

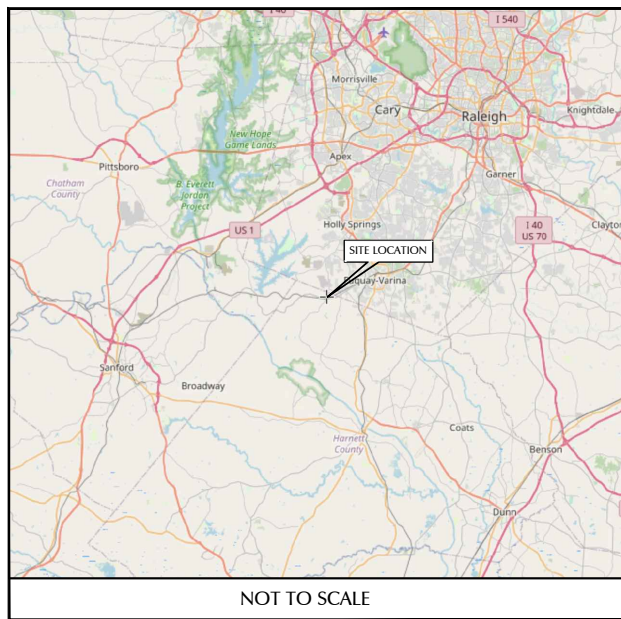
### PROJECT SUMMARY

SITE NAME:	UTILITY SERVICES HOLLY SPRINGS		
SITE NUMBER:	5RA0965A		
SITE ADDRESS:	6908 COKESBURY RD HOLLY SPRINGS, NC 27540		
COUNTY:	HARNETT COUNTY		
STRUCTURE OWNER:	HARNETT REGIONAL WATER 700 MCKINNEY PARKWAY LILLINGTON, NC 27546		
STRUCTURE MANAGER:	UTILITY SERVICE COMMUNICATIONS 535 GENERAL COURTNEY HODGES BLVD PO BOX 1350 PERRY, GA 31069		
SITE COORDINATES:	1A		
LATITUDE:	35° 33' 51.699" N	(NAD 83)	
LONGITUDE:	78° 52' 15.4986" W	(NAD 83)	
ELEVATION:	TBD	(NAVD 88)	
OCCUPANCY:	UNMANNED		
CONSTRUCTION TYPE:	COLOCATE		
TELEPHONE COMPANY:	TBD		
POWER COMPANY:	DUKE ENERGY PHONE: (800) 777-9898		
POLICE DEPARTMENT:	HOLLY SPRINGS POLICE DEPARTMENT PHONE: (919) 552-7110		



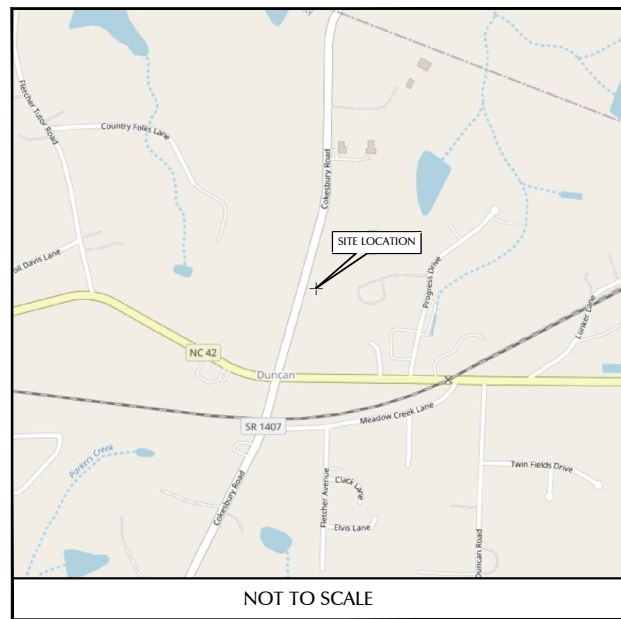
**SITE NUMBER: 5RA0965A**  
**SITE NAME: UTILITY SERVICES HOLLY SPRINGS**  
**6908 COKESBURY RD**  
**HOLLY SPRINGS, NC 27540**

### VICINITY MAP



NOT TO SCALE

### LOCATION MAP



NOT TO SCALE

### DRIVING DIRECTIONS

#### FROM CHARLOTTE, NC:

MERGE ONTO I-77 N/US-21 N. USE THE RIGHT 2 LANES TO TAKE EXIT 13A TO MERGE ONTO I-85 N TOWARD GREENSBORO. KEEP LEFT AT THE FORK TO STAY ON I-85 N. TAKE EXIT 126A-126B TO MERGE ONTO US-421 S TOWARD SANFORD. KEEP LEFT TO STAY ON US-421 S. TAKE EXIT 148 FOR COLON RD. TURN RIGHT ONTO COLON RD. TURN RIGHT ONTO RIDDLE RD. TURN RIGHT ONTO LOWER MONCURE RD. TURN LEFT ONTO LICK CREEK RD. TURN LEFT ONTO POPLAR SPRINGS CHURCH RD. CONTINUE STRAIGHT ONTO NC-42 E. TURN LEFT ONTO COKESBURY RD. DESTINATION WILL BE ON THE RIGHT.

### PROJECT TEAM

**SURVEYOR:**  
 NAME: N/A  
 ADDRESS: N/A  
 CONTACT: N/A  
 PHONE: N/A

**CARRIER:**  
 NAME: T-MOBILE  
 ADDRESS: T.B.D.  
 CONTACT: T.B.D.  
 PHONE: T.B.D.

**A&E ENGINEER:**  
 NAME: TELECAD WIRELESS SITE DESIGN  
 ADDRESS: 1961 NORTHPOINT BLVD. SUITE 130  
 HIXSON, TN 37343  
 CONTACT: FLOYD WHITE  
 PHONE: (615) 268-3557

**GEOTECHNICAL/SOILS ENGINEERING:**  
 NAME: N/A  
 ADDRESS: N/A  
 CONTACT: N/A  
 PHONE: N/A

### SHEET INDEX

NO.	DESCRIPTION
T1	TITLE SHEET
T2	APPENDIX B - BUILDING CODE SUMMARY
GN1	GENERAL NOTES
C1	OVERALL SITE PLAN
C2	ENLARGED SITE PLAN
C3	EQUIPMENT PAD FOUNDATION DETAILS
C3A	GENERATOR DETAILS
C4	STRUCTURE ELEVATION & ANTENNA PLAN
C4A	MOUNT DETAILS
C4B	MOUNT DETAILS
C4C	MOUNT DETAILS
C4D	MOUNT DETAILS
C5	SITE DETAILS
C6	CABINET DETAILS
C6A	CABINET DETAILS
C7	ICE BRIDGE & EQUIPMENT DETAILS
E1	OVERALL ELECTRICAL SITE PLAN
E1A	ENLARGED ELECTRICAL SITE PLAN
E2	EQUIPMENT GROUNDING PLAN
E3	ELECTRICAL SPECIFICATIONS NOTES
E4	ELECTRICAL DETAILS
E5	GROUNDING DETAILS
E6	ELECTRICAL DETAILS
E6A	ONE LINE DIAGRAM & PANEL SCHEDULE
E6B	EQUIPMENT H-FRAME RACK DETAIL
E7	GROUNDING SINGLE LINE

### CODE COMPLIANCE

- UNIFORM BUILDING CODE.
- BUILDING OFFICIALS & CODE ADMINISTRATORS (BOCA)
- UNIFORM MECHANICAL CODE.
- INTERNATIONAL BUILDING CODE (IBC)
- ANSI/EIA-222-G LIFE SAFETY CODE NFPA-101.
- UNIFORM PLUMBING CODE.
- NATIONAL ELECTRIC CODE.
- LOCAL BUILDING CODE.
- CITY/COUNTY ORDINANCES



**CALL 811 OR (800) 632-4949**

CONTRACTOR TO CALL NORTH CAROLINA ONE-CALL SYSTEMS AT LEAST (2) WORKING DAYS PRIOR TO DIGGING.

### SHEET SCALE FACTOR:

PLOT SIZE:  
 11"x17": "TO SCALE"  
 24"x36": 2X SCALE AS NOTED



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 HIXSON, TN 37343  
 PH: 423-843-9500  
 FAX: 423-843-9509

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A&E PROJECT #:	N/A
DRAWN BY:	BNS
CHECKED BY:	DLS

### REVISIONS

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Δ	12/15/2021	PRELIMINARY REVIEW



### APPROVALS

	SIGNATURE	DATE
LICENSOR'S PROJECT MANAGER:	_____	_____
LICENSEE PROJECT MANAGER:	_____	_____

**APPROVED**  
 By David Everspaugh at 5:15 pm, Jan 26, 2022

### STRUCTURAL REVIEW

CONTRACTOR SHALL ATTAIN AND VERIFY STRUCTURAL EVALUATION REPORT OF EXISTING TOWER FOR EXACT PLACEMENT OF ANTENNAS AND COAX CABLES. CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE STRUCTURAL EVALUATION REPORT AND NOTIFY SIGNAL POINT CONSTRUCTION MANAGER IN THE CASE OF ANY DISCREPANCIES. ANY STRUCTURAL MODIFICATION, IF REQUIRED, SHALL BE DONE PRIOR TO THE INSTALLATION OF ANTENNAS.

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### PROJECT No.

N/A

SITE NAME:  
**UTILITY SERVICES  
 HOLLY SPRINGS**

SITE NUMBER:  
**5RA0965A**

SITE ADDRESS:  
**6908 COKESBURY RD  
 HOLLY SPRINGS, NC 27540**

DESIGN TYPE:  
**COLOCATE**

SHEET TITLE:  
**TITLE SHEET**

DRAWING NO.      REVISION:

**T1**                      **0**





## GENERAL NOTES

1. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL APPLICABLE PERMITTING AUTHORITIES.
2. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND THE CODES, REGULATIONS, AND STANDARDS OF ALL APPLICABLE GOVERNING AUTHORITIES.
3. THE GENERAL CONTRACTOR SHALL VERIFY THAT ALL EXISTING TOPOGRAPHY AND HORIZONTAL GEOMETRY IS AS INDICATED ON THESE DRAWINGS. NO ADDITIONAL COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR DAMAGE OR REPAIR TO THESE FACILITIES CAUSED BY THE CONTRACTOR'S WORK FORCE. IMMEDIATELY NOTIFY THE LESSEE'S CONSTRUCTION MANAGER OF ANY DISCREPANCIES OR INTERFERENCE WHICH AFFECT THE WORK OF THIS CONTRACT.
4. THE CONTRACTOR SHALL MAINTAIN ADEQUATE DRAINAGE AT ALL TIMES. DO NOT ALLOW WATER TO STAND OR POND. ANY DAMAGE TO STRUCTURES OR WORK ON THE SITE CAUSED BY INADEQUATE MAINTENANCE OF DRAINAGE PROVISIONS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND ANY COST ASSOCIATED WITH REPAIRS FOR SUCH DAMAGE WILL BE AT THE CONTRACTOR'S EXPENSE.
5. ALL WASTE MATERIAL SHALL BE PROPERLY DISPOSED OF OFF-SITE OR AS DIRECTED BY THE LESSEE'S CONSTRUCTION MANAGER AND IN ACCORDANCE WITH JURISDICTIONAL AUTHORITIES.
6. ANY PROPERTY DAMAGE CAUSED BY THE CONTRACTOR OR HIS OPERATIONS SHALL BE CORRECTED AND/OR RESTORED TO THE SATISFACTION OF THE PROPERTY OWNER(S) AND THE LESSEE'S CONSTRUCTION MANAGER AT NO ADDITIONAL COST TO THE OWNER.
7. CONTRACTOR SHALL MAINTAIN 20' HORIZONTAL CLEARANCE FROM CENTERLINE OF EXISTING POWER LINES OR AS REQUESTED BY THE POWER COMPANY.
8. NOTIFY THE LESSEE'S REPRESENTATIVES TWENTY-FOUR HOURS PRIOR TO CONSTRUCTION TO ALLOW THE LESSEE'S REPRESENTATIVES TO LOOK AT THE SITE PRIOR TO EXCAVATION.
9. THE CONTRACTOR SHALL INCLUDE ALL WORK REQUIRED TO CO-LOCATE ON THE EXISTING TOWER INCLUDING ALL NECESSARY SITE IMPROVEMENTS, FOUNDATIONS, ELECTRICAL IMPROVEMENTS, SNAP INS, H-FRAME, AND OTHER ACCESSORIES FOR COMPLETE INSTALLATION.
10. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF THE FOLLOWING EQUIPMENT THAT WILL BE SUPPLIED BY THE LESSEE: ANTENNAS, COAX CABLES, ICE BRIDGE, WAVEGUIDE LADDER, METER, AND EQUIPMENT CABINETS/SHELTER. THE EQUIPMENT CABINETS/SHELTER SHALL BE TRANSPORTED TO THE SITE BY THE CONTRACTOR.
11. ALL CONCRETE SHALL BE NORMAL WEIGHT AND SHALL CONFORM TO THE ACI 301 AND THE FOLLOWING:
  - MINIMUM COMPRESSION STRENGTH 3,000 PSI
  - AIR ENTRAPMENT RANGE 3% TO 6%
  - SLUMP GREATER THAN 3", BUT NOT TO EXCEED 6".
12. CONTRACTOR TO NOTIFY THE LESSEE'S TESTING REPRESENTATIVE FORTY-EIGHT HOURS BEFORE CONCRETE POURS.

13. CONTRACTOR TO PROVIDE RED LINE CONSTRUCTION DRAWINGS TO TOWER OWNER AND LESSEE AT COMPLETION OF JOB.

## UTILITY NOTES

1. APPLY FOR THE UTILITY SERVICE (ELECTRIC) NO LATER THAN THE NEXT BUSINESS DAY FOLLOWING AWARD OF CONTRACT. COORDINATE WITH THE ELECTRIC UTILITY COMPANY FOR EXACT TRANSFORMER LOCATION, METERING REQUIREMENTS, AND SERVICE ROUTING. COORDINATE WITH THE TELEPHONE UTILITY COMPANY FOR EXACT TELEPHONE REQUIREMENTS AND ROUTING OF SERVICE.
2. ALL UTILITY RELATED WORK SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE UTILITY REQUIREMENTS. FIELD VERIFY EXISTING UTILITY LOCATIONS PRIOR TO CONSTRUCTION.
3. THE CONTRACTOR SHALL CONTACT UTILITIES AND LOCATOR SERVICE A MINIMUM OF 72 HOURS PRIOR TO THE START OF CONSTRUCTION.
4. CONTRACTOR SHALL PROVIDE TRENCHING AND CONDUITS AS SHOWN OR AS REQUIRED BY LOCAL UTILITY.
5. NO PENETRATIONS TO THE TOWER FOUNDATION OF ANY KIND.

## LEGEND

<u>EXISTING</u>		<u>NEW</u>
X 100.5	SPOT ELEVATION	712.9
— 95 —	CONTOUR LINE	— 98 —
— SD —	STORM DRAIN	— SD —
[Grid Symbol]	CATCH BASIN	
— RW —	RIGHT OF WAY	
●	IRON PIN SET (IPS) 5/8" REBAR	
◎	IRON PIN FOUND (IPF)	
⊕	BENCHMARK	
□	CONCRETE MON. FOUND	
■	CONCRETE MON. SET	
— CL —	CENTERLINE	
— OHT —	OVERHEAD TELEPHONE	
— UGT —	UNDERGROUND TELEPHONE	
— OHP —	OVERHEAD POWER	
— UGP —	UNDERGROUND POWER	
⊘	UTILITY POLE	
⊙	LIGHT POLE	
— W —	WATER LINE	
[Valve Symbol]	WATER VALVE	
— UGC —	NATURAL GAS LINE	
G	GAS VALVE	
— ST —	SANITARY SEWER	
Ⓜ	MANHOLE	

NOTE: THIS IS A GENERAL LEGEND. SOME ITEMS MAY NOT APPLY TO THIS SITE.

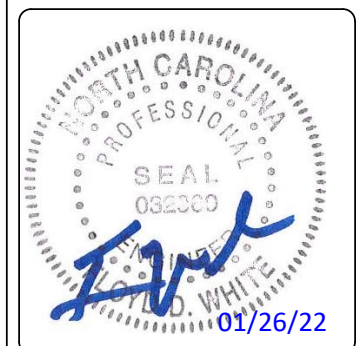


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SITE NUMBER:	5RA0965A
SITE ADDRESS:	6908 COKESBURY RD HOLLY SPRINGS, NC 27540
DESIGN TYPE:	COLOCATE

SHEET TITLE:	GENERAL NOTES
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DRAWING NO.	REVISION:
<b>GN1</b>	<b>0</b>



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PROJECT No. N/A

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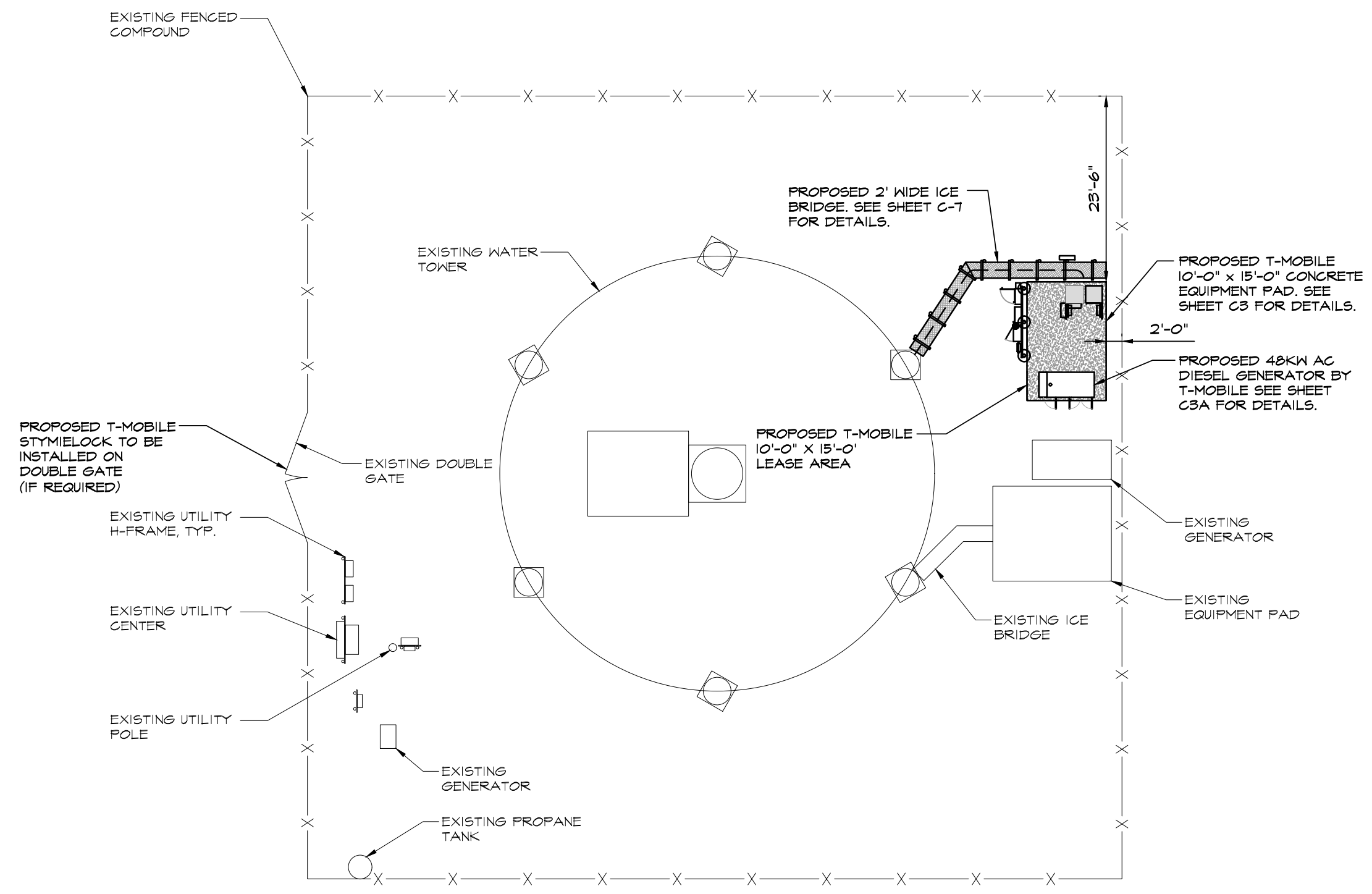
SITE NUMBER: 5RA0965A

SITE ADDRESS: 6908 COKESBURY RD  
 HOLLY SPRINGS, NC 27540

DESIGN TYPE: COLOCATE

SHEET TITLE: OVERALL SITE PLAN

DRAWING NO.	REVISION:
<b>C1</b>	<b>0</b>



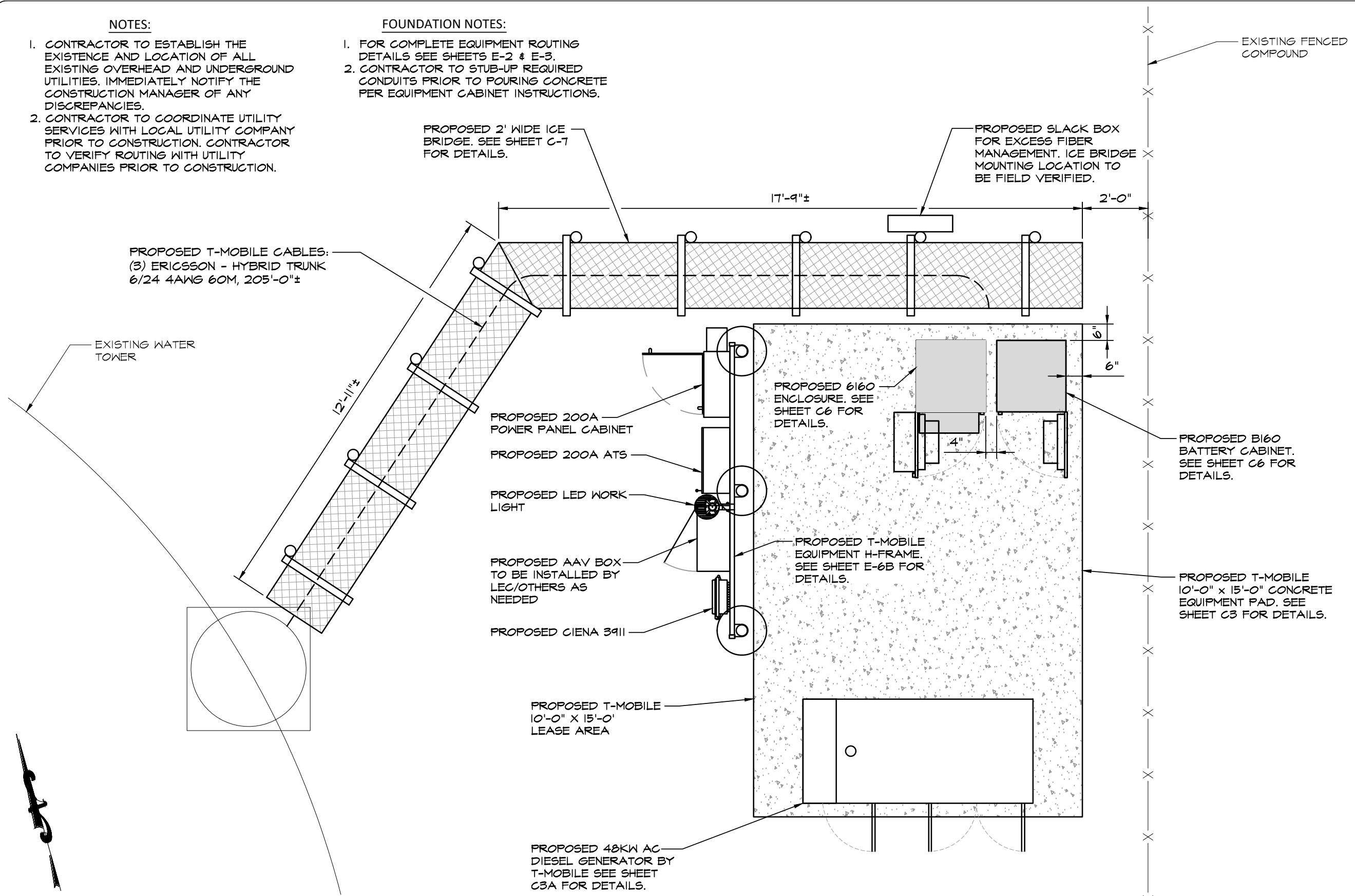


**NOTES:**

1. CONTRACTOR TO ESTABLISH THE EXISTENCE AND LOCATION OF ALL EXISTING OVERHEAD AND UNDERGROUND UTILITIES. IMMEDIATELY NOTIFY THE CONSTRUCTION MANAGER OF ANY DISCREPANCIES.
2. CONTRACTOR TO COORDINATE UTILITY SERVICES WITH LOCAL UTILITY COMPANY PRIOR TO CONSTRUCTION. CONTRACTOR TO VERIFY ROUTING WITH UTILITY COMPANIES PRIOR TO CONSTRUCTION.

