

T-Mobile

stick together

T-Mobile


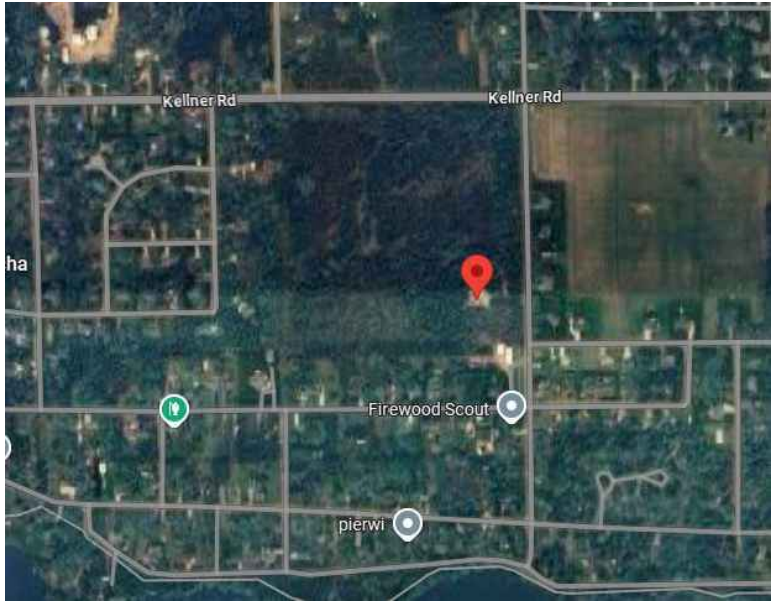
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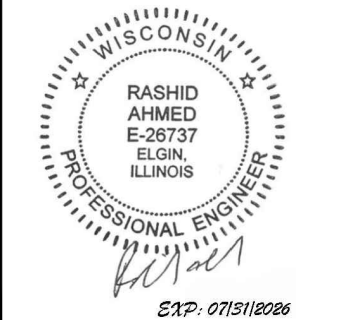
Engineering Consultants, Ltd.  
Professional/Structural Design Firm  
License # 184.007975-0006

CONTACT: A&E@WESTINENGINEERING.COM

VICINITY MAP		PROJECT INFORMATION		SITE ADDRESS:		SITE COORDINATES:																																																																			
		T-MOBILE SITE NUMBER: ML93776A T-MOBILE SITE NAME: USC LAKE WASEECHA  SITE TYPE: MONOPOLE PROJECT TYPE: ANCHOR + MW UPGRADE		2710 64TH STREET SOUTH WISCONSIN RAPIDS, WI 54494  JURISDICTION: TBD COUNTY: WOOD		LATITUDE NORTH: 44.37041° LONGITUDE WEST: -89.74633°																																																																			
LOCATION MAP		SCOPE OF WORK		PROJECT TEAM		SHEET INDEX																																																																			
		<p>BASED ON RFDS DATED: 09/19/2024 MICROWAVE DATA SHEET (IP20DHP) : 03/18/2025 MICROWAVE DATA SHEET (IP50E) : 03/18/2024</p> <p>THE SCOPE OF WORK CONSISTS OF:</p> <p><u>ANTENNA LEVEL:</u></p> <ul style="list-style-type: none"><li>(3) EXISTING ANTENNAS TO BE RELOCATED</li><li>(1) EXISTING MW DISH ANTENNA &amp; RFU TO REMAIN</li><li>(1) EXISTING MW DISH ANTENNA &amp; RFUs TO BE REMOVED AFTER CUTOVER</li><li>(3) EXISTING AHL0A RRU's TO BE RELOCATED</li><li>(3) EXISTING FHFB RRU's TO BE REMOVED</li><li>(1) EXISTING HCS 2.0 PENDANT TO REMAIN</li><li>(1) NEW 6x24 TRUNK TO BE INSTALLED</li><li>(3) NEW ANTENNAS TO BE INSTALLED</li><li>(3) NEW AHLII RRU's TO BE INSTALLED</li><li>(1) NEW MW DISH &amp; (2) RFUs TO BE INSTALLED</li><li>(5) NEW MW CABLES TO BE INSTALLED</li><li>(1) NEW 6x24 TRUNK TO BE INSTALLED</li></ul> <p><u>GROUND LEVEL:</u></p> <ul style="list-style-type: none"><li>EXISTING HLP2 DELTA CABINET TO BE REMOVED</li><li>EXISTING PPC CABINET TO BE REMOVED</li><li>NEW HPL3.05 DELTA CABINET TO BE INSTALLED</li><li>NEW SB3 DELTA BATTERY CABINET TO BE INSTALLED</li><li>NEW PPC CABINET TO BE INSTALLED</li><li>(1) EXISTING TOWER JUNCTION BOX TO BE RELOCATED</li><li>(1) NEW 6x24 HCS TO BE INSTALLED</li><li>(5) NEW MW CABLES TO BE INSTALLED</li><li>NEW IDU &amp; MODEM TO BE INSTALLED INSIDE SITE SUPPORT CABINET</li></ul>		<p><u>APPLICANT:</u></p> <p>T-Mobile</p> <p>T-MOBILE USA 1400 OPUS PLACE DOWNERS GROVE, IL 60515</p> <p>CONTACT: CONSTRUCTION MANAGER: PAUL AUBERT PH: 224-217 8218 EMAIL: PAUL.AUBERT1@T-MOBILE.COM</p> <p><u>A&amp;E FIRM:</u></p> <p>WESTIN</p> <p>Engineering Consultants, Ltd.</p> <p>CONTACT: ALI BENHAMIDA PH: 773-551 9814 EMAIL: A&amp;E@WESTINENGINEERING.COM</p> <p><u>SITE ACQUISITION FIRM:</u></p> <p>Insite inc.</p> <p>Real Estate Consulting Services 15660 MIDWEST ROAD, SUITE 308 OAKBROOK TERRACE, IL 60181</p> <p>CONTACT: RAY SHINKLE PH: 773-960 8781 EMAIL: SHINKLE@INSITE-INC.COM</p>		<table><thead><tr><th>SHEET</th><th>DESCRIPTION</th><th>REV.</th></tr></thead><tbody><tr><td>T-1</td><td>TITLE SHEET</td><td></td></tr><tr><td>C-1</td><td>OVERALL SITE PLAN</td><td></td></tr><tr><td>C-2</td><td>EXISTING &amp; PROPOSED EQUIPMENT LAYOUT</td><td></td></tr><tr><td>C-3</td><td>TOWER ELEVATION</td><td></td></tr><tr><td>C-4</td><td>EXISTING AND PROPOSED ANTENNAS LAYOUT</td><td></td></tr><tr><td>C-5</td><td>NEW MW DISH ANTENNA MOUNTING DETAIL</td><td></td></tr><tr><td>E-1</td><td>PROPOSED UTILITY SITE PLAN</td><td></td></tr><tr><td>RF-1</td><td>ANTENNA AND CABLE SCHEDULE</td><td></td></tr><tr><td>RF-2</td><td>SYSTEM CONNECTION DIAGRAM</td><td></td></tr><tr><td>RF-3</td><td>MW PATH DATASHEETS</td><td></td></tr><tr><td>RF-4</td><td>PLUMBING DIAGRAM</td><td></td></tr><tr><td>SP-1</td><td>NEW ANTENNA &amp; RRU MFR. SPECS &amp; DETAILS</td><td></td></tr><tr><td>SP-1.1</td><td>NEW MW DISH ANTENNA &amp; RFU MFR. SPECS</td><td></td></tr><tr><td>SP-1.2</td><td>NEW RFU AND IDU MFR. SPECS</td><td></td></tr><tr><td>SP-2</td><td>NEW DELTA HPL3.05 SITE SUPPORT CABINET MFR. SPECS</td><td></td></tr><tr><td>SP-3</td><td>NEW DELTA SB3 BATTERY CABINET MFR. SPECS</td><td></td></tr><tr><td>SP-4</td><td>NEW PPC CABINET MFR. SPECS</td><td></td></tr><tr><td>GR-1</td><td>GROUNDING RISER DIAGRAM, DETAILS AND NOTES</td><td></td></tr><tr><td>GR-2</td><td>TYPICAL GROUNDING DETAILS</td><td></td></tr><tr><td>GN-1</td><td>GENERAL NOTES AND SPECIFICATIONS</td><td></td></tr><tr><td>GN-2</td><td>GENERAL NOTES AND SPECIFICATIONS</td><td></td></tr></tbody></table>		SHEET	DESCRIPTION	REV.	T-1	TITLE SHEET		C-1	OVERALL SITE PLAN		C-2	EXISTING & PROPOSED EQUIPMENT LAYOUT		C-3	TOWER ELEVATION		C-4	EXISTING AND PROPOSED ANTENNAS LAYOUT		C-5	NEW MW DISH ANTENNA MOUNTING DETAIL		E-1	PROPOSED UTILITY SITE PLAN		RF-1	ANTENNA AND CABLE SCHEDULE		RF-2	SYSTEM CONNECTION DIAGRAM		RF-3	MW PATH DATASHEETS		RF-4	PLUMBING DIAGRAM		SP-1	NEW ANTENNA & RRU MFR. SPECS & DETAILS		SP-1.1	NEW MW DISH ANTENNA & RFU MFR. SPECS		SP-1.2	NEW RFU AND IDU MFR. SPECS		SP-2	NEW DELTA HPL3.05 SITE SUPPORT CABINET MFR. SPECS		SP-3	NEW DELTA SB3 BATTERY CABINET MFR. SPECS		SP-4	NEW PPC CABINET MFR. SPECS		GR-1	GROUNDING RISER DIAGRAM, DETAILS AND NOTES		GR-2	TYPICAL GROUNDING DETAILS		GN-1	GENERAL NOTES AND SPECIFICATIONS		GN-2	GENERAL NOTES AND SPECIFICATIONS	
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GC SHALL VERIFY ALL EXISTING PLANS, DIMENSIONS & CONDITIONS ON JOB SITE. GC SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER OF RECORD OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. GC SHALL COMPLY WITH OSHA SAFETY REQUIREMENTS AT ALL TIME DURING SITE CONSTRUCTION. G.C SHALL HAVE THE SITE MANNED WITH A CREW AND SUPERVISOR DURING CONSTRUCTION. G.C SHALL CONFIRM WITH T-MOBILE CONSTRUCTION MANAGER AND A&E FIRM FOR THE MOST RECENT SET OF DRAWINGS AND STRUCTURAL ANALYSIS PRIOR TO BIDDING ON SITE.		BUILDING CODE: 2015 INTERNATIONAL BUILDING CODE AS AMENDED BY THE STATE OF WISCONSIN  ELECTRICAL CODE: 2014 NATIONAL ELECTRICAL CODE  ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE LATEST EDITIONS OF THE ADOPTED CODES:		FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. ADA ACCESS REQUIREMENTS ARE NOT REQUIRED. THIS FACILITY DOES NOT REQUIRE POTABLE WATER AND WILL NOT PRODUCE ANY SEWAGE.		<table><tr><td>T-MOBILE OPS</td><td>_____</td></tr><tr><td>R.F OPS</td><td>_____</td></tr><tr><td>R.F ENGINEER</td><td>_____</td></tr><tr><td>SITE ACQUISITION</td><td>_____</td></tr><tr><td>CONSTRUCTION</td><td>_____</td></tr><tr><td>LAND LORD</td><td>_____</td></tr></table>		T-MOBILE OPS	_____	R.F OPS	_____	R.F ENGINEER	_____	SITE ACQUISITION	_____	CONSTRUCTION	_____	LAND LORD	_____																																																						
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D	PRELIM CDs	AE	05/19/25
0	FINAL CDs	AE	08/14/25



I CERTIFY THAT THESE DRAWINGS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND CONTROL AND TO THE BEST OF MY KNOWLEDGE AND BELIEF COMPLY WITH REQUIREMENTS OF THE GOVERNING BUILDING CODE.

PREPARED BY: AE  
CHECKED BY: AB  
APPROVED BY: RA

SHEET TITLE  
TITLE SHEET

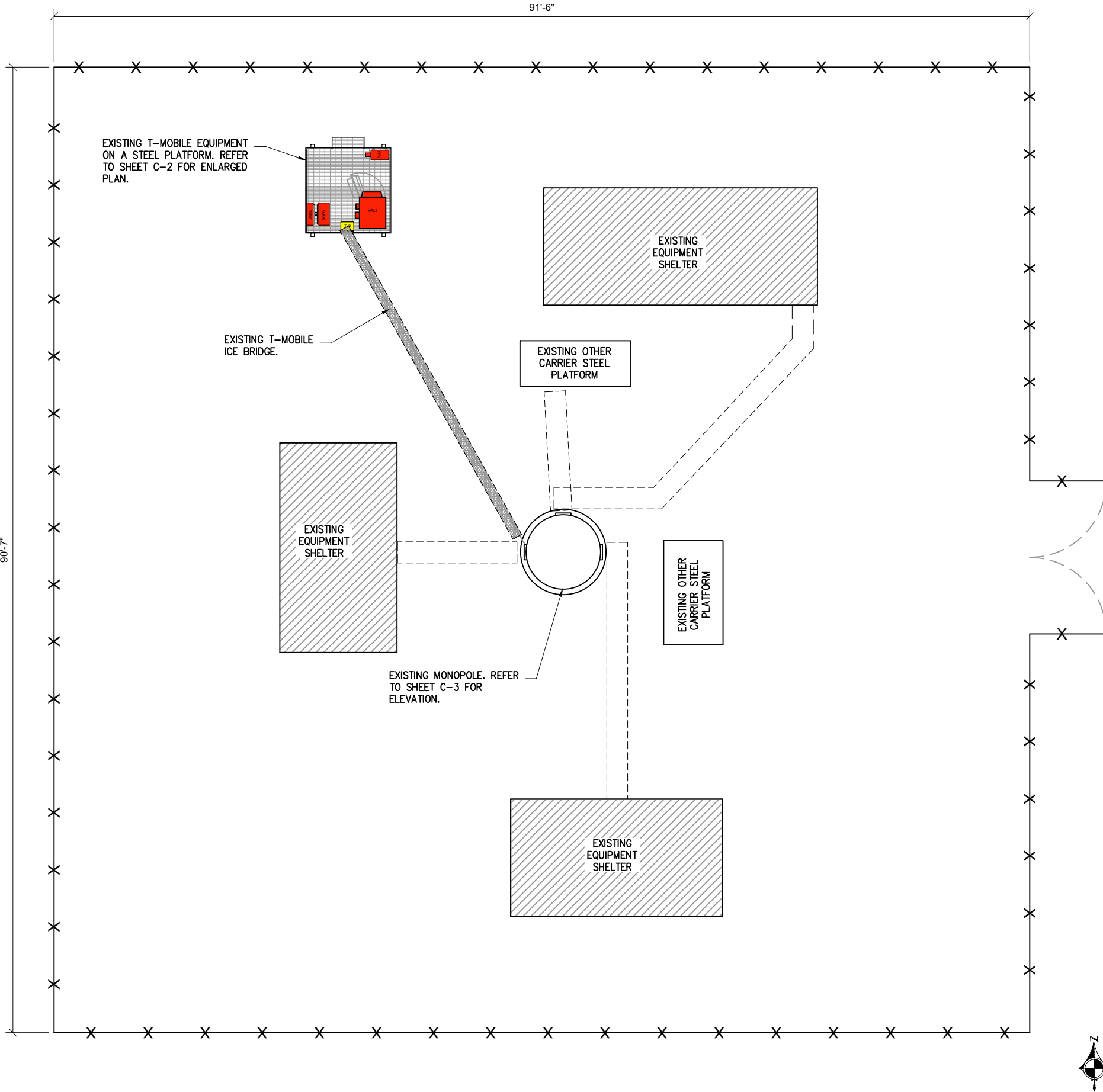
SHEET NUMBER  
T-1

CONSTRUCTION NOTES:

- ELEVATIONS ARE ABOVE MEAN SEA LEVEL.
- ALL EXISTING EASEMENTS, PROPERTY LINES, SECTION LINES AND ROADWAYS ARE INDICATED ON THIS DRAWING ARE GATHERED BY VISUAL INSPECTION, SURVEY DRAWINGS, AND INFORMATION RECEIVED FROM THE CARRIER.
- ALL CONSTRUCTION SHALL CONFORM TO CURRENT LOCAL., STATE, AND FEDERAL CODES.
- THE CONTRACTOR SHALL TAKE ALL REASONABLE MEASURES TO PROTECT EXISTING STRUCTURES, UTILITIES, WALKWAYS, PAVEMENT AND OTHER FACILITIES FROM UNNECESSARY EXPOSURE TO DAMAGE.; ALL NEW UNDERGROUND TRENCHING SHALL BE HAND DUG.
- THE CONTRACTOR SHALL LOCATE AND MARK ALL EXISTING UNDERGROUND POWER, TELCO, GROUNDING CONDUITS, AND ALL OTHER UTILITIES EASEMENTS AND/OR WIRES PRIOR TO TRENCHING. ANY DAMAGE CAUSED TO THE EXISTING UNDERGROUND SERVICES OR SYSTEMS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. VERIFY WITH UTILITY NEW SERVICE HAS BEEN APPLIED FOR. THERE SHALL BE NO SPLICING OF GROUND CONDUCTORS BELOW GRADE.
- THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE SAFETY AND IF NECESSARY THE REPAIR OF ALL PUBLIC UTILITIES SERVICES SUCH AS GAS, TELEPHONE, ELECTRIC, CABLE, AND WATER.
- DO NOT INTERRUPT SERVICES TO ANY ADJACENT STRUCTURES OR FACILITIES WITHOUT WRITTEN PERMISSION FROM THE PROPERTY OWNER.
- EROSION CONTROL MEASURES SUCH AS SILT FENCING AND/OR HAYBALES SHALL BE UTILIZED TO PREVENT SOIL AND DEBRIS FROM CONTAMINATING ADJACENT PROPERTIES, ROADS, AND AREAS.
- COMMENCEMENT OF CONSTRUCTION SHALL BEGIN ONLY WITH THE WRITTEN APPROVAL OF THE OWNER OR OWNER'S REPRESENTATIVE; ALL CONSTRUCTION AND MATERIAL ORDERING (WITH THE EXCEPTION OF THE TOWER) SHALL BE DONE WITH DRAWINGS LABELED "ISSUED FOR CONSTRUCTION
- ALL CLEAN SOIL MAY BE USED ON SITE UNLESS OTHERWISE NOTED IN THE REGULATORY COMMENTS OR BID DOCS.
- ACCESS TO OTHER CUSTOMERS ON SITE CAN NOT BE BLOCKED AT ANYTIME .
- ALL SAFETY HAZARDS MUST BE MARKED WITH WARNING TAPE OR SAFETY FENCE.
- PROPER SIGNAGE MUST BE POSTED AT ACCESS OF COMPOUND PER OSHA SPEC.
- ANY ACCIDENTS ON SITE MUST BE REPORTED TO THE T-MOBILE MANAGER IMMEDIATELY AFTER ATTENDING TO THE PERSON(S) NEEDS AND ADMINISTERING FIRST AIDE IF NEEDED.
- GC'S ARE NOT TO CONTACT LANDOWNERS. ALL MATTERS MUST BE REPORTED TO PROJECT MANAGEMENT TEAM.
- PROVIDE 2 PULL STRINGS SECURELY FASTENED AT EACH END OF ALL CONDUITS. THE PULL STRINGS ARE TO BE 200 LB. TEST POLYETHYLENE CORD. PROVIDE CAP ON THE END OF EACH CONDUIT AND MARK AS SHOWN ON THIS SITE PLAN.
- ALL CONDUITS MUST BE PROPERLY INSTALLED AND SEALED TO PREVENT FREEZING AND DAMAGE
- GC SHALL USE 3/4" PLYWOOD AROUND AREAS OF EGRESS/INGRESS TO CONSTRUCTION SITE IN ORDER TO PROTECT GRASSY AREAS FROM DAMAGE FROM EXCAVATIONS AND CONCRETE WORK.
- GC TO REPAIR GRASSY AREAS TO LIKE CONDITION USING SOD AND SHALL WATER TO SATURATION ONCE WEEKLY UNTIL NEW GRASS SOD IS ESTABLISHED. MINIMUM OF 4 WATERING.

NOTES:

- G.C. MUST RETURN THE SITE TO PRE-CONSTRUCTION CONDITION AFTER CONSTRUCTION COMPLETE.
- HAND DIG IS REQUIRED WITHIN THE COMPOUND TO AVOID DAMAGE TO EXISTING UNDERGROUND UTILITIES.



