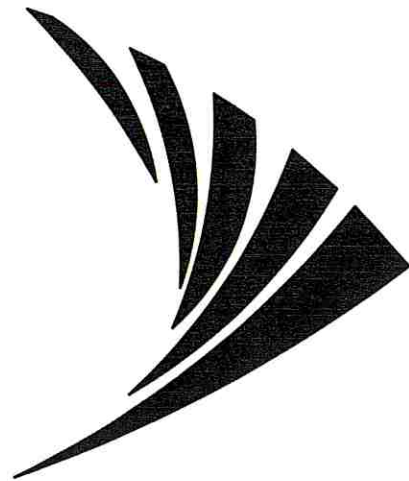


Sprint



PROJECT: CO-LOCATION

SITE NAME: ATC#36075 LOWENSTEIN

SITE CASCADE: KC25XC198



SITE OWNER:
AMERICAN TOWER®
116 HUNTINGTON AVE, 11TH FLOOR
BOSTON, MASSACHUSETTS 02116

PLANS PREPARED FOR:
6580 Sprint Parkway
Overland Park, Kansas 66251
Sprint

PLANS PREPARED BY:
9900 West 109th Street, Suite 300
Overland Park, Kansas 66210
Phone: 913-438-7700
Fax: 913-438-7777



ENGINEERING LICENSE
STATE CERTIFICATE OF AUTHORIZATION # EF-2791
ENGINEER: P.E.#: DISCIPLINE:
MLO MICHAEL L. OWENS E-29058 STRUCTURAL/CIVIL SC
KV KEVIN VANMAELE E-21581 STRUCTURAL/CIVIL SC
REJ ROBERT E. JENSEN E-28974 STRUCTURAL/CIVIL SC
TMS TERRANCE M. SUPER E-18521 ELECTRICAL E
SDK SHELTON D. KEISLING E-27323 ELECTRICAL E

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ISSUED FOR REVIEW			11/30/17	HEE	A
ISSUED FOR CONSTRUCTION			12/07/17	DCP	0

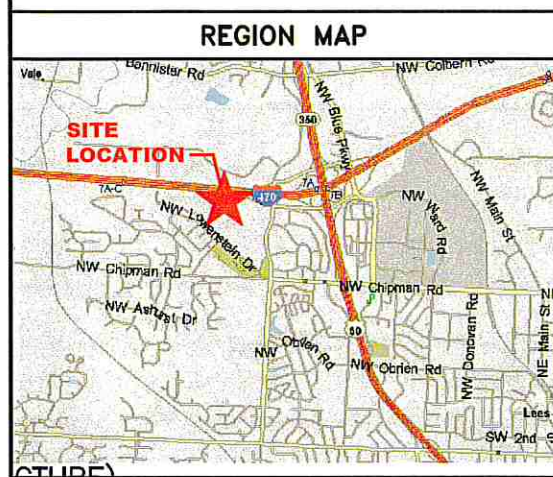
MLA SITE NAME & SITE NUMBER:
LEE S SUMMIT #1B
36075

APPLICANT SITE NAME & SITE CASCADE:
ATC#36075 LOWENSTEIN
KC25XC198

SITE ADDRESS:
2200 LOWENSTEIN
LEES SUMMIT, MISSOURI
64081

SHEET DESCRIPTION:
TITLE SHEET

DWG INFORMATION:
DRAWN BY: HEE
CHECKED BY: DCP
SHEET NUMBER:
T-1



JURISDICTION COMPLIANCE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF 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.

1. INTERNATIONAL BUILDING CODE
2. INTERNATIONAL MECHANICAL CODE
3. ANSI/TIA-222 STRUCTURAL STANDARD
4. NFPA 780 - LIGHTNING PROTECTION CODE
5. UNIFORM PLUMBING CODE
6. NATIONAL ELECTRICAL CODE



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THE UTILITIES AS SHOWN ON THIS SET OF DRAWINGS WERE DEVELOPED FROM THE INFORMATION AVAILABLE. THE INFORMATION PROVIDED IS NOT IMPLIED NOR INTENDED TO BE THE COMPLETE INVENTORY OF UTILITIES IN THIS AREA. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES (WHETHER SHOWN OR NOT) AND PROTECT SAID UTILITIES FROM ANY DAMAGE CAUSED BY CONTRACTOR'S ACTIVITIES.

APPROVALS

SIGNER	SIGNATURE	DATE
SPRINT CONSTRUCTION MANAGER		
SPRINT OPERATIONS MANAGER		
SPRINT RF ENGINEER		
LANDLORD		

SITE INFORMATION

SITE ADDRESS: 2200 LOWENSTEIN
LEES SUMMIT, MISSOURI 64081

COUNTY: JACKSON

POWER COMPANY: KCPL

AAV PROVIDER: TBD

PROPERTY OWNER: AMERICAN TOWER CORPORATION
116 HUNTINGTON AVE, 11TH FLOOR
BOSTON, MASSACHUSETTS 02116
APPLICATION DATE: 10/18/17

STRUCTURE INFORMATION:
LATITUDE: 38° 55' 59.66"N (NAD 83)
38.93324°
LONGITUDE: 94° 25' 3.29"W (NAD 83)
-94.41758°
GROUND ELEVATION: 981'
STRUCTURE HEIGHT: 479'-0" AGL
STRUCTURE TYPE: GUYED TOWER
ANTENNA CENTERLINE: 180'-0" AGL

APPLICANT: SPRINT
6580 SPRINT PARKWAY
OVERLAND PARK, KS 66251

SPRINT CM: RAY LOPEZ
PHONE: (816) 651-9569
ray.lopez@sprint.com

SITE ACQUISITION: PYRAMID NETWORK SERVICES LLC
JOE COYLE
PHONE: (816) 560-5035

A&E: SSC, INC.
BUTCH DOUGHERTY
PHONE: (913) 938-7700

PROJECT INFORMATION

- INSTALL (1) EQUIPMENT PLATFORM
- INSTALL (1) DO E-CABINET & (1) DO I-CABINET
- INSTALL (1) 200A PPC
- INSTALL (3) ANTENNA FRAMES
- INSTALL (6) PANEL ANTENNAS
- INSTALL (9) RRU'S
- INSTALL (42) JUMPERS

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SP-2	SPECIFICATIONS	0	SC/E
RF-1	RF DATA SHEET	0	SC
RF-2	RF DATA SHEET	0	SC
A-1	OVERALL SITE PLAN	0	SC
A-2	EQUIPMENT PLAN	0	SC
A-3	EQUIPMENT ELEVATIONS & CABLE PLAN	0	SC
A-4	ANTENNA LAYOUT & MOUNTING DETAILS	0	SC
A-5.1	RFDS DATA SHEET & EQUIPMENT INFORMATION	0	SC
A-5.2	RFDS PLUMBING DIAGRAM	0	SC
A-5.3	FEEDLINE COLOR CODING	0	SC
A-6	EQUIPMENT DETAILS	0	SC
A-7	EQUIPMENT DETAILS	0	SC
A-8.1	PURCELL EQUIPMENT DETAILS	0	SC
A-8.2	PURCELL EQUIPMENT DETAILS	0	SC
A-9	ANTENNA DETAILS	0	SC
A-10	RRU DETAILS	0	SC
E-1	OVERALL UTILITY PLAN	0	E
E-2	ENLARGED UTILITY PLAN	0	E
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E-4	ELECTRICAL DETAILS & TOWER TOP GROUNDING PLAN	0	E
E-5	ELECTRICAL DETAILS	0	E
E-6	ELECTRICAL DETAILS	0	E
E-7	PURCELL A/C POWER DISTRIBUTION	0	E
E-8	CIRCUIT SCHEDULE	0	E

CONSULTING TEAM

ENGINEERING: SSC, INC.
9900 WEST 109TH STREET, SUITE 300
OVERLAND PARK, KANSAS 66210
PHONE: (913) 438-7700
FAX: (913) 438-7777

H.F. DOUGHERTY - PROJECT MANAGER

M.L. OWENS - LEAD ENGINEER

S.D. KEISLING - LEAD ELECTRICAL

H.E. ERICACAE - LEAD DESIGNER

THESE OUTLINE SPECIFICATIONS IN CONJUNCTION WITH THE SPRINT CONSTRUCTION STANDARDS FOR WIRELESS SITES, 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.

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.

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.

- 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.
 - 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.
 - MARK THE FIELD SET OF DRAWINGS IN RED, DOCUMENTING ANY CHANGES FROM THE CONSTRUCTION DOCUMENTS.
- 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.
 - ALL TESTING REQUIRED BY APPLICABLE INSTALLATION MOPS.
- REQUIRED CLOSEOUT DOCUMENTATION INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:
 - AZIMUTH, DOWNTILT, AGL FROM SUNSIGHT INSTRUMENTS – ANTENNA ALIGNMENT TOOL (AAT)
 - SWEEP AND FIBER TESTS
 - SCALABLE BARCODE PHOTOGRAPHS OF TOWER TOP AND INACCESSIBLE SERIALIZED EQUIPMENT
 - ALL AVAILABLE JURISDICTIONAL PERMIT AND OCCUPANCY INFORMATION
 - PDF SCAN OF REDLINES PRODUCED IN FIELD
 - A PDF SCAN OF REDLINE MARK-UPS SUITABLE FOR USE IN ELECTRONIC AS-BUILT DRAWING PRODUCTION
 - LIEN WAIVERS
 - FINAL PAYMENT APPLICATION
 - REQUIRED FINAL CONSTRUCTION PHOTOS
 - CONSTRUCTION AND COMMISSIONING CHECKLIST COMPLETE WITH NO DEFICIENT ITEMS
 - APPLICABLE POST NTP TASKS INCLUDING DOCUMENT UPLOADS COMPLETED IN SPRINT VISION (SPRINTS DOCUMENT REPOSITORY OF RECORD).
 - CLOSEOUT PHOTOGRAPHS AND CLOSEOUT CHECKLIST: SPRINT WILL PROVIDE SEPARATE GUIDANCE

METHODS OF PROCEDURE (MOPS) FOR CONSTRUCTION:
CONTRACTOR SHALL PERFORM WORK AS DESCRIBED IN

- COAX COLOR CODING SWEEPS AND FIBER TESTING TS-0200 AND EL-0568
- CABLE LABELING EN-2012-00
- APPLICABLE INSTALLATION MOPS IDENTIFIED ELSEWHERE IN THE CONTRACT DOCUMENTS

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 CONTRACTORS LOCATION. CONTRACTOR TO COMPLETE SHIPPING AND RECEIPT DOCUMENTATION IN ACCORDANCE WITH COMPANY PRACTICE.

SECTION 01 300 – CELL SITE CONSTRUCTION

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:

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTS, INSPECTIONS AND PROJECT DOCUMENTATION.
- CONTRACTOR SHALL ACCOMPLISH TESTING INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
 - COAX SWEEPS AND FIBER TESTS PER TS-0200 REV 4 ANTENNA LINE ACCEPTANCE STANDARDS.
 - AGL, AZIMUTH AND DOWNTILT PROVIDE AN AUTOMATED REPORT UPLOADED TO SPRINT VISION USING A COMMERCIAL MADE-FOR THE PURPOSE ELECTRONIC ANTENNA ALIGNMENT TOOL (AAT). INSTALLED AZIMUTH, CENTERLINE AND DOWNTILT MUST CONFORM WITH RF CONFIGURATION DATA

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 A DESIGNATED ON THE CONSTRUCTION DRAWINGS.

- 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.
- ANTENNA MOUNTING REQUIREMENTS: PROVIDE ANTENNA MOUNTING HARDWARE AS INDICATED ON THE DRAWINGS.

HYBRID CABLE INSTALLATION:

- THE CONTRACTOR SHALL ROUTE, TEST, AND INSTALL ALL CABLES AS INDICATED ON THE CONSTRUCTION DRAWINGS AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
 - THE INSTALLED RADIUS OF THE CABLES SHALL NOT BE LESS THAN THE MANUFACTURER'S SPECIFICATIONS FOR BENDING RADII.
 - EXTREME CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE CABLES DURING HANDLING AND INSTALLATION.
- FASTENING MAIN HYBRID CABLES: ALL CABLES SHALL BE INSTALLED INSIDE MONOPOLE WITH CABLE SUPPORT GRIPS AS REQUIRED BY THE MANUFACTURER.
 - FASTENING INDIVIDUAL FIBER AND DC CABLES ABOVE BREAKOUT ENCLOSURE (MEDUSA), WITHIN THE MMBS CABINET AND ANY INTERMEDIATE DISTRIBUTION BOXES:
 - 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.
 - 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.
 - FASTENING JUMPERS: SECURE JUMPERS TO THE SIDE ARMS OR HEAD FRAMES USING STAINLESS STEEL TIE WRAPS OR STAINLESS STEEL BUTTERFLY CLIPS.
 - CABLE INSTALLATION:
 - INSPECT CABLE PRIOR TO USE FOR SHIPPING DAMAGE, NOTIFY THE CONSTRUCTION MANAGER.
 - 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.
 - HOIST CABLE USING PROPER HOISTING GRIPS. DO NOT EXCEED MANUFACTURER'S RECOMMENDED MAXIMUM BEND RADIUS.
 - GROUNDING OF TRANSMISSION LINES: ALL TRANSMISSION LINES SHALL BE GROUNDED AS INDICATED ON DRAWINGS.
 - HYBRID CABLE COLOR CODING: ALL COLOR CODING SHALL BE AS REQUIRED IN TS 0200 REV 4.
 - 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

SITE OWNER:

AMERICAN TOWER®
116 HUNTINGTON AVE, 11TH FLOOR
BOSTON, MASSACHUSETTS 02116

PLANS PREPARED FOR:
6580 Sprint Parkway
Overland Park, Kansas 66251

Sprint

PLANS PREPARED BY:
9900 West 109th Street, Suite 300
Overland Park, Kansas 66210
Phone: 913-438-7700
Fax: 913-438-7777

SSC

ENGINEERING LICENSE:
STATE OF MISSOURI
STATE CERTIFICATE OF AUTHORIZATION # EF-2791
ENGINEER: PE#: DISCIPLINE:
MILO MICHAEL L. OWENS E-29058 STRUCTURAL/CIVIL SC
KV KEVIN VANMAELE E-21581 STRUCTURAL/CIVIL SC
REJ ROBERT E. JENSEN E-28974 STRUCTURAL/CIVIL SC
TMS TERRANCE M. SUPER E-18521 ELECTRICAL
SDK SHELTON D. KEISLING E-27323 ELECTRICAL

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ISSUED FOR CONSTRUCTION		12/07/17	DCP	0

MLA SITE NAME & SITE NUMBER:
LEE S SUMMIT #1B
36075

APPLICANT SITE NAME & SITE CASCADE:
ATC#36075 LOWENSTEIN
KC25XC198

SITE ADDRESS:
2200 LOWENSTEIN
LEES SUMMIT, MISSOURI
64081

SHEET DESCRIPTION:
SPECIFICATIONS

DWG INFORMATION:
DRAWN BY: HEE
CHECKED BY: DCP

SHEET NUMBER:
SP-1



CONTINUE FROM SP-1

WEATHERPROOFING EXTERIOR CONNECTORS AND HYBRID CABLE GROUND KITS:

- A. ALL FIBER & COAX CONNECTORS AND GROUND KITS SHALL BE WEATHERPROOFED.
- B. ALL INSTALLATIONS MUST BE DONE IN ACCORDANCE WITH THE MANUFACTURE'S RECOMMENDATIONS AND INDUSTRY BEST PRACTICES.
- C. THE PREFERRED METHOD FOR WEATHERPROOFING IS THE 3M SLIM LOCK CLOSURE 716, OR SPRINT APPROVED EQUAL S SUCH AS PRODUCTS BY AMPHENOL AND JMA.
- D. IN LIMITED QUANTITY AS NEED THE FOLLOWING METHODS OF WEATHER PROOFING MAY ALSO BE USED.
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. OPEN FLAME ON JOB SITE IS NOT ACCEPTABLE

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

SUMMARY:

- A. THIS SECTION SPECIFIES MMBS CABINETS, POWER CABINETS, AND INTERNAL EQUIPMENT INCLUDING BY 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 REQUIRE 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 MMBS 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. **MATERIALS AND 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. **MATERIALS AND 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. SUNISTRUT 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:
- D. ENSURE THAT THE LOAD APPLIED BY ANY FASTENER DOES NOT EXCEED 25 PERCENT OF THE PROOF TEST LOAD.
- E. 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 PANELBOARD.

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 CEILINGS. EMT SHALL BE MILD STEEL, ELECTRICALLY WELDED, ELECTRO-GALVANIZED OR HOT-DIPPED GALVANIZED AND PRODUCED TO ANSI SPECIFICATION C80.3, FEDERAL SPECIFICATION WW-C-563, 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 OF 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.
- B. CABLE TERMINATION FITTINGS FOR CONDUIT
1. CABLE TERMINATORS FOR RGS CONDUITS SHALL BE TYPE CRC BY O-Z/GEDNEY OR EQUAL BY ROX TEC.
2. 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 8 OR EQUAL.
- E. MANUFACTURER FOR BOXES AND COVERS SHALL BE HOFFMAN, SQUARE "D", CROUSE-HINDS, COOPER, ADALET, APPLETON, O-Z GEDNEY, RACO, OR APPROVED EQUAL.

SUPPLEMENTAL GROUNDING SYSTEM

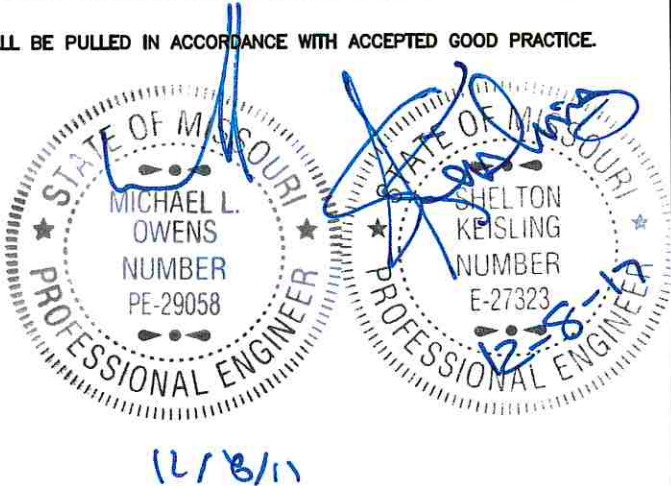
- A. FURNISH AND INSTALL A SUPPLEMENTAL GROUNDING SYSTEM TO THE EXTENT INDICATED ON THE DRAWINGS. SUPPORT SYSTEM WITH NON-MAGNETIC STAINLESS STEEL CLIPS WITH RUBBER GROMMETS. GROUNDING CONNECTORS SHALL BE TINNED COPPER WIRE, SIZES AS INDICATED ON THE DRAWINGS. PROVIDE STRANDED OR SOLID BARE OR INSULATED 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.



SITE OWNER:

AMERICAN TOWER®

116 HUNTINGTON AVE, 11TH FLOOR
BOSTON, MASSACHUSETTS 02116

PLANS PREPARED FOR:

6580 Sprint Parkway
Overland Park, Kansas 66251

Sprint

PLANS PREPARED BY:

9900 West 109th Street, Suite 300
Overland Park, Kansas 66210
Phone: 913-438-7700
Fax: 913-438-7777

SSC

ENGINEERING LICENSE:

STATE OF MISSOURI

STATE CERTIFICATE OF AUTHORIZATION # EF-2791

ENGINEER:	PE#:	DISCIPLINE:
MLO MICHAEL L. OWENS	E-29058	STRUCTURAL/CIVIL SC
KV KEVIN VANMAELE	E-21581	STRUCTURAL/CIVIL SC
REJ ROBERT E. JENSEN	E-28974	STRUCTURAL/CIVIL SC
TMS TERRANCE M. SUPER	E-18521	ELECTRICAL
SDK SHELTON D. KEISLING	E-27323	ELECTRICAL

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ISSUED FOR CONSTRUCTION		12/07/17	DCP	0

MLA SITE NAME & SITE NUMBER:

LEE S SUMMIT #1B
36075

APPLICANT SITE NAME & SITE CASCADE:

ATC#36075 LOWENSTEIN
KC25XC198

SITE ADDRESS:

2200 LOWENSTEIN
LEES SUMMIT, MISSOURI
64081

SHEET DESCRIPTION:

SPECIFICATIONS

DWG INFORMATION:	SHEET NUMBER:
DRAWN BY: HEE	SP-2
CHECKED BY: DCP	

Additional Drawing Requirements	
Additional RF Notes Special Construction Requirements	
Additional RF Notes	

RF Design Sheet

Report Date: 05/03/2017
Page 2 of 4

RF Design Sheet

Report Date: 05/03/2017
Page 2 of 4

RF Design Sheet

Report Date: 05/03/2017
Page 2 of 4

RF Design Sheet

Report Date: 05/03/2017

RF-1


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Sprint Technologies

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Sprint Technologies

www.spiritvision.com
Spirit Technologies

Report Date: 04/23/2018
Page 4 of 4

Band: B20	Alpha	Beta	Gamma	Delta	Epsilon	Zeta
Model Number	LDX-6100-A1M	LDX-6100-A1M	LDX-6100-A1M			
Frequency	46.2	46.2	46.2	N/A	N/A	N/A
Channel Spacing	191.5 x 18.5 x 6.2	121.5 x 15.4 x 8.3	191.5 x 16.8 x 8.3	N/A	N/A	N/A
Modulation	QPSK/SSB	QPSK/SSB	QPSK/SSB	N/A	N/A	N/A
Test Tip Arrow Mode/Mode Key	Yes/No	Yes/No	Yes/No	N/A	N/A	N/A
Alt F1 RF Test Arrow Mode/Mode Key	Yes/No	Yes/No	Yes/No	N/A	N/A	N/A
Alt F1 RF Test Arrow Mode/Mode Key Length	180s	N/A	N/A	N/A	N/A	N/A
Antenna 1 Antenna	3	325	260	N/A	N/A	N/A
Antenna 1 Mechanical DT	3	3	3	N/A	N/A	N/A
Antenna 1 Center Line/Inch	180	180	180	N/A	N/A	N/A
Antenna 1 Electrical DT	3	3	3	N/A	N/A	N/A
Antenna 1 Electrical DT 2	N/A	N/A	N/A	N/A	N/A	N/A
Antenna 1 Electrical DT 3	N/A	N/A	N/A	N/A	N/A	N/A
Antenna 1 Test	N/A	N/A	N/A	N/A	N/A	N/A
Antenna 2						
Model Number	WQ-4100	N/A	N/A	N/A	N/A	N/A
Frequency	N/A	N/A	N/A	N/A	N/A	N/A
Channel Spacing	N/A	N/A	N/A	N/A	N/A	N/A
Modulation	N/A	N/A	N/A	N/A	N/A	N/A
Test Tip Arrow Mode/Mode Key	N/A	Yes/No	Yes/No	N/A	Yes/No	Yes/No
Alt F1 RF Test Arrow Mode/Mode Key	N/A	N/A	N/A	N/A	N/A	N/A
Alt F1 RF Test Arrow Mode/Mode Key Length	N/A	N/A	N/A	N/A	N/A	N/A
Antenna 2 Antenna	N/A	N/A	N/A	N/A	N/A	N/A
Antenna 2 Mechanical DT	N/A	N/A	N/A	N/A	N/A	N/A
Antenna 2 Center Line/Inch	N/A	N/A	N/A	N/A	N/A	N/A
Antenna 2 Electrical DT	N/A	N/A	N/A	N/A	N/A	N/A
Antenna 2 Electrical DT 2	N/A	N/A	N/A	N/A	N/A	N/A
Antenna 2 Electrical DT 3	N/A	N/A	N/A	N/A	N/A	N/A
Antenna 2 Test	N/A	N/A	N/A	N/A	N/A	N/A

