



# FOUNTAIN CELL DN02728A

S POWERS BLVD  
& FONTAINE BLVD

LATITUDE: 38.737873"  
LONGITUDE: -104.682207"

# TEMPORARY LIGHT SITE

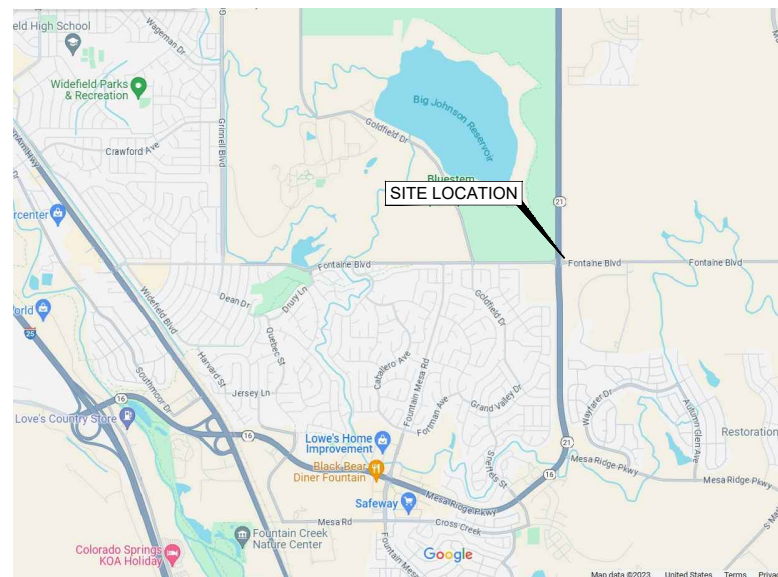


PROJECT INFORMATION:

**SITE NAME:**  
FOUNTAIN CELL  
**SITE ID:**  
DN02728A

S POWERS BLVD  
& FONTAINE BLVD  
EL PASO COUNTY

## VICINITY MAP



## SCOPE OF WORK

- CONSTRUCTION OF A NEW "NON-INHABITABLE" T-MOBILE TELECOMMUNICATIONS SITE
- INSTALL (N) T-MOBILE ARE AFS 600 / 60' TALL HYDRAULIC BALLAST POLE
  - INSTALL (N) PORTABLE 70KVA GENERATOR
  - INSTALL (N) PORTABLE CHAIN LINK FENCE
  - INSTALL (N) T-MOBILE (MEP88-4S) 8'X8' STEEL PLATFORM
  - INSTALL (N) T-MOBILE SSC 600A CABINET
  - INSTALL (N) T-MOBILE BATTERY CABINET
  - INSTALL (3) (N) FFV4-65C-R3-V1 ANTENNAS. (1) PER SECTOR
  - INSTALL (3) AHFII, (3) AHLOB, (2) AHZL, (1) ASIA, (1) ASIA, (2) ASIL, (3) ABIA, (3) ABIL, (1) ABIO, (2) ABIA
  - INSTALL (2) TOWER JUNCTION BOXES
  - INSTALL (1) MICROWAVE DISH & (2) ODUS, (1) IDU, (1) (N) FIBER CABLE & (1) (N) DC POWER CABLE

## SITE INFORMATION

**SITE TYPE:** STRUCTURE NON-BUILDING  
**SITE NAME:** FOUNTAIN CELL  
**SITE NUMBER:** DN02728A  
**SITE ADDRESS:** S POWERS BLVD

**JURISDICTION:** EL PASO COUNTY

**PARCEL NUMBER:** 5500000015

**RFDS DATE:** 11/30/23

## PROJECT CONTACTS

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## DRAWING INDEX

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A2.0	ENLARGED SITE PLAN
A3.0	ANTENNA AND EQUIPMENT PLAN
A4.0	ELEVATION
A5.1	ANTENNA AND EQUIPMENT SCHEDULES
A5.2	ANTENNA PLAN
A6.0	SAFETY PLAN
A7.0	EQUIPMENT DETAILS
A8.0	EQUIPMENT DETAILS
A9.0	EQUIPMENT DETAILS
A10.0	EQUIPMENT DETAILS
A11.0	EQUIPMENT DETAILS
A12.0	EQUIPMENT DETAILS
A13.0	EQUIPMENT DETAILS
A14.0	EQUIPMENT DETAILS

REV:	DATE:	DESCRIPTION:	BY:
A	01/12/24	PRELIMINARY	MEM

PLANS PREPARED BY:



LICENSURE NO:

ALL SCALES ARE SET FOR 11"x17" SHEET

DRAWN BY:	CHK BY:	APV BY:
MEM	ML	TA

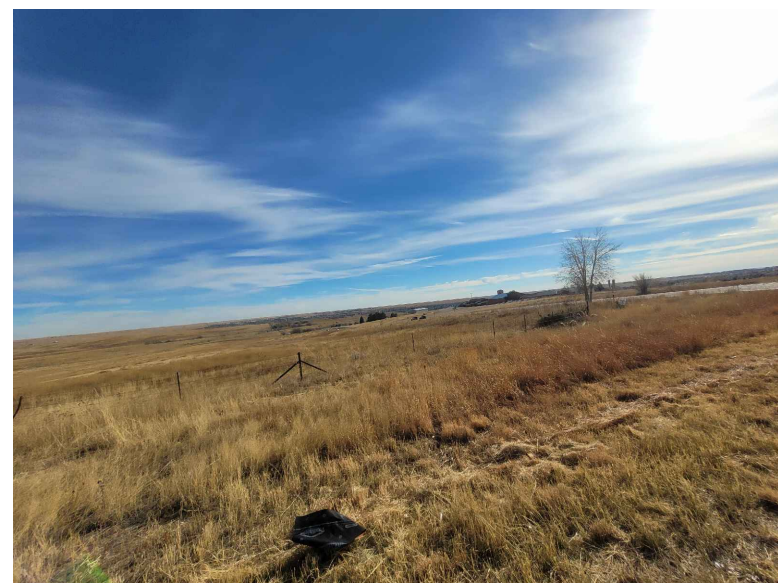
SHEET TITLE:

TITLE SHEET

SHEET NUMBER:

T1

## SITE PHOTO



## CODE 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.

**A.D.A. COMPLIANCE:**  
NOT REQUIRED PER IBC 1103.2.9.

**GOVERNING CODES, AS APPLICABLE:**  
2021 IBC 2020 NEC 2018 IPC  
2021 IECC 2021 IMC  
2023 PPRBC

**OSHA COMPLIANCE:**  
ANSI A10.48: FALL PROTECTION  
AND SAFETY STANDARDS

## GENERAL CONSTRUCTION NOTES

1. THE FACILITY IS AN UNOCCUPIED WIRELESS FACILITY.
2. PLANS ARE NOT TO BE SCALED AND ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY, UNLESS NOTED OTHERWISE. THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
3. PRIOR TO THE SUBMISSION OF BIDS, THE CONTRACTORS SHALL VISIT THE JOB SITE AND BE RESPONSIBLE FOR ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS, AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE IMPLEMENTATION ENGINEER AND ARCHITECT/ENGINEER PRIOR TO PROCEEDING WITH THE WORK.
4. THE CONTRACTOR SHALL RECEIVE, IN WRITING, AUTHORIZATION TO PROCEED BEFORE STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONTRACT DOCUMENTS.
5. CONTRACTOR SHALL CONTACT LOCAL DIGGERS HOTLINE 48 HOURS PRIOR TO PROCEEDING WITH ANY EXCAVATION, SITE WORK OR CONSTRUCTION.
6. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY INDICATED OTHERWISE OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
7. ALL WORK PERFORMED AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. MECHANICAL AND ELECTRICAL SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

## DRIVING DIRECTIONS

FROM 990 SOUTH BROADWAY DENVER, CO: TAKE I-25 SOUTH TO COLORADO SPRINGS. TAKE EXIT 132A TO MERGE ONTO CO-16 E/MESA RIDGE PKWY CONTINUE ONTO CO-21 N. DRIVE 300' PAST FONTAINE BLVD. SITE IS ON THE RIGHT.



Know what's below  
Call before you dig.  
1-800-922-1987

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8. THE GENERAL CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK, USING THE BEST SKILLS AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT INCLUDING CONTACT AND COORDINATION WITH THE CONSTRUCTION FIELD ENGINEER AND WITH THE LANDLORD'S AUTHORIZED REPRESENTATIVE.
9. DETAILS ARE INTENDED TO SHOW END RESULT OF DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK.
10. REPRESENTATIONS OF TRUE NORTH, OTHER THAN THOSE FOUND ON THE PLOT OF SURVEY DRAWING, SHALL NOT BE USED TO IDENTIFY OR ESTABLISH THE BEARING OF TRUE NORTH AT THE SITE. THE CONTRACTOR SHALL RELY SOLELY ON THE PLOT OF SURVEY DRAWING AND ANY SURVEYOR'S MARKINGS AT THE SITE FOR THE ESTABLISHMENT OF TRUE NORTH, AND SHALL NOTIFY THE ARCHITECT/ENGINEER PRIOR TO PROCEEDING WITH THE WORK IF ANY DISCREPANCY IS FOUND BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND THE TRUE NORTH ORIENTATION AS DEPICTED ON THE PLAT OF SURVEY. THE CONTRACTOR SHALL ASSUME SOLE LIABILITY FOR ANY FAILURE TO NOTIFY THE ARCHITECT/ENGINEER.

**STRUCTURAL NOTES**

- 1.0 GENERAL CONDITIONS
  - 1.1 DESIGN AND CONSTRUCTION OF ALL WORK SHALL CONFORM TO THE APPROVED EDITION OF THE IBC EDITION AND ALL OTHER APPLICABLE STATE CODES, ORDINANCES, AND REGULATIONS. IN CASE OF CONFLICT BETWEEN THE CODES, STANDARDS, AND REGULATIONS, SPECIFICATIONS, GENERAL NOTES AND/OR MANUFACTURER'S REQUIREMENTS. USE THE MOST STRINGENT PROVISION.
  - 1.2 IT IS THE EXPRESS INTENT OF THE PARTIES INVOLVED IN THIS PROJECT THAT THE CONTRACTOR OR SUBCONTRACTOR OR INDEPENDENT CONTRACTOR OR THEIR RESPECTIVE EMPLOYEES SHALL EXCULPATE THE ARCHITECT, THE ENGINEER, THE CONSTRUCTION MANAGER, THE OWNER, AND THEIR AGENTS, FROM ANY LIABILITY WHATSOEVER AND HOLD THEM HARMLESS AGAINST LOSS, DAMAGES, LIABILITY OR ANY EXPENSE ARISING IN ANY MATTER FROM THE WRONGFUL OR NEGLIGENT ACT, OR FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, OR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES OR FAILURE TO CONFORM TO THE STATE SCAFFOLDING ACT IN CONNECTION WITH THE WORK.
  - 1.3 DO NOT SCALE DRAWINGS.
  - 1.4 VERIFY ALL EQUIPMENT MOUNTING DIMENSIONS PER MANUFACTURER DRAWINGS.
  - 1.5 SUBMIT ONE SEPIA AND TWO PRINTS OF ALL STRUCTURAL SHOP DRAWINGS. MARKED UP SEPIA SHALL BE RETURNED.
- 2.0 STRUCTURAL STEEL NOTES:
  - 2.1 CHANNELS, ANGLES AND PLATES SHALL BE ASTM A36 MATERIAL, UNLESS NOTED OTHERWISE.
  - 2.2 SQUARE AND RECTANGULAR TUBE STEEL HSS SECTIONS SHALL BE ASTM A500, GRADE B (Fy = 46 ksi) MATERIAL.
  - 2.3 ROUND PIPE SECTIONS SHALL BE ASTM A53, GRADE B (Fy =35 ksi) MATERIAL.
  - 2.4 DESIGN, FABRICATION, AND ERECTION SHALL BE IN ACCORDANCE WITH THE "AISC SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS", WITH COMMENTARY AND THE "CODE OF STANDARD PRACTICE".
  - 2.5 ALL STEEL SHALL HAVE ONE COAT OF SHOP PRIMER. DO NOT PAINT AREAS WITHIN 3" OF BOLTS, WELDS OR HEADED STUDS.
  - 2.6 BOLTS SHALL BE HIGH STRENGTH BOLTS, A325, CONFORMING TO ASTM SPECIFICATIONS. ALL CONNECTIONS SHALL HAVE A MINIMUM OF 2 BOLTS.
  - 2.7 WELDING SHALL BE CONDUCTED BY CERTIFIED WELDERS AND SHALL CONFORM TO THE AWS CODES FOR ARC AND GAS WELDING IN BUILDING CONSTRUCTION.
  - 2.8 WELDS SHALL BE MADE USING E70XX ELECTRODES AND SHALL BE 3/16" MINIMUM UNLESS OTHERWISE NOTED.
  - 2.9 WELDING SHALL BE PERFORMED IN ACCORDANCE WITH A WELDED PROCEDURE SPECIFICATION (WPS) AS PER AWS D1.1 , D1.3 AND D1.4.
  - 2.10 ONLY PRE-QUALIFIED WELDING PROCEDURES SHALL BE USED.
  - 2.11 UNLESS SPECIFICALLY ADDRESSED IN THE SPECIFICATIONS OR THE DETAILS, ALL STEEL ITEMS PERMANENTLY EXPOSED TO EARTH OR WEATHER SHALL BE CORROSION-RESISTANT BY GALVANIZING OR BY THE USE OF STAINLESS STEEL.
  - 2.12 ALL FIELD WELDS ON GALVANIZED MATERIAL SHALL BE BRUSH-COATED WITH A ZINC-RICH PAINT
- 3.0 STANDARDS FOR ALL CONCRETE WORK
  - 3.1 ALL CONCRETE WORK SHALL CONFORM WITH ACI. 318 OR LATEST. DETAIL REINFORCING IN CONFORMANCE WITH ACI. SP66 LATEST.
  - 3.2 NO SPLICES OF REINFORCEMENT SHALL BE MADE EXCEPT AS DETAILED OR AUTHORIZED BY THE STRUCTURAL ENGINEER. LAP SPLICES WHERE PERMITTED SHALL BE A MINIMUM OF 30 BAR DIAMETERS.
  - 3.3 PROVIDE ALL ACCESSORIES NECESSARY TO SUPPORT REINFORCING AT POSITIONS SHOW ON DRAWINGS.