1 OVERALL SITE PLAN  
SCALE: 3/32" = 1'-0"

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License # 184.007975-0006

CONTACT: A&E@WESTINENGINEERING.COM

SITE NUMBER

ML93776A

SITE NAME

USC LAKE WASEECHA

SITE ADDRESS

2710 64TH STREET SOUTH  
WISCONSIN RAPIDS, WI 54494

REV.	SUBMITTAL	APPROVED	DATE
A	PRELIM CDs	AE	01/20/25
B	PRELIM CDs	AE	01/03/25
C	PRELIM CDs	AE	04/25/25
D	PRELIM CDs	AE	05/19/25
0	FINAL CDs	AE	08/14/25



EXP: 07/31/2026

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PREPARED BY: AE

CHECKED BY: AB

APPROVED BY: RA

SHEET TITLE

OVERALL SITE PLAN

SHEET NUMBER

C-1

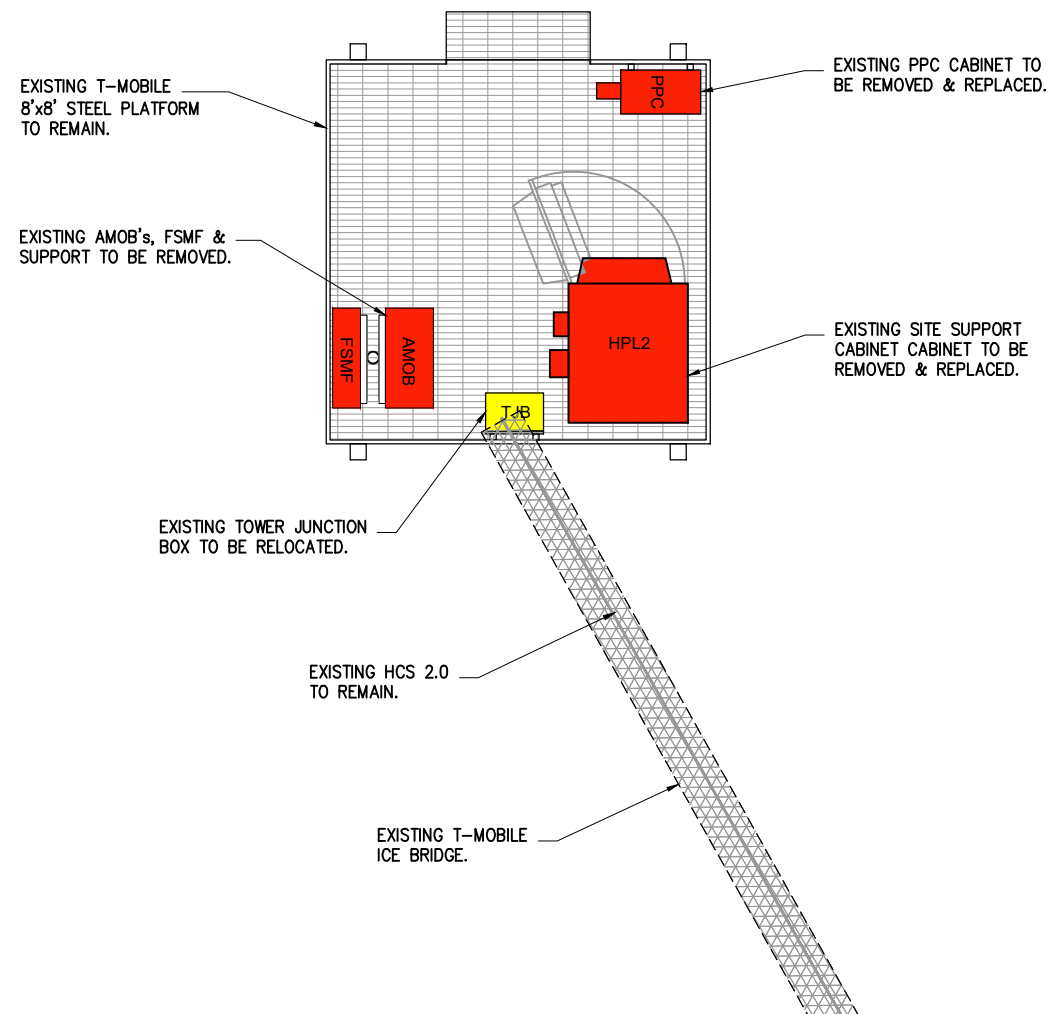


LEGEND

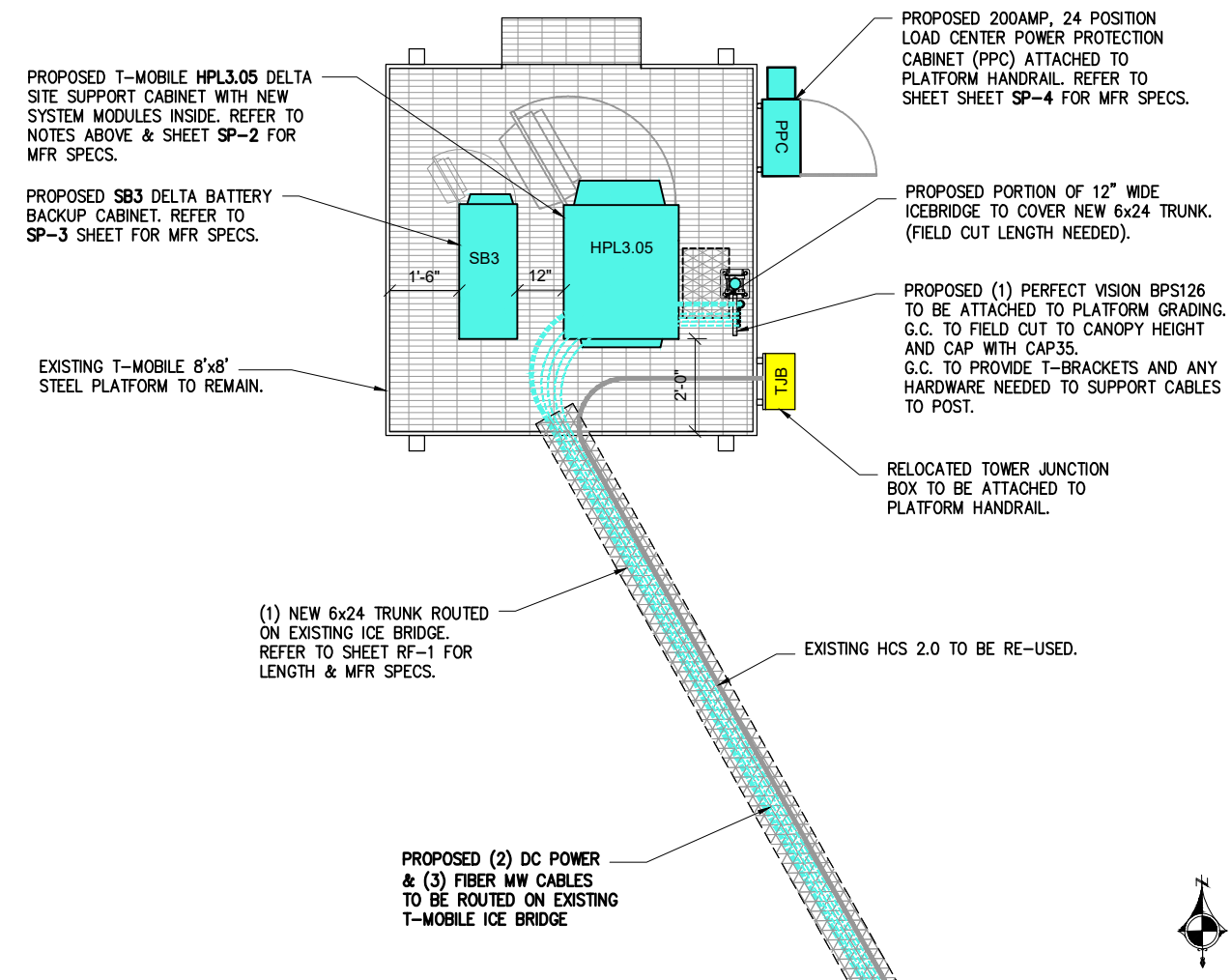
- EXISTING EQUIPMENT TO REMAIN
- EXISTING EQUIPMENT TO BE RELOCATED
- EXISTING EQUIPMENT TO BE REMOVED
- PROPOSED EQUIPMENT TO BE INSTALLED

DELTA CABINET INSTALLATION NOTE:

- 1- G.C. TO REFER TO THE DELTA HPL3.05 CABINET INSTALL GUIDELINE TRAINING DOCUMENT PROVIDED BY T-MOBILE CONSTRUCTION MANAGER.
- 2- G.C. TO ENSURE THERE IS NO OBSTRUCTION WITHIN 24" OF THE BACK OF DELTA SITE SUPPORT CABINET FOR EASE OF ACCESS.
- 3- G.G. TO ALLOW 12" CLR. BETWEEN DELTA SITE SUPPORT & BATTERY CABINETS.
- 4- G.C. TO ROUTE ANY NEW CONDUITS BETWEEN DELTA SITE SUPPORT CABINET AND ANY OTHER EQUIPMENT SO THAT NO TRIP HAZARDS OR OBSTRUCTIONS ARE CREATED.



1 EXISTING EQUIPMENT PLAN  
SCALE: 1/4" = 1'-0"



2 PROPOSED EQUIPMENT PLAN  
SCALE: 1/4" = 1'-0"

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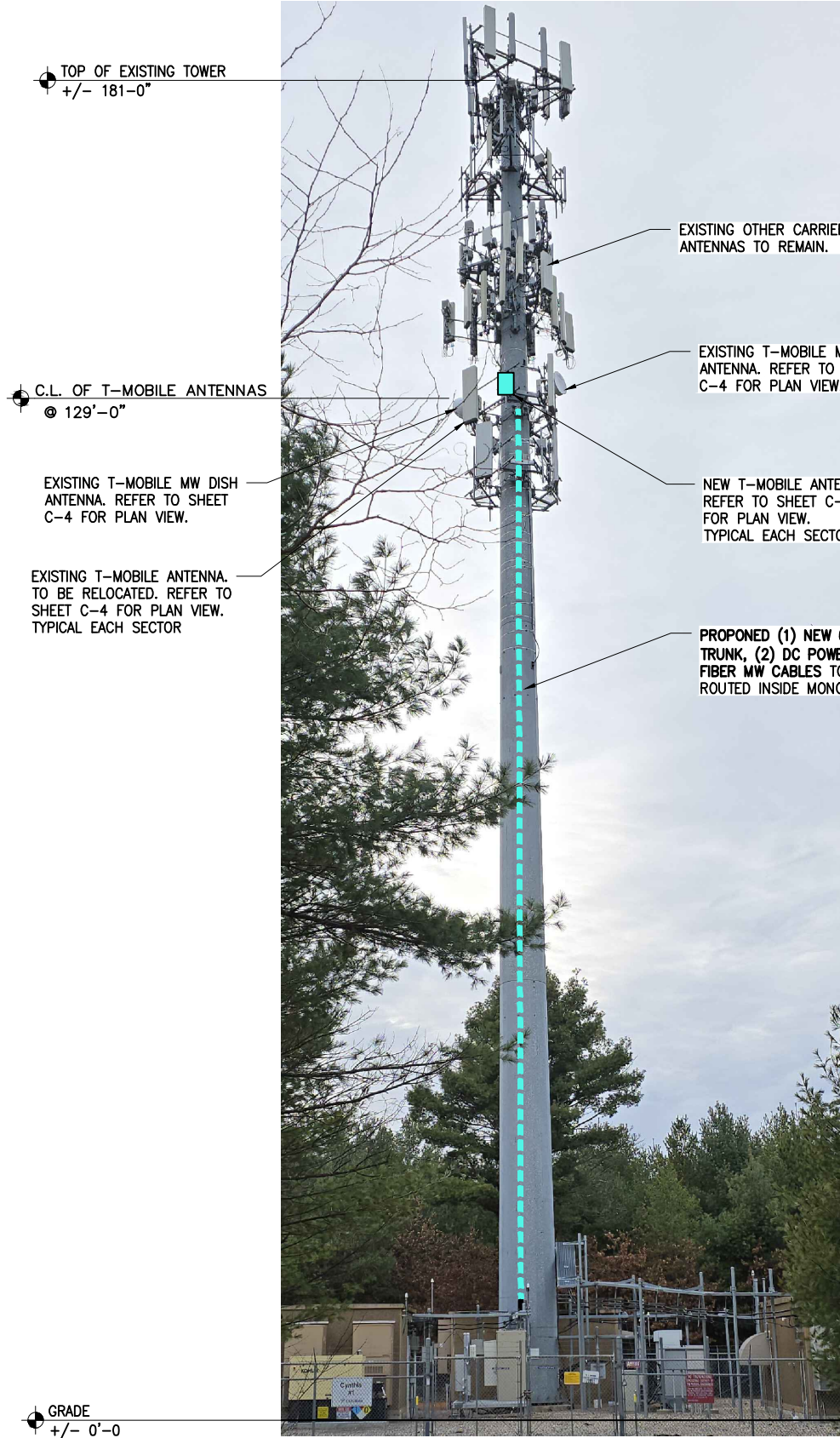
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CHECKED BY: AB  
APPROVED BY: RA

SHEET TITLE  
EXISTING & PROPOSED  
EQUIPMENT PLAN

SHEET NUMBER

C-2



**STRUCTURAL NOTE:**

1- G.C. TO REFER TO TOWER STRUCTURAL ANALYSIS BY B+T GRP DATED 08/07/2025 AND NEW MOUNT REPLACEMENT ANALYSIS BY WESTIN ENGINEERING CONSULTANTS DATED 06/09/2025 PRIOR TO CONSTRUCTION STARTS.

2- ALL NEW INSTALLED EQUIPMENT MUST NOT INTERFERE WITH THE CLIMBING FACE AND SAFETY CLIMB. CONTRACTOR SHALL MAKE SURE SAFETY CLIMB ARE 100% FREE OF CABLES AND MOUNTS AFTER INSTALLATION IS COMPLETE.

NO ERECTION OR MODIFICATION OF TOWER SHALL BE MADE WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER

**NOTE:**

6" MAXIMUM ALLOWABLE OFFSET BTW. ANTENNA C.L. & MOUNT C.L.

**NOTE:**

EXISTING MW DISH ANTENNA, (2) RFU & MW CABLES ON ALPHA SECTOR TO REMAIN LIVE UNTIL THE CUTOVER TO THE NEW DONOR IS COMPLETE. ONCE NEW DONOR IS LIVE AND COMPLETE, G.C. WILL THEN REMOVE THE MW DISH, (2) RFUs AND CABLES.

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RASHID AHMED  
E-26737  
ELGIN, ILLINOIS  
PROFESSIONAL ENGINEER

EXP: 07/31/2026

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SHEET TITLE

TOWER ELEVATION

SHEET NUMBER

C-3



**LEGEND**

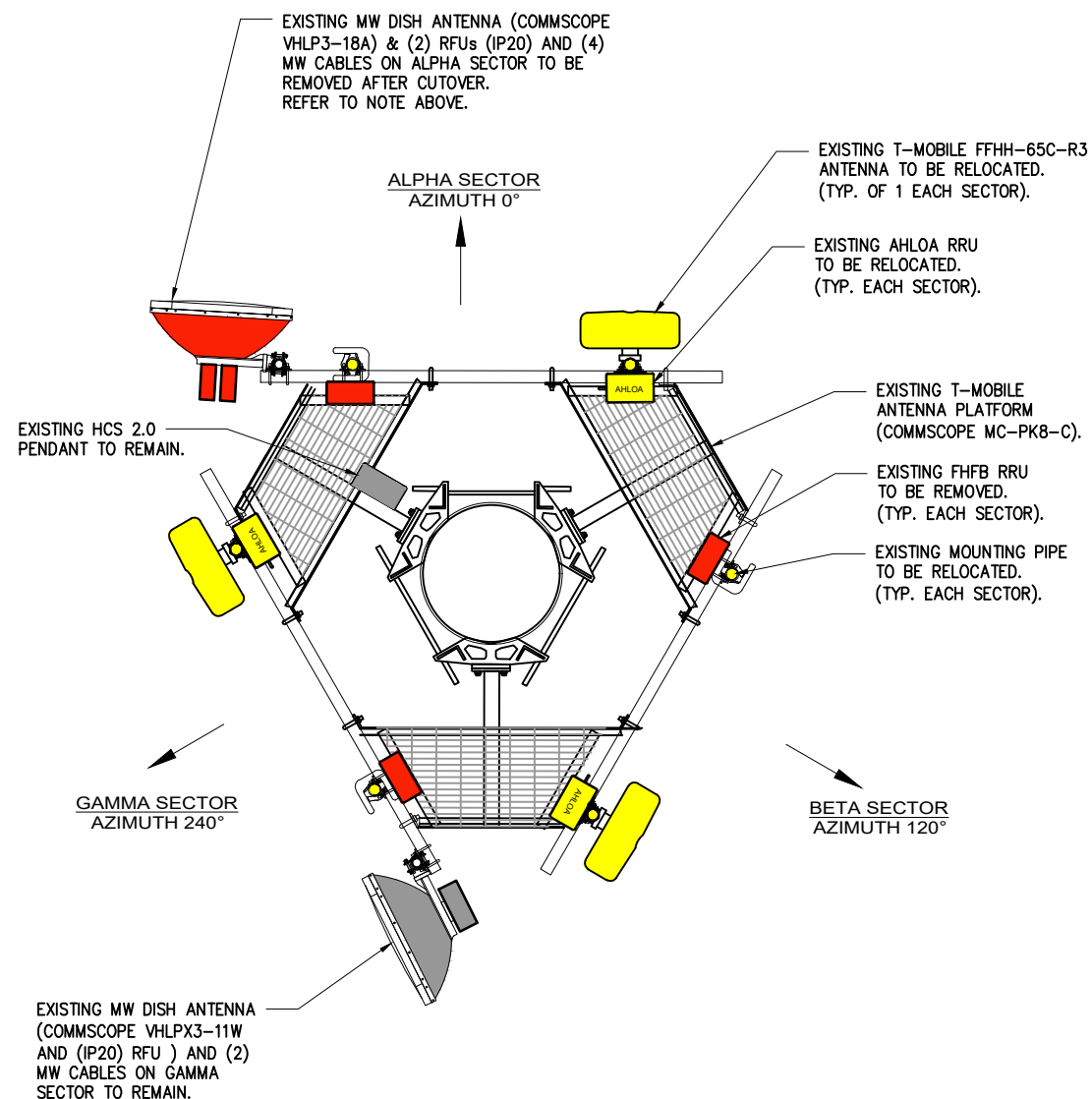
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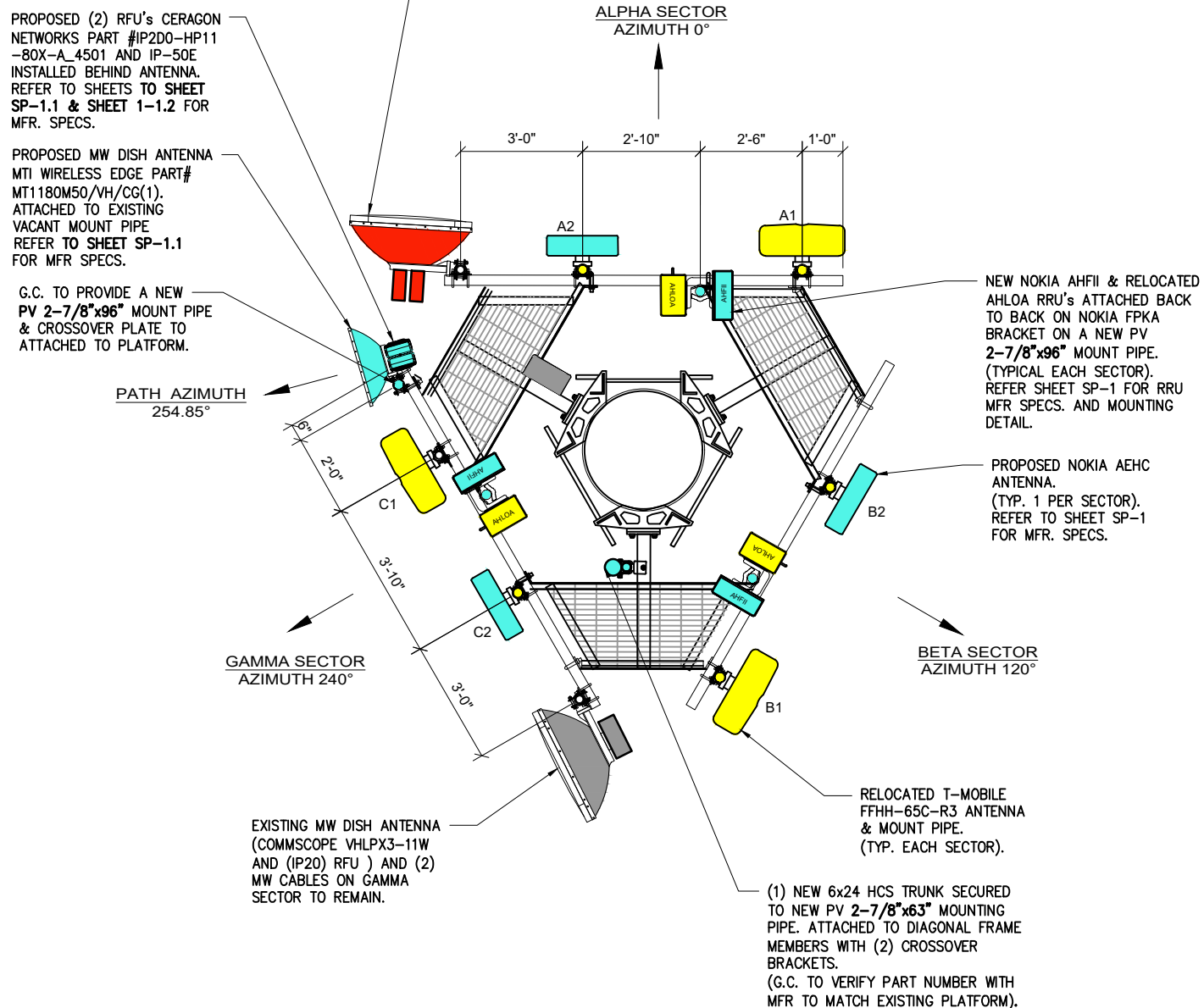
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NO ERECTION OR MODIFICATION OF TOWER SHALL BE MADE WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER



1

**EXISTING ANTENNAS CONFIGURATION**

SCALE: N.T.S.



