT-DIPPED GALVANIZED AND PRODUCED TO ANSI SPECIFICATION C80.3, FEDERAL SPECIFICATION WW-C-583, AND SHALL BE UL LISTED. EMT SHALL BE MANUFACTURED BY ALLIED, REPUBLIC OR WHEATLAND, OR APPROVED EQUAL. FITTINGS SHALL BE METALLIC COMPRESSION. SET SCREW CONNECTIONS SHALL NOT BE ACCEPTABLE.
- E. LIQUID TIGHT FLEXIBLE METALLIC CONDUIT SHALL BE USED FOR FINAL CONNECTION TO EQUIPMENT. FITTINGS SHALL BE METALLIC GLAND TYPE COMPRESSION FITTINGS, MAINTAINING THE INTEGRITY OF CONDUIT SYSTEM. SET SCREW CONNECTIONS SHALL NOT BE ACCEPTABLE. MAXIMUM LENGTH ON FLEXIBLE CONDUIT SHALL NOT EXCEED 6- FEET. LFMC SHALL BE PROTECTED AND SUPPORTED AS REQUIRE BY NEC. MANUFACTURERS OF FLEXIBLE CONDUITS SHALL BE CAROL, ANACONDA METAL HOSE OR UNIVERSAL METAL HOSE, OR APPROVED EQUAL.
- F. MINIMUM SIZE CONDUIT SHALL BE 3/4 INCH (21MM).

**HUBS AND BOXES:**

- A. AT ENTRANCES TO CABINETS OR OTHER EQUIPMENT NOT HAVING INTEGRAL THREADED HUBS PROVIDE METALLIC THREADED HUBS OF THE SIZE AND CONFIGURATION REQUIRED. HUB SHALL INCLUDE LOCKNUT AND NEOPRENE O-RING SEAL. PROVIDE IMPACT RESISTANT 105 DEGREE C PLASTIC BUSHINGS TO PROTECT CABLE INSULATION.

**CABLE TERMINATION FITTINGS FOR CONDUIT**

- A. CABLE TERMINATIONS FOR RGS CONDUITS SHALL BE TYPE CRC BY O-Z/GEDNEY OR EQUAL BY ROX TEC.
- B. CABLE TERMINATORS FOR LFMC SHALL BE ETCO - CL2075; OR MADE FOR THE PURPOSE PRODUCTS BY ROXTEC.
- C. EXTERIOR PULL BOXES AND PULL BOXES IN INTERIOR INDUSTRIAL AREAS SHALL BE PLATED CAST ALLOY, HEAVY DUTY, WEATHERPROOF, DUST PROOF, WITH GASKET, PLATED IRON ALLOY COVER AND STAINLESS STEEL COVER SCREWS, CROUSE-HINDS WAB SERIES OR EQUAL.
- D. CONDUIT OUTLET BODIES SHALL BE PLATED CAST ALLOY WITH SIMILAR GASKETED COVERS. OUTLET BODIES SHALL BE OF THE CONFIGURATION AND SIZE SUITABLE FOR THE APPLICATION. PROVIDE CROUSE-HINDS FORM B OR EQUAL.
- E. MANUFACTURER FOR BOXES AND COVERS SHALL BE HOFFMAN, SQUARE "D", CROUSE-HINDS, COPPER, ADALET, APPELTON, O-Z GEDNEY, RACO, OR APPROVED EQUAL.

**SUPPLEMENTAL GROUNDING SYSTEM**

- A. FURNISH AND INSTALL A SUPPLEMENTAL GROUNDING SYSTEM TO THE EXTENT INDICATED ON THE DRAWINGS. SUPPORT SYSTEM WITH NON-MAGNETIC STAINLESS STEEL CLIPS WITH RUBBER GROMMETS. GROUNDING CONNECTORS SHALL BE TINNED COPPER WIRE, SIZES AS INDICATED ON THE DRAWINGS. PROVIDE STRANDED OR SOLID BARE OR INSULATED CONDUCTORS EXCEPTED AS OTHERWISE NOTED.
- B. SUPPLEMENTAL GROUNDING SYSTEM: ALL CONNECTIONS TO BE MADE WITH CAD WELDS, EXCEPT AT EQUIPMENT USE LUGS OR OTHER AVAILABLE GROUNDING MEANS AS REQUIRED BY MANUFACTURER. AT GROUND BARS USE TWO HOLE SPADES WITH NO OX.
- C. STOLEN GROUND-BARS: IN THE EVENT OF STOLEN GROUND BARS, CONTACT SPRINT CM FOR REPLACEMENT INSTRUCTION USING THREADED ROD KITS.

**EXISTING STRUCTURE:**

- A. EXISTING EXPOSED WIRING AND ALL EXPOSED OUTLETS, RECEPTACLES, SWITCHES, DEVICES, BOXES, AND OTHER EQUIPMENT THAT ARE NOT TO BE UTILIZED IN THE COMPLETED PROJECT SHALL BE REMOVED OR DE-ENERGIZED AND CAPPED IN THE WALL, CEILING, OR FLOOR SO THAT THEY ARE CONCEALED AND SAFE. WALL, CEILING, OR FLOOR SHALL BE PATCHED TO MATCH THE ADJACENT CONSTRUCTION.

**CONDUIT AND CONDUCTOR INSTALLATION:**

- A. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON-PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER, PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.
- B. CONDUCTORS SHALL BE PULLED IN ACCORDANCE WITH ACCEPTED GOOD PRACTICE.

**GENERAL NOTES:**

- A. CONTRACTOR, SUBCONTRACTORS AND ANY SITE SPECIFIC PART/ PRODUCT/ CONCEALMENT MANUFACTURER TO FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO MANUFACTURING, FABRICATION OR CONSTRUCTION.
- B. THE APPLICANT, OR HIS REPRESENTATIVE, IS TO DESIGNATE AN INDIVIDUAL RESPONSIBLE FOR CONSTRUCTION SITE SAFETY DURING THE COURSE OF SITE IMPROVEMENTS PURSUANT TO N.J.A.C. 5:23-2.21 (E) OF THE N.J. UNIFORM CONSTRUCTION CODE AND CRT 1926.32 (F, OSHA COMPETENT PERSON).

**SPRINT CONSTRUCTION SPECIFICATIONS MINI-MACRO CELL SITES:**

**1. BASIC REQUIREMENTS**

- A. MEET ALL REQUIREMENTS OF JURISDICTIONS.
- B. IF EQUIPMENT FURNISHED BY COMPANY DOES NOT MATCH EQUIPMENT LISTED ON THE RFDS AND SHOWN ON THE PERMITTING DRAWINGS, RESOLVE DISCREPANCY THROUGH INSTALLER'S CONSTRUCTION MANAGER AND COMPANY'S POINT OF CONTACT.
- C. CABLE INSTALLATIONS
  - a. ALL CABLES MUST BE OUTDOOR RATED AND HAVE UV RESISTANCE OUTER JACKET.
  - b. CABLE BENDS MUST NOT EXCEED MANUFACTURER'S ALLOWABLE CABLE BEND RADIUS.
  - c. AT RADIOS INSTALL SERVICE LOOPS FOR POWER, FIBER AND ETHERNET SECURED AT LEAST TWICE AT 180 TO THE STRUCTURE.
  - d. SPARE FIBERS MUST BE ENCASED IN A LOW PROFILE WEATHERTIGHT ASSEMBLY.
- D. FIBERS MUST BE FIELD-TERMINATED WITH LC-TYPE CONNECTORS.
- E. CONDUITS IN EARTH: PROVIDE PVC CONDUITS EXPOSED AND IN FACILITIES: PROVIDE RGS. HAND DIG TRENCHES IN COMPOUNDS.
- F. SECURE AND SUPPORT CONDUITS AND CABLES ON NO MORE THAT 48" INTERVALS.
- G. ON TOWER SITES RGS CONDUITS MAY BE SURFACE MOUNTED AWAY FROM WALKWAYS AND ACCESS/EGRESS PATHS. IF INSTALLATIONS IN WALKWAYS AND ACCESS/EGRESS PATHS CANNOT BE AVOIDED, IDENTIFY THE CONDUIT ENVELOPE/TRIP HAZARD BY ALTERNATING YELLOW AND BLACK STRIPES PAINTED ON CONCRETE AND CONDUIT.

**2. SPRINT FURNISHED EQUIPMENT**

- A. INSTALL THE FOLLOWING EQUIPMENT AT LOCATIONS AND AZIMUTHS SHOWN ON THE CONSTRUCTION DRAWINGS.
  - a. PANEL ANTENNAS.
  - b. RADIOS.
  - c. GPS ANTENNAS.
  - d. FILTERS
  - e. 120 VOLT DIN-RAIL CIRCUIT BREAKER ASSEMBLY.

**3. TOWER INSTALLATION**

- A. MEET ALL REQUIREMENTS OF THE TOWER OWNER.
- B. INSTALL CORRUGATED FLEXIBLE CONDUIT UP THE TOWER TO COMPANY RAD CENTER.
- C. PROVIDE HANGING GRIPS OR CONDUIT CLAMPS AND ENSURE CONDUITS AS WELL AS INNER CABLES ARE SUPPORTED.
- D. CONDUIT RISERS: AT TOP OF TOWER TURN CONDUIT DOWN AND PROVIDE CABLE TERMINATION FITTINGS. EXTEND CABLES TO RADIOS EXPOSED AND SECURED TO STRUCTURE. AT CONDUIT EXIT FROM TOWER, PROVIDE DRIP LOOPS AND WEEP HOLES.
- E. AT CABLE BRIDGE RUN CABLES IN RGS CONDUIT. UTILIZE CONDUITS TO MAKE COMPACT 90 DEGREE TURN.

**4. AC POWER TIE-IN**

- A. INSTALL SPRINT'S 120 VOLT DIN-RAIL CIRCUIT BREAKER ASSEMBLY IN THE EXISTING POWER PROTECTION CABINET TELCO SECTION.
- B. INSTALL A 20 AMPERE MOLDED CASE CIRCUIT BREAKER IN AVAILABLE SPACE IN THE ADJACENT PPC POWER SECTION LOAD CENTER.

**5. GROUNDING**

- A. 120 VOLT CIRCUITS: POWER CABLES MUST BE 3-WIRE WITH EQUIPMENT GROUNDING CONDUCTOR.
- B. SUPPLEMENTAL GROUNDING: ALL GROUNDING HARDWARE MUST BE UL STAMPED AS SUITABLE FOR GROUNDING HARDWARE.
- C. RADIOS: BOND RADIO TO THE POWER TOP OR SECTOR GROUND BAR WITH #8 BARE TINNED COPPER WIRE (GREEN INSULATED ON ROOFTOP).
- D. DIN-RAIL CIRCUIT BREAKER ASSEMBLY: BOND SURGE ARRESTOR TO PPC TELCO BOARD GROUND BAR.