- 3.4 WIRE FABRIC REINFORCEMENT MUST LAP ONE FULL MESH AT SIDE AND END LAPS SHALL BE TIED TOGETHER.
- 3.5 CURE AFTER FINISHING CONCRETE. KEEP MOIST FOR 7 DAYS AFTER POURING.
- 3.6 COMPACT STRUCTURAL FILL 95% PROCTOR DENSITY PRIOR TO PLACING CONCRETE UNDER SLABS.
- 3.7 1/4" CHAMFER ON ALL CORNERS AND EDGES.
- 3.8 ALL CONCRETE SHALL BE PORTLAND, TYPE 1 CEMENT WITH A MINIMUM OF 28 DAY STRENGTH OF 3000 PSI., 4" SLUMP AND A MINIMUM AIR ENTRAPMENT OF 4%.
- 3.9 ALL REINFORCING STEEL SHALL BE GRADE 60. ALL REINFORCING MESH SHALL CONFORM TO ASTM A 185.
- 4.0 FRP NOTES:
  - 4.1 ALL FRP MATERIAL SHALL BE EXTREN SERIES 500 OR EQUIVALENT, PRODUCED BY THE PULTRUSION METHOD.
  - 4.2 ALL ADHESIVE RESIN SHALL BE PLEXUS METHACRYLATE OR AN EQUIVALENT ADHESIVE RESIN THAT IS COMPATIBLE WITH THE RESIN MATRIX USED IN THE STRUCTURAL SHAPES.
  - 4.3 ALL FRP CONNECTIONS SHALL BE FULLY-BONDED AT EACH SIDE WITH A 1/4" PLATE AND A MINIMUM OF (2) 3/8" DIAMETER FLATHEAD FRP SCREWS PER MEMBER.
  - 4.4 ISOPLAST NUTS AND BOLTS SHALL BE TIGHTENED TO A SNUG-TIGHT FIT PLUS AN ADDITIONAL 1/2 TURN, PRIOR TO BEING LOCKED WITH EPOXY.
  - 4.5 ALL PANELS / SHEATHING SHALL BE FULLY BONDED WITH 3/8" FLATHEAD FRP SCREWS AT 12" O.C.
  - 4.6 ALL FIELD CUT AND DRILLED EDGES, HOLES AND ABRASIONS SHALL BE SEALED WITH A CATALYZED EPOXY RESIN COMPATIBLE WITH THE MANUFACTURER'S ORIGINAL RESIN.

**ELECTRICAL NOTES**

1. SUBMITTAL OF BID INDICATES CONTRACTOR IS COGNIZANT OF ALL JOB SITE CONDITIONS AND WORK TO BE PERFORMED UNDER THIS CONTRACT. CONTRACTOR IS RESPONSIBLE FOR ALL FIELD VERIFICATION.
2. THESE PLANS ARE DIAGRAMMATIC ONLY, AND NOT TO BE SCALED.
3. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, INSURANCE, EQUIPMENT, INSTALLATION, CONSTRUCTION TOOLS, TRANSPORTATION, ETC. FOR A COMPLETE AND PROPERLY OPERATIVE SYSTEM ENERGIZED THROUGHOUT AND AS INDICATED ON DRAWINGS, AS SPECIFIED HEREIN AND/OR AS OTHERWISE REQUIRED.
4. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND IN PERFECT CONDITION WHEN INSTALLED AND SHALL BE OF THE BEST GRADE OR GROUP OF EQUIPMENT. MATERIALS SHALL BE LISTED AND APPROVED BY UNDER-WRITER'S LABORATORY AND SHALL BEAR THE INSPECTION LABEL "J" WHERE SUBJECT TO SUCH APPROVAL. MATERIALS SHALL MEET WITH APPROVAL OF THE DIVISION OF INDUSTRIAL SAFETY AND ALL GOVERNING BODIES HAVING JURISDICTION. MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA AND NBFU.
5. ALL CONDUIT INSTALLED SHALL BE SURFACE MOUNTED UNLESS OTHERWISE NOTED.
6. ELECTRICAL CONTRACTOR SHALL CARRY OUT HIS WORK WITH ACCORDANCE WITH ALL GOVERNING STATE, COUNTY, LOCAL CODES AND O.S.H.A.
7. ELECTRICAL CONTRACTOR SHALL SECURE ALL NECESSARY ELECTRICAL PERMITS, AND PAY ALL REQUIRED FEES.
8. COMPLETE JOB SHALL BE GUARANTEED FOR A PERIOD OF NO LESS THAN ONE YEAR AFTER THE DATE OF JOB COMPLETION. ANY WORK, MATERIAL, OR EQUIPMENT FOUND TO BE FAULTY DURING THAT PERIOD SHALL BE CORRECTED AT ONCE, UPON WRITTEN NOTIFICATION, AT THE EXPENSE OF THE ELECTRICAL CONTRACTOR.
9. ALL CONDUIT ONLY (C.O.) SHALL HAVE A PULL WIRE OR ROPE, AND TRUE TAPE.
10. PROVIDE THE OWNER WITH ONE SET OF COMPLETE DIMENSIONS AND CIRCUITS, WITHIN 10 WORKING DAYS OF PROJECT COMPLETION. ELECTRICAL "AS BUILT" DRAWINGS, SHOWING ACTUAL LOCATION OF CONDUITS.
11. ALL BROCHURES, OPERATING MANUALS, CATALOGS, SHOP DRAWINGS, ETC. SHALL BE TURNED OVER TO PROJECT MANAGER AT JOB COMPLETION.
12. USE T-TAP CONNECTIONS ON ALL MULTI-CIRCUITS WITH COMMON NEUTRAL CONDUCTOR FOR LIGHTING FIXTURE. ALL CONDUCTORS SHALL BE COPPER.
13. THE EXTERIOR GROUND RING SHALL BE TESTED PER CCI SPECIFICATIONS AND SHALL HAVE A RESISTANCE TO EARTH OF 5 OHMS OR LESS. IF NOT NOTIFY ENGINEER.
14. ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING RATING NOT LESS THAN THE MAXIMUM SHORT -CIRCUIT CURRENT TO WHICH THEY MAY BE SUBJECTED, AND A MINIMUM OF 10,000 A.I.C.
15. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED AS REQUIRED BY ALL APPLICABLE CODES.
16. PATCH, REPAIR, AND PAINT ANY AREA THAT HAS BEEN DAMAGED IN THE COURSE OF THE ELECTRICAL WORK.
17. IN DRILLING HOLES INTO CONCRETE (WHETHER FOR FASTENING OR ANCHORING PURPOSES OR PENETRATIONS THROUGH THE FLOOR FOR CONDUIT RUNS, PIPE RUNS, ETC.) IT MUST BE CLEARLY UNDERSTOOD THAT TENDONS AND RE-BARS WILL NOT BE DRILLED INTO, CUT, OR DAMAGED UNDER ANY CIRCUMSTANCES.
18. LOCATION OF TENDONS AN RE-BARS ARE NOT DEFINITELY KNOWN AND THEREFORE MUST BE SEARCHED FOR BY APPROPRIATE METHODS AND EQUIPMENT VIA X-RAY, OR OTHER DEVICES THAT CAN ACCURATELY LOCATE THE REINFORCING STEEL TENDONS.
19. PENETRATIONS IN FIRE RATED WALLS SHALL BE FIRE STOPPED IN ACCORDANCE WITH APPLICABLE LOCAL BUILDING CODES. USING U.L. RATED MATERIALS.
20. ELECTRICAL CONTRACTOR IS TO COORDINATE WITH UTILITY COMPANY FOR CONNECTION OF TEMPORARY AND PERMANENT POWER TO THE SITE. THE TEMPORARY POWER AND ALL HOOK-UP COSTS SHALL BE PAID BY THE CONTRACTOR.
21. ELECTRICAL CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND/OR CATALOG CUT-SHEETS ON ALL NON-SPECIFIED ORIGINAL MATERIALS AND EQUIPMENT, TO PROJECT MANAGER PRIOR TO COMMENCEMENT OF THE WORK.
22. UPON COMPLETION OF WORK, CONDUCT CONTINUITY AND SHORT CIRCUIT, AS WELL AS, GROUNDING TEST, GROUNDING TEST SHALL BE PERFORMED BY INDEPENDENT TESTING AGENCY, WITH WRITTEN REPORT SUBMITTED TO THE PROJECT MANAGER FOR REVIEW AND APPROVAL.
23. CLEAN PREMISES DAILY OF ALL DEBRIS RESULTING FROM WORK AND LEAVE WORK PREMISES IN A COMPLETE AND UNDAMAGED CONDITION.
24. ALL EXTERIOR WALL PENETRATIONS SHALL BE SEALED WITH POLYSEAM SEALANT.
25. ALL #2 TINNED BARE COPPER DOWNLEADS TO BE PROTECTED BY 1/2" P.V.C. PIPE AND SECURED.
26. COMPRESSION FITTINGS TO BE USED ON ALL CONDUITS (NO SET SCREWS).
27. ALL #6 STRANDED COPPER WITH GREEN INSULATION TO BE ATTACHED WITH CRIMPED DOUBLE LUG, ATTACHED WITH NUTS, BOLTS AND STAR WASHERS TYPICAL AND NO-OX GREASE BETWEEN LUG AND BUS BAR.