Sprint 

PLANS PREPARED BY:
 9900 West 109th Street, Suite 300
 Overland Park, Kansas 66210
 Phone: 913-438-7700
 Fax: 913-438-7777

ENGINEERING LICENSE:			
STATE OF <u>MISSOURI</u>			
STATE CERTIFICATE OF AUTHORIZATION # EF-2791			
ENGINEER:	PE#:	DISCIPLINE:	
MLO MICHAEL L. OWENS	E-29058	STRUCTURAL/CIVIL	SC
KY KATHYANN	E-29059	STRUCTURAL/CIVIL	SC
REJ ROBERT E. JENSEN	E-28974	STRUCTURAL/CIVIL	SC
TMS TERRANCE M. SUPER	E-18521	ELECTRICAL	E
SDK SHELTON D. KEISLING	E-27323	ELECTRICAL	E

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MLA SITE NAME & SITE NUMBER:
LEE S SUMMIT #1B
36075

APPLICANT SITE NAME & SITE CASCADE:
ATC#36075 LOWENSTEIN
KC25XC198

SITE ADDRESS:
2200 LOWENSTEIN
LEES SUMMIT, MISSOURI
64081

SHEET DESCRIPTION:

RF DATA SHEET

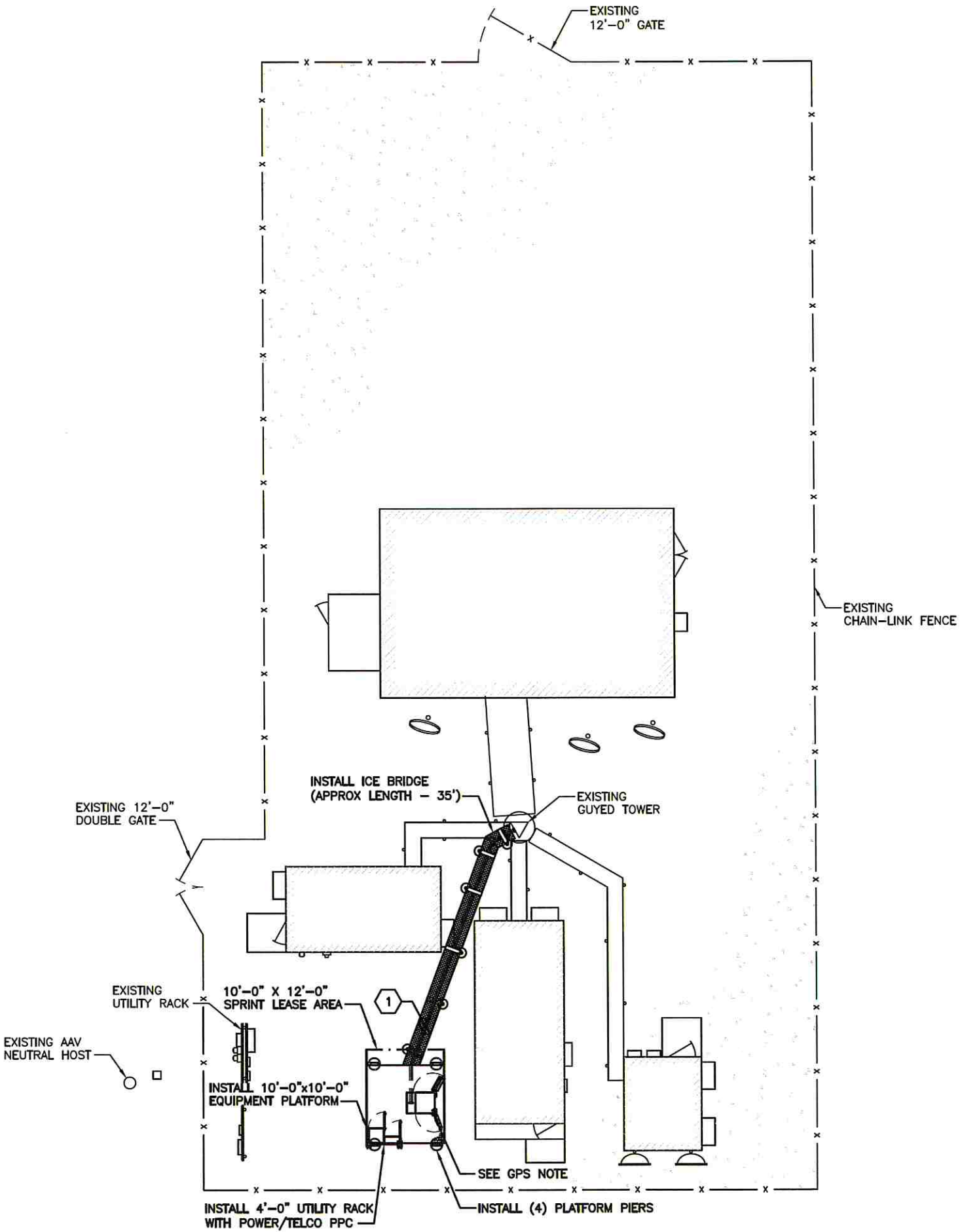
DWG INFORMATION:		SHEET NUMBER:
DRAWN BY:	HEE	RF-2
CHECKED BY:	DCP	

GPS NOTE:

CONTRACTOR TO INSTALL GPS ANTENNA ON AN ICE BRIDGE POST ONLY IF THE GPS ANTENNA CANNOT BE INSTALLED ON THE E-CAB IN A MANNER TO ENSURE CLEAR SKY TO THE SOUTH IS VISIBLE.

KEYED NOTES:

1 ROUTE (3) HV HYBRID CABLES ALONG UNDERSIDE OF EQUIPMENT PLATFORM TO ICE BRIDGE TO ANTENNA CENTERLINE. SECURE AS REQUIRED.



SITE OWNER:

AMERICAN TOWER*
116 HUNTINGTON AVE, 11TH FLOOR
BOSTON, MASSACHUSETTS 02116

PLANS PREPARED FOR:
6580 Sprint Parkway
Overland Park, Kansas 66251

Sprint

PLANS PREPARED BY:
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Overland Park, Kansas 66210
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Fax: 913-438-7777

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STATE CERTIFICATE OF AUTHORIZATION # EF-2791
ENGINEER: PE#: DISCIPLINE:
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KV KEVIN VANMAELE E-21551 STRUCTURAL/CIVIL SC
REJ ROBERT E. JENSEN E-28974 STRUCTURAL/CIVIL SC
TMS TERRANCE M. SUPER E-19521 ELECTRICAL E
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APPLICANT SITE NAME & SITE CASCADE:
ATC#36075 LOWENSTEIN
KC25XC198

SITE ADDRESS:
2200 LOWENSTEIN
LEES SUMMIT, MISSOURI
64081

SHEET DESCRIPTION:
OVERALL
SITE PLAN

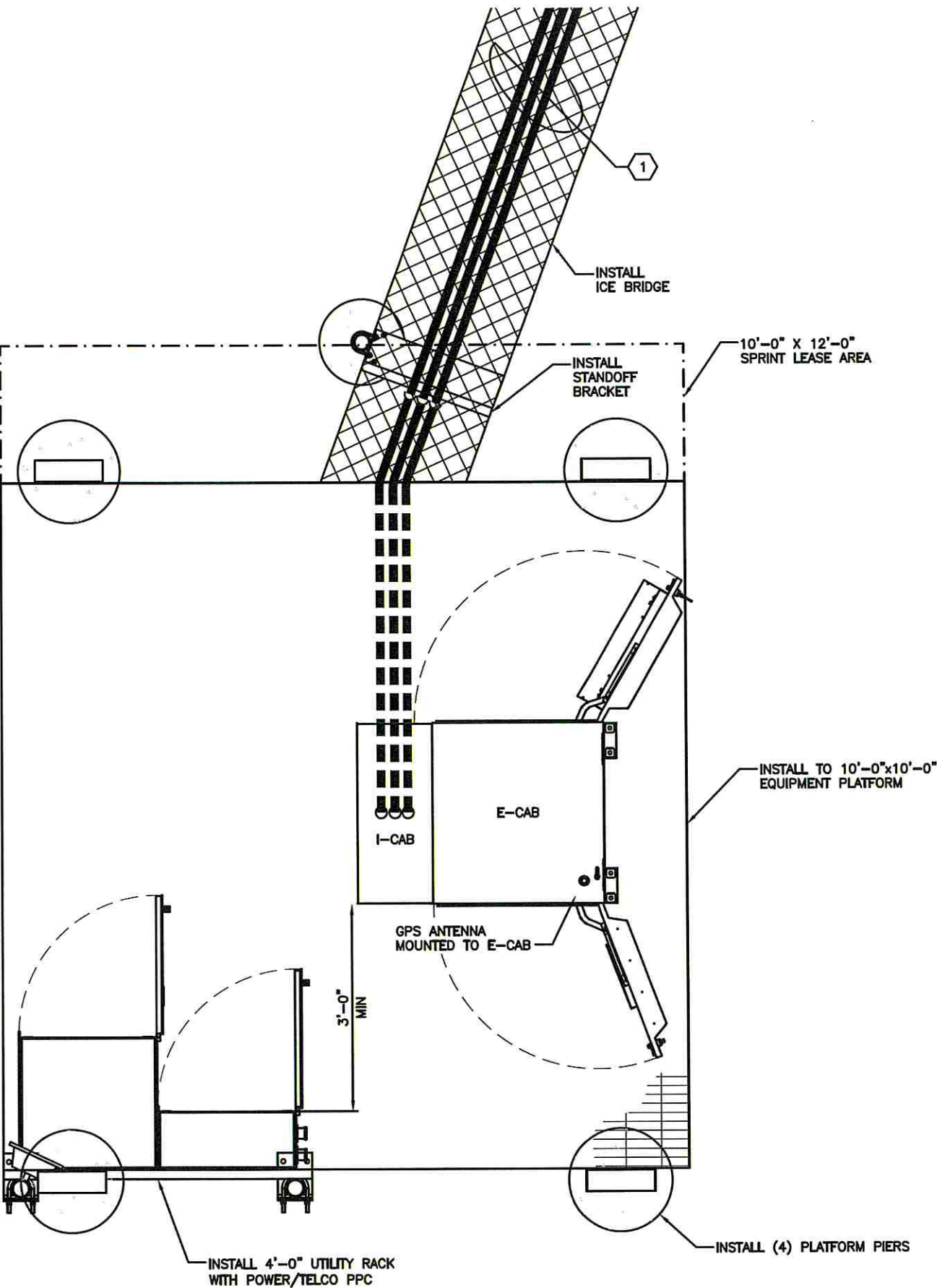
DWG INFORMATION:
DRAWN BY: HEE
CHECKED BY: DCP
SHEET NUMBER:
A-1

CONDUIT NOTE:

SEE SHEET E-1 FOR CONDUIT ROUTING

KEYED NOTES:

- 1 ROUTE (3) NY HYBRID CABLES ALONG UNDERSIDE OF EQUIPMENT PLATFORM TO ICE BRIDGE TO ANTENNA CENTERLINE. SECURE AS REQUIRED.



12/8/17

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Overland Park, Kansas 66251

Sprint

PLANS PREPARED BY:
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Phone: 913-438-7700
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STATE CERTIFICATE OF AUTHORIZATION #EF-2791

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KV KEVIN VANMAELE	E-21561	STRUCTURAL/CIVIL SC
REJ ROBERT E. JENSEN	E-28974	STRUCTURAL/CIVIL SC
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ATC#36075 LOWENSTEIN
KC25XC198

SITE ADDRESS:

2200 LOWENSTEIN
LEES SUMMIT, MISSOURI
64081

SHEET DESCRIPTION:

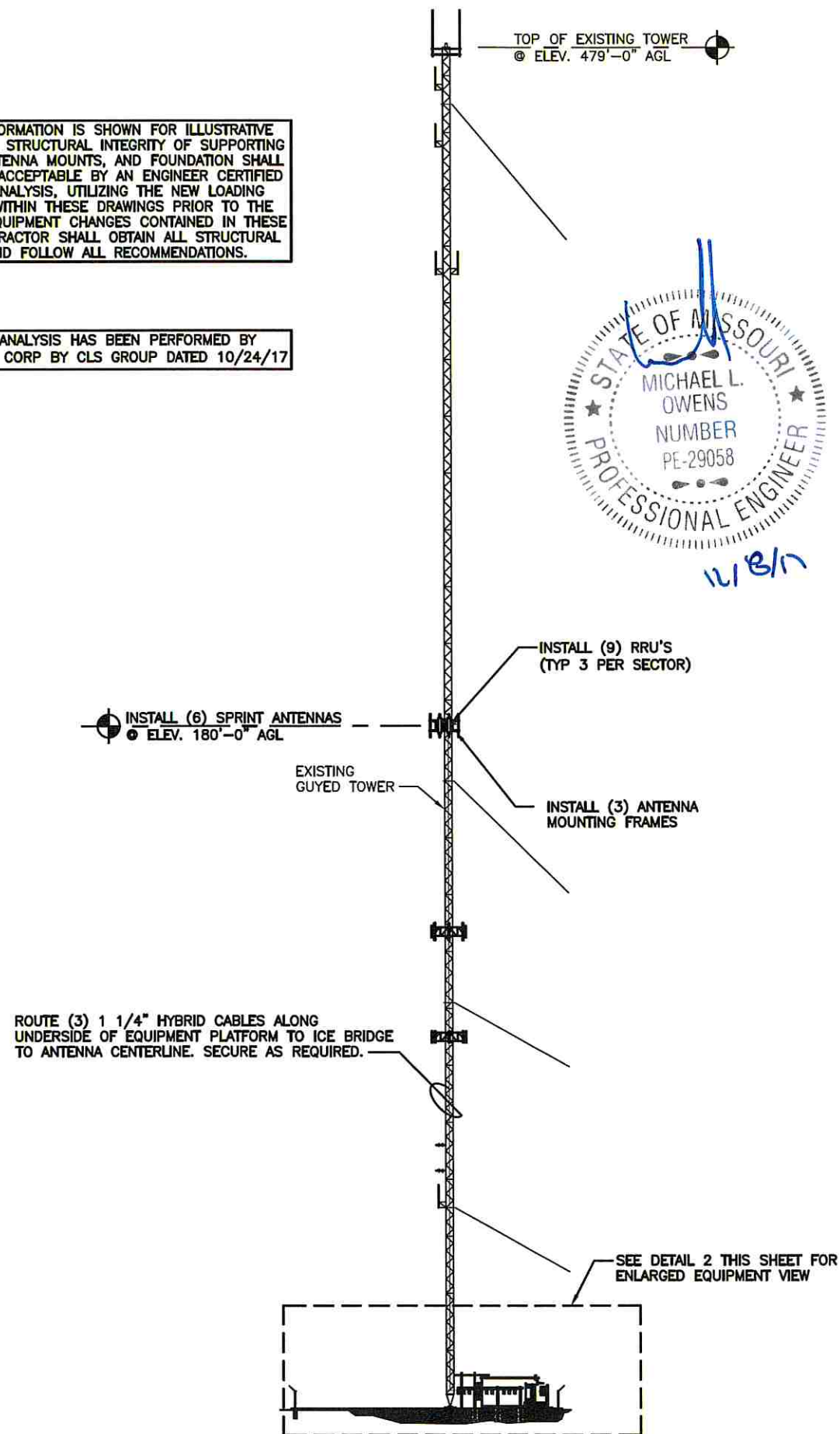
EQUIPMENT PLAN

DWG INFORMATION:

DRAWN BY:	CHECKED BY:	SHEET NUMBER:
HEE	DCP	A-2

STRUCTURE INFORMATION IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. STRUCTURAL INTEGRITY OF SUPPORTING STRUCTURES, ANTENNA MOUNTS, AND FOUNDATION SHALL BE VERIFIED AS ACCEPTABLE BY AN ENGINEER CERTIFIED STRUCTURAL ANALYSIS, UTILIZING THE NEW LOADING REPRESENTED WITHIN THESE DRAWINGS PRIOR TO THE EXECUTION OF EQUIPMENT CHANGES CONTAINED IN THESE DRAWINGS. CONTRACTOR SHALL OBTAIN ALL STRUCTURAL REPORTS AND FOLLOW ALL RECOMMENDATIONS.

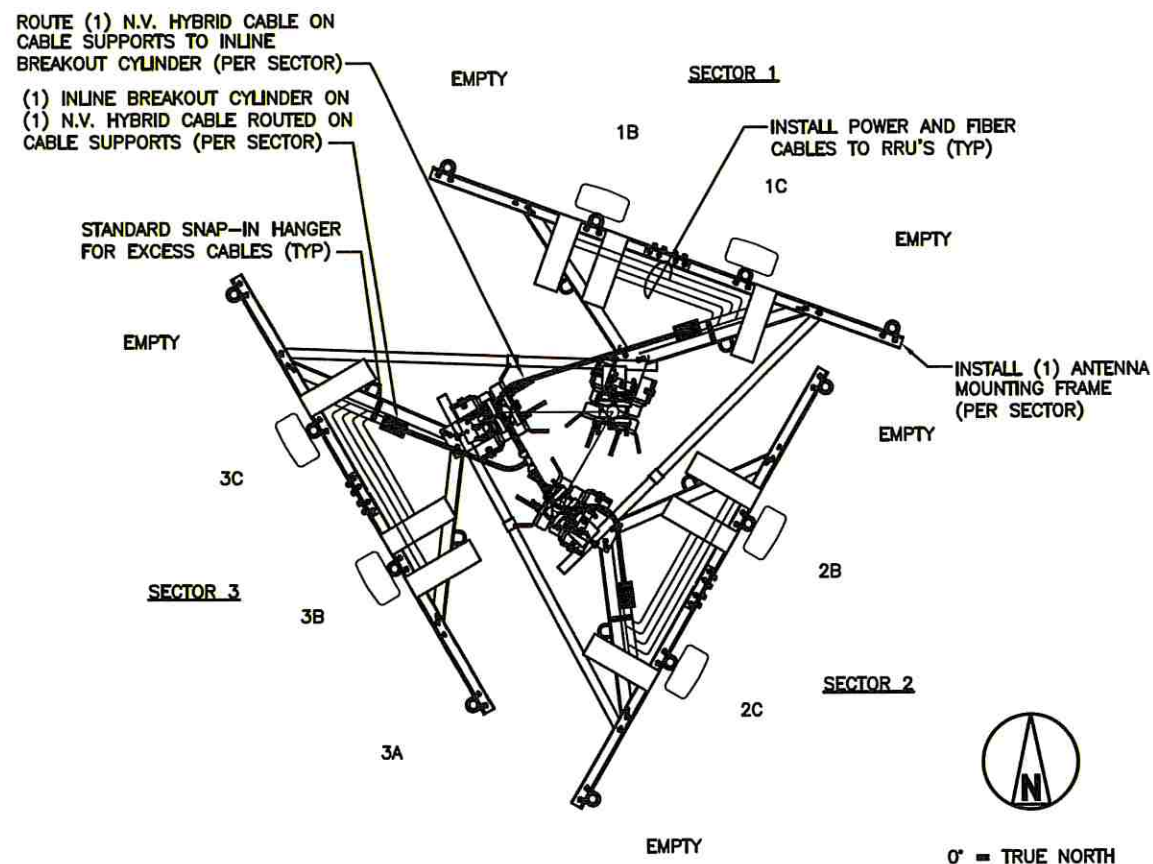
STRUCTURAL ANALYSIS HAS BEEN PERFORMED BY AMERICAN TOWER CORP BY CLS GROUP DATED 10/24/17



SITE ELEVATION

NO SCALE

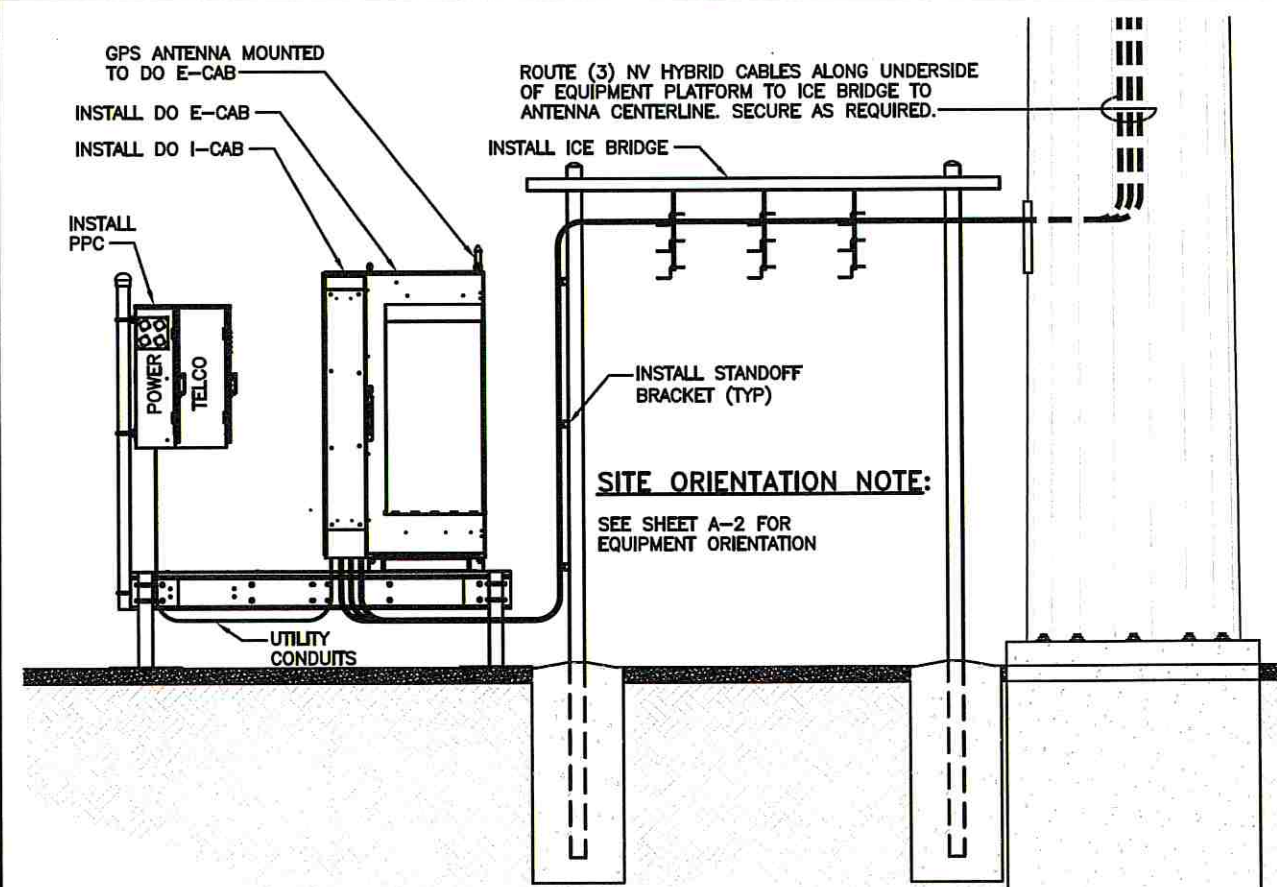
3



CABLE INSTALLATION PLAN

NO SCALE

1



EQUIPMENT SCHEMATIC DETAIL

NO SCALE

2

SITE OWNER:
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BOSTON, MASSACHUSETTS 02116