2

**PROPOSED ANTENNAS CONFIGURATION**

SCALE: N.T.S.

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0	FINAL CDs	AE	08/14/25



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PREPARED BY: AE

CHECKED BY: AB

APPROVED BY: RA

SHEET TITLE

EXISTING AND PROPOSED  
ANTENNA LAYOUT

SHEET NUMBER

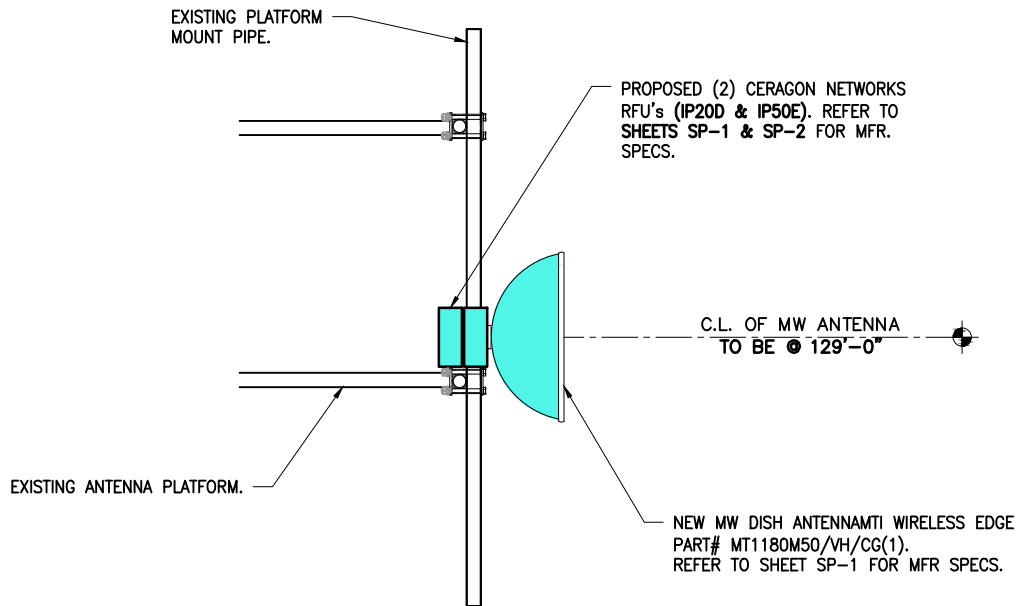
C-4

NOTE:

G.C. TO REFER TO FINAL MICROWAVE PATH DATA SHEET TO ENSURE ACCURATE EQUIPMENT CALLOUTS.  
G.C. TO FIELD VERIFY EXACT AZIMUTH & RAD CENTER OF NEW MW DISH AND CONFIRM WITH CONSTRUCTION MANAGER FOR APPROVAL PRIOR OF CONSTRUCTION COMPLETION.

NOTE:

6" MAXIMUM ALLOWABLE OFFSET BTW. ANTENNA C.L. & MOUNT C.L.



MW DISH INSTALLATION GENERAL GUIDELINES:

- FOR ERICSSON 2+0 LINKS - (2) LMRS (EQUIVALENT TO 1/2" COAX) AND (2) RFUS - FOR ERC 4+0 LINKS - (4) LMRS (EQUIVALENT TO 1/2" COAX) AND (4) RFUS.
- FOR CERAGON 2+0 LINKS - (1) 2X14AWG POWER, (1) SINGLE PAIR FIBER, AND (1) RFU - FOR CER 4+0 LINKS - (2) 2X14AWG POWERS, (2) SINGLE PAIR FIBERS, AND (2) RFUS.
- 1' AND 2' DISHES - 2 3/8" MAST WITH NO STIFF ARM.
- 3' AND 4' DISHES ON PV-SFA SECTOR FRAMES - 3.5" MAST WITH RESPECTIVE U-BOLTS RIGHT TO THE FRAME (NO PIPE TO PIPES).
- 3' AND 4' DISHES ON SF-QV-B SECTOR FRAMES - 2 7/8" MAST WITH RESPECTIVE U-BOLTS RIGHT TO THE FRAME (NO PIPE TO PIPES).
- 3' AND 4' DISHES ON ROUND MEMBER FRAMES/PLATFORMS - 3.5" MAST WITH RESPECTIVE UNIVERSAL CROSS OVER PLATES RIGHT TO THE FRAME (NO PIPE TO PIPES).
- ALWAYS AVOID MOVING OCTO/RRUS - AVOID (CROSSING BEAMS) WITH ANTENNAS AND DISHES - WHEN SHUFFLING IS NEEDED TO AVOID (CROSSING BEAMS), PRIORITIZE MOVING THE AEHC.
- FOR 3', 4', AND 6' DISHES, A STIFF ARM ON THE DISH IS REQUIRED - ENSURE THE PROPOSED POSITION/ORIENTATION OF THE DISH IS REALISTIC FOR THE STIFF ARM TO ATTACH BACK TO THE TOWER/STEEL/FRAME WITH AN EFFECTIVE ANGLE.
- WHEN A SECTOR FRAME SWAP IS REQUIRED, PV-SFR-GS3X12-25-AP4 IS THE DEFAULT CHOICE
- THE PCN SHOULD BE SUPER-IMPOSED ONTO THE CDS.

1

MICROWAVE DISH MOUNTING DETAIL

SCALE: N.T.S.

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ML93776A

SITE NAME

USC LAKE WASEECHA

SITE ADDRESS

2710 64TH STREET SOUTH  
WISCONSIN RAPIDS, WI 54494

REV.	SUBMITTAL	APPROVED	DATE
A	PRELIM CDs	AE	01/20/25
B	PRELIM CDs	AE	01/03/25
C	PRELIM CDs	AE	04/25/25
D	PRELIM CDs	AE	05/19/25
0	FINAL CDs	AE	08/14/25



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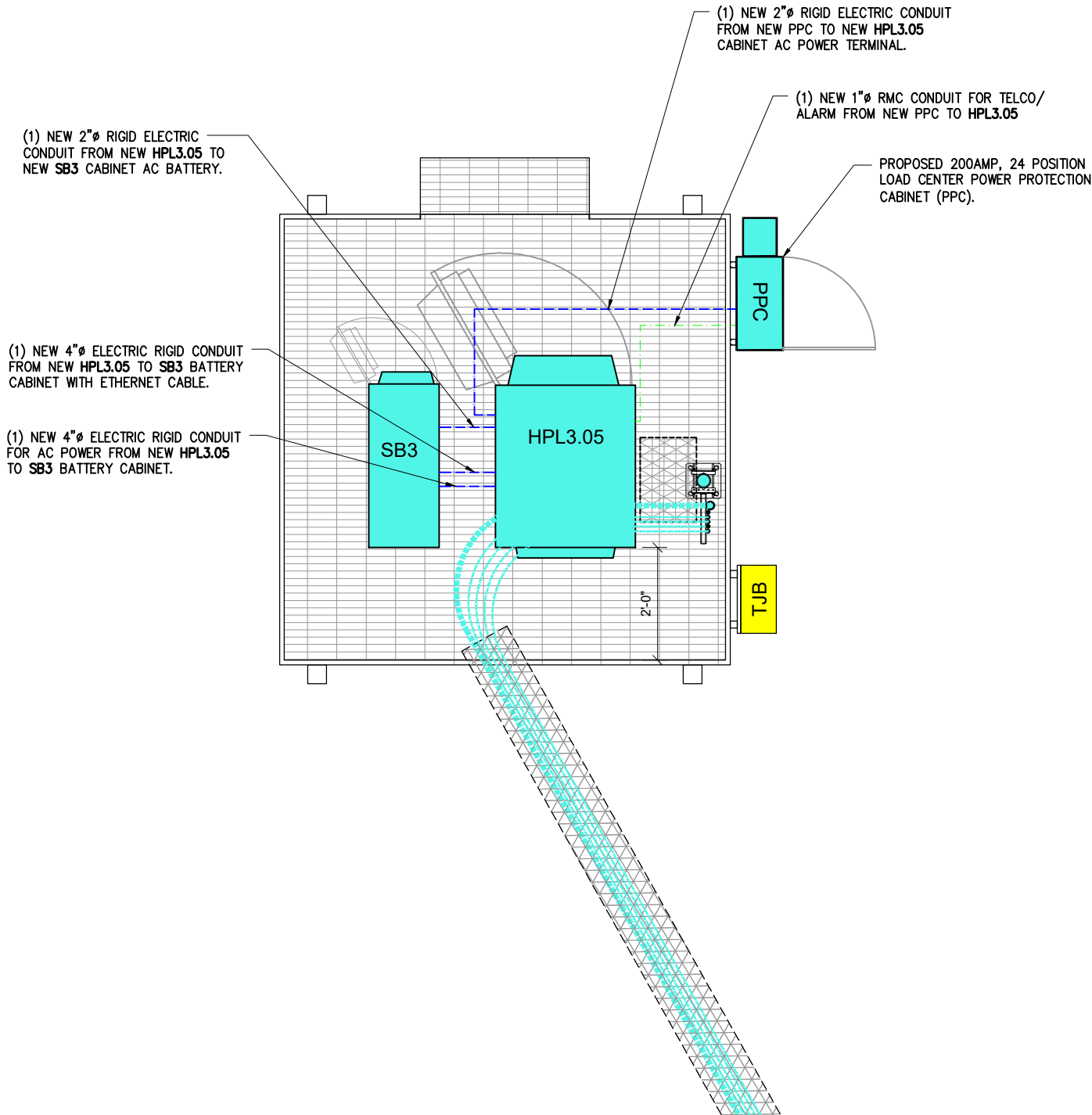
MW DISH MOUNTING DETAIL

SHEET NUMBER

C-5

NOTE:

G.C. TO UTILIZE EXISTING UTILITY CONDUITS WHEN POSSIBLE AND PROVIDE NEW ONES IF NEEDED.



NOTES:

1. CONTRACTOR SHALL COORDINATE METER SOCKET LOCATION AND TYPE WITH POWER COMPANY.
2. CONTRACTOR SHALL INSTALL CONDUIT AND WIRE TO THE BTS SITE. COIL WIRES, SEAL CONDUIT WIRE ENDS FROM MOISTURE INFILTRATION. LEAVE WIRE TO TERMINATE AT RADIO CABINET PANEL, (MINIMUM OF 10 FEET).
3. COPPER GROUND WIRE SHALL BE BONDED TO SITE GROUNDING SYSTEM.
4. UNDERGROUND CONDUITS SHALL TRANSITION FROM PVC TO RIGID THROUGH THE SWEEP AND REMAIN RIGID INTO PANELS.
5. CONTRACTOR MAY MODIFY KNOCKOUT HOLES IN EQUIPMENT CABINETS TO ACCOMMODATE THE REQUIRED CONDUIT SIZES.
6. COORDINATE WITH RADIO CABINET MFG REQUIREMENTS FOR SIZE & NUMBER OF CONDUITS.
7. THE MINI- PPC IS SHIPPED IN TWO SECTIONS TO BE BOLTED TOGETHER ON SITE. THE COMBINED WEIGHT IS APPROX. 300 LBS.
8. SURGE PROTECTION IN TELCO CHAMBER IS REQUIRED ON ALL SITES WITH EXTERNAL ALARM POINT MONITORING. NORTHERN TECHNOLOGIES INC DLP-43 DATA LINE PROTECTOR SHALL BE USED.
9. SERVICE POWER SHALL BE (120/240VAC, 200A, 1Ø, 3W) OR (120/208VAC, 200A, 3Ø, 4W)
10. 200A METER BASE SHALL BE INSTALLED WHERE IT IS ACCESSIBLE FOR READOUT. THE NUMBER OF JAWS IN THE METER SOCKET AND THEIR ARRANGEMENT DEPENDS ON THE VOLTAGE SERVICE. COORDINATE WITH POWER COMPANY
11. CABLE SIZES SHALL BE ADJUSTED TO COMPENSATE FOR VOLTAGE DROP IF LONGER THAN 180FT. VERIFY CONDUIT SIZE WHEN CHANGING CABLE SIZE.
12. FOR COMPLETE INTERNAL WIRING AND ARRANGEMENT REFER TO VENDOR PRINTS PROVIDED BY PPC MANUFACTURER.
13. ADDRESS SHALL BE POSTED BELOW THE METER
14. ANY 120 VOLT OUTLET LOCATED ON THE PPC SHALL HAVE GFCI PROTECTION PER NEC SECTION 210-8.
15. CONTRACTOR TO SUPPLY AVAILABLE FAULT CURRENT CALCULATIONS AT THE SERVICE EQUIPMENT LINE TERMINATION POINT; AS WELL AS IMPEDANCE VALUE AND SIZE OF SERVICE CONDUCTORS. ALL SERVICE AND BRANCH PANELS SHALL BE RATED FOR THE AVAILABLE FAULT CURRENT. DISTANCE AND CONDUCTOR SIZES MUST BE FURNISHED TO INSPECTOR.
16. EMERGENCY AND BATTERY BACKED UP EXIT LIGHTING CIRCUITS SHALL BE MARKED SPECIFICALLY IN THE ELECTRICAL PANEL AS SUCH. (NEC 700.12.E). THE FIRE DEPARTMENT WILL BE TESTING THESE DEVICES EVERY SIX MONTH DURING BUSINESS HOURS BY SHUTTING THESE CIRCUITS (KEEP CRITICAL LOADS OFF THESE CIRCUITS). IF THE PRIMARY SOURCE OF ILLUMINATION IS HID, THE EMERGENCY LIGHTS SHALL BE REQUIRED TO OPERATE UNTIL NORMAL ILLUMINATION IS RESTORED. (NEC 700.16).
17. CONTRACTOR SHOULD ENSURE THAT ANY GENERATOR SUPPLYING THIS SITE SHOULD HAVE THE GROUND TO NEUTRAL STRAP REMOVED AS THIS IS A 2 POLE TRANSFER SWITCH WITH A SOLID NEUTRAL

SERVICE EQUIPMENT NOTES:

1. SERVICE EQUIPMENT SHALL HAVE A SHORT CIRCUIT RATING EQUAL TO OR EXCEEDING THE MAXIMUM AVAILABLE FAULT CURRENT AT THE SUPPLY TERMINAL.
2. ALL ELECTRICAL EQUIPMENT SHALL BE ANCHORED TO WITHSTAND 90 M.P.H. WIND SPEED, EXPOSURE C.
3. ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT UV STABLE, WEATHER PROOF, ENGRAVED PLASTIC LABELS.
4. REPAIR ANY EQUIPMENT PAINT SURFACE THAT HAS BEEN DAMAGED IN THE COURSE OF INSTALLATION.

CONDUITS AND WIRING

1. WIRING OF EVERY KIND MUST BE INSTALLED IN CONDUIT, UNLESS NOTED OTHERWISE, OR AS APPROVED BY THE ENGINEER.
2. UNLESS OTHERWISE SPECIFIED, ALL WIRING SHALL BE COPPER (CU) TYPE THWN, SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
3. RACEWAYS SHALL BE GALVANIZED STEEL, SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, UNLESS OTHERWISE NOTED. ALL RACEWAYS SHALL BE APPROVED FOR THE INSTALLATION.
4. PULL OR JUNCTION BOXES SHALL BE PROVIDED AS REQUIRED TO FACILITATE INSTALLATION OF RACEWAYS AND WIRING.
5. PROVIDE A COMPLETE RACEWAY AND WIRING INSTALLATION, PERMANENTLY AND EFFECTIVELY GROUNDED IN ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE AND LOCAL CODES.

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PREPARED BY: AE

CHECKED BY: AB

APPROVED BY: RA

SHEET TITLE

PROPOSED UTILITY  
PLAN

SHEET NUMBER

E-1

1

PROPOSED EQUIPMENT UTILITY PLAN

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



CUSTOM CONFIGURATION – TOWER TOP EQUIPMENT SCHEDULE											
ANTENNA SECTOR	ANTENNA MARK	ANTENNA MODEL #	TECHNOLOGY	ELECTRICAL TILT	MECHANICAL TILT	RAD CENTER	AZIMUTH	RRU MODEL	RF JUMPERS	HYBRID JUMPERS	ESTIMATED MFR. HYBRID TRUNK (LENGTH TO BE VERIFIED IN FIELD)
ALPHA	A1	FFHH-65C-R3 (E)	L600/N600 L2100/L1900/ N2100/N1900	–	–	129'-0"	0°	AHLOA (E) AHFII (P)	(8) 15'/15' (P)	(1) 15' (E) (1) 15' (P)	(1) 150' HCS 2.0 TRUNK A (E)
	A2	AEHC (P)	N2500	–	–			–	–	(1) 15' 6x24 Hybrid Jumpers (P)	(1) 175' 6x24 TRUNK B (P)
BETA	B1	FFHH-65C-R3 (E)	L600/N600 L2100/L1900/ N2100/N1900	–	–	129'-0"	120°	AHLOA (E) AHFII (P)	(8) 15'/15' (P)	(1) 15' (E) (1) 15' (P)	SHARED HCS 2.0 TRUNK A
	B2	AEHC (P)	N2500	–	–			–	–	(1) 15' 6x24 Hybrid Jumpers (P)	SHARED 6x24 TRUNK B
GAMMA	C1	FFHH-65C-R3 (E)	L600/N600 L2100/L1900/ N2100/N1900	–	–	129'-0"	240°	AHLOA (E) AHFII (P)	(8) 15'/15' (P)	(1) 15' (E) (1) 15' (P)	SHARED HCS 2.0 TRUNK A
	C2	AEHC (P)	N2500	–	–			–	–	(1) 15' 6x24 Hybrid Jumpers (P)	SHARED 6x24 TRUNK B

NOTE: ANTENNAS PLACEMENT, ELCT. & MECH. TILT, AND RRU's TO BE VERIFIED WITH T-MOBILE C.M. PRIOR TO CONSTRUCTION STARTS

**NOTE:**  
G.C. SHALL FIELD MEASURE AND DETERMINE THE EXACT REQUIRED NEW HCS TRUNK LENGTH TO EACH SECTOR AND PROVIDE CABLES LENGTHS TO T-MOBILE CONSTRUCTION MANAGER TO ENSURE THE CORRECT LENGTHS ARE CAPTURES ON THE FINAL RFDS AND T-MOBILE BILL OF MATERIAL (B.O.M).

