

**at&t**  
mobility corp.

FA NUMBER: 12682142  
PACE NUMBER: MRCAR033561  
PROJECT TRACKING #: 2301A0HFYS  
SITE NAME: 368-766  
AMERICAN TOWER: MCFARLAND NC (280661)

PER THE PROVIDED MONOPOLE STRUCTURAL ANALYSIS DRAWN BY AMERICAN TOWER CORPORATION, DATED 07/09/2020; SMW ENGINEERING CANNOT SEE ANY CONFLICTS BETWEEN THE TOWER DESIGN 195' AND THE PROPOSED LOCATION OF THE MOUNTS 190'.

876 MCFARLAND ROAD  
BROADWAY, NC 27505  
HARNETT COUNTY



SMW # 20-0569.1

**at&t**  
mobility corp.



**SITE INFORMATION**

SITE ADDRESS: 876 MCFARLAND ROAD  
BROADWAY, NC 27505

RFDS USID #: 142556  
RFDS ID #: 4001664  
RFDS DATE: 06/17/2020

LATITUDE (NAD 83): 35.383297" (N 35' 22' 59.86")  
LONGITUDE (NAD 83): -79.037272" (W 79' 02' 14.18")

GROUND ELEVATION: 331.00' (AMSL)

JURISDICTION: HARNETT COUNTY

JURISDICTION CONTACT: NAME: JAY SIKES  
PHONE: (910) 893-7525

ZONING: RA-20

TOWER OWNER: AMERICAN TOWER  
ADDRESS: 5000 VALLEYSTONE DRIVE  
CARY, NC 27519

TOWER OWNER SITE NAME: MCFARLAND NC (280661)

STRUCTURE TYPE: MONOPOLE

STRUCTURE HEIGHT: 195' (AGL) (OVERALL HEIGHT)

POWER SUPPLIER: POWER COMPANY: DUKE ENERGY  
CONTACT NAME: NOT PROVIDED  
PHONE NUMBER: NOT PROVIDED  
REF #: N/A

TELCO SUPPLIER: TELCO COMPANY: WINDSTREAM  
CONTACT NAME: NOT PROVIDED  
PHONE NUMBER: NOT PROVIDED  
REF #: N/A

GAS SUPPLIER: GAS COMPANY: NOT PROVIDED  
CONTACT NAME: NOT PROVIDED  
PHONE NUMBER: NOT PROVIDED  
REF #: N/A

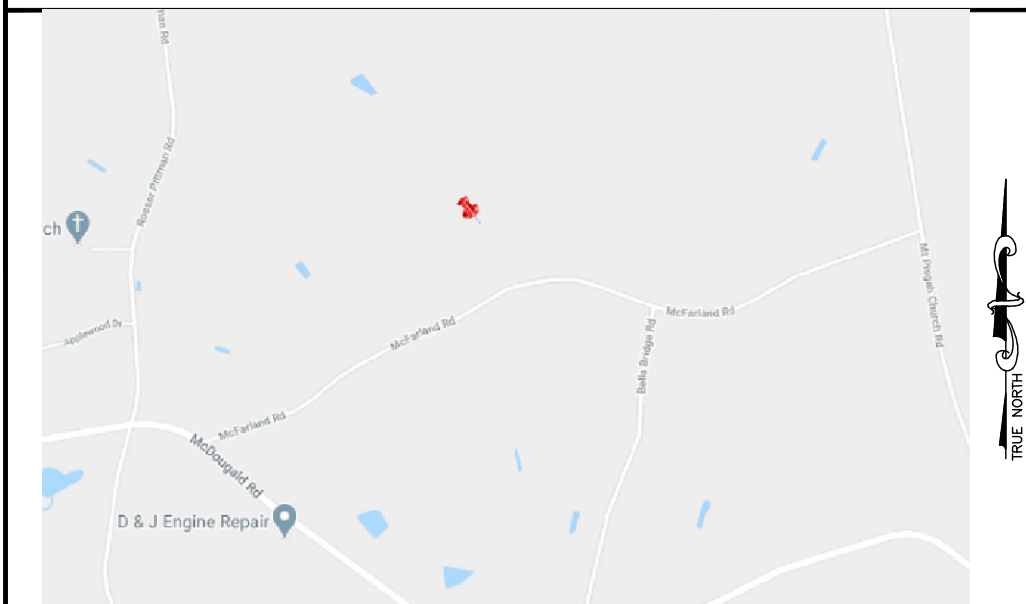
**PROJECT TEAM**

APPLICANT: HIGH PERFORMANCE SERVICES, LLC  
3001 MILLS STREET  
LAFAYETTE, LA 70507  
ALLYSON POE  
772-713-6229

A&E FIRM: SMW ENGINEERING GROUP N.C., PLLC  
158 BUSINESS CENTER DRIVE  
BIRMINGHAM, AL  
PHONE #: 205-252-6985

ENGINEER: V.G. DUVALL, JR., PE  
158 BUSINESS CENTER DRIVE  
BIRMINGHAM, AL 35244

**VICINITY MAP**



**DIRECTIONS**

FROM NEAREST LARGE CITY: START OUT ON I-85 N FOR 84 MILES. TAKE EXIST 126A TO MERGE ONTO US-421 S TOWARD SANFORD. TAKE THE OLD LIBERTY RD EXIT TOWARD LIBERTY. TURN LEFT ONTO OLD LIBERTY RD. TURN LEFT TO MERGE ONTO US-421 N TOWARD GREENSBORO. TURN LEFT ONTO SHILOH RD. TURN RIGHT ONTO BROWNS MEADOW RD. TAKE THE 1ST RIGHT ONTO US-421 S. TAKE EXIT 174 FOR PINEY GROVE CHURCH ROAD. TURN LEFT ONTO PINEY GROVE CHURCH RD. TURN LEFT TO MERGE ONTO US-421 N TOWARD GREENSBORO. TAKE EXIT 180 TOWARD LIBERTY/STALEY. TURN LEFT ONTO OLD US HWY 421. TURN LEFT TO MERGE ONTO US-421 S TOWARD SANFORD. TURN RIGHT ONTO THE US-1 N/US-501 N/US-15 N/N CAROLINA 87 N RAMP. MERGE ONTO U.S. 1 N/US-15 N/US-501 N. TAKE THE EXIT ONTO US-421 BYPASS S. CONTINUE ONTO NC-87 S. TURN LEFT ONTO BROADWAY RD. SLIGHT RIGHT ONTO MCDUGALD RD. SLIGHT LEFT ONTO MCFARLAND RD FOR 3.4 MILES. ARRIVE AT SITE ON THE LEFT (ADDRESS 876 MCFARLAND RD).

**CODE COMPLIANCE**

- ALL WORK AND MATERIALS SHALL BE PERFORMED AND 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 THE LATEST EDITIONS OF THE FOLLOWING CODES.
- 2018 NC BUILDING CODE
  - 2017 NATIONAL ELECTRICAL CODE
  - 2017 NFPA 70, LIFE SAFETY CODE
  - 2012 IFC
  - AMERICAN CONCRETE INSTITUTE
  - AMERICAN INSTITUTE OF STEEL CONSTRUCTION
  - MANUAL OF STEEL CONSTRUCTION 13TH EDITION
  - ANSI/TIA-222-G
  - TIA 607
  - INSTITUTE FOR ELECTRICAL & ELECTRONICS ENGINEER 81
  - IEEE C2 NATIONAL ELECTRIC SAFETY CODE LATEST EDITION
  - TELECORDIA GR-1275
  - ANSI/T 311

**DRAWING INDEX**

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Z-1	EXISTING SITE PLAN
-	SURVEY
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S-1 TO S-1.4	AT&T EQUIPMENT
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S-3	CONSTRUCTION DETAILS - AT&T CONSTRUCTION
A-1	ANTENNA PLAN & SCHEDULE
A-2	RRH, ANTENNA AND EQUIPMENT SPECS (ERICSSON)
E-1	UTILITY PLAN
E-2	ELECTRICAL PANEL SCHEDULE, DIAGRAM AND NOTES
E-2.1	HANDHOLE DETAIL
E-3	DC/FIBER SYSTEM DIAGRAM
E-4	DC WIRING DIAGRAM
G-1	GROUNDING PLAN
G-2	GROUNDING DETAILS & NOTES
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**DRAWING SCALE**

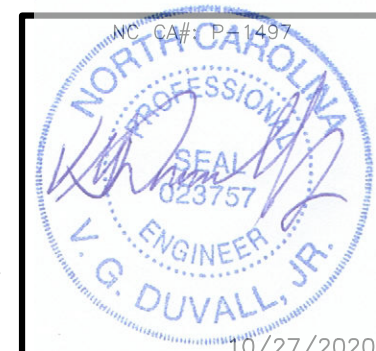
THESE DRAWINGS ARE SCALED TO FULL SIZE AT 22"x34" AND HALF SIZE AT 11"x17". CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE DESIGNER / ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR MATERIAL ORDERS OR BE RESPONSIBLE FOR THE SAME. CONTRACTOR SHALL USE BEST MANAGEMENT PRACTICE TO PREVENT STORM WATER POLLUTION DURING CONSTRUCTION.