**6. MINOR MATERIALS**

- A. CONDUIT
  - a. RIGID GALVANIZED STEEL CONDUIT (RGS): UL LISTED, COMPLIANT WITH ANSI STANDARD C80, HOT-DIP GALVANIZED WITH THREADED FITTING. MANUFACTURERS: ALLIED, REPUBLIC, WHEATLAND, OR EQUAL.
  - b. CORRUGATED FLEXIBLE CONDUIT: DURALINE OR EQUAL.
  - c. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LFMC): UL LABELED, UV RESISTANT, FLAME RETARDANT PVC JACKET, HOT-DIP GALVANIZED, GRAY. MANUFACTURER'S: AFC, ANACONDA, SOUTHWIRE OR EQUAL.
  - d. PVC CONDUIT: SCHEDULE 4- CARLON OR EQUAL.
- B. COAXIAL CABLE JUMPERS: 1/2" LDF-4 MANUFACTURERS: COMMSCOPE, RFS OR FCT.
- C. FASTENERS AND HARDWARE
  - a. TO SECURE RACEWAYS, UTILIZE NON CORRODING NON-MAGNETIC METALLIC FASTENERS AND HARDWARE SUITABLE FOR THE PURPOSE.
- D. POWER CABLES-3/C #12 SODW BY SOUTHWIRE OR EQUAL.
- E. ETHERNET CABLES AND CONNECTOR: OUTDOOR RATED, CAT 5E, BELOW OR EQUAL.
- F. FIBER CABLES: CORNING "FREEDOM FAN OUT" OUTDOOR RISER CABLE, 4F, SINGLE MODE, OR EQUAL.
- G. RF TRANSPARENT PAINT FOR ANTENNA CONCEALMENT: SELECT NO/LOW CARBON PAINTS, WITH NO/LOW TITANIUM DIOXIDE, AND WITHOUT SUSPENDED METAL PARTICLES (ALUMINUM, ZINC, COPPER, ETC.)

**7. COLOR CODING**

- A. COLOR CODE CABLES AND CONDUITS AS REQUIRED BY SPRINT STANDARD TS-0200.
- B. TESTING AND CONSTRUCTION COMPLETE
  - A. SWEEP ALL COAXIAL CABLES ACCORDING TO SPRINT STANDARD TS-0200.
  - B. PANEL ANTENNA ALIGNMENT-USING ELECTRONIC ALIGNMENT TOOL. AZIMUTH/DOWNTILT ± 1 DEGREE.
  - C. LEAVE EQUIPMENT DE-ENERGIZED UNTIL INSTRUCTED BY THE COMMISSIONING AND INTEGRATION TEAM TO ENERGIZE.
  - D. OTHER REQUIREMENTS AND DELIVERABLES MAY BE REQUIRED BEFORE THE CONSTRUCTION COMPLETE MILESTONE CAN BE ACTUALIZED IN SITERRA (SPRINT'S DATABASE-OF-RECORD).



6391 SPRINT PARKWAY  
OVERLAND, KS 66251



3 CORPORATE PARK DRIVE, SUITE 101  
CLIFTON PARK, NY 12065

**TOMPKINS COMMUNITY COLLEGE**  
**AL90XC488\_A**

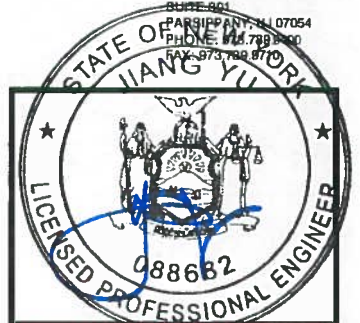
**CONSTRUCTION DRAWINGS**

D	09/14/18	ISSUED AS FINAL
C	09/12/18	REVISED PER COMMENTS
B	08/27/18	REVISED PER COMMENTS
A	04/23/18	ISSUED FOR REVIEW



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NEW YORK LICENSE NO. 088682

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DRAWN BY:	NRS
REVIEWED BY:	BSH
CHECKED BY:	GHN
PROJECT NUMBER:	50102274
JOB NUMBER:	50102278
SITE ADDRESS:	

20 FAR VIEW DRIVE  
DRYDEN, NY 13053

SHEET TITLE

SPRINT SPECIFICATIONS II

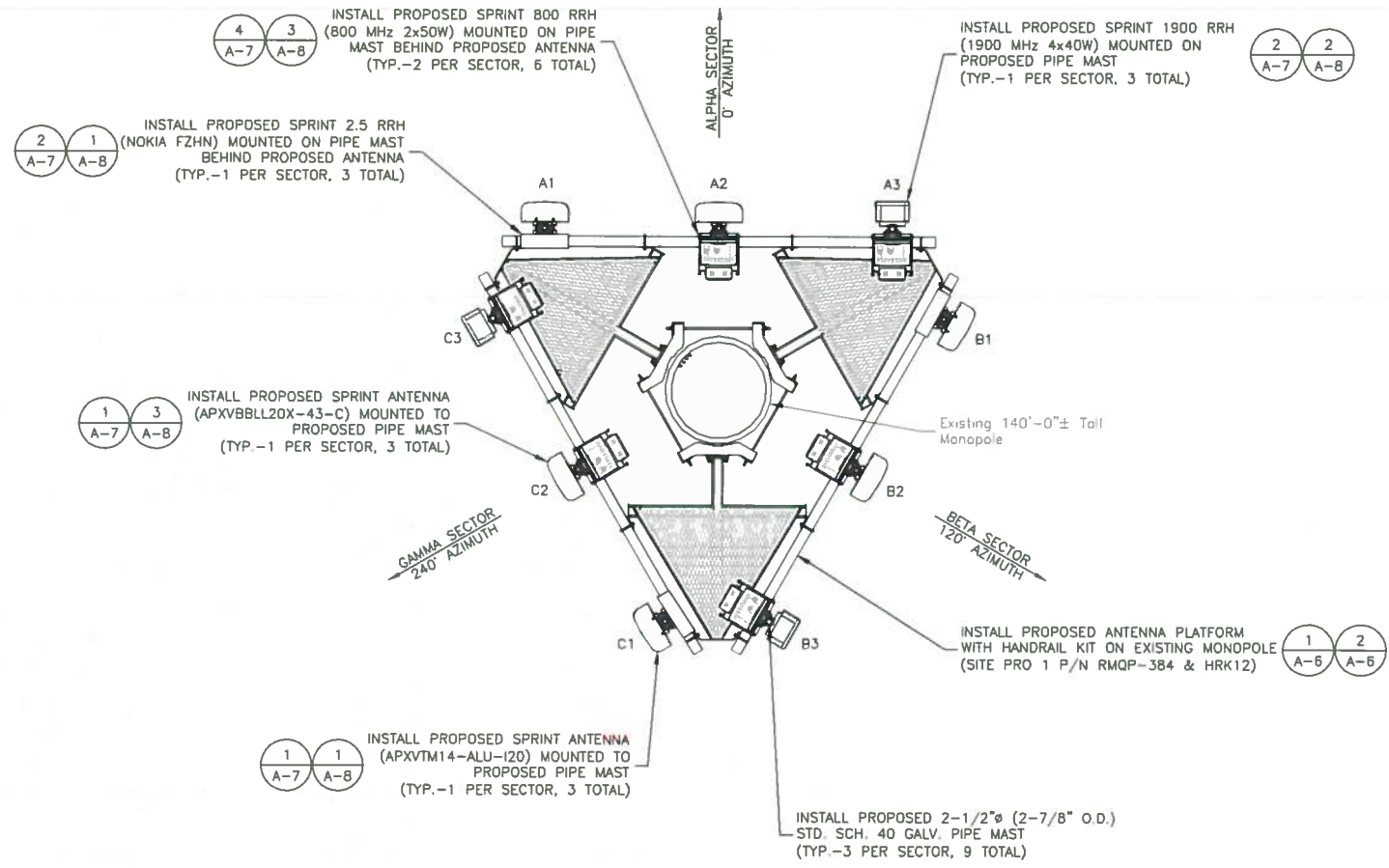
SHEET NUMBER

SP-2









**PROPOSED ANTENNA PLAN** 1  
SCALE: N.T.S.

PROPOSED ANTENNA SCHEDULE							
ANTENNA POSITION	ANTENNA MODEL	TECHNOLOGY	AZIMUTH	RAD CENTER	RRH MODEL	HYBRID CABLE MODEL	
ALPHA	A1	(P) APXVTM14-ALU-I20	2.5 GHz	0°	126'-0"	(1) 2.5 RRH	(1) HB158-21U6S12
	A2	(P) APXVBLL20X_43-C-I20	800/1900MHz	0°	126'-0"	(2) 800 RRH + (1) 1900 RRH	
	A3	-	-	-	-	-	
BETA	B1	(P) APXVTM14-ALU-I20	2.5 GHz	120°	126'-0"	(1) 2.5 RRH	(1) HB158-21U6S12
	B2	(P) APXVBLL20X_43-C-I20	800/1900MHz	120°	126'-0"	(2) 800 RRH + (1) 1900 RRH	
	B3	-	-	-	-	-	
GAMMA	C1	(P) APXVTM14-ALU-I20	2.5 GHz	240°	126'-0"	(1) 2.5 RRH	(1) HB158-21U6S12
	C2	(P) APXVBLL20X_43-C-I20	800/1900MHz	240°	126'-0"	(2) 800 RRH + (1) 1900 RRH	
	C3	-	-	-	-	-	

**PROPOSED ANTENNA SCHEDULE** 2  
SCALE: N.T.S.

**Sprint**  
6391 SPRINT PARKWAY  
OVERLAND, KS 66251

**CROWN CASTLE**  
3 CORPORATE PARK DRIVE, SUITE 101  
CLIFTON PARK, NY 12065

**TOMPKINS COMMUNITY COLLEGE**  
**AL90XC488\_A**

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C 09/12/18	REVISED PER COMMENTS
B 09/27/18	REVISED PER COMMENTS
A 04/23/18	ISSUED FOR REVIEW

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DRAWN BY: NRS  
REVIEWED BY: BSH  
CHECKED BY: GHN  
PROJECT NUMBER: 50102274  
JOB NUMBER: 50102278  
SITE ADDRESS:

20 FAR VIEW DRIVE  
DRYDEN, NY 13053

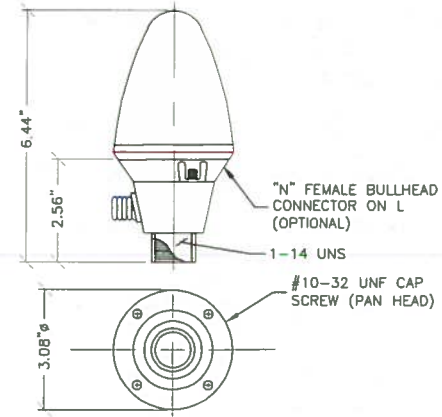
SHEET TITLE

PROPOSED ANTENNA PLAN & ANTENNA SCHEDULE

SHEET NUMBER

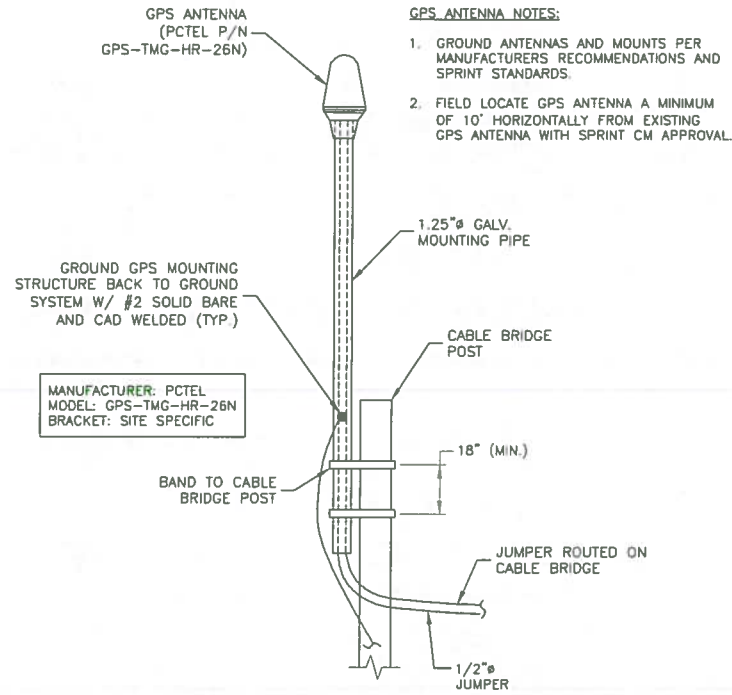






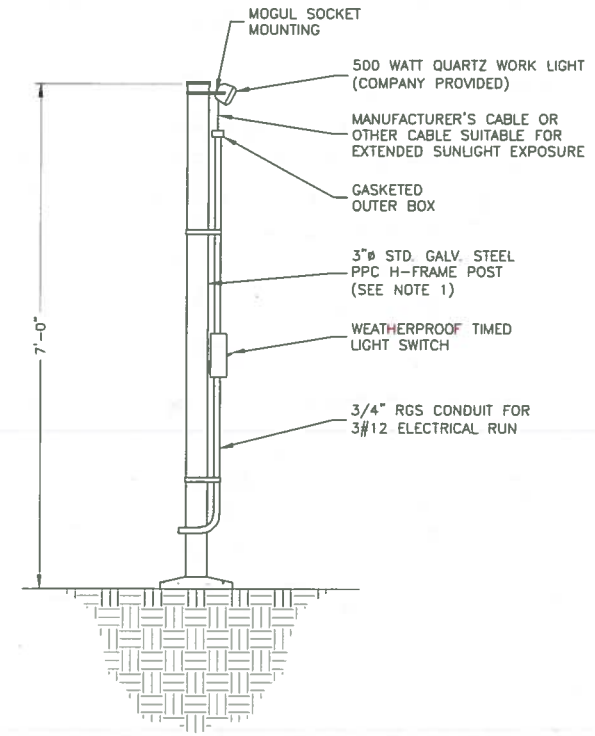
**NOTE:**  
1. PROVIDE 1/2" COAX CABLE FOR CONNECTION

**GPS ANTENNA DETAIL** 1  
SCALE: N.T.S.



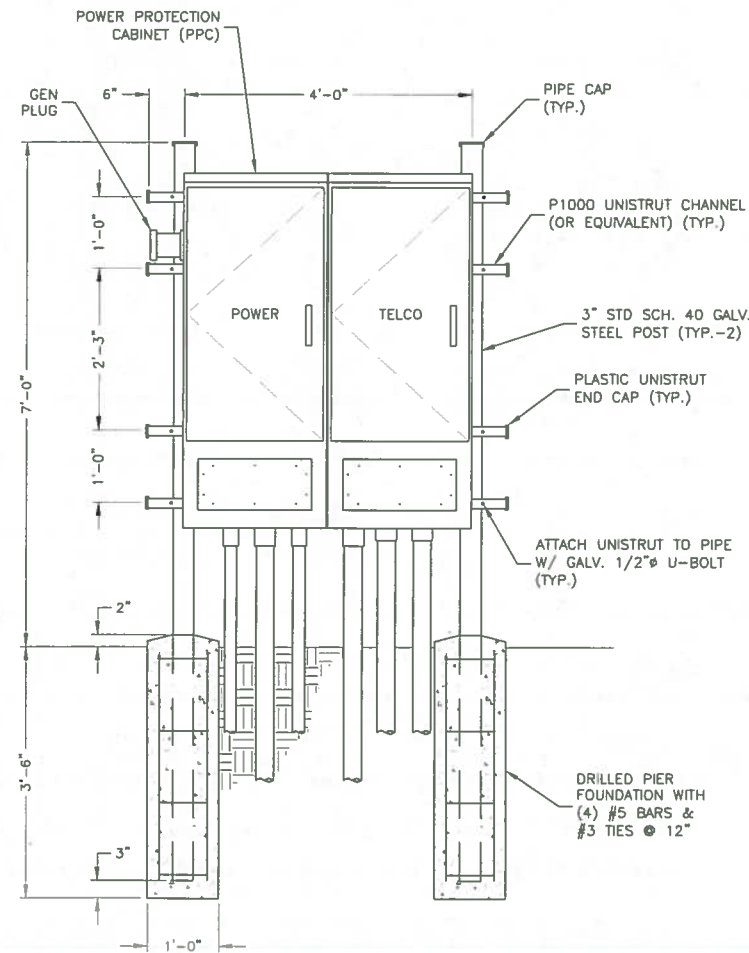
**GPS ANTENNA NOTES:**  
1. GROUND ANTENNAS AND MOUNTS PER MANUFACTURERS RECOMMENDATIONS AND SPRINT STANDARDS.  
2. FIELD LOCATE GPS ANTENNA A MINIMUM OF 10' HORIZONTALLY FROM EXISTING GPS ANTENNA WITH SPRINT CM APPROVAL.

**GPS ANTENNA MOUNT** 2  
SCALE: N.T.S.



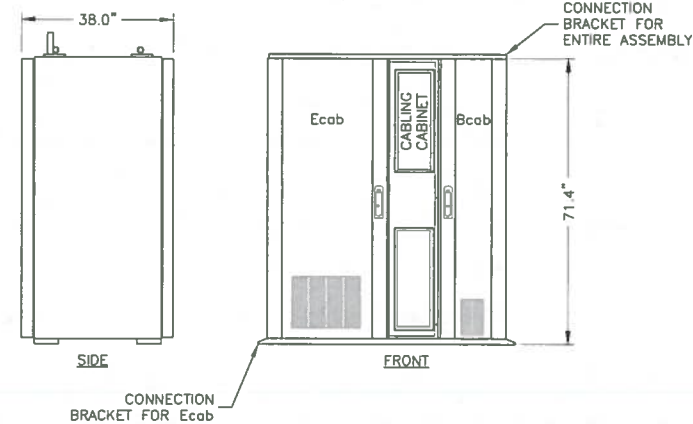
**NOTE:**  
1. INSTALL WORK LIGHT ON PPC H-FRAME POST. SEE DETAIL 4 ON THIS SHEET.

**WORK LIGHT DETAIL** 3  
SCALE: N.T.S.



**PPC H-FRAME MOUNTING DETAIL** 4  
SCALE: N.T.S.

<b>ELTEK Ecab CABINET</b>
CABINET DIMENSIONS: 30"W x 38"D x 73.5"H
WEIGHT: 505 LBS
<b>CABLING CABINET</b>
CABINET DIMENSIONS: 12.1"W x 28.1"D x 71.4"H
WEIGHT: 150 LBS
<b>ELTEK Bcab CABINET</b>
CABINET DIMENSIONS: 16.5"W x 34.8"D x 73.5"H
WEIGHT: 330 LBS



**ELTEK MONOPOLE CABINET DETAIL (ASSEMBLED)** 5  
SCALE: N.T.S.



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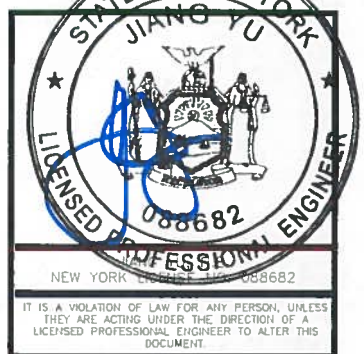
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SHEET TITLE

CONSTRUCTION  
DETAILS II

SHEET NUMBER

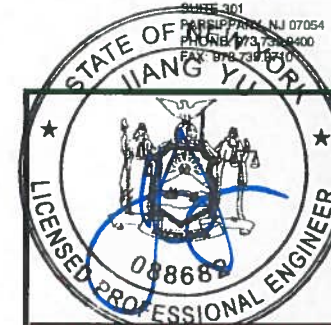
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DRYDEN, NY 13053

SHEET TITLE

CONSTRUCTION  
DETAILS III

SHEET NUMBER

ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	LN. WT.	NET WT.
1	3	V-1W5M	REG. RAILKIT W/DRIVE KIT	10.91	220.42	
2	9	Q20R-24	5/8" x 2-1/2" THREADED ROD (REG.)	0.43	3.50	
3	9	G20R-48	3/8" x 48" THREADED ROD (REG.)	0.40	3.59	
3	3	X-2V136	LOW PROFILE PLATFORM CORNER	12.10	0.36	11
4	12	A503-24	5/8" x 2-3/4" HEX A125 HEX NUT	2.25	0.36	4.27
5	12	A50F-W	5/8" HEX A125 FLATWASHER		0.61	6.41
6	30	C24LW	1/2" HDG US6 FLATWASHER		0.03	0.78
7	30	A50A-NIT	5/8" HDG A125 HEX NUT		0.12	1.98
8	3	P2150	3 1/2" x 1.50" SCH 40 GALVANIZED PIPE	150.000	41.80	294.40
8	30	X-UH1306	1 1/2" x 3-5/8" x 6" x 3" U-BOLT (REG.)		0.26	7.71
10	36	C12LW	1/2" HDG US6 FLATWASHER		0.03	3.27
11	36	C12LW	1/2" HDG US6 FLATWASHER		0.01	1.33
12	36	C12H-NIT	1/2" HDG HEAVY ZN118 NUT		0.07	6.88
13	9	X-S2119	SMALL SUPPORT CROSS-PLATE	8.250	0.61	7.50
14	18	X-UH1212	1 1/2" x 2 1/2" x 4 1/2" x 2" U-BOLT (REG.)		0.76	4.63
15	9	B	ANTENNA MOUNTING PIPE	C	D	E

ASSEMBLY NO.	PART NO.	LN.	WT.	NET WEIGHT	TOTAL WEIGHT
RMQP-3XX	P2150	3	141.60	125.40	125.40
RMQP-3XX	P2150	3	28.80	25.20	25.20
RMQP-3XX	P2150	3	26.40	23.16	23.16
RMQP-3XX	P2150	3	36.00	31.20	31.20
RMQP-3XX	P2150	3	40.80	36.72	36.72

**TOLERANCE NOTE**  
TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:  
BARRED, SHEARED AND GAS CUT EDGES (± 0.030")  
DRILLED AND GAS CUT HOLES (± 0.005") NO CORING OF HOLES  
LASER CUT EDGES AND HOLES (± 0.010") NO CORING OF HOLES  
BENT ARE ± 1/2 DEGREE - ALL OTHER MACHINING (± 0.030")  
ALL OTHER ASSEMBLY (± 0.005")

**PROPRIETARY NOTE**  
THIS DRAWING AND ALL INFORMATION HEREON IS THE PROPERTY OF THE COMPANY AND IS TO BE KEPT CONFIDENTIAL AND NOT TO BE REPRODUCED OR DISCLOSED TO ANY OTHER PARTY WITHOUT THE WRITTEN PERMISSION OF THE COMPANY.