1 ANTENNA SCHEDULE  
SCALE: N.T.S.

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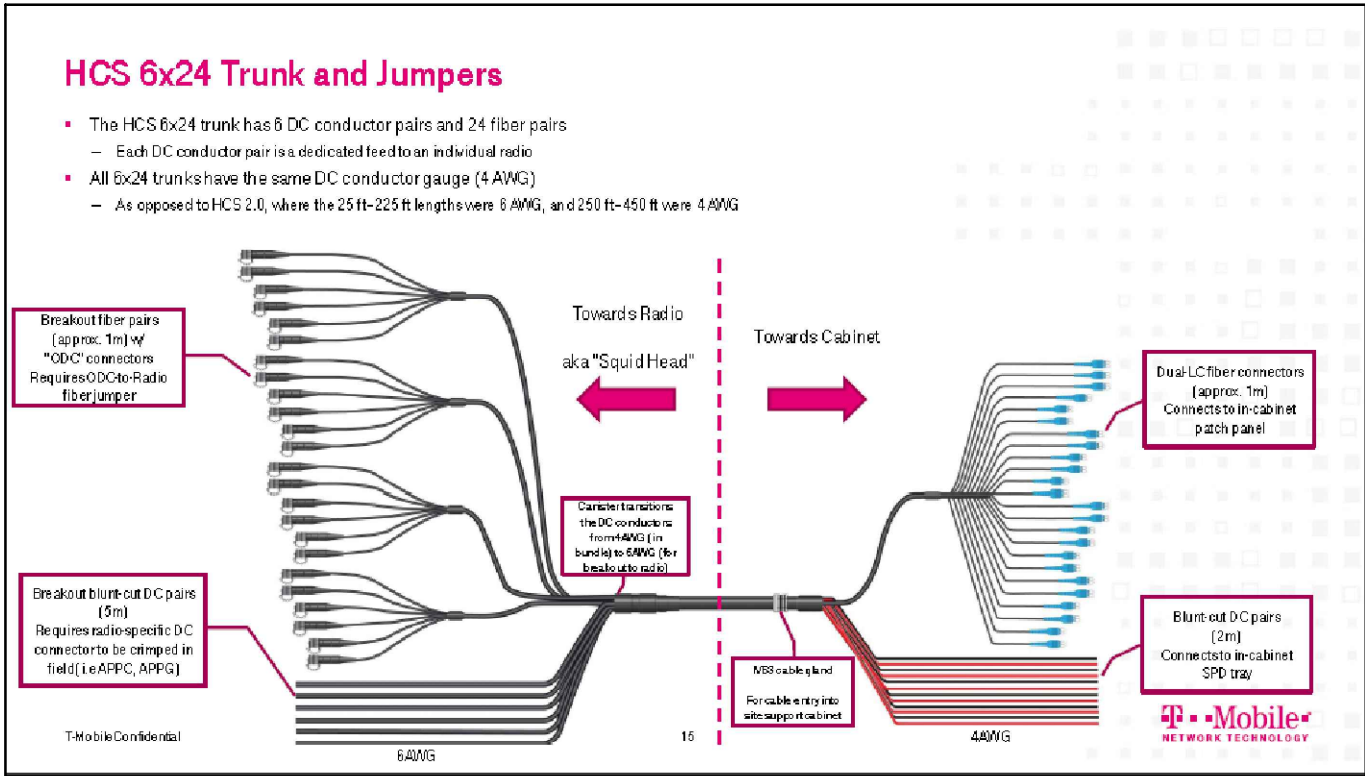
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CHECKED BY: AB  
APPROVED BY: RA

SHEET TITLE

MICROWAVE PATH  
DATASHEET

SHEET NUMBER

RF-1

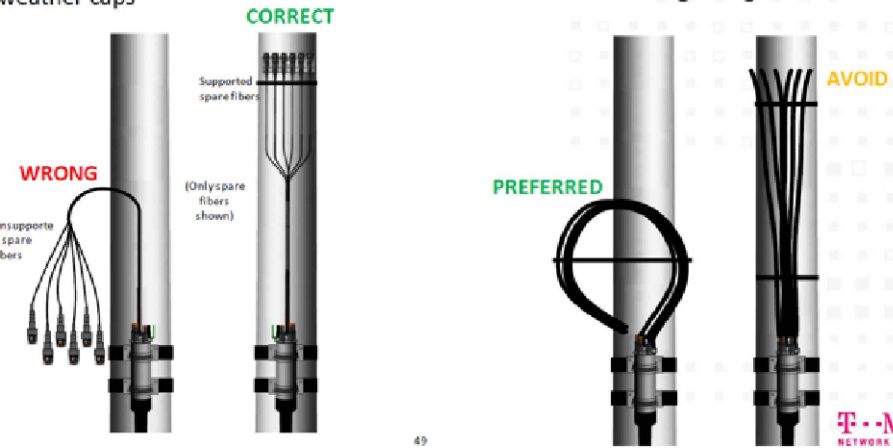


2 HCS 6x24 TRUNK AND JUMPERS DIAGRAM  
SCALE: N.T.S.

6 X 24 BREAK OUT FEATURE APPROVED TOWER SUPPORT

Installation Highlights and Guidance (continued)

- Top End Spare Fibers
  - Unsupported risks damage or breakage
  - Tighten weather caps
- Top End Spare Conductors
  - Avoid positioning conductors straight up to reduce chance of lightning direct attachment







Transmission details		
SITE ID:	ML83243A	ML93776A
CLUSTER_ID:	[CLUSTER_ID_A]	ML93749A
CALL_SIGN:	[CALL_SIGN_A]	WRMU864
ASR #:		1239332
AAV_CONTRACT_ID:	CHA56	TMW01
AAV_CONTRACT_STATUS:	Selected	Selected
Ethernet Installed:	[1_95_STATUS_A]	[1_95_STATUS_B]
Latitude:	44-21-25.4 N	44-22-13.5 N
Longitude:	89-48-54.1 W	89-44-46.8 W
Azimuth (deg):	74.80 Deg	254.85 Deg
Vertical angle (deg):	0.12 Up	0.15 Down
Elevation:	1020.34 ft	1040.03 ft
Antenna model:	MT1180M50/VH/CG(1)	MT1180M50/VH/CG(1)
Antenna manufacturer:	MTI WIRELESS EDGE	MTI WIRELESS EDGE
Antenna Id:	620	620
Antenna gain (dBi):	35.03 dBi	35.03 dBi
Antenna diameter:	1.97 ft	1.97 ft
Antenna CL:	105.00 ft AGL	129.00 ft AGL
Diversity Antenna model:		
Diversity Antenna manufacturer:		
Diversity Antenna Id:		
Diversity Antenna gain (dBi):		
Diversity Antenna diameter:		
Diversity Antenna CL:		
Branch Loss Tx/Rx (dB):	0.50 dB/0.50 dB	0.50 dB/0.50 dB
Attenuator Common/Tx/Rx (dB):		
Waveguide #1 Model, Len, Loss(dB):		
Waveguide #2 Model, Len, Loss(dB):		
Waveguide #3 Model, Len, Loss(dB):		
Total Waveguide Loss (dB):		
Other Losses (dB):	0.00 dB	0.00 dB
Frequency (GHz):	11.00 GHz	
Path length:	3.53 mi	
Free space loss (dB):	128.35 dB	
Atmospheric absorption loss (dB):	0.08 dB	
Obstruction Loss (dB):	0.00 dB (oLOS)	
Field margin (dB):	1.00 dB	
Net path loss (dB):	60.38 dB	60.38 dB
Configuration:	2+0/DP/DM/OMT	2+0/DP/DM/OMT
Radio model:	IP20D-D11-80X-A_4501	IP20D-D11-80X-A_4501
Radio manufacturer:	Ceragon Networks	Ceragon Networks
Radio Id:	748	748
Frequency Plan: Frequency (MHz):	High: N/A	Low: N/A
Polarization:	N/A	N/A
Emission designator:	80M0D7W	80M0D7W

2

Transmission details		
SITE ID:	ML83243A	ML93776A
CLUSTER_ID:	[CLUSTER_ID_A]	ML93749A
CALL_SIGN:	[CALL_SIGN_A]	WRMU864
ASR #:		1239332
AAV_CONTRACT_ID:	CHA56	TMW01
AAV_CONTRACT_STATUS:	Selected	Selected
Ethernet Installed:	[1_95_STATUS_A]	[1_95_STATUS_B]
Latitude:	44-21-25.4 N	44-22-13.5 N
Longitude:	89-48-54.1 W	89-44-46.8 W
Azimuth (deg):	74.80 Deg	254.85 Deg
Vertical angle (deg):	0.11 Up	0.16 Down
Elevation:	1020.34 ft	1040.03 ft
Antenna model:	MT1180M50/VH/CG	MT1180M50/VH/CG
Antenna manufacturer:	MTI WIRELESS EDGE	MTI WIRELESS EDGE
Antenna Id:	619	619
Antenna gain (dBi):	50.94 dBi	50.94 dBi
Antenna diameter:	1.97 ft	1.97 ft
Antenna CL:	105.00 ft AGL	129.00 ft AGL
Diversity Antenna model:		
Diversity Antenna manufacturer:		
Diversity Antenna Id:		
Diversity Antenna gain (dBi):		
Diversity Antenna diameter:		
Diversity Antenna CL:		
Branch Loss Tx/Rx (dB):	0.00 dB/0.00 dB	0.00 dB/0.00 dB
Attenuator Common/Tx/Rx (dB):		
Waveguide #1 Model, Len, Loss(dB):		
Waveguide #2 Model, Len, Loss(dB):		
Waveguide #3 Model, Len, Loss(dB):		
Total Waveguide Loss (dB):		
Other Losses (dB):	0.00 dB	0.00 dB
Frequency (GHz):	80.00 GHz	
Path length:	3.53 mi	
Free space loss (dB):	145.59 dB	
Atmospheric absorption loss (dB):	2.00 dB	
Obstruction Loss (dB):	0.00 dB (oLOS)	
Field margin (dB):	1.00 dB	
Net path loss (dB):	46.70 dB	46.70 dB
Configuration:	1+0	1+0
Radio model:	IP50E-80-2000-A	IP50E-80-2000-A
Radio manufacturer:	Ceragon Networks	Ceragon Networks
Radio Id:	764	764
Frequency Plan: Frequency (MHz):	High: N/A	Low: N/A
Polarization:	N/A	N/A
Emission designator:	2G00D7W	2G00D7W

2

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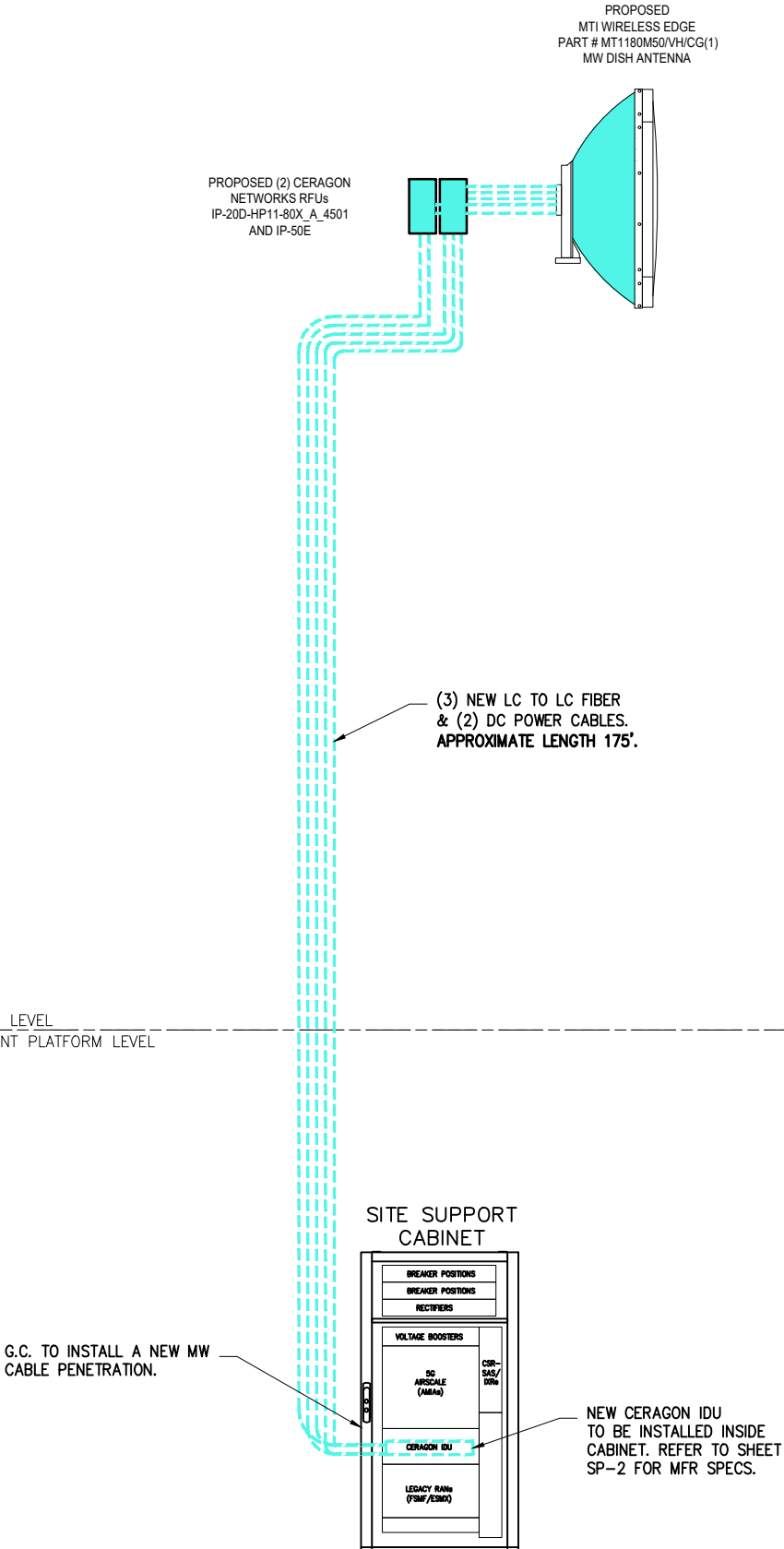
APPROVED BY: RA

SHEET TITLE

MW PATH DATA SHEETS

SHEET NUMBER

RF-3



1 PROPOSED RF PLUMBING DIAGRAM  
SCALE: N.T.S.

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WISCONSIN

RASHID AHMED  
E-26737  
ELGIN, ILLINOIS

PROFESSIONAL ENGINEER

*[Signature]*  
EXP: 07/31/2026

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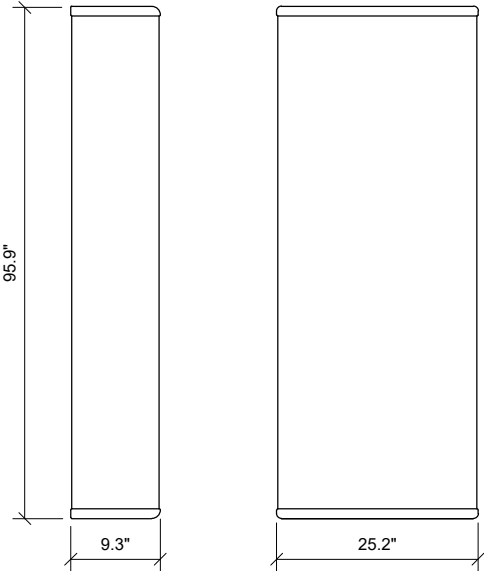
MW PLUMBING DIAGRAM

SHEET NUMBER

RF-4



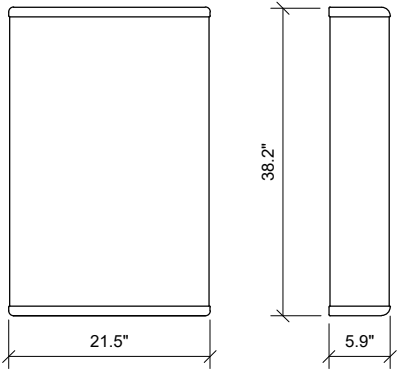
MODEL #	COMMSCOPE/ FFHH-65C-R3
DIMENSIONS	95.9" x 25.2" x 9.3"
NET WEIGHT	127.6 lbs



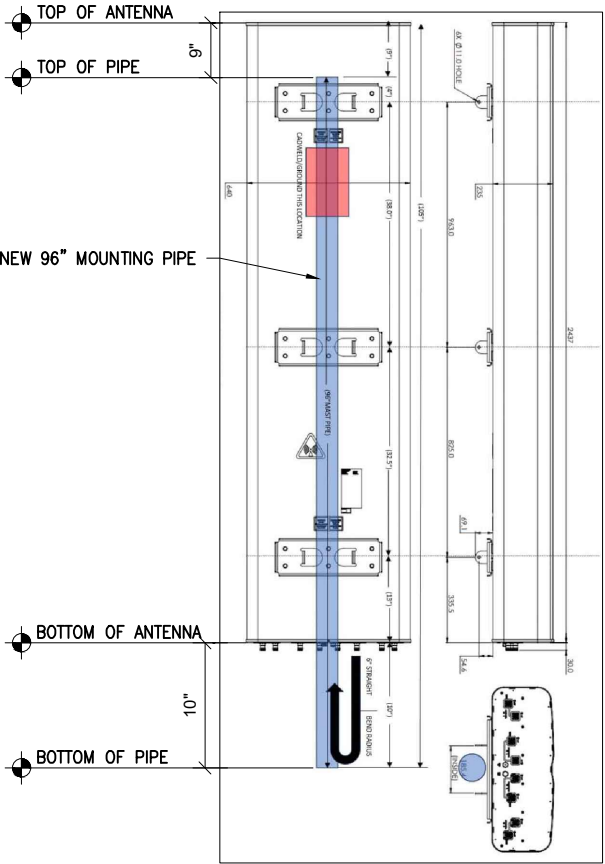
EXISTING

1 FFHH-65C-R3 ANTENNA DETAIL  
SCALE: N.T.S.

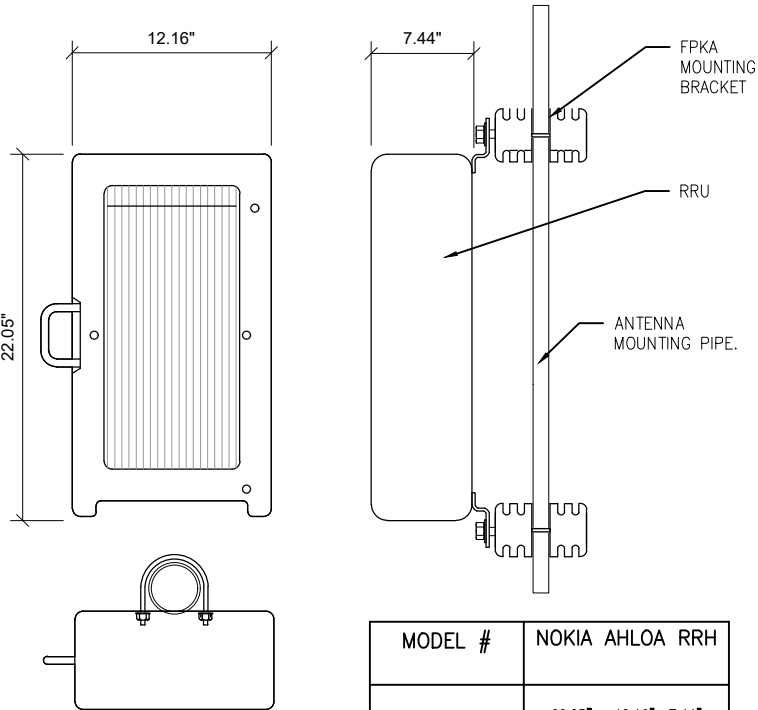
MODEL #	NOKIA AEHC/ MASSIVE MIMO
DIMENSIONS (HxWxD)	38.2" x 21.5" x 5.9"
NET WEIGHT	108.0 lbs



2 AEHC - NOKIA ANTENNA SPECS.  
SCALE: N.T.S.



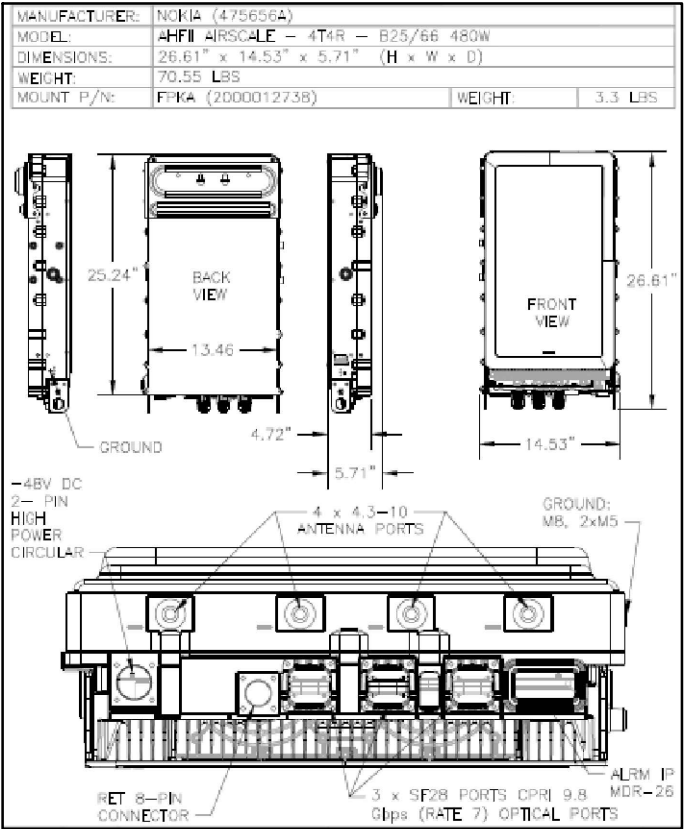
3 OCTO ANTENNA MOUNTING DETAIL.  
SCALE: N.T.S.