PLANS PREPARED FOR:
6580 Sprint Parkway
Overland Park, Kansas 66251

Sprint

PLANS PREPARED BY:
9900 West 109th Street, Suite 300
Overland Park, Kansas 66210
Phone: 913-438-7700
Fax: 913-438-7777

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ENGINEERING LICENSE:
STATE OF MISSOURI
STATE CERTIFICATE OF AUTHORIZATION # EF-2791
ENGINEER: MLO MICHAEL L. OWENS E-29058 STRUCTURAL/CIVIL SC
KV KEVIN VANMAELE E-21591 STRUCTURAL/CIVIL SC
REJ ROBERT E. JENSEN E-28914 STRUCTURAL/CIVIL SC
TMS TERRANCE M. SUPER E-19521 ELECTRICAL E
SDK SHELTON D. KEISLING E-27323 ELECTRICAL E

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36075

APPLICANT SITE NAME & SITE CASCADE:
ATC#36075 LOWENSTEIN
KC25XC198

SITE ADDRESS:
2200 LOWENSTEIN
LEES SUMMIT, MISSOURI
64081

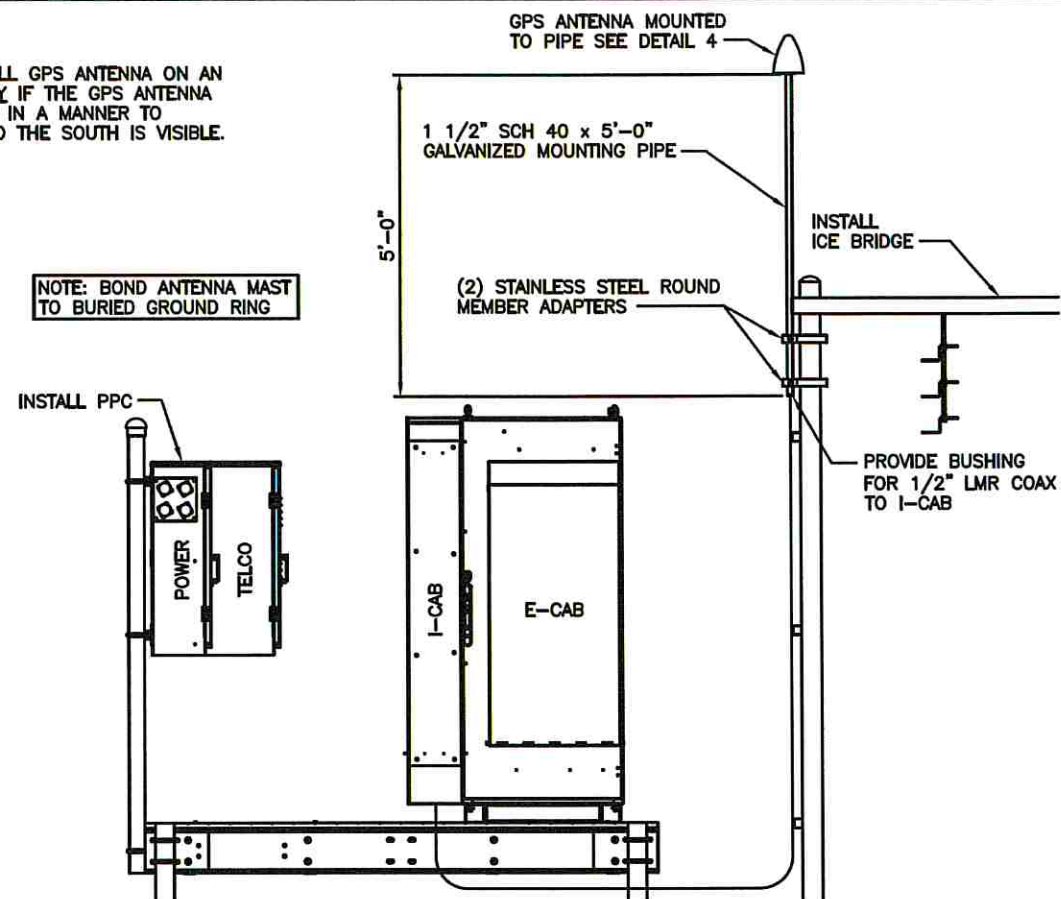
SHEET DESCRIPTION:
EQUIPMENT ELEVATIONS
& CABLE PLAN

DWG INFORMATION:
DRAWN BY: HEE
CHECKED BY: DCP
SHEET NUMBER:
A-3

NOTE:

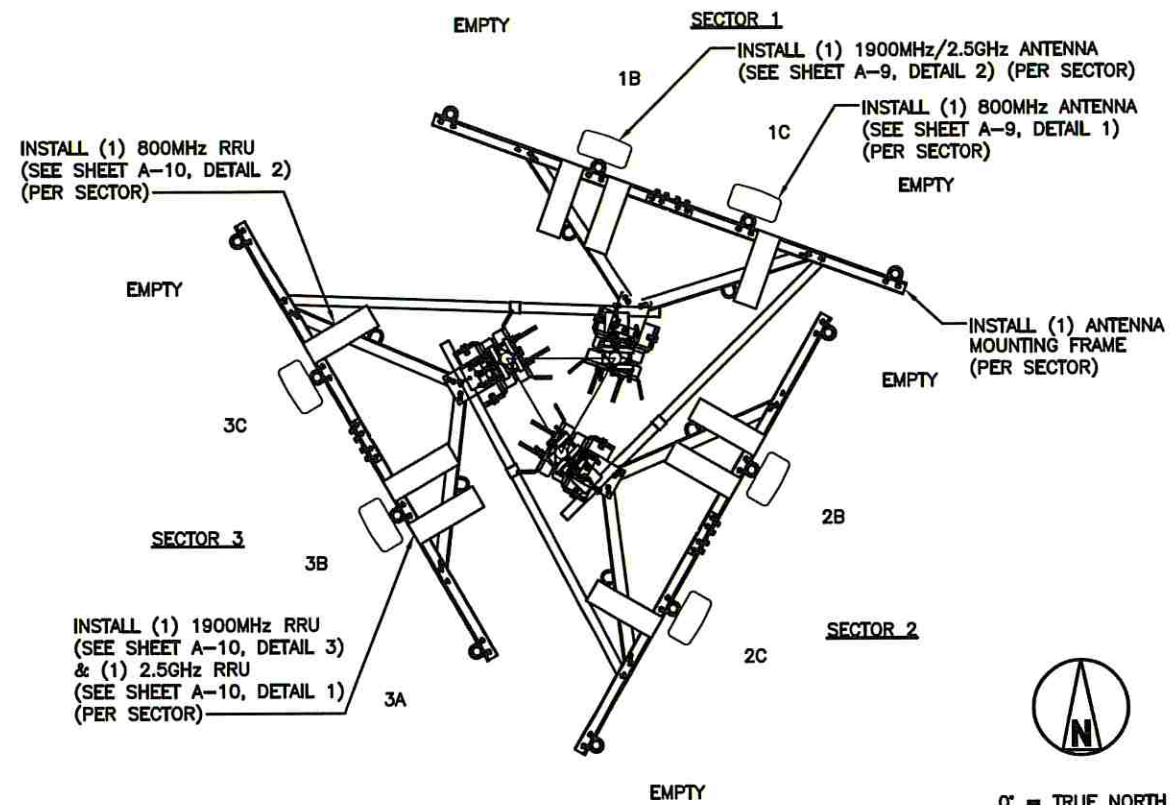
CONTRACTOR TO INSTALL GPS ANTENNA ON AN ICE BRIDGE POST ONLY IF THE GPS ANTENNA CANNOT BE INSTALLED IN A MANNER TO ENSURE CLEAR SKY TO THE SOUTH IS VISIBLE.

NOTE: BOND ANTENNA MAST TO BURIED GROUND RING

**GPS MOUNTING DETAIL (ALTERNATE)**

NO SCALE

1

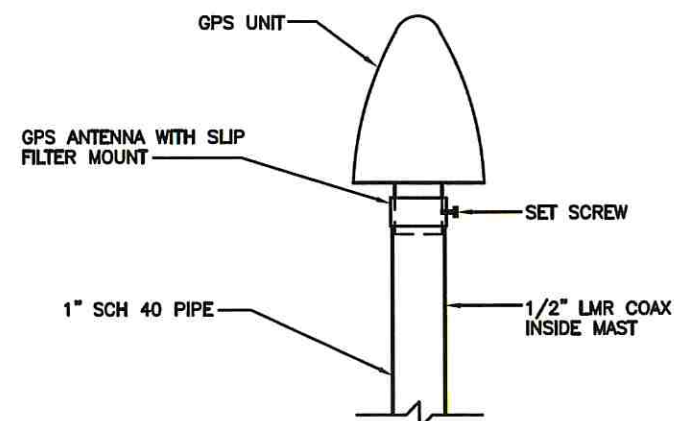
**FINAL ANTENNA & RRU LAYOUT @ 000'-0"**

NO SCALE

2

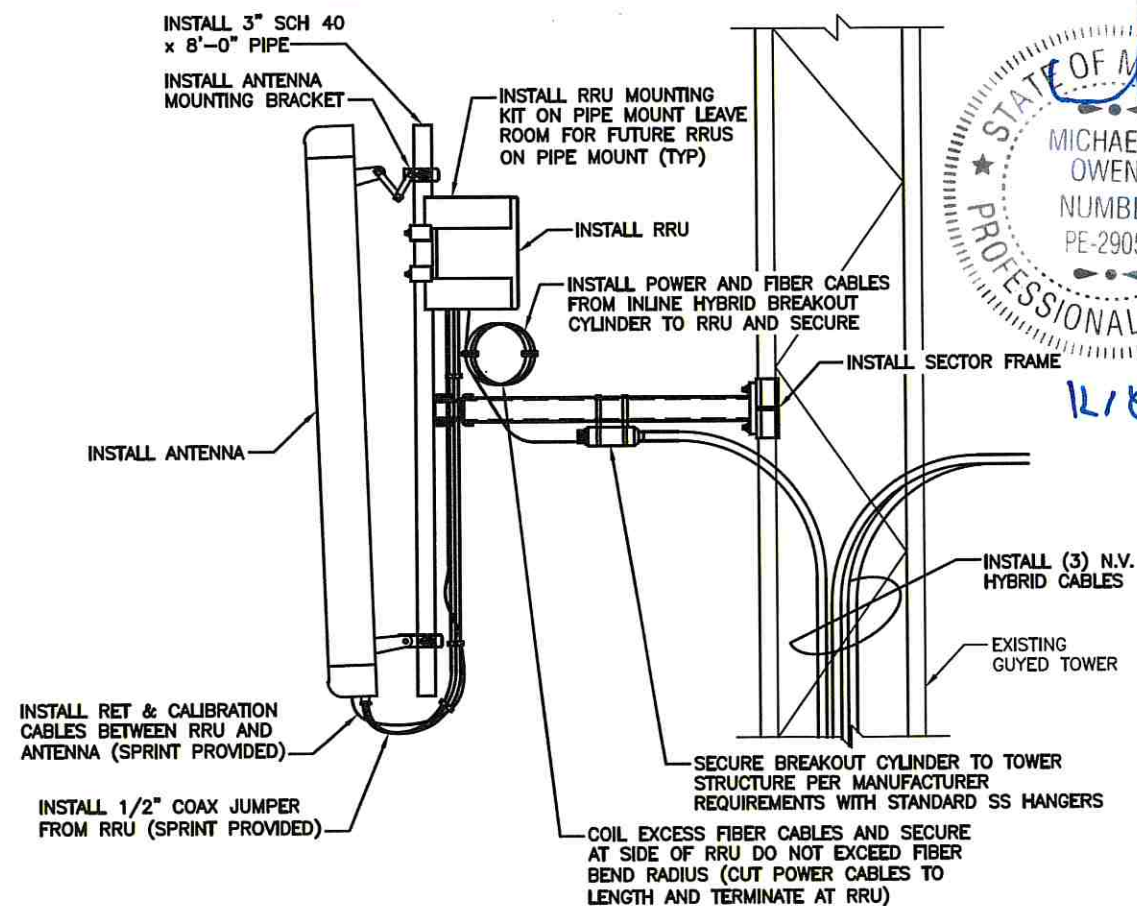
NOTES

1. THE GPS ANTENNA MOUNT IS DESIGNED TO FASTEN TO A STANDARD 1" DIAMETER, SCHEDULE 40, GALVANIZED STEEL PIPE. THE PIPE MUST NOT BE THREADED AT THE ANTENNA MOUNT END. THE PIPE SHALL BE CUT TO THE REQUIRED LENGTH (MINIMUM OF 18 INCHES, 8'-0" IF MOUNTING TO INSTALL MMBS-BBU) USING A HAND OR ROTARY PIPE CUTTER TO ASSURE A SMOOTH AND PERPENDICULAR CUT. A HACK SAW SHALL NOT BE USED. THE CUT PIPE END SHALL BE DEBURRED.
2. IT IS CRITICAL THAT THE GPS ANTENNA IS MOUNTED SUCH THAT IT IS WITHIN 2 DEGREES OF VERTICAL AND THE BASE OF THE ANTENNA IS WITHIN 2 DEGREES OF LEVEL.
3. SWEEP TEST PER TS-0200.
4. ATTACH GPS MOUNTING PIPE TO PLATFORM HANDRAIL OR ICE BRIDGE STRUCTURE USING (4) 8MMx15MM SS BOLTS AND (4) 1" PIPE STRAPS. GPS TO BE MOUNTED A MINIMUM OF 2'-0" ABOVE STRUCTURE.

**GPS MOUNT**

NO SCALE

4

**ANTENNA & RRU MOUNTING DETAIL**

NO SCALE

3

SITE OWNER:

AMERICAN TOWER*
116 HUNTINGTON AVE, 11TH FLOOR
BOSTON, MASSACHUSETTS 02116

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TMS TERRANCE M. SUPER E-18521 ELECTRICAL E
SDK SHELTON D. KEISLING E-27323 ELECTRICAL E

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LEE S SUMMIT #1B
36075

APPLICANT SITE NAME & SITE CASCADE:

ATC#36075 LOWENSTEIN
KC25XC198

SITE ADDRESS:

2200 LOWENSTEIN
LEES SUMMIT, MISSOURI
64081

SHEET DESCRIPTION:

ANTENNA LAYOUT &
MOUNTING DETAILS

DWG INFORMATION:

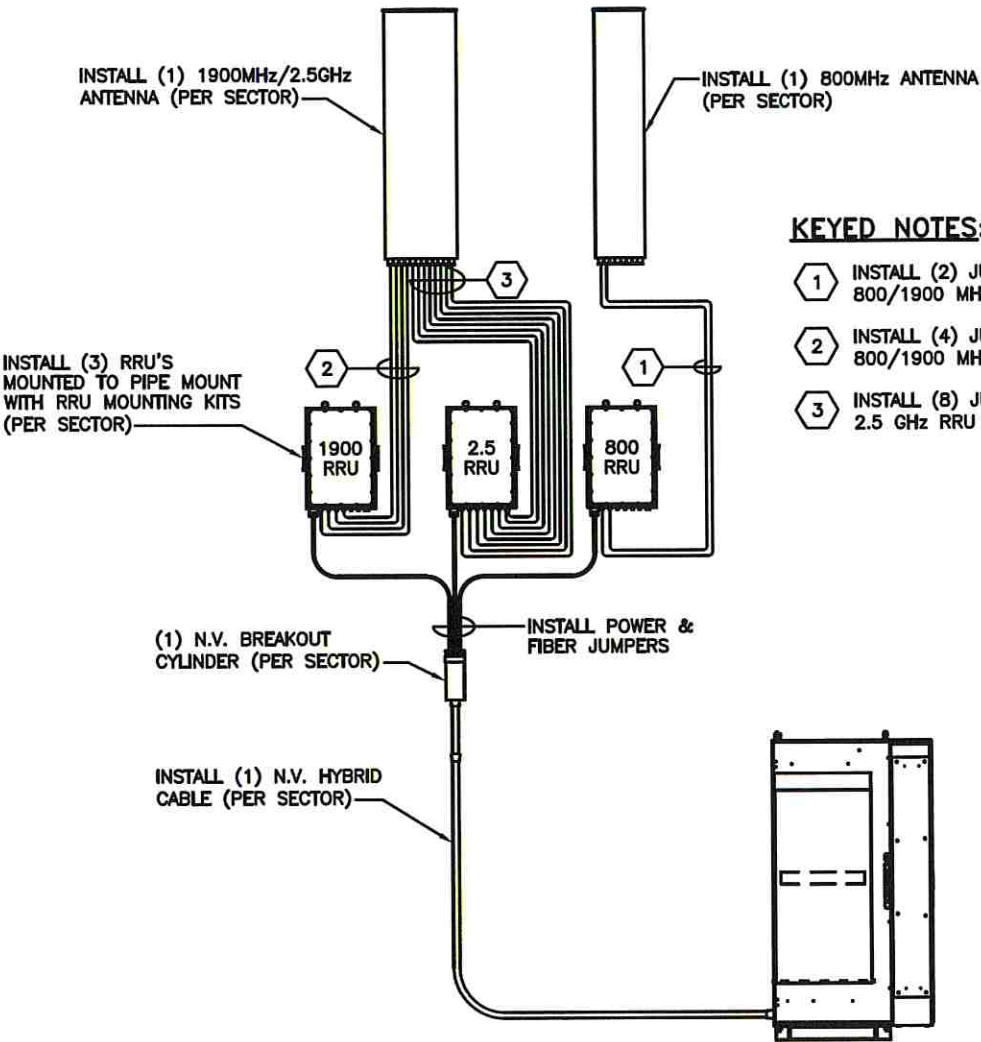
DRAWN BY: HEE
CHECKED BY: DCP

SHEET NUMBER:

A-4

ANTENNA SCHEDULE														
SECTOR	ANTENNA MODEL NUMBER	ANTENNA MANUFACTURER	HYBRID CABLES	AZIMUTH	RAD CENTER	ELECT D-TILT	MECH D-TILT	RRU MODEL NUMBER	RRU MANUFACTURER	FILTER MODEL # (IF NEEDED)	FILTER MANUFACTURER	JUMPER SIZE	JUMPER QTY	JUMPER LENGTH
1A	EMPTY	—	—	—	—	—	—	—	—	—	—	—	—	—
1B	HHT465B—PF—2XR	COMMSCOPE	(1) N.V. HYBRID CABLE	20°	180°—0"	0°	0°	RRU 31	ERICSSON	—	—	1/2"	4	15'—0"
								RRU 82	ERICSSON	—	—	1/2"	8	15'—0"
1C	LDX—6516DS—VTM	COMMSCOPE	SHARED WITH N.V. HYBRID CABLE	20°	180°—0"	3°	0°	RRUS—11	ERICSSON	—	—	1/2"	2	15'—0"
1D	EMPTY	—	—	—	—	—	—	—	—	—	—	—	—	—
2A	EMPTY	—	—	—	—	—	—	—	—	—	—	—	—	—
2B	HHT465B—PF—2XR	COMMSCOPE	(1) N.V. HYBRID CABLE	120°	180°—0"	0°	0°	RRU 31	ERICSSON	—	—	1/2"	4	15'—0"
								RRU 82	ERICSSON	—	—	1/2"	8	15'—0"
2C	LDX—6516DS—VTM	COMMSCOPE	SHARED WITH N.V. HYBRID CABLE	120°	180°—0"	3°	0°	RRUS—11	ERICSSON	—	—	1/2"	2	15'—0"
2D	EMPTY	—	—	—	—	—	—	—	—	—	—	—	—	—
3A	EMPTY	—	—	—	—	—	—	—	—	—	—	—	—	—
3B	HHT465B—PF—2XR	COMMSCOPE	(1) N.V. HYBRID CABLE	240°	180°—0"	0°	0°	RRU 31	ERICSSON	—	—	1/2"	4	15'—0"
								RRU 82	ERICSSON	—	—	1/2"	8	15'—0"
3C	LDX—6516DS—VTM	COMMSCOPE	SHARED WITH N.V. HYBRID CABLE	240°	180°—0"	3°	0°	RRUS—11	ERICSSON	—	—	1/2"	2	15'—0"
3D	EMPTY	—	—	—	—	—	—	—	—	—	—	—	—	—

TYPICAL SECTOR



KEYED NOTES:

- 1 INSTALL (2) JUMPERS FROM 800 MHz RRU TO 800/1900 MHz ANTENNA (PER SECTOR)
- 2 INSTALL (4) JUMPERS FROM 1900 MHz RRU TO 800/1900 MHz ANTENNA (PER SECTOR)
- 3 INSTALL (8) JUMPERS & (1) CALIBRATION CABLE FROM 2.5 GHz RRU TO 2.5 GHz ANTENNA (PER SECTOR)



SITE OWNER:

AMERICAN TOWER®
116 HUNTINGTON AVE, 11TH FLOOR
BOSTON, MASSACHUSETTS 02116

PLANS PREPARED FOR:
6580 Sprint Parkway
Overland Park, Kansas 66251

Sprint

PLANS PREPARED BY:
9900 West 109th Street, Suite 300
Overland Park, Kansas 66210
Phone: 913-438-7700
Fax: 913-438-7777

SSC

ENGINEERING LICENSE:
STATE OF MISSOURI
STATE CERTIFICATE OF AUTHORIZATION # EF-2791

ENGINEER:	PER#:	DISCIPLINE:
MLO MICHAEL L. OWENS	E-29058	STRUCTURAL/CIVIL SC
KV KEVIN VANMAELE	E-21581	STRUCTURAL/CIVIL SC
REJ ROBERT E. JENSEN	E-28974	STRUCTURAL/CIVIL SC
TMS TERRANCE M. SUPER	E-18521	ELECTRICAL
SDK SHELTON D. KEISLING	E-27323	ELECTRICAL

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MLA SITE NAME & SITE NUMBER:

LEE S SUMMIT #1B
36075

APPLICANT SITE NAME & SITE CASCADE:

ATC#36075 LOWENSTEIN
KC25XC198

SITE ADDRESS:

2200 LOWENSTEIN
LEES SUMMIT, MISSOURI
64081

SHEET DESCRIPTION:

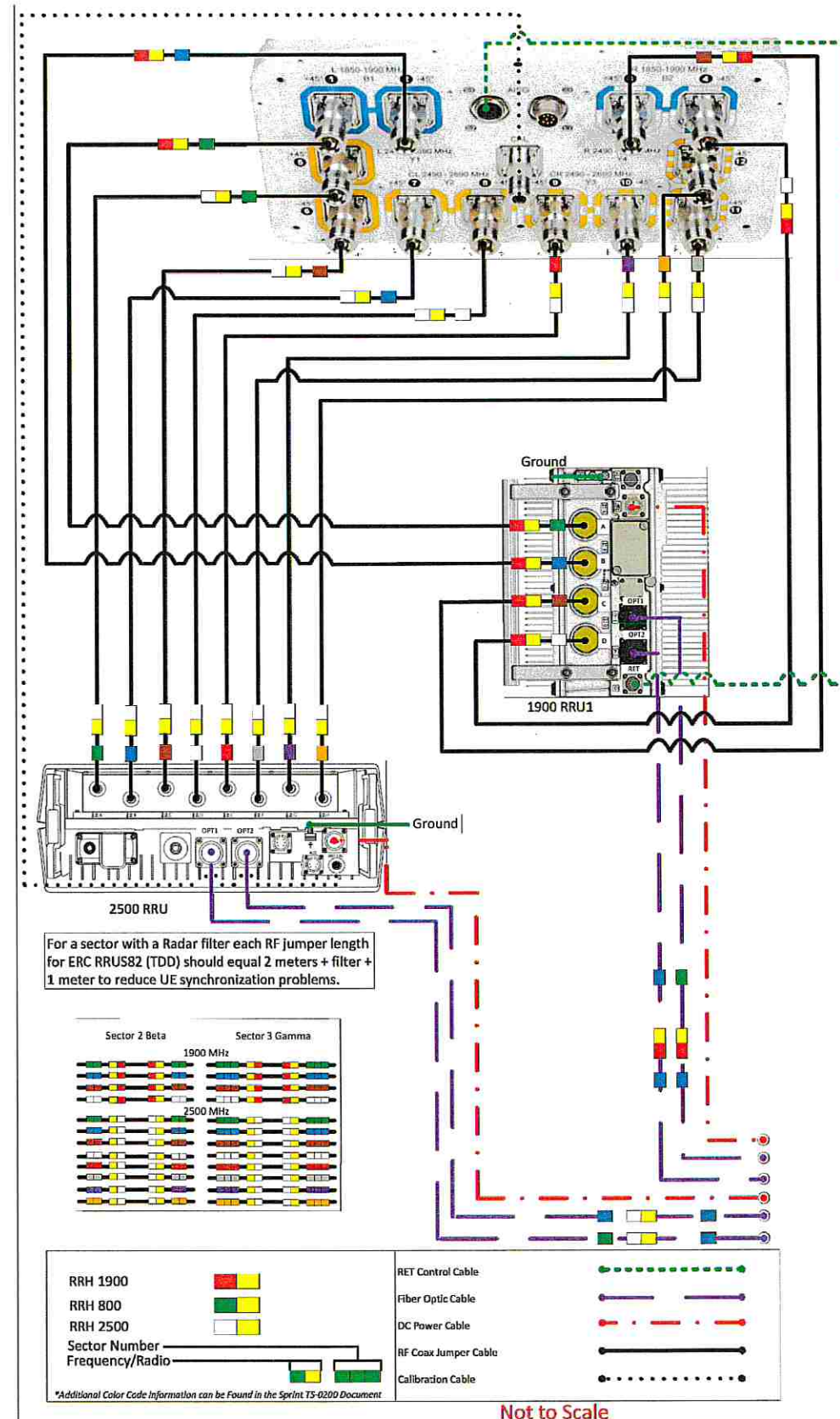
ANTENNA SCHEDULE &
EQUIPMENT INFORMATION

DWG INFORMATION:		SHEET NUMBER:
DRAWN BY:	HEE	A-5.1
CHECKED BY:	DCP	

Prepared By Mark Elliott	Revision Date December 1, 2017	Revision Number R1
Approved By RAN Hardware & Antenna Teams	Approval Date Final-Macro Generated	



ERC 011 HHT465B-PF-2XR wo Filters



Not to Scale



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ATC#36075 LOWENSTEIN
KC25XC198

SITE ADDRESS:
2200 LOWENSTEIN
LEES SUMMIT, MISSOURI
64081

SHEET DESCRIPTION:
RFDS PLUMBING
DIAGRAM

DWG INFORMATION:
DRAWN BY: HEE
CHECKED BY: DCP

SHEET NUMBER:
A-5.2



SITE OWNER:

AMERICAN TOWER*
116 HUNTINGTON AVE, 11TH FLOOR
BOSTON, MASSACHUSETTS 02116

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ATC#36075 LOWENSTEIN
KC25XC198

SITE ADDRESS:

2200 LOWENSTEIN
LEES SUMMIT, MISSOURI
64081

SHEET DESCRIPTION:

FEEDLINE
COLOR CODING

DWG INFORMATION:		SHEET NUMBER:
DRAWN BY:	HEE	A-5.3
CHECKED BY:	DCP	

RRH-1 800

Sector #	Radio Port #	First Ring	Second Ring	Third Ring	Space	Sector #	Frequency-Radio #
1	1	Green	No tape	No tape		Yellow	Green
1	2		No tape	No tape		Yellow	Green

Sector #	Cable #	First Ring	Second Ring	Third Ring	Space	Sector #	Frequency-Radio #
2	1	Green	Green	No tape		Yellow	Green
2	2			No tape		Yellow	Green

Sector #	Radio Port #	First Ring	Second Ring	Thrid Ring	Space	Sector #	Frequency-Radio #
3	1	Green	Green	Green		Yellow	Green
3	2					Yellow	Green

RRH-2 800

Sector #	Radio Port #	First Ring	Second Ring	Third Ring	Space	Sector #	Frequency-Radio #
1	1	Green	No tape	No tape		Yellow	Orange
1	2		No tape	No tape		Yellow	Orange

Sector #	Radio Port #	First Ring	Second Ring	Third Ring	Space	Sector #	Frequency-Radio #
2	1	Green	Green	No tape		Yellow	Orange
2	2			No tape		Yellow	Orange

Sector #	Radio Port #	First Ring	Second Ring	Thrid Ring	Space	Sector #	Frequency-Radio #
3	1	Green	Green	Green		Yellow	Orange
3	2					Yellow	Orange

RRH-1 1900

Sector #	Radio Port #	First Ring	Second Ring	Third Ring	Space	Sector #	Frequency-Radio #
1	1	Green	No tape	No tape		Yellow	Red
1	2		No tape	No tape		Yellow	Red
1	3	Brown	No tape	No tape		Yellow	Red
1	4	White	No tape	No tape		Yellow	Red

Sector #	Radio Port #	First Ring	Second Ring	Third Ring	Space	Sector #	Frequency-Radio #
2	1	Green	Green	No tape		Yellow	Red
2	2			No tape		Yellow	Red
2	3	Brown	Brown	No tape		Yellow	Red
2	4	White	White	No tape		Yellow	Red

Sector #	Radio Port #	First Ring	Second Ring	Thrid Ring	Space	Sector #	Frequency-Radio #
3	1	Green	Green	Green		Yellow	Red
3	2					Yellow	Red
3	3	Brown	Brown	Brown		Yellow	Red
3	4	White	White	White		Yellow	Red

RRH-2 1900

Sector #	Radio Port #	First Ring	Second Ring	Third Ring	Space	Sector #	Frequency-Radio #
1	1	Green	No tape	No tape		Yellow	Brown
1	2		No tape	No tape		Yellow	Brown
1	3	Brown	No tape	No tape		Yellow	Brown
1	4	White	No tape	No tape		Yellow	Brown

Sector #	Radio Port #	First Ring	Second Ring	Third Ring	Space	Sector #	Frequency-Radio #
2	1	Green	Green	No tape		Yellow	Brown
2	2			No tape		Yellow	Brown
2	3	Brown	Brown	No tape		Yellow	Brown
2	4	White	White	No tape		Yellow	Brown

Sector #	Radio Port #	First Ring	Second Ring	Thrid Ring	Space	Sector #	Frequency-Radio #
3	1	Green	Green	Green		Yellow	Brown
3	2					Yellow	Brown
3	3	Brown	Brown	Brown		Yellow	Brown
3	4	White	White	White		Yellow	Brown

RRH-3 1900

Sector #	Radio Port #	First Ring	Second Ring	Third Ring	Space	Sector #	Frequency-Radio #
1	1	Green	No tape	No tape		Yellow	
1	2		No tape	No tape		Yellow	
1	3	Brown	No tape	No tape		Yellow	
1	4	White	No tape	No tape		Yellow	

Sector #	Radio Port #	First Ring	Second Ring	Third Ring	Space	Sector #	Frequency-Radio #
2	1	Green	Green	No tape		Yellow	
2	2			No tape		Yellow	
2	3	Brown	Brown	No tape		Yellow	
2	4	White	White	No tape		Yellow	

Sector #	Radio Port #	First Ring	Second Ring	Thrid Ring	Space	Sector #	Frequency-Radio #
3	1	Green	Green	Green		Yellow	
3	2					Yellow	
3	3	Brown	Brown	Brown		Yellow	
3	4	White	White	White		Yellow	

RRH-1 2500

Sector #	Radio Port #	First Ring	Second Ring	Third Ring	Space	Sector #	Frequency-Radio #
1	1	Green	No tape	No tape		Yellow	White
1	2		No tape	No tape		Yellow	White
1	3	Brown	No tape	No tape		Yellow	White
1	4	White	No tape	No tape		Yellow	White
1	5	Red	No tape	No tape		Yellow	White
1	6	Gray	No tape	No tape		Yellow	White
1	7		No tape	No tape		Yellow	White
1	8	Orange	No tape	No tape		Yellow	White

Sector #	Radio Port #	First Ring	Second Ring	Third Ring	Space	Sector #	Frequency-Radio #
2	1	Green	Green	No tape		Yellow	White
2	2			No tape		Yellow	White
2	3	Brown	Brown	No tape		Yellow	White
2	4	White	White	No tape		Yellow	White
2	5	Red	Red	No tape		Yellow	White
2	6	Gray	Gray	No tape		Yellow	White
2	7			No tape		Yellow	White
2	8	Orange	Orange	No tape		Yellow	White

Sector #	Radio Port #	First Ring	Second Ring	Thrid Ring	Space	Sector #	Frequency-Radio #
3	1	Green	Green	Green		Yellow	White
3	2					Yellow	White
3	3	Brown	Brown	Brown		Yellow	White
3	4	White	White	White		Yellow	White
3	5	Red	Red	Red		Yellow	White
3	6	Gray	Gray	Gray		Yellow	White
3	7					Yellow	White
3	8	Orange	Orange	Orange		Yellow	White

RRH-2 2500

Sector #	Radio Port #	First Ring	Second Ring	Third Ring	Space	Sector #	Frequency-Radio #
1	1	Green	No tape	No tape		Yellow	
1	2		No tape	No tape		Yellow	
1	3	Brown	No tape	No tape		Yellow	
1	4	White	No tape	No tape		Yellow	
1	5	Red	No tape	No tape		Yellow	
1	6	Gray	No tape	No tape		Yellow	
1	7		No tape	No tape		Yellow	
1	8	Orange	No tape	No tape		Yellow	

Sector #	Radio Port #	First Ring	Second Ring	Third Ring	Space	Sector #	Frequency-Radio #
2	1	Green	Green	No tape		Yellow	
2	2			No tape		Yellow	
2	3	Brown	Brown	No tape		Yellow	
2	4	White	White	No tape		Yellow	
2	5	Red	Red	No tape		Yellow	
2	6	Gray	Gray	No tape		Yellow	
2	7			No tape		Yellow	
2	8	Orange	Orange	No tape		Yellow	

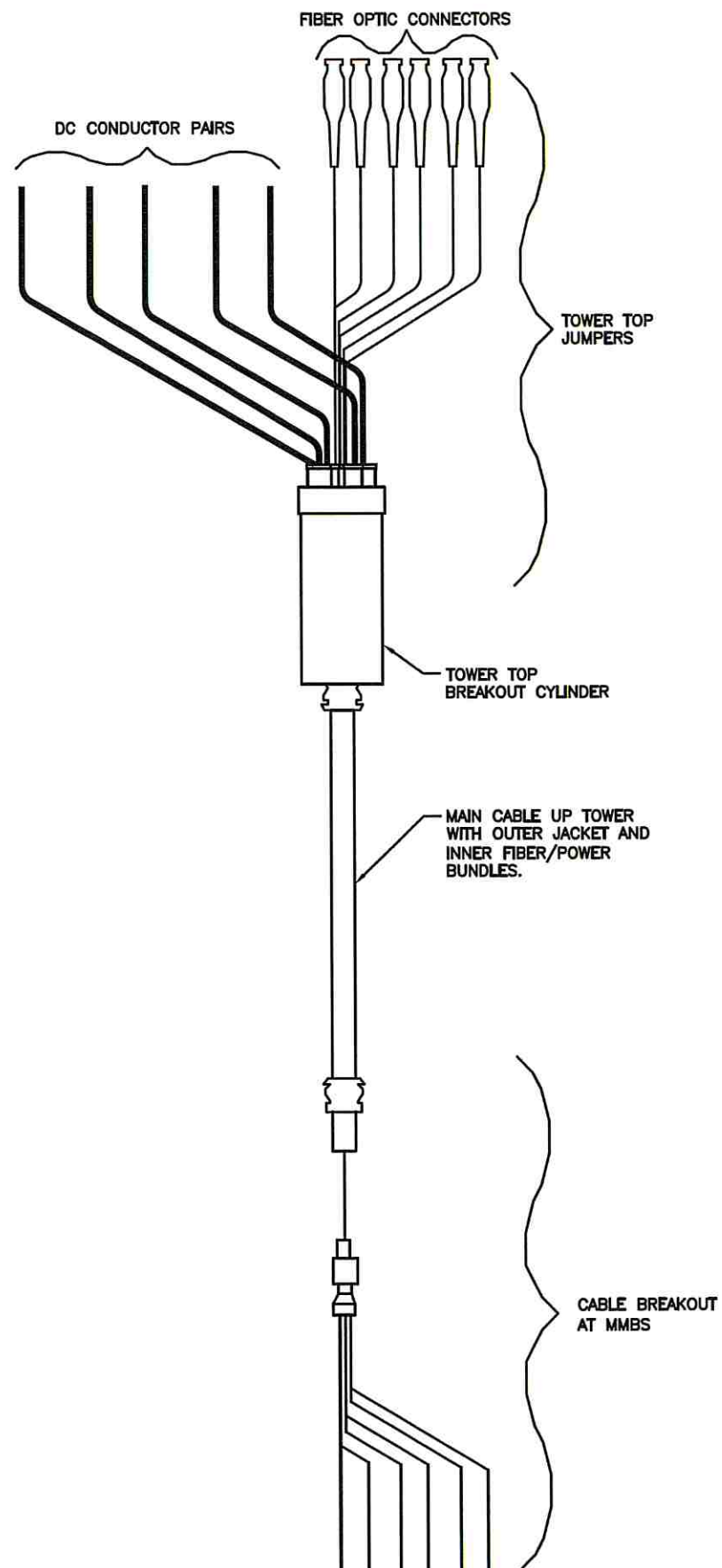
Sector #	Radio Port #	First Ring	Second Ring	Thrid Ring	Space	Sector #	Frequency-Radio #
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3	2					Yellow	
3	3	Brown	Brown	Brown		Yellow	
3	4	White	White	White		Yellow	
3	5	Red	Red	Red		Yellow	
3	6	Gray	Gray	Gray		Yellow	
3	7					Yellow	
3	8	Orange	Orange	Orange		Yellow	

RRH-3 2500

Sector #	Radio Port #	First Ring	Second Ring	Third Ring	Space	Sector #	Frequency-Radio #
1	1	Green	No tape	No tape		Yellow	Gray
1	2		No tape	No tape		Yellow	Gray
1	3	Brown	No tape	No tape		Yellow	Gray
1	4	White	No tape	No tape		Yellow	Gray
1	5	Red	No tape	No tape		Yellow	Gray
1	6	Gray	No tape	No tape		Yellow	Gray
1	7		No tape	No tape		Yellow	Gray
1	8	Orange	No tape	No tape		Yellow	Gray

Sector #	Radio Port #	First Ring	Second Ring	Third Ring	Space	Sector #	Frequency-Radio #
2	1	Green	Green	No tape		Yellow	Gray
2	2			No tape		Yellow	Gray
2	3	Brown	Brown	No tape		Yellow	Gray
2	4	White	White	No tape		Yellow	Gray
2	5	Red	Red	No tape		Yellow	Gray
2	6	Gray	Gray	No tape		Yellow	Gray
2	7			No tape		Yellow	Gray
2	8	Orange	Orange	No tape		Yellow	Gray

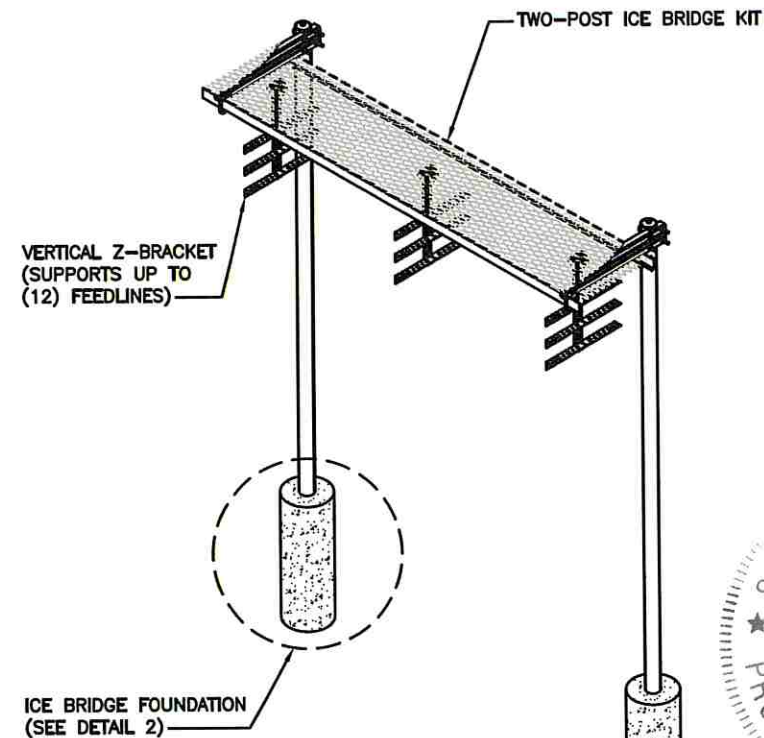
Sector #	Radio Port #	First Ring	Second Ring	Thrid Ring	Space	Sector #	Frequency-Radio #
3	1	Green	Green	Green		Yellow	Gray
3	2					Yellow	Gray
3	3	Brown	Brown	Brown		Yellow	Gray
3	4	White	White	White		Yellow	Gray
3	5	Red	Red	Red		Yellow	Gray
3	6	Gray	Gray	Gray		Yellow	Gray
3	7					Yellow	Gray
3	8	Orange	Orange	Orange		Yellow	Gray



HYBRID CABLE

NO SCALE

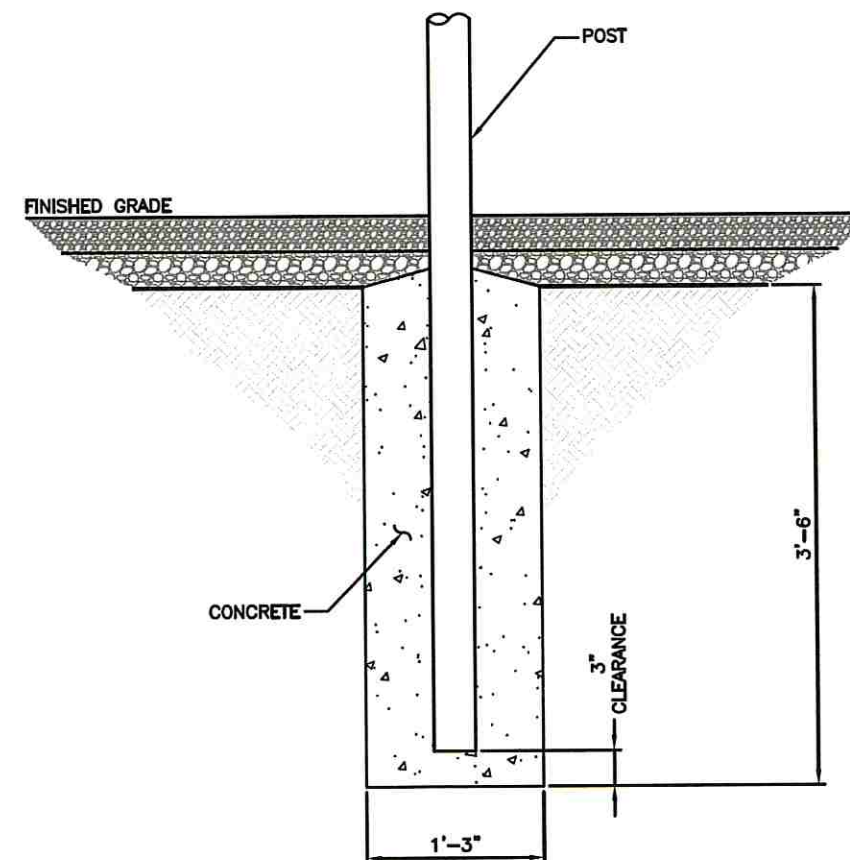
3



ICE BRIDGE

NO SCALE

1



POST FOUNDATION

NO SCALE

2

SITE OWNER:

AMERICAN TOWER®
116 HUNTINGTON AVE, 11TH FLOOR
BOSTON, MASSACHUSETTS 02116

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Sprint

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Phone: 913-438-7700
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SSC

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STATE CERTIFICATE OF AUTHORIZATION # EF-2791

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ATC#36075 LOWENSTEIN
KC25XC198

SITE ADDRESS:
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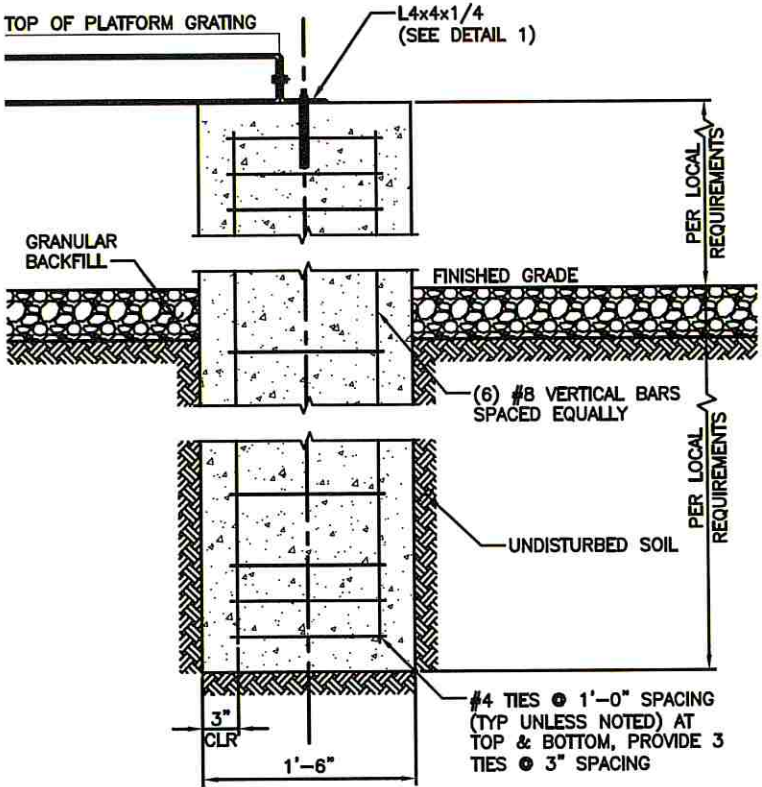
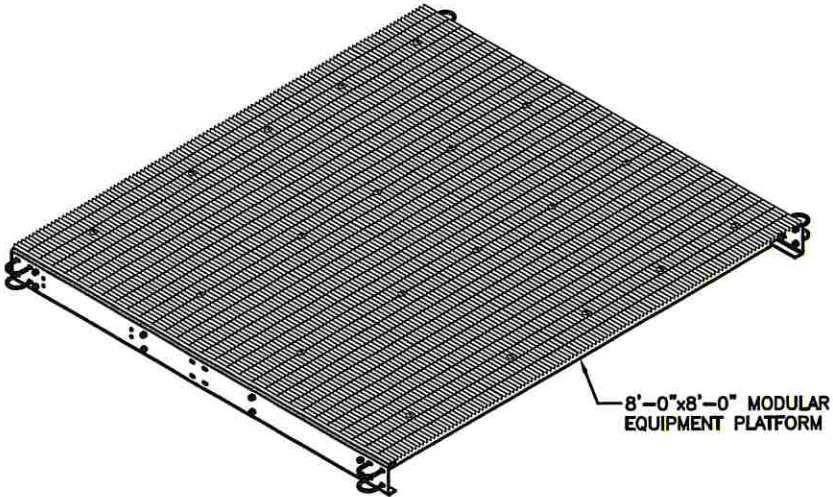
SHEET DESCRIPTION:
EQUIPMENT DETAILS

DWG INFORMATION:
DRAWN BY: HEE
CHECKED BY: DCP

SHEET NUMBER:
A-6

PLATFORM NOTE:

PLATFORM CAPACITY SHALL BE
8,000 lbs MIN.