DESIGNED BY: CEK 1/18/2012  
CHECKED BY: UMC 1/23/2012  
DRAWN BY: KCB 5/30/2012  
ENGR. APPROVAL: LMC 7/13/2014

DESCRIPTION: LOW PROFILE CL-LOCATION PLATFORM FOR ANTENNAS WITH 12" FACE WIDTH FOR 12" 38" DIAMETER POLES

SEE ASSEMBLY NO. "A"  
RMQP-3XX

**ANTENNA PLATFORM DETAIL**

SCALE: N.T.S.

1

ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	LN. WT.	NET WT.
1	1	P2150	3 1/2" x 1.50" SCH 40 GALVANIZED PIPE	50	15.00	15.00
3	3	X-4RCP	ANGLE HANDRAIL CORNER PLATE	12.50	0.60	38.76
3	12	S-8L1	CROSSHATCH PLATE 2 1/2" x 2 1/2"	0.60	2.70	44.36
4	60	X-UH1212	1 1/2" x 2 1/2" x 4 1/2" x 2" U-BOLT (REG.)		0.60	37.51
5	120	C12LW	1/2" HDG US6 FLATWASHER	3/32	0.03	4.09
6	120	C12LW	1/2" HDG US6 FLATWASHER	1/8	0.01	1.37
7	120	V-12H-NIT	1/2" HDG HEAVY ZN118 NUT		0.07	8.10
						TOTAL WT = 212.41

**TOLERANCE NOTES**  
TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:  
BARRED, SHEARED AND GAS CUT EDGES (± 0.030")  
DRILLED AND GAS CUT HOLES (± 0.005") NO CORING OF HOLES  
LASER CUT EDGES AND HOLES (± 0.010") NO CORING OF HOLES  
BENT ARE ± 1/2 DEGREE  
ALL OTHER MACHINING (± 0.030")  
ALL OTHER ASSEMBLY (± 0.005")

DESCRIPTION: HANDRAIL KIT FOR 12" FACE

DESIGNED BY: KCB 5/30/2012  
ENGR. APPROVAL: LMC 7/13/2014

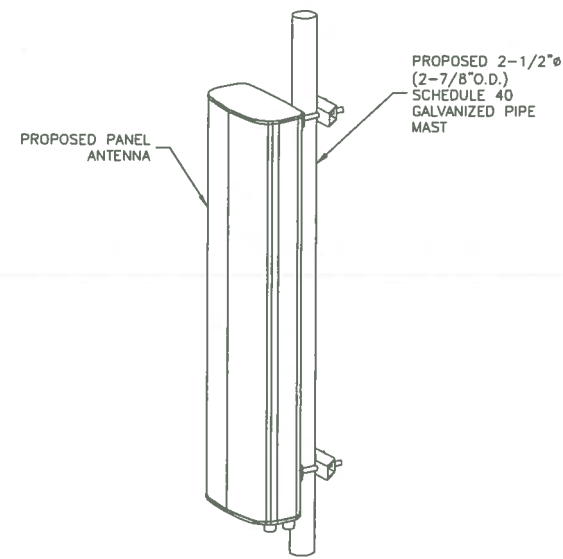
DESCRIPTION: HANDRAIL KIT FOR 12" FACE

SEE ASSEMBLY NO. "A"  
HRK12

**HANDRAIL KIT DETAIL**

SCALE: N.T.S.

2



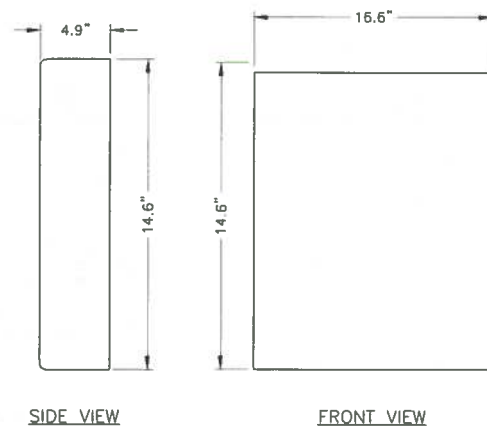
ANTENNA SPECIFICATIONS	
MANUFACTURER	RFS
MODEL NUMBER	APXVM14-ALU-120
DIMENSIONS (HxWxD)	56.3"x12.6"x6.3"
WEIGHT	56.2 LBS

ANTENNA SPECIFICATIONS	
MANUFACTURER	RFS
MODEL NUMBER	APXVBLL15X-43-C-120
DIMENSIONS (HxWxD)	82.6"x19.6"x8.5"
WEIGHT	85.3 LBS

- NOTES:**
1. MOUNT ANTENNA PER MANUFACTURER'S RECOMMENDATIONS.
  2. WEIGHT DOES NOT INCLUDE MOUNTING BRACKETS.

**ANTENNA DETAIL**  
SCALE: N.T.S.

1



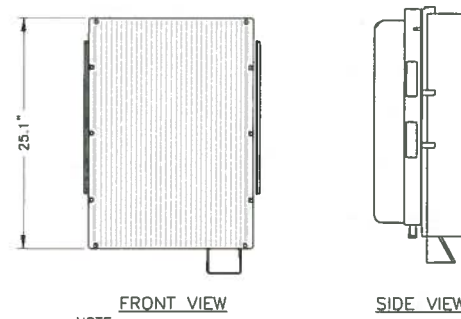
- NOTE:**
1. INSTALL & MOUNT REMOTE RADIO HEAD PER MANUFACTURER'S RECOMMENDATIONS.

MANUFACTURER	NOKIA
MODEL NUMBER	FZHN
DIMENSIONS (HxWxD)	14.6" x 16.6" x 4.9"
WEIGHT	44.1 LBS

**2.5 RRH DETAIL**  
SCALE: N.T.S.

2

**NOTE:**  
COMPLY WITH MANUFACTURERS INSTRUCTIONS TO ENSURE THAT ALL RRU'S RECEIVE ELECTRICAL POWER WITHIN 24 HOURS OF BEING REMOVED FROM THE MANUFACTURER'S PACKAGING. DO NOT OPEN RRU PACKAGES IN THE RAIN.

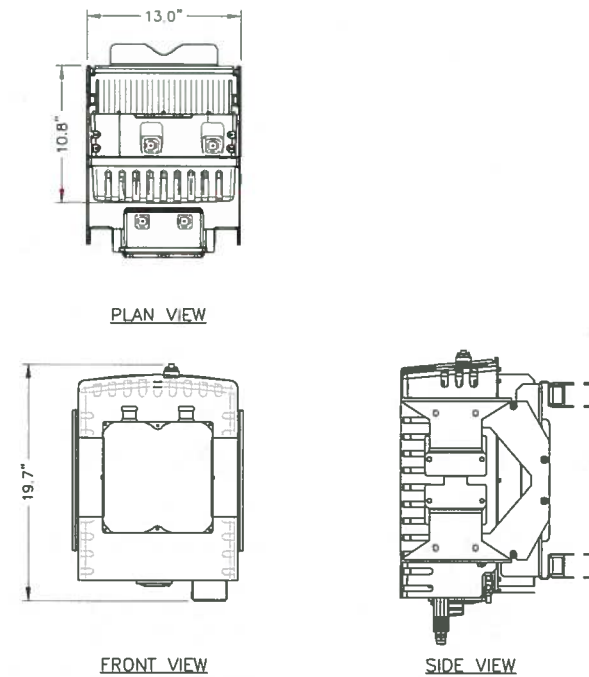


- NOTE:**
1. INSTALL & MOUNT REMOTE RADIO HEAD PER MANUFACTURER'S RECOMMENDATIONS.
  2. DIMENSIONS ARE NOT OF BRACKET MOUNTED RRU.

MANUFACTURER	ALCATEL-LUCENT
MODEL NUMBER	1900 MHz (65MHz)
DIMENSIONS (HxWxD)	25.1" x 11.1" x 11.4"
WEIGHT	60 LBS

**1900 RRH DETAIL**  
SCALE: N.T.S.

3



MANUFACTURER	ALCATEL-LUCENT
MODEL NUMBER	800 MHz 2x50W
DIMENSIONS (HxWxD)	19.7" x 13.0" x 10.8"
WEIGHT	53 LBS

**800 MHz RRH DETAIL**  
SCALE: N.T.S.

4

**Sprint**

6391 SPRINT PARKWAY  
OVERLAND, KS 66251

**CROWN CASTLE**

3 CORPORATE PARK DRIVE, SUITE 101  
CLIFTON PARK, NY 12065

**TOMPKINS COMMUNITY COLLEGE**  
**AL90XC488\_A**

CONSTRUCTION DRAWINGS

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**Dewberry**

Dewberry Engineers Inc.  
800 PARSIPPANY ROAD  
SUITE 301  
PARSIPPANY, NJ 07054  
PHONE: 973 739 8400  
FAX: 973 250 8710



DRAWN BY: NRS

REVIEWED BY: BSH

CHECKED BY: GHN

PROJECT NUMBER: 50102274

JOB NUMBER: 5010227B

SITE ADDRESS:

20 FAR VIEW DRIVE  
DRYDEN, NY 13053

SHEET TITLE

CONSTRUCTION  
DETAILS IV

SHEET NUMBER

A-7







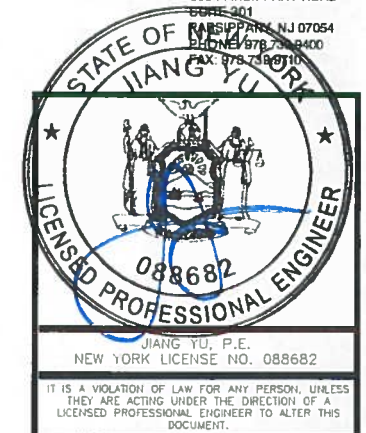
**TOMPKINS COMMUNITY COLLEGE  
AL90XC488\_A**

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**Dewberry**

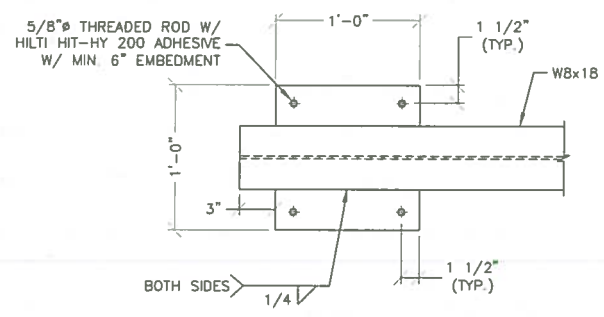
Dewberry Engineers Inc.  
600 PARSIPPANY ROAD  
PARSIPPANY, NJ 07054  
PHONE: 978-261-4400  
FAX: 978-261-4401