28. ALL ABOVE GROUND CONDUIT SHALL BE RIGID GALVANIZED CONDUIT WITH WEATHERPROOF FITTINGS.

**GROUNDING**

1. ALL METALLIC PARTS OF ELECTRICAL EQUIPMENT WHICH DO NOT CARRY CURRENT SHALL BE GROUNDED IN ACCORDANCE WITH THE REQUIREMENTS OF THE BUILDING MANUFACTURER, T-MOBILE GROUNDING AND BONDING STANDARDS, AND THE NATIONAL ELECTRICAL CODE.
2. PROVIDE ELECTRICAL GROUNDING AND BONDING SYSTEM INDICATED WITH ASSEMBLY OF MATERIALS, INCLUDING GROUNDING ELECTRODES, BONDING JUMPERS AND ADDITIONAL ACCESSORIES AS REQUIRED FOR A COMPLETE INSTALLATION.
3. ALL GROUNDING CONDUCTORS SHALL PROVIDE A STRAIGHT DOWNWARD PATH TO GROUND WITH GRADUAL BEND AS REQUIRED. GROUNDING CONDUCTORS SHALL NOT BE LOOPED OR SHARPLY BENT. ROUTE GROUNDING CONNECTIONS AND CONDUCTORS TO GROUND IN THE SHORTEST AND STRAIGHTEST PATHS POSSIBLE TO MINIMIZE TRANSIENT VOLTAGE RISES. BUILDINGS AND/OR NEW TOWERS GREATER THAN 75 FEET IN HEIGHT AND WHERE THE MAIN
4. GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE CONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUND RING, TO THE EXISTING GROUNDING SYSTEM, THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN #2 AWG COPPER. ROOFTOP GROUND RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY).
5. TIGHTEN GROUNDING AND BONDING CONNECTORS, INCLUDING SCREWS AND BOLTS, IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED TORQUE TIGHTENING VALUES FOR CONNECTORS AND BOLTS. WHERE MANUFACTURER'S TORQUING REQUIREMENTS ARE NOT AVAILABLE, TIGHTEN CONNECTIONS TO COMPLY WITH TIGHTENING TORQUE VALUES SPECIFIED IN UL TO ASSURE PERMANENT AND EFFECTIVE GROUNDING. CONTRACTOR SHALL VERIFY THE LOCATIONS OF GROUNDING TIE-IN-POINTS TO THE EXISTING
6. ALL UNDERGROUND GROUNDING CONNECTIONS SHALL BE MADE BY THE GROUNDING SYSTEM. EXOTHERMIC WELD PROCESS AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
7. ALL GROUNDING CONNECTIONS SHALL BE INSPECTED FOR TIGHTNESS. EXOTHERMIC WELDED CONNECTIONS SHALL BE APPROVED BY THE INSPECTOR HAVING JURISDICTION BEFORE BEING PERMANENTLY CONCEALED.
8. APPLY CORROSION-RESISTANCE FINISH TO FIELD CONNECTIONS AND PLACES WHERE FACTORY APPLIED PROTECTIVE COATINGS HAVE BEEN DESTROYED.
9. A SEPARATE, CONTINUOUS, INSULATED EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED IN ALL FEEDER AND BRANCH CIRCUITS.
10. BOND ALL INSULATED GROUNDING BUSHINGS WITH A BARE 6 AWG GROUNDING CONDUCTOR TO A GROUND BUS.
11. DIRECT BURIED GROUNDING CONDUCTORS SHALL BE INSTALLED AT A NOMINAL DEPTH OF 36" MINIMUM BELOW GRADE, OR 6" BELOW THE FROST LINE, USE THE GREATER OF THE TWO DISTANCES.
12. ALL GROUNDING CONDUCTORS EMBEDDED IN OR PENETRATING CONCRETE SHALL BE INSTALLED IN SCHEDULE 40 PVC CONDUIT.
13. THE INSTALLATION OF CHEMICAL ELECTROLYTIC GROUNDING SYSTEM IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. REMOVE SEALING TAPE FROM LEACHING AND BREATHER HOLES. INSTALL PROTECTIVE BOX FLUSH WITH GRADE.
14. DRIVE GROUND RODS UNTIL TOPS ARE A MINIMUM DISTANCE OF 36" DEPTH OR 6" BELOW FROST LINE, USING THE GREATER OF THE TWO DISTANCES.
15. IF COAX ON THE ICE BRIDGE IS MORE THAN 6 FT. FROM THE GROUND BAR AT THE BASE OF THE TOWER, A SECOND GROUND BAR WILL BE NEEDED AT THE END OF THE ICE BRIDGE, TO GROUND THE COAX CABLE GROUNDING KITS AND IN-LINE ARRESTORS
16. CONTRACTOR SHALL REPAIR, AND/OR REPLACE, EXISTING GROUNDING SYSTEM COMPONENTS DAMAGED DURING CONSTRUCTION AT THE CONTRACTORS EXPENSE.



PROJECT INFORMATION:  
**SITE NAME:**  
**FOUNTAIN CELL**  
**SITE ID:**  
**DN02728A**  
  
 S POWERS BLVD  
 & FONTAINE BLVD  
 EL PASO COUNTY

REV:	DATE:	DESCRIPTION:	BY:
A	01/12/24	PRELIMINARY	MEM



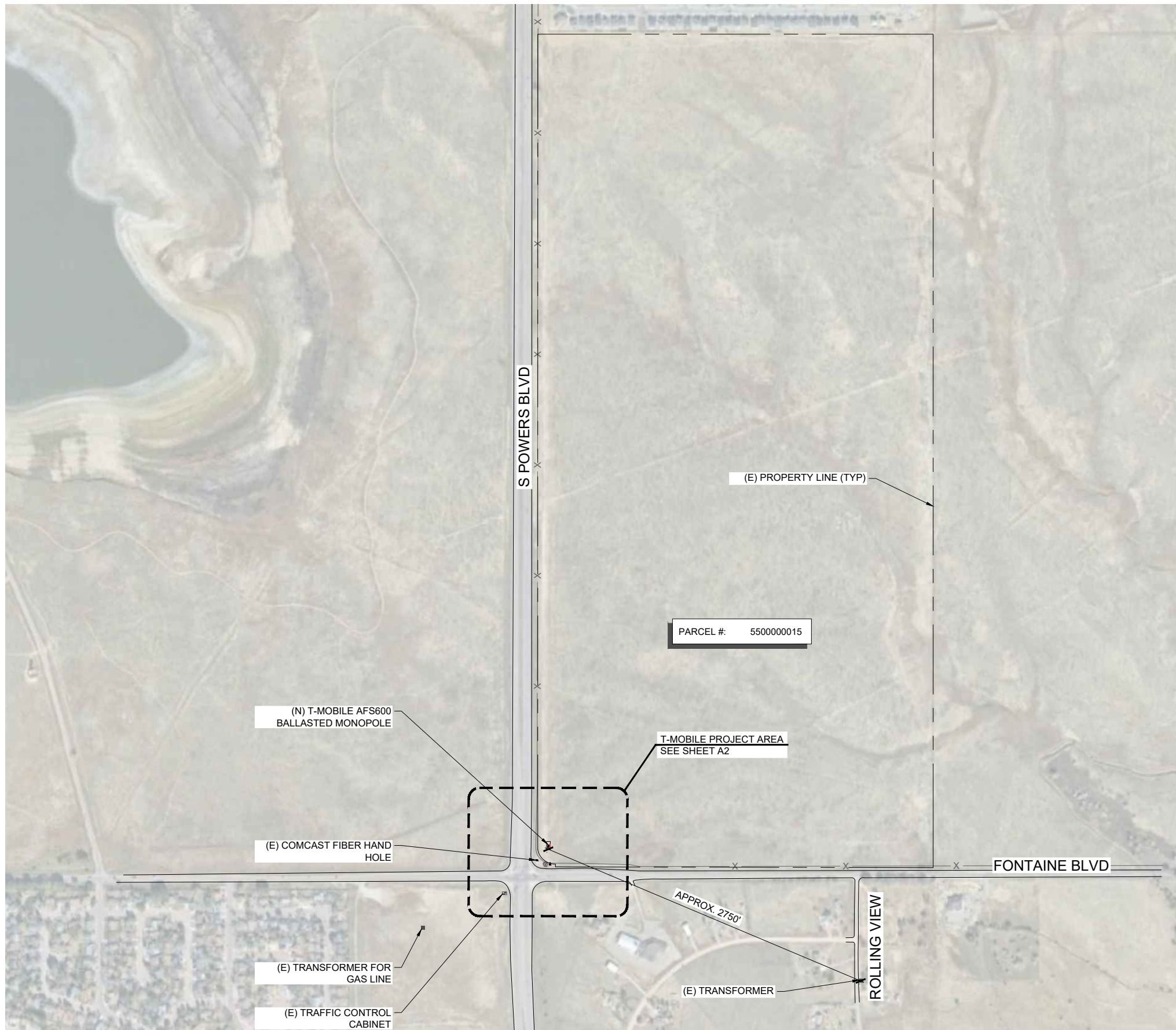
LICENSURE NO:  
  
 ALL SCALES ARE SET FOR 11"x17" SHEET

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MEM	ML	TA

SHEET TITLE:  
**GENERAL NOTES**

SHEET NUMBER:  
**GN1**





990 SOUTH BROADWAY, DENVER, CO 80209

PROJECT INFORMATION:  
**SITE NAME:**  
**FOUNTAIN CELL**  
**SITE ID:**  
**DN02728A**  
  
**S POWERS BLVD**  
**& FONTAINE BLVD**  
**EL PASO COUNTY**

REV:	DATE:	DESCRIPTION:	BY:
A	01/12/24	PRELIMINARY	MEM

PLANS PREPARED BY:

**UCI**<sup>2</sup>  
 CONSTRUCTION SERVICES, LLC  
 4751 FOX STREET, DENVER, CO 80216

LICENSURE NO:

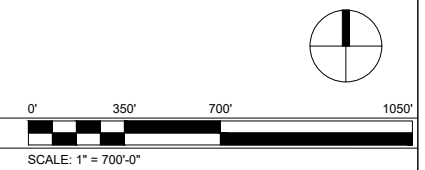
  
  
  

ALL SCALES ARE SET FOR 11"x17" SHEET

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MEM	ML	TA

SHEET TITLE:  
**OVERALL SITE PLAN**

SHEET NUMBER:  
**A1.0**



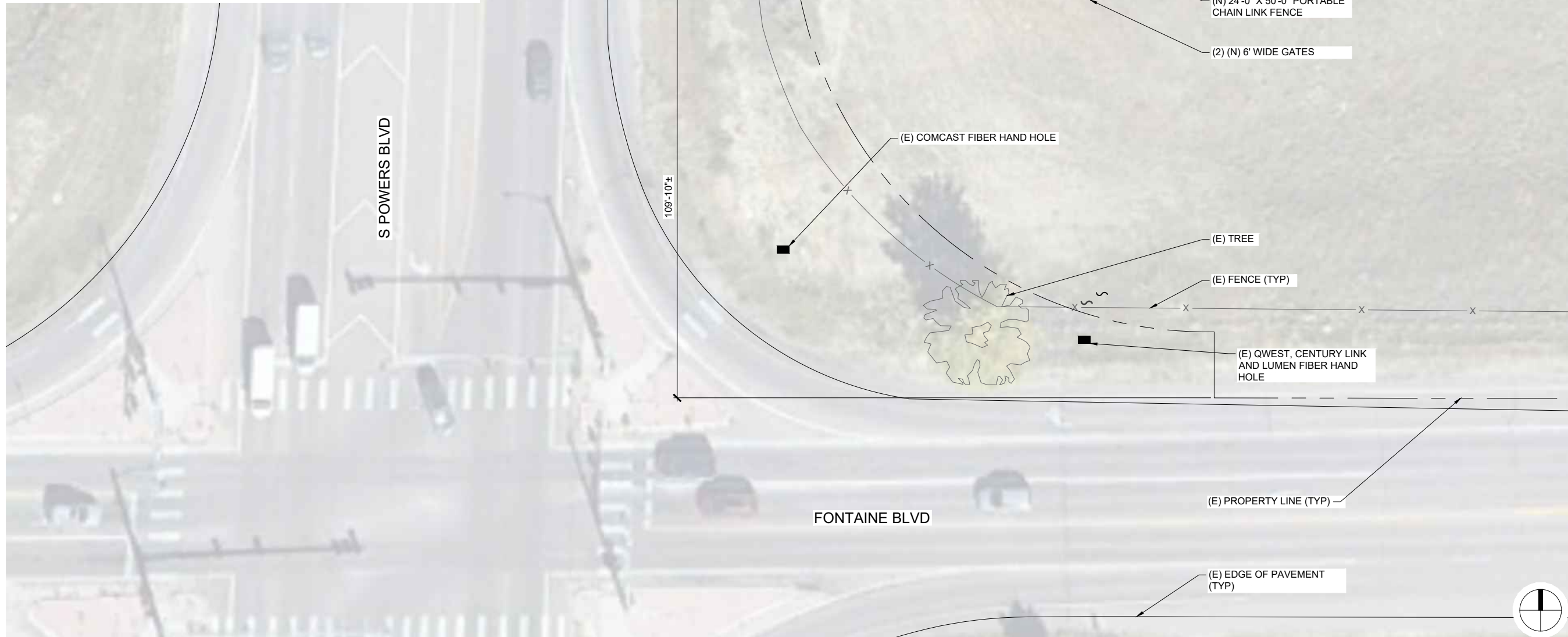


(N) 45'-0" X 70'-0" T-MOBILE  
TEMPORARY LEASE AREA RE: 1/A2

2 LEASE AREA PHOTO

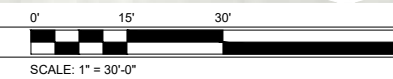
N.T.S.

NOTE:  
ACTUAL GROUND SURVEY WAS NOT PERFORMED FOR THIS SITE. THE SITE PLAN WAS  
DERIVED FROM PROVIDED DRAWINGS AND PHOTOS, GIS DATA, AND AERIAL IMAGES.