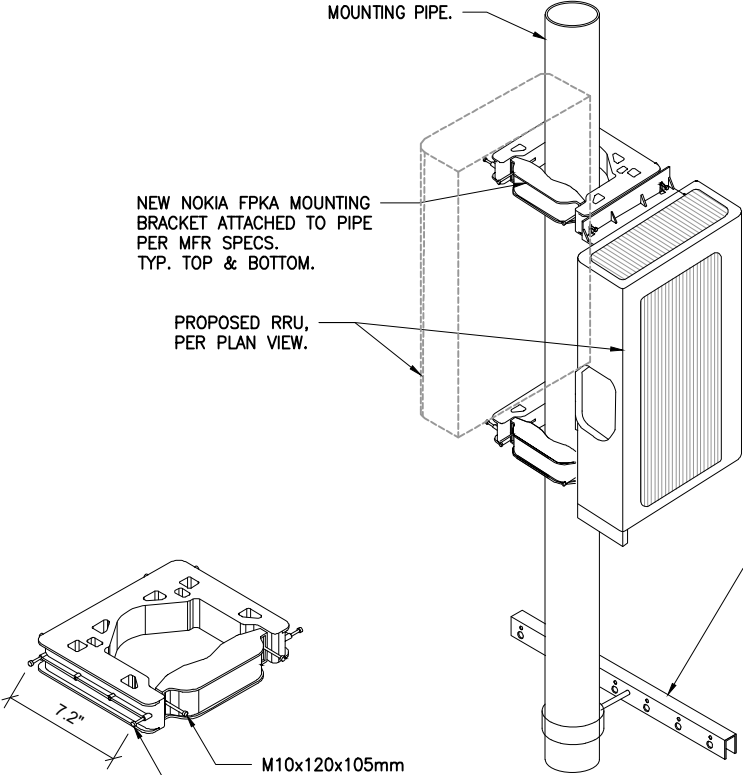
MODEL #	NOKIA AHLOA RRH
DIMENSIONS (HxWxD)	22.05" x 12.16" x 7.44"
NET WEIGHT	83.78lbs

EXISTING

4 AHLOA RRH DETAIL  
SCALE: N.T.S.



5 AHFII RADIO MFR SPECS.  
SCALE: N.T.S.



NOKIA FPKA BRACKET

6 RRH MOUNTING DETAIL  
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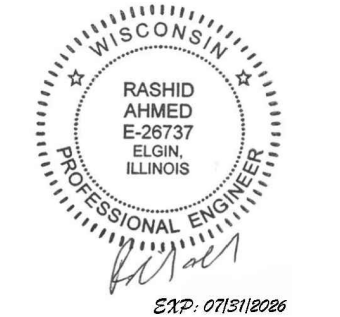
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SHEET TITLE

NEW EQUIPMENT  
SPECIFICATIONS

SHEET NUMBER

SP-1

## MT1180M50VH

11/80 GHz 34/51 dBi 2 ft Parabolic Antenna



**Wireless Edge**  
Antenna Solutions  
An Mti Company

### Electrical

Regulatory Compliance	RoHS , CE, ETSI EN 302 217-4 V2.1.1 (2017-05) FCC 47 CFR 101.115,		
Frequency	10.0 – 11.7 GHz 71.0 – 76.0 & 81.0-86.0 GHz		
Gain	Low Band	Mid. Band	High Band
10.0 – 11.7 GHz	33.6 dBi	34.4 dBi	35.0 dBi
71.0-76.0 & 81.0–86.0 GHz	50.0 dBi		51.0 dBi
	<b>10.0 – 11.7 GHz</b>	<b>71.0-76.0 &amp; 81.0-86.0 GHz</b>	
VSWR	2.0:1	1.5 :1	
Polarization	Single or Dual Pol (V+H)	Single or Dual Pol (V+H)	
3 dB Azimuth Beam Width	3.1°	0.4°	
Side Lobe Suppression	FCC Category B	FCC	
Cross Polarization	ETSI Class 3	ETSI Class 3, FCC	
F/B Ratio	55 dB	67 dB	
XPD	30 dB	30 dB	
Isolation			
Low Range WR75 to WR12	80 dB		
High Range WR12 to WR75	25 dB		
Power Handling	10 W		

### Mechanical

Dimensions:	
Diameter	Ø 655 mm
Depth	300 mm
Weight	8 kg max
Interface	Circular or rectangular waveguide
Radome	Plastic
Mounting Kit	MT-120032/A, weight 4kg max.

### Environmental

Test	Standard	Duration	Temperature	Notes
Low Temperature	IEC 60068-2-1	72 h	-55°C	
High Temperature	IEC 60068-2-2	72 h	+71°C	
Temp. Cycling	IEC 60068-2-14	1 h	-45°C +70°C	3 Cycles
Vibration	IEC 60721-3-4	30 min/axis		Random4M5
Shock Mechanical	IEC 60721-3-4			4M5
Humidity	EN300 019-2-4 T4.1E	144 h		95%
Water Tightness	IEC 60529			IP67*
Solar Radiation	ASTM G53	1000 h		
Salt Spray	IEC 60068-2-11 Ka	500 h		
Ice And Snow				25mm Radial
Wind Speed	ETSI EN 302 085 V1.1.2			
Survival	Heavy Duty			252 Km/h
Operation	Heavy Duty			164 Km/h

\* For the feed & interface to the radio (when radio installed on antenna).

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Rev-01



### Standards

#### MEF

Carrier Ethernet 2.0 (CE 2.0)

#### Supported Ethernet Standards

10/100/1000base-T/X (IEEE 802.3)

10GBase-LR (IEEE 802.3)

Ethernet VLANs (IEEE 802.3ac)

Virtual LAN (VLAN, IEEE 802.1Q)

Class of service (IEEE 802.1p)

Provider bridges (QinQ – IEEE 802.1ad)

Link aggregation (IEEE 802.1AX)

Auto MDI/MDIX for 1000baseT

RFC 1349: IPv4 TOS

RFC 2474: IPv4 DSCP

RFC 2460: IPv6 Traffic Classes

#### Security

Radio Encryption – AES 256

Secured protocols:

- HTTPS
- SNMPv3
- SSH
- SFTP

RADIUS authentication and authorization

TACACS+ Authentication, Authorization, and Accounting (session-based)

#### Standards Compliance

Radio Spectral Efficiency: EN 302 217-2

Certification ordinance Article 2-1-31-5, Land Mobile Station in the 80GHz band (Japan)

EMC: EN 301 489-1, EN 301 489-4, Class A (Europe)

FCC 47 CFR, part 15, subpart B, class A (US)

ICES-003, Class A (Canada)

TEC/SD/DD/EMC-221/05

TEC/SD/DD/EMC-221/05/OCT-16, Class A (India)

IEC 61000-4-29

Surge: EN61000-4-5, Class 4 (for PWR and ETH1/PoE ports)

Safety: EN 60950-1, EN 62368-1, IEC 60950-1, IEC 62368-1,

UL 60950-1, UL 62368-1, CAN/CSA C22.2 NO 60950-1, CAN/CSA

C22.2 NO 62368-1, EN 60950-22, IEC 60950-22, UL 60950-22,

CAN/CSA C22.2 NO 60950-22

Storage: ETSI EN 300 019-1-1 Class 1.2

Transportation: ETSI EN 300 019-1-2 Class 2.3

### Technical Specifications

#### Mechanical Specifications

Dimensions (Direct Mount HW) –

322mm(H), 227/270mm(W), 86mm(D), 5.5kg  
12.67”(H), 8.93”/10.62”(W), 3.38”(D), 12.12 lbs.

Dimensions (43dBi Integrated Antenna) –

341mm(H), 270/276mm(W), 103mm(D), 7kg  
13.42”(H), 10.62/10.86”(W), 4.05”(D), 15.43 lbs.

Pole Diameter Range (for Remote Mount Installation)  
8.89cm – 11.43cm; 3.5” – 4.5”

#### Environmental Specifications

-33°C to +55°C (-45°C to +60°C extended)

-27°F to +131°F (-49°F to +140°F extended)

#### Power Input Specifications

Standard Input: -48 VDC; DC Input range: -40.5 to -60 VDC

Power Redundancy option by using both a DC power input and a passive PoE injector simultaneously.

#### Power Consumption Specifications

Active – 58W; Standby – 47W

### Product Images



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SHEET TITLE

MW DISH ANTENNA & RFU  
MRF. SPECS

SHEET NUMBER

SP-1.1

1

MICROWAVE DISH ANTENNA MFR SPECS.

SCALE: N.T.S.

2

CERAGON RFU MFR. SPECS

SCALE: N.T.S.





Product Images

IDU

IP-20A 1RU CHASSIS



IP-20A 2RU CHASSIS



Modules

RADIO MODEM CARDS (RMCs)



RADIO INTERFACE CARDS (RICs)



TRAFFIC CONTROL CARDS (TCCs)



ETHERNET LIC WITH 1 COMBO AND 3 ELECTRICAL OR OPTICAL INTERFACES



ETHERNET LIC WITH A SINGLE 10G OPTICAL INTERFACE



TDM LICs



Radio Units

RFU-E



RFU-D



RFU-D-HP



RFU-S



RFU-C



RFU-A



1500HP/RFU-HP



Table 172: RFU-E Mechanical Specifications

RFU-E Dimensions	Height: 8.66 inches
	Width: 7.8 inches
	Depth: 3 inches
	Weight: 6.6 lbs.

Table 173: RFU-S Mechanical Specifications

RFU-S Dimensions	Height: 8.54 inches
	Width: 8.27 inches
	Depth: 3.35 inches
	Weight: 8.82 lbs.

Table 174: RFU-C Mechanical Specifications

RFU-C Dimensions	Height: 7.87 inches
	Width: 7.87 inches
	Depth: 3.35 inches
	Weight: 9 lbs.

RFU-C Standard Mounting OD Pole	50 mm-120 mm/2"-4.5" (subject to vendor and antenna size)
---------------------------------	---

Table 175: RFU-A Mechanical Specifications

RFU-A Dimensions (1+1 configuration)	Height: 1.8 inches (1RU)
	Width: 19 inches
	Depth: 13.18 inches
	Weight: 26.45 pounds

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SHEET TITLE

IDU & RFU  
MFR. SPECS

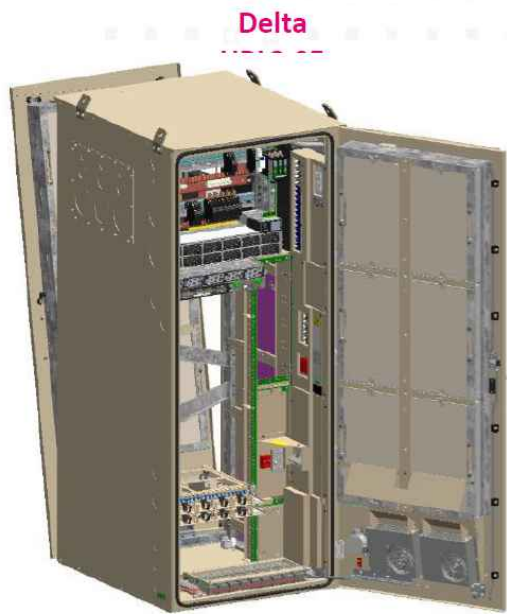
SHEET NUMBER

SP-1.2



Delta HPL3.05 Site Support Cabinet – SKU 34867

- The Delta HPL3.05 is basically a Delta HPL3 that has been pre-retrofitted from the factory with 6x24-supporting components (Delta booster, SPD tray, fiber tray)
  - This cabinet will also have some cabling pre-wired including:
    - 48Vdc breaker to booster wiring
    - Booster output to SPD tray wiring
    - 48Vdc breaker – to –SPD tray wiring
  - Additional knockout added at bottom-left for 6x24 trunk entry
- Differences between HPL3.05 vs HPL3.1
  - HPL3.05 does not have a doghouse (HCS cable entry box on left-side)
  - HPL3.1 has 4 vertical slots, while HPL3.05 has 3 vertical slots (same as HPL3)
- This cabinet will be available for new site builds, or sites that need to upgrade from an HPL2 or older cabinet
- Availability starting in April 2024, along with the 6x24 trunks
  - Note: some regions may transition to 6x24 later, depending on remaining HCS 2.0 inventory. Contact Procurement team to confirm latest transition timeline for your region.
- There is no Purcell version of the HPL3.05
  - New build/upgrade sites in Purcell markets should order the Purcell HPL3.1



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INSTALLATION NOTE:

- 1- G.C. TO REFER TO THE DELTA HPL3.05 SITE SUPPORT CABINET INSTALL GUIDELINE TRAINING DOCUMENT PROVIDED BY T-MOBILE CONSTRUCTION MANAGER.
- 2- G.C. TO ENSURE THERE IS NO OBSTRUCTION WITHIN 24" OF THE BACK OF THE DELTA SITE SUPPORT CABINET FOR EASE OF ACCESS.
- 3- G.G. TO ALLOW 12" CLR. BETWEEN DELTA SITE SUPPORT AND BATTERY CABINETS.
- 4- G.C. TO ROUTE ANY NEW CONDUITS BETWEEN DELTA SITE SUPPORT CABINET AND ANY OTHER EQUIPMENT SO THAT NO TRIP HAZARDS OR OBSTRUCTIONS ARE CREATED.



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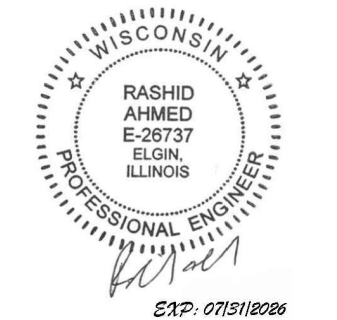
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SHEET TITLE

DELTA SITE SUPPORT  
CABINET MFR. SPECS.

SHEET NUMBER

SP-2

HPL3.1 - Cabinet Layout

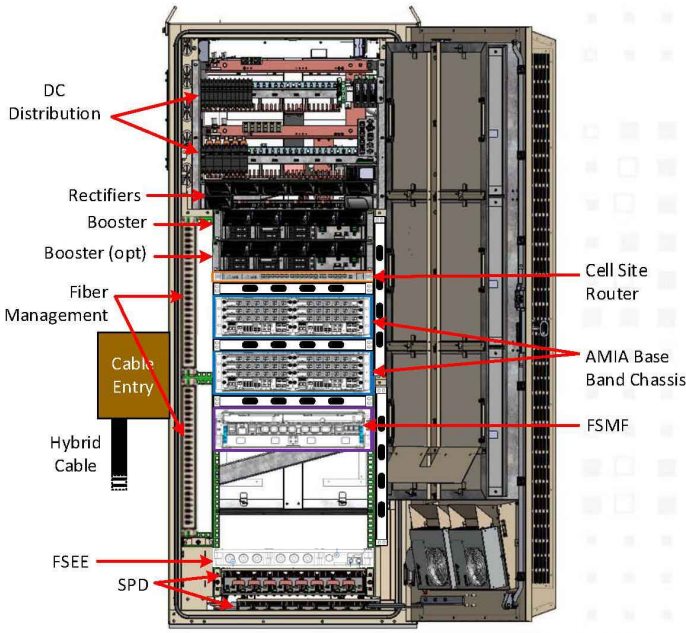
NOTE:

INSIDE LAYOUT OF DELTA SITE SUPPORT CABINET HPL3.05 IS THE SAME AS HPL3.1 SHOWN BELOW WITHOUT THE CABLE ENTRY ENCLOSURE.

Purcell HPL3.1

RU	Equipment Rack and Stack	Notes
39	N16 - 58V distribution	
38	58V Hyperboost	
37		
36		
35		
34		
33	56 DCPP and Distribution	
32		
31		
30	FSEE on PMAB	
29	CSR/XRe (2x10A breakers)	Clearance at the back for RU 29 and 30 is only 11 inches. Hence, only these units can be installed
28	Fiber Management	
27	AAV NID Fiber Tray	
26	AAV/MW (1x10A Breaker)	
25	Second -58V Booster for up to 15 loads	Place holder for 2nd Booster. No equipment is to be installed at this RU space. Closer to the main PDU for easy DC cable route at the back
24		
23		
22	Airscale - AMIA 1 (2x25A breakers)	
21		
20		
19	Fiber Management	
18	Airscale - AMIA 2 (2x25A breakers)	
17		
16		
15	Space for Expansion (2x25A Breakers pre-wired)	
14		
13	Fiber Management	
12	FSMF (2x25A Breakers pre-wired)	
11		
10	(1x25A Breaker in use)	
9		
8	Fiber Tray	
7	Fiber Tray	
6	Fiber Tray	
5	Fiber Tray	
4	SPD Tray	
3		
2	SPD Tray	
1		

Delta HPL3.1



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# Small Battery 3 Cabinet

## Product Features

Compact design for two battery strings:

- Direct air cooling solution
- Supports two strings of -48V VRLA batteries up to 210Ah
- 600A rated busbar with 400A breaker per string
- Bulk Input / Output with ability to daisy chain cabinets
- Front to Front Air Flow
- Corrosion resistant aluminum construction
- Powder coated high gloss finish
- Designed to meet GR-487

www.deltaww.com



## Specifications

Model	SB3 (Small Battery 3 Cabinet)
1. General	
Construction	Aluminium enclosure
Dimensions	15 x 72 x 35 in. (381 x 1829x 889mm),
(W x H x D)	Depth with Door: 37.4 in. (950mm)
Weight	~310 lbs (~141kg) (without batteries)
Internal rack dimension	4 battery trays to support up to 2 strings 210Ah batteries
Mounting options	Pad-mount, plinth option
Finish	Polyester Power Paint (Tan)
Safety	UL Listed , IEC / EN 60950
2. Environment	
Operating temperature	-40°C to +50°C (-40°F to +122°F) with solar load
Protection class	IP55 designed to GR-487
Acoustics	65dBA
Humidity (relative)	95%, non-condensing (Max.)
3. Thermal Management	
Cooling Equipment:	Direct Air Cooling
Heating Equipment:	Forced air heating (1) 1000W AC heaters
4. Equipment	
Cable entry	Knock-out plate on each upper side wall Additional knockouts each side
Door latch	3 point latching, 5/16 nut driver tool, pad-locking capability
Primary ground	10 double-hole ¼"-20 threaded holes on 5/8" center ground bar
Lifting Ears	4 Lifting Tabs
Plinth	Optional 6" plinth available
Standard equipment	
AC Load Center:	
30A heater breaker	
Left or Right side AC entry options	
AC Surge Protection (option)	
DC Load Center:	
600A bulk feed bus bar	
(2) 400A bolt in battery breakers	
(4) 2-hole lug landings,(2 output/2 input from second battery cabinet)	
Temp Probes	
4/0 cables from breakers and return bar to each string.	
Battery Trays:	
(4) battery trays (two trays required per -48V battery string)	
Hold up to two (2) -48V battery strings (210Ah max each)	
Connection kit:	
(1) DC 10A Breaker supplied (install onto HPL3 Power Cabinet)	
(2) 4/0 tray to tray cables supplied	
(4) High current Cell-Cell straps supplied	
(16) High current front terminal adapters supplied	
LED interior cabinet light	
(2) DC powered Axial fans with (1) F5 Filters	
Door intrusion alarm	
(1) 1000W AC powered heaters	
5. Ordering information	
Cabinet	ESOP015-ECV03      Small Battery 3 (SB3) Cabinet
Plinth, 6"	3798D00000120-S      Plinth for SB3

\*All specifications are subject to change without prior notice.