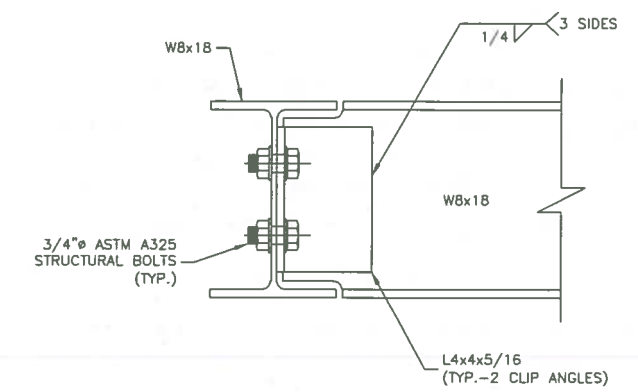
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SITE ADDRESS:	

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DRYDEN, NY 13053

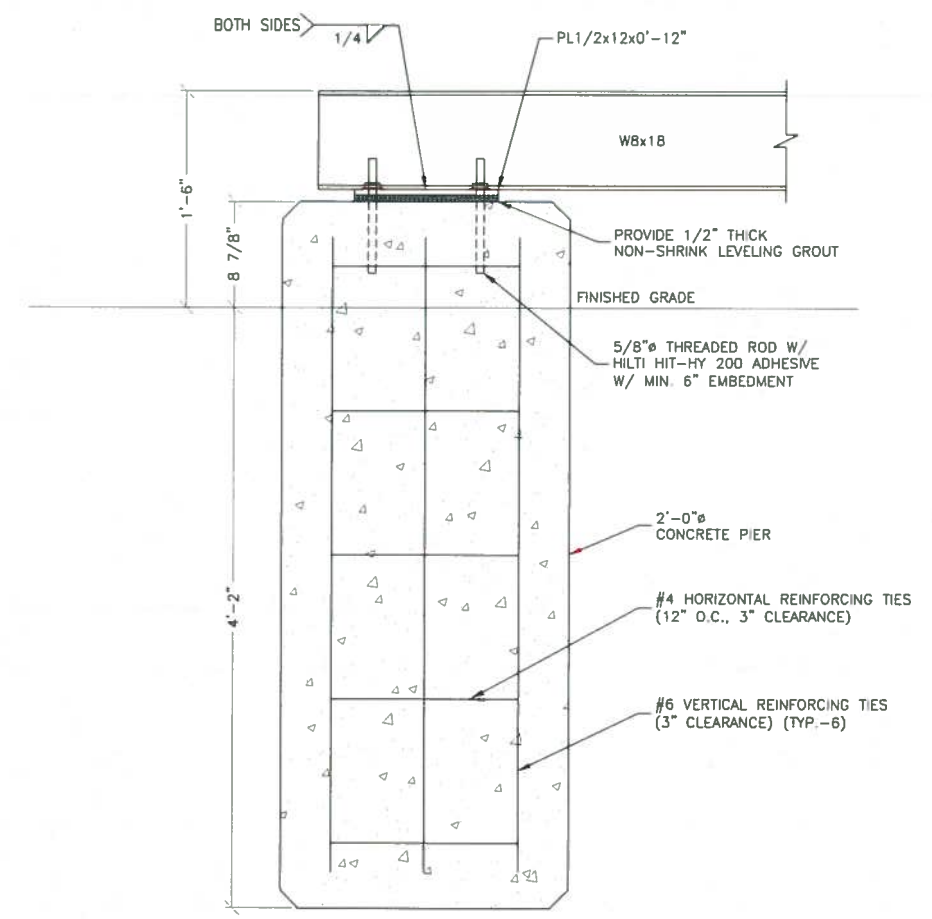
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STRUCTURAL DETAILS	
SHEET NUMBER	



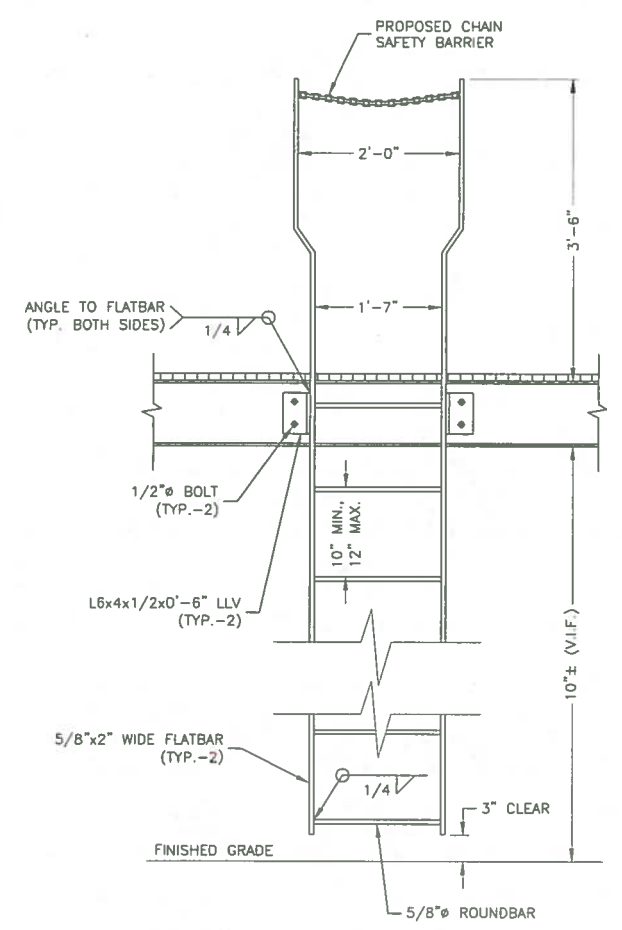
**BASE PLATE**



**FRAME CONNECTION DETAIL**  
SCALE: 1 1/2"=1' FOR 11"x17"  
3"=1' FOR 22"x34"

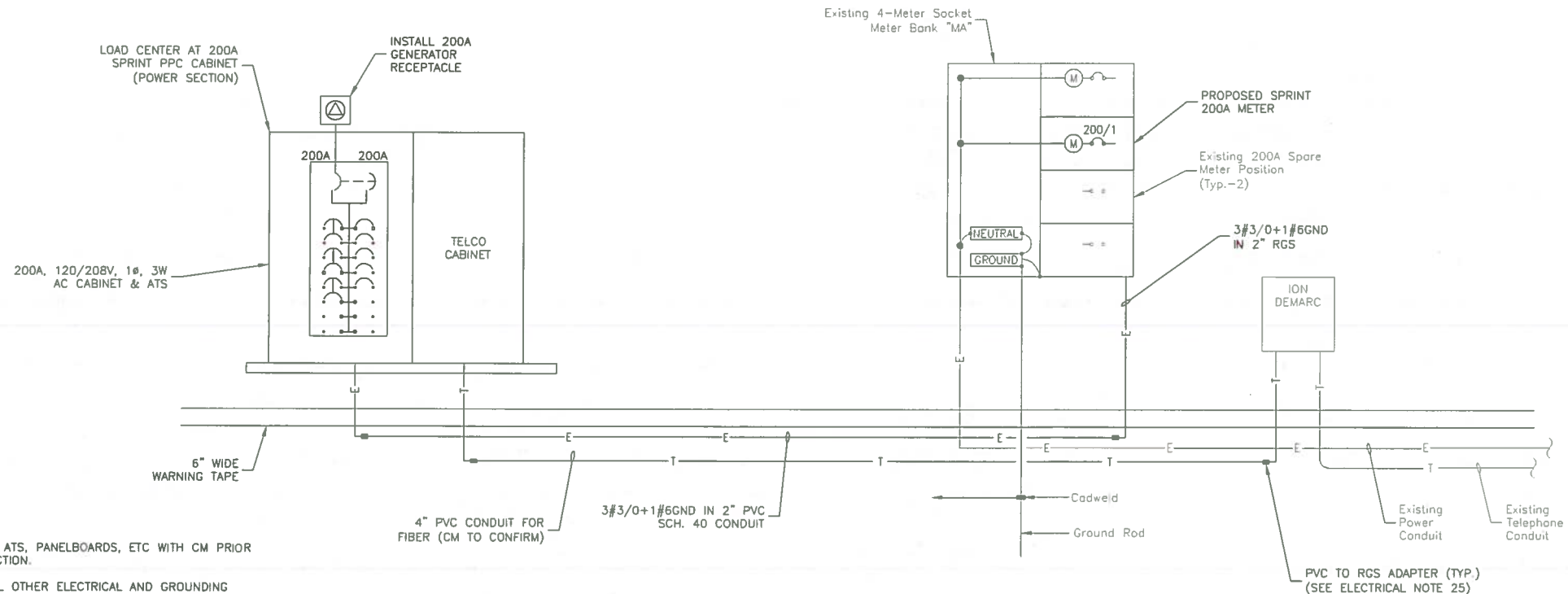


**FRAMING SUPPORT-POST DOWN**  
SCALE: 3/4"=1' FOR 11"x17"  
1 1/2"=1' FOR 22"x34"



**ACCESS LADDER DETAIL**  
SCALE: N.T.S.

3



- NOTES:**
1. CONFIRM ALL ATS, PANELBOARDS, ETC WITH CM PRIOR TO CONSTRUCTION.
  2. REFER TO ALL OTHER ELECTRICAL AND GROUNDING NOTES ON SHEETS SP-2 & E-4 OF THESE PLANS.

**ELECTRICAL RISER DIAGRAM & SERVICE ENTRANCES**

SCALE: N.T.S.