PLATFORM

NO SCALE

1

PLATFORM PIER DETAIL

NO SCALE

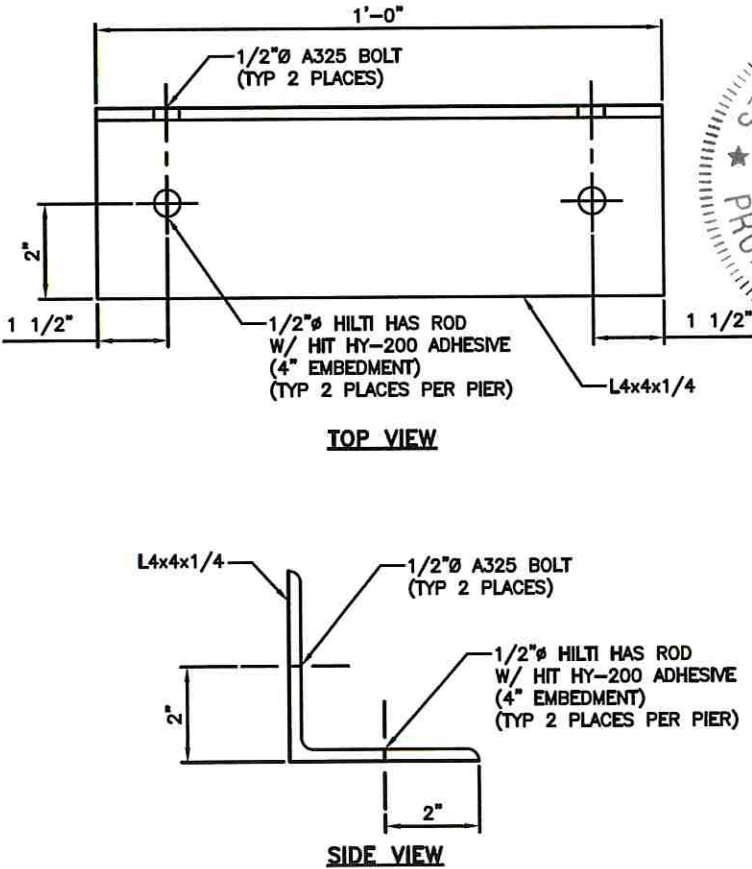
2

CABINET	DIMENSIONS	WEIGHT EMPTY	WEIGHT FULLY LOADED
PURCELL E-CAB	30.0"Wx45.7"Dx72.0"H	450 lbs	1,326 lbs
PURCELL B-CAB	14.7"Wx29.3"Dx72.0"H	200 lbs	1,256 lbs
PURCELL GMK	10.0"Wx29.3"Dx72.0"H	155 lbs	N/A
PURCELL PPC POWER	28.8"Wx12.2"Dx36.1"H	73 lbs	N/A
PURCELL PPC TELCO	24.1"Wx22.3"Dx36.0"H	58 lbs	PER INSTALLED EQUIPMENT
ELTEK E-CAB	30.0"Wx38.0"Dx73.5"H	505 lbs	1,381 lbs
ELTEK B-CAB	16.5"Wx34.7"Dx73.5"H	330 lbs	1,386 lbs
ELTEK GMK	10.0"Wx29.3"Dx72.0"H	180 lbs	N/A
ELTEK PPC POWER	24.0"Wx10.0"Dx36.0"H	80 lbs	N/A
ELTEK PPC TELCO	24.0"Wx23.0"Dx36.0"H	50 lbs	PER INSTALLED EQUIPMENT

PLATFORM EQUIPMENT LOADING

NO SCALE

4



PLATFORM CONNECTION ANGLE

NO SCALE

3

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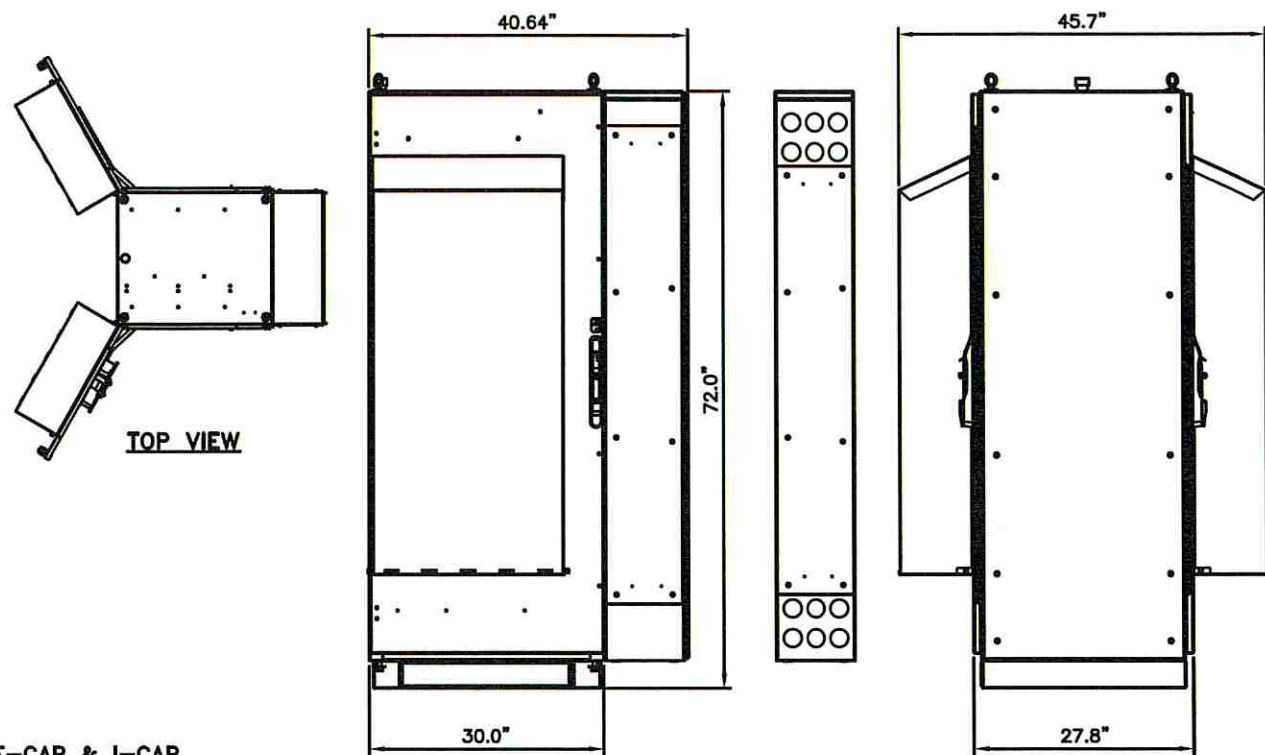
EQUIPMENT DETAILS

DWG INFORMATION:

DRAWN BY: HEE
CHECKED BY: DCP

SHEET NUMBER:

A-7



E-CAB & I-CAB

DIMENSIONS HxWxD: 72.0"x30.0"x45.7"
 EMPTY WEIGH: 450lbs
 FULLY LOADED WEIGHT: 1,326lbs

FRONT VIEW

**I-CAB
BACK VIEW**

SIDE VIEW

PURCELL E-CAB & I-CAB

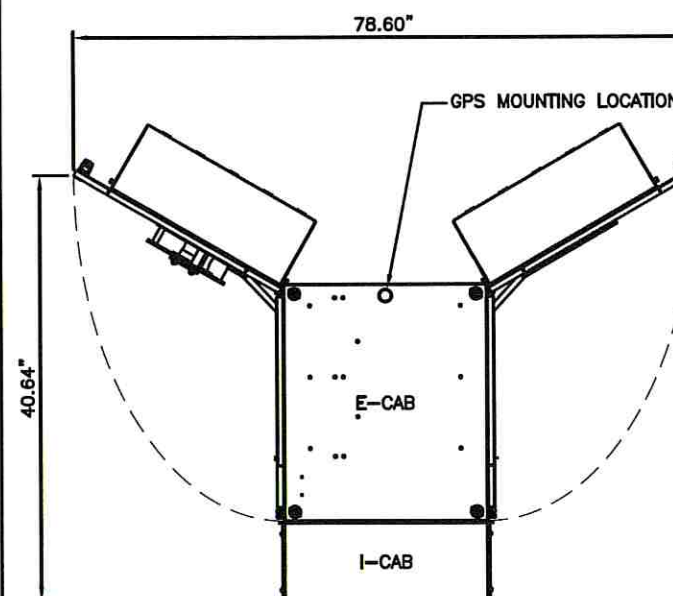
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1

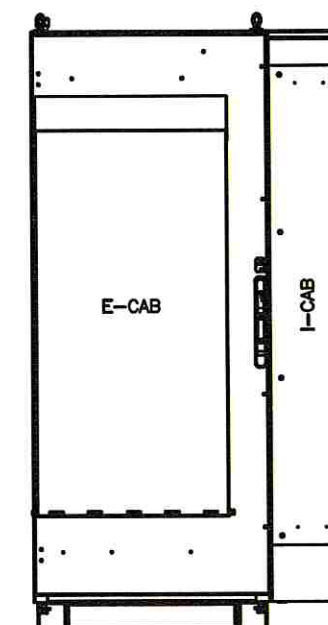
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NO SCALE

2



PLAN



FRONT

DETAIL NOT USED

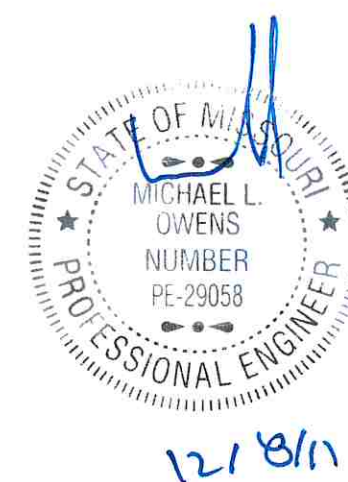
NO SCALE

4

PURCELL E-CAB & I-CAB

NO SCALE

3



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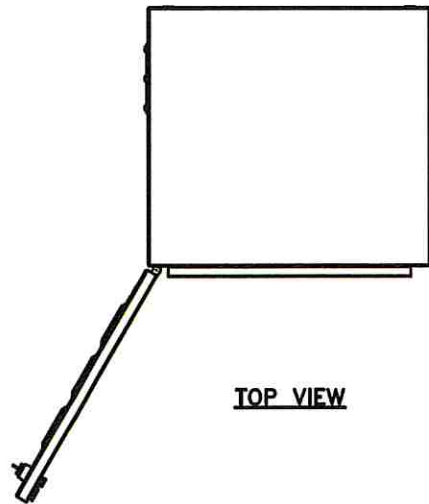
PURCELL
 EQUIPMENT DETAILS

DWG INFORMATION:

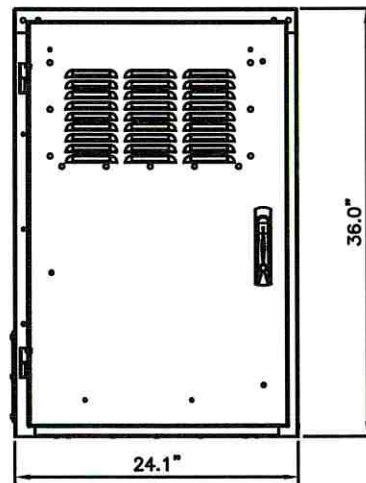
DRAWN BY: HEE
 CHECKED BY: DCP

SHEET NUMBER:

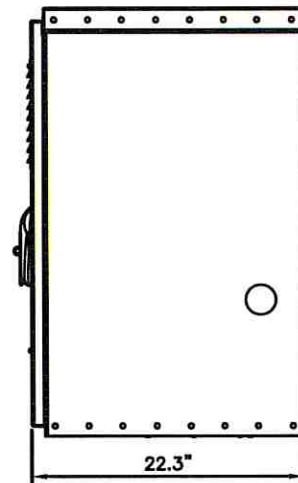
A-8.1



TOP VIEW



FRONT VIEW

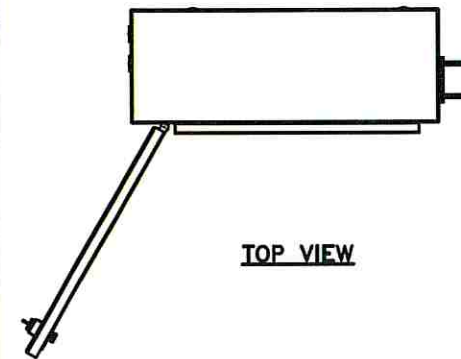


SIDE VIEW

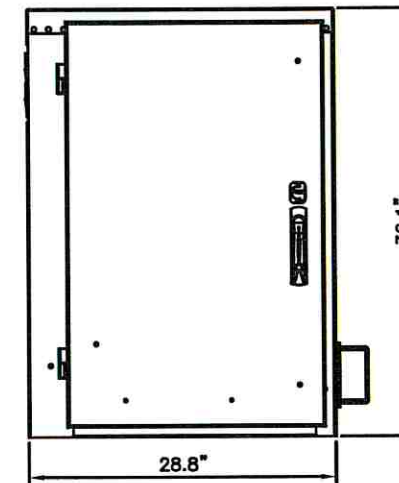
PPC TELCO CABINET

DIMENSIONS HxWxD: 36.0"x24.18"x22.3"

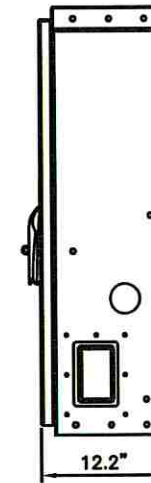
WEIGHT: 58lbs



TOP VIEW



FRONT VIEW



SIDE VIEW

PPC POWER CABINET

DIMENSIONS HxWxD: 36.1"x28.8"x12.2"

WEIGHT: 73lbs

PURCELL PPC TELCO CABINET

NO SCALE

1

PURCELL PPC POWER CABINET

NO SCALE

2



12/18/17

DETAIL NOT USED

NO SCALE

4

DETAIL NOT USED

NO SCALE

3

SITE OWNER:



AMERICAN TOWER®

116 HUNTINGTON AVE, 11TH FLOOR
BOSTON, MASSACHUSETTS 02116

PLANS PREPARED FOR:

6580 Sprint Parkway
Overland Park, Kansas 66251

Sprint

PLANS PREPARED BY:

9900 West 109th Street, Suite 300
Overland Park, Kansas 66210
Phone: 913-438-7700
Fax: 913-438-7777



ENGINEERING LICENSE:

STATE OF MISSOURI

STATE CERTIFICATE OF AUTHORIZATION # EF-2791

ENGINEER:	PER:	DISCIPLINE:
MLO MICHAEL L. OWENS	E-29058	STRUCTURAL/CIVIL SC
KV KEVIN VANMAELE	E-21561	STRUCTURAL/CIVIL SC
REJ ROBERT E. JENSEN	E-28974	STRUCTURAL/CIVIL SC
TMS TERRANCE M. SUPER	E-18521	ELECTRICAL
SDK SHELTON D. KEISLING	E-27323	ELECTRICAL

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DESCRIPTION	DATE	BY	REV
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ISSUED FOR CONSTRUCTION	12/07/17	DCP	0

MLA SITE NAME & SITE NUMBER:

LEE S SUMMIT #1B
36075

APPLICANT SITE NAME & SITE CASCADE:

ATC#36075 LOWENSTEIN
KC25XC198

SITE ADDRESS:

2200 LOWENSTEIN
LEES SUMMIT, MISSOURI
64081

SHEET DESCRIPTION:

PURCELL
EQUIPMENT DETAILS

DWG INFORMATION:

DRAWN BY: HEE
CHECKED BY: DCP

SHEET NUMBER:

A-8.2

COMMSCOPE HHT465B-PF-2XR

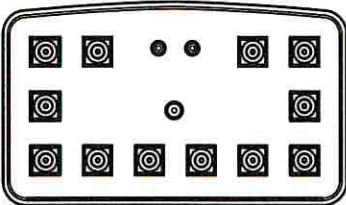
RADOME MATERIAL: UPVC, UV RESISTANT

RADOME COLOR: LIGHT GRAY

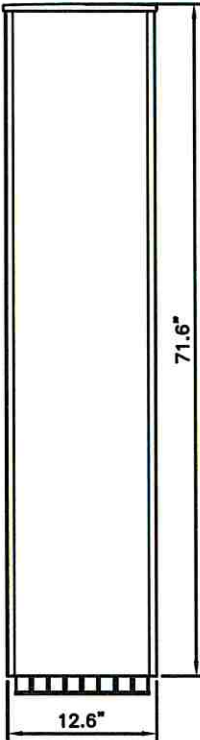
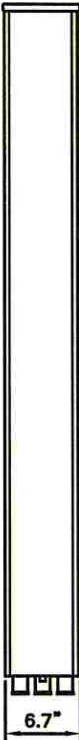
DIMENSIONS, HxWxDin (mm): 71.6"x12.6"x6.7"

WEIGHT: 53.0 lbs

CONNECTORS: (12) 4.1/9.5 DIN-Female
(1) Type N-Female



PLAN VIEW



LDX-6516DS-VTM

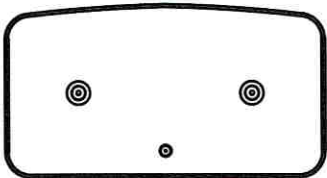
RADOME MATERIAL: PVC, UV RESISTANT

RADOME COLOR: LIGHT GRAY

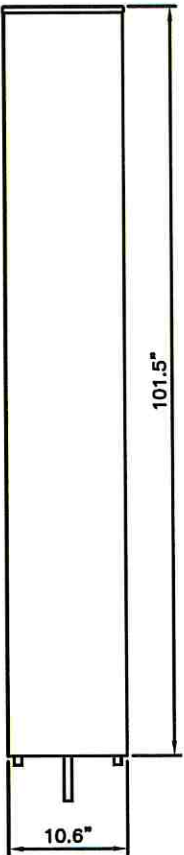
DIMENSIONS, HxWxD.in: 101.5 X 10.6 X 5.2

WEIGHT: 46.5 lbs

CONNECTORS: (2) 7-16 DIN FEMALE



PLAN VIEW



1900/2.5 ANTENNA

NO SCALE

1

800 ANTENNA

NO SCALE

2

DETAIL NOT USED

NO SCALE

4

DETAIL NOT USED

NO SCALE

3

SITE OWNER:

AMERICAN TOWER®
116 HUNTINGTON AVE, 11TH FLOOR
BOSTON, MASSACHUSETTS 02116

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Sprint

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Fax: 913-438-7777

SSC

ENGINEERING LICENSE:

STATE OF MISSOURI

STATE CERTIFICATE OF AUTHORIZATION # EF-2791

ENGINEER: PE#: DISCIPLINE:

MLO MICHAEL L. OWENS E-29058 STRUCTURAL/CIVIL SC

KV KEVIN VANMAELE E-21561 STRUCTURAL/CIVIL SC

REJ ROBERT E. JENSEN E-28974 STRUCTURAL/CIVIL SC

TMS TERRANCE M. SUPER E-18521 ELECTRICAL E

SDK SHELTON D. KEISLING E-27323 ELECTRICAL E

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MLA SITE NAME & SITE NUMBER:

LEE S SUMMIT #1B
36075

APPLICANT SITE NAME & SITE CASCADE:

ATC#36075 LOWENSTEIN
KC25XC198

SITE ADDRESS:

2200 LOWENSTEIN
LEES SUMMIT, MISSOURI
64081

SHEET DESCRIPTION:

ANTENNA DETAILS

DWG INFORMATION:

DRAWN BY: HEE

CHECKED BY: DCP

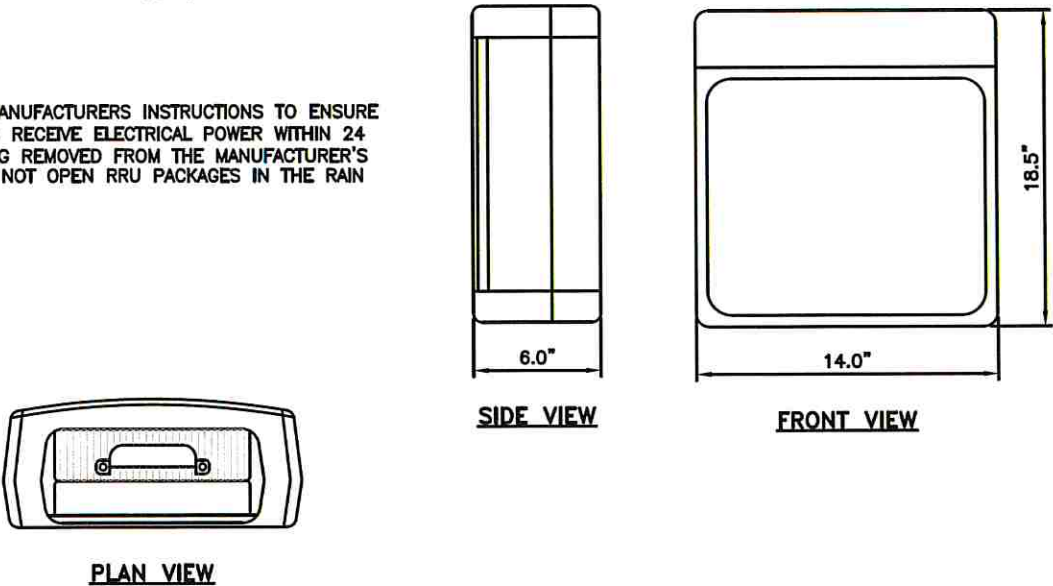
SHEET NUMBER:

A-9

ERICSSON RRUS 82

DIMENSIONS, HxWxD.in(mim): 18.5"x14.0"x6.0"
WEIGHT: 62 lbs
CONNECTORS: (8) 1/2" DIN FEMALE

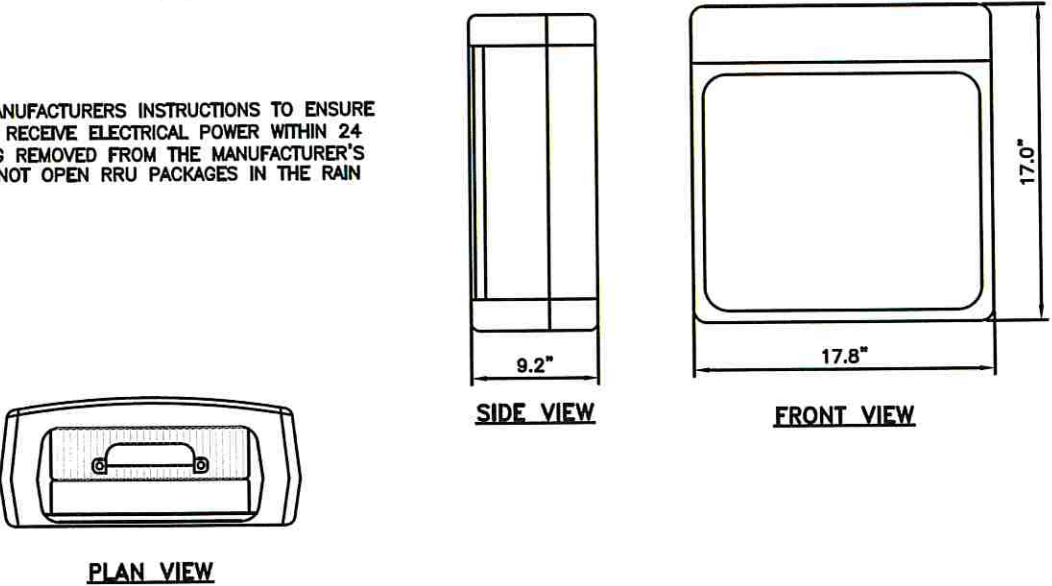
NOTE
COMPLY WITH MANUFACTURERS INSTRUCTIONS TO ENSURE THAT ALL RRU'S RECEIVE ELECTRICAL POWER WITHIN 24 HOURS OF BEING REMOVED FROM THE MANUFACTURER'S PACKAGING. DO NOT OPEN RRU PACKAGES IN THE RAIN



ERICSSON RRUS-11

DIMENSIONS, HxWxD.in(mim): 17.0"x17.8"x9.2"
WEIGHT: 54 lbs
CONNECTORS: (2) 1/2" DIN FEMALE

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



2.5 RRUS

NO SCALE

1

800 RRUS

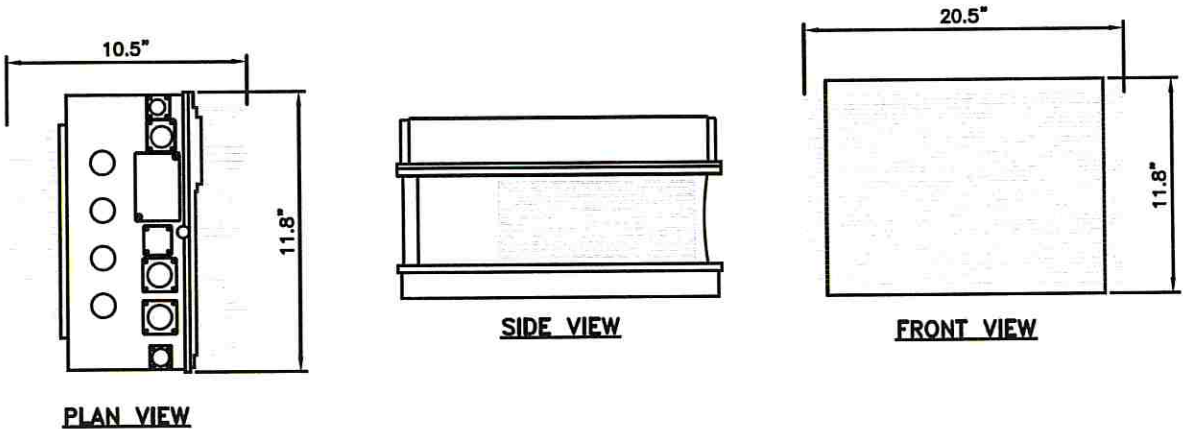
NO SCALE

2

ERICSSON RRUS 31

DIMENSIONS, HxWxD.in(mim): 20.5"x11.8"x10.5"
WEIGHT: 60 lbs
CONNECTORS: (4) 1/2" DIN FEMALE

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



DETAIL NOT USED

NO SCALE

4

1900 RRUS

NO SCALE

3

SITE OWNER:



AMERICAN TOWER®

116 HUNTINGTON AVE, 11TH FLOOR
BOSTON, MASSACHUSETTS 02116

PLANS PREPARED FOR:

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Overland Park, Kansas 66251

Sprint



PLANS PREPARED BY:

9900 West 109th Street, Suite 300
Overland Park, Kansas 66210
Phone: 913-438-7700
Fax: 913-438-7777



ENGINEERING LICENSE:

STATE OF MISSOURI
STATE CERTIFICATE OF AUTHORIZATION # EF-2781
ENGINEER: PER: DISCIPLINE:
MLO MICHAEL L. OWENS E-29058 STRUCTURAL/CIVIL SC
KV KEVIN VANMAELE E-21581 STRUCTURAL/CIVIL SC
REJ ROBERT E. JENSEN E-28974 STRUCTURAL/CIVIL SC
TMS TERRANCE M. SUPER E-18521 ELECTRICAL E
SDX SHELTON D. KEISLING E-27323 ELECTRICAL E

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ISSUED FOR CONSTRUCTION	12/07/17	DCP	0

MLA SITE NAME & SITE NUMBER:

LEE S SUMMIT #1B
36075

APPLICANT SITE NAME & SITE CASCADE:

ATC#36075 LOWENSTEIN
KC25XC198

SITE ADDRESS:

2200 LOWENSTEIN
LEES SUMMIT, MISSOURI
64081

SHEET DESCRIPTION:

RRU DETAILS

DWG INFORMATION:

DRAWN BY: HEE
CHECKED BY: DCP

SHEET NUMBER:

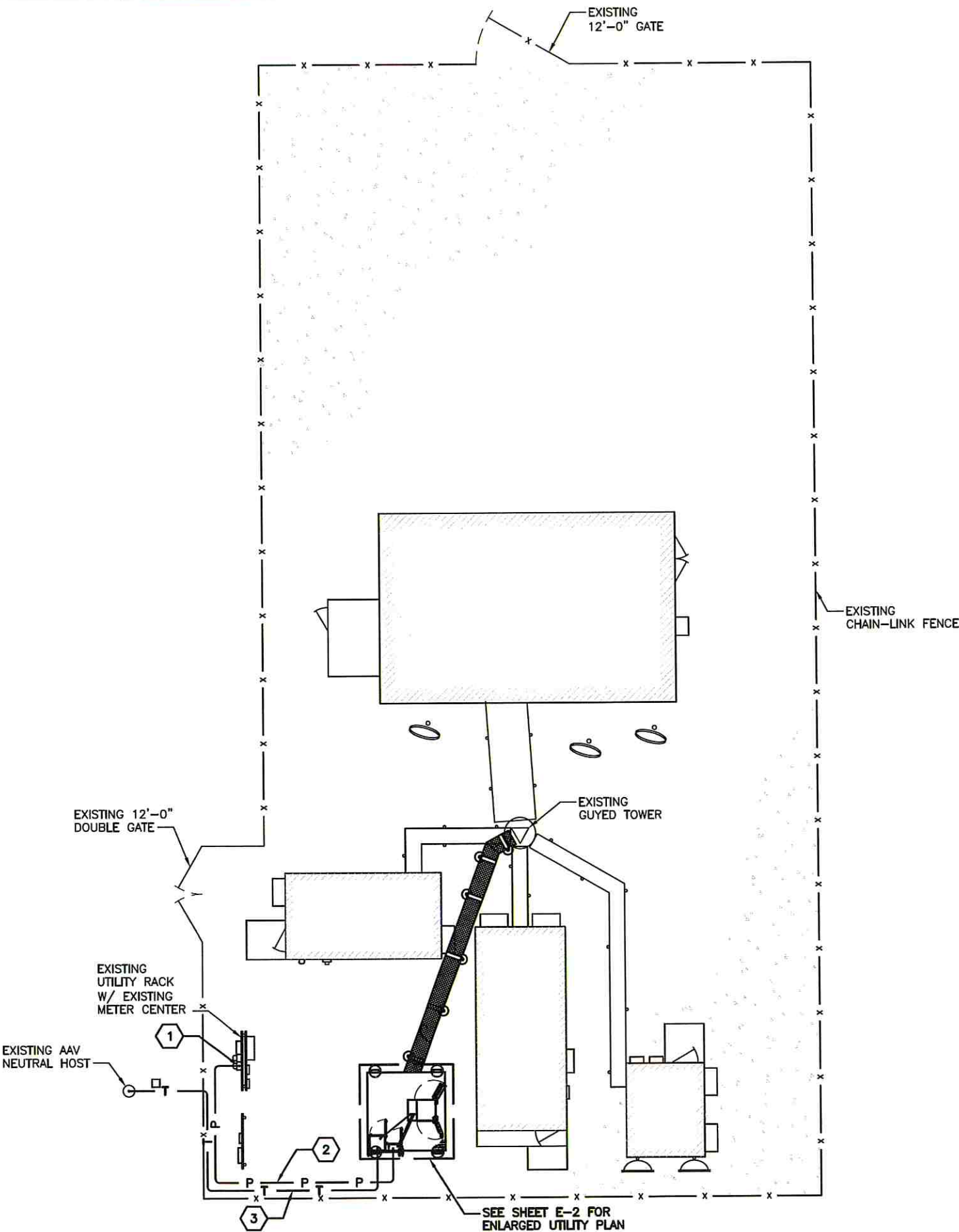
A-10

TELCO NOTE:

1. RUN MULTIMODE FIBER FROM E-CAB, THRU THE INNERCONNECT "TRANSITION" CABINET AND ON TO THE AAV NEUTRAL HOST LOCATION WITHOUT INTERMEDIATE TERMINATIONS. AT INNERCONNECT "TRANSITION" CABINET COIL 3'-0" CABLE AND SECURE.
2. AT PPC AND METER RACK TURN 4" SPARE UTILITY CONDUIT UP 6" ABOVE NODE AND PROVIDE CAP.

KEYED NOTES:

- 1 STUB-UP ACTIVE CONDUIT TO WITHIN 1'-0" OF METER SOCKET. COIL 3'-0" SPARE CONDUCTOR. TAPE WRAP ENDS AND PROTECT CABLE FROM WEATHER. UTILITY WILL MAKE ALL CABLE CONNECTIONS AND ENERGIZE SITE.
- 2 SERVICE LATERAL TO GANG METER SOCKET 6
(1) 4" CONDUIT: 3#3/0, 1#2G
(1) 4" CONDUIT: SPARE
- 3 AT NEUTRAL HOST CONNECT TO EXISTING PVC STUB-UP PULL FIBER AND LEAVE 3'-0" SPARE INSIDE ENCLOSURE.



SITE OWNER:

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Sprint

PLANS PREPARED BY:

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Overland Park, Kansas 66210
Phone: 913-438-7700
Fax: 913-438-7777

SSC

ENGINEERING LICENSE:

STATE OF MISSOURI
STATE CERTIFICATE OF AUTHORIZATION # EF-2791

ENGINEER:	PE#:	DISCIPLINE:
MLO MICHAEL L. OWENS	E-29058	STRUCTURAL/CIVIL SC
KV KEVIN VANMAELE	E-21581	STRUCTURAL/CIVIL SC
REJ ROBERT E. JENSEN	E-28974	STRUCTURAL/CIVIL SC
TMS TERRANCE M. SUPER	E-18521	ELECTRICAL E
SDK SHELTON D. KEISLING	E-27323	ELECTRICAL E

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ISSUED FOR REVIEW	11/30/17	HEE	A
ISSUED FOR CONSTRUCTION	12/07/17	DCP	0

MLA SITE NAME & SITE NUMBER:

LEE S SUMMIT #1B
36075

APPLICANT SITE NAME & SITE CASCADE:

ATC#36075 LOWENSTEIN
KC25XC198

SITE ADDRESS:

2200 LOWENSTEIN
LEES SUMMIT, MISSOURI
64081

SHEET DESCRIPTION:

OVERALL UTILITY PLAN

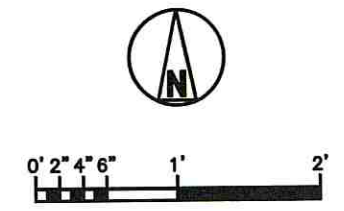
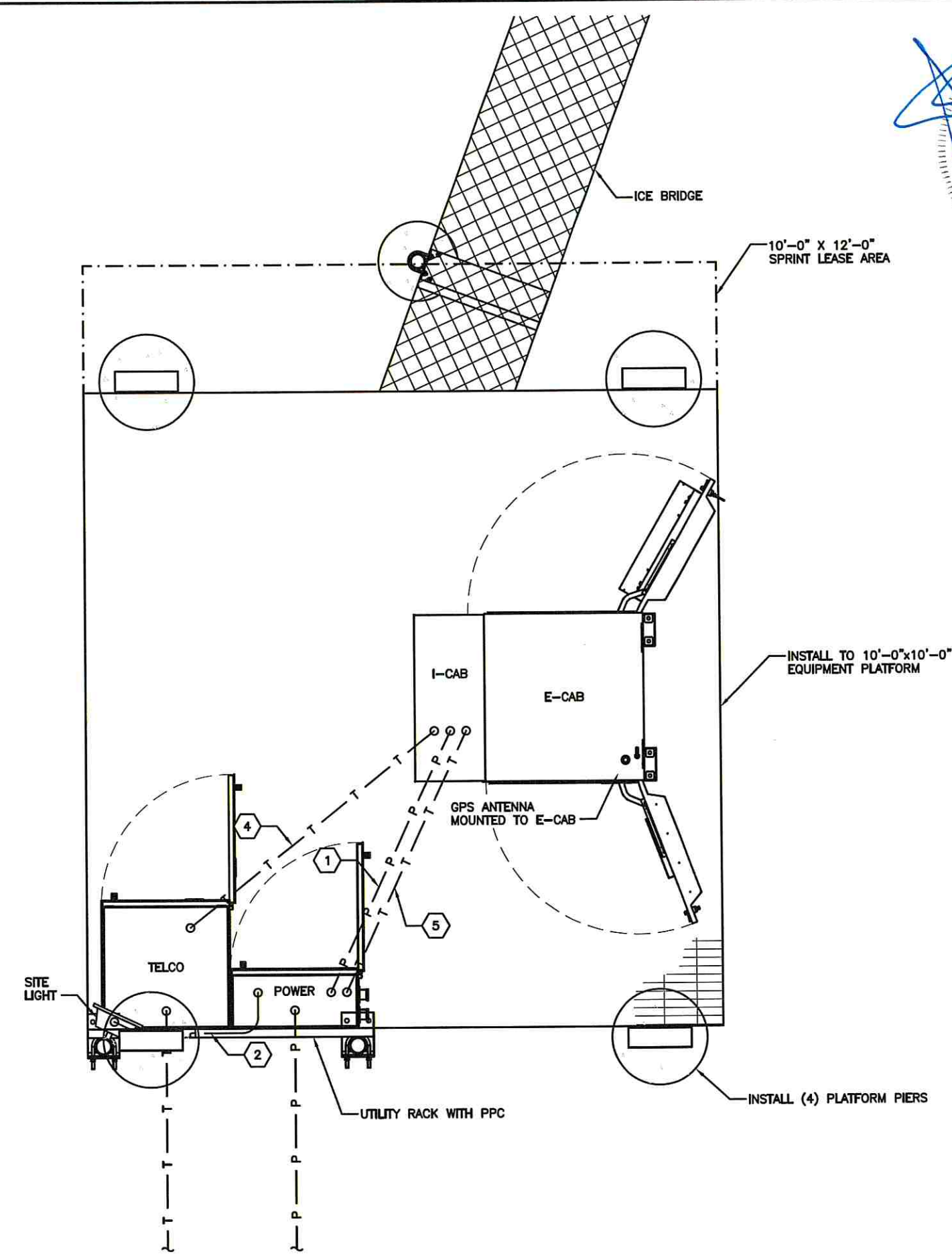
DWG INFORMATION:

DRAWN BY:	CHECKED BY:	SHEET NUMBER:
HEE	DCP	E-1



KEYED NOTES:

- 1 AC POWER FOR E-CAB 3#2, 1#2G, 1/2"C
- 2 3#12, 3/4"C TO SITE LIGHT
- 3 N/A
- 4 FIBER BACKHAUL 1" CONDUIT WITH FACTORY FABRICATED MULTIMODE FIBER AS REQUIRED BY MANUFACTURER
- 5 ALARMS 1" CONDUIT, 4PR 24GA CAT5E



EQUIPMENT PLAN

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

SITE OWNER:

AMERICAN TOWER®
116 HUNTINGTON AVE, 11TH FLOOR
BOSTON, MASSACHUSETTS 02116

PLANS PREPARED FOR:
6580 Sprint Parkway
Overland Park, Kansas 66251

Sprint

PLANS PREPARED BY:
9900 West 109th Street, Suite 300
Overland Park, Kansas 66210
Phone: 913-438-7700
Fax: 913-438-7777

SSC

ENGINEERING LICENSE:
STATE OF MISSOURI
STATE CERTIFICATE OF AUTHORIZATION # EF-2791

ENGINEER:	PE#:	DISCIPLINE:
MLO MICHAEL L OWENS	E-29058	STRUCTURAL/CIVIL SC
KV KEVIN VANMAELE	E-21561	STRUCTURAL/CIVIL SC
REJ ROBERT E. JENSEN	E-29974	STRUCTURAL/CIVIL SC
TMS TERRANCE M. SUPER	E-18521	ELECTRICAL E
SDK SHELTON D. KEISLING	E-27323	ELECTRICAL E

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MLA SITE NAME & SITE NUMBER:

LEE S SUMMIT #1B
36075

APPLICANT SITE NAME & SITE CASCADE:

ATC#36075 LOWENSTEIN
KC25XC198

SITE ADDRESS:

2200 LOWENSTEIN
LEES SUMMIT, MISSOURI
64081

SHEET DESCRIPTION:

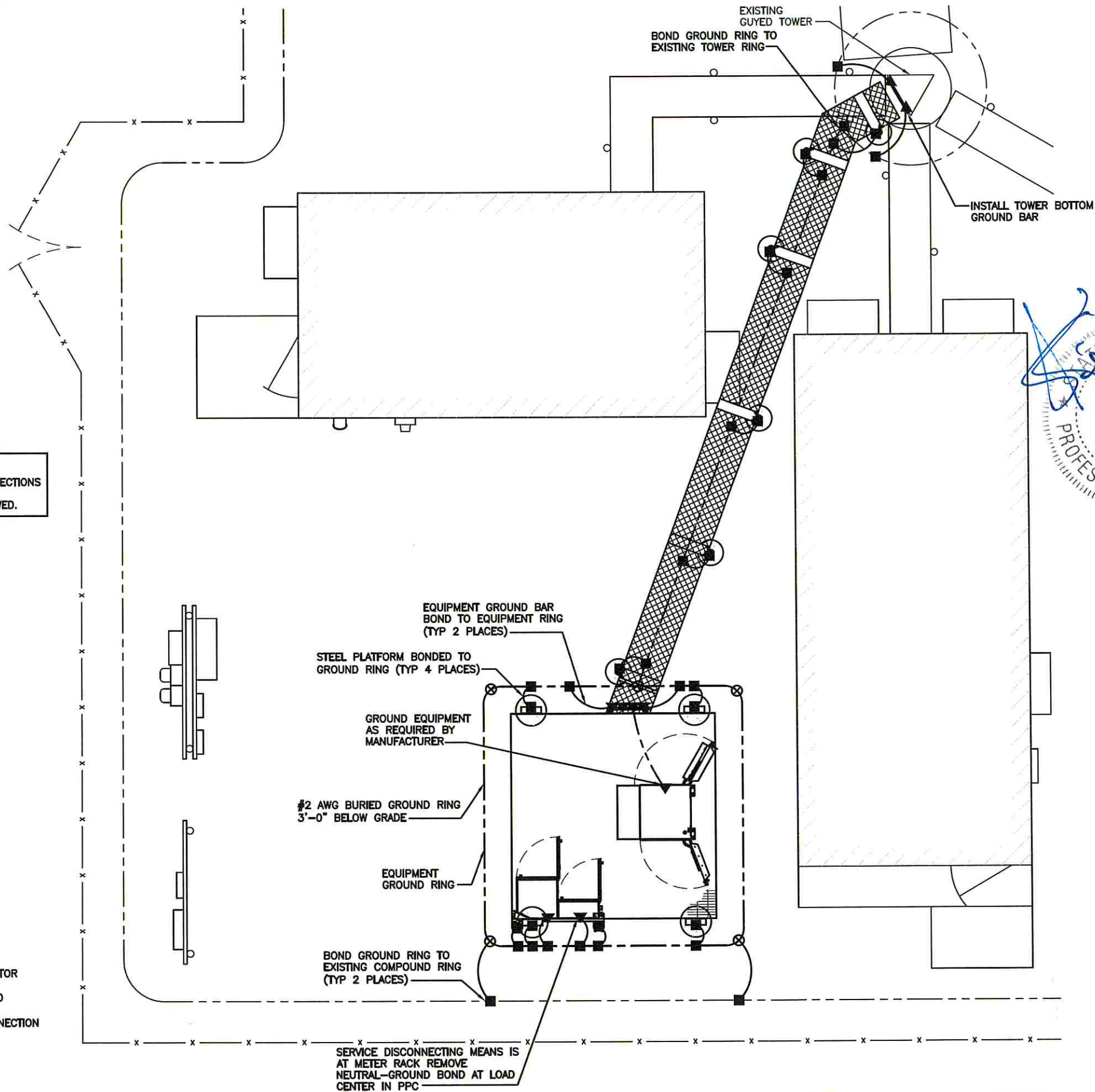
ENLARGED UTILITY PLAN

DWG INFORMATION:		SHEET NUMBER:
DRAWN BY:	HEE	E-2
CHECKED BY:	DCP	

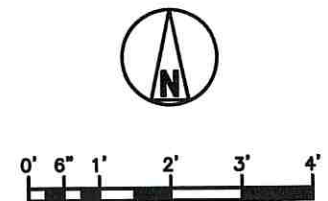
NOTE:
TOWER OWNER REQUIRES ALL CONNECTIONS
TO BE MECHANICAL ON TOWER.
EXOTHERMIC WELDS ARE NOT ALLOWED.