**FOUNDATION NOTES:**

1. FOR COMPLETE EQUIPMENT ROUTING DETAILS SEE SHEETS E-2 & E-3.
2. CONTRACTOR TO STUB-UP REQUIRED CONDUITS PRIOR TO POURING CONCRETE PER EQUIPMENT CABINET INSTRUCTIONS.

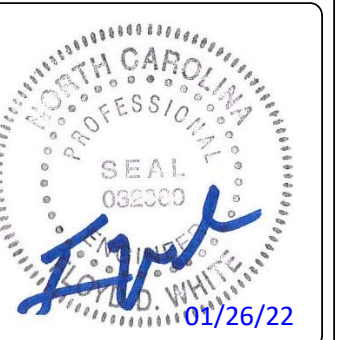


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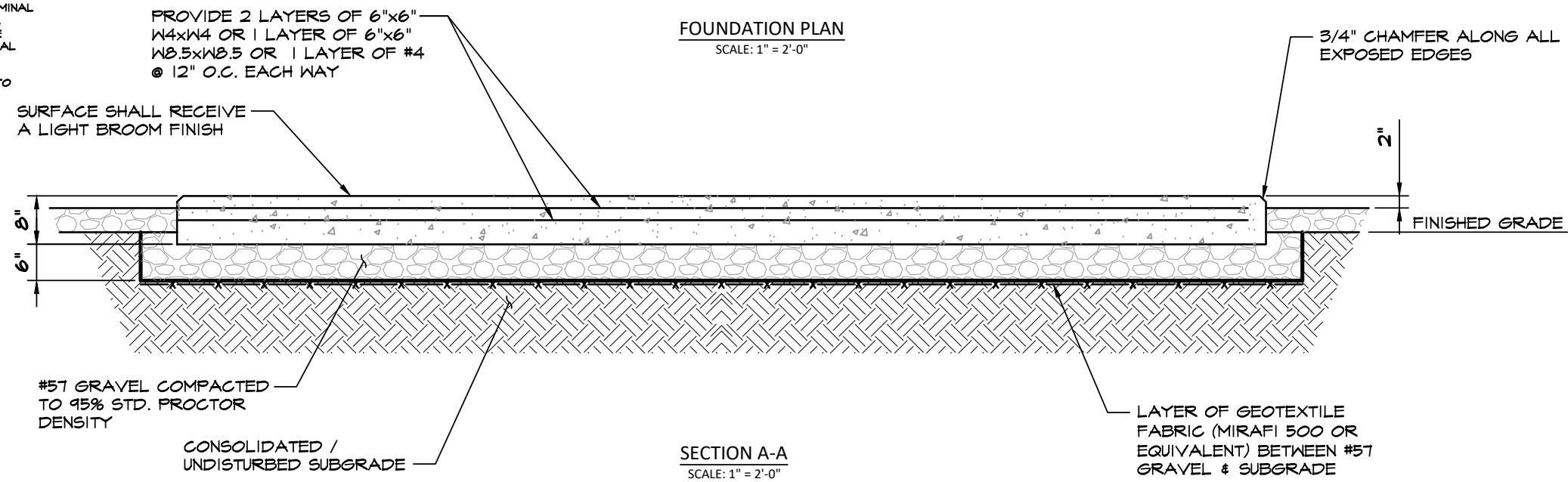
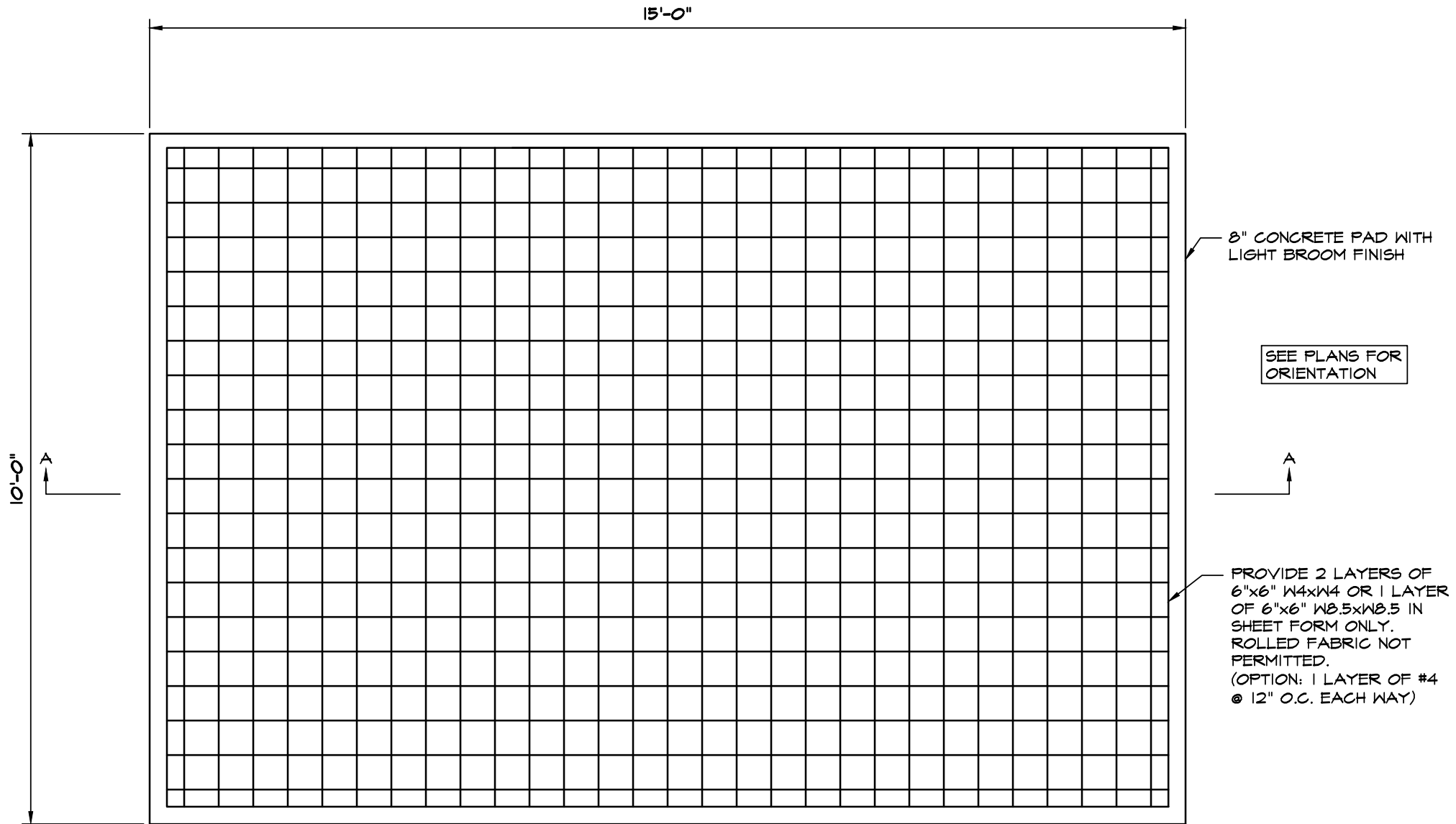
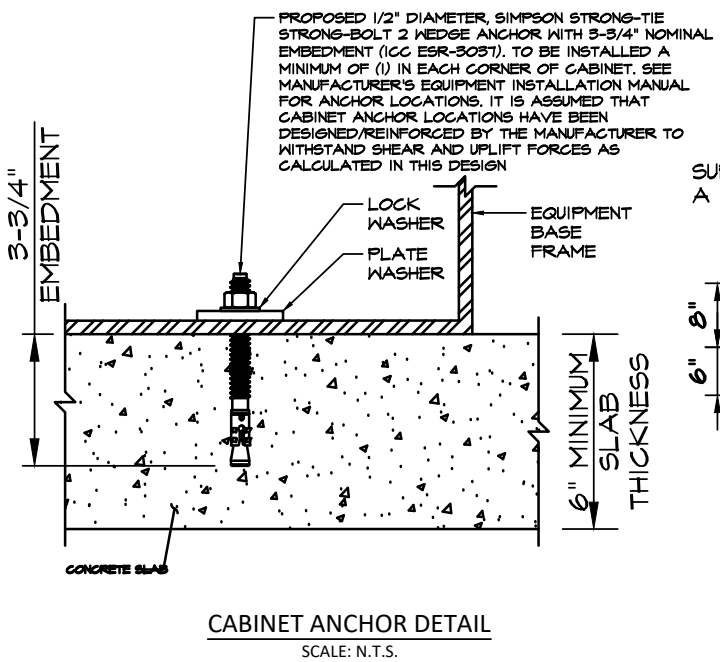
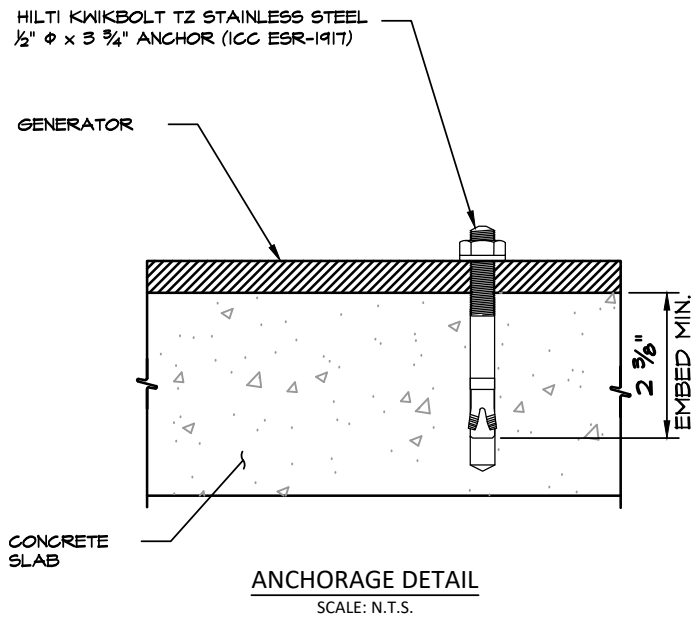
SHEET TITLE:  
**ENLARGED SITE PLAN**

DRAWING NO.	REVISION:
<b>C2</b>	<b>0</b>



**FOUNDATION NOTES:**

1. FOUNDATION DESIGN BASED ON 2,000 PSF SOIL BEARING CAPACITY.
2. CONCRETE SHALL BE 3,000 PSI.
3. REINFORCING STEEL  $F_y = 60,000$  PSI.
4. ALL BACKFILL SHALL BE THOROUGHLY COMPACTED TO A MINIMUM OF 95% DENSITY USING THE MODIFIED PROCTOR METHOD.
5. SURFACE OF FINISHED SLAB SHALL BE LEVEL AND FLAT WITHIN 1/4".
6. CONTRACTOR SHALL VERIFY WITH MANUFACTURER ACTUAL DIMENSIONS OF EQUIPMENT PRIOR TO LAYING OUT FOUNDATION.
7. ALL CONCRETE WORK SHALL BE PERFORMED IN ACCORDANCE WITH ACI 318-II.



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DESIGN TYPE:	COLOCATE

SHEET TITLE:  
**EQUIPMENT PAD  
FOUNDATION DETAILS**

DRAWING NO.	REVISION:
<b>C3</b>	<b>0</b>

**RD048 | 3.4L | 48 kW**  
**INDUSTRIAL DIESEL GENERATOR SET**  
 EPA Certified Stationary Emergency



**Standard Features**

**ENGINE SYSTEM**

- Cold Weather Kit
- Oil Drain Extension
- Fan Guard
- Stainless Steel Flexible Exhaust Connection
- Factory Filled Oil & Coolant

**Fuel System**

- Primary Fuel Filter

**Cooling System**

- Closed Coolant Recovery System
- Factory-Installed Radiator
- 50/50 Ethylene Glycol Antifreeze
- Radiator Drain Extension
- Can Operate at up to 122°F (50°C) Ambient Temperature

**Electrical System**

- Battery Charging Alternator
- Battery Cables
- Battery Tray
- Rubber-Booted Engine Electrical Connections
- Solenoid Activated Starter Motor
- Smart Battery Charger

**ALTERNATOR SYSTEM**

- Class H Insulation Material
- 2/3 Pitch
- Skewed Stator
- Sealed Bearings
- Low Temperature Rise (<120°C)
- Low THD (<5%)

**GENERATOR SET**

- Sound Attenuated Aluminum Enclosure
- Internal Genset Vibration Isolation
- Separation of Circuits - High/Low Voltage
- Wrapped Exhaust Piping
- Standard Factory Testing
- 5 Year Limited Warranty
- Ready to Accept Full Load in <10 Seconds
- E-Stop

**TANKS**

- 48 Hour Run Time Tank
- UL 142 Listed Tank

**CONTROL SYSTEM**



**Evolution™ Controller**

- Two-Line Plain Text LCD Display
- Programmable Start Delay Between 10-30 seconds
- 10 second Engine Start Sequence
- 5 second Engine Warm Up
- 1 minute Engine Cool-Down
- Starter Lock-Out
- Smart Battery Charger
- Automatic Voltage Regulation with Over and Under Protection
- Automatic Low Oil Pressure Shutdown
- Overspeed Shutdown
- High Temperature Shutdown
- Overcrank Protection
- Safety Fused
- Failure to Transfer Protection
- Low Battery Protection
- 50 Even Run Log
- Future Set Capable Exerciser
- Incorrect Wiring Protection
- Internal Fault Protection
- Common External Fault Capability
- Governor Failure Protection

**Optional Shipped Loose and Field Install Kits**

**GENERATOR SET**

- Paint Kit
- Scheduled Maintenance Kit

**CONTROL SYSTEM**

- Mobile Link™ and Adapter Kit

**TANKS**

- Spill Box
- 90% Fuel Alarm
- Tank Risers
- Spill Box Drainback Kit
- Vent Extension Support Kit
- 5 Day Run Time Tank
- Overfill Prevention Valve
- Fuel Fill Drop Tube
- Lockable Fuel Cap

**APPLICATION AND ENGINEERING DATA**

**ENGINE SPECIFICATIONS**

General	
Make	Generac
Cylinder #	4
Type	In-Line
Displacement - in <sup>3</sup> (L)	3.4 (207.48)
Bore - in (mm)	3.86 (98)
Stroke - in (mm)	4.45 (113)
Compression Ratio	18.5:1
Intake Air Method	Turbocharged/Aftercooled
Cylinder Head	Cast Iron OHV
Piston Type	Aluminum
Engine Governing	
Governor	Electronic
Frequency Regulation (Steady State)	±0.25%
Lubrication System	
Oil Pump Type	Gear
Oil Filter Type	Full Flow Spin-On Canister
Crankcase Capacity with Filters- qt (L)	7.4 (7.0)

Cooling System	
Cooling System Type	Closed Recovery
Fan Type	Pusher
Fan Speed- rpm	2,029
Fan Diameter - in (mm)	22 (559)
Fuel System	
Fuel Type	Ultra Low Sulfur Diesel Fuel
Fuel Specification	ASTM
Fuel Pump Type	Mechanical Engine Driven Gear
Injector Type	Mechanical
Fuel Supply Lin (mm/in)	7.94/0.31 (ID)
Fuel Return Line (mm/in)	7.94/0.31 (ID)
Fuel Filtering (microns)	25
Engine Electrical System	
System Voltage	12 VDC
Battery Charger Alternator	Standard
Battery Size	Group 27F
Battery Voltage	12 VDC
Ground Polarity	Negative

**ALTERNATOR SPECIFICATIONS**

Standard Model	Generac	Standard Excitation	Direct
Poles	4	Bearings	Single Sealed
Field Type	Rotating	Coupling	Flexible Disc
Insulation Class - Rotor	H	Prototype Short Circuit Test	Yes
Insulation Class - Stator	H	Voltage Regulator Type	Full Digital
Total Harmonic Distortion	<5%	Number of Sensed Phases	2
Telephone Interference Factor (TIF)	<50	Regulation Accuracy (Steady State)	±1.0%

**OPERATING DATA**

**POWER RATINGS**

	Standby
Single-Phase 120/480 VAC @0.1pf	48 kW Amps: 200

**MOTOR STARTING CAPABILITIES (sKVA)**

sKVA vs. Voltage Dip at 30%

120/240 V, Single-Phase at 0.4pf	189
----------------------------------	-----

**FUEL CONSUMPTION RATES\***

Percent Load	Diesel gal/hr (L/hr)
25%	1.35 (5.11)
50%	2.15 (8.14)
75%	3.06 (11.58)
100%	3.98 (15.07)

\* Fuel supply installation must accommodate fuel consumption rates at 100% load.

**COOLING**

	Standby
Air Flow (Radiator and Alternator)	ft <sup>3</sup> /min (m <sup>3</sup> /min) 2824 (80)
Coolant System Capacity	gal (L) 2.8 (10.6)
Heat Rejection to Coolant	BTU/hr (MJ/hr) 135,900 (143.4)
Temperature Deration	3% for every 5°C above 25°C or 1.7% for every 5°F over 77°F
Altitude Deration	1% for every 100 m above 915 or 3% for every 1000 ft over 3000 ft
Maximum Radiator Backpressure	in H <sub>2</sub> O (kPa) 0.50 (0.12)

**COMBUSTION AIR REQUIREMENTS**

	Standby
Flow at Rated Power ft <sup>3</sup> /min (m <sup>3</sup> /min)	190 (5.38)

**ENGINE**

	Standby
Rated Engine Speed	rpm 1,800
Horsepower at rated kW	HP 85

**EXHAUST**

	Standby
Exhaust Flow (Rated Output)	ft <sup>3</sup> /min (m <sup>3</sup> /min) 448 (12.7)
Exhaust Temp (Rated Output - Post Silencer)	°F (°C) 1120 (604.4)

Deration - Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions. Please consult a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528 and DIN6271 standards. Standby - See Bulletin 0187500SS8



1961 NORTHPOINT BLVD, SUITE 130  
 HIXSON, TN 37343  
 PH: 423-843-9500  
 FAX: 423-843-9509

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A&E PROJECT #:	N/A
DRAWN BY:	BNS
CHECKED BY:	DLS

REVISIONS		
NO.	DATE	DESCRIPTION
Δ	01/26/2022	CONSTRUCTION ISSUE
Δ	01/18/2022	PRELIMINARY REVIEW
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Δ	01/07/2022	PRELIMINARY REVIEW
Δ	01/03/2022	PRELIMINARY REVIEW
Δ	12/15/2021	PRELIMINARY REVIEW

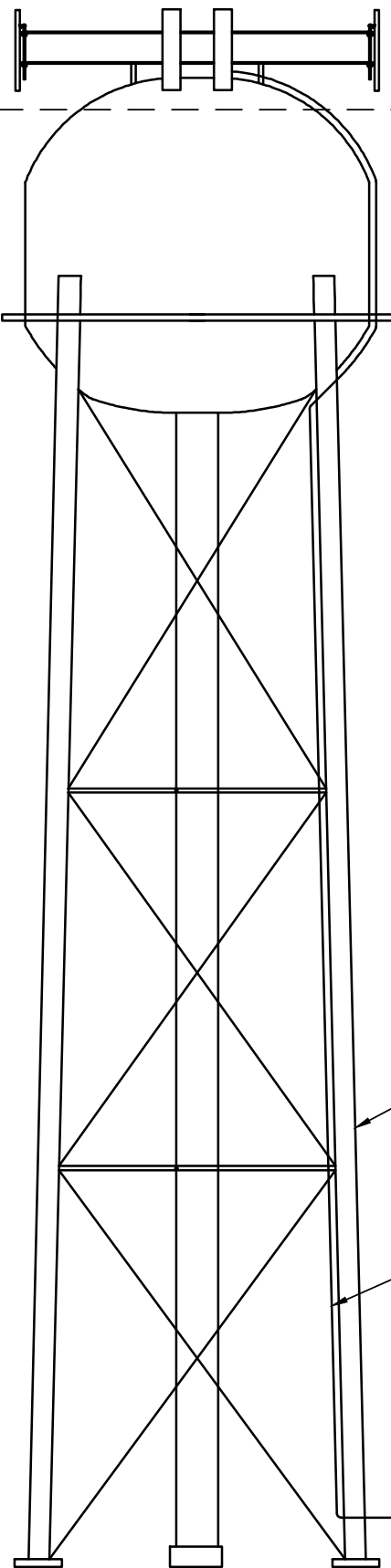


PROJECT No.	N/A
SITE NAME:	UTILITY SERVICES HOLLY SPRINGS
SITE NUMBER:	5RA0965A
SITE ADDRESS:	6908 COKESBURY RD HOLLY SPRINGS, NC 27540
DESIGN TYPE:	COLOCATE

SHEET TITLE:	GENERATOR DETAILS
--------------	-------------------

DRAWING NO.	REVISION:
<b>C3A</b>	<b>0</b>





T-MOBILE CARRIER ANTENNAS  
ACL - 160.0' AGL

**NOTES:**

1. CABLES MUST BE ROUTED ON THE INSIDE (RISER SIDE) FACE OF THE TANK LEG.
2. CABLES MUST BE INSTALLED IN THE INSIDE OF A HINGED JUMBO CLUSTER BRACKET.
3. ONLY FULL SEALED WELDING IS ALLOWED.
4. ALL CABLES RUNNING OVER THE BOWL OF THE TANK MUST HAVE ATLEAST 4'-0" SEPERATION FROM TANK LOGO AND CABLES MUST BE SHROUDED WITH SHROUDING PAINTED TO MATCH TANK.
5. CORRAL MUST BE PAINTED TO MATCH TANK.
6. CORRAL POSTS MUST BE MARKED 1, 2, 3, ETC., INDICATING WHICH POST T-MOBILE WILL BE USING AND THE ORIENTATION OF THE ANTENNA. POST NUMBER ONE (#1) TO ALIGN WITH TRUE NORTH. (NO SKIPPING OF POST WITHIN A SECTOR).