1 ENLARGED SITE PLAN

SCALE: AS NOTED



990 SOUTH BROADWAY, DENVER, CO 80209

PROJECT INFORMATION:

SITE NAME:  
**FOUNTAIN CELL**  
SITE ID:  
**DN02728A**

S POWERS BLVD  
& FONTAINE BLVD  
EL PASO COUNTY

REV:	DATE:	DESCRIPTION:	BY:
A	01/12/24	PRELIMINARY	MEM

PLANS PREPARED BY:



LICENSURE NO:

ALL SCALES ARE SET FOR 11"x17" SHEET

DRAWN BY:	CHK BY:	APV BY:
MEM	ML	TA

SHEET TITLE:

**ENLARGED  
SITE PLAN**

SHEET NUMBER:

**A2.0**



PROJECT INFORMATION:

SITE NAME:  
**FOUNTAIN CELL**  
SITE ID:  
**DN02728A**

S POWERS BLVD  
& FONTAINE BLVD  
EL PASO COUNTY

REV:	DATE:	DESCRIPTION:	BY:
A	01/12/24	PRELIMINARY	MEM

PLANS PREPARED BY:



LICENSURE NO:

ALL SCALES ARE SET FOR 11"x17" SHEET

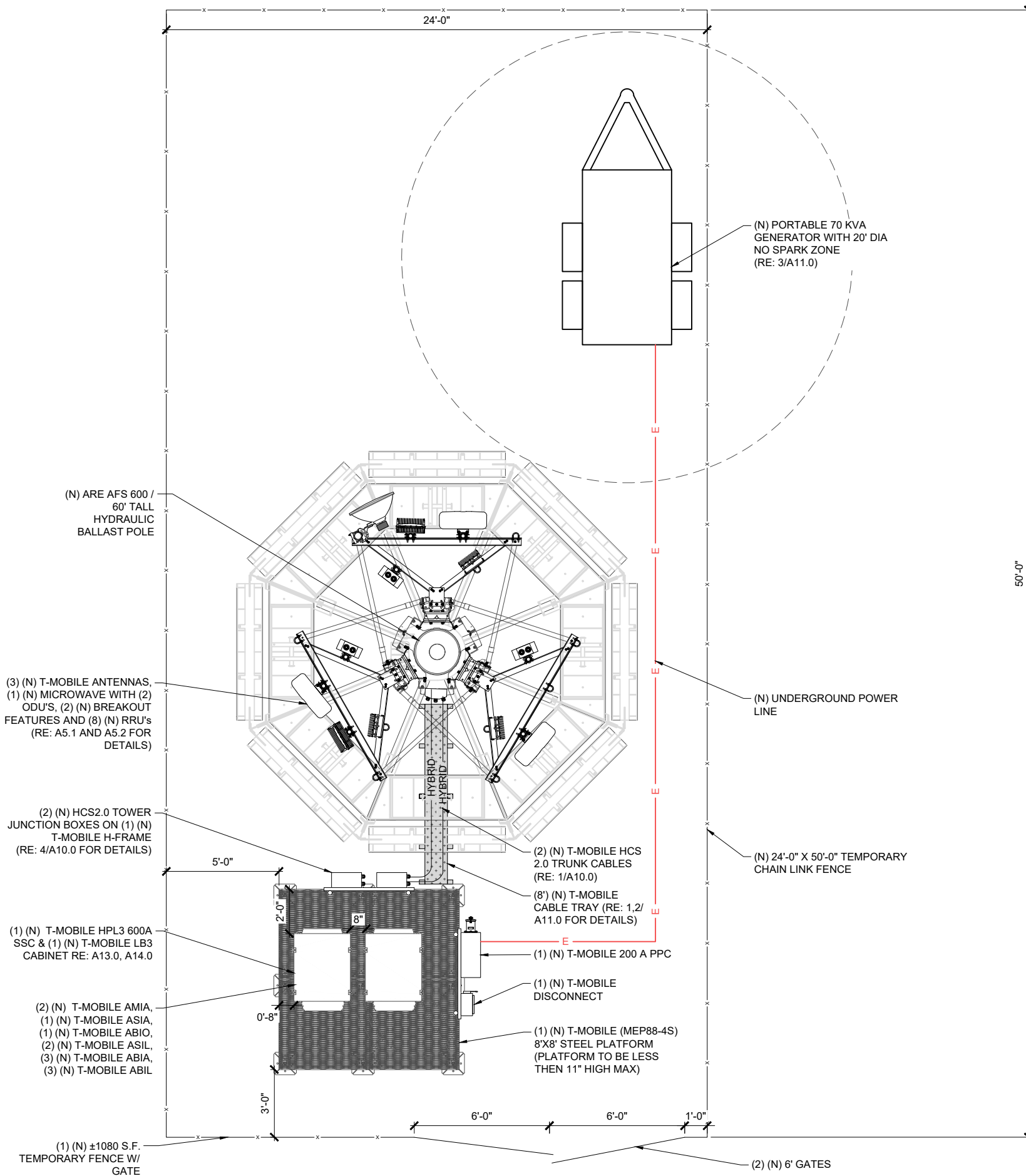
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MEM	ML	TA

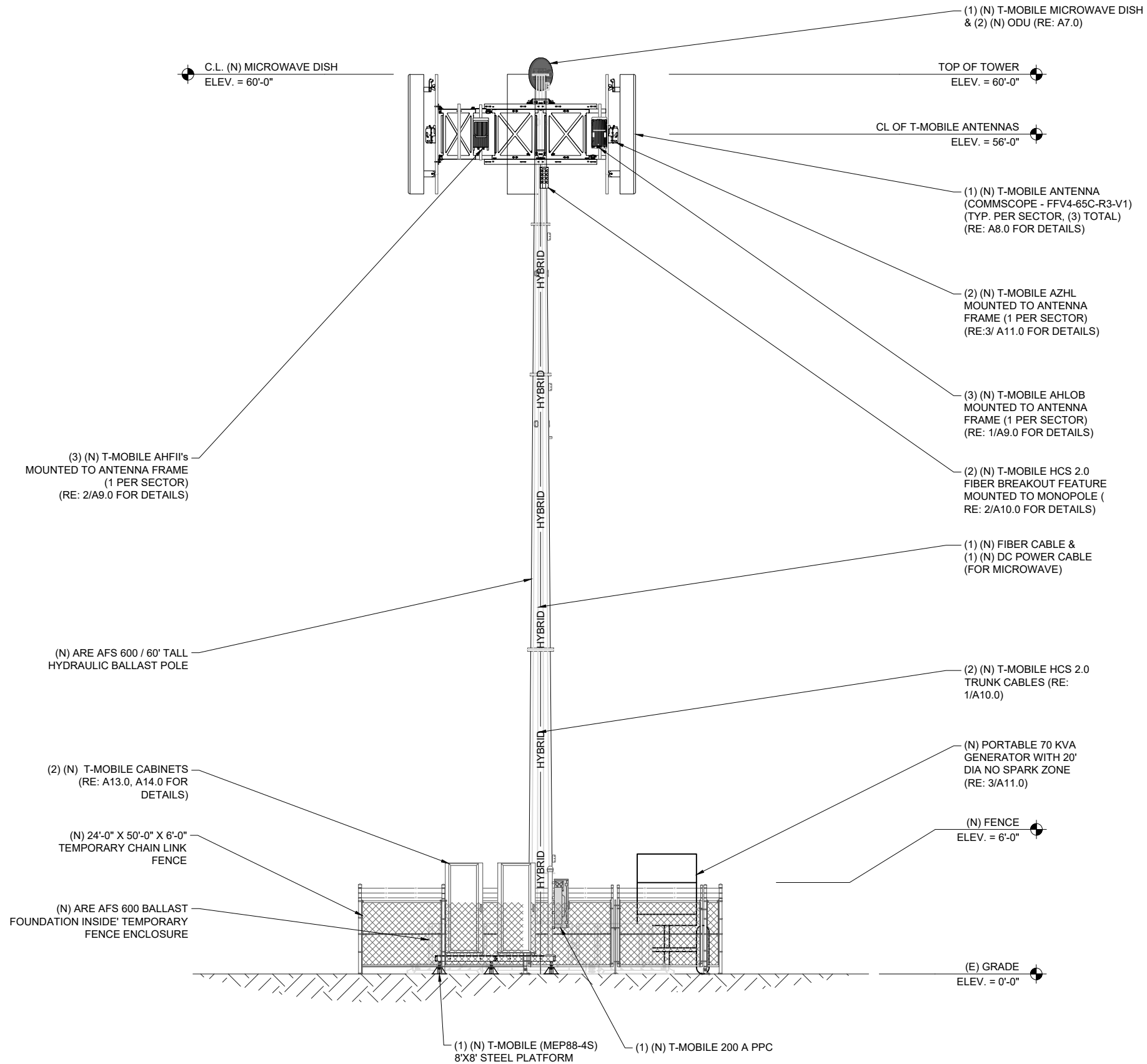
SHEET TITLE:

**EQUIPMENT PLAN**

SHEET NUMBER:

**A3.0**





PROJECT INFORMATION:

SITE NAME:  
**FOUNTAIN CELL**  
SITE ID:  
**DN02728A**  
  
S POWERS BLVD  
& FONTAINE BLVD  
EL PASO COUNTY

REV:	DATE:	DESCRIPTION:	BY:
A	01/12/24	PRELIMINARY	MEM

PLANS PREPARED BY:



LICENSURE NO:

ALL SCALES ARE SET FOR 11"x17" SHEET

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MEM	ML	TA

SHEET TITLE:

**ELEVATION**

SHEET NUMBER:

**A4.0**

ANTENNA NOTES:

- ANTENNA CONTRACTOR SHALL INSURE THAT ALL ANTENNA MOUNTING PIPES ARE PLUMB.
- FEEDLINE LENGTHS INDICATED ARE APPROXIMATE.
- ANTENNA COAXIAL FEEDERS & ANTENNA JUMPERS SHALL BE COLOR CODED PER T-MOBILE REQUIREMENTS.
- IN ADDITION TO THE COLOR CODE, THE FOLLOWING ANTENNA SECTOR COLOR STRIPE SHALL BE ADDED TO EACH ANTENNA SECTOR FEEDLINE & JUMPER.
- SEE SHEET A\_ FOR DETAILS
  - ALPHA - RED STRIPE
  - BETA - BLUE STRIPE
  - GAMMA - WHITE STRIPE
  - DELTA - GREEN STRIPE
  - EPSILON - GRAY STRIPE
  - ZETA - BROWN STRIPE
  - HYBRID - GRAY STRIPE
- MULTI PORT ANTENNAS: TERMINATE UNUSED ANTENNA PORTS WITH CONNECTOR CAP & WEATHERPROOF THOROUGHLY. JUMPERS FROM TMAs MUST TERMINATE TO OPPOSITE POLARIZATIONS IN EACH SECTOR.
- CONTRACTOR MUST FOLLOW ALL MANUFACTURERS' RECOMMENDATIONS REGARDING THE INSTALLATION OF FEEDLINES, CONNECTORS, AND ANTENNAS.
- MINIMUM BEND RADIUS:
  - LDF4-50A (1/2" HARD LINE) = 5"
  - FSJ4-50B (1/2" SUPER FLEX) = 1 1/4"
  - AVA5-50A (7/8" HARD LINE) = 10"
  - AVA7-50A (1-5/8" HARD LINE) = 15"
  - LDF7-50A (1-5/8" HARD LINE) = 20"
- CONTRACTOR SHALL RECORD THE SERIAL #, SECTOR, AND POSITION OF EACH ACTUATOR INSTALLED AT THE ANTENNAS AND PROVIDE THE INFORMATION TO T-MOBILE.
- WEATHERPROOF ALL ANTENNA CONNECTORS WITH SELF AMALGAMATING TAPE.
- ANTENNA CONTRACTOR SHALL PERFORM A "TAPE DROP" MEASUREMENT TO CONFIRM/ VALIDATE ANTENNA CENTERLINE (ACL) HEIGHT. CONTRACTOR SHALL SUBMIT A COMPLETED HEIGHT VERIFICATION FORM TO THE CONSTRUCTION MANAGER.
- ALL FIBER RUNS CONTAINED IN ONE COMMSCOPE HYBRID DC-FIBER CABLE (MODEL# HCS 2.0 TRUNK CABLE 12#6AWG24 SM FIBER PR) FROM LOWER JUNCTION BOX TO UPPER JUNCTION BOX, HYBRID CABLE SHALL BE COLOR CODED PER T-MOBILE REQUIREMENTS.

1 ANTENNA NOTES

EQUIPMENT PAD / EQUIPMENT KEY

STATUS	LOCATION	VENDOR	EQUIPMENT	MODEL NUMBER	TECH.	QTY.
(N)	RACK	NOKIA	TRANSPORT SYSTEM	CSR IXRe V2 (GEN2)	-	1
(E)	RACK	NOKIA	SYSTEM MODULE	ASIA	L600/L700/L1900 /2100	1
(N)	RACK	NOKIA	SYSTEM MODULE	ASIL	N600/N1900/ N2500	2
(N)	RACK	NOKIA	SYSTEM MODULE	ABIA	L600 / L700 L1900 / L2100	3
(N)	RACK	NOKIA	SYSTEM MODULE	ABIL	N600/N1900 N2100 (DARK)	3
(N)	RACK	NOKIA	SYSTEM MODULE	ABIO	N2500	1
(N)	RACK	NOKIA	SYSTEM MODULE	AMIA	-	2
(N)	RACK	CERAGON	IDU	IP20D-HP11-80X-A_4501	MICROWAVE	1
(N)	H-FRAME	NOKIA	FIBER J-BOX	HCS 2.0 TOWER JUNCTION BOXS	-	2
(N)	H-FRAME	NOKIA	VOLTAGE BOOSTER	-	-	1

NOTES:  
 - INFORMATION PER RFDS DATED: 11/30/23  
 CONTRACTOR TO REFER TO MOST RECENT RFDS BY T-MOBILE PRIOR TO COMMENCING WORK.