**SCOPE OF WORK**

- THIS PROJECT CONSISTS OF:
- INSTALLATION OF UTILITIES TO SITE (IF REQUIRED)
  - INSTALLATION OF EQUIPMENT FOR AT&T UNMANNED TELECOMMUNICATIONS FACILITY



NORTH CAROLINA ONE-CALL  
STATE WIDE CALL: 811  
CALL BEFORE YOU DIG



#	DATE	DESCRIPTION:
0	08/03/20	ISSUED FOR CLIENT REVIEW
1	08/06/20	REVISED PER CLIENT COMMENTS
2	10/02/20	REVISED PER 20KW GENERAC GENERATOR
3	10/07/20	REV. PER CLIENT COMMENTS
4	10/27/20	ISSUED FOR CONSTRUCTION

368-766

TITLE SHEET &  
PROJECT INFORMATION

DESIGNED: VGD  
DRAWN: BLS  
CHECKED: MAW  
LAST REVISION BY: BLS

JOB #: 12682142

T-1

10/27/2020

**2018 APPENDIX B  
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS  
(EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)**  
(Reproduce the following data on the building plans sheet 1 or 2)

Name of Project: **368-766**  
 Address: **876 MCFARLAND ROAD** Zip Code **27505**  
 Owner/Authorized Agent: **AMERICAN TOWER** Phone # ( ) - - - - - E-Mail **N/P**  
 Owned By:  City/County  Private  State  
 Code Enforcement Jurisdiction:  City **BROADWAY**  County **HARNETT**  State

**CONTACT:**

DESIGNER	FIRM	NAME	LICENSE #	TELEPHONE #	E-MAIL
Architectural	<b>SMW ENGINEERING GRP, INC, PLLC</b>	<b>YO DUVALL, JR, PE</b>	<b>023757</b>	<b>(281) 450-9731</b>	<b>yj@smweng.com</b>
Civil	<b>SMW ENGINEERING GRP, INC, PLLC</b>	<b>YO DUVALL, JR, PE</b>	<b>023757</b>	<b>(281) 450-9731</b>	<b>yj@smweng.com</b>
Electrical	<b>SMW ENGINEERING GRP, INC, PLLC</b>	<b>YO DUVALL, JR, PE</b>	<b>023757</b>	<b>(281) 450-9731</b>	<b>yj@smweng.com</b>
Fire Alarm					
Plumbing					
Mechanical					
Sprinkler- Standpipe					
Structural					
Retaining Walls >5' High					
Other					

(\*Other\* should include firms and individuals such as truss, precast, pre-engineered, interior designers, etc.)

**2018 NC BUILDING CODE:**  New Building  Addition  Renovation  
 1<sup>st</sup> Time Interior Completion  
 Shell/Core - Contact the local inspection jurisdiction for possible additional procedures and requirements  
 Phased Construction - Shell/Core- Contact the local inspection jurisdiction for possible additional procedures and requirements

**2018 NC EXISTING BUILDING CODE: EXISTING:**  Prescriptive  Repair  Chapter 14  
 Alteration:  Level I  Level II  Level III  
 Historic Property  Change of Use

**CONSTRUCTED:** (date) \_\_\_\_\_ **CURRENT OCCUPANCY(S)** (Ch. 3): \_\_\_\_\_  
**RENOVATED:** (date) \_\_\_\_\_ **PROPOSED OCCUPANCY(S)** (Ch. 3): \_\_\_\_\_

**OCCUPANCY CATEGORY** (Table 1604.5): **Current:**  I  II  III  IV  
**Proposed:**  I  II  III  IV

**BASIC BUILDING DATA**  
**Construction Type:**  I-A  II-A  III-A  IV  V-A  
 I-B  II-B  III-B  V-B  
 (check all that apply)  
**Sprinklers:**  No  Partial  Yes  NFPA 13  NFPA 13R  NFPA 13D  
**Standpipes:**  No  Yes Class  I  II  III  Wet  Dry  
**Fire District:**  No  Yes **Flood Hazard Area:**  No  Yes  
**Special Inspections Required:**  No  Yes (Contact the local inspection jurisdiction for additional procedures and requirements.)

2018 NC Administrative Code and Policies

FLOOR	Gross Building Area Table		SUB-TOTAL
	EXISTING (SQ FT)	NEW (SQ FT)	
3 <sup>rd</sup> Floor	N/A		
2 <sup>nd</sup> Floor	N/A		
Mezzanine	N/A		
1 <sup>st</sup> Floor	N/A		
Basement	N/A		
<b>TOTAL</b>	<b>N/A</b>		

**ALLOWABLE AREA**  
**Primary Occupancy Classification(s):** Select one Select one Select one Select one Select one Select one  
 Assembly  A-1  A-2  A-3  A-4  A-5  
 Business   
 Educational   
 Factory  F-1 Moderate  F-2 Low  
 Hazardous  H-1 Detonate  H-2 Deflagrate  H-3 Combust  H-4 Health  H-5 HPM  
 Institutional  I-1 Condition  I-2  I-3 Condition  I-4  I-5  
 Mercantile   
 Residential  R-1  R-2  R-3  R-4  
 Storage  S-1 Moderate  S-2 Low  High-piled  
 Parking Garage  Open  Enclosed  Repair Garage  
 Utility and Miscellaneous

**Accessory Occupancy Classification(s):**  **X**  
**Incidental Uses** (Table 509): \_\_\_\_\_  
**Special Uses** (Chapter 4 – List Code Sections): \_\_\_\_\_  
**Special Provisions:** (Chapter 5 – List Code Sections): \_\_\_\_\_  
**Mixed Occupancy:**  No  Yes Separation: \_\_\_\_\_ Hr. Exception: \_\_\_\_\_

Non-Separated Use (508.3) - The required type of construction for the building shall be determined by applying the height and area limitations for each of the applicable occupancies to the entire building. The most restrictive type of construction, so determined, shall apply to the entire building.  
 Separated Use (508.4) - See below for area calculations for each story, the area of the occupancy shall be such that the sum of the ratios of the actual floor area of each use divided by the allowable floor area for each use shall not exceed 1.

$$\frac{\text{Actual Area of Occupancy A}}{\text{Allowable Area of Occupancy A}} + \frac{\text{Actual Area of Occupancy B}}{\text{Allowable Area of Occupancy B}} \leq 1$$

N/A + N/A + ..... = N/A ≤ 1.00

2018 NC Administrative Code and Policies

STORY NO.	DESCRIPTION AND USE	(A) BLDG AREA PER STORY (ACTUAL)	(B) TABLE 506.2 <sup>1</sup> AREA	(C) AREA FOR FRONTAGE INCREASE <sup>1,2</sup>	(D) ALLOWABLE AREA PER STORY OR UNLIMITED <sup>3,4</sup>
N/A					
N/A					
N/A					

<sup>1</sup> Frontage area increases from Section 506.2 are computed thus:  
 a. Perimeter which fronts a public way or open space having 20 feet minimum width = **N/A** (F)  
 b. Total Building Perimeter = **N/A** (P)  
 c. Ratio (F/P) = **N/A** (F/P)  
 d. W = Minimum width of public way = **N/A** (W)  
 e. Percent of frontage increase  $I_f = 100(F/P - 0.25) \times W/30 = \text{N/A}$  (%)  
<sup>2</sup> Unlimited area applicable under conditions of Section 507.  
<sup>3</sup> Maximum Building Area = total number of stories in the building x D (maximum 3 stories) (506.2).  
<sup>4</sup> The maximum area of open parking garages must comply with Table 406.5.4. The maximum area of air traffic control towers must comply with Table 412.3.1.  
<sup>5</sup> Frontage increase is based on the unsprinklered area value in Table 506.2.

**ALLOWABLE HEIGHT**

	ALLOWABLE	SHOWN ON PLANS	CODE REFERENCE
Building Height in Feet (Table 504.3)	N/A		
Building Height in Stories (Table 504.4)	N/A		

Provide code reference if the "Shown on Plans" quantity is not based on Table 504.3 or 504.4.