**STRUCTURAL NOTES:**

1. STRUCTURAL ANALYSIS PREFORMED BY OTHERS. CONTRACTOR TO COORDINATE WITH TOWER OWNER REPRESENTATIVE TO OBTAIN A COPY OF THE STRUCTURAL REPORT.
2. LINES AND ANTENNAS WORK SHALL NOT COMMENCE WITHOUT A PASSING STRUCTURAL REPORT IN HAND.

EXISTING WATER TOWER

PROPOSED T-MOBILE CABLES:  
(3) ERICSSON - HYBRID TRUNK 6/24 4AWG 60M, 205'-0"±

**TOWER ELEVATION**  
NTS

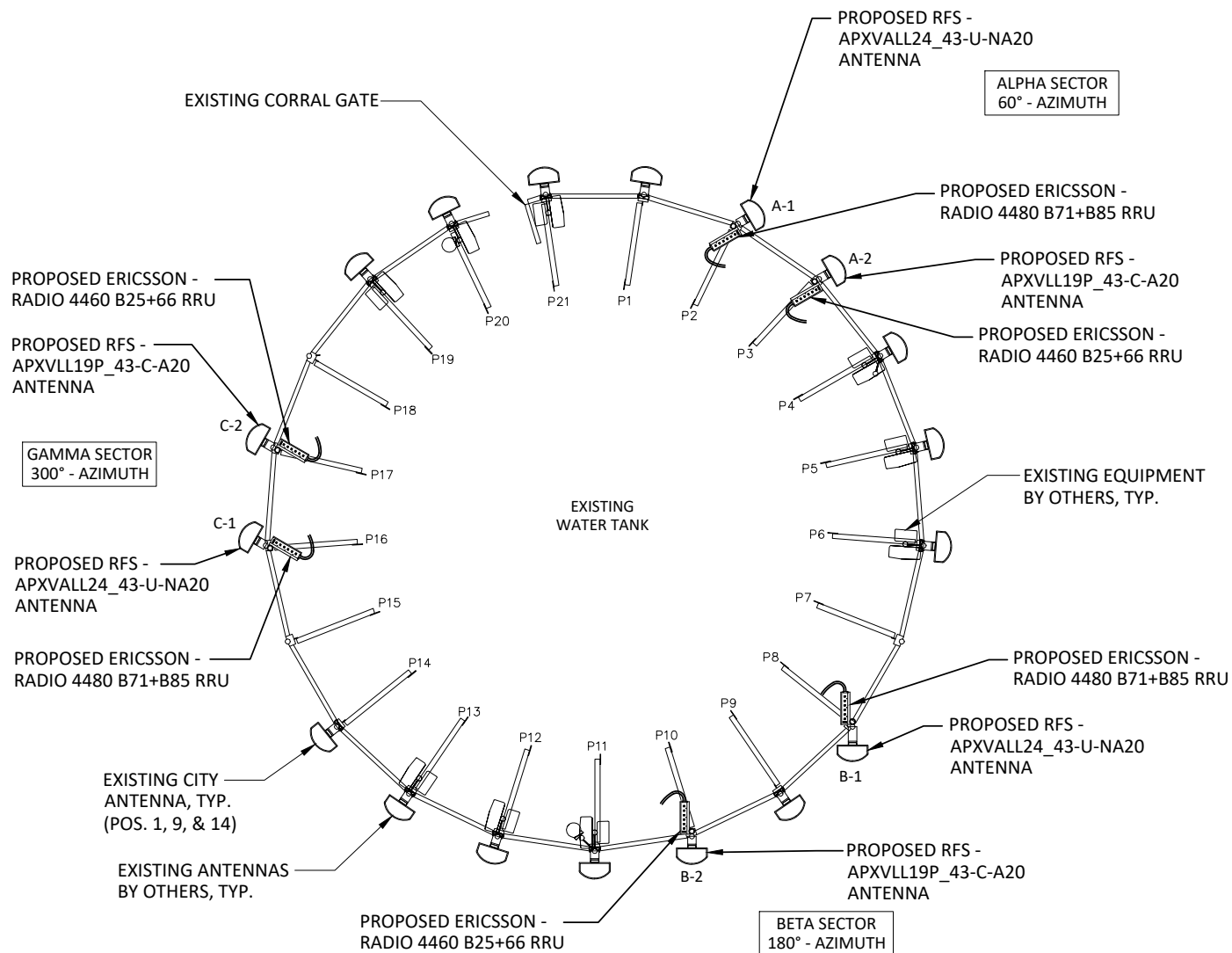
**ANTENNA EQUIPMENT SCHEDULE**

SECTOR	ANTENNA POSITION		ANTENNA TYPE	AZIMUTH	RAD CENTER	ANTENNA MODEL NUMBER	QUANTITY
	RFDS	POST					
ALPHA	A-1	P2	L600 N600	60°	160'	RFS - APXVALL24_43-U-NA20	1
ALPHA	A-2	P3	L2100 L1900,G1900	60°	160'	RFS - APXVLL19P_43-C-A20	1
BETA	B-1	P8	L600 N600	180°	160'	RFS - APXVALL24_43-U-NA20	1
BETA	B-2	P10	L2100 L1900,G1900	180°	160'	RFS - APXVLL19P_43-C-A20	1
GAMMA	C-1	P16	L600 N600	300°	160'	RFS - APXVALL24_43-U-NA20	1
GAMMA	C-2	P17	L2100 L1900,G1900	300°	160'	RFS - APXVLL19P_43-C-A20	1

ANTENNA POSITION	RFDS	POST	REMOTE RADIO UNITS		DC CABLES		
			RRUS MAKE AND MODEL	RRUS COUNT	LENGTH	AWG	COUNT
A-1	P2		ERICSSON 4480 B71+B85	1	205'	4AWG	1
A-2	P3		ERICSSON 4460 B25+B66	1			
B-1	P8		ERICSSON 4480 B71+B85	1	205'	4AWG	1
B-2	P10		ERICSSON 4460 B25+B66	1			
C-1	P16		ERICSSON 4480 B71+B85	1	205'	4AWG	1
C-2	P17		ERICSSON 4460 B25+B66	1			

ANTENNA MOUNTS AND ALL MOUNTING HARDWARE TO BE PAINTED TO MATCH WATER TANK

RRUs TO BE MOUNTED ON RRU PIPE MOUNTS, TYP. OF 6. SEE ATTACHED MOUNT SPECS.



**PROPOSED ANTENNA LAYOUT**  
NOT TO SCALE



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PROJECT No.	N/A
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SITE NUMBER:	5RA0965A
SITE ADDRESS:	6908 COKESBURY RD HOLLY SPRINGS, NC 27540
DESIGN TYPE:	COLOCATE

SHEET TITLE:  
**STRUCTURE ELEVATION & ANTENNA PLAN**

DRAWING NO.	REVISION:
<b>C4</b>	<b>0</b>

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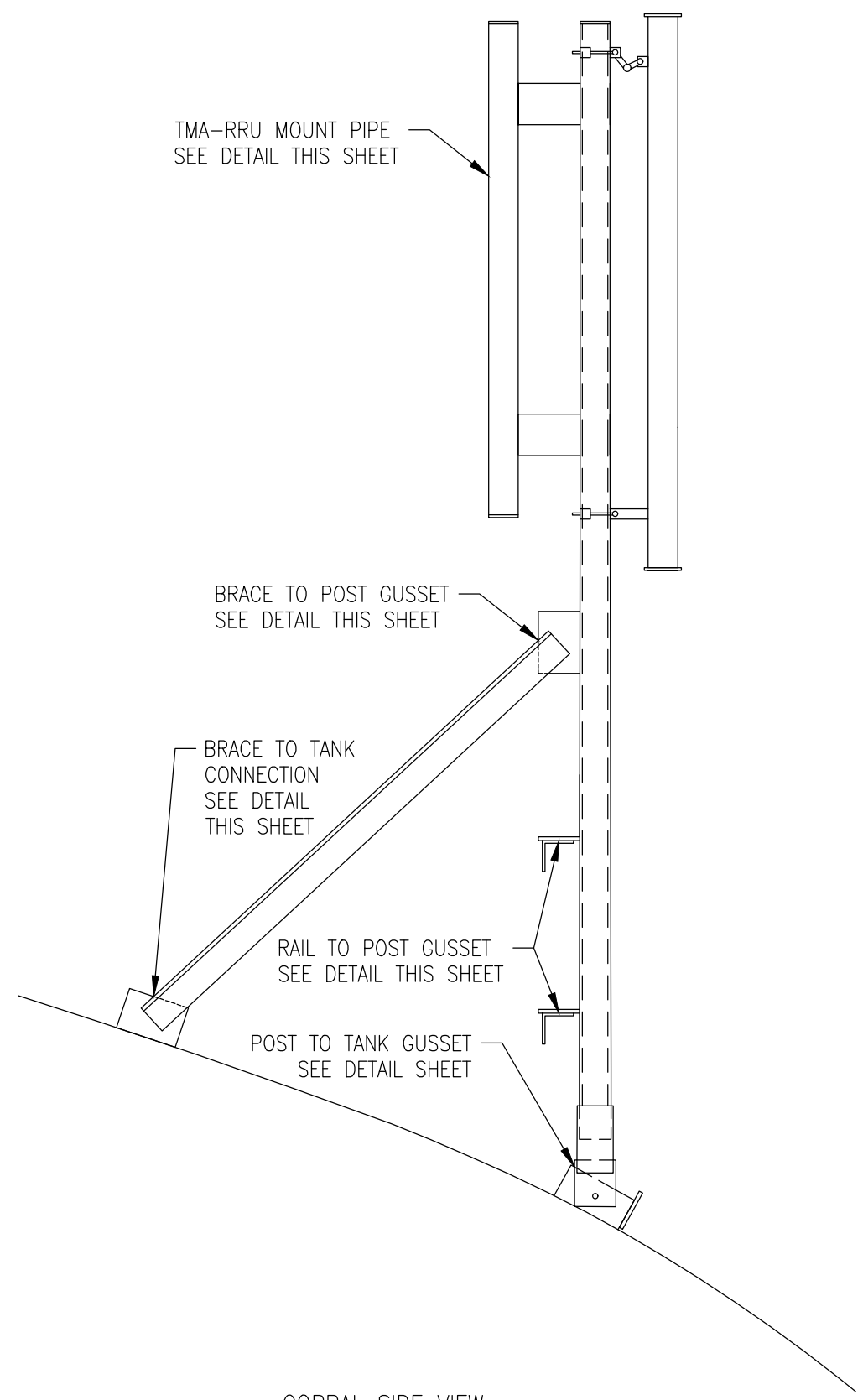
REVISIONS		
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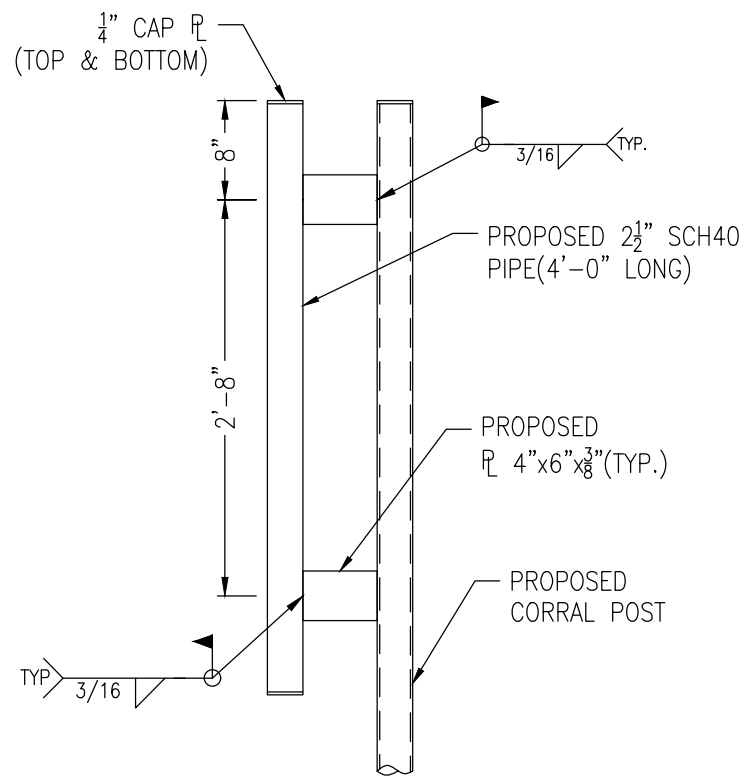
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SITE ADDRESS:	6908 COKESBURY RD HOLLY SPRINGS, NC 27540
DESIGN TYPE:	COLOCATE

SHEET TITLE:  
**MOUNT DETAILS**

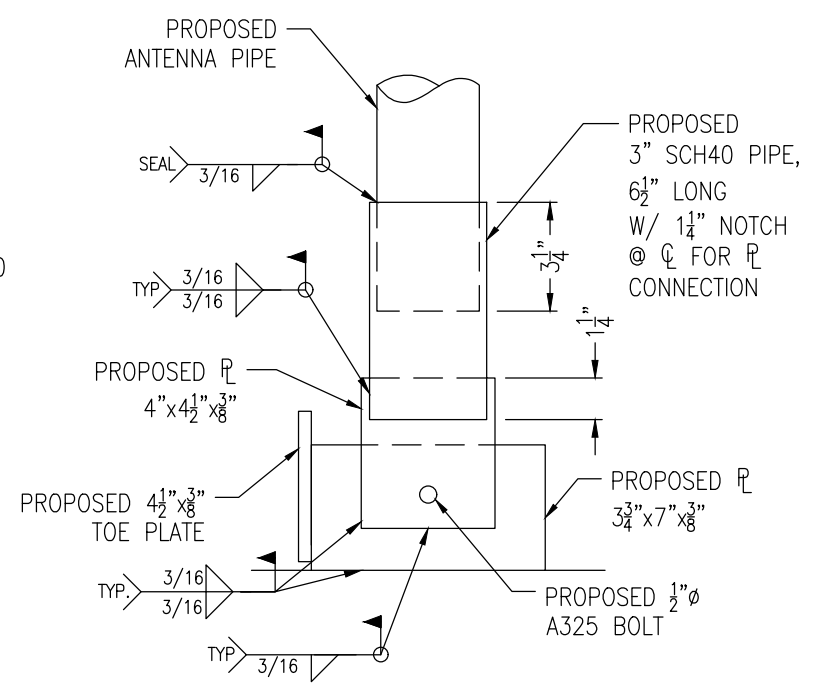
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<b>C4A</b>	<b>0</b>