Delta Group Website:  
www.deltaww.com

Product Website:  
www.deltapowersolutions.com

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SHEET TITLE

SMALL BATTERY BACK-UP  
CABINET MFR. SPECS

SHEET NUMBER

SP-3





# Power Protection Cabinet (PPC) 200A

## Product Features

- Single wall Aluminum enclosure
- Powder coated finish
- Pad lockable 3-point door latch
- Type 3R & IP55 rated
- Metal oxide varistor surge protection
- Camlok generator connection

www.deltaww.com

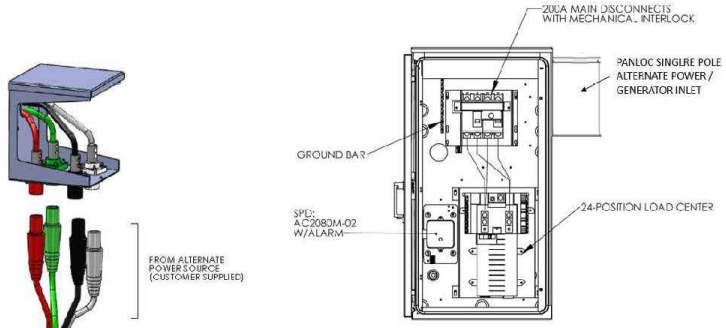


Smarter. Greener. Together.



## Specifications

Model / Part Number		5811130508
1. General		
Construction	Single layer Aluminum enclosure, Type 3R	
Dimensions (W x H x D)	20 x 39 x 10 inch excludes generator connections	
Weight	71 lbs (without packaging)	
Finish	Polyester Powder Paint	
Door Latch	3-Point latching, pad lockable	
Safety	UL50 (Cabinet)	
	UL891 Dead Front Switchboard Listed	
	Suitable for Use as Service Equipment (N-G Bonding kit included)	
2. Environment		
Operating temperature	-40°C to +46°C (-40°F to 115°F)	
Humidity (relative)	95%, non-condensing (Max.)	
Protection class	Type 3R	
3. AC Section		
Voltage	240/120 Single Phase (3 wire + Ground)	
Current	200A	
AIC Rating	Utility 65,000 Amps	
Other features	Generator Interface: Camlok Connections (Right Mount)	
	Service Disconnect: Square D 200 Amp (65kAIC) Mechanical	
	Slide Bar Interlock	
	Load Center: Square D 200 Amp, QO Series, 24 Position	
	Surge Protection Device (SPD) - 1 ea. AC2080M-02	
	Square D 30 Amp, 2-Pole Breaker for SPD	
	Ground Bar	
5. Ordering information	Silkscreen Dead-Front Lift Off Style	
	Captive Dead-Front Fasteners	
5. Ordering information		
PPC	5811130508	Power Pedestal Cabinet - 200A



GENERATOR INPUT

\*Male Receptacle Twist Lock Panel Mount connectors (not included)

\*All specifications are subject to change without prior notice.

Delta Group Website:  
www.deltaww.com

Product Website:  
www.deltapowersolutions.com

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SHEET TITLE

PPC CABINET SPECS  
SHEETS

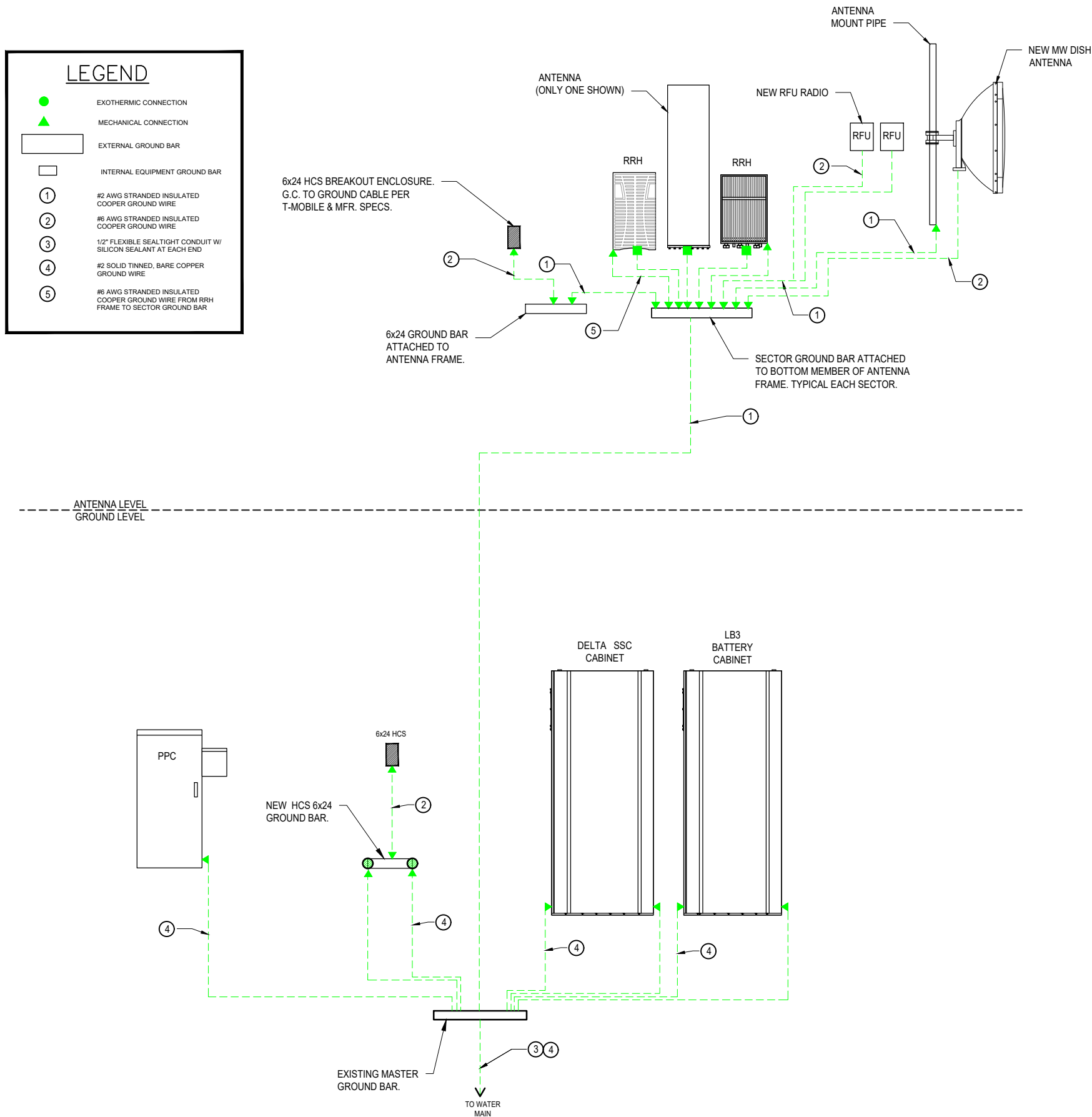
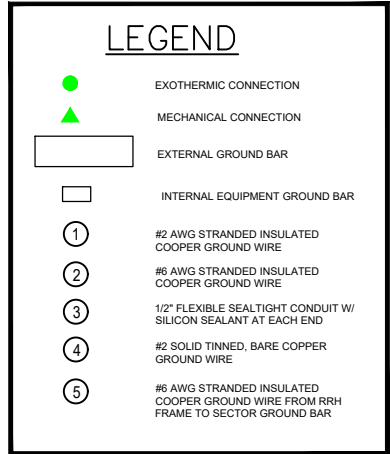
SHEET NUMBER

SP-4

1

POWER PROTECTION CABINET (PPC) MFR. SPECS.  
SCALE: N.T.S





1 TYPICAL GROUNDING RISER DIAGRAM  
SCALE: N.T.S

**GENERAL NOTES:**

1. PRIOR TO INSTALLING ANY ELECTRICAL WORK, THE CONTRACTOR SHALL VISIT THE JOB SITE AND VERIFY EXISTING SITE LOCATIONS AND CONDITIONS AND UTILITY SERVICE REQUIREMENTS OF THE JOB.
2. IN THE EVENT OF ANY CONFLICT OR INCONSISTENCY BETWEEN ITEMS SHOWN ON THE PLANS AND/OR SPECIFICATIONS, THE MORE RESTRICTIVE NOTE, SPECIFICATION OR CODE SHALL PREVAIL.
3. ALL THINGS WHICH, IN THE OPINION OF THE CONTRACTOR, APPEAR TO BE DEFICIENCIES, OMISSIONS, CONTRADICTIONS & AMBIGUITIES, IN THE PLANS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. PLANS AND/OR SPECIFICATIONS WILL BE CORRECTED, OR A WRITTEN INTERPRETATION OF THE ALLEGED DEFICIENCY, OMISSION, CONTRADICTION OR AMBIGUITY WILL BE MADE BY THE ENGINEER BEFORE THE AFFECTED WORK PROCEEDS.
4. ELECTRICAL WORK SHALL INCLUDE, BUT NOT LIMITED TO, ALL LABOR MATERIALS AND EQUIPMENT REQUIRED TO COMPLETE POWER AND LIGHTING SYSTEMS, TELEPHONE AND COMMUNICATION SYSTEMS, PANEL BOARDS, CONDUITS, GROUNDING, ETC. AS INDICATED ON ELECTRICAL DRAWINGS OR AS REQUIRED BY CODE.
5. ALL WORK SHALL COMPLY WITH THE N.E.C. (NATIONAL ELECTRICAL CODE) AND ANY LOCAL ORDINANCES, CODES, AND ALL OTHER ADMINISTRATIVE AUTHORITIES HAVING JURISDICTION.
6. ALL EQUIPMENT AND MATERIAL FURNISHED AND INSTALLED UNDER THIS CONTRACT SHALL BE (U.L.) LISTED, NEW, FREE FROM DEFECTS, AND SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE BY OWNER. SHOULD ANY TROUBLE DEVELOP DURING THIS PERIOD DUE TO FAULTY WORKMANSHIP, MATERIAL OR EQUIPMENT, THE CONTRACTOR SHALL FURNISH ALL NECESSARY MATERIALS & LABOR TO CORRECT THE TROUBLE WITHOUT COST TO THE OWNER.
7. ALL WORK SHALL BE EXECUTED IN A WORKMAN LIKE MANNER AND SHALL PRESENT A NEAT MECHANICAL APPEARANCE WHEN COMPLETED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING RELATED TO ELECTRICAL WORK, AND SHALL RESTORE ALL EXISTING LANDSCAPING, SPRINKLER SYSTEMS, CONDUITS, WIRING, PIPING, ETC. DAMAGED BY THE ELECTRICAL WORK TO ORIGINAL OR BETTER CONDITION.
8. UPON COMPLETION OF WORK, CONDUCT CONTINUITY, SHORT CIRCUIT, & FALL OF POTENTIAL GROUND TESTS FOR APPROVAL. SUBMIT TEST REPORTS TO P. M. CLEAN SITE OF ALL DEBRIS RESULTING FROM WORK AND LEAVE IN A COMPLETE AND UNDAMAGED CONDITION.
9. LL BROCHURES, MANUALS, CATALOGS, SHOP DRAWINGS, ETC., SHALL BE TURNED OVER TO THE OWNER AT JOB COMPLETION.

**GROUNDING NOTES:**

1. GROUND RODS SHALL BE INSTALLED NOT MORE THAN 10 FOOT APART.
2. GROUND RODS SHALL BE INSTALLED 42" MIN. BELOW GRADE.
3. ALL BELOW GRADE GROUND RINGS AND GROUND LEADS SHALL BE # 2 AWG SOLID, TINNED BARE COPPER WIRE.
4. ALL BELOW GRADE CONNECTIONS SHALL BE EXOTHERMIC WELDS.
5. UNLESS PROVIDED W/ A FACTORY APPLIED LEAD, ALL CONNECTIONS TO GROUND BARS SHALL BE BURNDY HYGROUND COMPRESSION LUGS OR EQUAL.
6. STEEL SHALL BE TO BARE METAL GRIND GALV. FINISH OR PAINT OFF PRIOR TO WELDING, REPAIR GALV. FINISH OR PAINT AS REQUIRED, MATCH PAINT COLOR.
7. ALL LUG CONNECTORS SHALL BE 2 HOLE LONG BARREL COMPRESSION TYPE OR APPROVED EQUAL.
8. ALL HARDWARE TO ATTACH MECHANICAL GROUND CONNECTIONS SHALL BE STAINLESS STEEL.
9. ALL MECHANICAL CONNECTIONS SHALL HAVE NOAX OR APPROVED EQUAL APPLIED BETWEEN COMPRESSION LUG AND FIXTURE.

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License # 184.007975-0006

CONTACT: A&E@WESTINENGINEERING.COM

SITE NUMBER			
ML93776A			
SITE NAME			
USC LAKE WASEECHA			
SITE ADDRESS			
2710 64TH STREET SOUTH WISCONSIN RAPIDS, WI 54494			
REV.	SUBMITTAL	APPROVED	DATE
A	PRELIM CDs	AE	01/20/25
B	PRELIM CDs	AE	01/03/25
C	PRELIM CDs	AE	04/25/25
D	PRELIM CDs	AE	05/19/25
0	FINAL CDs	AE	08/14/25

**WISCONSIN**

RASHID AHMED  
E-26737  
ELGIN, ILLINOIS

PROFESSIONAL ENGINEER

EXP: 07/31/2026

I CERTIFY THAT THESE DRAWINGS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND CONTROL AND TO THE BEST OF MY KNOWLEDGE AND BELIEF COMPLY WITH REQUIREMENTS OF THE GOVERNING BUILDING CODE.

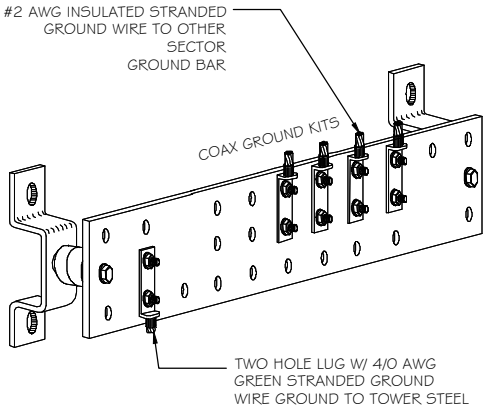
PREPARED BY: AE  
CHECKED BY: AB  
APPROVED BY: RA

SHEET TITLE

GROUNDING RISER  
AND NOTES

SHEET NUMBER

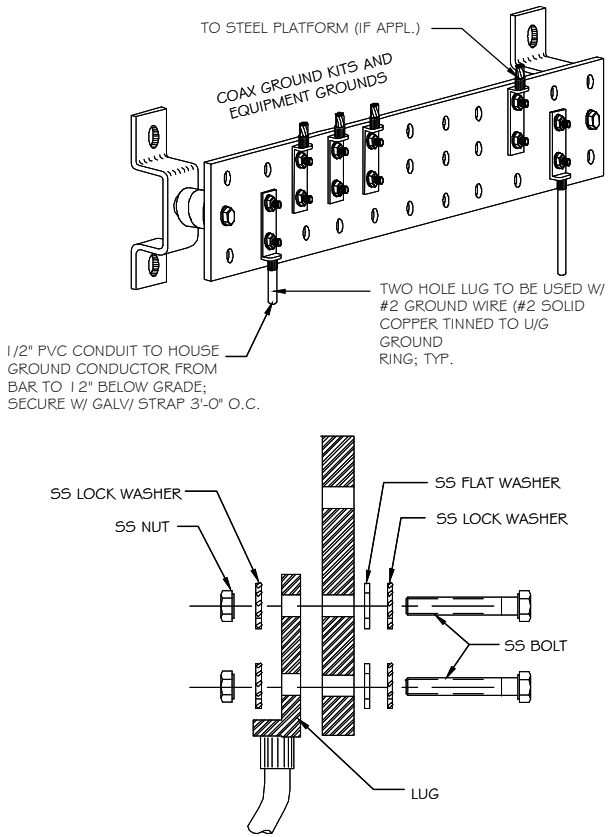
GR-1



## GROUND COLLECTOR BAR

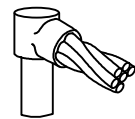
### NOTES:

1. TINNED COPPER GROUND BAR, 1/4" X 4" X 20" NEWTON INSTRUMENTS CO. CAT. NO. B-6142 OR APPROVED EQUAL; HOLE CENTERS TO MATCH NEMS DOUBLE LUG CONFIGURATION
2. INSULATORS TO BE NEWTON CAT. NO. 3015-8 OR APPROVED EQUAL
3. 5/8" LOCK WASHERS; NEWTON CAT. NO. A-6056 OR APPROVED EQUAL
4. 5/8" - 11 X 1" M.M.C.S. BOLTS; NEWTON CAT. NO. 3012-1 OR APPROVED EQUAL
5. COAT ALL SURFACES WITH 'KOPER SHIELD' BEFORE MATING
6. ALL HARDWARE TO BE STAINLESS STEEL UNLESS OTHERWISE NOTED
7. NUTS TO FACE OUT



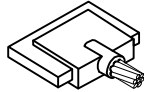
## MASTER GROUND BAR

### 1 GROUND BAR DETAILS SCALE: NTS



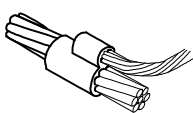
Type GR

SINGLE CABLE TO TOP OF GROUND ROD.



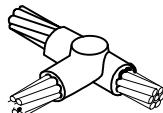
Type LJ

TAP OF CABLE TO EDGE OF HORIZONTAL FLAT BUSBAR.



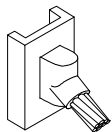
Type PC

PARALLEL TAP CONNECTIONS OF HORIZONTAL CABLES.



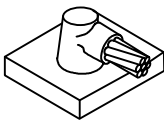
Type TA

TEE CONNECTIONS OF HORIZONTAL RUN AND TAP CABLES.



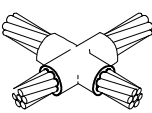
Type VS

CABLE DOWN AT 45° TO VERTICAL STEEL SURFACE.



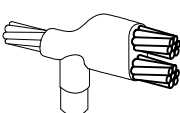
Type HS

HORIZONTAL COPPER CONDUCTOR TO FLAT STEEL SURFACE OR TOP OF HORIZONTAL PIPE.



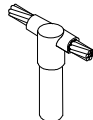
Type XB

CROSS OF HORIZONTAL CABLES LAPPED AND NOT CUT.



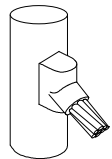
Type NC

THROUGH CABLE PLUS TAP CABLE TO TOP OF GROUND ROD.



Type GT

THROUGH CABLE TO TOP OF GROUND ROD.



Type V5

CABLE DOWN AT 45° TO RANGE OF STEEL PIPES.

### GROUNDING NOTES:

1. GROUND RODS SHALL BE INSTALLED NOT MORE THAN 10 FOOT APART.
2. GROUND RODS SHALL BE INSTALLED 42" MIN. BELOW GRADE.
3. ALL BELOW GRADE GROUND RINGS AND GROUND LEADS SHALL BE #2 AWG SOLID, TINNED BARE COPPER WIRE.
4. ALL BELOW GRADE CONNECTIONS SHALL BE EXOTHERMIC WELDS.
5. UNLESS PROVIDED W/ A FACTORY APPLIED LEAD, ALL CONNECTIONS TO GROUND BARS SHALL BE BURNDY HYGROUND COMPRESSION LUGS OR EQUAL.
6. STEEL SHALL BE TO BARE METAL. GRIND GALV. FINISH OR PAINT OFF PRIOR TO WELDING, REPAIR GALV. FINISH OR PAINT AS REQUIRED, MATCH PAINT COLOR.
7. ALL LUG CONNECTORS SHALL BE 2 HOLE LONG BARREL COMPRESSION TYPE OR APPROVED EQUAL.
8. ALL HARDWARE TO ATTACH MECHANICAL GROUND CONNECTIONS SHALL BE STAINLESS STEEL.
9. ALL MECHANICAL CONNECTIONS SHALL HAVE NOAX OR APPROVED EQUAL APPLIED BETWEEN COMPRESSION LUG AND FIXTURE.

### GROUNDING ELECTRODE SYSTEM

1. CONNECTIONS  
ALL GROUNDING CONNECTIONS SHALL BE MADE BY THE "CADWELD" PROCESS CONNECTIONS SHALL INCLUDE ALL CABLE TO CABLE, SPLICES, TEC. ALL CABLE TO GROUND RODS, GROUND OEDS SPLICES AND LIGHTNING PROTECTION SYSTEM AS INDICATED. GROUND FOUNDATION ONLY AS INDICATED BY PM. ALL MATERIALS USED (MOLDS, WELDING, METAL, TOOLS, ETC.) SHALL BE BY "CADWELD" PROCESS AND INSTALLED PER MANUFACTURERS RECOMMENDATIONS AND PROCEDURES. GROUND CONDUCTOR SHALL HAVE A MINIMUM 24" BENDING RADIUS.
2. ALL CADWELD CONNECTIONS ON GALVANIZED SURFACES SHALL BE CLEANED THOROUGHLY AND COLORED TO MATCH SURFACE WITH (2) TWO COATS OF SHERWIN-WILLIAMS GALVITE (WHITE) PAINT B50W3 (OR EQUAL) OR SHERWIN-WILLIAMS SILVERBRITE (ALUMINUM) B59S11 (OR EQUAL).
3. ALL ELECTRICAL & MECHANICAL GROUND CONNECTIONS SHALL HAVE ANTIOXIDANT COMPOUND APPLIED TO CONNECTION.
4. GROUND TEST:  
GROUND TESTS SHALL BE PERFORMED AS REQUIRED BY T-MOBILE STANDARD PROCEDURES. GROUND GRID RESISTANCE SHALL NOT EXCEED 5 OHMS.