2018 NC Administrative Code and Policies

**FIRE PROTECTION REQUIREMENTS**

BUILDING ELEMENT	FIRE SEPARATION DISTANCE (FEET)	REQ'D	RATING PROVIDED (w/ N/A * REDUCTION)	DETAIL # AND SHEET #	DESIGN # FOR RATED ASSEMBLY	SHEET # FOR RATED PENETRATION	SHEET # FOR RATED JOINTS
Structural Frame, including columns, girders, trusses	N/A						
Bearing Walls	N/A						
Exterior							
North							
East							
West							
South							
Interior							
Nonbearing Walls and Partitions	N/A						
Exterior walls							
North							
East							
West							
South							
Interior walls and partitions							
Floor Construction including supporting beams and joists	N/A						
Floor Ceiling Assembly							
Columns Supporting Floors							
Roof Construction, including supporting beams and joists	N/A						
Roof Ceiling Assembly							
Columns Supporting Roof							
Shaft Enclosures - Exit							
Shaft Enclosures - Other							
Corridor Separation	N/A						
Occupancy/Fire Barrier Separation	N/A						
Party/Fire Wall Separation	N/A						
Smoke Barrier Separation	N/A						
Smoke Partition	N/A						
Tenant/Dwelling Unit/ Sleeping Unit Separation	N/A						
Incidental Use Separation	N/A						

\* Indicate section number permitting reduction

2018 NC Administrative Code and Policies

**PERCENTAGE OF WALL OPENING CALCULATIONS**

FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES	DEGREE OF OPENINGS PROTECTION (TABLE 705.8)	ALLOWABLE AREA (%)	ACTUAL SHOWN ON PLANS (%)
N/A			
N/A			
N/A			

**LIFE SAFETY SYSTEM REQUIREMENTS**

Emergency Lighting:  No  Yes  
 Exit Signs:  No  Yes  
 Fire Alarm:  No  Yes  
 Smoke Detection Systems:  No  Yes  Partial \_\_\_\_\_  
 Panic Hardware:  No  Yes

**LIFE SAFETY PLAN REQUIREMENTS**

Life Safety Plan Sheet #: **N/A**

- Fire and/or smoke rated wall locations (Chapter 7)
- Assumed and real property line locations (if not on the site plan)
- Exterior wall opening area with respect to distance to assumed property lines (705.8)
- Occupancy Use for each area as it relates to occupant load calculation (Table 1004.1.2)
- Occupant loads for each area
- Exit access travel distances (1017)
- Common path of travel distances (Tables 1006.2.1 & 1006.3.2(1))
- Dead end lengths (1020.4)
- Clear exit widths for each exit door
- Maximum calculated occupant load capacity each exit door can accommodate based on egress width (1005.3)
- Actual occupant load for each exit door
- A separate schematic plan indicating where fire rated floor/ceiling and/or roof structure is provided for purposes of occupancy separation
- Location of doors with panic hardware (1010.1.10)
- Location of doors with delayed egress locks and the amount of delay (1010.1.9.7)
- Location of doors with electromagnetic egress locks (1010.1.9.9)
- Location of doors equipped with hold-open devices
- Location of emergency escape windows (1030)
- The square footage of each fire area (202)
- The square footage of each smoke compartment for Occupancy Classification I-2 (407.5)
- Note any code exceptions or table notes that may have been utilized regarding the items above

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**ACCESSIBLE DWELLING UNITS (SECTION 1107)**

TOTAL UNITS	ACCESSIBLE UNITS REQUIRED	ACCESSIBLE UNITS PROVIDED	TYPE A UNITS REQUIRED	TYPE A UNITS PROVIDED	TYPE B UNITS REQUIRED	TYPE B UNITS PROVIDED	TOTAL ACCESSIBLE UNITS PROVIDED
0							
N/A							

**ACCESSIBLE PARKING (SECTION 1106)**

LOT OR PARKING AREA	TOTAL # OF PARKING SPACES REQUIRED	TOTAL # OF PARKING SPACES PROVIDED	# OF ACCESSIBLE SPACES PROVIDED			TOTAL # ACCESSIBLE PROVIDED
			REGULAR WITH 5' ACCESS AISLE	132" ACCESS AISLE	8' ACCESS AISLE	
N/A						
TOTAL						

**PLUMBING FIXTURE REQUIREMENTS (TABLE 2902.1)**

USE	SPACE	WATERCLOSETS			URINALS	LAVATORIES			SHOWERS /TUBS	DRINKING FOUNTAINS	
		MALE	FEMALE	UNSEX		MALE	FEMALE	UNSEX		REGULAR	ACCESSIBLE
N/A	EXIST'G										
N/A	NEW										
N/A	REQ'D										

**SPECIAL APPROVALS**

Special approval: (Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, etc., describe below)  
**N/A**

2018 NC Administrative Code and Policies



158 BUSINESS CENTER DRIVE  
 BIRMINGHAM, AL 35244  
 TEL: 205-252-6985 FAX: 205-220-1504

SMW # 20-0569.1



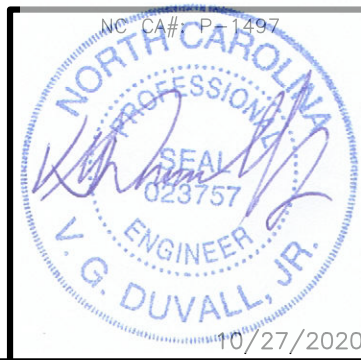
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**368-766**

**BUILDING CODES**

DESIGNED: VGD  
 DRAWN: BLS  
 CHECKED: MAW  
 LAST REVISION BY: BLS  
 JOB #: 12682142

**B-1**



10/27/2020

**ENERGY REQUIREMENTS:**  
The following data shall be considered minimum and any special attribute required to meet the energy code shall also be provided. Each Designer shall furnish the required portions of the project information for the plan data sheet. If performance method, state the annual energy cost for the standard reference design vs annual energy cost for the proposed design.

Existing building envelope complies with code:  No  Yes (The remainder of this section is not applicable)

Exempt Building:  No  Yes (Provide code or statutory reference): \_\_\_\_\_

Climate Zone:  3A  4A  5A

Method of Compliance: Energy Code  Performance  Prescriptive  
ASHRAE 90.1  Performance  Prescriptive  
(If "Other" specify source here) \_\_\_\_\_

**THERMAL ENVELOPE** (Prescriptive method only) **N/A**

**Roof/ceiling Assembly** (each assembly)  
Description of assembly: \_\_\_\_\_  
U-Value of total assembly: \_\_\_\_\_  
R-Value of insulation: \_\_\_\_\_  
Skylights in each assembly: \_\_\_\_\_  
U-Value of skylight: \_\_\_\_\_  
total square footage of skylights in each assembly: \_\_\_\_\_

**Exterior Walls** (each assembly)  
Description of assembly: \_\_\_\_\_  
U-Value of total assembly: \_\_\_\_\_  
R-Value of insulation: \_\_\_\_\_  
Openings (windows or doors with glazing)  
U-Value of assembly: \_\_\_\_\_  
Solar heat gain coefficient: \_\_\_\_\_  
projection factor: \_\_\_\_\_  
Door R-Values: \_\_\_\_\_

**Walls below grade** (each assembly)  
Description of assembly: \_\_\_\_\_  
U-Value of total assembly: \_\_\_\_\_  
R-Value of insulation: \_\_\_\_\_

**Floors over unconditioned space** (each assembly)  
Description of assembly: \_\_\_\_\_  
U-Value of total assembly: \_\_\_\_\_  
R-Value of insulation: \_\_\_\_\_

**Floors slab on grade**  
Description of assembly: \_\_\_\_\_  
U-Value of total assembly: \_\_\_\_\_  
R-Value of insulation: \_\_\_\_\_  
Horizontal/vertical requirement:  
slab heated: \_\_\_\_\_

2018 NC Administrative Code and Policies

**2018 APPENDIX B  
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS  
MECHANICAL DESIGN  
(PROVIDE ON THE MECHANICAL SHEETS IF APPLICABLE)**

**MECHANICAL SUMMARY N/A**

**MECHANICAL SYSTEMS, SERVICE SYSTEMS AND EQUIPMENT**

**Thermal Zone**  
winter dry bulb: \_\_\_\_\_  
summer dry bulb: \_\_\_\_\_

**Interior design conditions**  
winter dry bulb: \_\_\_\_\_  
summer dry bulb: \_\_\_\_\_  
relative humidity: \_\_\_\_\_

**Building heating load:** \_\_\_\_\_

**Building cooling load:** \_\_\_\_\_

**Mechanical Spacing Conditioning System**  
Unitary  
description of unit: \_\_\_\_\_  
heating efficiency: \_\_\_\_\_  
cooling efficiency: \_\_\_\_\_  
size category of unit: \_\_\_\_\_  
Boiler  
Size category. If oversized, state reason: \_\_\_\_\_  
Chiller  
Size category. If oversized, state reason: \_\_\_\_\_

List equipment efficiencies: \_\_\_\_\_

2018 NC Administrative Code and Policies

**2018 APPENDIX B  
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS  
STRUCTURAL DESIGN  
(PROVIDE ON THE STRUCTURAL SHEETS IF APPLICABLE)**

**DESIGN LOADS:**

**Importance Factors:** Snow (I<sub>s</sub>) **N/A**  
Seismic (I<sub>e</sub>) **1.00**

**Live Loads:** Roof **N/A** psf  
Mezzanine **N/A** psf  
Floor **N/A** psf

**Ground Snow Load:** **N/A** psf

**Wind Load:** Basic Wind Speed **90** mph (ASCE-7)  
Exposure Category **C**

**SEISMIC DESIGN CATEGORY:**  A  B  C  D  
Provide the following Seismic Design Parameters:  
**Risk Category** (Table 1604.5)  I  II  III  IV  
**Spectral Response Acceleration** S<sub>s</sub> **0.329** %g S<sub>1</sub> **0.108** %g  
**Site Classification** (ASCE 7)  A  B  C  D  E  F  
**Data Source:**  Field Test  Presumptive  Historical Data  
**Basic structural system**  
 Bearing Wall  Telecommunication Tower (steel pole)  
 Building Frame  Dual w/Intermediate R/C or Special Steel  
 Moment Frame  Inverted Pendulum  
**Analysis Procedure:**  Simplified  Equivalent Lateral Force  Dynamic  
**Architectural, Mechanical, Components anchored?**  Yes  No

**LATERAL DESIGN CONTROL:** Earthquake  Wind

**SOIL BEARING CAPACITIES:**  
Field Test (provide copy of test report) **N/A** psf  
Presumptive Bearing capacity **2500** psf  
Pile size, type, and capacity **N/A**