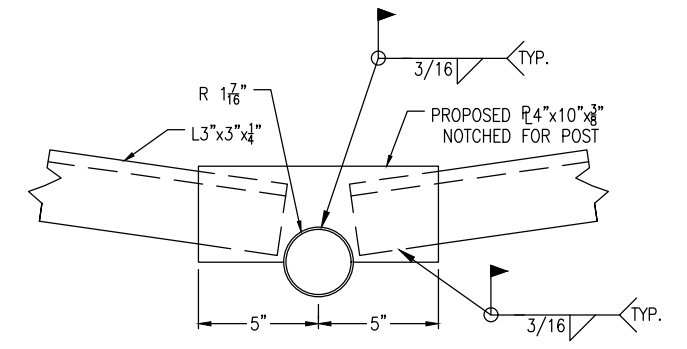
CORRAL SIDE VIEW



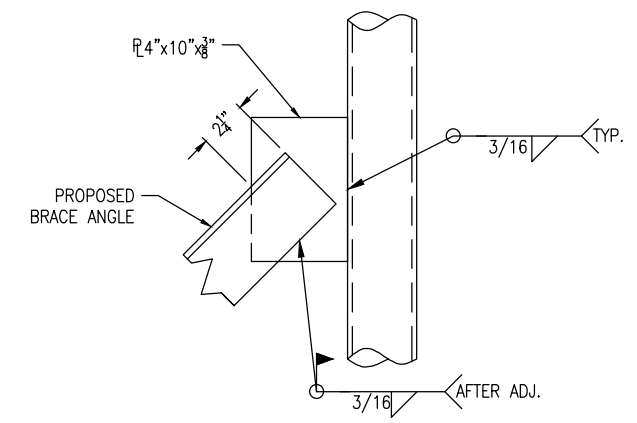
TMA/RRU MOUNTING DETAIL



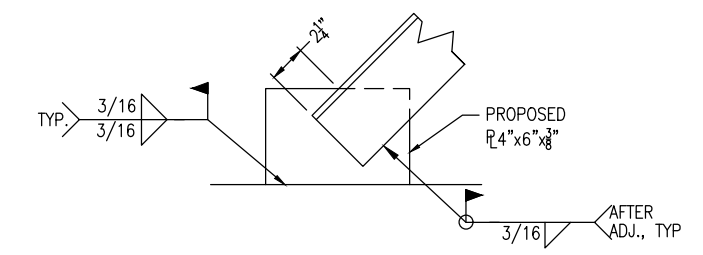
POST TO TANK GUSSET



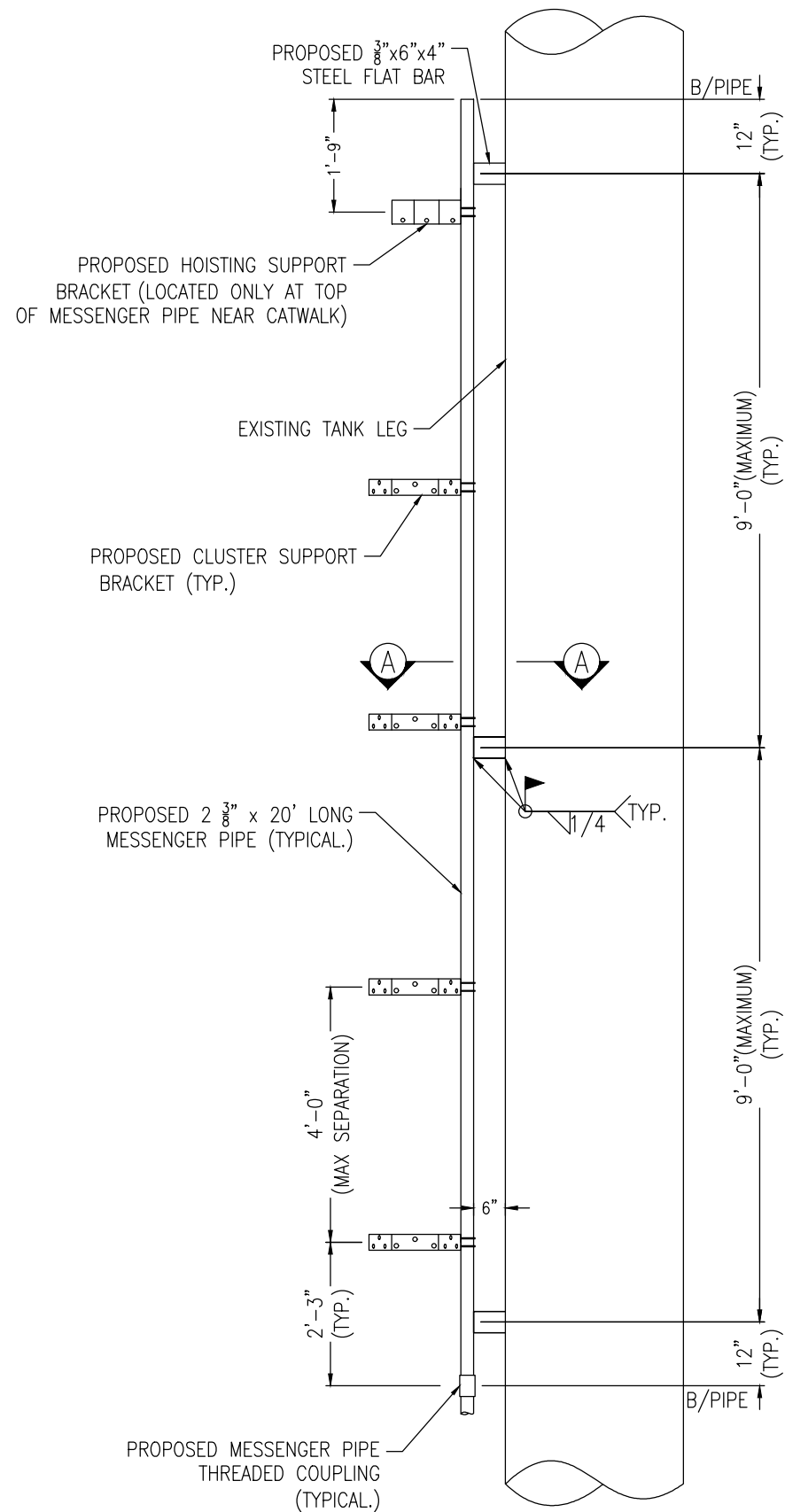
RAIL TO POST GUSSET



BRACE TO POST GUSSET



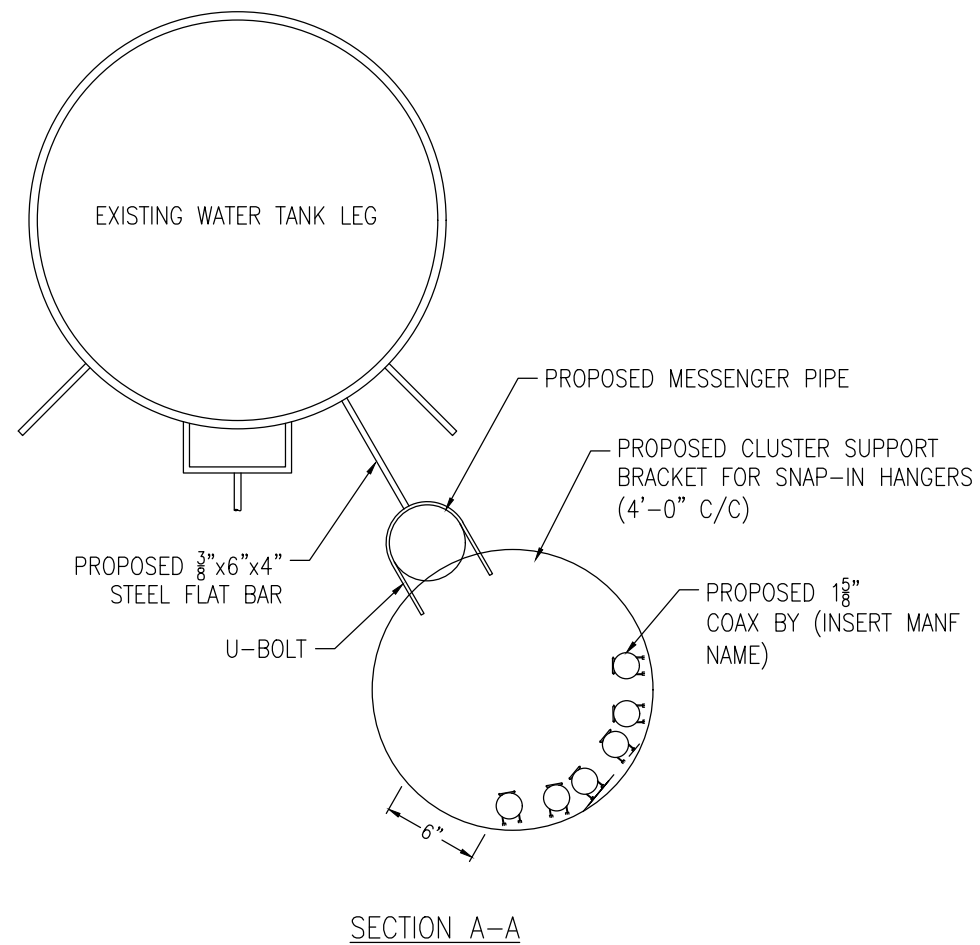
BRACE TO TANK CONNECTION



COAX CABLE TANK LEG SUPPORT ELEVATION

**NOTES:**

1. CLUSTER MOUNT TO BE ATTACHED TO INSIDE OF WATER TANK LEG, SEE DETAIL ON THIS SHEET. THE INSIDE FACE OF THE LEG BEING MORE PARTICULARLY DEFINED AS THE EXTERIOR PORTION OF THE CROSS-SECTION OF THE LEG THAT FACES TOWARDS THE CENTER OF THE TANK AND EXTENDS FROM HORIZONTAL STRUT CONNECTION TO HORIZONTAL STRUT CONNECTION.
2. ALL METAL (EXPOSED), AND MOUNTS SHALL BE PAINTED TO MATCH THE WATER TANK PER OWNER;S PAINT SPECIFICATIONS.
3. ORIENT COAX MOUNT TO CLEAR EXISTING BRACING.
4. THE CONTRACTOR SHALL REMOVE GALVANIZATION FROM PIPE AS NECESSARY TO PREVENT ZINC CONTAMINATION OF WELD.
5. THE CONTRACTOR SHALL WELD A TAB TO THE MESSENGER PIPE A MAXIMUM OF 1'-0" FROM THE BOTTOM OF THE LOWEST MESSENGER PIPE AND A MAXIMUM OF 1'-0" FROM THE TOP OF THE HIGHEST MESSENGER PIPE.



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CHECKED BY:	DLS

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DESIGN TYPE:	COLOCATE

SHEET TITLE:  
**MOUNT DETAILS**

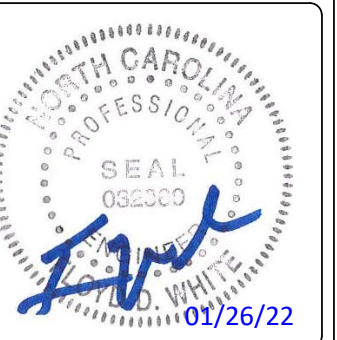
DRAWING NO.	REVISION:
<b>C4B</b>	<b>0</b>



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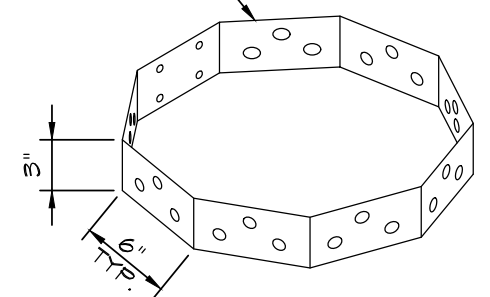


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DESIGN TYPE:	COLOCATE

SHEET TITLE:  
**MOUNT DETAILS**

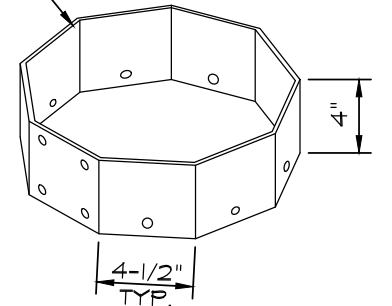
DRAWING NO.	REVISION:
<b>C4C</b>	<b>0</b>

PROPOSED 9-SIDED CLUSTER SUPPORT BRACKET W/ 3/4"Ø HOLES FOR SNAP IN HANGERS

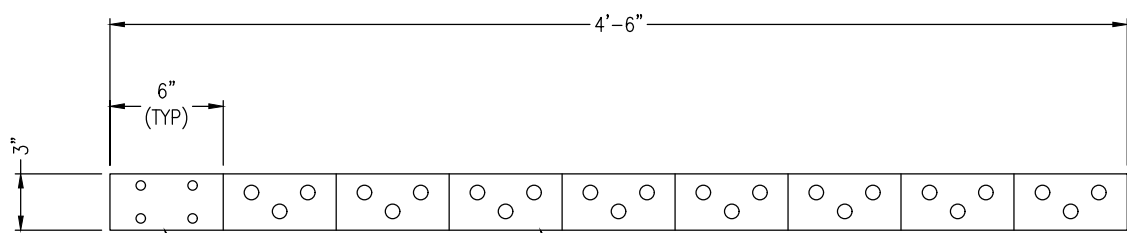


CLUSTER SUPPORT DETAIL

PROPOSED 9-SIDED HOISTING SUPPORT BRACKET W/ 1/2"Ø CLEVIS HOLES

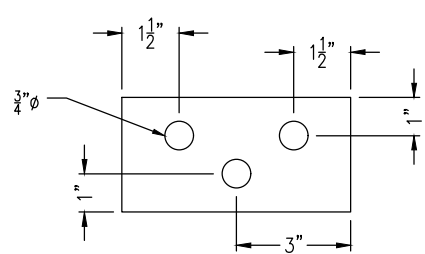


HOISTING BRACKET DETAIL

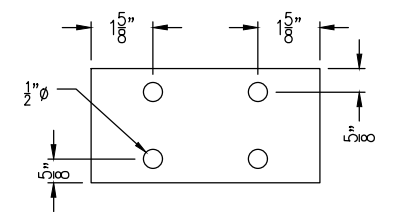


SEE CLUSTER SUPPORT U-BOLT DETAIL THIS SHEET

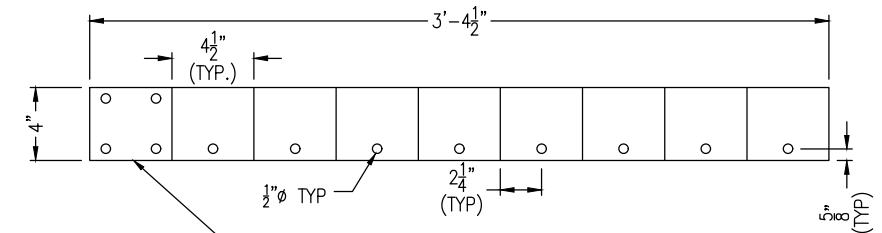
SEE SUPPORT HANGER DETAIL THIS SHEET



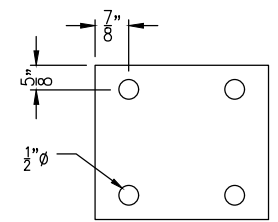
SUPPORT HANGER HOLE DETAIL



CLUSTER SUPPORT U-BOLT DETAIL



SEE HOISTING U-BOLT CONNECTION DETAIL THIS SHEET

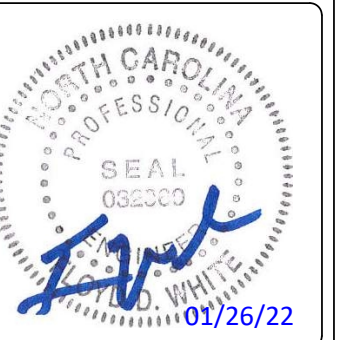


HOISTING U-BOLT DETAIL

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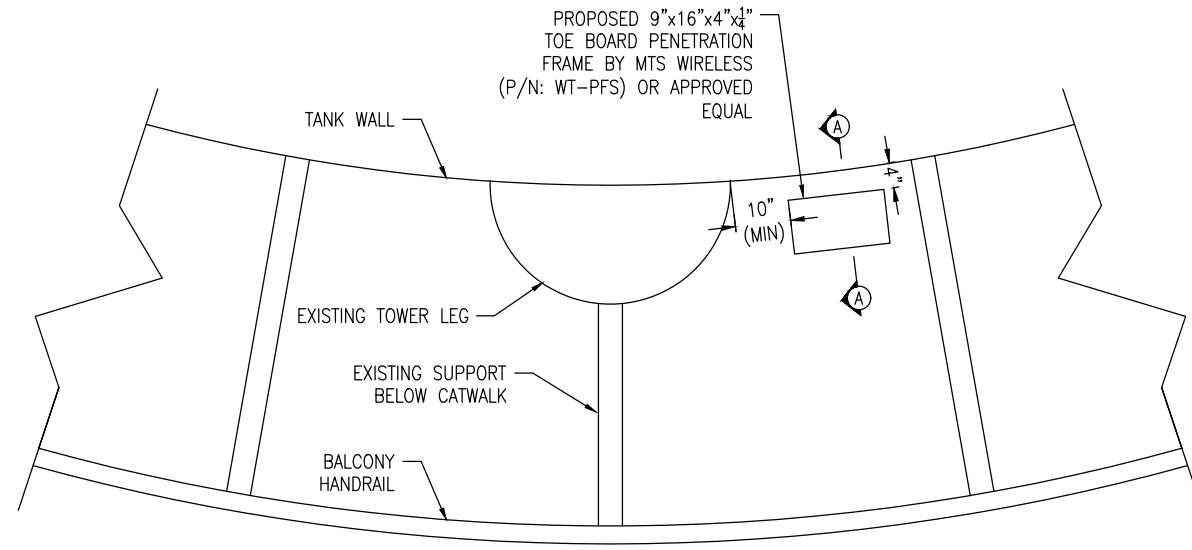
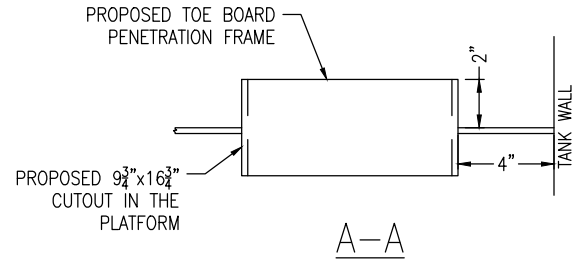


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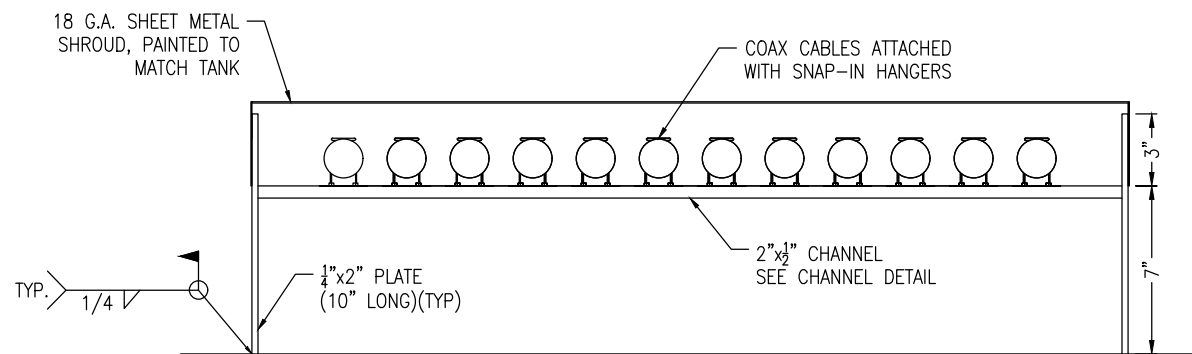
SHEET TITLE:  
MOUNT DETAILS

DRAWING NO.	REVISION:
<b>C4D</b>	<b>0</b>

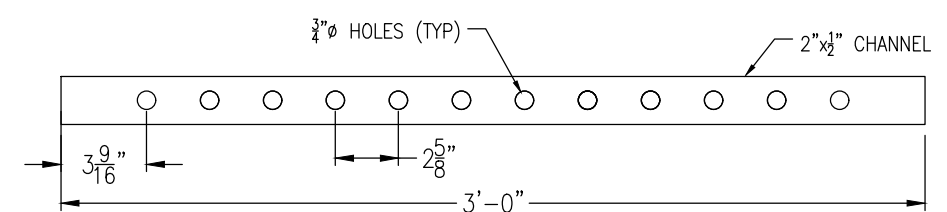
- NOTES:
1. PRIOR TO PERFORMING THE CUTOUT IN THE CATWALK PLATE, THE CONTRACTOR SHALL VERIFY THE CUTOUT IS A CLEAR DISTANCE OF 6" FROM ANY SUPPORT BENEATH THE CATWALK.
  2. ALL WELDING SHALL BE DONE IN A MANNER THAT LIMITS HEAT BUILD-UP AND REDUCES LINER DAMAGE.
  3. INTERIOR COATING DAMAGE SHALL BE REPAIRED PER TANK OWNER'S SURFACE PREPARATION AND COATING SPECIFICATIONS.



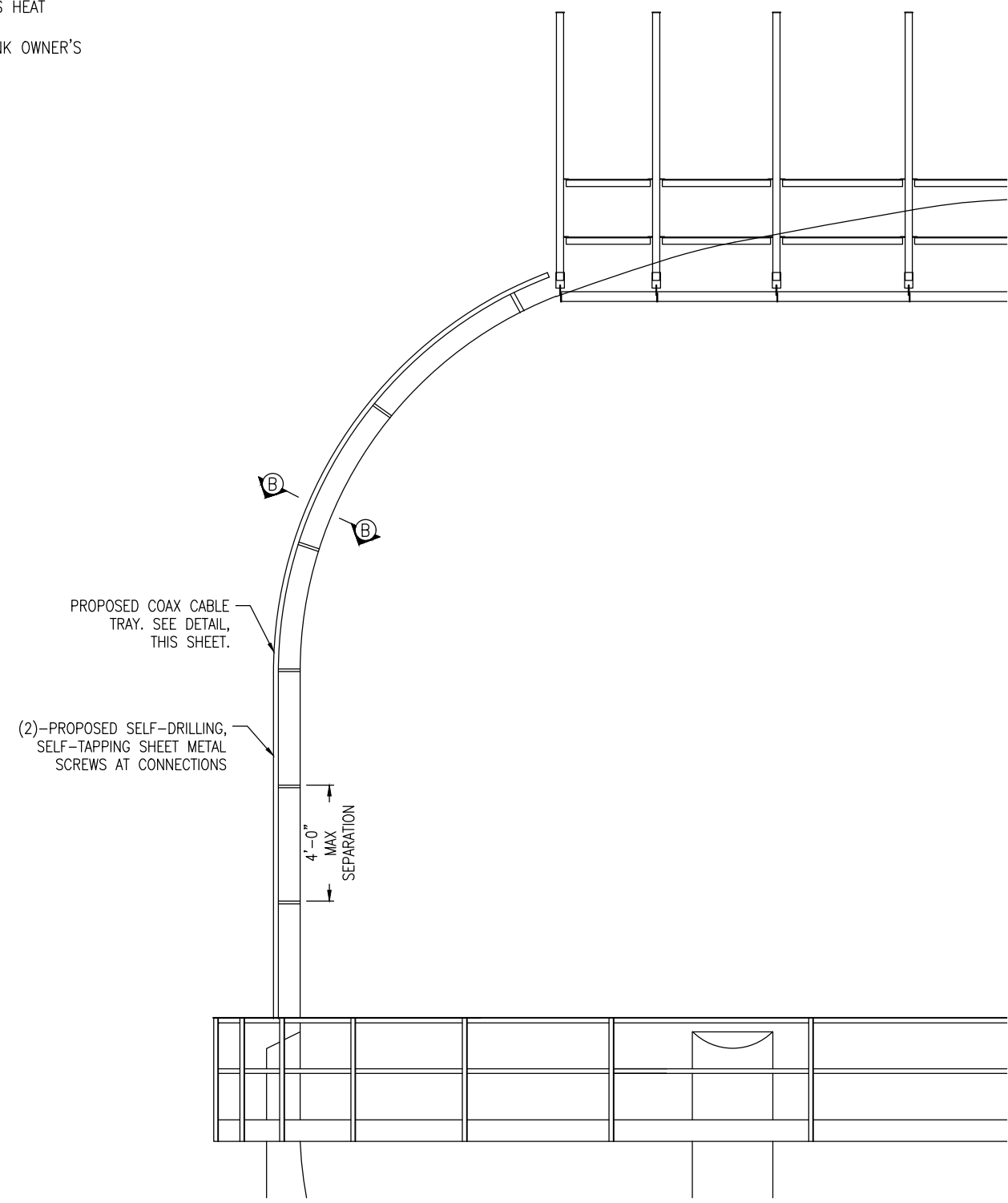
BALCONY PENETRATION PLAN



SECTION B-B



CHANNEL DETAIL



COAX CABLE TRAY ELEVATION

**T-Mobile**

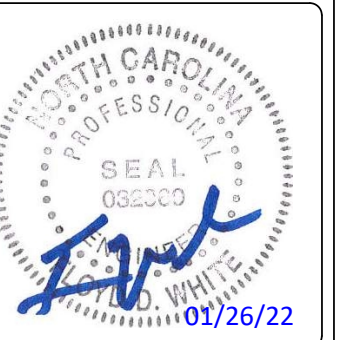
**TeleCAD**  
Wireless

1961 NORTHPOINT BLVD, SUITE 130  
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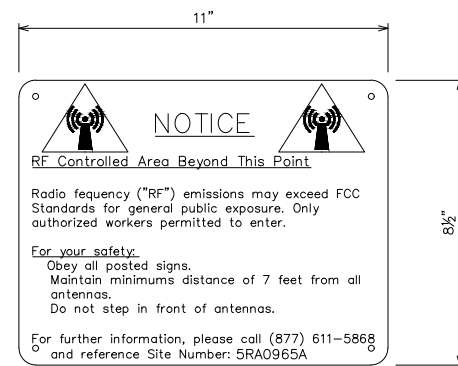
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**SITE DETAILS**

DRAWING NO.	REVISION:
<b>C5</b>	<b>0</b>

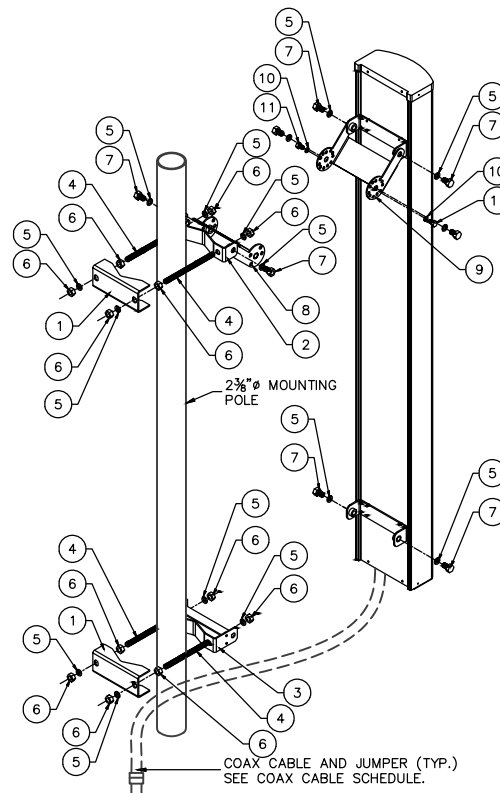
NOTE: SIGNS TO BE MOUNTED ON THE FRONT SIDE OF THE 6160 CABINET.