LEGEND:

- GROUND CONDUCTOR
- EXOTHERMIC WELD
- ▼ MECHANICAL CONNECTION
- ⊗ GROUND ROD



EQUIPMENT PLAN



SITE OWNER:

AMERICAN TOWER®
116 HUNTINGTON AVE, 11TH FLOOR
BOSTON, MASSACHUSETTS 02116

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Overland Park, Kansas 66251

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TMS TERRANCE M. SUPER	E-18521	ELECTRICAL EE
SDK SHELTON D. KEISLING	E-27323	ELECTRICAL

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MLA SITE NAME & SITE NUMBER:

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36075

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ATC#36075 LOWENSTEIN
KC25XC198

SITE ADDRESS:

2200 LOWENSTEIN
LEES SUMMIT, MISSOURI
64081

SHEET DESCRIPTION:

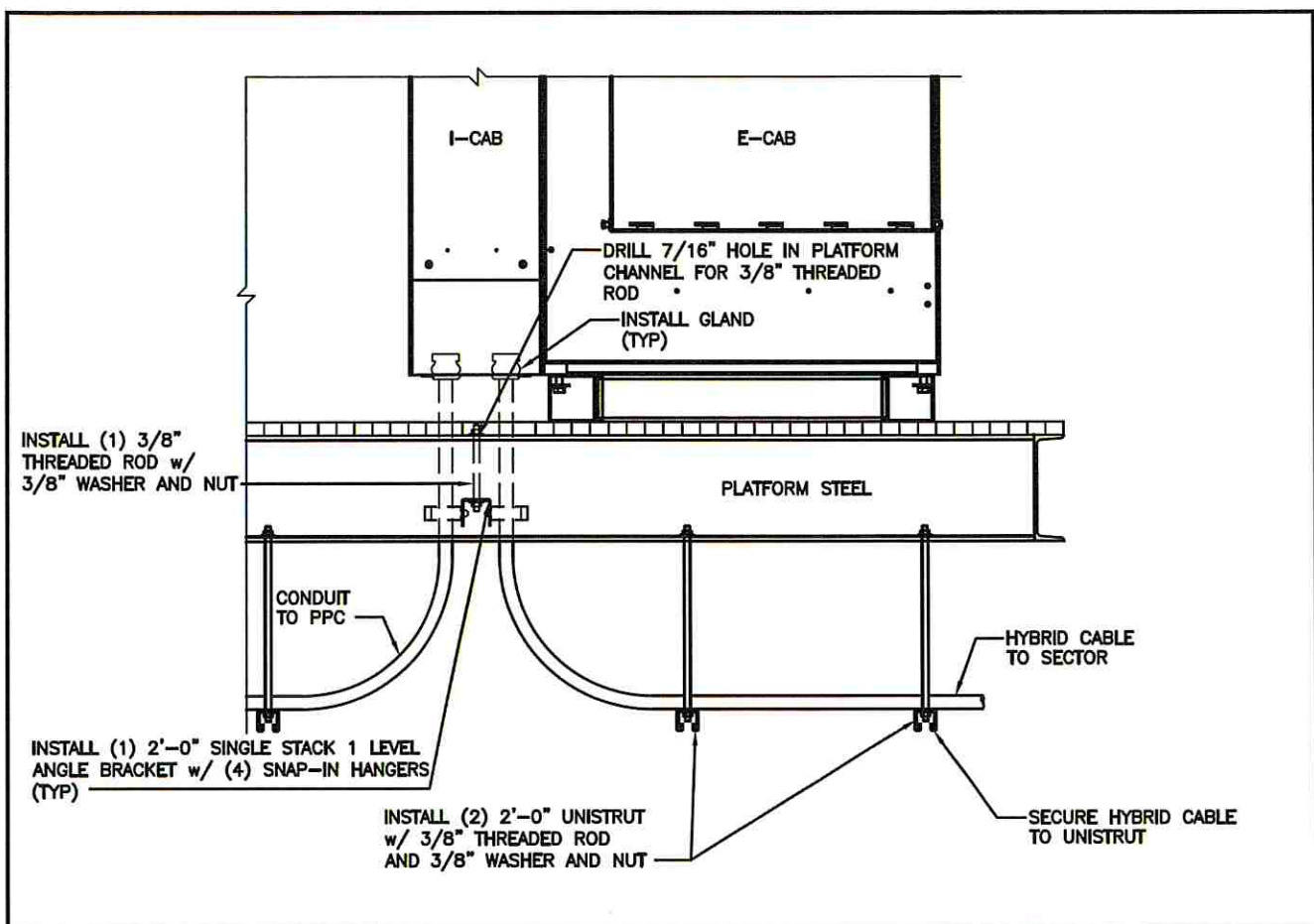
GROUNDING PLAN

DWG INFORMATION:

DRAWN BY:	HEE
CHECKED BY:	DCP

SHEET NUMBER:

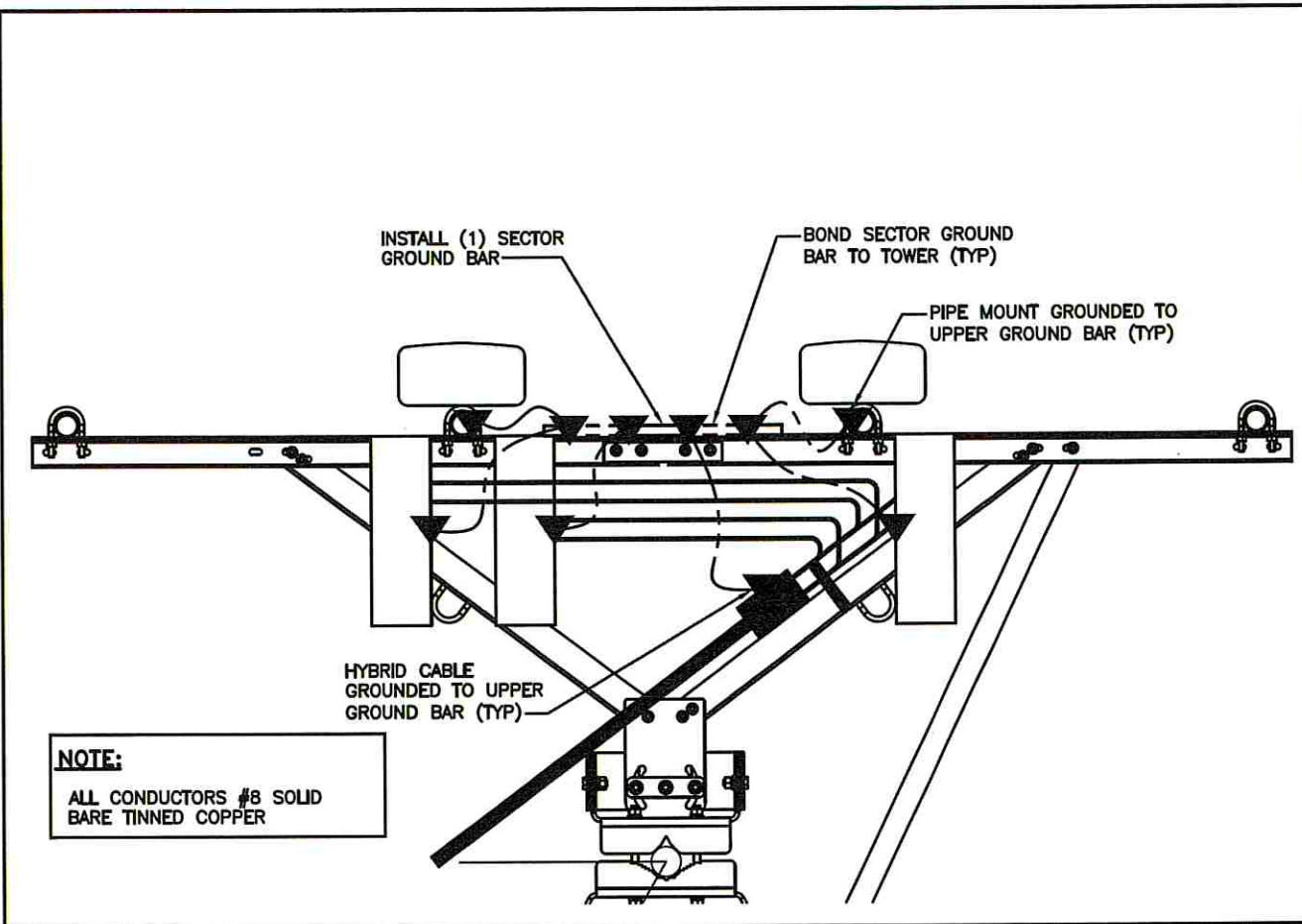
E-3



CABLE RUNS UNDER PLATFORM

NO SCALE

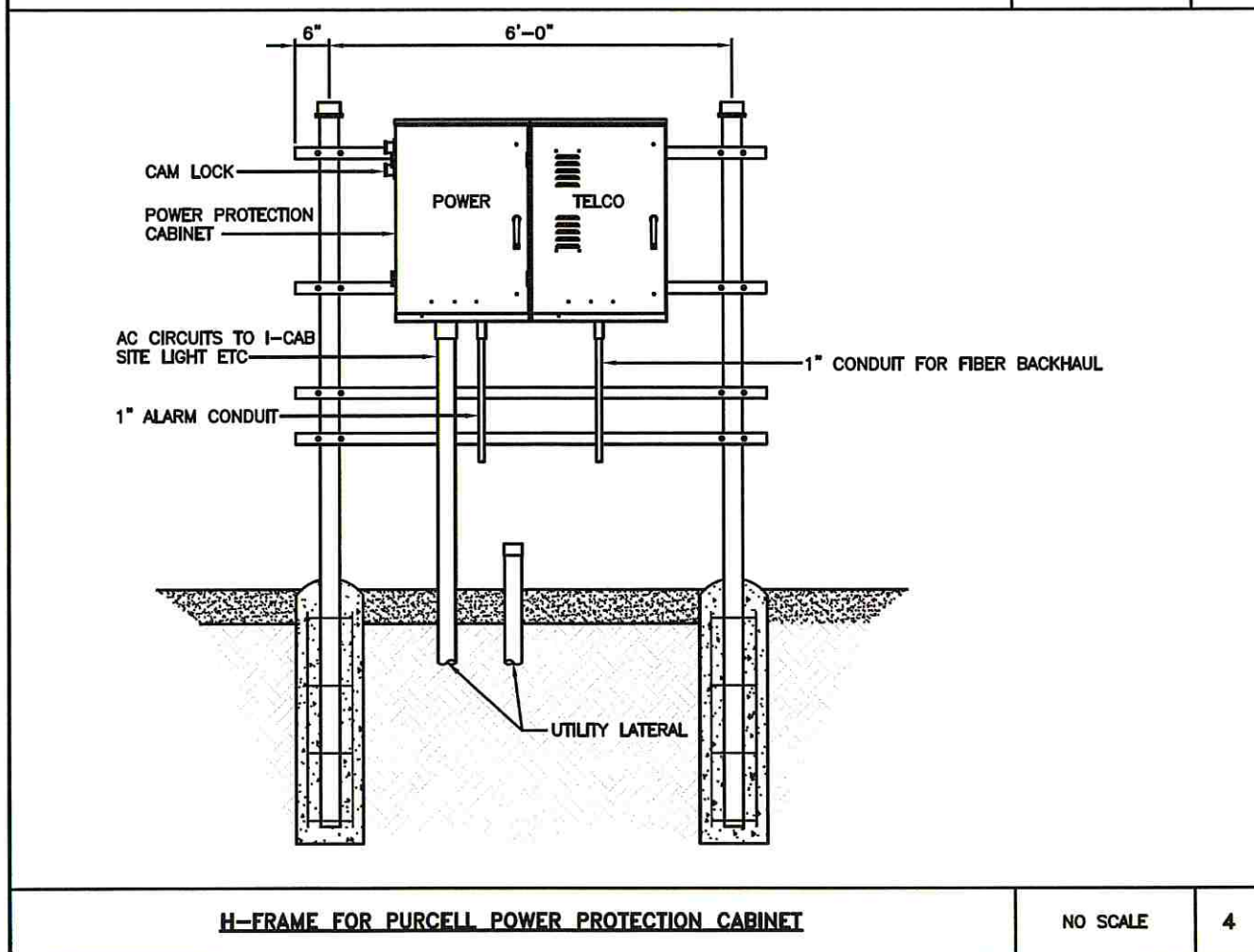
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ANTENNA GROUNDING PLAN (TYP)

NO SCALE

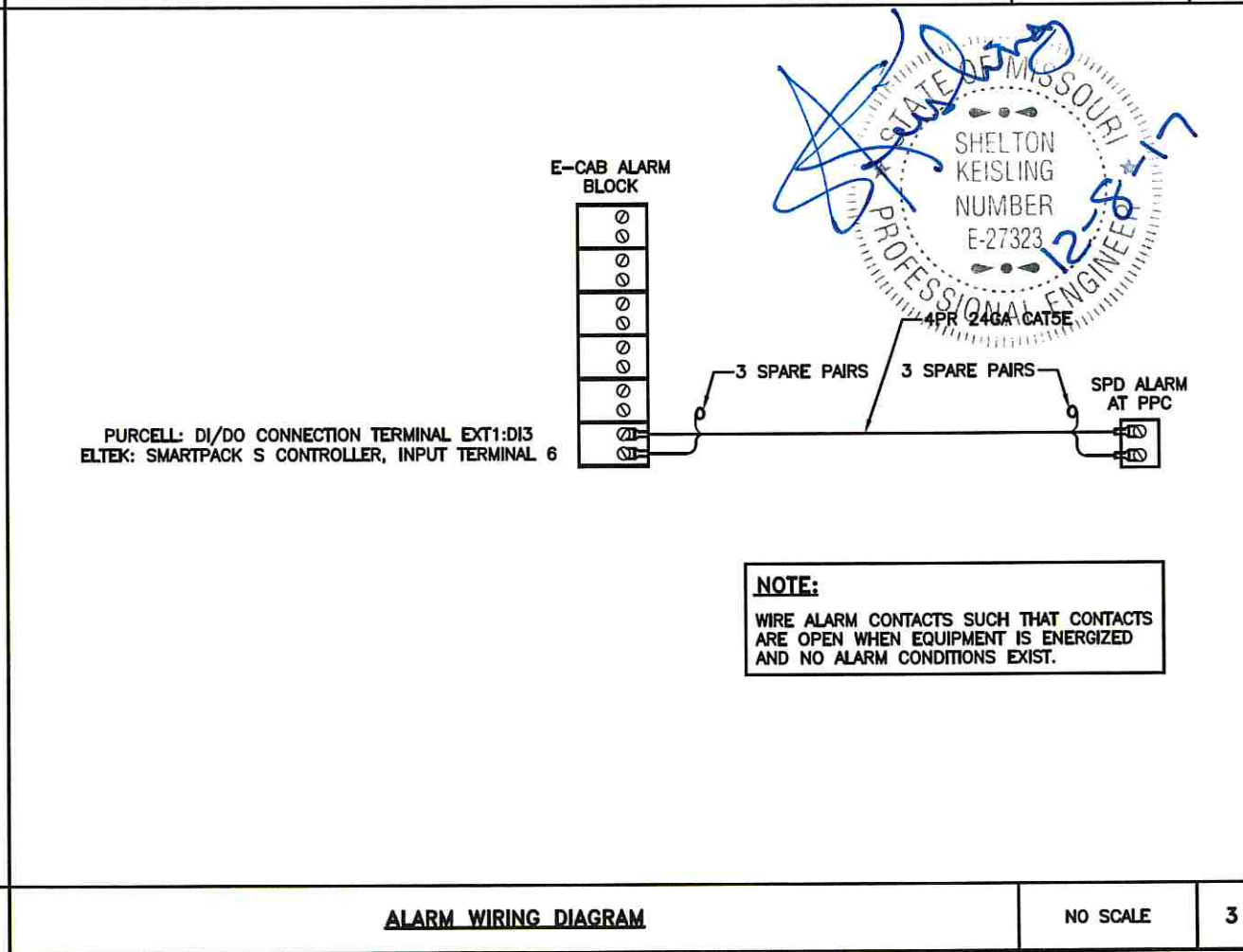
2



H-FRAME FOR PURCELL POWER PROTECTION CABINET

NO SCALE

4



ALARM WIRING DIAGRAM

NO SCALE

3

SITE OWNER:
AMERICAN TOWER®
116 HUNTINGTON AVE, 11TH FLOOR
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Sprint

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ENGINEERING LICENSE:
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STATE CERTIFICATE OF AUTHORIZATION # EF-2791
ENGINEER: PE#: DISCIPLINE:
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REJ ROBERT E. JENSEN E-28974 STRUCTURAL/CIVIL SC
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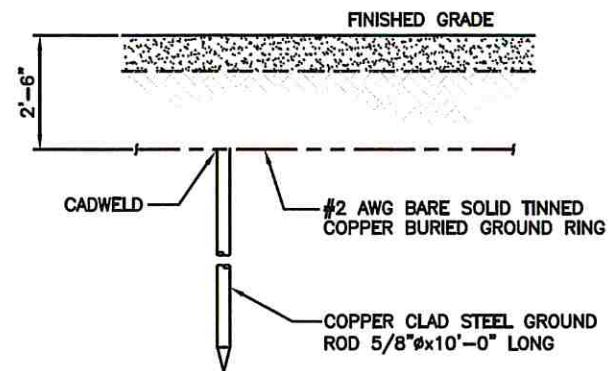
MLA SITE NAME & SITE NUMBER:
LEE S SUMMIT #1B
36075

APPLICANT SITE NAME & SITE CASCADE:
ATC#36075 LOWENSTEIN
KC25XC198

SITE ADDRESS:
2200 LOWENSTEIN
LEES SUMMIT, MISSOURI
64081

SHEET DESCRIPTION:
ELECTRICAL DETAILS &
TOWER TOP
GROUNDING PLAN

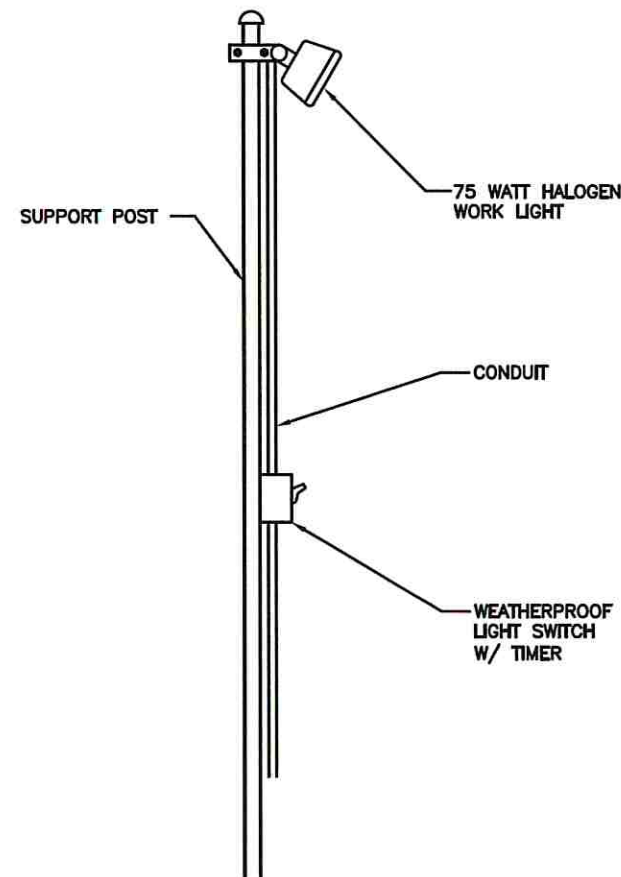
DWG INFORMATION: SHEET NUMBER:
DRAWN BY: HEE
CHECKED BY: DCP
E-4



GROUND ROD

NO SCALE

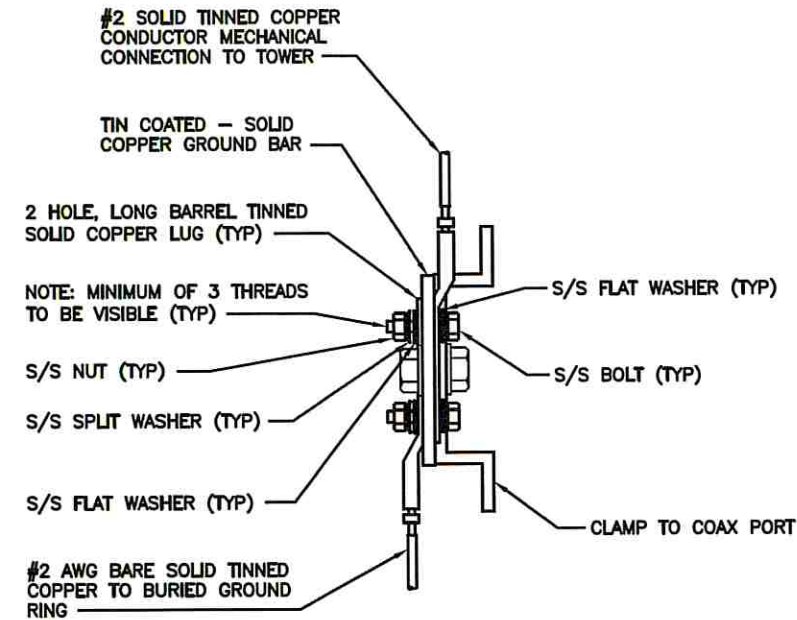
1



WORK LIGHT DETAIL

NO SCALE

4



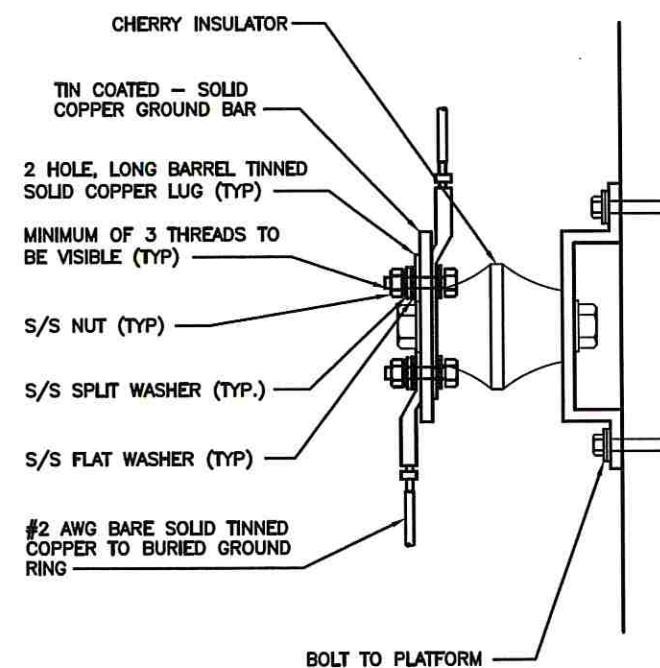
NOTE:

1. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING SPLIT WASHERS.
2. COAT WIRE END WITH ANTI-OXIDATION COMPOUND PRIOR TO INSERTION INTO LUG BARREL AND CRIMPING.
3. APPLY ANTI-OXIDATION COMPOUND BETWEEN ALL LUGS AND BUSS BARS PRIOR TO MATING AND BOLTING. DO NOT COAT ENTIRE BAR

GROUND BAR AT TOWER

NO SCALE

2



NOTE:

1. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING SPLIT WASHERS.
2. COAT WIRE END WITH ANTI-OXIDATION COMPOUND PRIOR TO INSERTION INTO LUG BARREL AND CRIMPING.
3. APPLY ANTI-OXIDATION COMPOUND BETWEEN ALL LUGS AND BUSS BARS PRIOR TO MATING AND BOLTING. DO NOT COAT ENTIRE BAR

GROUND BAR AT EQUIPMENT PLATFORM

NO SCALE

3

SITE OWNER:

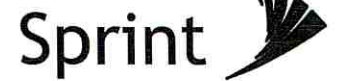


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STATE OF MISSOURI			
STATE CERTIFICATE OF AUTHORIZATION # EF-2791			
ENGINEER:	PER:	DISCIPLINE:	
MLO MICHAEL L. OWENS	E-29058	STRUCTURAL/CIVIL	SC
KV KEVIN VANMAELE	E-21581	STRUCTURAL/CIVIL	SC
REJ ROBERT E. JENSEN	E-28974	STRUCTURAL/CIVIL	SC
TMS TERRANCE M. SUPER	E-18521	ELECTRICAL	E
SDK SHELTON D. KEISLING	E-27323	ELECTRICAL	E

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SUBMITTALS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR REVIEW	11/30/17	HEE	A
ISSUED FOR CONSTRUCTION	12/07/17	DCP	0

MLA SITE NAME & SITE NUMBER:

LEE S SUMMIT #1B
36075

APPLICANT SITE NAME & SITE CASCAD:

ATC#36075 LOWENSTEIN
KC25XC198

SITE ADDRESS:

2200 LOWENSTEIN
LEES SUMMIT, MISSOURI
64081

SHEET DESCRIPTION:

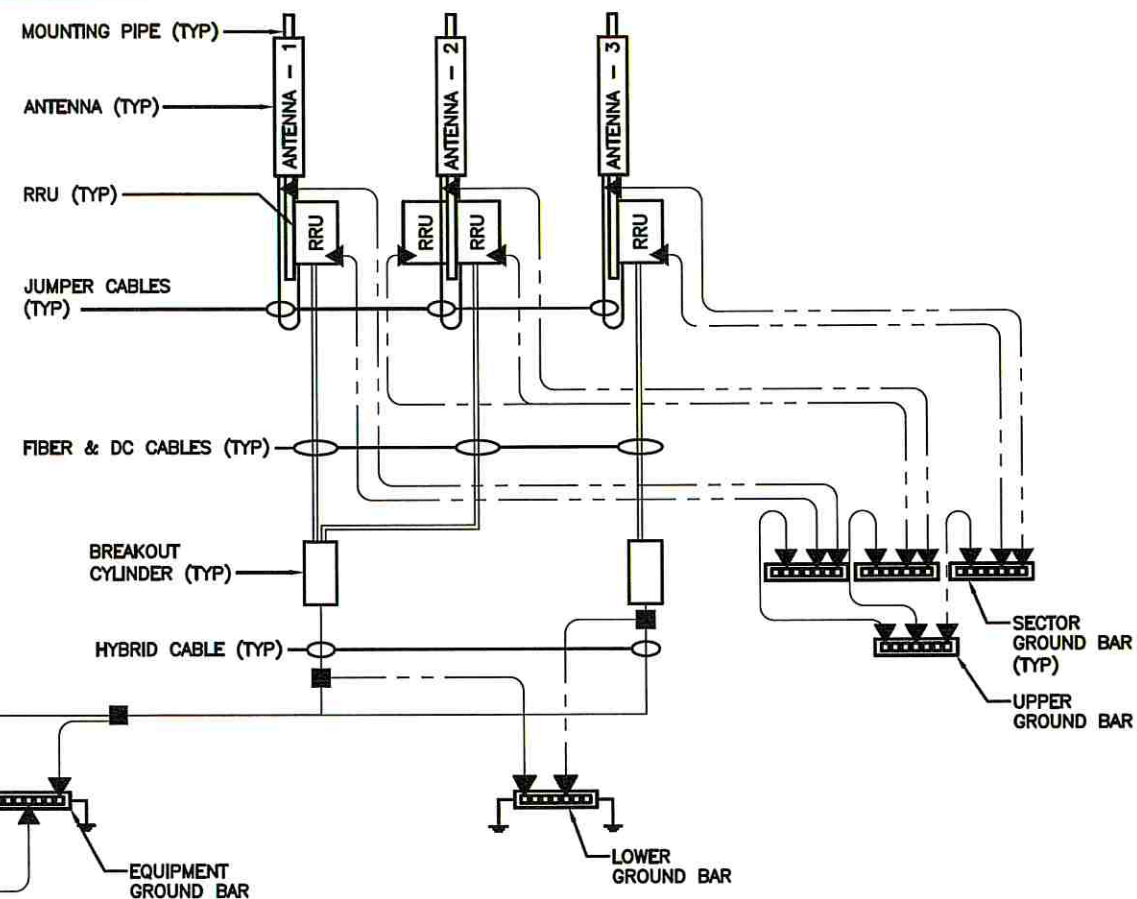
ELECTRICAL DETAILS

DWG INFORMATION:

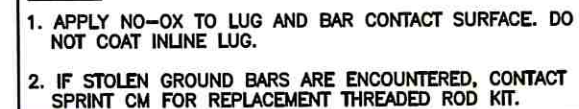
DRAWN BY: HEE
CHECKED BY: DCP

SHEET NUMBER:

E-5

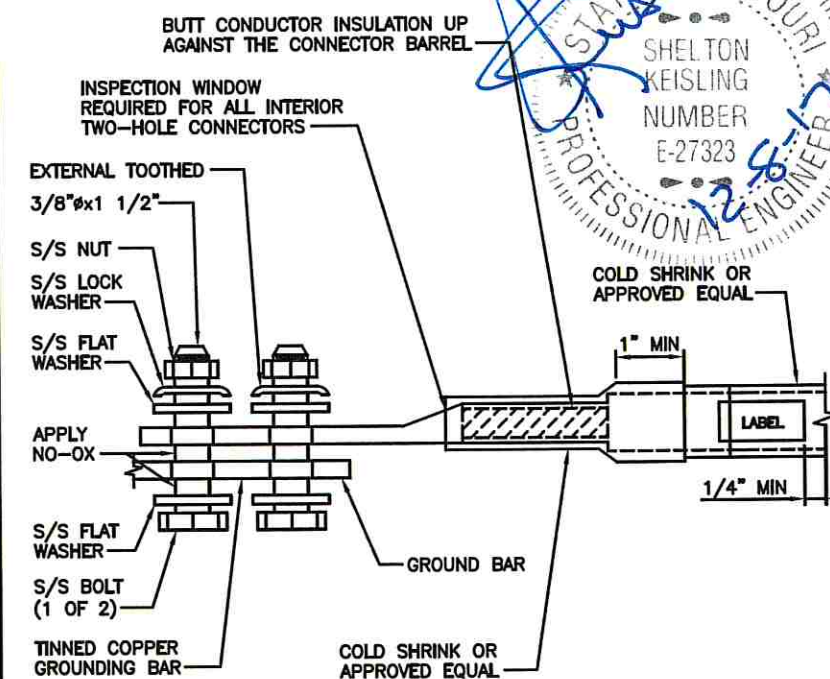
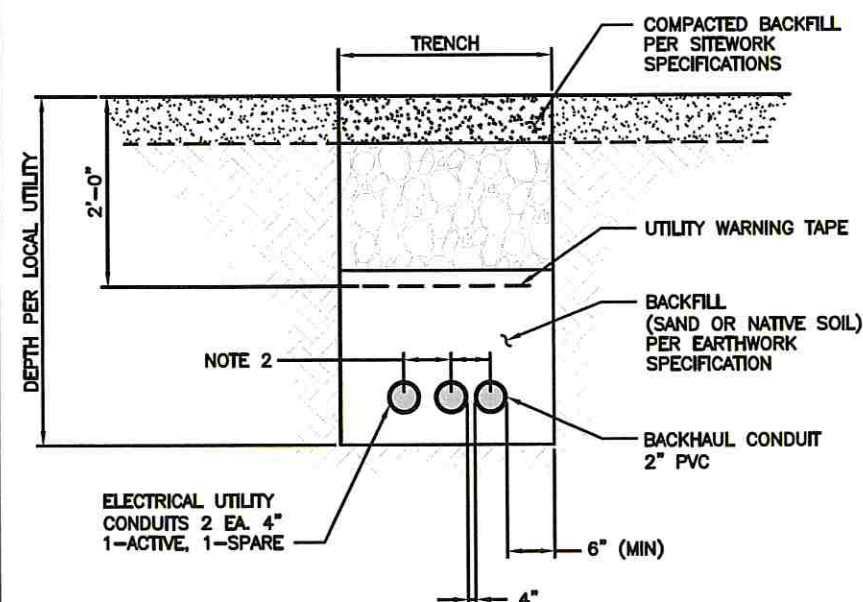


1



2

1. PULL BOXES INSTALLED PER NEC
2. CONTRACTOR SHALL RESTORE SURFACES TO ITS ORIGINAL CONDITIONS BY EITHER SEEDING OR SODDING GRASS AREAS, OR REPLACING ASPHALT OR CONCRETE AREAS TO ITS ORIGINAL CROSS SECTION
3. HAND DIG ALL TRENCHES WITH EXISTING COMPOUNDS

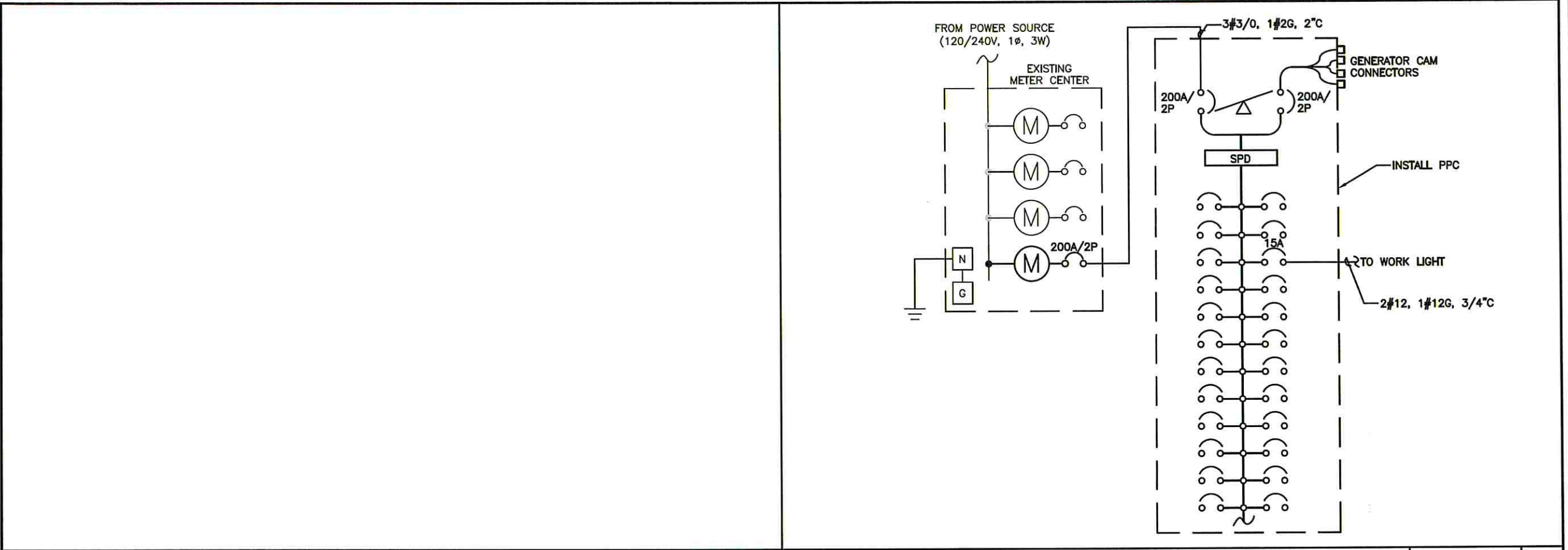


1

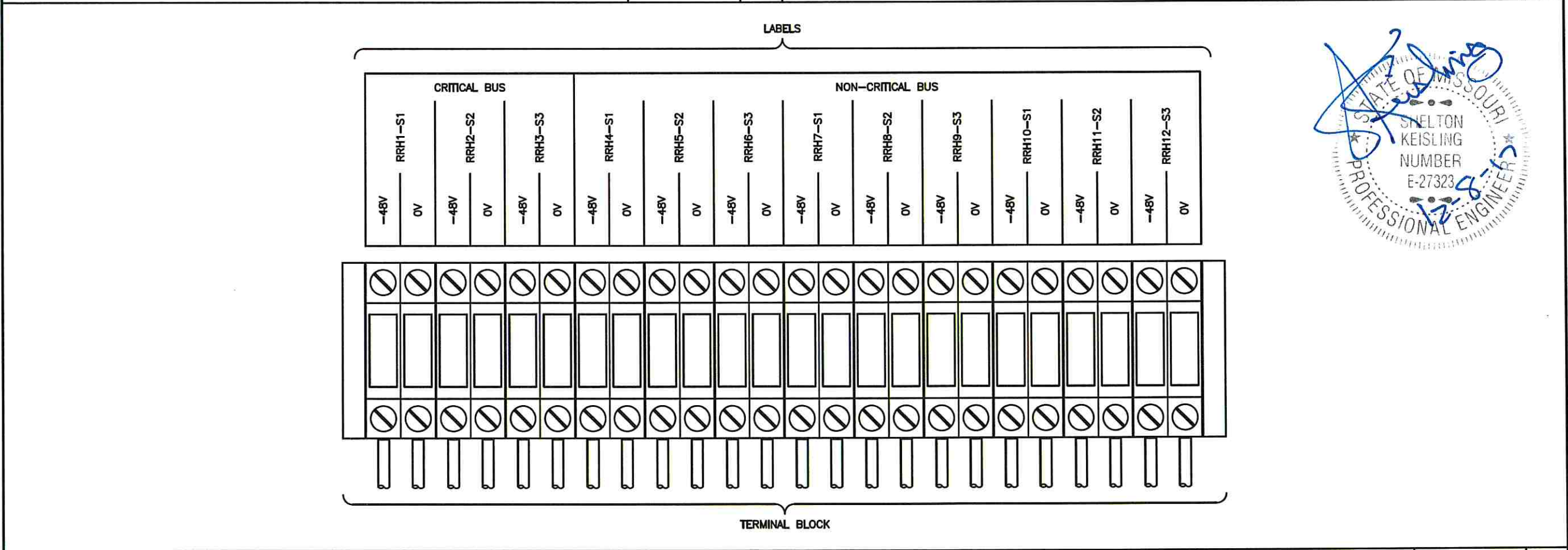
E-6

1

DETAIL NOT USED



DETAIL NOT USED	NO SCALE	1	PURCELL ELECTRICAL ONE-LINE DIAGRAM	NO SCALE	2
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PURCELL DC DISTRIBUTION	NO SCALE	3
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SITE OWNER:

AMERICAN TOWER®
116 HUNTINGTON AVE, 11TH FLOOR
BOSTON, MASSACHUSETTS 02116

PLANS PREPARED FOR:
6580 Sprint Parkway
Overland Park, Kansas 66251

Sprint

PLANS PREPARED BY:
9900 West 109th Street, Suite 300
Overland Park, Kansas 66210
Phone: 913-438-7700
Fax: 913-438-7777

SSC

ENGINEERING LICENSE:
STATE OF MISSOURI
STATE CERTIFICATE OF AUTHORIZATION # EF-2791

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LEE S SUMMIT #1B
36075

APPLICANT SITE NAME & SITE CASCAD:

ATC#36075 LOWENSTEIN
KC25XC198

SITE ADDRESS:

2200 LOWENSTEIN
LEES SUMMIT, MISSOURI
64081

SHEET DESCRIPTION:

PURCELL A/C POWER
DISTRIBUTION

DWG INFORMATION:

DRAWN BY:	HEE
CHECKED BY:	DCP

SHEET NUMBER:

E-7

CIRCUIT					DEVICE		
CRITICAL CKT# ELTEK	CRITICAL CKT# PURCELL	LABEL ID	E* Size(A)	P* Size(A)	ERC Equip ID	STA Equip ID	ALU Equip ID
12	1	RRH1-S1	20	25	1.9 RRU31, SECTOR 1	1.9 RRH-P4, SECTOR 1	1.9 RRH4X45, SECTOR 1
13	2	RRH2-S2	20	25	1.9 RRU31, SECTOR 2	1.9 RRH-P4, SECTOR 2	1.9 RR4X45, SECTOR 2
14	3	RRH3-S3	20	25	1.9 RRU31, SECTOR 3	1.9 RRH-P4, SECTOR 3	1.9 RRH4X45, SECTOR 3
6	4	Router-A Feed	20	25	Router (901,920,903)	Router (901,920,903)	Router (901,920,903)
7	5	Router-B Feed	20	25	Router (903) ¹	Router (903)	Router (903)
8,15	6	MW-1 (IDU,PoE)	20	10	MW 1 IDU only	MW 1 IDU only	MW 1 IDU only
9,16	7	MW-2 (IDU,PoE)	20	10	MW 2 IDU only	MW 2 IDU only	MW 2 IDU only
10,17	8	MW-3 (IDU,PoE)	20	10	MW 3 IDU only or 1900 DUS+XMU 1900HC	MW 3 IDU only	MW 3 IDU only
11,18	9	MW-4 (IDU,PoE)	20	10	MW 4 IDU only or 1900 DBA2 for High Cap	MW 4 IDU only	MW 4 IDU only
1	10	BBU-1	20	25	1.9 CDMA 6601 (DUS+XMU)	800/1.9 CDMA BBU-Primary	800/1.9 CDMA 9927 BBU- Primary
2	11	BBU-2	20	10	1.9 DBA	800/1.9 CDMA BBU	800/1.9 CDMA 9927 BBU or 1.9/2.5 NSN TDD FSM4 ²
3	12	BBU-3	20	10	1.9 CEEM	800/1.9 FDD BBU	800/1.9 FDD BBU
4	13	BBU-4/FAA LIGHT	20	25	Optional FAA Light	Optional FAA Light	Optional FAA Light
21	14	Ancillary	20	10	Ekinops EDKA	-	-
5	29	Spare/TDD Filter	20	25	TDD Filter-Purcell Only	-	-
19	PB1	Fan 1	20	20	Cabinet Environmental Ctrl (E and B Cab DAC Purcell)		
20	PB2	Fan 2	20	20	Cabinet Environmental Ctrl (Purcell Spare)		

CIRCUIT					DEVICE		
NON-CRITICAL CKT# ELTEK	NON-CRITICAL CKT# PURCELL	LABEL ID	E* Size(A)	P* Size(A)	ERC Equip ID	STA Equip ID	ALU Equip ID
10	15	RRH4-S1	20	25	2.5 RRUS82, SECTOR 1	2.5 RRH-B8, SECTOR 1	2.5 RRH8X20 or FZHN, SECTOR 1
11	16	RRH5-S2	20	25	2.5 RRUS82, SECTOR 2	2.5 RRH-B8, SECTOR 2	2.5 RRH8X20 or FZHN, SECTOR 2
12	17	RRH6-S3	20	25	2.5 RRUS82, SECTOR 3	2.5 RRH-B8, SECTOR 3	2.5 RRH8X20 or FZHN, SECTOR 3
13	18	RRH7-S1	20	25	800 RRUS11, SECTOR 1	800 RRH-C2A, SECTOR 1	800 RRH2X50, SECTOR 1
14	19	RRH8-S2	20	25	800 RRUS11, SECTOR 2	800 RRH-C2A, SECTOR 2	800 RRH2X50, SECTOR 2
15	20	RRH9-S3	20	25	800 RRUS11, SECTOR 3	800 RRH-C2A, SECTOR 3	800 RRH2X50, SECTOR 3
16	21	RRH10-S1	20	25	800 RRUS11-XT4R, SECTOR 1	800 RH-C2A-XT4R, SECTOR 1	800 RRH2X50-XT4R, SECTOR 1
17	22	RRH10-S2	20	25	800 RRUS11-XT4R, SECTOR 2	800 RH-C2A-XT4R, SECTOR 2	800 RRH2X50-XT4R, SECTOR 2
18	23	RRH11-S3	20	25	800 RRUS11-XT4R, SECTOR 3	800 RH-C2A-XT4R, SECTOR 3	800 RRH2X50-XT4R, SECTOR 3
8	24	BBU-5	20	25	2.5 LTE 6601 (DUS+DUS) or FSIH	2.5 TDD BBU	2.5 TDD BBUv2
9	25	Spare	20	10	NSN GPS	-	-
1	26	BBU-7	20	25	800 CDMA 6601 (DUx+XMU)	-	-
2	27	BBU-8	20	25	800 DBA or DBU	-	-
3	28	BBU-6	20	25	2.5 LTE 6601 (DUS+DUS)	-	-
-	30	Spare	-	25		-	-



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ATC#36075 LOWENSTEIN
KC25XC198

SITE ADDRESS:
2200 LOWENSTEIN
LEES SUMMIT, MISSOURI
64081

SHEET DESCRIPTION:
CIRCUIT SCHEDULE

DWG INFORMATION: SHEET NUMBER:
DRAWN BY: HEE
CHECKED BY: DCP
E-8