2018 NC Administrative Code and Policies

**2018 APPENDIX B  
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS  
ELECTRICAL DESIGN  
(PROVIDE ON THE ELECTRICAL SHEETS IF APPLICABLE)**

**ELECTRICAL SUMMARY N/A**

**ELECTRICAL SYSTEM AND EQUIPMENT**

**Method of Compliance:** Energy Code  Performance  Prescriptive  
ASHRAE 90.1  Performance  Prescriptive

**Lighting schedule** (each fixture type)  
lamp type required in fixture  
number of lamps in fixture  
ballast type used in the fixture  
number of ballasts in fixture  
total wattage per fixture  
total interior wattage specified vs. allowed (whole building or space by space)  
total exterior wattage specified vs. allowed

**Additional Efficiency Package Options  
(When using the 2018 NCECC; not required for ASHRAE 90.1)**  
 C406.2 More Efficient HVAC Equipment Performance  
 C406.3 Reduced Lighting Power Density  
 C406.4 Enhanced Digital Lighting Controls  
 C406.5 On-Site Renewable Energy  
 C406.6 Dedicated Outdoor Air System  
 C406.7 Reduced Energy Use in Service Water Heating

2018 NC Administrative Code and Policies



SMW # 20-0569.1



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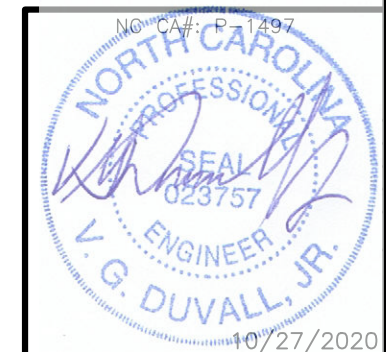
368-766

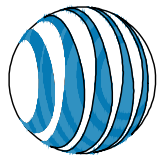
BUILDING CODES

DESIGNED: VGD  
DRAWN: BLS  
CHECKED: MAW  
LAST REVISION BY: BLS

JOB #: 12682142

B-2





#	DATE	DESCRIPTION:
0	08/03/20	ISSUED FOR CLIENT REVIEW
1	08/06/20	REVISED PER CLIENT COMMENTS
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3	10/07/20	REV. PER CLIENT COMMENTS
4	10/27/20	ISSUED FOR CONSTRUCTION

368-766

SITE PLAN

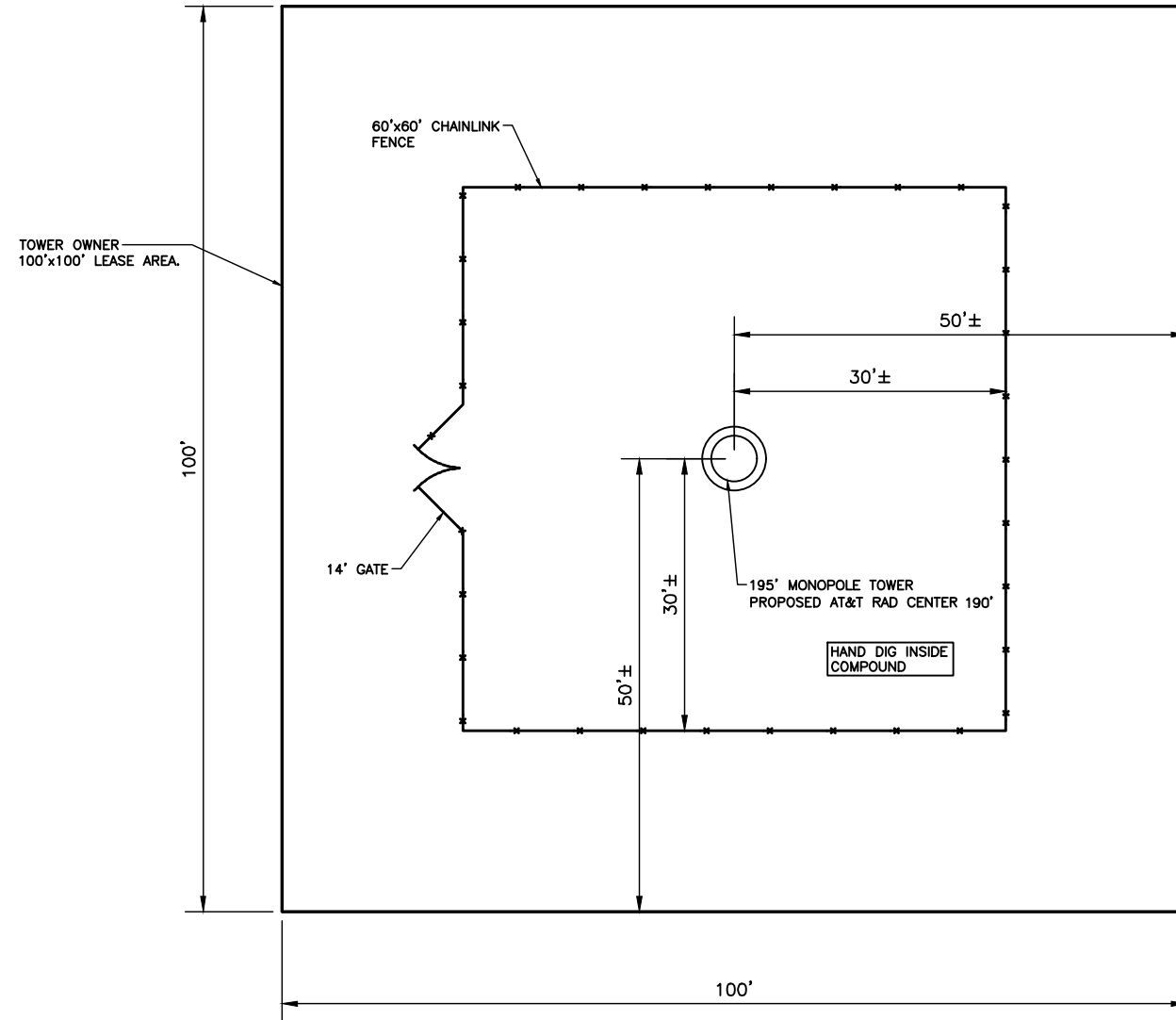
DESIGNED:	VGD
DRAWN:	BLS
CHECKED:	MAW
LAST REVISION BY:	BLS

JOB #: 12682142

Z-1

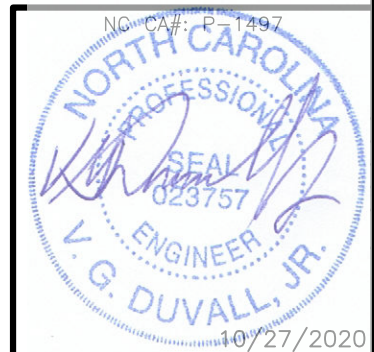
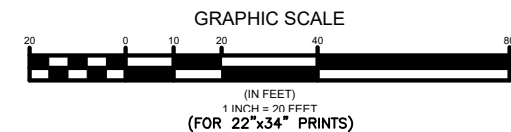