**EMERGENCY SIGN**  
(RED METAL SIGN W/ WHITE LETTERING)



**RF NOTICE SIGN**  
(WHITE METAL SIGN W/ BLACK LETTERING)



**ANTENNA ATTACHMENT HARDWARE:**

ITEM	PART NO.	QTY.	DESCRIPTION
①	601553-1	2	BRACKET, CLAMP
②	601539-1	1	ADAPTER, POLE
③	802355-4	1	ADAPTER, POLE LOWER
④	ROD190003	4	1/2" x 7" THREADED ROD
⑤	WSH150003	12	1/2" SPLIT WASHER
⑥	NUT150001	12	1/2" HEX HEAD NUT
⑦	BLT140002	6	1/2" x 1" HEX HEAD BOLT
⑧	601730-1	1	BRACKET, DOWNTILT POLE
⑨	601735-1	1	BRACKET, DOWNTILT, ANTENNA
⑩	WSH150006	2	5/16" SPLIT WASHER
⑪	BLT140004	2	5/16" HEX HEAD BOLT

OVERALL WEIGHT: 10.75 LBS.



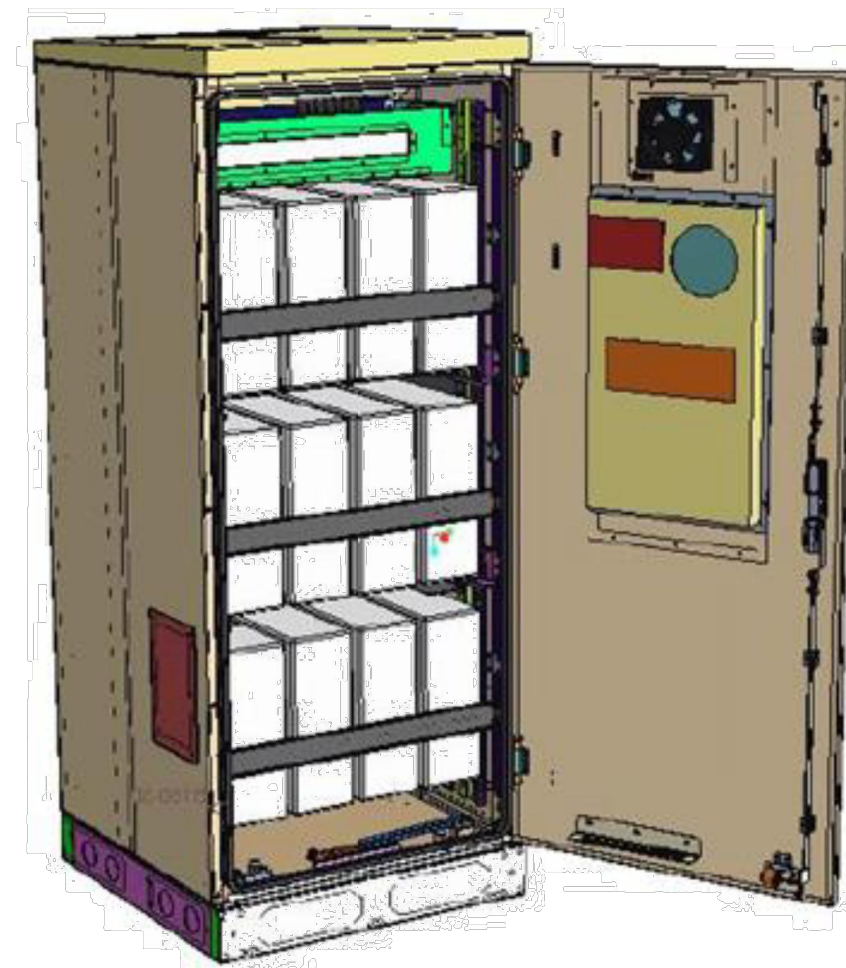
ENCLOSURE 6160 AC



**MECHANICAL SPECIFICATION**

Weight	145 kg (excluding active equipment) 320 lbs (excluding active equipment)
Dimension (H x W x D)	1600 x 650 x 650 mm (incl. Base frame) 63 x 26 x 26 in. (incl. Base frame)
Base frame height	150 mm 6 in.
Mounting position	Ground
Enclosure material	Aluminum
Color	Power paint NCS 2002-B
Door	Front access
Rack type	19" (IEC 60297-3-100)
Locking type	Pad lock or Cylinder

ENCLOSURE B160



Capacity	— VRLA 12V: 100Ah / 150Ah / 170Ah / 190Ah / 210Ah	Environmental specification	— Ingress protection: VRLA/Sodium IP44
	— Li-Ion: 24U 19" / 23"		Li-Ion IP55
	— Sodium-Nickel: 3x FIAMM	Climate system	— Relative humidity: 15-100%
Electrical specification	— DC Output: -48VDC/200A	Air Conditioner	— Fan type: DC
	— Battery breakers: 2x 125/2p	— Cooling capacity: 500W @L35/L35	
	— Alarms: Door open, Climate failure, MCB Connection	Convection cooling	— Emergency fan
Mechanical specification	— Weight: 134kg		
	— Dimensions: 63 x 26 x 26 in. (incl. Base frame)		
	— Base frame height: 6 in.		
	— Material: Galvanized steel (180g/m <sup>2</sup> )		
	— Color: Powder paint NCS 2002-B		
	— Door: Front access		
	— Locking type: Pad lock / cylinder		



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PROJECT No.	N/A
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SITE NUMBER:	5RA0965A
SITE ADDRESS:	6908 COKESBURY RD HOLLY SPRINGS, NC 27540
DESIGN TYPE:	COLOCATE

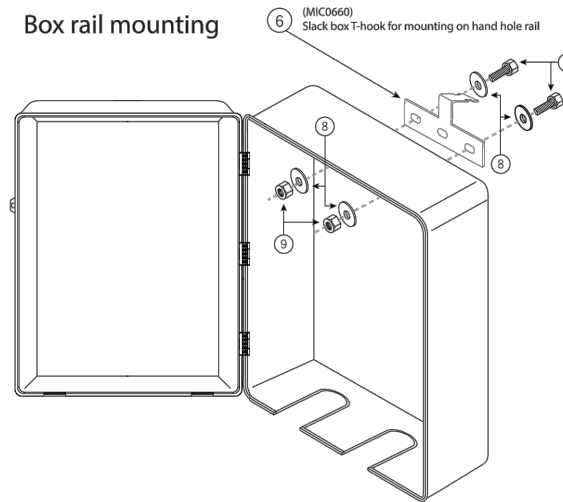
SHEET TITLE:  
**CABINET DETAILS**

DRAWING NO.	REVISION:
<b>C6</b>	<b>0</b>

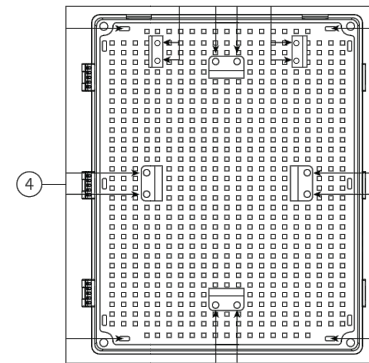
# MIROC

Excess Fiber Box  
MIC0688

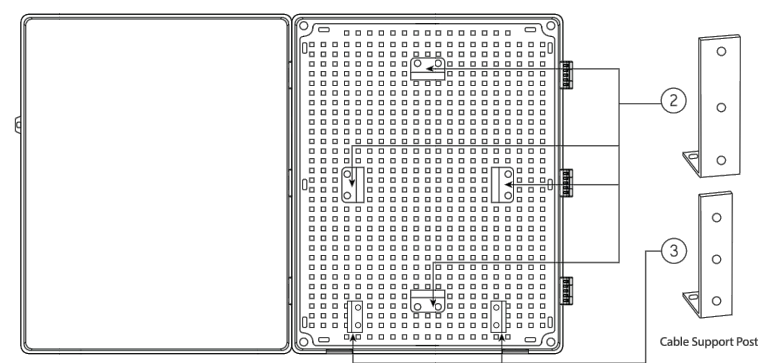
	PART #	DESCRIPTION	QTY
1	MIC0647	16" x 19" PVC Slack Box	1
2	MIC0654	Cable Support Post (2" x 6")	4
3	MIC0673	Lower Cable Support Post (1" x 6")	2
4	MIC0663	#10 x 3/8" Phil Pan Screw	16
5	MIC0665	14" Cable Tie	12
6	MIC0674	Slack Box T-Hook	1
7	BS3834	Stainless Steel Hex Head Bolt, 3/8"-16 x 3/4"	2
8	WFS381	Stainless Steel Fender Washer, 3/8" x 1"	4
9	NS38	Stainless Steel Hex Nut, 3/8"	2



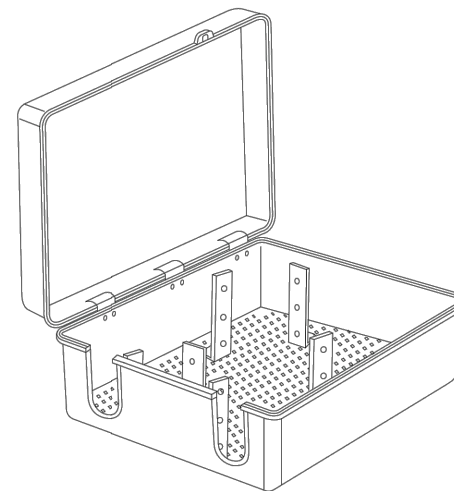
Pan screw locations



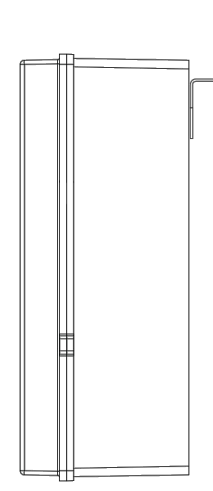
Cable support posts



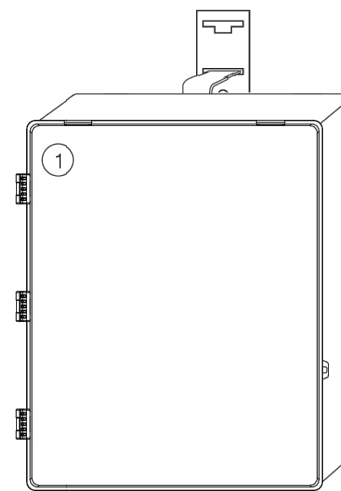
Box assembled



Side view



Mounting on rail



For technical support & product info

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

505.343.5371

[sales@miroc.com](mailto:sales@miroc.com)

T-Mobile

TeleCAD  
Wireless

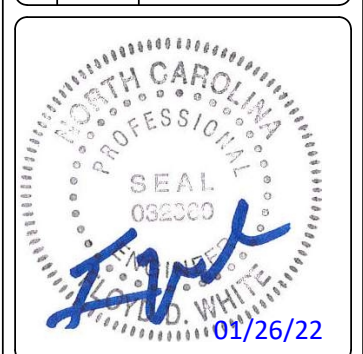
1961 NORTHPOINT BLVD, SUITE 130  
HIXSON, TN 37343  
PH: 423-843-9500  
FAX: 423-843-9509

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A&E PROJECT #:	N/A
DRAWN BY:	BNS
CHECKED BY:	DLS

REVISIONS

NO.	DATE	DESCRIPTION
Δ	01/26/2022	CONSTRUCTION ISSUE
Δ	01/16/2022	PRELIMINARY REVIEW
Δ	01/11/2022	PRELIMINARY REVIEW
Δ	01/07/2022	PRELIMINARY REVIEW
Δ	01/03/2022	PRELIMINARY REVIEW
Δ	12/15/2021	PRELIMINARY REVIEW



PROJECT No.	N/A
SITE NAME:	UTILITY SERVICES HOLLY SPRINGS
SITE NUMBER:	5RA0965A
SITE ADDRESS:	6908 COKESBURY RD HOLLY SPRINGS, NC 27540
DESIGN TYPE:	COLOCATE

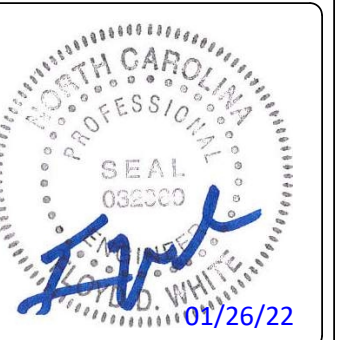
SHEET TITLE:  
CABINET DETAILS

DRAWING NO.	REVISION:
C6A	0

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A&E PROJECT #:	N/A
DRAWN BY:	BNS
CHECKED BY:	DLS

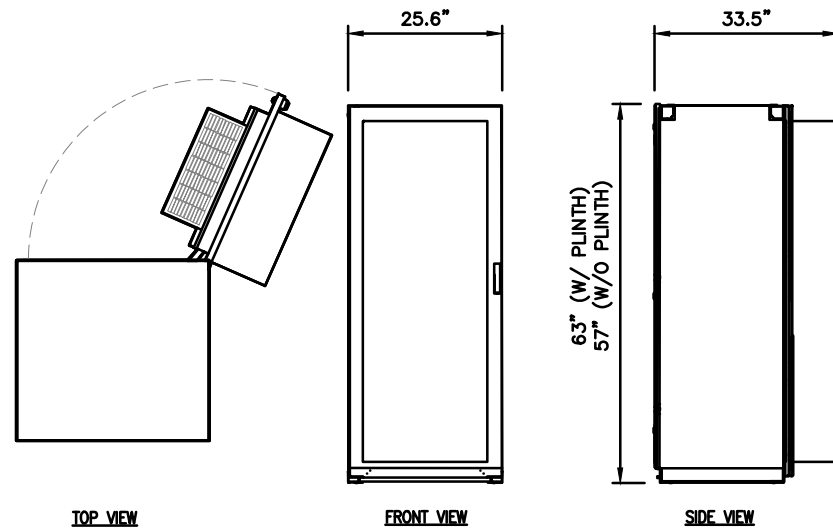
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NO.	DATE	DESCRIPTION
Δ	01/26/2022	CONSTRUCTION ISSUE
Δ	01/18/2022	PRELIMINARY REVIEW
Δ	01/11/2022	PRELIMINARY REVIEW
Δ	01/07/2022	PRELIMINARY REVIEW
Δ	01/03/2022	PRELIMINARY REVIEW
Δ	12/15/2021	PRELIMINARY REVIEW



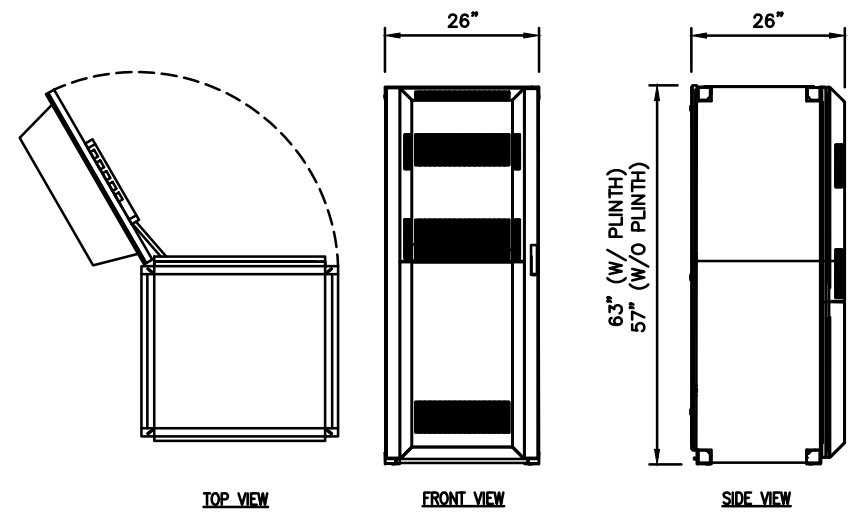
PROJECT No.	N/A
SITE NAME:	UTILITY SERVICES HOLLY SPRINGS
SITE NUMBER:	5RA0965A
SITE ADDRESS:	6908 COKESBURY RD HOLLY SPRINGS, NC 27540
DESIGN TYPE:	COLOCATE

SHEET TITLE:  
ICE BRIDGE & EQUIPMENT DETAILS

DRAWING NO.	REVISION:
<b>C7</b>	<b>0</b>



ERICSSON MODEL NO.:	6160
RACK SPACE:	19U
DIMENSIONS, HxWxD:	63"x25.6"x25.6" (W/ 6" PLINTH)
CABINET WEIGHT, EMPTY:	410 LBS
MAXIMUM WEIGHT:	770± LBS



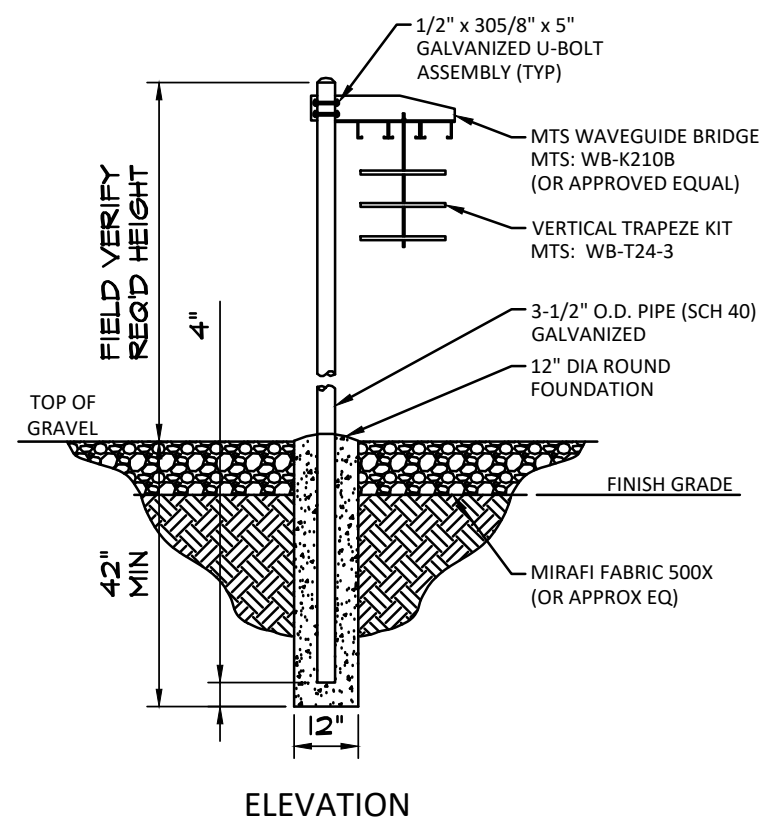
ERICSSON MODEL NO.:	B160
RACK SPACE:	19U
DIMENSIONS, HxWxD:	63"x26"x26" (W/ 6" PLINTH)
CABINET WEIGHT, EMPTY:	485 LBS
MAXIMUM WEIGHT:	2100± LBS

1 6160 CABINET DETAIL

N.T.S

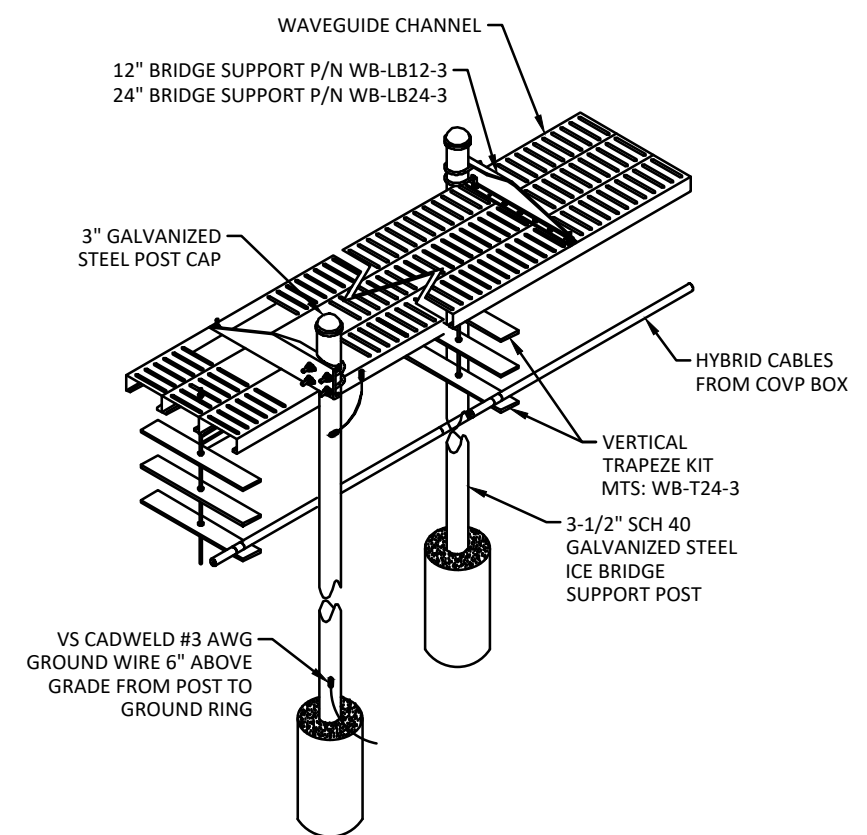
2 B160 CABINET DETAIL

N.T.S



3 ICE BRIDGE DETAIL

N.T.S





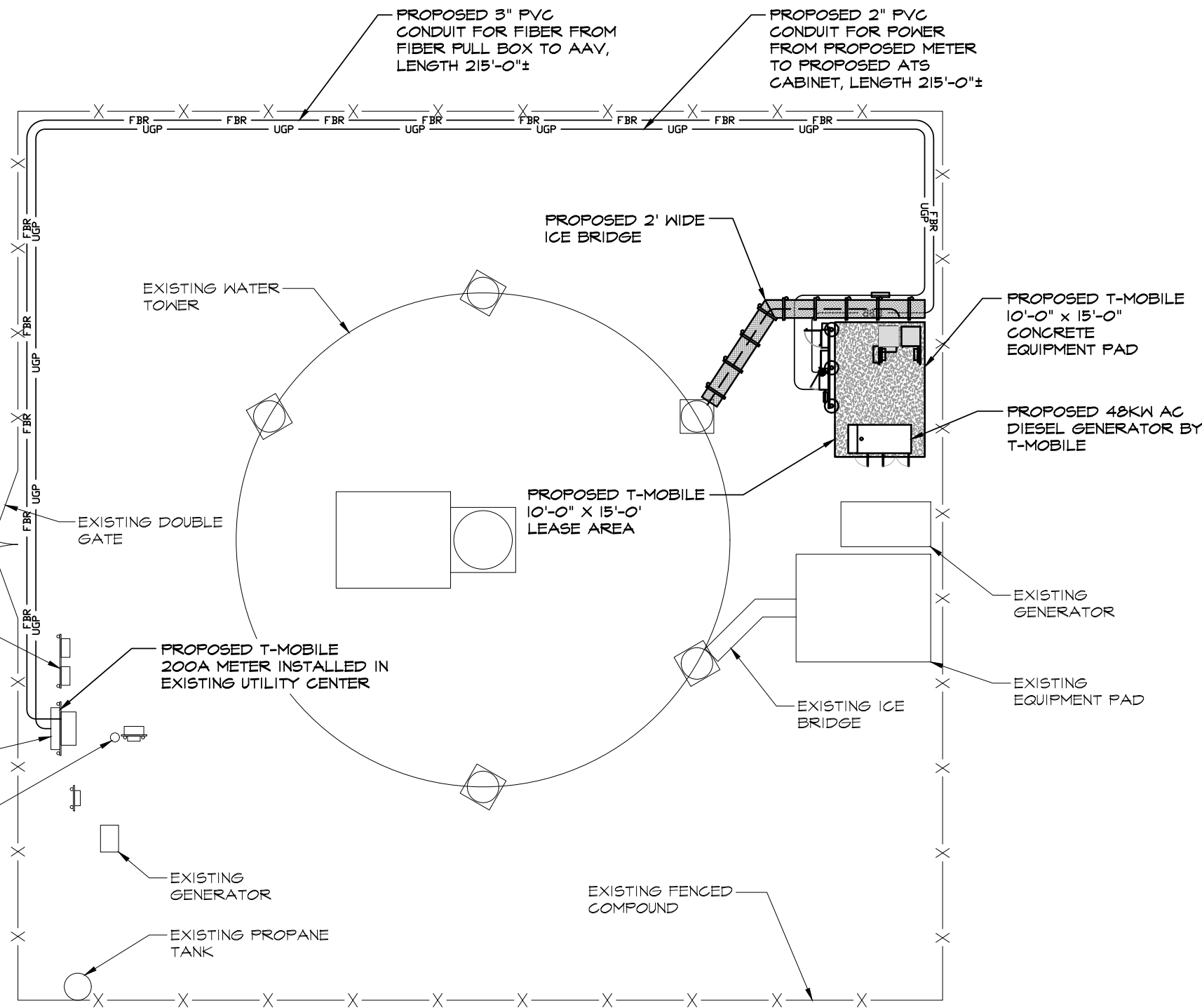
### ELECTRICAL NOTES:

1. PROVIDE AND INSTALL WARNING TAPE FOR ELECTRIC SERVICE CONDUIT 2' BELOW GRADE. SEE CONDUIT SECTION ON SHEET E4.
2. CONTRACTOR TO PAY FOR THE SERVICE AS DIRECTED BY THE UTILITY COMPANY.
3. CONTRACTOR TO USE RIGID METAL CONDUIT WHERE CONDUITS CROSS ACCESS ROADS. CONTRACTOR TO BOND RGS CONDUIT WITH GROUNDING CLAMP TO THE GROUND RADIAL IN TRENCH.
4. CONTRACTOR SHALL COORDINATE WITH ELECTRIC AND TELEPHONE UTILITY COMPANIES FOR SERVICES.
5. CONTRACTOR TO PAY ALL FEES FOR SERVICES REQUIRED.
6. CONTRACTOR TO BE ADVISED THAT EXISTING UNDERGROUND CONDUITS, GROUND CABLES EXIST. DIG WITH CAUTION.