2 ANTENNA AND EQUIPMENT SCHEDULES

ANTENNA KEY

STATUS	ANTENNA NUMBER	AZIMUTH	ANTENNA CENTERLINE AGL	ANTENNA VENDOR	MODEL NUMBER	BEAM WIDTH	MECH. DOWNTILT	ELEC. DOWNTILT	TECH.	FEEDER	
										(QTY) SIZE	COLOR CODE
(N)	A1	0	56'-0"	COMMSCOPE	FFV4-65C-R3-V1	65°	0°	6° / 3°	N600/L700/L600/N2500 /N1900/L1900/L2100/N2100(DARK)	(8) 1/2" COAX CABLES FOR EACH ANTENNA	RED STRIPE
(N)	B1	130°	56'-0"	COMMSCOPE	FFV4-65C-R3-V1	65°	0°	6° / 3°	N600/L700/L600/N2500 /N1900/L1900/L2100/N2100(DARK)	(8) 1/2" COAX CABLES FOR EACH ANTENNA	BLUE STRIPE
(N)	C1	230°	56'-0"	COMMSCOPE	FFV4-65C-R3-V1	65°	0°	6° / 3°	N600/L700/L600/N2500 /N1900/L1900/L2100/N2100(DARK)	(8) 1/2" COAX CABLES FOR EACH ANTENNA	WHITE STRIPE
(N)	M1	26.22°	60'-0"	ANDREW	VHLP2-11WA	-	-	-	BACKHAUL	80' ARMORED LC/LC FO CABLE 80' 2X14 AWG OUTDOOR DC CABLE	

TOWER EQUIPMENT KEY

STATUS	LOCATION	VENDOR	EQUIPMENT	MODEL NUMBER	TECH.	QTY.
(N)	TOWER	CERAGON	MICROWAVE	FRU-D	-	1
(N)	H-FRAME	NOKIA	RRU	AZHL	N2500	2
(N)	H-FRAME	NOKIA	RRU	AHFII	L1900 / L2100 N1900/N2100 (DARK)	3
(N)	H-FRAME	NOKIA	RRU	AHLOB	N600/L600/L700	3

EQUIPMENT FEEDLINE KEY

STATUS	LOCATION	VENDOR	EQUIPMENT	MODEL NUMBER	TECH.	QTY.
(N)	-	COMMSCOPE	HYBRID TRUNK CABLE	15' HCS 2.0 HYBRID TRUNK CABLE 12#6AWG24-SM-FIBER-PR	-	2
(N)	-	COMMSCOPE	HYBRID JUMPER	15' HCS 2.0 JUMPER CABLE 2#6AWG-2-PR-AIRSCALE	-	8
(N)	-	COMMSCOPE	MICROWAVE	80' ARMORED LC/LC FO CABLE 80' 2X14 AWG OUTDOOR DC CABLE		



PROJECT INFORMATION:

SITE NAME:  
**FOUNTAIN CELL**  
 SITE ID:  
**DN02728A**

S POWERS BLVD  
 & FONTAINE BLVD  
 EL PASO COUNTY

REV:	DATE:	DESCRIPTION:	BY:
A	01/12/24	PRELIMINARY	MEM

PLANS PREPARED BY:



LICENSURE NO:

ALL SCALES ARE SET FOR 11"x17" SHEET

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MEM	ML	TA

SHEET TITLE:

**ANTENNA AND EQUIPMENT SCHEDULES**

SHEET NUMBER:

**A5.1**

PROJECT INFORMATION:

SITE NAME:  
**FOUNTAIN CELL**  
SITE ID:  
**DN02728A**

S POWERS BLVD  
& FONTAINE BLVD  
EL PASO COUNTY

REV:	DATE:	DESCRIPTION:	BY:
A	01/12/24	PRELIMINARY	MEM

PLANS PREPARED BY:



LICENSURE NO:

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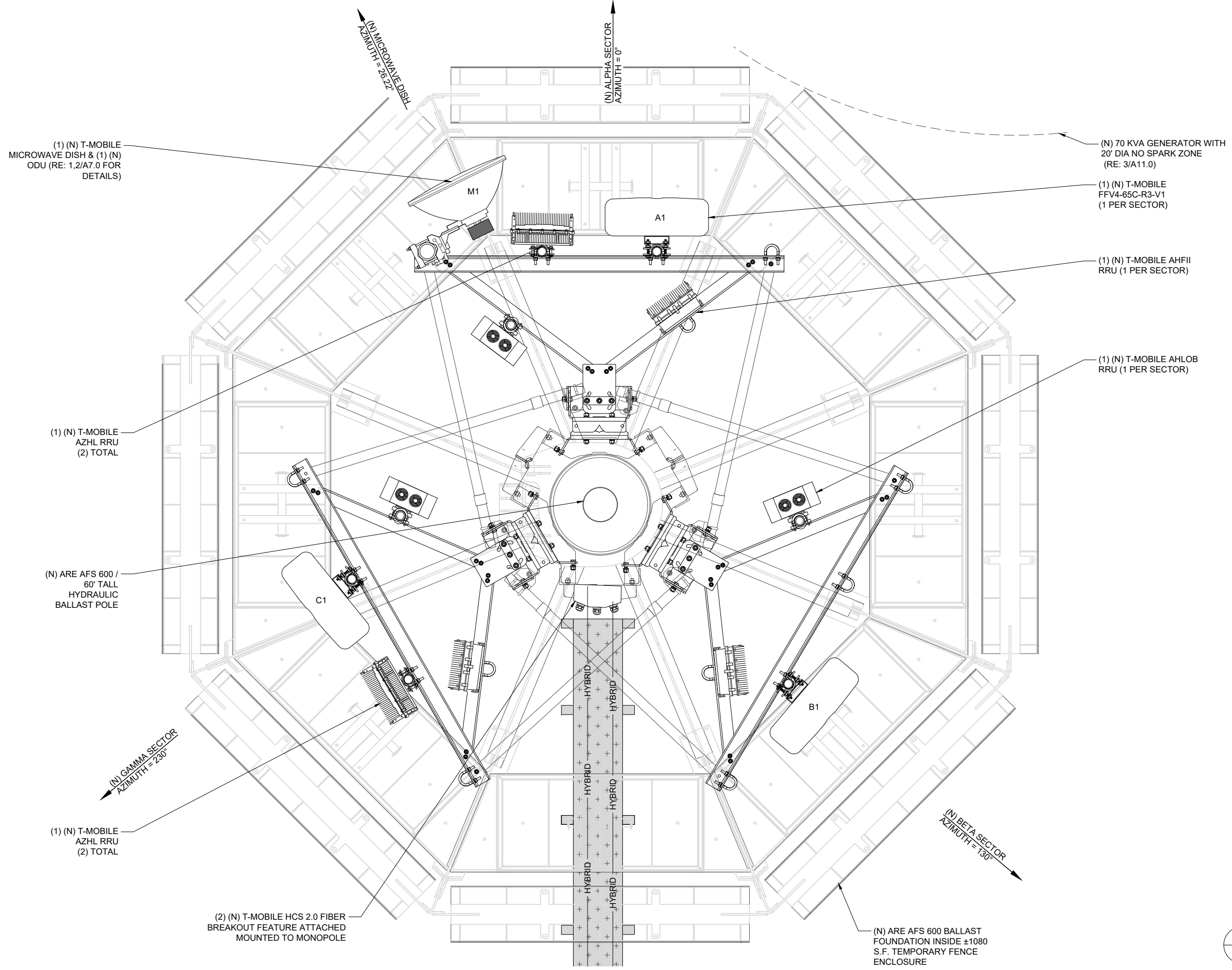
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MEM	ML	TA

SHEET TITLE:

**ANTENNA  
PLAN**

SHEET NUMBER:



**A5.2**





NOTE:  
THIS SITE MEETS OSHA COMPLIANCE FOR FIELD OPERATIONS TO ACCESS BTS EQUIPMENT ON THE GROUND. ALPHA, BETA, & GAMMA SECTOR RADIOS AND ANTENNA'S ARE ACCESSIBLE BY TOWER CREW ONLY.

GC NOTE: ALL HOLES LARGER THAN 2"X2" ARE REQUIRED TO BE COVERED BY THE GC WITH A STEEL PLATE.

LEGEND	
	6' UNPROTECTED WALK ZONE
	3' SAFETY PATH TO EQUIPMENT



990 SOUTH BROADWAY, DENVER, CO 80209

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S POWERS BLVD  
& FONTAINE BLVD  
EL PASO COUNTY

REV:	DATE:	DESCRIPTION:	BY:
A	01/12/24	PRELIMINARY	MEM

PLANS PREPARED BY:



4751 FOX STREET, DENVER, CO 80216

LICENSURE NO:

ALL SCALES ARE SET FOR 11"x17" SHEET

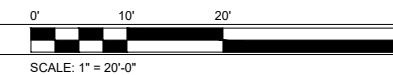
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MEM	ML	TA

SHEET TITLE:

**SAFETY PLAN**

SHEET NUMBER:

**A6.0**



PROJECT INFORMATION:

SITE NAME:  
**FOUNTAIN CELL**  
 SITE ID:  
**DN02728A**

S POWERS BLVD  
 & FONTAINE BLVD  
 EL PASO COUNTY

REV:	DATE:	DESCRIPTION:	BY:
A	01/12/24	PRELIMINARY	MEM

PLANS PREPARED BY:



LICENSURE NO:

ALL SCALES ARE SET FOR 11"x17" SHEET

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MEM	ML	TA

SHEET TITLE:

**EQUIPMENT  
 DETAILS**

SHEET NUMBER:

**A7.0**

# VHLP2-11W/A



0.6 m | 2 ft ValuLine® High Performance Low Profile Antenna, single-polarized, 10.000–11.700 GHz

## Product Classification

**Product Type** Microwave antenna  
**Product Brand** ValuLine®

## General Specifications

**Antenna Type** VHLP - ValuLine® High Performance Low Profile Antenna, single-polarized  
**Polarization** Single  
**Side Struts, Included** 0  
**Side Struts, Optional** 0

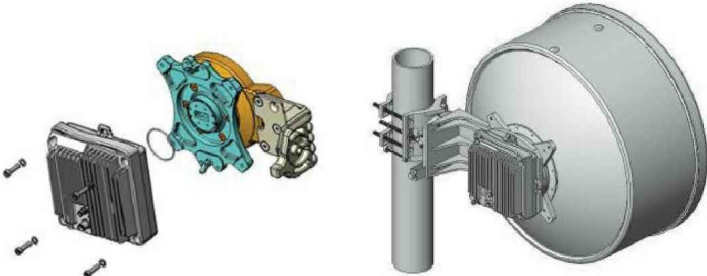
## Dimensions

**Diameter, nominal** 0.6 m | 2 ft

## Electrical Specifications

**Operating Frequency Band** 10.000 – 11.700 GHz  
**Gain, Low Band** 33.7 dBi  
**Gain, Mid Band** 34.5 dBi  
**Gain, Top Band** 35.2 dBi  
**Boresite Cross Polarization Discrimination (XPD)** 30 dB  
**Front-to-Back Ratio** 61 dB  
**Beamwidth, Horizontal** 3.3 °  
**Beamwidth, Vertical** 3.3 °  
**Return Loss** 17.7 dB  
**VSWR** 1.3  
**Radiation Pattern Envelope Reference (RPE)** 7200A | 7201A

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CERAGON ODU RFU-D	
DIMENSIONS	WEIGHT
9"H, 9.2"W 3.9"D	14.3 LBS

**1 ODU SPECIFICATIONS**

SCALE: N.T.S.



CERAGON IDU IP-20A	
DIMENSIONS	WEIGHT
(1RU) 1.75"H, 17.5"W, 9.6"D	11.3 LBS

**2 IDU SPECIFICATIONS**

SCALE: N.T.S.

**3 ANTENNA SPECIFICATIONS**

SCALE: N.T.S.