2 AERIAL OVERALL PLAN  
Z-1 SCALE: NTS



1 SITE PLAN  
Z-1 SCALE: 1" = 20'

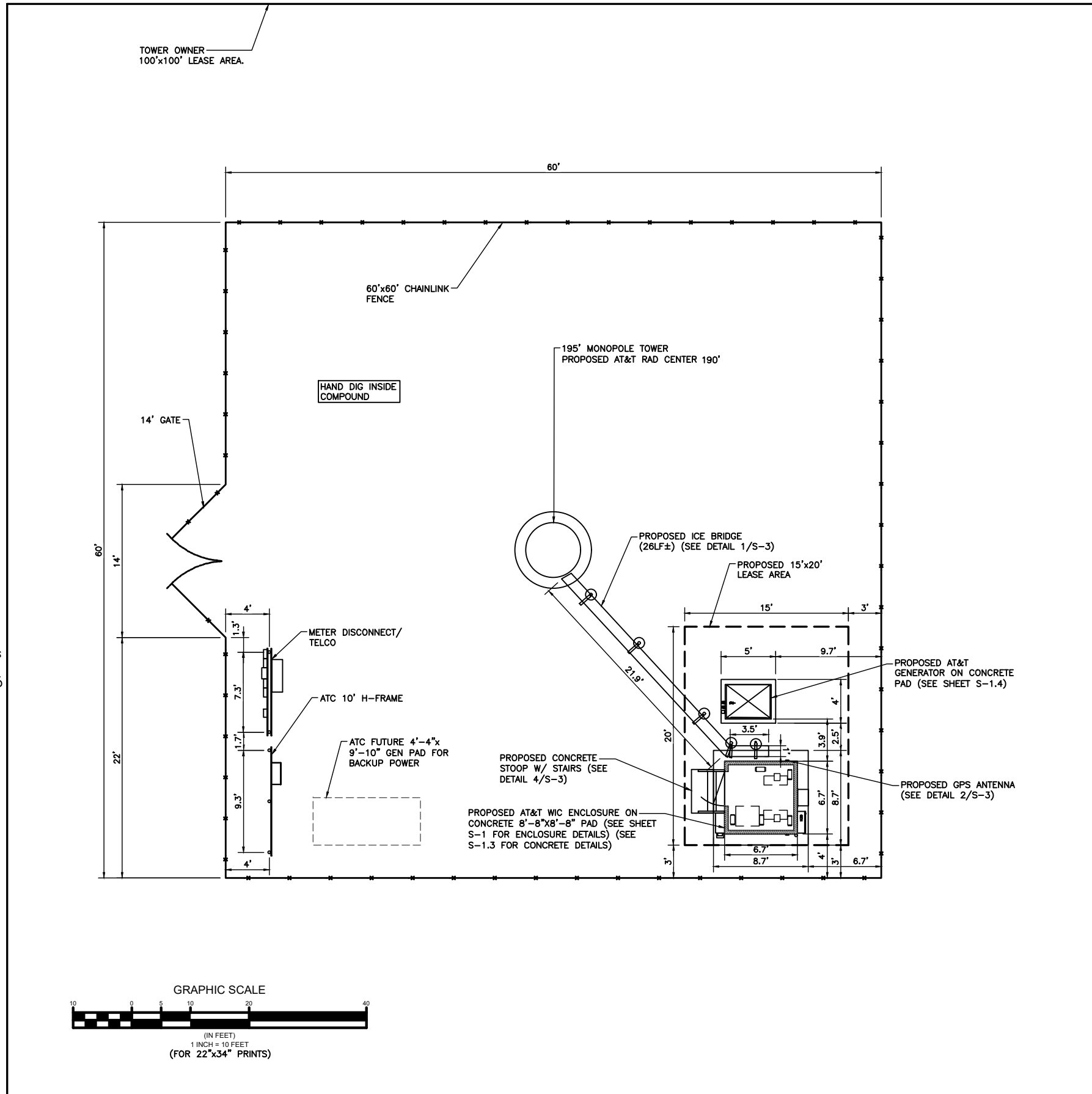
SUBJECT PROPERTY IS LOCATED IN PANEL #3710958800J, DATED 10/03/2006 AND IN FLOOD ZONE "X" AND IS\_NQI IN A SPECIAL FLOOD HAZARD ZONE.



**GENERAL NOTES**

- ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS.
- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, LAWS AND REGULATIONS OF ALL MUNICIPALITIES, UTILITIES COMPANY OR OTHER PUBLIC AUTHORITIES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS THAT MAY BE REQUIRED BY ANY FEDERAL, STATE, COUNTY OR MUNICIPAL AUTHORITIES.
- THE CONTRACTOR SHALL NOTIFY THE UNITI CONSTRUCTION MANAGER, IN WRITING, OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE SUBMISSION OF BIDS OR PERFORMANCE OF WORK. MINOR OMISSIONS OR ERRORS IN THE BID DOCUMENTS SHALL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR THE OVERALL INTENT OF THESE DRAWINGS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING SITE IMPROVEMENTS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED AS A RESULT OF CONSTRUCTION OF THIS FACILITY.
- THE SCOPE OF WORK FOR THIS PROJECT SHALL INCLUDE PROVIDING ALL MATERIALS, EQUIPMENT AND LABOR REQUIRED TO COMPLETE THIS PROJECT. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- THE CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO SUBMITTING A BID TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- CONTRACTOR SHALL MAKE A UTILITY "ONE CALL" TO LOCATE ALL UTILITIES AND NOTIFY UNDERGROUND FACILITIES PROTECTIVE ORGANIZATION AT 811 PRIOR TO EXCAVATION AT SITE.
- ANY UNDERGROUND UTILITIES OR STRUCTURES THAT EXIST BENEATH THE PROJECT AREA, CONTRACTOR MUST LOCATE IT AND CONTACT THE APPLICANT & THE OWNER'S REPRESENTATIVE.
- NO SIGNIFICANT NOISE, SMOKE, DUST, OR ODOR WILL RESULT FROM THIS FACILITY.
- THE FACILITY IS UNMANNED AND NOT INTENDED FOR HUMAN HABITATION (NO HANDICAP ACCESS REQUIRED).
- THE FACILITY IS UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SANITARY SERVICE.
- POWER TO THE FACILITY WILL BE MONITORED BY A SEPARATE METER.
- THERE ARE NO COMMERCIAL SIGNS PROPOSED FOR THIS INSTALLATION.
- NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
- THE SUBGRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.  
MAXIMUM SOIL LIFTS:  
JUMPING JACK - 3"  
CROWS FOOT TRENCH ROLLER - 6"  
HOE OPERATED VIBRATORY PLATE - 8"  
WHEELED VIBRATORY SOIL COMPACTOR - 12"  
\*LIFT HEIGHTS MAY NEED TO BE ADJUSTED DEPENDING ON SOIL TYPES AND MOISTURE CONTENT.
- ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY UTILITY OWNER. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR PIER DRILLING AROUND OR NEAR UTILITIES.
- THE AREAS DISTURBED DUE TO CONSTRUCTION ACTIVITY SHALL BE GRADED AND RESTORED PER CODE/LANDLORD REQUIREMENTS (REFER TO GRADING PLAN).
- CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL, AND COORDINATED WITH THE MUNICIPALITY.
- UTILITY WARNING TAPE SHALL BE PLACED ABOVE ALL NEW CONDUITS AT MAX 18" DEPTH BELOW GRADE.
- THE CONTRACTOR RESPONSIBILITIES:
  - ALL WORK IN THE AT&T LEASED AREA EXCEPT POWER AND TELCO CONDUIT FROM MULTI-GANG METER RACK AND TELCO DEMARC WHICH SHALL BE INSTALLED BY BUILD-TO-SUIT VENDOR.
  - INSTALLATION OF WAVEGUIDE SUPPORT FROM AT&T LEASED AREA TO TOWER BASE.
  - POWER AND FIBER LINES FROM AT&T GROUND EQUIPMENT TO ANTENNA MOUNT LOCATION ON TOWER.
  - AT&T ANTENNAS, RRUs AND APPURTENANT AT&T EQUIPMENT ON ANTENNA MOUNTING PLATFORM AT RAD CENTER IN ACCORDANCE WITH AT&T RFDS.
  - CONSTRUCTION OF ACCESS ROAD, COMPOUND, TOWER FOUNDATION, TOWER OFFLOAD & SET, FENCING, H-FRAME, MULTI-METER LOAD CENTER, TELCO BOX, POWER/FIBER CONDUIT, GROUNDING AND OTHER ACTIVITIES.

CONTRACTOR SHALL CLEAR LEASE AREA OF ALL TREES, SHRUBS, ROCKS, SURFACE SOIL AND DEBRIS. EXCAVATE INTO SLOPES AND/OR ADD FILL DIRT WITH REQUIRED COMPACTION TO LEVEL THE COMPOUND. SITE SHALL BE GRADED TO ALLOW NATURAL DRAINAGE FROM THE COMPOUND. CONTRACTOR WILL GRADE THE AREA AROUND COMPOUND TO PREVENT SOIL EROSION AND ADHERE TO ALL LOCAL, STATE AND FEDERAL REGULATIONS. RETAINING WALLS AND RIP-RAP ARE OUT OF SCOPE AND WILL REQUIRE A CHANGE ORDER UNLESS INCLUDED IN THE CONSTRUCTION PLANS OR ADDED TO SCOPE DURING BID WALKS.