### UTILITY NOTES:

1. ALL POWER CONDUITS ABOVE GRADE, SWEEPS, & ELBOWS TO BE RIGID GALVANIZED STEEL CONDUIT.
2. INSTALL PULL STRING IN TELCO CONDUIT.
3. CONTRACTOR OR THEIR SUB-CONTRACTOR SHALL PROVIDE PULL BOXES FOR POWER AND TELCO CONDUIT RUNS AS REQUIRED BY LOCAL, STATE, OR NATIONAL ELECTRICAL CODE, CURRENT VERSION.

ELECTRICAL LEGEND:	
TELEPHONE PEDESTAL	
OVERHEAD TELEPHONE	
UNDERGROUND TELEPHONE	
OVERHEAD POWER	
UNDERGROUND POWER	
UNDERGROUND FIBER	



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A&E PROJECT #:	N/A
DRAWN BY:	BNS
CHECKED BY:	DLS

REVISIONS		
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Δ	12/15/2021	PRELIMINARY REVIEW



PROJECT No.	N/A
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SITE NUMBER:	5RA0965A
SITE ADDRESS:	6908 COKESBURY RD HOLLY SPRINGS, NC 27540
DESIGN TYPE:	COLOCATE

SHEET TITLE:  
**OVERALL ELECTRICAL SITE PLAN**

DRAWING NO.	REVISION:
<b>E1</b>	<b>0</b>

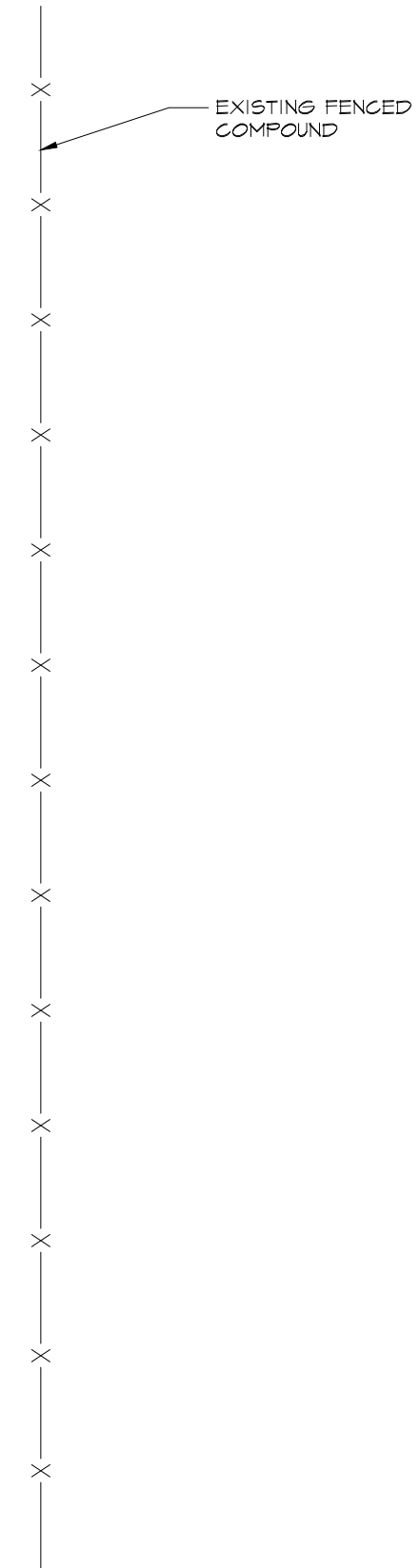
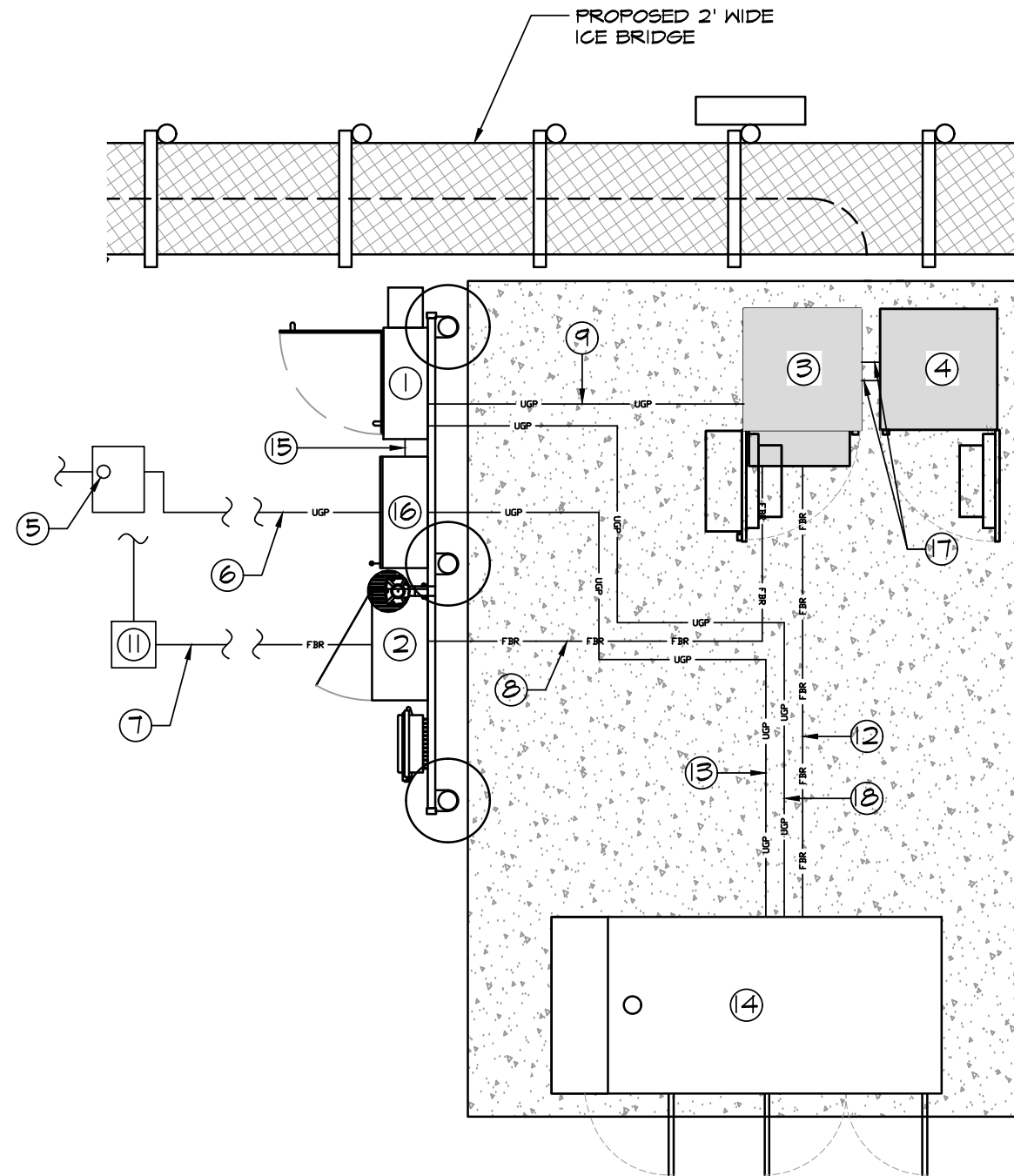


**GENERAL NOTES:**

1. CONTRACTOR TO INSTALL PULL BOX EVERY THIRD 90° TURN (MAX).
2. NO CONDUITS WILL ROUTE ON TOP OF CONCRETE PAD, ALL CONDUITS TO BE RAN BEFORE CONCRETE PAD IS INSTALLED.

**DRAWING NOTES:**

1. PROPOSED PPC CABINET
2. PROPOSED AAV CABINET
3. PROPOSED 6160 CABINET
4. PROPOSED B160 BATTERY CABINET
5. PROPOSED 200A, 120/240V, 1Ø, 3 WIRE METER WITH SERVICE DISCONNECT (120/240V, FUSED AT 200A) IN EXISTING MULTIGANG METER BANK.
6. PROPOSED 2" PVC CONDUIT FOR POWER FROM PROPOSED METER TO PROPOSED ATS CABINET
7. PROPOSED 3" PVC CONDUIT FOR FIBER FROM FIBER PULL BOX TO AAV
8. PROPOSED 2" PVC CONDUIT FOR FIBER FROM AAV TO 6160 CABINET. CONTRACTOR TO RUN CONDUIT UNDERGROUND BEFORE CONCRETE PAD IS INSTALLED.
9. PROPOSED 2" PVC CONDUIT FOR POWER FROM PPC TO 6160 CABINET. CONTRACTOR TO RUN CONDUIT UNDERGROUND BEFORE CONCRETE PAD IS INSTALLED.
10. CONTRACTOR TO COORDINATE POWER/TELCO SERVICE WITH LOCAL UTILITY COMPANY. STUB UP LOCATIONS TO BE DETERMINED BY LOCAL UTILITY COMPANIES.
11. PROPOSED PULL BOX (TYP). SEE GENERAL NOTE.
12. PROPOSED 1" CONDUIT WITH PULLSTRING FROM GENERATOR TO 6160 CABINET FOR GENERATOR CONTROLS. CONTRACTOR TO RUN CONDUIT UNDERGROUND BEFORE CONCRETE PAD IS INSTALLED.
13. PROPOSED 1 1/2" POWER CONDUIT FROM GENERATOR TO ATS FOR POWER. CONTRACTOR TO RUN CONDUIT UNDERGROUND BEFORE CONCRETE PAD IS INSTALLED.
14. PROPOSED 48kw AC DIESEL GENERATOR
15. PROPOSED 3" PVC CONDUIT FOR POWER FROM PROPOSED ATS TO PROPOSED PPC CABINET
16. PROPOSED ATS
17. PROPOSED (2) 2" PVC CONDUITS FOR ALARM AND POWER SUPPLY.
18. PROPOSED 1" POWER CONDUIT FROM PPC TO GEN FOR BLOCK HEATER AND BATTERY CHARGER. CONTRACTOR TO RUN CONDUIT UNDERGROUND BEFORE CONCRETE PAD IS INSTALLED.



ELECTRICAL LEGEND:	
TELEPHONE PEDESTAL	
OVERHEAD TELEPHONE	— OHT —
UNDERGROUND TELEPHONE	— UGT —
OVERHEAD POWER	— OHP —
UNDERGROUND POWER	— UGP —
UNDERGROUND FIBER	— FBR —



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PROJECT No.	N/A
SITE NAME:	UTILITY SERVICES HOLLY SPRINGS
SITE NUMBER:	5RA0965A
SITE ADDRESS:	6908 COKESBURY RD HOLLY SPRINGS, NC 27540
DESIGN TYPE:	COLOCATE

SHEET TITLE:  
**ENLARGED ELECTRICAL  
 SITE PLAN**

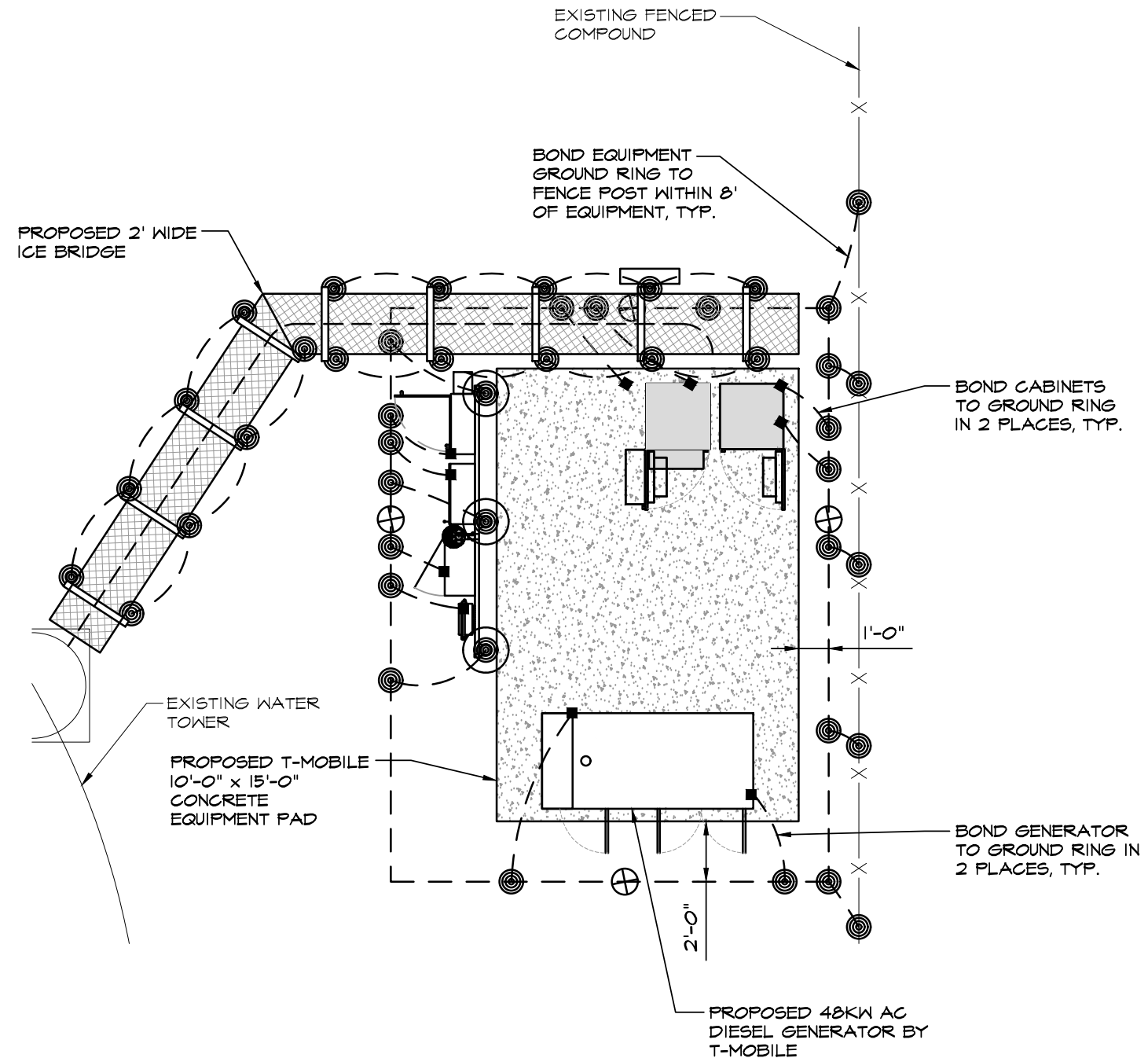
DRAWING NO.	REVISION:
<b>E1A</b>	<b>0</b>

## GROUNDING NOTES:

1. INSTALL GROUND RING 2 FEET MIN. OUTSIDE OF PAD FOUNDATION AND 6" BELOW GROUND RING. GROUND RING CONSISTS OF 4/0 BARE COPPER WIRE. T-MOBILE REPRESENTATIVE TO INSPECT GROUNDING BEFORE BACKFILLING.
2. INSTALL GROUND RING BEFORE PAD IS SET.
3. GROUND EACH CABINET FRAME WITH #2 AWG SOLID TINNED COPPER WITH 2 HOLE LUG, 2 PER CABINET BOND TO MASTER GROUND RING.
4. EXOTHERMIC WELD ALL CONNECTIONS TO BURIED GROUND RING WITH PARALLEL WELDS.
5. GROUND ALL EXTERIOR EXPOSED METAL OBJECTS. USE TWO HOLE MECHANICAL CONNECTORS (T & B 32007) FOR CONNECTION TO FLAT METAL SURFACES. PROVIDE STAINLESS STEEL HARDWARE AND LOCKWASHERS ON ALL MECHANICAL CONNECTIONS. APPLY ANTI-OXIDE COMPOUND TO CONNECTIONS.
6. MAKE ALL GROUNDING CONNECTIONS AS SHORT AS POSSIBLE. MINIMUM BENDING RADIUS IS 12".
7. CLEAN ALL SURFACES AND BRUSH WITH BRONZE BRUSH PRIOR TO MAKING GROUND CONNECTIONS. PAINT ALL EXOTHERMIC WELDS TO GALVANIZED OBJECTS WITH GALVANIZED PAINT.
8. T-MOBILE GROUND RING MUST TEST AT 5 OHMS OR LESS INDEPENDENT OF MASTER RING.

## CONSTRUCTION NOTES:

- A. GROUND ALL EXTERIOR EXPOSED METAL OBJECTS. USE TWO HOLE MECHANICAL CONNECTORS (T & B 32007) FOR CONNECTION TO FLAT METAL SURFACES. PROVIDE STAINLESS STEEL HARDWARE AND LOCKWASHERS ON ALL MECHANICAL CONNECTIONS. APPLY ANTI-OXIDE COMPOUND TO CONNECTIONS.
- B. EXOTHERMIC WELDS TO BE USED FOR BONDING OF ALL EXTERIOR SUPPORT STRUCTURES.
- C. ALL ICE BRIDGE SECTIONS TO BE JUMPERED W/ #6 STRANDED.