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SITE NUMBER

ML93776A

SITE NAME

USC LAKE WASEECHA

SITE ADDRESS

2710 64TH STREET SOUTH  
WISCONSIN RAPIDS, WI 54494

REV.	SUBMITTAL	APPROVED	DATE
A	PRELIM CDs	AE	01/20/25
B	PRELIM CDs	AE	01/03/25
C	PRELIM CDs	AE	04/25/25
D	PRELIM CDs	AE	05/19/25
0	FINAL CDs	AE	08/14/25



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BY ME OR UNDER MY DIRECT SUPERVISION AND  
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BELIEF COMPLY WITH REQUIREMENTS OF THE  
GOVERNING BUILDING CODE.

PREPARED BY: AE

CHECKED BY: AB

APPROVED BY: RA

SHEET TITLE

GROUNDING TYPICAL  
DETAILS

SHEET NUMBER

GR-2

### 2 EXOTHERMIC WELD SCHEDULE SCALE: NTS



PART 1 GENERAL

1.00 GENERAL REQUIREMENTS

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL SAFETY PRECAUTIONS AND REGULATIONS DURING THE WORK. ALL GENERAL NOTES AND STANDARD DETAILS ARE THE MINIMUM REQUIREMENTS TO BE USED IN CONDITIONS WHICH ARE NOT SPECIFICALLY SHOWN OTHERWISE.

ALL SYMBOLS AND ABBREVIATIONS ARE CONSIDERED CONSTRUCTION INDUSTRY STANDARDS. IF A CONTRACTOR HAS A QUESTION REGARDING THEIR EXACT MEANING THE ARCHITECT/ENGINEER SHALL BE NOTIFIED FOR CLARIFICATIONS. WHERE SPECIFIED, MATERIALS TESTING SHALL BE TO THE LATEST STANDARDS AVAILABLE AS REQUIRED BY THE LOCAL GOVERNING AGENCY RESPONSIBLE FOR RECORDING THE RESULTS. THE CONTRACTOR SHALL PROVIDE THE MATERIALS APPROVED BY THE FIRE MARSHALL FOR FILLING OR SEALING PENETRATIONS THROUGH FIRE RATED ASSEMBLIES. ALL DIMENSIONS TAKE PRECEDENCE OVER SCALE UNLESS OTHERWISE NOTED.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE SECURITY OF THE SITE FROM THE START OF THE PROJECT TO THE COMPLETION OF THE PROJECT. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BID TO ASSESS CONDITIONS THAT MAY ADVERSELY AFFECT THE WORK OR THE COST OF THE WORK. THE CONTRACTOR SHALL FIELD VERIFY THE DIMENSIONS, ELEVATIONS, ETC. NECESSARY FOR THE PROPER CONSTRUCTION OF NEW PORTION OF THE WORK AND ALIGNMENT OF THE NEW PORTION OF THE WORK TO THE EXISTING WORK. THE CONTRACTOR SHALL MAKE ALL MEASUREMENTS NECESSARY FOR FABRICATION AND ERECTION OF STRUCTURAL MEMBERS. ANY DISCREPANCIES SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE A&E.

NEW CONSTRUCTION ADDED TO EXISTING CONSTRUCTION SHALL BE MATCHED IN FORM, TEXTURE, MATERIAL AND PAINT COLOR EXCEPT AS NOTED IN THE PLANS.

NO CHANGES ARE TO BE MADE TO THESE PLANS WITHOUT THE KNOWLEDGE AND WRITTEN CONSENT OF THE A & E. ANY REFERENCE TO THE WORDS APPROVED OR APPROVAL IN THESE DOCUMENTS SHALL BE HERE DEFINED TO MEAN GENERAL ACCEPTANCE OR REVIEW AND SHALL NOT RELIEVE THE CONTRACTOR AND/OR HIS SUB-CONTRACTORS OF ANY LIABILITY IN FURNISHING THE REQUIRED MATERIALS OR LABOR SPECIFIED. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY BLOCKING, BACKING, FRAMING, HANGERS OR SUPPORTS FOR INSTALLATION OF ITEMS INDICATED ON THE DRAWINGS. ALL WORK PERFORMED AND MATERIALS INSTALLED SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITIONS OF THE FOLLOWING CODES/SPECIFICATIONS:

- LATEST LOCAL JURISDICTIONAL BUILDING CODES.
- ALL APPLICABLE LOCAL, STATE, AND FEDERAL CODES AND REGULATIONS
- AMERICAN CONCRETE INSTITUTE (ACI)
- AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
- ANSI/TIA – 222 – H
- UNIFORM BUILDING CODE (UBC)
- NATIONAL ELECTRICAL CODE (NEC) WITH ALL AMENDMENTS
- AMERICAN INSTITUTE FOR STEEL CONSTRUCTION OR SPECIFICATIONS (AISC)
- UFE SAFETY CODE NIFFA – 101
- FEDERAL AVIATION REGULATIONS

1.01 CARRIER REPRESENTATIVE

A. THE SITE DEVELOPMENT MANAGER (SDM) OR HIS DESIGNEE (INCLUDING BUT NOT LIMITED TO THE ARCHITECT/ ENGINEER, OR CONSTRUCTION MANAGER) SHALL SERVE AS THE SINGLE POINT OF CONTACT

B. BETWEEN THE CONTRACTOR AND OWNER, NOT WITHSTANDING THE REQUIREMENTS SPECIFIED HEREIN, THE SDM OR DESIGNATED REPRESENTATIVE IS EMPOWERED TO DIRECT THE CONTRACTOR TO VARY OR CHANGE FROM THE PLANS AND SPECIFICATIONS AS CIRCUMSTANCES OR CONDITIONS ARISE.

C. CONTRACTOR SHALL VARIFY ALL CHANGES ARE ACCEPTED BY THE ENGINEER OF RECORD.

1.02 INTENT

A. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO BE FULLY EXPLANATORY AND COMPLEMENTARY. HOWEVER, SHOULD ANYTHING BE SHOWN, INDICATED OR SPECIFIED ON ONE AND NOT THE OTHER, IT SHALL BE THE SAME AS IF SHOWN, INDICATED OR SPECIFIED IN BOTH. THESE NOTES SHALL BE CONSIDERED A PART OF THE WRITTEN SPECIFICATIONS.

B. THESE SPECIFICATIONS AND DESIGN DRAWINGS ACCOMPANYING THEM DESCRIBE THE WORK TO BE PERFORMED AND THE MATERIALS TO BE FURNISHED FOR THE CONSTRUCTION OF THE PROJECT.

C. THE INTENTION OF THE DOCUMENTS IS TO INCLUDE ALL LABOR AND MATERIALS REASONABLY NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK AS INDICATED IN THE DOCUMENTS.D. THE PURPOSE OF THE SPECIFICATIONS IS

TO SUPPLEMENT THE INTENT OF THE DRAWINGS AND TO DESIGNATE A PROCEDURE, TYPE, OR QUALITY OF MATERIALS REQUIRED TO COMPLETE THE WORK.

E. MINOR DEVIATIONS FROM THE DESIGN LAYOUT ARE ANTICIPATED AND SHALL BE CONSIDERED AS PART OF THE WORK. HOWEVER, NO CHANGES THAT ALTER THE CHARACTER INTENT OF THE DESIGN WILL BE MADE OR PERMITTED WITHOUT A CHANGE ORDER FROM THE OWNER.

1.03 CONFLICTS

A. THE CONTRACTOR AND EACH SUBCONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL MEASUREMENTS AT THE SITE BEFORE ORDERING ANY MATERIALS OR PERFORMING ANY WORK. NO EXTRA CHARGE OR COMPENSATION SHALL BE ALLOWED DUE TO DIFFERENCES BETWEEN ACTUAL DIMENSION AND DIMENSIONS INDICATED ON THE CONSTRUCTION DRAWINGS. ANY SUCH DISCREPANCY IN DIMENSIONS WHICH MAY INADVERTENTLY OCCUR SHALL BE SUBMITTED TO THE SDM OR DESIGNATED REPRESENTATIVES FOR CONSIDERATION BEFORE THE CONTRACTOR PROCEEDS WITH WORK IN THE AFFECTED AREAS.

B. THE CONTRACTOR SHALL NOTIFY A & E OF ANY ERRORS, OMISSIONS, OR DISCREPANCIES AS THEY MAY BE DISCOVERED IN THE PLANS, SPECIFICATIONS AND NOTES PRIOR TO STARTING CONSTRUCTION, INCLUDING BUT NOT LIMITED TO DEMOLITION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING ANY ERRORS, OMISSIONS, OR INCONSISTENCIES AFTER THE START OF CONSTRUCTION THAT HAVE NOT BEEN BROUGHT TO THE ATTENTION OF THE A & E AND SHALL INCUR ANY7 EXPENSES REQUIRED TO RECTIFY THE SITUATION. THE METHOD OF CORRECTION SHALL BE APPROVED BY THE A & E.

C. THE CONTRACTOR, IF AWARDED THE CONTRACT, WILL NOT BE ALLOWED ANY EXTRA COMPENSATION BY REASON OF ANY MATTER OR THING WHICH THE CONTRACTOR MIGHT NOT HAVE FULLY INFORMED HIMSELF PRIOR TO BIDDING.

D. NO PLEA OF IGNORANCE OF CONDITIONS THAT EXIST, OR OF DIFFICULTIES THAT MAY BE ENCOUNTERED OR OF ANY OTHER RELEVANT MATTER CONCERNING THE WORK TO BE PERFORMED WILL BE ACCEPTED AS A REASON FOR ANY FAILURE OR OMISSION ON THE PART OF THE CONTRACTOR TO FULFILL THE REQUIREMENTS OF THE CONTACT DOCUMENTS.

1.04 BIDDING PROCESS --- INSTRUCTIONS TO BIDDERS

A. CARRIER REQUESTS A FIRM LUMP SUM BID FOR ALL WORK DESCRIBED IN THE CONTRACT, AS INDICATED IN THESE CONSTRUCTION DRAWINGS/SPECIFICATIONS, APPARENT WITH FIELD VISIT, AND ACCORDING TO ANY OTHER AGREEMENTS AND DIRECTION.

B. BIDDER WILL GUARANTEE BIDS FOR 60 DAYS FROM BID DUE DATE. BIDS SHALL INCLUDE ALL APPLICABLE STATE AND FEDERAL TAXES.

C. PROPOSAL: (AS OUTLINED IN BID DOCUMENTS) IT IS UNDERSTOOD BY OWNER, THAT THE BIDDER IN SUBMITTING HIS BID, WARRANTS THAT HE HAS CAREFULLY EXAMINED THE SITE OF THE PROJECT TO ACQUAINT HIMSELF WITH:

1. SURROUNDING PROPERTIES.
2. MEANS OF APPROACH TO THE SITE.
3. CONDITIONS OF THE ACTUAL JOB SITE.
4. FACILITIES FOR DELIVERING, STORING, PLACING, HANDLING AND REMOVAL OF MATERIALS AND EQUIPMENT.
5. ANY AND ALL DIFFICULTIES THAT MAY BE ENCOUNTERED DURING THE EXECUTION OF ALL WORK IN ACCORD WITH THE CONTRACT DOCUMENTS.

1.05 CONTRACTS AND WARRANTIES

A. ABBREVIATED FORM OF AGREEMENT BETWEEN CARRIER REPRESENTATIVE AND CONTRACTOR MAY BE USED AND WILL BE EMPLOYED FOR CONTRACT PURPOSES.

B. UNLESS ARRANGED OTHERWISE, EACH CONTRACTOR IS RESPONSIBLE FOR FILING THE BUILDING PERMIT AT THE LOCAL JURISDICTION AS THE CONTRACTOR OF RECORD, AND PROVIDE JURISDICTION WITH ALL PROOF REQUIRED TO OPERATE AS A CONTRACTOR IN THAT JURISDICTION.

C. A COPY OF THE APPROVED DRAWINGS SHALL BE KEPT IN A PLACE SPECIFIED BY THE GOVERNING AGENCY AND BY LAW SHALL BE AVAILABLE FOR INSPECTION AT ALL TIMES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE ALL CONSTRUCTION SETS REFLECT THE SAME INFORMATION AS THE APPROVED DRAWINGS. THE CONTRACTOR SHALL ALSO MAINTAIN ONE SET OF DRAWINGS AT THE SITE FOR THE PURPOSE OF DOCUMENTING ALL AS-BUILT DRAWINGS TO THE A & E AT THE CONCLUSION OF THE PROJECT, OR TO TMO, AS DIRECTED.

D. THE CONTRACTOR SHALL BE REIMBURSED, AT FACE VALUE, FOR THE AMOUNT OF ANY FEE PAID AS FOLLOWS:

1. PLAN REVIEW FEE.
  2. BUILDING PERMIT FEE.
  3. CONNECTIONS AND INSPECTION FEES.
- EACH CONTRACTOR IS RESPONSIBLE FOR APPLICATION &

1.06 STORAGE

A. DO NOT USE THE CARRIER EQUIPMENT SPACE FOR STORAGE OF TOOLS OR MATERIALS WITHOUT WRITTEN SDM APPROVAL.

B. ALL MATERIALS MUST BE STORED IN A LEVEL AND DRY LOCATION AND IN A MANNER THAT WILL NOT OBSTRUCT THE FLOW OF OTHER WORK. ANY EQUIPMENT OR MATERIAL STORAGE METHOD MUST MEET ALL RECOMMENDATIONS OF THE MANUFACTURER.

C. WHEN STORING MATERIALS ENSURE EVEN DISTRIBUTION OVER THE FLOOR OR ROOF SO AS NOT TO EXCEED THE DESIGNED LIVE LOADS FOR THE STRUCTURE. TEMPORARY SHORING OR BRACING SHALL BE PROVIDED WHERE THE STRUCTURE OF SOIL HAS NOT ATTAINED THE DESIGN STRENGTH FOR THE CONDITIONS PRESENT.

1.07 PROTECTION

A. PROTECT FINISHED SURFACES, INCLUDING JAMBS AND WALLS USED AS PASSAGEWAYS THROUGH WHICH EQUIPMENT AND MATERIALS WILL PASS.

B. PROVIDE PROTECTION FOR EQUIPMENT ROOM SURFACES PRIOR TO ALLOWING EQUIPMENT OR MATERIAL TO BE MOVED OVER SUCH SURFACES.

C. MAINTAIN FINISHED SURFACES CLEAN, UNMARRED AND SUITABLY PROTECTED UNTIL JOB SITE IS ACCEPTED BY THE SDM.

D. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL PROTECT ALL AREAS FROM DAMAGE WHICH MAY OCCUR DURING CONSTRUCTION. ANY DAMAGE TO NEW OR EXISTING SURFACES, STRUCTURES OR EQUIPMENT SHALL BE IMMEDIATELY REPAIRED OR REPLACED TO THE SATISFACTION OF THE PROPERTY OWNER. THE CONTRACTOR SHALL BEAR THE EXPENSE OF REPAIRING OR REPLACING ANY DAMAGED AREAS.

1.08 REPAIRS AND REPLACEMENTS

A. IN EVENT OF DAMAGES, THE CONTRACTOR SHALL NOTIFY OWNER SDM, THEN PROMPTLY MAKE ALL REPLACEMENTS AND REPAIRS AT NO ADDITIONAL COST TO OWNER.

B. ADDITIONAL TIME THAT IS REQUIRED TO SECURE REPLACEMENTS AND TO MAKE REPAIRS WILL NOT BE CONSIDERED BY OWNER TO JUSTIFY EXTENSION IN THE CONTRACT TIME FOR COMPLETION.

1.09 TEMPORARY FACILITIES

A. WATER: WATER IS NOT AVAILABLE TO THE CONTRACTORS ON SITE.

B. LIGHT, TELEPHONE AND POWER: LIGHT AND POWER ARE AVAILABLE ON SITE. IF NOT, THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING TEMPORARY POWER (FOR THE OPERATION OF TOOLS, EQUIPMENT AND LIGHTING NECESSARY FOR FACILITY CONSTRUCTION), WATER AND TOILET FACILITIES. TELEPHONE: EACH CONTRACTOR TO PROVIDE HIS OWN TELEPHONE ACCESS IF REQUIRED. CONTRACTORS ARE NOT TO USE OWNER PHONES.

C. IF PERMANENT POWER IS COMPLETED, ALL CONTRACTORS MAY USE THE SERVICE CONNECTION FOR PRODUCTION WORK ONLY, PROVIDED THAT ELECTRICAL CORDS AND CONNECTIONS ARE FINISHED BY CONTRACTORS AND ARE DISCONNECTED AND PROPERLY STORED DURING NON-WORKING HOURS.

1.10 CLEAN UP

A. THE CONTRACTOR SHALL AT ALL TIMES KEEP THE SITE FREE FROM ACCUMULATION OF WASTE MATERIALS OR RUBBISH CAUSED BY THEIR EMPLOYEES AT WORK, AND AT THE COMPLETION OF THE WORK, THEY SHALL REMOVE ALL RUBBISH FROM AND ABOUT THE BUILDING, INCLUDING ALL TOOLS, SCAFFOLDING AND SURPLUS MATERIALS, AND SHALL LEAVE THE WORK AREA CLEAN AND READY FOR USE EACH DAY.

B. EXTERIOR: VISUALLY INSPECT EXTERIOR SURFACES AND REMOVE ALL TRACES OF SOIL, WASTE MATERIAL, DUST, SMUDGES, AND OTHER FOREIGN MATTER.

1. REMOVE ALL TRACES OF SPLASHED MATERIALS FROM ADJACENT SURFACES.
2. IF NECESSARY TO ACHIEVE A UNIFORM DEGREE OF CLEANLINESS, HOSE DOWN THE EXTERIOR OF THE STRUCTURE.

C. INTERIOR: VISUALLY INSPECT INTERIOR SURFACES AND REMOVE ALL TRACES OF SOIL, WASTE MATERIAL, SMUDGES AND OTHER FOREIGN MATTER.

1. REMOVE ALL TRACES OF SPLASHED MATERIALS FROM ADJACENT SURFACES.
2. REMOVE PAINT DROPPINGS, SPOTS, STAINS AND DIRT FROM FINISHED SURFACES.

D. CONTRACTOR SHALL WASH AND WAX FLOOR PRIOR TO FINAL ACCEPTANCE FROM SDM. WAX SHALL BE THE ANTI-STATIC TYPE.

PAYMENT OF CONTRACTOR LICENSES & BONDS.1.11CHANGE ORDER PROCEDURE

A. CHANGE ORDER MAY BE INITIATED BY THE SDM, AND OR THE CONTRACTOR. THE CONTRACTOR, UPON VERBAL REQUEST FROM THE SDM, SHALL PREPARE WRITTEN PROPOSAL DESCRIBING THE CHANGE IN WORK OR MATERIALS AND ANY CHANGES IN THE CONTRACT AMOUNT AND PRESENT IT TO THE SDM FOR APPROVAL. SUBMIT REQUESTS FOR SUBSTITUTIONS IN THE FORM AND IN ACCORDANCE WITH PROCEDURES REQUIRED FOR CHANGE ORDER PROPOSALS. ANY CHANGES IN THE SCOPES OF WORK OR MATERIALS WHICH ARE PERFORMED BY THE CONTRACTOR WITHOUT A WRITTEN CHANGE ORDER AS DESCRIBED AND APPROVED BY THE SDM SHALL BECOME THE SOLE RESPONSIBILITY OF THE CONTRACTOR

1.12 RELATED DOCUMENTS AND COORDINATION

A. GENERAL CARPENTRY, ELECTRICAL AND ANTENNA DRAWINGS ARE INTERRELATED. IN PERFORMANCE OF THE WORK EACH CONTRACTOR JUST REFERS ALL DRAWINGS. ALL COORDINATION TO BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.

B. THE CONTRACTOR SHALL SUPERVISE AND COORDINATE ALL WORK, USING HIS PROFESSIONAL KNOWLEDGE AND SKILLS. HE IS SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES AND PROCEDURES, AND FOR SUPERVISING, SEQUENCING AND COORDINATING ALL PORTIONS OF THE WORK.

1.13 SHOP DRAWINGS

A. CONTRACTOR TO SUBMIT SHOP DRAWINGS AS REQUIRED AND LISTED IN THESE SPECIFICATIONS AND THROUGH THE GENERAL CONTRACT TO THE SDM FOR APPROVAL.