# FFV4-65C-R3-V1

**CommScope—Proprietary and Confidential. Preliminary specifications are for illustrative purposes only and will be updated prior to publication.**



12-port sector antenna, 4x 617-894 and 8x 1695-2690 MHz, 65° HPBW, 3x RET

## Electrical Specifications

Frequency Band, MHz	617-698	698-894	1695-1880	1850-1990	1920-2200	2300-2500	2500-2690
Gain, dBi	15.7	16.3	17.7	18.1	18.6	18.7	19.2
Beamwidth, Horizontal, degrees	64	62	62	61	61	60	60
Beamwidth, Vertical, degrees	10.4	8.6	5.6	5.3	5.0	4.3	4.0
Beam Tilt, degrees	2-13	2-13	2-12	2-12	2-12	2-12	2-12
USLS (First Lobe), dB	18	17	19	18	20	19	19
Front-to-Back Ratio at 180°, dB	29	32	33	31	30	30	31
Isolation, Cross Polarization, dB	25	25	25	25	25	25	25
Isolation, Inter-band, dB	28	28	28	28	28	28	28
VSWR   Return Loss, dB	1.5   14.0	1.5   14.0	1.5   14.0	1.5   14.0	1.5   14.0	1.5   14.0	1.5   14.0
PIM, 3rd Order, 2 x 20 W, dBc	-150	-153	-153	-153	-153	-153	-153
Input Power per Port at 50°C, maximum, watts	250	250	200	200	200	200	150
Polarization	±45°	±45°	±45°	±45°	±45°	±45°	±45°
Impedance	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm	50 ohm

## Electrical Specifications, BASTA\*

Frequency Band, MHz	617-698	698-894	1695-1880	1850-1990	1920-2200	2300-2500	2500-2690
Gain by all Beam Tilts, average, dBi	15.5	15.8	17.3	17.7	18.0	18.3	18.6
Gain by all Beam Tilts Tolerance, dB	±0.4	±0.5	±0.5	±0.5	±0.6	±0.6	±0.7
Gain by Beam Tilt, average, dBi	2°   15.3 7°   15.6 13°   15.5	2°   15.7 7°   16.0 13°   15.6	2°   17.2 6°   17.4 12°   17.2	2°   17.6 6°   17.8 12°   17.6	2°   17.7 6°   18.1 12°   18.1	2°   18.2 6°   18.6 12°   18.1	2°   18.4 6°   18.8 12°   18.3
Beamwidth, Horizontal Tolerance, degrees	±3	±5	±4.4	±4.8	±5.7	±6.9	±10
Beamwidth, Vertical Tolerance, degrees	±0.6	±1.1	±0.3	±0.3	±0.4	±0.3	±0.2
USLS, beampeak to 20° above beampeak, dB	18	13	13	14	16	15	14
Front-to-Back Total Power at 180° ± 30°, dB	22	22	27	26	24	25	24
CPR at Boresight, dB	17	16	20	20	18	16	16
CPR at Sector, dB	9	8	6	5	4	5	7

\* CommScope® supports NGMN recommendations on Base Station Antenna Standards (BASTA). To learn more about the benefits of BASTA, [download the whitepaper Time to Raise the Bar on BSAs](#).

# FFV4-65C-R3-V1

RET Interface, quantity 1 female | 1 male

## Packed Dimensions

Length	2590.0 mm   102.0 in
Width	752.0 mm   29.6 in
Depth	380.0 mm   15.0 in
Shipping Weight	86.5 kg   190.7 lb

## Regulatory Compliance/Certifications

Agency	Classification
RoHS 2011/65/EU	Compliant by Exemption
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system
China RoHS SJ/T 11364-2014	Above Maximum Concentration Value (MCV)



## Included Products

**BSAMNT-4** — Wide Profile Antenna Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor top bracket set and one bottom bracket set.

**BSAMNT-M4** — Middle Downtilt Mounting Kit for Long Antennas for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor bracket set.

## \* Footnotes

**Performance Note** Severe environmental conditions may degrade optimum performance



990 SOUTH BROADWAY, DENVER, CO 80209

### PROJECT INFORMATION:

**SITE NAME:**  
FOUNTAIN CELL  
**SITE ID:**  
DN02728A

S POWERS BLVD  
& FONTAINE BLVD  
EL PASO COUNTY

REV:	DATE:	DESCRIPTION:	BY:
A	01/12/24	PRELIMINARY	MEM

### PLANS PREPARED BY:



4751 FOX STREET, DENVER, CO 80216

### LICENSURE NO:

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MEM	ML	TA

### SHEET TITLE:

**EQUIPMENT  
DETAILS**

### SHEET NUMBER:

**A8.0**



PROJECT INFORMATION:

SITE NAME:  
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S POWERS BLVD  
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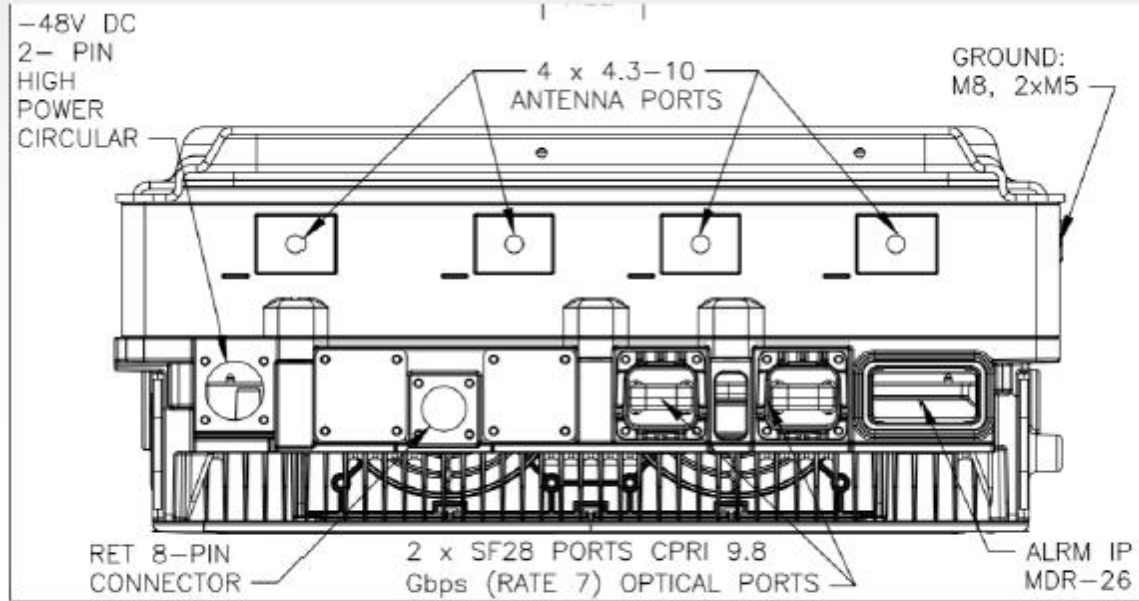
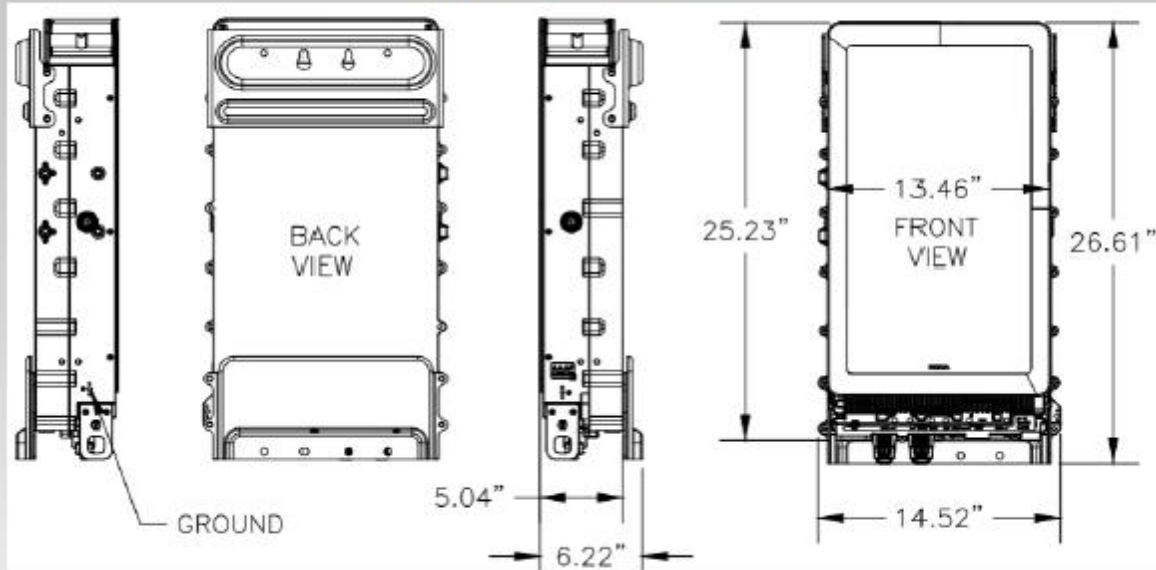
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 DETAILS**

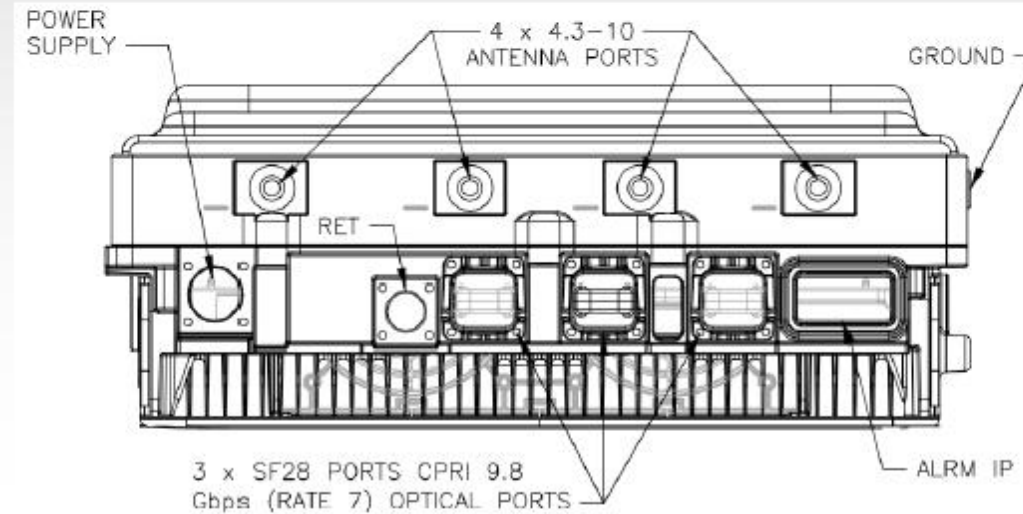
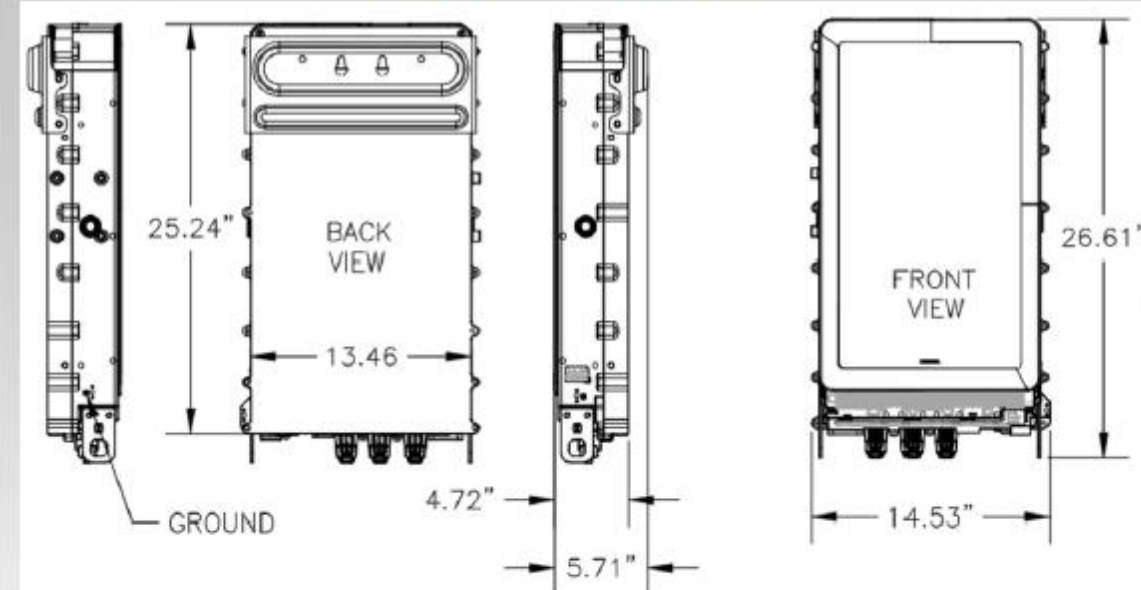
SHEET NUMBER:

**A9.0**

**AHLOB (SKU 34630)**

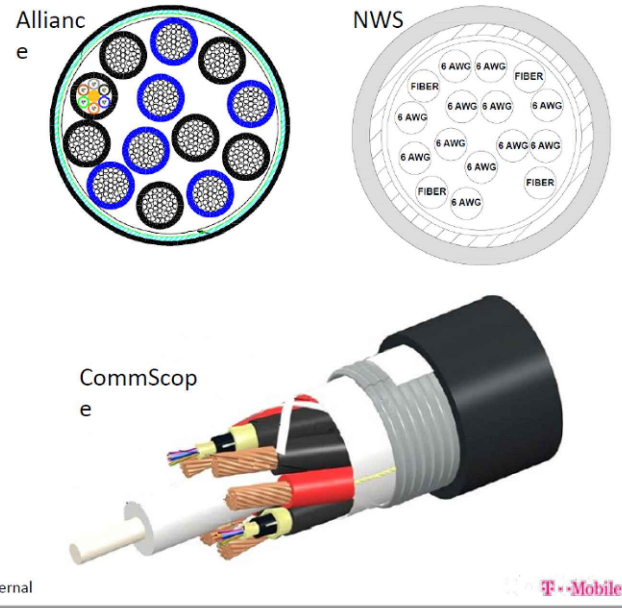


**AHFII (SKU 34577)**



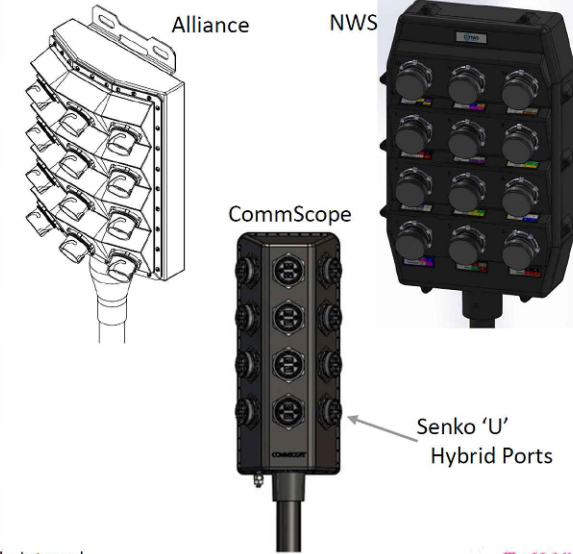
# Trunk Cable General Specifications

Characteristics	Alliance	CommScope	NWS
Outer Diam.	1.46"	1.55"	1.48"
Weight	1.61 lb/ft	1.71 lb/ft	1.61 lb/ft
Min. Bend Rad	14.6"	18.6"	21.5"
DC Conductors	12 x 6AWG	12 x 6AWG	12 x 6AWG
Armor	Corrugated Cu	Corrugated Al	Cu tape, PVC
Conductor Termination	None	None	None
Single-Mode Fibers	48	48	48
Fiber Termination	LC pair	LC pair	LC pair



# Breakout Feature General Specifications

Characteristics	Alliance	CommScope	NWS
Dimensions, in.	9.3x14.9x5.8	6.7x16.9x4.7	10.2x16.0x3.2
Weight	1.61 lb/ft	0.970 lb/ft	1.61 lb/ft
Port Interface	Senko U	Senko U	Senko U
Hybrid Ports	12	12	12
Conductor Termination	None	None	None
Single Mode Fibers	48	48	48
Fiber Termination	LC pair	LC pair	LC pair
Max RRU	12	12	12



PROJECT INFORMATION:  
**SITE NAME:**  
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 DN02728A  
 S POWERS BLVD  
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 EL PASO COUNTY

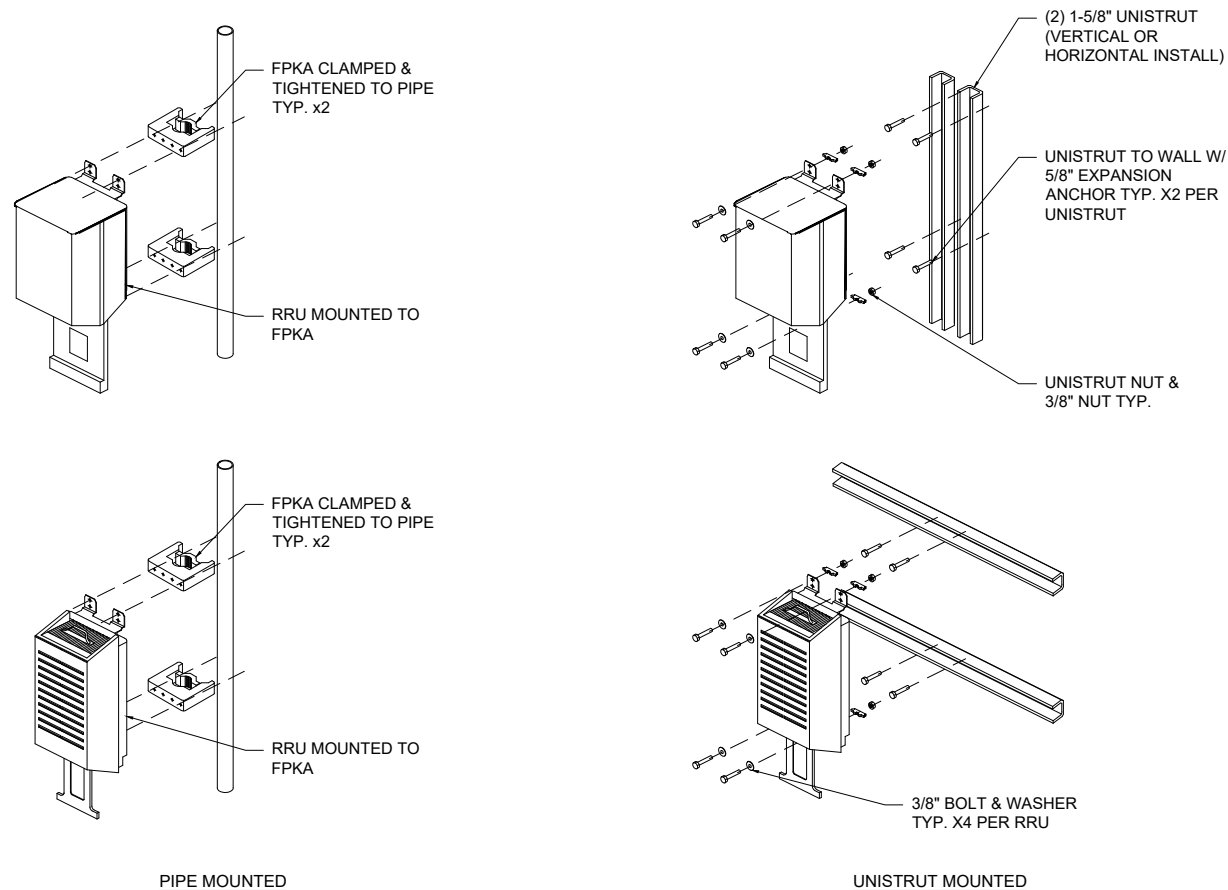
REV:	DATE:	DESCRIPTION:	BY:
A	01/12/24	PRELIMINARY	MEM

## 1 HCS 2.0 TRUNK CABLE SPECIFICATIONS

SCALE: N.T.S.

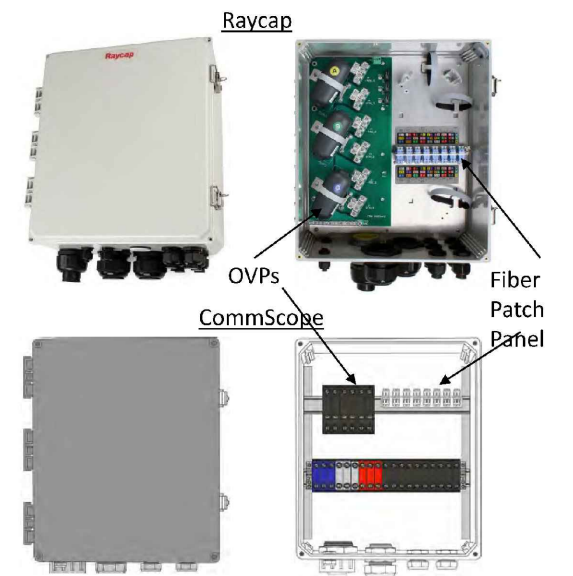
## 2 HCS 2.0 FIBER BREAKOUT FEATURE SPECIFICATIONS

SCALE: N.T.S.



# Bottom Junction Box General Specifications

Characteristics	CommScope	Raycap
Dimensions	14"x16"x8"	14"x16"x8"
Weight	23.5 lb	21.9 lb
OVP, IEC 61643-1	24"	Class I SPD (3)
UL Rating		1449, 4 <sup>th</sup> Ed.
OVP Monitoring	Dry contact	Dry contact
Fiber Patch Panel	24 LC pairs	24 LC pairs
Environmental Rating	IP67	IP66
Operating Temperature	-40 °C to +75 °C	-40 °C to +80 °C



Slide / 14

T-Mobile Internal

T-Mobile

## 3 RRU MOUNTING DETAIL

SCALE: N.T.S.

## 4 HCS 2.0 BOTTOM JUNCTION BOX SPECIFICATIONS

SCALE: N.T.S.

PLANS PREPARED BY:



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Qty: 1

Add to Cart

SKU: LT-VSS-06-A  
Size: 6"

Description

- LT-VSS-06-A • Cable Tray Covers.
- Straight Aluminum Ladder Cable Tray Covers.
- 6" x 12' • Covers are two 6' pieces.

1 CABLE TRAY COVER OR APPROVED EQUAL FROM CM

SCALE: N.T.S.

AZHL AirScale RRH 8T8R B41 320W  
Technical data

Specification	Details
Standard	3GPP compliant, TDD
Band / Frequency range	N41/B41 2496 - 2690MHz
Max. supported modulation	256 QAM
Number of TX/RX paths	8T / 8R
Instantaneous bandwidth IBW	194 MHz
Occupied bandwidth OBW	190 MHz
Max. output power per TRX	40 W / TRX (320 W total)
Dimensions	350 mm (H) x 395 mm (W) x 190 mm (D)
Volume	26.3 l
Weight	23 kg (without mounting bracket)
Supply voltage / Connector type	DC -36 V ... -60 V / 2 pole connector
Power consumption	559 W typical (75% DL duty cycle, ETSI 24H Average) 1140 W max (75% DL duty cycle, 100% RF load)
Antenna ports, Calibration port	8 x 4.3-10, 1 x 4.3-10
ALD Control Interfaces	Control AISG2.0/3.0,
Optical ports	2 x SFP28, 9.8G CPRI, 10/25GE eCPRI (Octis Boot)
Other interfaces / Connector type	External Alarms / MDR26,
Operational temperature range	-40 °C ... +55 °C
Cooling	Natural convection cooling
Installation options	Pole, Wall, Book
Ingress / Surge protection	IP65, DC-port Class II +/- 5kA
Supported RAT	TD-LTE, NR

4 © 2018 Nokia. The functionality described herein is provided for informational purposes only and does not indicate a committed status. Feature content and delivery is subject to a separate agreement between Nokia and T-Mobile

AirScale High Power RRH benefits

- Connectivity with AirScale BBU (via CPRI/eCPRI) – Initial release with CPRI
- Beamforming capable 8T8R with 8x 40 W
- Various operating modes: 8T8R, 2x 4T4R and 4x 2T2R
- Deployment flexibility for different use cases with multiple mounting options