### GROUNDING LEGEND:

	#2 SOLID BARE COPPER GROUND CABLE RUN 6" BELOW FROST LINE
	5/8" x 10' COPPER CLAD STEEL GROUND ROD
	EXOTHERMIC WELD WITH INSPECTION SLEEVE
	MECHANICAL CONNECTION
	EXOTHERMIC WELD

**T-Mobile**

**TeleCAD**  
Wireless

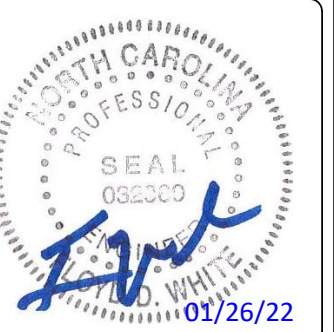
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PROJECT No.	N/A
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SITE NUMBER:	5RA0965A
SITE ADDRESS:	6908 COKESBURY RD HOLLY SPRINGS, NC 27540
DESIGN TYPE:	COLOCATE

SHEET TITLE:  
**EQUIPMENT  
GROUNDING PLAN**

DRAWING NO.	REVISION:
<b>E2</b>	<b>0</b>

## ELECTRICAL SPECIFICATIONS:

1. SCOPE: PROVIDE LABOR, MATERIALS, AND EQUIPMENT, ETC., REQUIRED TO COMPLETE THE INSTALLATION SHOWN ON THE DRAWINGS.
2. CODES AND STANDARDS: INSTALLATION SHALL COMPLY WITH APPLICABLE LAWS AND ORDINANCES, UTILITY COMPANY REGULATIONS, AND APPLICABLE REQUIREMENTS OF THE LATEST EDITIONS OF:
  1. UNIFORM BUILDING CODE.
  2. BUILDING OFFICIALS & CODE ADMINISTRATORS (BOCA)
  3. UNIFORM MECHANICAL CODE.
  4. INTERNATIONAL BUILDING CODE MICHIGAN ADDITION (IBC)
  5. ANSI/EIA-222-G LIFE SAFETY CODE NFPA-101.
  6. UNIFORM PLUMBING CODE.
  7. NATIONAL ELECTRIC CODE.
  8. LOCAL BUILDING CODE.
  9. CITY/COUNTY ORDINANCES.
3. PERMITS: OBTAIN AND PAY FOR REQUIRED PERMITS, LICENSES, FEES, INSPECTIONS, ETC.
4. COORDINATION: COORDINATE WORK WITH OTHER TRADES.
5. SUBMITTALS: SUBMIT BROCHURES FOR APPROVAL ON MAJOR SYSTEM COMPONENTS.
6. EXISTING SERVICES: DO NOT INTERRUPT EXISTING SERVICES WITHOUT WRITTEN PERMISSION OF THE OWNER.
7. EQUIPMENT: CONNECT ELECTRICALLY OPERATED EQUIPMENT.
8. RECORD DRAWINGS: MAINTAIN A RECORD OF ALL CHANGES AND SUBSTITUTIONS BETWEEN WORK AS SPECIFIED AND INSTALLED. RECORD CHANGES ON A CLEAN SET OF CONTRACT DOCUMENTS WHICH SHALL BE TURNED OVER TO THE OWNER UPON COMPLETION OF THE PROJECT.
9. IDENTIFICATION: IDENTIFY SERVICE DISCONNECTING MEANS WITH PERMANENT NAME PLATE.
10. GUARANTEE/WARRANTY: GUARANTEE INSTALLATION TO BE FREE OF DEFECTS, SHORTS, GROUNDS, ETC., FOR A PERIOD OF ONE YEAR. FURNISH WARRANTY SO THE DEFECTIVE MATERIALS AND/OR WORKMANSHIP WILL BE REPAIRED/REPLACED IMMEDIATELY UPON NOTIFICATION AT NO COST TO THE OWNER FOR THE PERIOD OF THE WARRANTY.
11. CUTTING AND PATCHING: PROVIDE CUTTING REQUIRED TO DO THE WORK. DO NOT CUT MAJOR STRUCTURAL ELEMENTS WITHOUT APPROVAL. PATCHING SHALL BE OF QUALITY EQUAL TO AND OF MATCHING APPEARANCE OF EXISTING CONSTRUCTION.
12. DITCHING AND BACKFILL: PROVIDE FOR ALL UNDERGROUND INSTALLED CONDUIT AND/OR CABLES.
13. RACEWAYS: UNDERGROUND CONDUIT SHALL BE SCHEDULE 80 PVC CONDUIT (MEET NEMA TC2 - 1990). EXPOSED CONDUIT SHALL BE RIGID GALVANIZED STEEL CONDUIT. UNDERGROUND PVC CONDUIT SHALL TRANSITION TO RIGID GALVANIZED STEEL CONDUIT BEFORE RISING ABOVE GRADE. PLUG AND CAP EACH END OF SPARE AND EMPTY CONDUITS AND PROVIDE TWO SEPARATE PULL STRINGS - 200 LB. TEST POLYETHYLENE CORD. ALL CONDUIT BENDS SHALL BE A MINIMUM OF 24" RADIUS. GRS CONDUITS WHEN SPECIFIED, SHALL MEET UL-6 FOR GALVANIZED STEEL. ALL FITTINGS SHALL BE SUITABLE FOR USE WITH THREADED RIGID CONDUIT.
14. SUPPORTS: AS REQUIRED BY THE NEC.

15. CONDUCTORS: USE 98% CONDUCTIVITY COPPER WITH TYPE THHN OR EQUIVALENT 90°C INSULATION, 600 VOLT, COLOR CODED. USE SOLID CONDUCTORS FOR WIRE UP TO AND INCLUDING NO. 10 AWG. USE STRANDED CONDUCTORS FOR WIRE ABOVE NO. 10 AWG.
16. CONNECTORS FOR POWER CONDUCTORS: USE COMPRESSION TYPE INSULATED CONNECTORS FOR #10 AWG AND SMALLER. USE SOLDERLESS MECHANICAL TERMINAL LUGS FOR #8 AWG AND LARGER.
17. GROUNDING: MAIN GROUNDING CONDUCTORS SHALL BE A MINIMUM OF #2 AWG SOLID TINNED COPPER. GROUNDING LEADS ON ANTENNA SUPPORT STRUCTURES SHALL BE A MINIMUM OF #2 AWG SOLID BARE COPPER AND SHALL BE TINNED WHERE THEY ARE INSTALLED AGAINST THE STRUCTURE. GROUND BARS SHALL BE 1/4" THICK, 4" WIDE, LENGTH AS REQUIRED. GROUND RESISTANCE TO BE 5 OHM MAXIMUM. PROVIDE ADDITIONAL GROUNDING PLATES AS REQUIRED.
18. TELEPHONE SERVICE: PROVIDE EMPTY CONDUITS WITH PULL WIRES (10' ON EACH SIDE OF CONDUIT).
19. SERVICE: 240/120, SINGLE PHASE, 3 WIRE, 200 AMP FROM THE METER.

**T-Mobile**

**TeleCAD**  
Wireless

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DRAWN BY:	BNS
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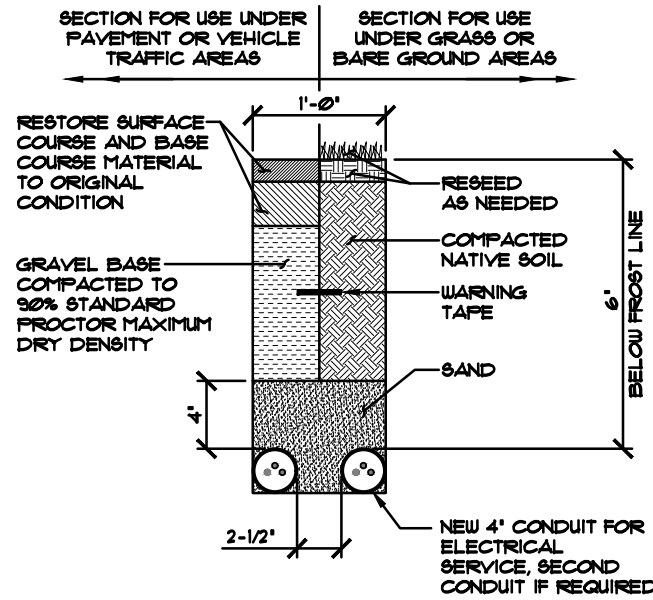


PROJECT No.	N/A
SITE NAME:	UTILITY SERVICES HOLLY SPRINGS
SITE NUMBER:	5RA0965A
SITE ADDRESS:	6908 COKESBURY RD HOLLY SPRINGS, NC 27540
DESIGN TYPE:	COLOCATE

SHEET TITLE:  
**ELECTRICAL  
SPECIFICATIONS NOTES**

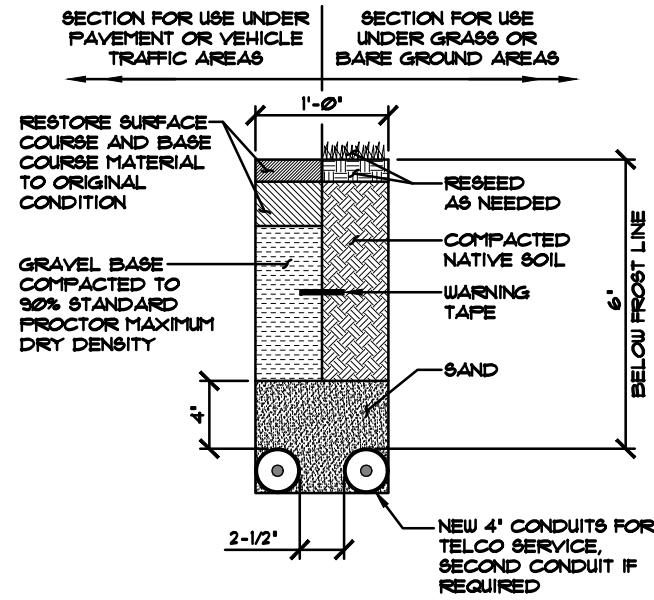
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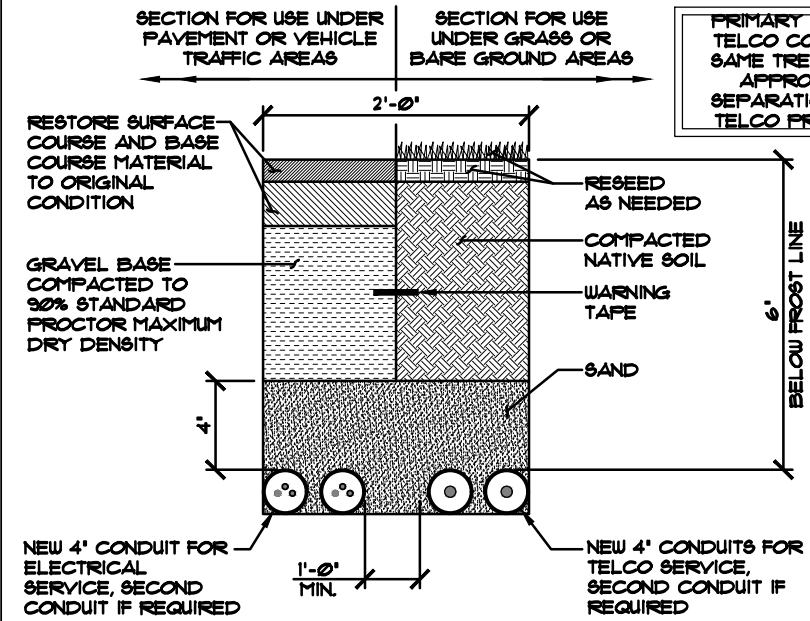
1 ELECTRICAL TRENCH DETAIL

SCALE: N.T.S.



2 TELEPHONE TRENCH DETAIL

SCALE: N.T.S.

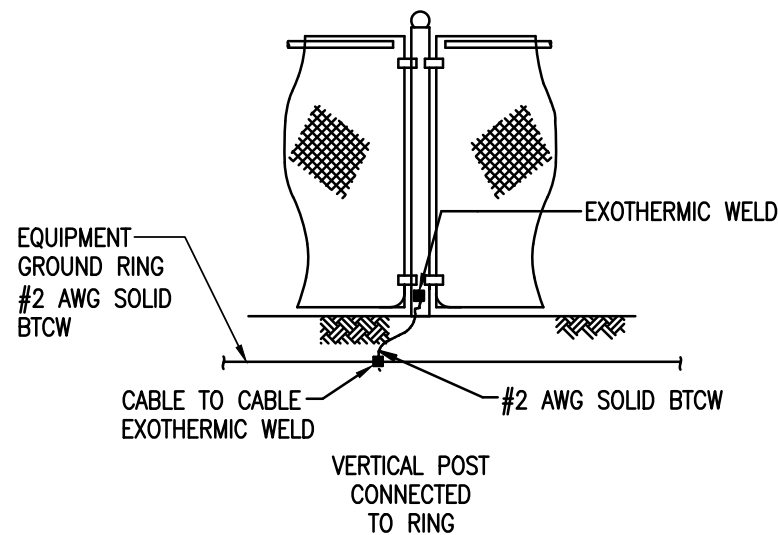


3 JOINT UTILITY TRENCH DETAIL

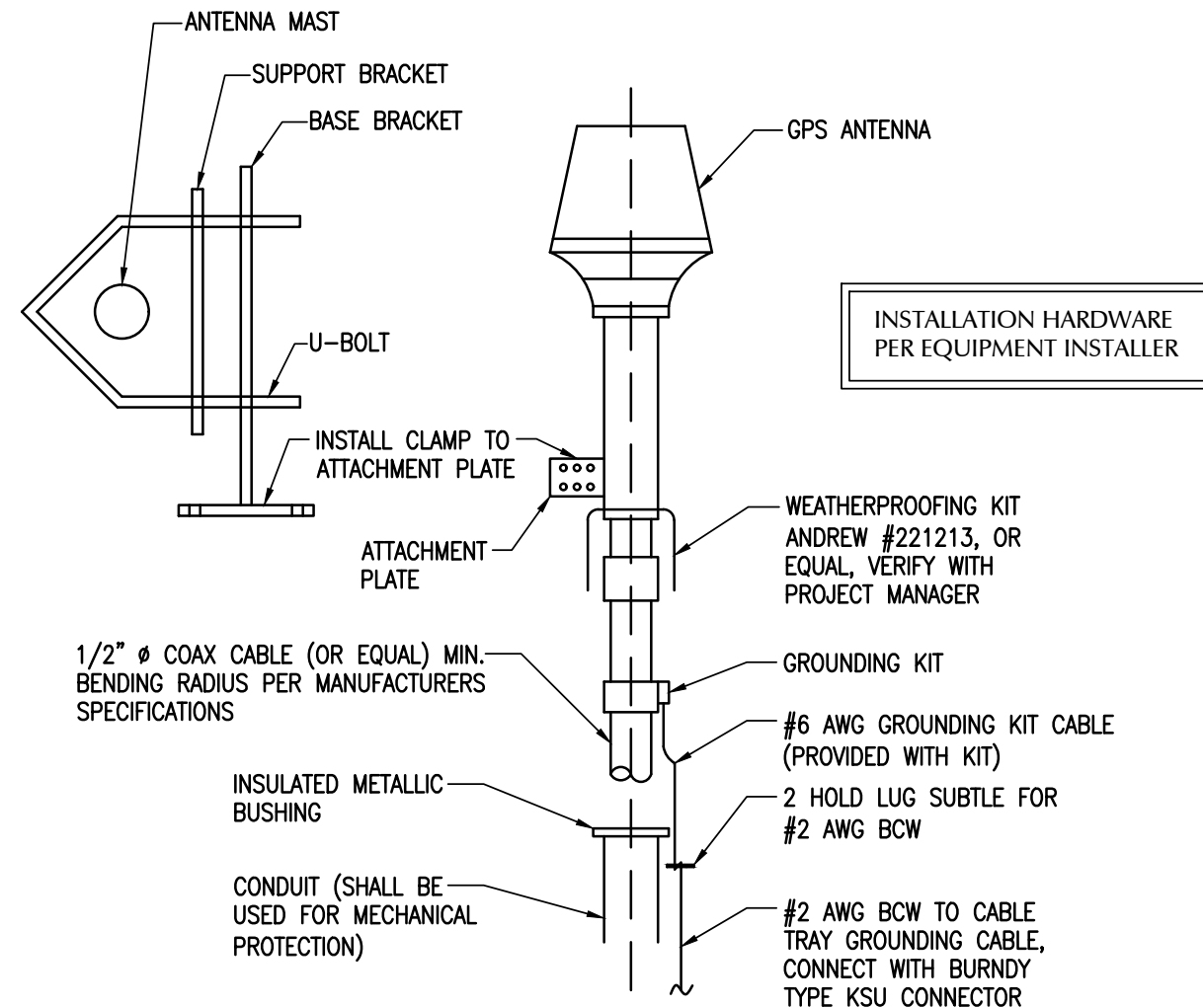
SCALE: N.T.S.

NOTES:

- EXCAVATE TO REQUIRED DEPTH
- VERIFY ALL TRENCHING REQUIREMENTS WITH SERVING UTILITIES.
- CALL BEFORE YOU DIG. CONTACT SERVING UTILITIES.



4 FENCE GROUNDING DETAILS



5 GPS MOUNTING & GROUND DETAIL

SCALE: N.T.S.



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DESIGN TYPE:	COLOCATE

SHEET TITLE:  
ELECTRICAL DETAILS

DRAWING NO.	REVISION:
<b>E4</b>	<b>0</b>



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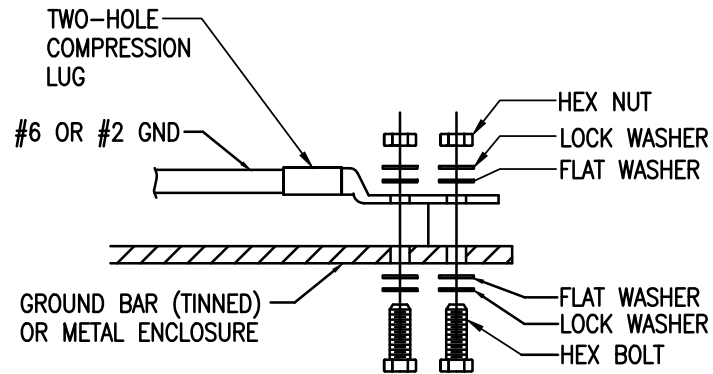
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Δ	01/07/2022	PRELIMINARY REVIEW
Δ	01/03/2022	PRELIMINARY REVIEW
Δ	12/15/2021	PRELIMINARY REVIEW



PROJECT No.	N/A
SITE NAME:	UTILITY SERVICES HOLLY SPRINGS
SITE NUMBER:	5RA0965A
SITE ADDRESS:	6908 COKESBURY RD HOLLY SPRINGS, NC 27540
DESIGN TYPE:	COLOCATE

SHEET TITLE:  
**GROUNDING DETAILS**

DRAWING NO.	REVISION:
<b>E5</b>	<b>0</b>

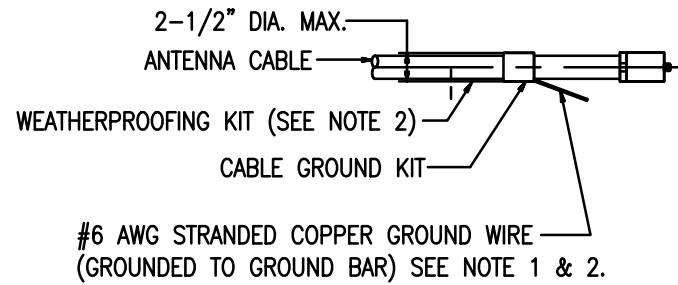


**INSTALLATION NOTES:**

1. BOLTS, WASHERS, AND NUTS SHALL BE STAINLESS STEEL.
2. SELECT BOLT LENGTH TO PROVIDE A MINIMUM OF TWO EXPOSED THREADS.
3. BURNISH MOUNTING SURFACE TO REMOVE PAINT IN THE AREA OF LUG CONTACT.
4. APPLY ANTI-OXIDANT COMPOUND TO MATING SURFACE OF LUG & WIPE CLEAN EXCESS COMPOUND.
5. USE 1/4" HARDWARE FOR ATTACHMENT TO METAL ENCLOSURES & 3/8" FOR ATTACHMENT TO GROUND BARS.
6. ALL BOLTS MUST HAVE AT LEAST 2 THREAD ENGAGEMENT.

**GROUNDING CONNECTION TO GROUND BAR OR FLAT SURFACE**

NTS



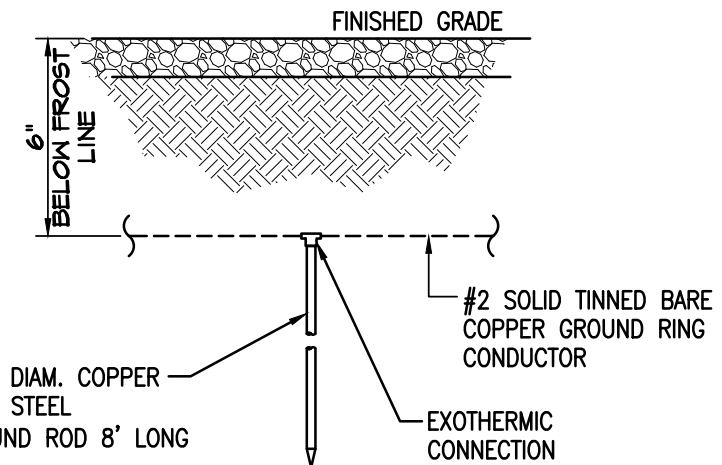
#6 AWG STRANDED COPPER GROUND WIRE (GROUNDED TO GROUND BAR) SEE NOTE 1 & 2.

**GROUND KIT NOTES:**

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
2. GROUNDING KIT AND WEATHER PROOFING KIT SHALL BE OF THE SAME TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.