1

**GENERAL ELECTRICAL NOTES**

1. SUBMITTAL OF BID INDICATES CONTRACTOR IS COGNIZANT OF ALL JOB SITE CONDITIONS AND WORK TO BE PERFORMED UNDER THIS CONTRACT.
2. CONTRACTOR SHALL PERFORM ALL VERIFICATION OBSERVATION TESTS, AND EXAMINATION WORK PRIOR TO THE ORDERING OF THE ELECTRICAL EQUIPMENT AND THE ACTUAL CONSTRUCTION. CONTRACTOR SHALL ISSUE A WRITTEN NOTICE OF ALL FINDINGS TO THE ARCHITECT LISTING ALL MALFUNCTIONS, FAULTY EQUIPMENT AND DISCREPANCIES.
3. HEIGHTS SHALL BE VERIFIED WITH OWNER PRIOR TO INSTALLATION.
4. THESE PLANS ARE DIAGRAMMATIC ONLY, FOLLOW AS CLOSELY AS POSSIBLE.
5. EACH CONDUCTOR OF EVERY SYSTEM SHALL BE PERMANENTLY TAGGED IN EACH PANELBOARD, PULLBOX, J-BOX, SWITCH BOX, ETC., IN COMPLIANCE WITH OCCUPATIONAL SAFETY AND HEALTH ACT (O.S.H.A.)
6. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, INSURANCE, EQUIPMENT, INSTALLATION, CONSTRUCTION TOOLS, TRANSPORTATION, ETC., FOR A COMPLETE AND PROPERLY OPERATIVE SYSTEM ENERGIZED THROUGHOUT AND AS INDICATED ON DRAWINGS, AS SPECIFIED HEREIN AND/OR AS OTHERWISE REQUIRED.
7. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND IN PERFECT CONDITION WHEN INSTALLED AND SHALL BE OF THE BEST GRADE AND OF THE SAME MANUFACTURER THROUGHOUT FOR EACH CLASS OR GROUP OF EQUIPMENT. MATERIALS SHALL BE LISTED AND APPROVED BY UNDERWRITER'S LABORATORY AND SHALL BEAR THE INSPECTION LABEL "J" WHERE SUBJECT TO SUCH APPROVAL. MATERIALS SHALL MEET WITH APPROVAL OF THE DIVISION OF INDUSTRIAL SAFETY AND ALL GOVERNING BODIES HAVING JURISDICTION MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA AND NBFU.
8. CONTRACTOR SHALL CARRY OUT HIS WORK IN ACCORDANCE WITH ALL GOVERNING STATE, COUNTY AND LOCAL CODES AND O.S.H.A.
9. CONTRACTOR SHALL SECURE ALL NECESSARY BUILDING PERMITS AND PAY ALL REQUIRED FEES
10. COMPLETE JOB SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR AFTER THE DATE OF JOB ACCEPTANCE BY OWNER. ANY WORK, MATERIAL OR EQUIPMENT FOUND TO BE FAULTY DURING THAT PERIOD SHALL BE CORRECTED AT ONCE, UPON WRITTEN NOTIFICATION, AT THE EXPENSE OF THE CONTRACTOR.
11. ALL CONDUIT ONLY (C.O.) SHALL HAVE A PULL WIRE OR ROPE.
12. PROVIDE PROJECT MANAGER WITH ONE SET OF COMPLETE ELECTRICAL "AS INSTALLED" DRAWINGS AT THE COMPLETION OF THE JOB, SHOWING ACTUAL DIMENSIONS, ROUTINGS, AND CIRCUITS.
13. ALL BROCHURES, OPERATING MANUALS, CATALOGS, SHOP DRAWINGS, ETC. SHALL BE TURNED OVER TO OWNER AT JOB COMPLETION.
14. USE T-TAP CONNECTIONS ON ALL MULTI-CIRCUITS WITH COMMON NEUTRAL CONDUCTOR FOR LIGHTING FIXTURE.
15. ALL CONDUCTORS SHALL BE COPPER.
16. ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING RATING NOT LESS THE MAXIMUM SHORT CIRCUIT CURRENT TO WHICH THEY MAY BE SUBJECTED.
17. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED AS REQUIRED BY NEC.
18. PATCH, REPAIR AND PAINT ANY AREA THAT HAS BEEN DAMAGED IN THE COURSE OF THE ELECTRICAL WORK.

19. IN DRILLING HOLES INTO CONCRETE WHETHER FOR FASTENING OR ANCHORING PURPOSES, OR PENETRATIONS THROUGH THE FLOOR FOR CONDUIT RUNS, W PIPE RUNS, ETC., IT MUST BE CLEARLY UNDERSTOOD THAT TENDONS AND/OR REINFORCING STEEL WILL NOT BE DRILLED INTO, CUT OR DAMAGED UNDER ANY CIRCUMSTANCES.
20. LOCATION OF TENDONS AND/OR REINFORCING STEEL ARE NOT DEFINITELY KNOWN AND, THEREFORE, MUST BE SEARCHED FOR BY APPROPRIATE METHODS AND EQUIPMENT VIA X-RAY OR OTHER DEVICES THAT CAN ACCURATELY LOCATE THE REINFORCING AND/OR STEEL TENDONS.
21. PENETRATIONS IN FIRE RATED WALLS SHALL BE INTERNATIONAL BUILDING CODE 2015, NEW YORK EDITION.
22. WIRE AND CABLE CONDUCTORS SHALL BE COPPER #12 AWG MINIMUM UNLESS SPECIFICALLY STATED OTHERWISE ON DRAWINGS.
23. VERIFY ALL CONDUIT ROUTING W/OWNER REP. & SPRINT C.M.
24. ALL MATERIALS SHALL BE U.L. LISTED.
25. CONDUIT:
  - a. RIGID CONDUIT SHALL BE U.L. LABEL GALVANIZED ZINC COATED WITH ZINC INTERIOR AND SHALL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLABS, IN CONTACT WITH THE EARTH, UNDER PUBLIC ROADWAYS, IN MASONRY WALLS OR EXPOSED ON BUILDING EXTERIOR. RIGID CONDUIT IN CONTACT WITH EARTH SHALL BE 1/2 LAPPED WRAPPED WITH HUNTS WRAP PROCESS NO. 3.
  - b. ELECTRICAL METALLIC TUBING SHALL HAVE U.L. LABEL, FITTINGS SHALL BE GLAND RING COMPRESSION TYPE. EMT SHALL BE USED ONLY FOR INTERIOR RUNS.
  - c. FLEXIBLE METALLIC CONDUIT SHALL HAVE U.L. LISTED LABEL AND MAY BE USED WHERE PERMITTED BY CODE. FITTINGS SHALL BE "JAKE" OR "SQUEEZE" TYPE, SEAL TIGHT FLEXIBLE CONDUIT ALL CONDUIT IN EXCESS OF SIX FEET IN LENGTH SHALL HAVE FULL SIZE GROUND WIRE.
  - d. CONDUIT RUNS MAY BE SURFACE MOUNTED IN CEILINGS OR WALLS UNLESS INDICATED OTHERWISE. CONDUIT INDICATED SHALL RUN PARALLEL OR AT RIGHT ANGLES TO CEILING, FLOOR OR BEAMS. VERIFY EXACT ROUTING OF ALL EXPOSED CONDUIT WITH ARCHITECT PRIOR TO INSTALLING.
26. ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT ENGRAVED PLASTIC LABELS.
27. COORDINATE THE ELECTRICAL SERVICE SHUTDOWN WITH BUILDING OWNER.
28. GROUNDING SYSTEM RESISTANCE SHALL NOT EXCEED 5 OHMS. IF THE RESISTANCE VALUE IS EXCEEDED, NOTIFY THE OWNER FOR FURTHER INSTRUCTION ON METHODS FOR REDUCING THE RESISTANCE VALUE. SUBMIT TEST REPORTS AND FURNISH TO DISPATCH COMMUNICATIONS ONE COMPLETE SET OF PRINTS SHOWING "INSTALLED WORK".
29. UPON COMPLETION OF WORK, CONDUCT CONTINUITY, AND FALL POTENTIAL GROUNDING TESTS FOR APPROVAL. SUBMIT TEST REPORTS TO PROJECT MANAGER. CLEAN PREMISES OF ALL DEBRIS RESULTING FROM WORK AND LEAVE WORK IN A COMPLETE AND UNDAMAGED CONDITION.
30. ALL WALL PENETRATIONS SHALL BE FIRE STOPPED WITH FS-ONE HIGH PERFORMANCE INTUMESCENT FIRE STOP BY HILTI OR APPROVED EQUAL. INSTALL PER MANUFACTURERS RECOMMENDATIONS.

**ELECTRICAL AND TELEPHONE GENERAL NOTES:**

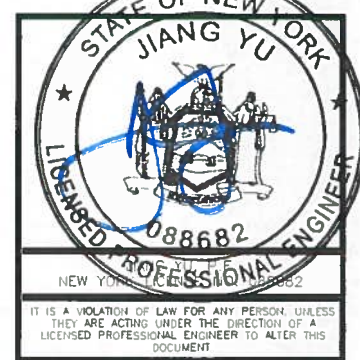
1. FOLLOWING COMPLETION OF WORK, PROVIDE OWNER WITH AS-BUILT DRAWINGS SHOWING TELEPHONE AND ELECTRIC LOCATIONS.
2. WORK SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE, NEC 2014.
3. COORDINATE WITH UTILITY AND LOCAL ELECTRICAL INSPECTOR FOR FINAL POWER CONNECTION.
4. UTILITY WILL SUPPLY METER. COORDINATE WITH UTILITY FOR METER TYPE AND INTERCONNECTION.
5. CONTRACTOR SHALL CONTACT "DIG SAFELY. NEW YORK" (1-800-962-7962) AND LOCATE ALL EXISTING UTILITIES WITHIN THE AREA OF WORK PRIOR TO THE START OF ANY EXCAVATION.
6. SEE PAGE E-4 FOR GENERAL GROUNDING NOTES.
7. COORDINATE WITH LOCAL TELEPHONE COMPANY FOR ALL ROUTING AND DESIGN.
8. CONTRACTOR TO CONFIRM STUB UP LOCATIONS OF WIRING CONDUITS PRIOR TO CONSTRUCTION.



**TOMPKINS COMMUNITY COLLEGE**  
AL90XC488\_A

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**Dewberry**  
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DRAWN BY:	NRS
REVIEWED BY:	BSH
CHECKED BY:	GHN
PROJECT NUMBER:	50102274
JOB NUMBER:	50102278
SITE ADDRESS:	