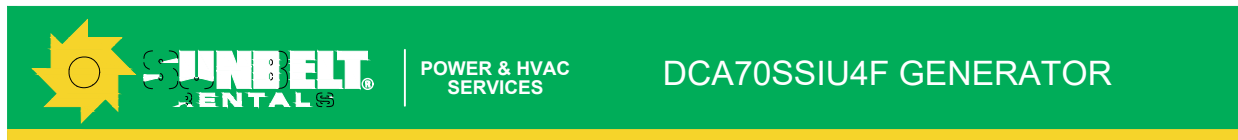


AZHL 475432A

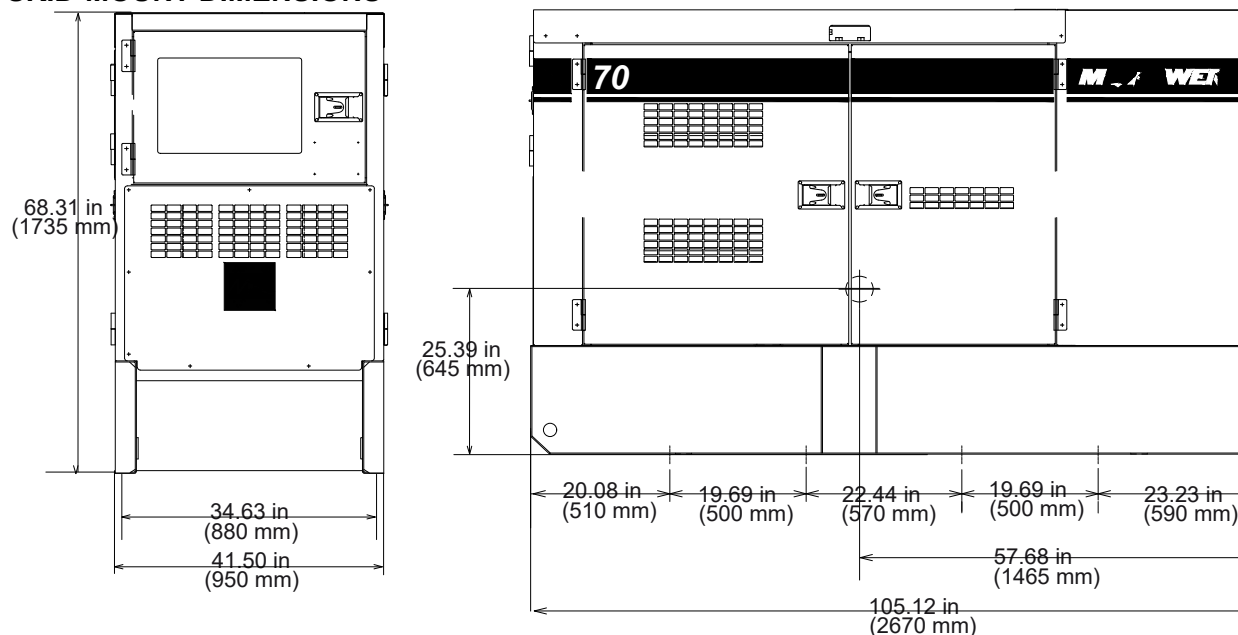
NOKIA

2 RRU SPECIFICATIONS (AZHL)

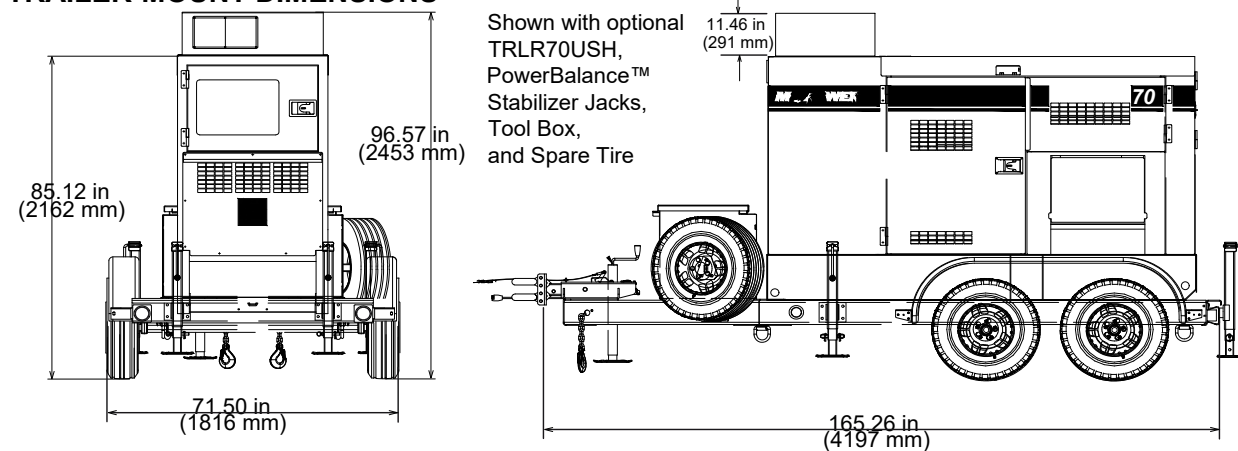
SCALE: N.T.S.



SKID-MOUNT DIMENSIONS



TRAILER-MOUNT DIMENSIONS



DCA70SSIU4F Weights\*

Dry Weight	3,326 lbs. (1,509 kg)
Wet Weight	4,207 lbs. (1,908 kg)
Max. Lifting Point Capacity	6,960 lb. (3,157 kg)

\* Weights do not include options.

DCA70SSIU4F and TRLR70US Weights\*

Dry Weight (with TRLR75XF2)	4,415 lbs. (2,003 kg)
Wet Weight (with TRLR75XF2)	5,296 lbs. (2,402 kg)

Generator can be placed on MQ Trailer Models TRLR70US and TRLR75XF2.

Features and Specifications are subject to change without notice.

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DCA70SSIU4F Rev. #6 (10/16/19)



3 GENERATOR DETAIL

SCALE: N.T.S.



990 SOUTH BROADWAY, DENVER, CO 80209

PROJECT INFORMATION:

SITE NAME:  
FOUNTAIN CELL  
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DN02728A

S POWERS BLVD  
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EL PASO COUNTY

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Figure: AMIA AirScale Subrack (factory default)

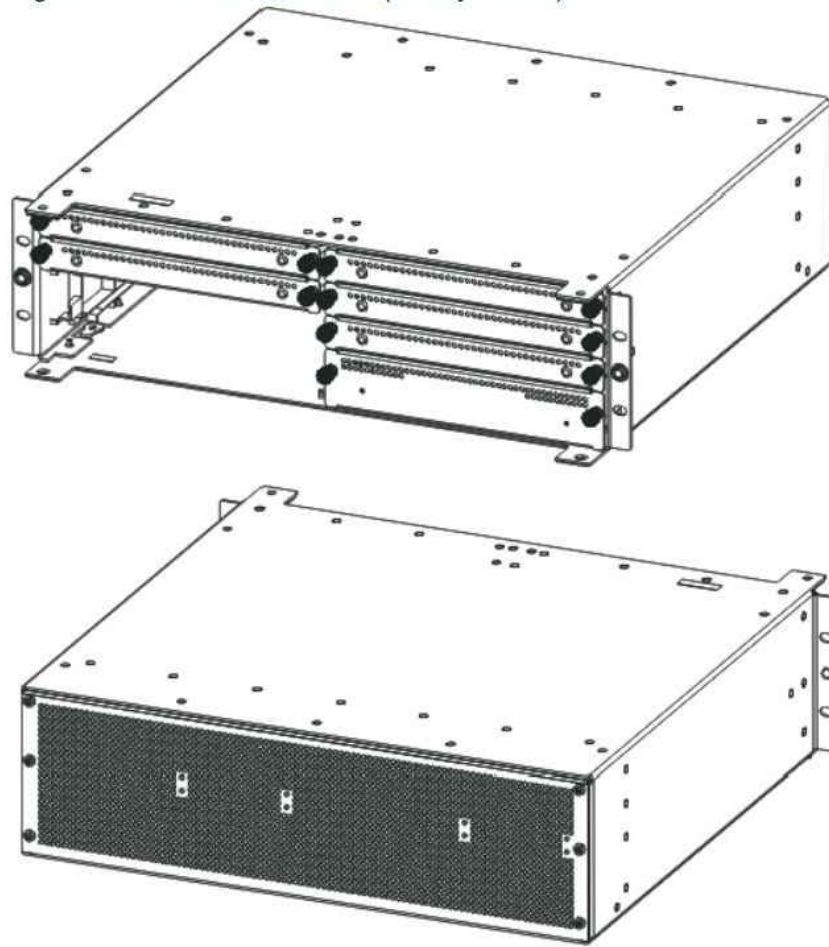


Table: AMIA dimensions and weight

Property	Value	Dimensions orientation
Height	128.5 mm (5.1 in.)	
Depth	400 mm (15.7 in.)	
Width	447 mm (17.6 in.)	

Property	Value	Dimensions orientation
Weight	Empty: 5.1 kg (11.2 lb)	
	With dummy panels: 6.8 kg (15 lb)	
	With all units: 23.9 kg (52.7 lb)	

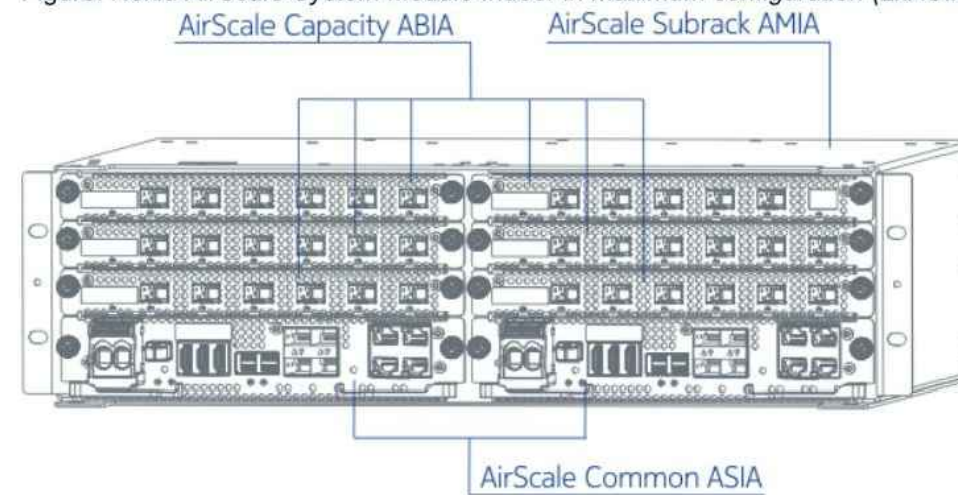
For more information, see the *Nokia AirScale Base Station Product Description* document.

### Nokia AirScale System Module Indoor

Nokia AirScale System Module Indoor consists of the following items:

- One Nokia AirScale Subrack (AMIA), including backplane for high bandwidth connectivity between processing plug-in units
- One or two Nokia AirScale Common (ASIA) plug-in units for transport interfacing and for centralized processing
- Up to six Nokia AirScale Capacity (ABIA) plug-in units for baseband processing and for optical interfaces with radio units

Figure: Nokia AirScale System Module Indoor in maximum configuration (2xASIA, 6xABIA)



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**Specifications**

**Model HPL3 (HP-Large 3 Power Cabinet)**

1. General	
Construction	Aluminum enclosure
Dimensions (W x H x D)	30 x 72 x 34.6 in. (762 x 1829x 879mm), Depth with Door/Hatch: 44.7 in. (1136mm)
Weight	~595 lbs (~270kg) (without customer equipment or batteries)
Total Equipment space 30RU:	
Internal rack dimension	Horizontal rack: 19" x 27RU Vertical rack: 19" x 3RU Power System space: 23" x 12RU
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. IP 55
Protection class	designed to GR-487
Acoustics	65dBA @5000W heat load , 70dBA @ 6000W
Humidity (relative)	95%, non-condensing (Max.)
3. Thermal Management	
Cooling Equipment:	Direct Air Cooling, 6000W capacity, 5°C delta T
Heating Equipment:	Forced air heating (2) 1000W AC heaters
4. Equipment	
Cable entry	Knock-out plate on each upper side wall / Additional knockouts on sides (1) 3" conduit hole with hole plug
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
AC Load Center:	
240V split phase, dual feed / (1) 200A + (1)100A	
208V 3-phase, single feed / (1) 200A	
AC Surge Protection for each breaker feed	
GFCI Receptacle 120V	
Temp Probes	
Standard equipment	(6 form-C) Alarm Termination block 605A/ 54V (336kW) redundant Power System with DIN rail distribution: 12 rectifier positions (3x55A DPR3000 rectifiers included) 48 poles for load (2x10A, 3x50A, and 6x100A load breakers included) 16 poles for battery (2) SB350 / (2) SB175 Battery connections (3) SB350 Generator connections
Front Door:	(6) DC powered centrifugal fans with (3) MERV-13 filters, (GORE option) Clogged Filter alarm pressure switch Door intrusion alarm (2) 1000W AC powered heaters LED interior cabinet light
Rear Hatch:	Exhaust vent with (3) MERV-13 filters, (GORE option)
5. Ordering information	
Cabinet	ESOA600-HCU01 HP-Large 3 600A Power / Equipment Cabinet
Rectifier	ESR48/60A A-T 48V / 56A 3000W, 96.4%, CAN communication
Controller (Spare)	TPS1020028AU17 Orion TOUCH Controller
Plinth, 6"	37993318816900-S Plinth for V1/V2, HPL2, HPL3, LB2 and LB3

\*All specifications are subject to change without prior notice

Delta Group Website:  
[www.deltaww.com](http://www.deltaww.com)

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**HP-Large 3 Power Cabinet**

**Product Features**

Compact design for equipment & power:

- 30RU supports 3 radios and transport equipment
- 600A @ -48V power system
- Slimline high efficiency rectifier
- ORION Touch screen Controller
- Rear Access Hatch

Direct air-cooling solution, 6000W capacity, 5°C delta T

Easy slide-in filter replacement

Connects with:

- SB3, 2-string battery cabinet
- LB3, 4-string battery cabinet
- V2, Expansion equipment and battery cabinet

Designed to GR-487 specifications

[www.deltaww.com](http://www.deltaww.com)







### Specifications

**Model LB3 (Large Battery 3 Cabinet)**

1. General	
Construction	Aluminium enclosure
Dimensions (W x H x D)	30 x 72 x 35 in. (381 x 1829x 889mm), Depth with Door: 41.2 in. (1047mm)
Weight	~540 lbs (~245kg) (without batteries)
Internal rack dimension	4 battery trays to support up to 4 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 1/4"-20 threaded holes on 5/8" center ground bar
Lifting Ears	4 Lifting Tabs
Plinth	Optional 6" plinth available
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 (4) 200A bolt in battery breakers
Standard equipment	(4) 2-hole lug landings,(2 output/2 input from second battery cabinet) Temp Probes Battery Trays: (4) battery trays (4) -48V battery strings (210Ah max each)
Connection kit:	(1) DC 10A Breaker supplied (install onto HPL3 Power Cabinet) LED interior cabinet light
Front Door:	(2) DC powered Axial fans with (1) F5 Filters Door intrusion alarm (1) 1000W AC powered heaters
5. Ordering information	
Cabinet	ESOF015-ECV04 Large Battery 3 (LB3) Cabinet
Plinth, 6"	37993318816900-S Plinth for V1/V2, HPL2, HPL3, LB2 and LB3

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

**Delta Group Website:**  
[www.deltaww.com](http://www.deltaww.com)

**Product Website:**  
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# Large Battery 3 Cabinet

## Product Features

Compact design for battery strings:

- Direct air cooling solution
- Supports four strings of -48V VRLA batteries up to 210Ah
- 600A rated bus bar with 200A 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

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