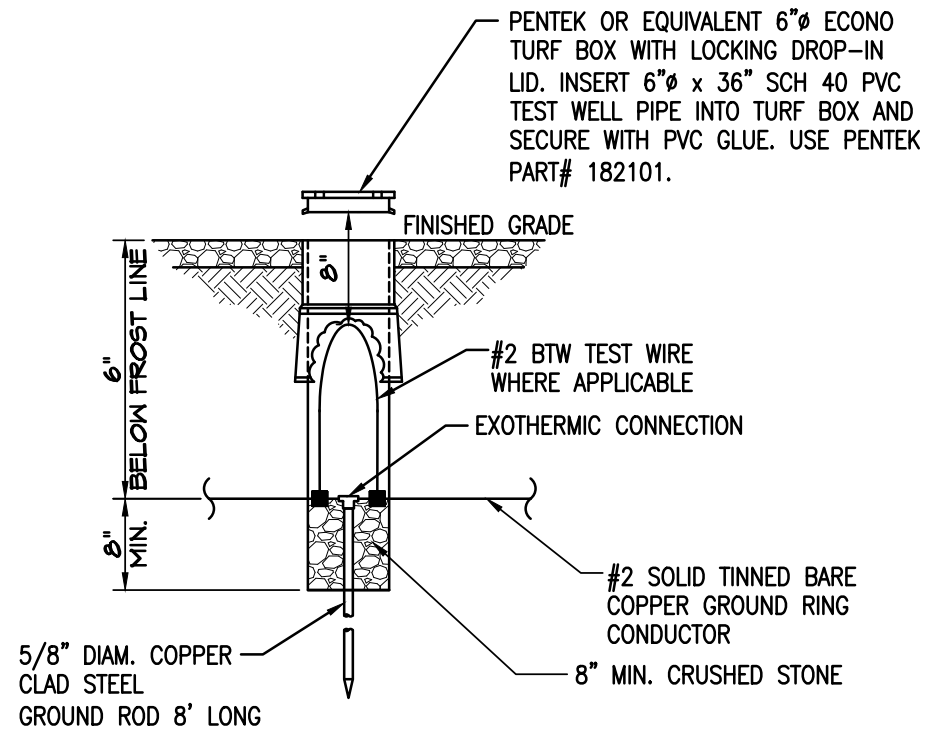
**CONNECTION OF CABLE GROUND KIT TO ANTENNA CABLE**

NTS



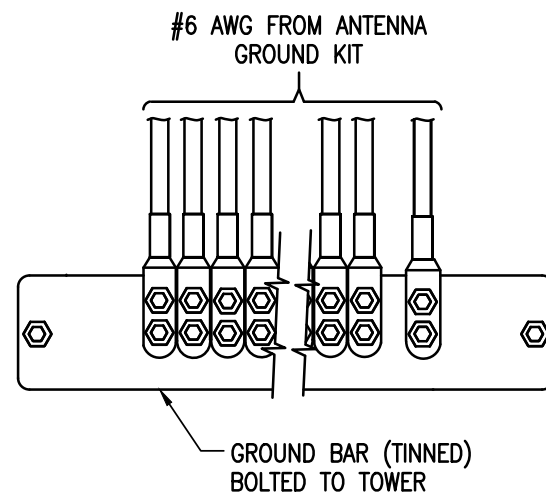
**GROUND ROD DETAIL**

NTS



**INSPECTION SLEEVE DETAIL**

NTS



**INSTALLATION OF GROUND WIRE TO GROUND BAR**

NTS



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A&E PROJECT #:	N/A
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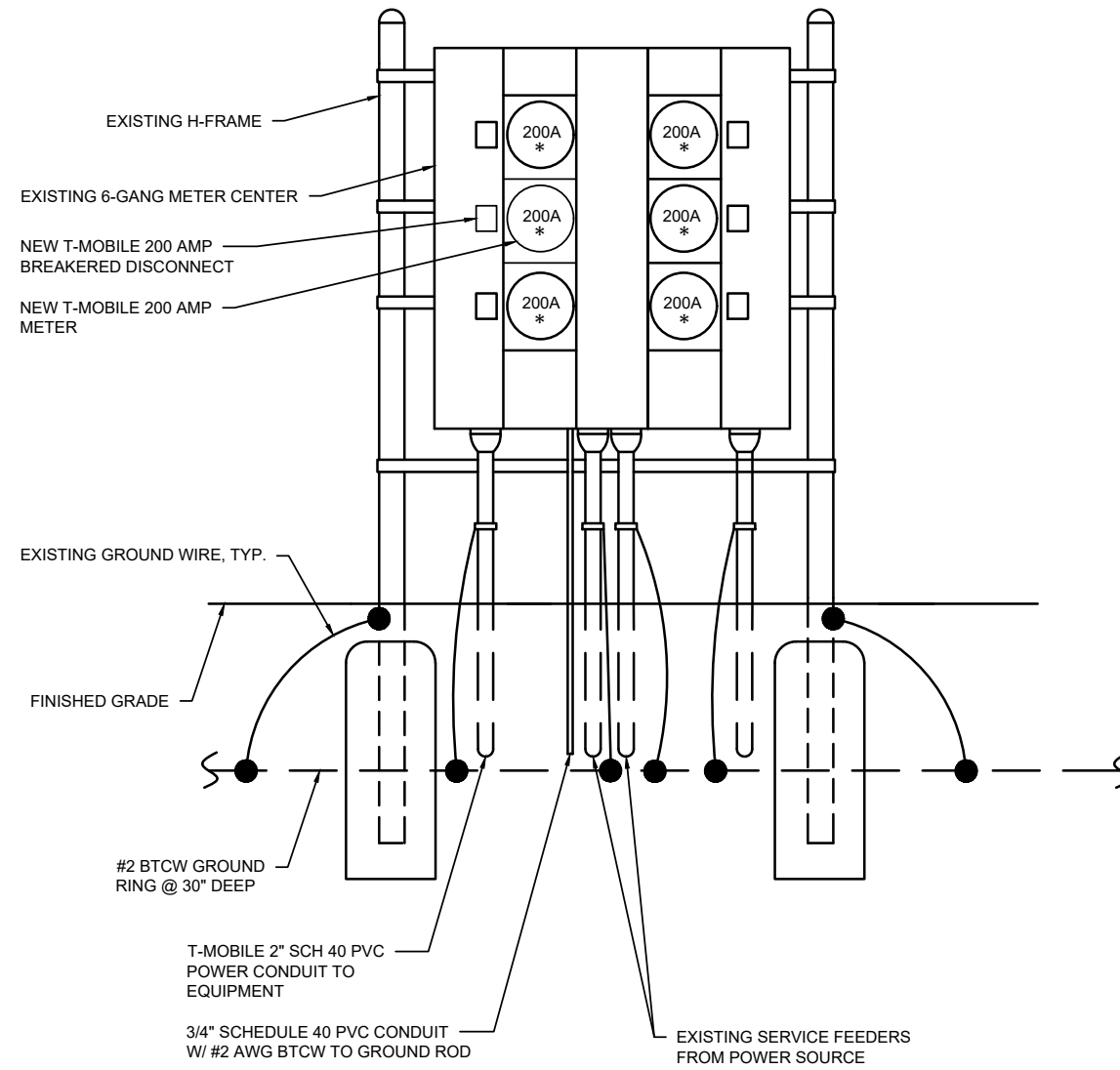
REVISIONS		
NO.	DATE	DESCRIPTION
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SITE ADDRESS:	6908 COKESBURY RD HOLLY SPRINGS, NC 27540
DESIGN TYPE:	COLOCATE

SHEET TITLE:  
**ELECTRICAL DETAILS**

DRAWING NO.	REVISION:
<b>E6</b>	<b>0</b>



**6-GANG METER CENTER**  
**FRONT VIEW**

KEYED COMPONENT NOTES:

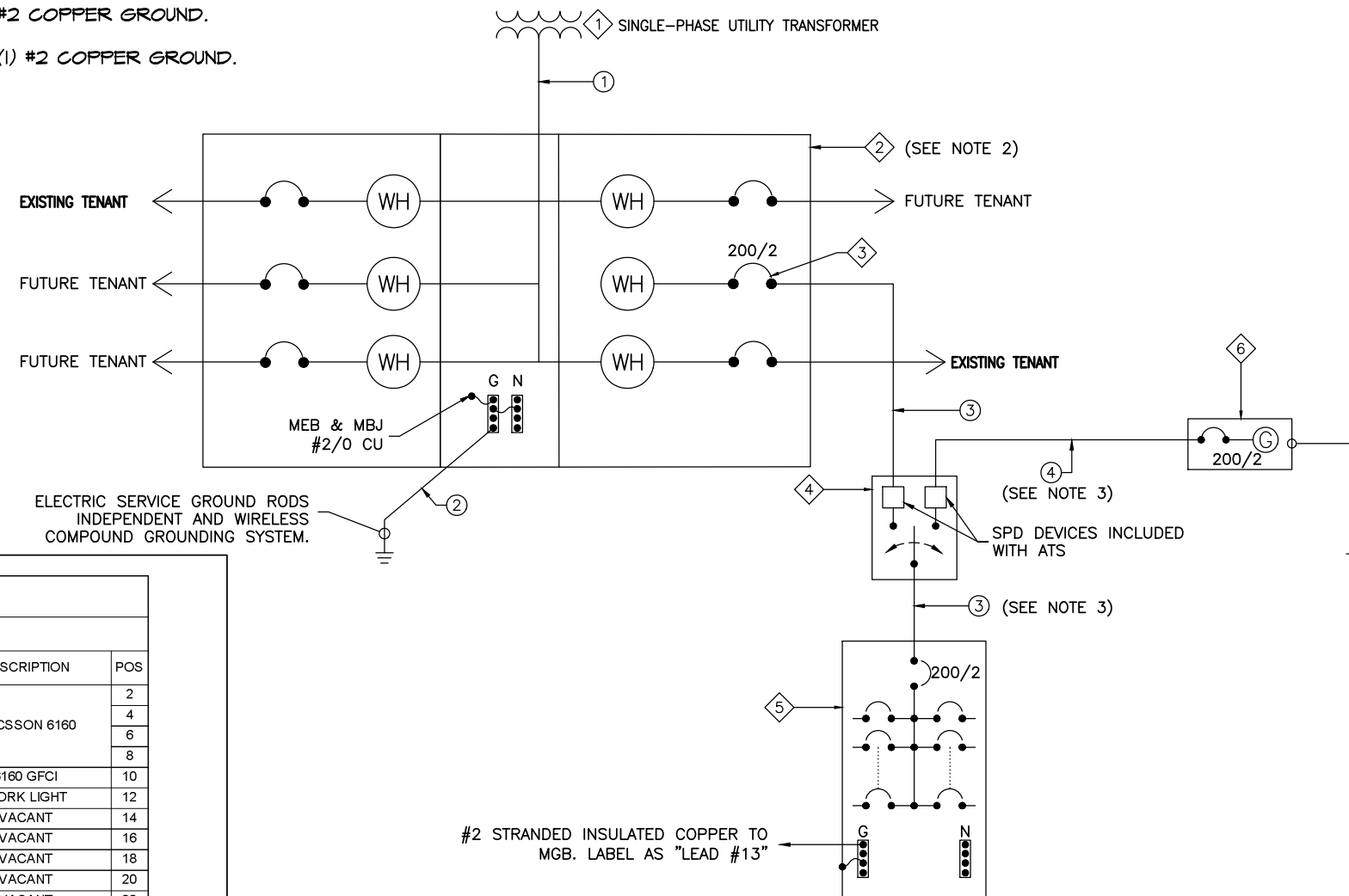
- ① EXISTING UTILITY TRANSFORMER.
- ② EXISTING METER CENTER WITH (4) AVAILABLE METER SOCKETS.
- ③ NEW 200 AMP MAIN BREAKER COMPATIBLE WITH EXISTING SERVICE EQUIPMENT, BY CONTRACTOR.
- ④ NEW 200 AMP, 2-POLE, SOLID NEUTRAL AUTOMATIC TRANSFER SWITCH.
- ⑤ NEW 200 AMP, 120/240V, 3W, DISTRIBUTION PANEL.
- ⑥ NEW EMERGENCY 48KW BACK UP GENERATOR.

KEYED CONDUIT NOTES:

- ① EXISTING CONDUIT & CONDUCTORS.
- ② EXISTING SERVICE GROUNDING.
- ③ NEW 2" CONDUIT MINIMUM WITH (3) #3/0 COPPER THWN CONDUCTORS & (1) #2 COPPER GROUND.
- ④ NEW 2" CONDUIT MINIMUM WITH (3) #3/0 COPPER THWN CONDUCTORS AND (1) #2 COPPER GROUND.

NOTES:

- 1. ALL CONDUIT NOT SPECIFIED OTHERWISE SHALL BE SCHD. 40 PVC BELOW GRADE, IMC ABOVE.
- 2. CONTRACTOR TO VERIFY THAT THE AVAILABLE FAULT CURRENT DOES NOT EXCEED THE LIMITS OF THE ELECTRICAL COMPONENTS.



POWER PANEL (PROPOSED)													
MAIN BREAKER (A)		200	VOLTAGE 120/240 V, 1 PH, 3W										
POS	DESCRIPTION	BKR	ON / OFF	C / NC	VA	L1 (VA)	L2 (VA)	VA	C / NC	ON / OFF	BKR	DESCRIPTION	POS
1	TVSS	60	ON	C	0	0		0	C	ON			2
3			ON	C	0		9000	9000	C	ON		ERICSSON 6160	4
5	TELCO GFCI	20	ON	NC	180	9180		9000	C	ON	150		6
7	GEN BLOCK HEATER	20	ON	NC	1500		1500	0	C	ON			8
9	GEN BATTERY CHARGER	20	ON	NC	1000	1180		180	NC	ON	20	6160 GFCI	10
11	VACANT	-	-	-			360	360	NC	ON	20	WORK LIGHT	12
13	VACANT	-	-	-		0			-	-	-	VACANT	14
15	VACANT	-	-	-		0			-	-	-	VACANT	16
17	VACANT	-	-	-		0			-	-	-	VACANT	18
19	VACANT	-	-	-		0			-	-	-	VACANT	20
21	VACANT	-	-	-		0			-	-	-	VACANT	22
23	VACANT	-	-	-		0			-	-	-	VACANT	24
PHASE TOTALS (VA)					10,360	10,860	AMPERES PER PHASE CANNOT EXCEED MAIN BREAKER RATING						
PHASE CURRENT (A)					105	109							
PANEL TOTAL (VA)					21,220		LEGEND: C=CONTINUOUS, NC=NON-CONTINUOUS						
PANEL CAPACITY AT 80% (VA)					38,400.0								
PANEL LOADING (100% NON-CONTINUOUS) (VA)					3,220.0								
PANEL LOADING (125% CONTINUOUS) (VA)					22,500.0								
TOTAL PANEL LOADING (VA)					25,720.0								
PANEL SPARE CAPACITY (VA)					12,680.0								

AC PANEL SCHEDULE  
NTS

ONE LINE DIAGRAM  
NTS

UTILITY NOTE:

- 1. GC TO INSTALL BRASS NAMES PLATES SECURED WITH POP RIVETS ON ALL T-MOBILE ITEMS (HOFFMAN BOX, METER BASE, DISCONNECT, ETC.)



1961 NORTHPOINT BLVD, SUITE 130  
HIXSON, TN 37343  
PH: 423-843-9500  
FAX: 423-843-9509

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A&E PROJECT #:	N/A
DRAWN BY:	BNS
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REVISIONS		
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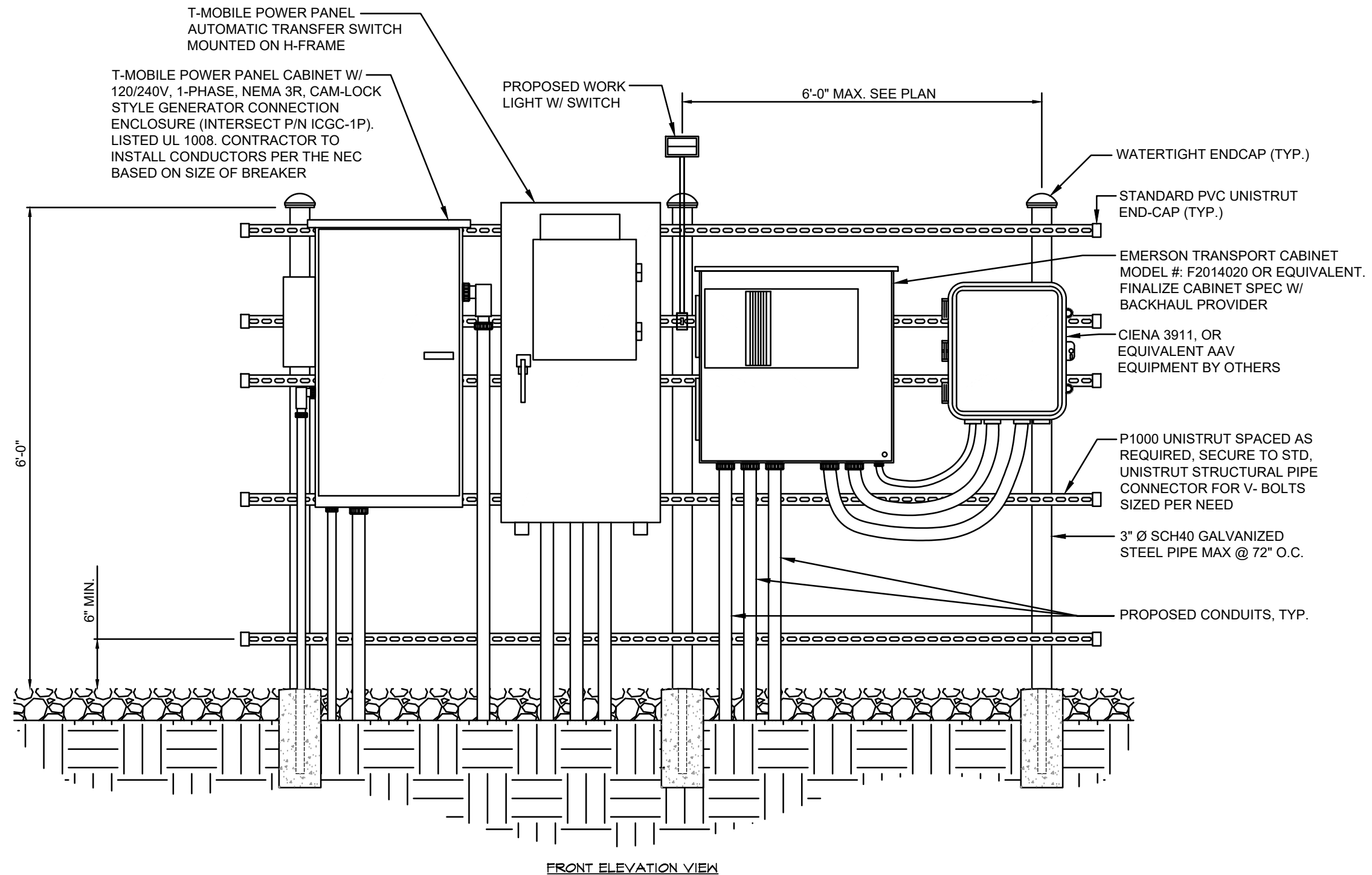
PROJECT No.	N/A
SITE NAME:	UTILITY SERVICES HOLLY SPRINGS
SITE NUMBER:	5RA0965A
SITE ADDRESS:	6908 COKESBURY RD HOLLY SPRINGS, NC 27540
DESIGN TYPE:	COLOCATE

SHEET TITLE:  
ONE LINE DIAGRAM & PANEL SCHEDULE

DRAWING NO.	REVISION:
E6A	0

**NOTES:**

1. ALL EQUIPMENT SHALL BE GROUNDED
2. ALL ELECTRICAL ENCLOSURES TO BE NEMA 3R RATED
3. SEE SITE PLAN FOR GENERAL ROUTING OF ALL CONDUITS. DETERMINE EXACT ROUTINGS IN FIELD.
4. ELECTRICAL EQUIPMENT SHALL BE A MIN. 3'-0" FROM ANY STRUCTURE.
5. ALL COVERPLATES TO BE WEATHERPROOF.
6. INSTALL CAPS ON ALL OPEN POST
7. INSTALL UNISTRUT BEHIND SUPPORT POST AS SHOWN
8. ALL LBs MUST BE RIGID METALLIC
9. IF CAM LOCK GENERATOR CONNECTION IS ON THE RIGHT SIDE OF THE PPC REVERSE H-FRAME LAYOUT



FRONT ELEVATION VIEW



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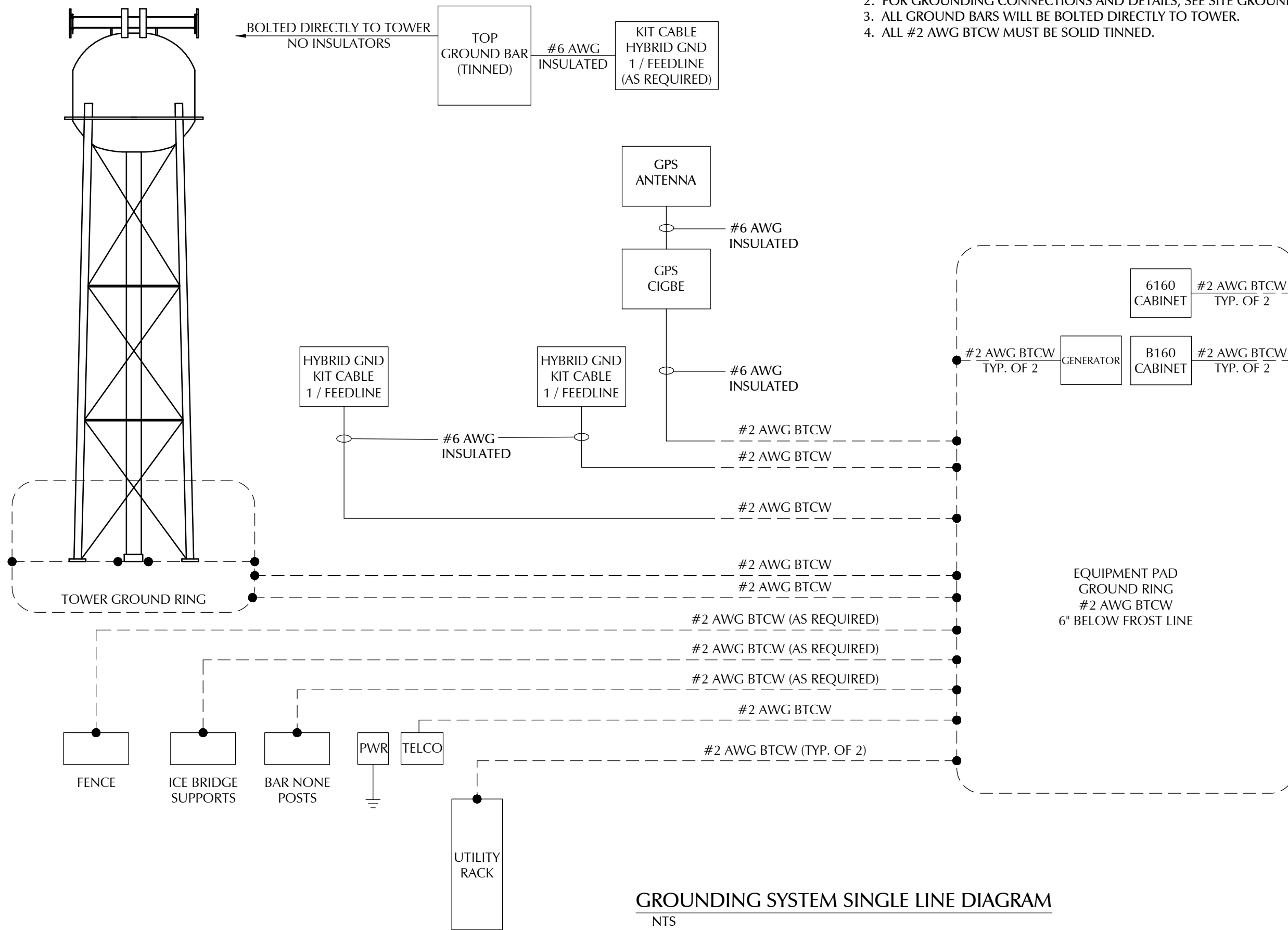


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SITE ADDRESS:	6908 COKESBURY RD HOLLY SPRINGS, NC 27540
DESIGN TYPE:	COLOCATE

SHEET TITLE:  
**EQUIPMENT H-FRAME RACK DETAIL**

DRAWING NO.	REVISION:
<b>E6B</b>	<b>0</b>





- NOTES:
1. BOND ANTENNA GROUNDING TO GROUND BAR.
  2. FOR GROUNDING CONNECTIONS AND DETAILS, SEE SITE GROUNDING PLAN.
  3. ALL GROUND BARS WILL BE BOLTED DIRECTLY TO TOWER.
  4. ALL #2 AWG BTCW MUST BE SOLID TINNED.



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SITE ADDRESS:	6908 COKESBURY RD HOLLY SPRINGS, NC 27540
DESIGN TYPE:	COLOCATE

SHEET TITLE:  
GROUNDING SINGLE LINE

DRAWING NO.	REVISION:
<b>E7</b>	<b>0</b>

**GROUNDING SYSTEM SINGLE LINE DIAGRAM**

NTS