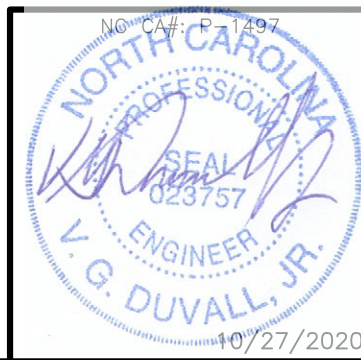


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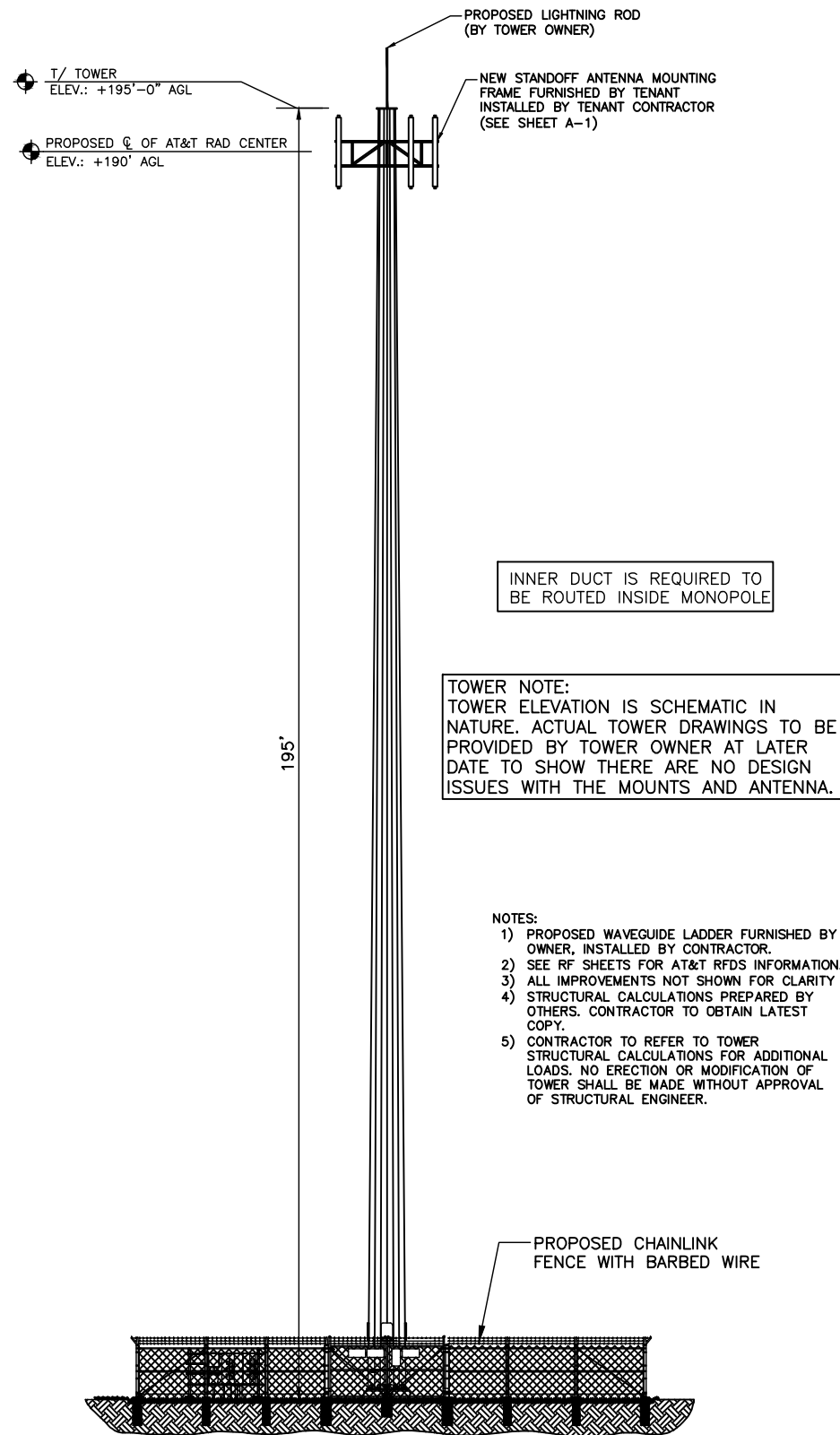
368-766  
**COMPOUND PLAN**

DESIGNED: VGD  
DRAWN: BLS  
CHECKED: MAW  
LAST REVISION BY: BLS  
JOB #: 12682142

**C-1**

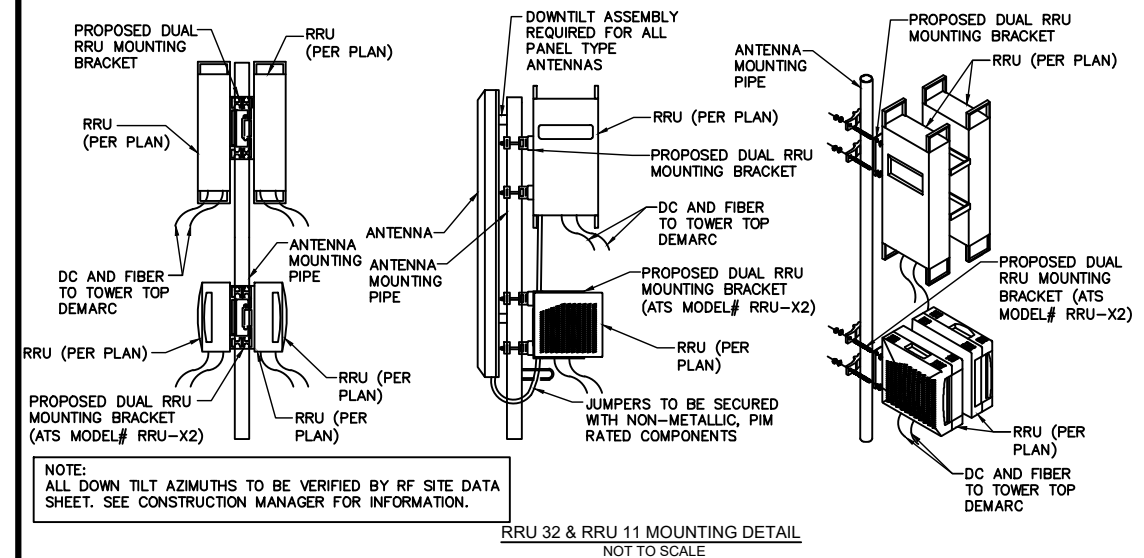
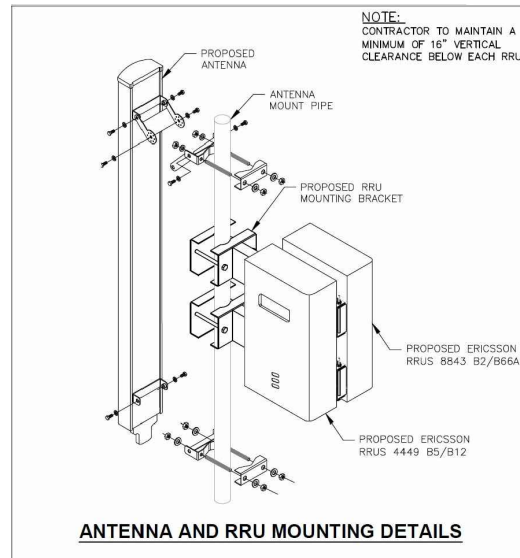


PER THE PROVIDED MONOPOLE STRUCTURAL ANALYSIS DRAWN BY AMERICAN TOWER CORPORATION, DATED 07/09/2020; SMW ENGINEERING CANNOT SEE ANY CONFLICTS BETWEEN THE TOWER DESIGN 195' AND THE PROPOSED LOCATION OF THE MOUNTS 190'.

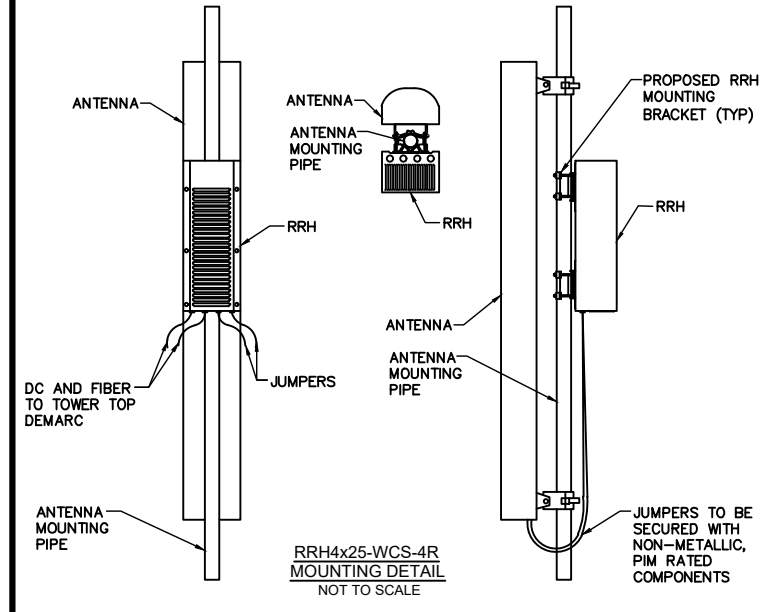


- NOTES:
- 1) PROPOSED WAVEGUIDE LADDER FURNISHED BY OWNER, INSTALLED BY CONTRACTOR.
  - 2) SEE RF SHEETS FOR AT&T RFDS INFORMATION.
  - 3) ALL IMPROVEMENTS NOT SHOWN FOR CLARITY
  - 4) STRUCTURAL CALCULATIONS PREPARED BY OTHERS. CONTRACTOR TO OBTAIN LATEST COPY.
  - 5) CONTRACTOR TO REFER TO TOWER STRUCTURAL CALCULATIONS FOR ADDITIONAL LOADS. NO ERECTION OR MODIFICATION OF TOWER SHALL BE MADE WITHOUT APPROVAL OF STRUCTURAL ENGINEER.

1 TOWER ELEVATION  
SCALE: NOT TO SCALE  
C-2



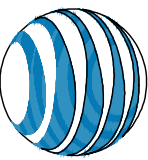
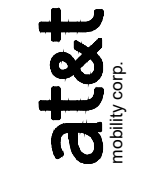
NOTE: ALL DOWN TILT AZIMUTHS TO BE VERIFIED BY RF SITE DATA SHEET. SEE CONSTRUCTION MANAGER FOR INFORMATION.