B. SHOP DRAWINGS FOR ALL STRUCTURAL STEEL SHALL BE SUBMITTED TO THE ENGINEER OF RECORD UNLESS SPECIFICALLY NOTED OTHERWISE; CONTRACTOR SHALL NOT FABRICATE STEEL UNTIL DRAWINGS HAVE BEEN ACCEPTED IN WRITING

C. ALL SHOP DRAWINGS TO BE REVISED, CHECKED AND CORRECTED BY GENERAL CONTRACTOR PRIOR TO SUBMITTAL TO THE SDM

1.14 PRODUCTS AND SUBSTITUTIONS

A. SUBMIT 3 COPIES OF EACH REQUEST FOR SUBMISSION. IN EACH REQUEST IDENTIFY THE PRODUCT FABRICATION OR INSTALLATION METHOD TO BE REPLACED BY THE SUBSTITUTION. INCLUDE RELATED INPSECTIONS AND DRAWING NUMBERS, AND COMPLETE DOCUMENTATION SHOWING COMPLIANCE WITH THE REQUIREMENTS FOR SUBSTITUTIONS.

B. ALL NECESSARY PRODUCT DATA AND CUT SHEETS SHOULD PROPERLY INDICATES AND DESCRIBE ITEMS, PRODUCTS AND MATERIALS BEING INSTALLED. THE CONTRACTOR SHALL, IF DEEMED NECESSARY BY THE SDM, SUBMIT ACTUAL SAMPLES TO THE SDM FOR APPROVAL IN LIEU OF CUT SHEETS.

1.15 COMPLIACE

A. ALL MATERIALS, DESIGN AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH ALL APPLICABLE CODES (SOME ARE LISTED HEREIN) ORDINANCES, AND AUTHORITIES HAVING JURISDICTION OVER THE WORK. UPON THE COMPLETION OF THE WORK, THE CONTRACTOR SHALL PROVIDE CARRIER WITH THE CERTIFICATES OF OCCUPANCY (IF REQUIRED), JOB SITE PERMITTED PLANS AND INSPECTION CARD WITH ALL FINAL INSPECTION SIGNATURES AND OTHER LEGAL DOCUMENTS TO VERIFY SUCH COMPLIANCES. WHERE NO CODES EXIST, THE WORK SHALL CONFORM TO THE UNIFORM BUILDING CODE AND/OR THE SPECIFICATIONS HEREIN, WHICHEVER IS MORE STRINGENT AND A DOCUMENT STATEMENT SHALL BE FURNISHED TO THIS EFFECT.

B. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY COMPLIANCE WITH THE GOVERNING CODES AND TO NOTIFY THE SDM OF ANY DISCREPANCIES PRIOR TO PERFORMING WORK.

C. REFERENCES TO ANY STANDARD OR CODE OF PRACTICES IN THIS SPECIFICATION SHALL BE DEEMED TO MEAN THE EDITION CURRENT AT THE TIME OF AWARD OF THE CONTRACT.

D. THE TELECOMMUNICATIONS EQUIPMENT SPACE SHOWN IN THESE DRAWINGS IS NOT CUSTOMARILY OCCUPIED. WORK TO BE PERFORMED IN THIS FACILITY CANNOT REASONABLY BE PERFORMED BY PERSONS WITH A SEVERE IMPAIRMENT TO MOBILITY, SIGHT OR HEARING, THEREFORE, PER THE APPLICABLE CODES; THIS FACILITY SHALL BE EXEMPTED FROM ALL TITLE 24 ACCESS REQUIREMENTS.

E. THE CONTRACTOR SHALL COMPLY WITH ALL ZONING AND SITE ACQUISITION SPECIAL STIPULATIONS AS OUTLINED IN THE JOB SPECIFICATIONS, OR AS DIRECTED BY THE SDM.

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B	PRELIM CDs	AE	01/03/25
C	PRELIM CDs	AE	04/25/25
D	PRELIM CDs	AE	05/19/25
0	FINAL CDs	AE	08/14/25



EXP: 07/31/2026

I CERTIFY THAT THESE DRAWINGS WERE PREPARED  
BY ME OR UNDER MY DIRECT SUPERVISION AND  
CONTROL AND TO THE BEST OF MY KNOWLEDGE AND  
BELIEF COMPLY WITH REQUIREMENTS OF THE  
GOVERNING BUILDING CODE.

PREPARED BY: AE

CHECKED BY: AB

APPROVED BY: RA

SHEET TITLE

GENERAL NOTES AND  
SPECIFICATIONS

SHEET NUMBER

GN-1



1.16 ADMINISTRATION

A. THE CONTRACTOR SHALL FURNISH TO THE SDM WITH THE NAME AND CONTACT TELEPHONE NUMBERS OF THE CARRIER APPROVED ON-SITE SUPERVISOR. ANY CHANGES IN SUPERVISION MUST BE REPORTED TO THE SDM IMMEDIATELY AND ARE SUBJECT TO CARRIER APPROVAL.

1.17 PERMIT AND LICENSES

A. THE CONTRACTOR SHALL OBTAIN, AT HIS OWN EXPENSE, ALL REQUIRED LOCAL, STATE, AND/OR COUNTY CONSTRUCTION PERMITS AND LICENSES. COPIES OF ALL PERMITS SHALL BE SENT TO SDM. APPROVALS FROM RELEVANT PLANNING BOARD, ENVIRONMENTAL BOARDS, AND/OR OTHER COMMITTEE WILL BE SUPPLIED BY OTHERS, BUT MUST BE CONFIRMED BY THE CONTRACTOR WITH THE SDM PRIOR TO THE APPLICATION FOR CONSTRUCTION PREMISES.

B. FAA APPROVAL WILL BE SUPPLIED BY OTHERS BUT MUST BE CONFIRMED BY THE CONTRACTOR WITH THE SDM PRIOR TO THE ERECTING OF TOWER (IF APPLICABLE).

- C. FOR CONSTRUCTION SCHEDULING REFER TO THE INSTRUCTIONS PROVIDED BY THE SDM ITEMS TO BE INCLUDED (WHEN APPLICABLE):
1. CLEARING AND GRUBBING
  2. BUILDING PERMIT
  3. SHELTER DELIVERY AND PLACEMENT
  4. BUILDING FOUNDATION EXCAVATION
  5. ACCESS ROAD
  6. COMMERCIAL AC POWER
  7. BUILDING FOUNDATION FORMING
  8. INSPECTIONS
  9. LANDSCAPING
  10. GROUNDING SYSTEM
  11. ANTENNA INSTALLATION

D. PRIOR TO COMMENCING THE WORK THE GENERAL CONTRACTOR SHALL SCHEDULE AN ON-SITE MEETING WITH ALL MAJOR PARTIES TO THE PROCESS. THIS WOULD INCLUDE (THOUGH NOT LIMITED TO) THE DESIGNATED REPRESENTATIVES OF EACH SUB-CONTRACTOR

E. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING UTILITIES BOTH HORIZONTALLY & VERTICALLY PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES OR QUESTIONS AS TO THE INTERPRETATION OF PLANS SHOULD BE IMMEDIATELY REPORTED TO THE ARCHITECT/ENGINEER FOR RESOLUTION & INSTRUCTION, AND NO FURTHER WORK SHALL BE PERFORMED UNTIL DISCREPANCY IS CHECKED & CORRECTED BY THE ARCHITECT/ENGINEER. FAILURE TO THE SECURE SUCH INSTRUCTION MEANS CONTRACTOR WILL HAVE WORKED AT HIS OWN RISK AND EXPENSES. CONTRACTOR SHALL CALL ALL APPROPRIATE UTILITY COMPANIES 48 HOURS PRIOR TO START OF CONSTRUCTION TO HAVE UNDERGROUND UTILITIES LOCATED & MARKED.

F. THE CONTRACTOR SHALL BE EQUIPPED WITH A MEANS OF CONSTANT COMMUNICATIONS, SUCH AS A CELLULAR PHONE, AND BE AVAILABLE IN A REASONABLE AMOUNT OF TIME DURING CONSTRUCTION.

G. THE CONTRACTOR IS RESPONSIBLE FOR ALL SAFETY INCLUDING BUT NOT LIMITED TO PROTECTION OF ALL SITE PERSONNEL AND THE GENERAL PUBLIC DURING THE ENTIRE SITE CONSTRUCTION PERIOD. HE SHALL TAKE ALL REASONABLE PRECAUTIONS TO PLACE AND MAINTAIN BARRICADES, LAMPS, SIGN, AND ALL OTHER REQUIRED SAFETY MEANS.

CONSTRUCTION NOTES

1. ELEVATIONS ARE ABOVE MEAN SEA LEVEL.
2. ALL EXISTING EASEMENTS, PROPERTY LINES, SECTION LINES AND ROADWAYS ARE INDICATED ON THIS DRAWING TO THE BEST OF THE ARCHITECTS KNOWLEDGE AS GATHER BY VISUAL INSPECTION, SURVEY DRAWINGS, AND INFORMATION RECEIVED FROM THE CARRIER.
3. ALL CONSTRUCTION SHALL CONFORM TO CURRENT LOCAL., STATE, AND FEDERAL CODES.
4. THE CONTRACTOR SHALL TAKE ALL REASONABLE MEASURES TO PROTECT EXISTING STRUCTURES, UTILITIES, WALKWAYS, PAVEMENT AND OTHER FACILITIES FROM UNNECESSARY EXPOSURE TO DAMAGE.; ALL NEW UNDERGROUND TRENCHING WITHIN WATER TANK SITES OR ADJACENT TO EXISTING UNDERGROUND UTILITIES SHALL BE HAND DUG.
5. THE CONTRACTOR SHALL LOCATE AND MARK ALL EXISTING UNDERGROUND POWER, TELCO, GROUNDING CONDUITS, AND ALL OTHER UTILITIES EASEMENTS AND/OR WIRES PRIOR TO TRENCHING. ANY DAMAGE CAUSED TO THE EXISTING UNDERGROUND SERVICES OR SYSTEMS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

6. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE SAFETY AND IF NECESSARY THE REPAIR OF ALL PUBLIC UTILITIES SERVICES SUCH AS GAS, TELEPHONE, ELECTRIC, CABLE, AND WATER.

7. DO NOT INTERRUPT SERVICES TO ANY ADJACENT STRUCTURES OR FACILITIES WITHOUT WRITTEN PERMISSION FROM THE PROPERTY OWNER.

8. EROSION CONTROL MEASURES SUCH AS SILT FENCING AND/OR HAYBALES SHALL BE UTILIZED TO PREVENT SOIL AND DEBRIS FROM CONTAMINATING ADJACENT PROPERTIES, ROADS, AND AREAS.

9. COMMENCEMENT OF CONSTRUCTION SHALL BEGIN ONLY WITH THE WRITTEN APPROVAL OF THE OWNER OR OWNER'S REPRESENTATIVE; ALL CONSTRUCTION AND MATERIAL ORDERING (WITH THE EXCEPTION OF THE TOWER) SHALL BE DONE WITH DRAWNGS LABELED "ISSUED FOR CONSTRUCTION

10. NO DUMPING SOILS ON SITE OR LEASE AREA, MUST BE HAULED OFF SITE.

11. ACCESS TO OTHER CUSTOMERS ON SITE CAN NOT BE BLOCKED AT ANYTIME .

12. ALL SAFETY HAZARDS MUST BE MARKED WITH WARNING TAPE OR SAFETY FENCE.

13. PROPER SIGNAGE MUST BE POSTED AT ACCESS OF COMPOUND PER OSHA SPEC.

14. ANY ACCIDENTS ON SITE MUST BE REPORTED TO CONTRACT OWNER WITHIN 2 HOURS OF EVENT.

15. GC'S ARE NOT TO CONTACT LANDOWNERS. ALL MATTERS MUST BE REPORTED TO PROJECT MANAGER AND TOWER OWNER.

16. PROVIDE 2 PULL STRINGS SECURELY FASTENED AT EACH END OF ALL CONDUITS. THE PULL STRINGS ARE TO BE 200 LB. TEST POLYETHYLENE CORD. PROVIDE CAP ON THE END OF EACH CONDUIT AND MARK AS SHOWN ON THIS SITE PLAN.

GENERAL GRADING NOTES: (WHEN APPLICABLE)

1. CONTOURS AND SPOT ELEVATIONS SHOWN ARE ONLY CONTROLS AND THE PROFILES THEY FORM SHALL BE SMOOTH AND CONTINUOUS.
2. THE CONTRACTOR SHALL EXERCISE SUFFICIENT SUPERVISORY CONTROL DURING GRADING TO INSURE COMPLIANCE WITH THE PLANS, SPECIFICATIONS, AND CODE WITHIN THEIR PURVIEW.
3. NATURAL VEGETATION SHALL BE RETAINED AND PROTECTED WHEREVER POSSIBLE. EXPOSURE OF SOIL TO EROSION BY REMOVAL OR DISTURBANCE OF VEGETATION SHALL BE LIMITED TO THE AREA REQUIRED FOR IMMEDIATE CONSTRUCTION OPERATION AND FOR THE SHORTEST PRACTICAL PERIOD OF TIME. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO AVOID ANY DAMAGE TO EXISTING FOLIAGE THAT LIES IN THE PROJECT AREA UNLESS DESIGNATED FOR REMOVAL AND SHALL BE LIABLE FOR SUCH DAMAGE AT HIS/HER EXPENSE.
4. DURING GRADING OPERATIONS AND PRIOR TO COMPLETION OF CONSTRUCTION, TEMPORARY DRAINAGE CONTROL SHALL BE PROVIDED TO PREVENT PONDING WATER AND IMPROPER DRAINAGE.5. PRIOR TO THE START OF GRADING ALL EXISTING VEGETATION AND DEBRIS, INCLUDING EXISTING STRUCTURES, FOOTINGS, FOUNDATIONS, RUBBLE, TREES AND ROOT SYSTEMS SHALL BE REMOVED FROM THE SITE.
6. THE EXPOSED SOILS SHALL THEN BE SCARIFIED TO A MINIMUM DEPTH OF 6 INCHES, BROUGHT TO PROPER MOISTURE CONTENT AND COMPACTED TO AT LEAST 90% OF THE MAXIMUM DENSITY, AS DETERMINED BY THE CURRENT UNIFORM BUILDING CODE.
7. FILL SLOPES SHALL BE COMPACTED BY MEANS OF SHEEP FOOT COMPACTOR OR OTHER SUITABLE EQUIPMENT. COMPACTING SHALL CONTINUE UNTIL SLOPES ARE STABLE AND THERE IS NOT AN APPRECIABLE AMOUNT OF LOOSE SOIL ON THE SLOPES.
8. THE MAXIMUM CUT AND FILL SLOPES SHALL BE 2:1.

9. CONTRACTOR SHALL MAKE SURE ALL SURVEY STAKING IS PRESERVED AND PROTECTED BY MEANS OF OFFSETS OR WORKING AROUND STAKES. CONTRACTOR SHALL BE RESPONSIBLE FOR REESTABLISHING STAKES IF THEY ARE DISTURBED BY HIRING THE ORIGINAL SURVEYOR10. TOP SOIL SHALL BE STOCKPILED TO THE EXTENT PRACTICABLE ON THE SITE FOR USE ON AREAS TO BE REVEGATATED. ANY AND ALL STOCKPILES SHALL BE LOCATED AND PROTECTED FROM EROSIIVE ELEMENTS.

10. TEMPORARY SILT FENCES SHALL BE INSTALLED ALONG ALL BOUNDARIES OF THE CONSTRUCTION LIMITS AS SHOWN ON THESE DRAWINGS OR REQUIRED BY LOCAL CODES.

11. MINIMUM BUILDING PAD DRAINAGE SHALL BE 2%. DRAINAGE SHALL BE A MINIMUM OF 0.3' DEEP AND BE CONSTRUCTED A MINIMUM OF 2' FROM THE TOP OF CUT OR FILL SLOPES. THE MINIMUM SLOPE OF SWALES SHALL BE 0.50%.

12. IF ANY UNFORESEEN SUBSURFACE STRUCTURES ARE ENCOUNTERED DURING CONSTRUCTION THEY SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING FURTHER.

13. ALL DEPRESSIONS WHERE WATER MAY POND WILL BE FILLED IN MADE EQUAL TO ADJACENT GRADES, CREATING A LARGER DRAINAGE SCHEME FOR THE SITE.

UTILITY SERVICE NOTES:

A. ELECTRICAL PLANS, DETAILS, AND DIAGRAMS ARE DIAGRAMMATIC ONLY; VERIFY EXACT LOCATIONS AND MOUNTING HEIGHTS WITH OWNER; PLACEMENT AND ROUTING OF ALL COMPONENTS SHALL BE IN ACCORDANCE WITH ALL APPLICABLE CODES.

B. SERVICE EQUIPMENT SHALL HAVE A FAULT WITHSTAND RATING EQUAL TO OR EXCEEDING THE MAXIMUM AVAILABLE FAULT CURRENT AT THE SUPPLY TERMINAL. INSTALLATION SHALL BE FREE FROM ALL FAULTS AND GROUNDS.

C. ALL ELECTRICAL EQUIPMENT, CONDUITS, AND SUPPORT SHALL BE ABLE TO WITHSTAND 90 M.P.H. WIND SPEED; EXPOSURE C.

D. ALL ELECTRICAL EQUIPMENT SHALL HAVE A PERMANENTLY AFFIXED NEOPRENE PLASTIC LABEL - BLACK ON WHITE; LETTER HEIGHT SHALL BE ¼"; ALL NAMEPLATES TO BE FASTENED WITH (2) STAINLESS STEEL SCREWS, NOT ADHESIVE.

E. ALL WRING SHALL BE COPPER WITH THHN/THWN DUAL RATED 600V, COLOR CODED, #12 AWG MINIMUM UNLESS NOTED OTHERWISE.

CONDUIT NOTES:

F. RIGID CONDUIT SHALL BE U.L. LABEL GALVANIZED ZINC COATED WITH GALVANIZED ZINC INTERIOR AND SHALL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLABS, IN CONTACT WITH EARTH, UNDER PUBLIC ROADWAYS, IN MASONRY WALLS, OR EXPOSED ON BUILDING EXTERIOR.

G. ELECTRICAL METALLIC TUBING SHALL BE U.L. LABEL; FITTING SHALL BE GLAND RING COMPRESSION TYPE.

H. CORING THROUGH FLOORS AND WALLS SHALL NOT BE DONE WITHOUT FINAL APPROVAL OF BUILDING OWNER OR OWNER REPRESENTATIVE.

I. CORING SHALL NOT BE PERFORMED DURING WORKING HOURS UNLESS OTHERWISE APPROVED BY THE OWNER.

J. CONCRETE CORING OR DRILLING SHALL BE PERFORMED FOLLOWING THE REVISED & UPDATED OSHA 29 CFR 1926.1153 COMPLIANCE FOR HAZARDOUS DUST, SILICA DUST, USING HEPA VDCS DRILLING TECHNIQUES.

GENERAL NOTES:

J. SUBMITTAL OF BID INDICATES CONTRACTOR IS FAMILIAR WITH ALL JOB SITE CONDITIONS AND WORK TO BE PERFORMED AS DETAILED AND OUTLINED IN THESE DRAWINGS

K. THE ELECTRICAL PORTION OF THESE DRAWINGS IS ONLY A PART OF THE OVERALL DESIGN. IT IS NECESSARY FOR THE ELECTRICIAN TO CONSIDER ALL ASPECTS OF THIS PROJECT WHEN BIDDING AND PLANNING THE WORK

L. IN THE EVENT OF A CONFLICTING DESIGN OR NOTATION, THE CONTRACTOR SHALL ASSUME THE MOST EXPENSIVE OR RESTRICTIVE METHOD UNTIL A CLARIFICATION IS MADE

M. ALL THINGS, WHICH IN THE OPINION OF THE CONTRACTOR ARE DEFICIENCIES, OMISSIONS, CONTRADICTIONS, OR AMBIGUITIES, IN THESE DESIGN DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE WORK PROCEEDS; ALL CLARIFICATIONS MUST BE RECEIVED IN WRITING IN ORDER FOE THE MATTER TO BE CONSIDERED RESOLVED

N. ELECTRICAL WORK SHALL INCLUDE BUT NOT LIMITED TO ALL MATERIALS AND LABOR TO COMPLETE ALL ELECTRICAL SYSTEMS INCLUDING LIGHTING, LOW VOLTAGE SYSTEMS, PANELS, POWER AND TELEPHONE DATA SERVICE, CONTROL WIRING, AND GROUNDING.

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PREPARED BY: AE

CHECKED BY: AB

APPROVED BY: RA

SHEET TITLE

GENERAL NOTES AND SPECIFICATIONS

SHEET NUMBER

GN-2