20 FAR VIEW DRIVE  
DRYDEN, NY 13053

SHEET TITLE	ELECTRICAL RISER DIAGRAM & NOTES
SHEET NUMBER	

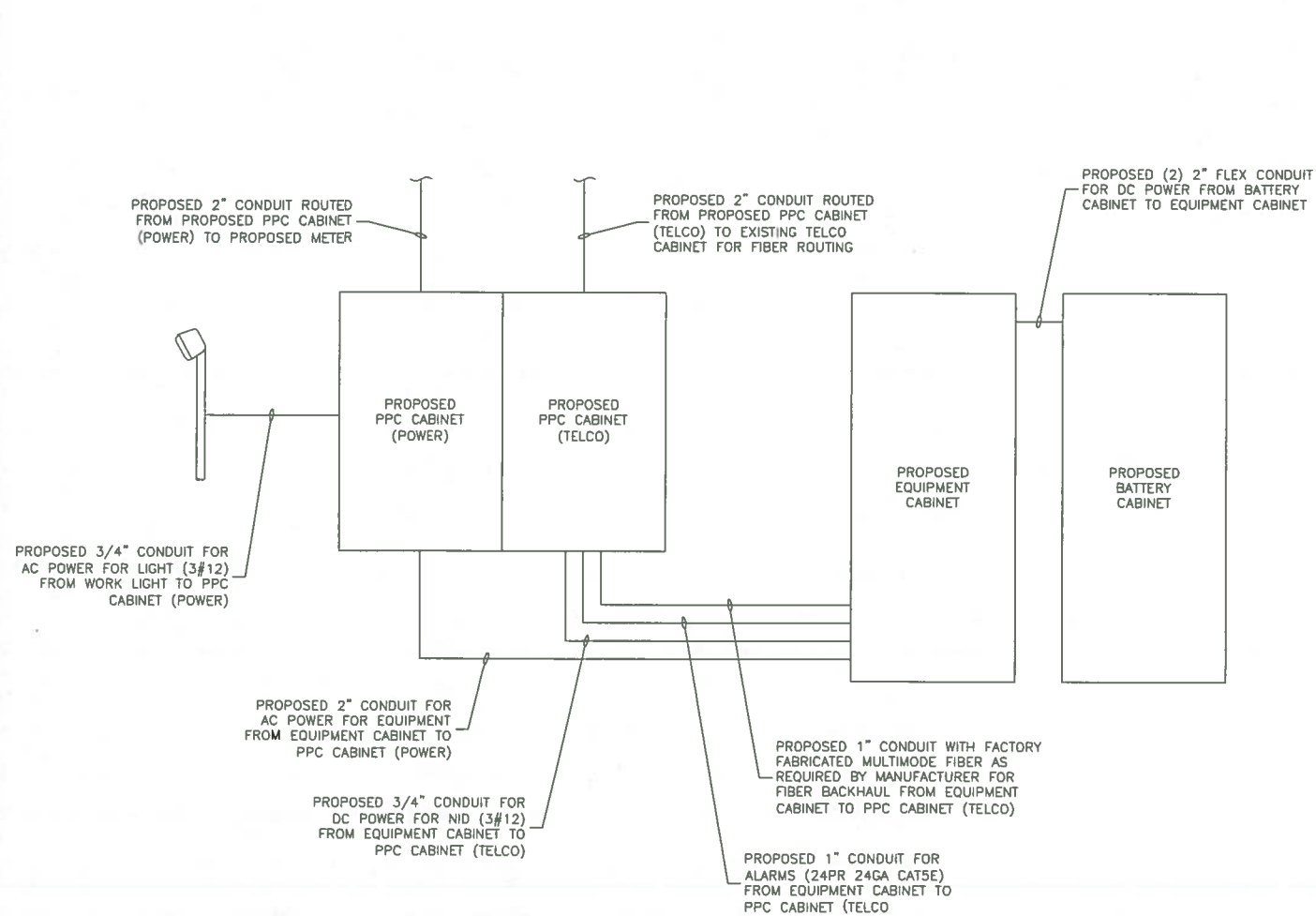


VOLTAGE:		240V/120		PHASE:		1		WIRE:		3	
MAIN BREAKER:		200AMP		BUS RATING:		225 AMPS		AIC:		TBD	
				NEUTRAL BAR:		YES		GROUND BAR:		TBD	
				SERVICE ENTRANCE:		YES/NO					
CKT	LOAD DESCRIPTION	BREAKER AMPS	BREAKER POLES	PHASE A VA	PHASE B VA	BREAKER POLES	BREAKER AMPS	LOAD DESCRIPTION	CKT		
1	TVSS	60	2	-	-	-	-	-	2		
3	-	-	-	-	180	-	-	-	4		
5	-	-	-	-	-	1	15	TELCO FAN	6		
7	MMBS	100	2	3500	180	1	15	TELCO RECEPTACLE	8		
9	-	-	-	-	3500	-	-	-	10		
11	-	-	-	-	-	-	-	-	12		
13	-	-	-	-	-	-	-	-	14		
15	LIGHTING	20	1	500	-	-	-	-	16		
17	-	-	-	-	-	-	-	-	18		
19	JACKET WATER	-	-	1500	-	-	-	-	20		
21	-	-	-	-	1500	-	-	BATTERY CHARGER	22		
23	-	-	-	-	-	-	-	-	24		
				5500	5360	TOTAL KVA	10.86	TOTAL CONNECTED LOAD			
						AMPS	45.25				

**ELECTRICAL PANEL DETAIL**

SCALE: N.T.S.

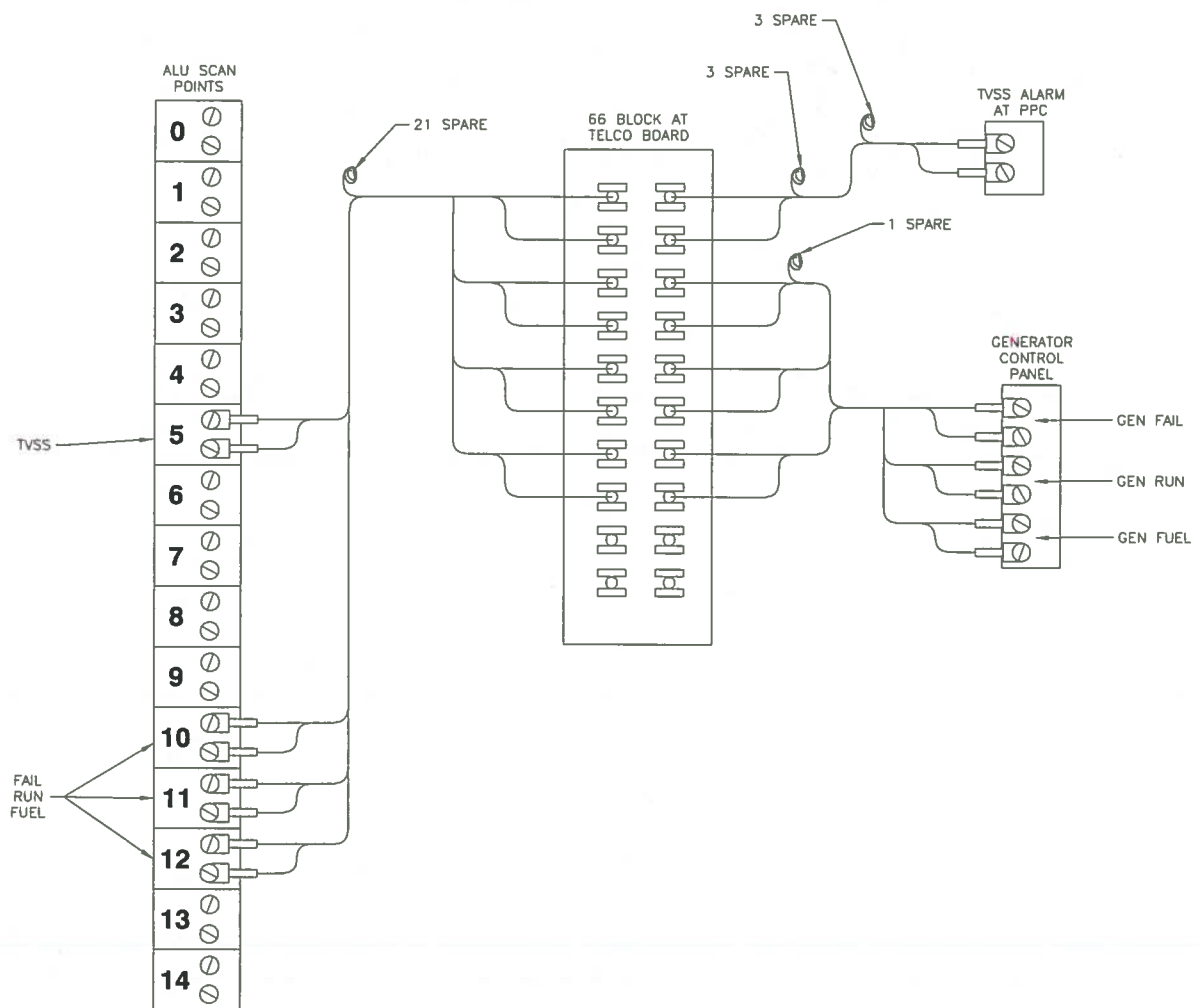
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**CONDUIT ROUTING DETAIL**

SCALE: N.T.S.

2



**ALARM WIRING DIAGRAM**

SCALE: N.T.S.

3



6391 SPRINT PARKWAY  
OVERLAND, KS 66251



3 CORPORATE PARK DRIVE, SUITE 101  
CLIFTON PARK, NY 12065

**TOMPKINS COMMUNITY COLLEGE**  
**AL90XC488\_A**

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Dewberry Engineers Inc.  
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PARSIPPANY, NJ 07054  
PHONE: 973 739 8400  
FAX: 973 739 8710



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REVIEWED BY: BSH

CHECKED BY: GHN

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20 FAR VIEW DRIVE  
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SHEET TITLE

ELECTRICAL DETAILS I

SHEET NUMBER



6391 SPRINT PARKWAY  
OVERLAND, KS 66251



3 CORPORATE PARK DRIVE, SUITE 101  
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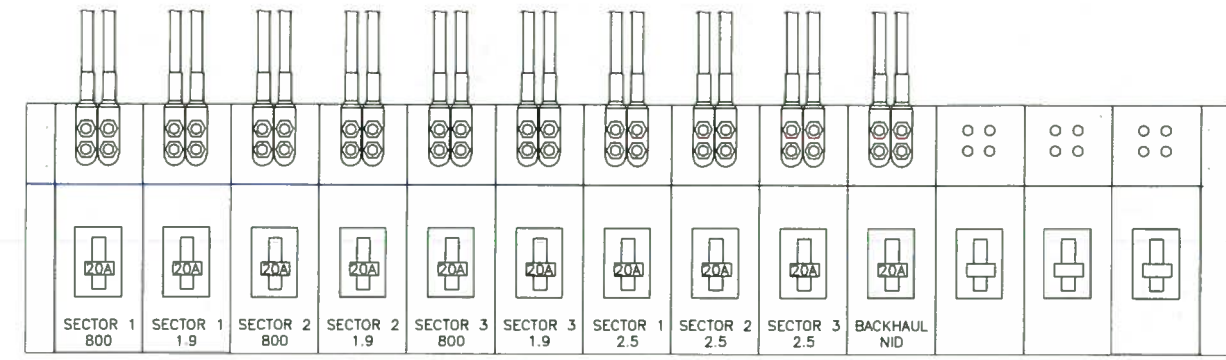
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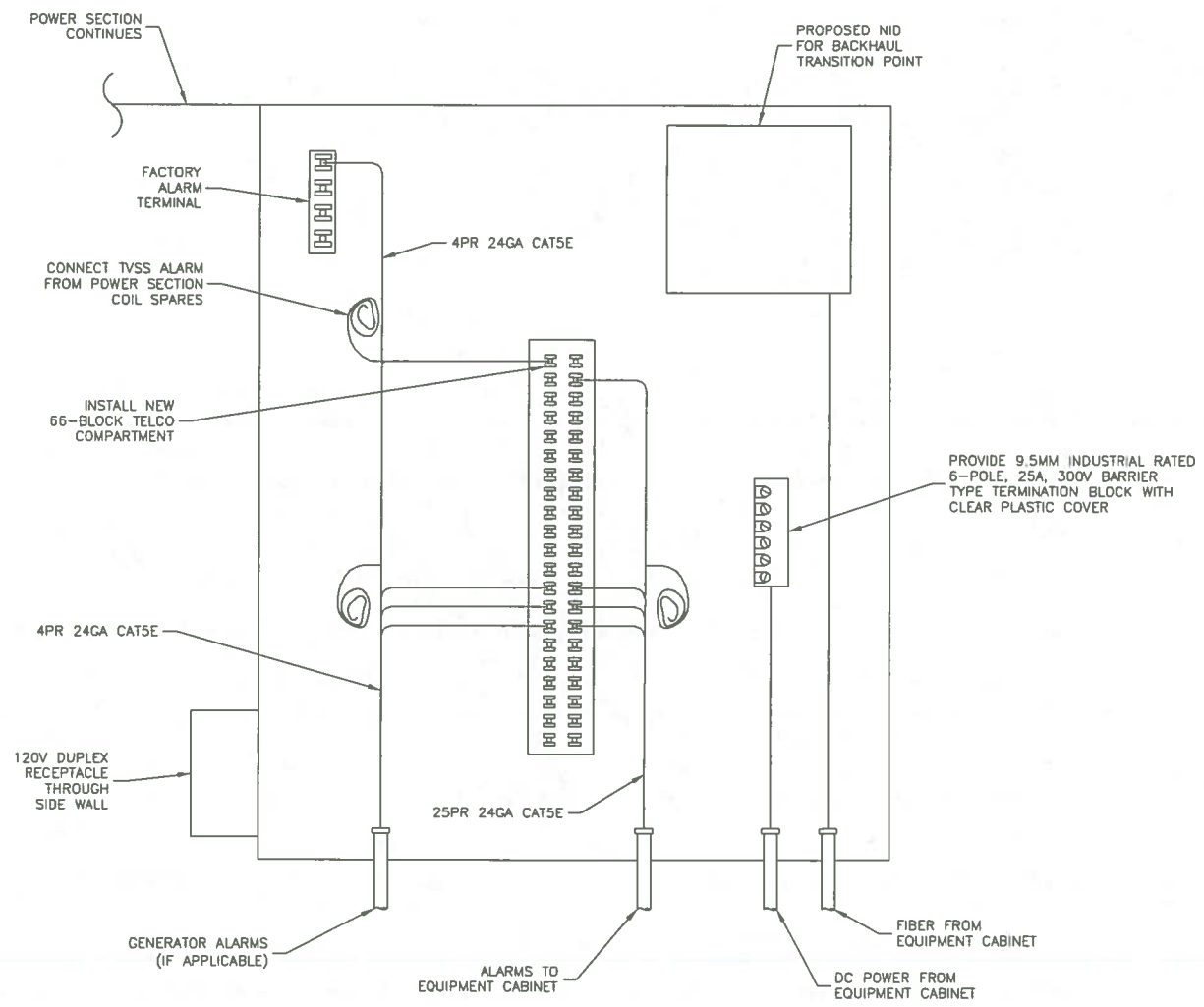
SHEET TITLE