LEFT BLANK INTENTIONALLY



SMW # 20-0569.1



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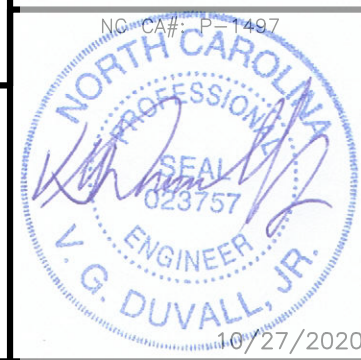
368-766

TOWER ELEVATION AND DETAILS

DESIGNED: VGD  
DRAWN: BLS  
CHECKED: MAW  
LAST REVISION BY: BLS

JOB #: 12682142

C-2





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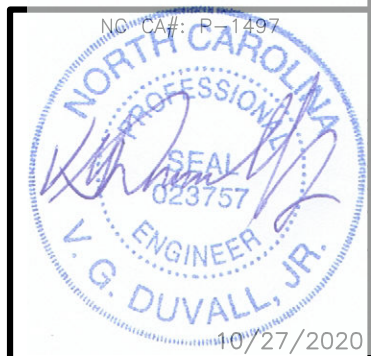
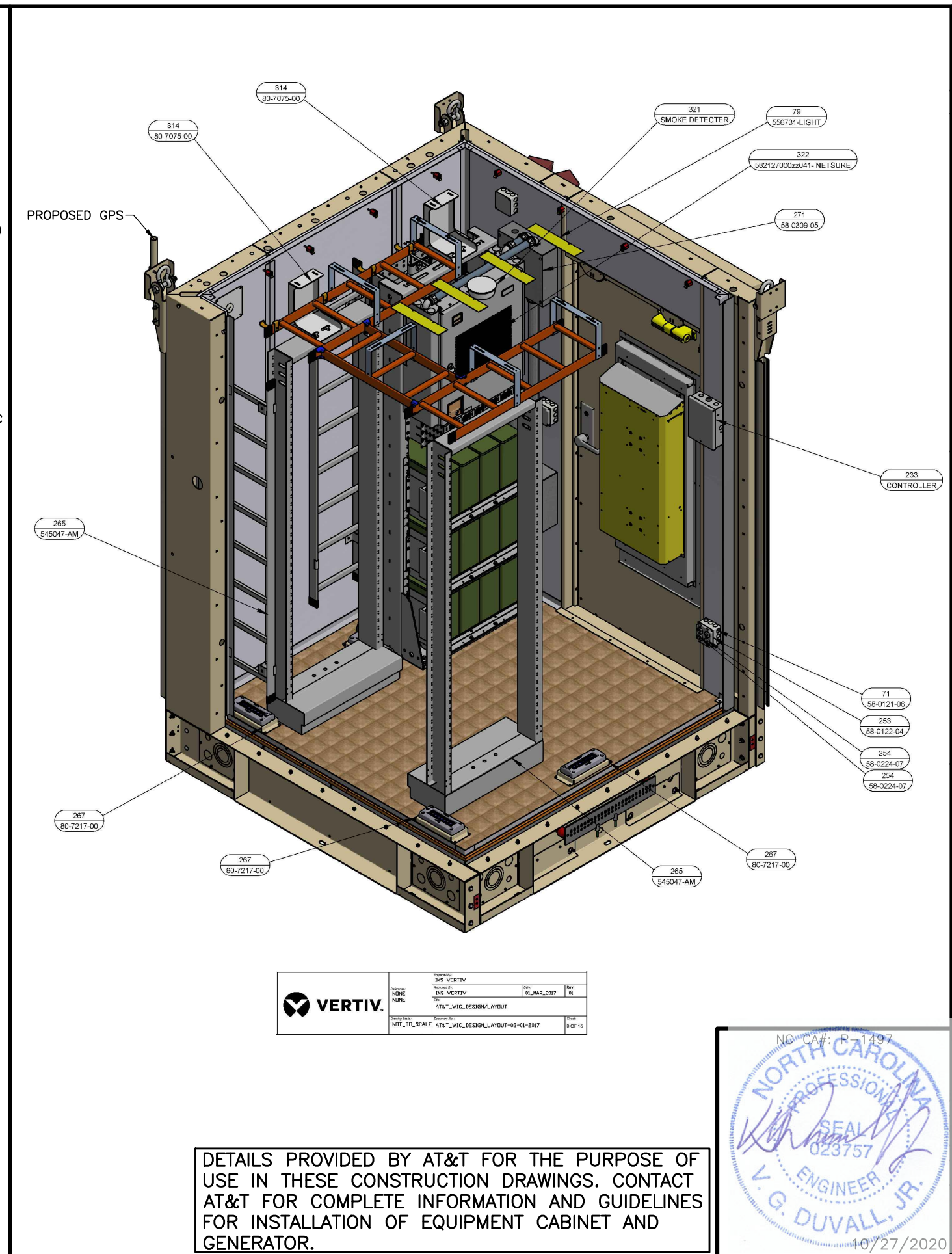
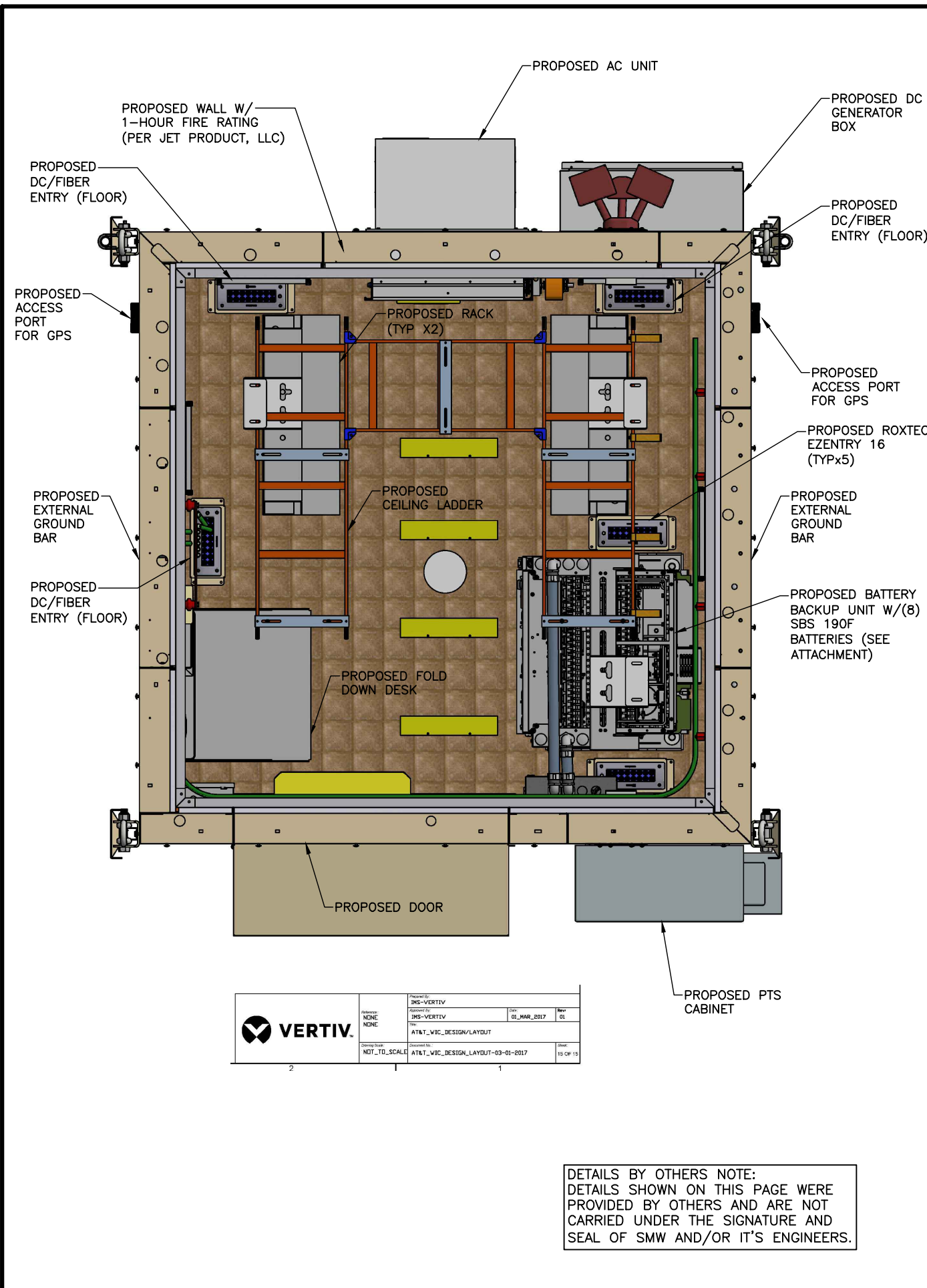
368-766