ELECTRICAL DETAILS II

SHEET NUMBER



**DC DISTRIBUTION AT FIBER DISTRIBUTION BOX**  
SCALE: N.T.S.



**PLYWOOD BACKBOARD AT PPC TELCO COMPARTMENT**  
SCALE: N.T.S.

**TOMPKINS COMMUNITY COLLEGE  
COLLEGE  
AL90XC488\_A**

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IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER TO ALTER THIS DOCUMENT.

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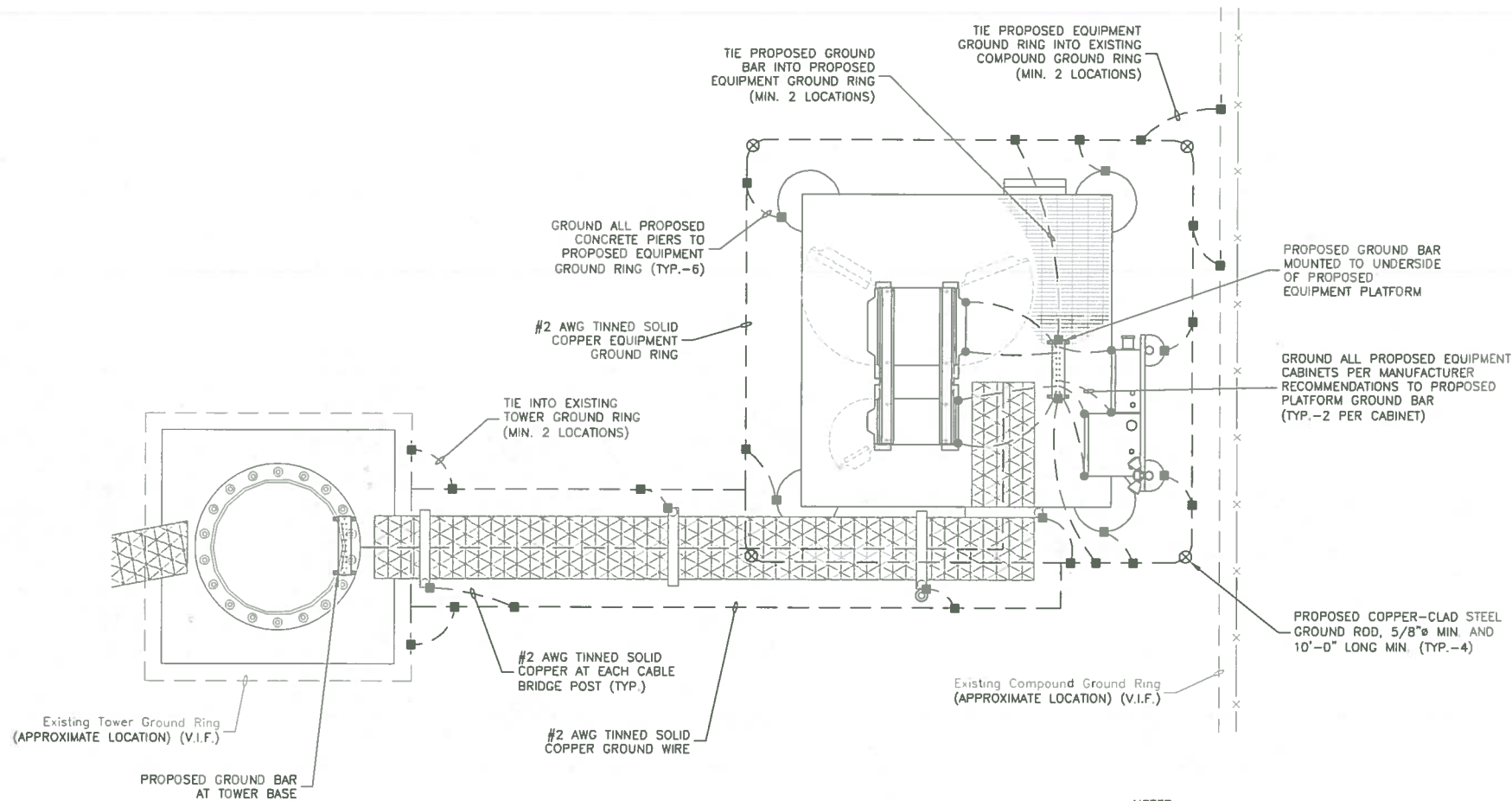
SHEET TITLE

GROUNDING PLAN  
& NOTES

SHEET NUMBER

**GROUNDING GENERAL NOTES**

- ALL DOWN CONDUCTORS AND THE GROUND RING CONDUCTOR SHALL BE #2 AWG, SOLID, BARE, TINNED COPPER, UNLESS OTHERWISE NOTED. ALL CONNECTIONS TO GROUND RING SHALL BE EXOTHERMICALLY WELDED. CONDUCTOR SHALL BE AT A MINIMUM DEPTH BELOW GRADE OF 18 INCHES OR TO LEDGE. MINIMUM BEND RADIUS SHALL BE 8 INCHES. CONDUCTOR SHALL BE AT LEAST 24 INCHES FROM ANY FOUNDATION, UNLESS OTHERWISE NOTED.
- GROUND RODS SHALL BE 5/8" DIAMETER COPPER CLAD, HARGER, T&B, ERICO, OR EQUIVALENT. TOP OF ROD SHALL BE A MINIMUM OF 18" BELOW GRADE. IF LEDGE IS ENCOUNTERED, INSTALL GROUND ROD AT AN ANGLE. ELECTRICAL METER GROUND ROD EXCEPTED.
- WHERE MECHANICAL CONNECTIONS ARE SPECIFIED, BOLTED, COMPRESSION-TYPE, CLAMPS OR SPLIT-BOLT TYPE CONNECTORS SHALL BE USED.
- GRIND OFF GALVANIZING IN AFFECTED AREA. EXOTHERMICALLY WELD #2 CONDUCTOR AT 6" ABOVE GRADE OR FOUNDATION, WHICHEVER IS HIGHER. COLD-GALV AFTER. EXOTHERMICALLY WELD OTHER END TO GROUND RING.
- INSTALL GROUNDING KITS AT ANTENNA CENTERLINE, AND TOWER EXIT POINTS. GROUND COAX LINES. EXOTHERMICALLY WELD #2 DOWN CONDUCTOR TO PLATES, RUN DOWN TOWER, AND TIE INTO GROUNDING SYSTEM.
- ALL GROUNDING WORK SHALL COMPLY WITH SPRINT CONSTRUCTION CONTRACT STANDARDS. FOLLOWING COMPLETION OF WORK, GROUND SYSTEM MUST BE TESTED AND SHALL HAVE A RESISTANCE OF 5 OHMS OR LESS. SUBMIT AN INDEPENDENT "FALL POTENTIAL" TESTING REPORT.
- CONTRACTOR SHALL HAND-DIG IN AREAS AROUND EXISTING UTILITIES.
- NOTIFY CONSTRUCTION ENGINEER IF THERE ARE ANY DIFFICULTIES INSTALLING GROUNDING SYSTEM DUE TO SITE SOIL CONDITIONS.
- GROUNDING RING IS SHOWN AS SCHEMATIC ONLY. IT IS DESIGNED WITHOUT BENEFIT OF RESISTIVITY TESTING AND DOES NOT NECESSARILY REPRESENT A GROUNDING SYSTEM TO MEET ANY SPECIFIC GROUND RESISTANCE.
- PRIOR TO POURING CONCRETE, ALL REBAR LOCATED NEAR THE BOTTOM OF THE FOUNDATION SHALL BE BONDED TOGETHER TO FORM A SINGLE GROUNDING ELECTRODE, BY STEEL TIES OF OTHER EFFECTIVE MEANS APPROVED BY NEC 2011 AND STRUCTURAL ENGINEER, AND BONDED TO THE GROUND RING AS DETAILED IN THESE PLANS. (INSPECTION MAY BE REQUIRED PRIOR TO POURING CONCRETE AND MUST BE COORDINATED BY CONTRACTOR.)
- IN ACCORDANCE WITH NEC 2011 REQUIREMENTS, ALL GROUNDING ELECTRODES PRESENT ON SITE SHALL BE BONDED TOGETHER (REFERENCE 2011 NEC ARTICLE 250.50).



**EQUIPMENT GROUNDING PLAN**

SCALE: 3/16"=1' FOR 11"x17"  
3/8"=1' FOR 22"x34"



**NOTES:**

- GROUND UTILITY METER PER N.E.C.
- CONTRACTOR TO VERIFY WITH SPRINT C.M. FOR FINAL GROUND METHOD.

**GROUNDING LEGEND**

- GROUND BAR
- GROUND COPPER WIRE, SIZE AS NOTED
- MECHANICAL GROUND CONNECTION
- 5/8"x10" COPPER CLAD STEEL GROUND ROD
- EXOTHERMIC (CADWELD) CONNECTION