AT&T EQUIPMENT

DESIGNED:	VGD
DRAWN:	BLS
CHECKED:	MAW
LAST REVISION BY:	BLS

JOB #: 12682142

S-1





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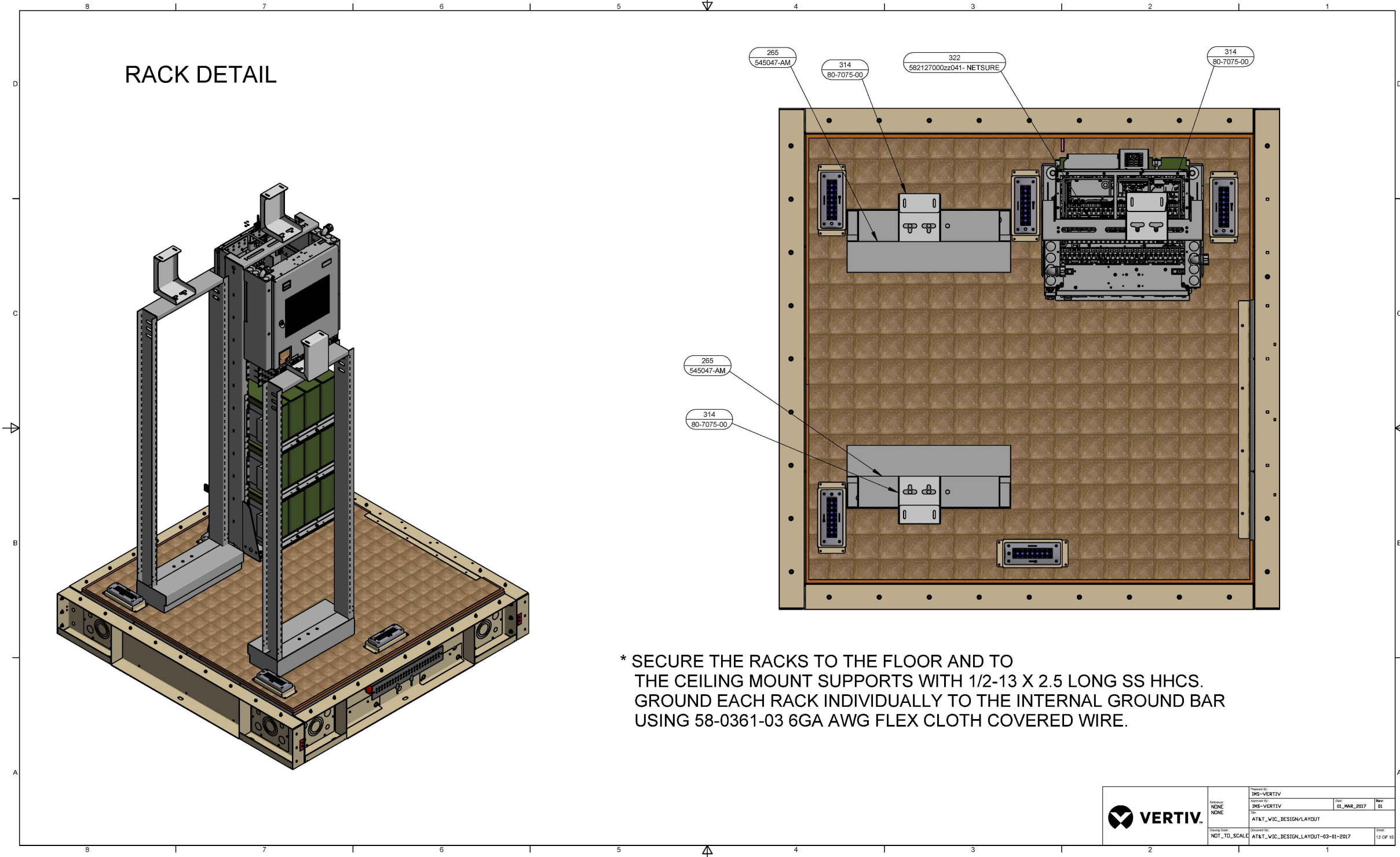
AT&T EQUIPMENT

DESIGNED:	VGD
DRAWN:	BLS
CHECKED:	MAW
LAST REVISION BY:	BLS

JOB #: 12682142

S-1.1

RACK DETAIL

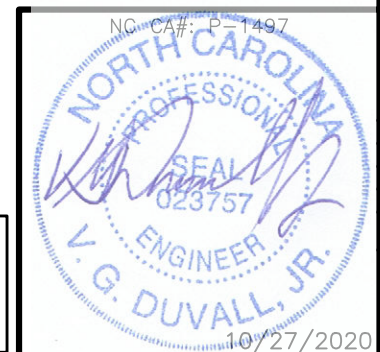


\* SECURE THE RACKS TO THE FLOOR AND TO THE CEILING MOUNT SUPPORTS WITH 1/2-13 X 2.5 LONG SS HHCS. GROUND EACH RACK INDIVIDUALLY TO THE INTERNAL GROUND BAR USING 58-0361-03 6GA AWG FLEX CLOTH COVERED WIRE.

	Prepared By:	DMS-VERTIV	Date:	01_MAR_2017	Rev:	01	
	Checked By:	DMS-VERTIV	Date:	01_MAR_2017	Rev:	01	
	Drawing Title:	AT&T_WIC_DESIGN/LAYOUT					
	Drawing Scale:	AT&T_WIC_DESIGN_LAYOUT-03-01-2017					12 OF 15

DETAILS BY OTHERS NOTE:  
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DETAILS PROVIDED BY AT&T FOR THE PURPOSE OF USE IN THESE CONSTRUCTION DRAWINGS. CONTACT AT&T FOR COMPLETE INFORMATION AND GUIDELINES FOR INSTALLATION OF ENCLOSURE AND GENERATOR.







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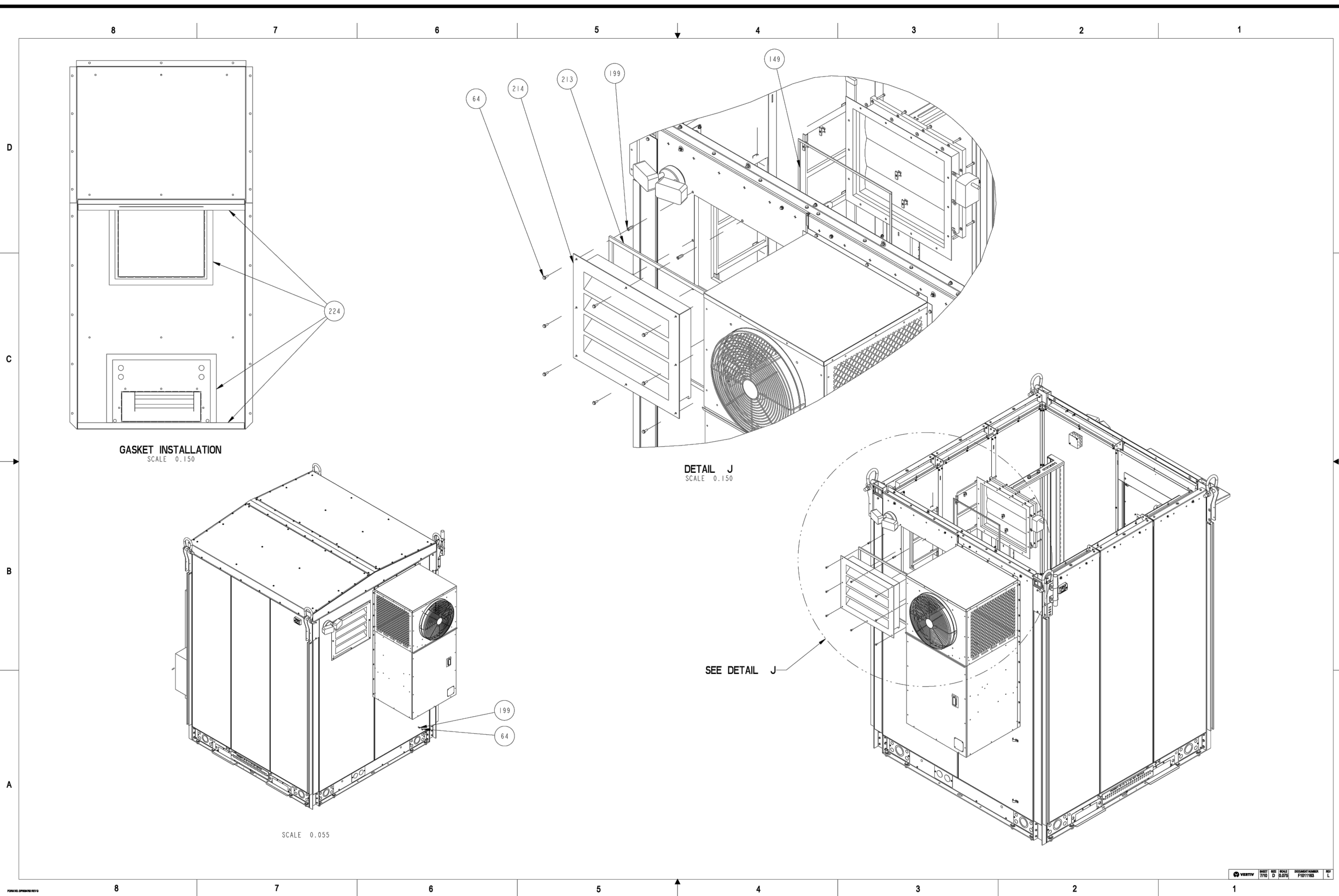
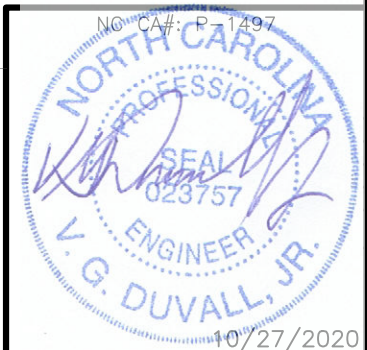
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AT&T EQUIPMENT

DESIGNED:	VGD
DRAWN:	BLS
CHECKED:	MAW
LAST REVISION BY:	BLS

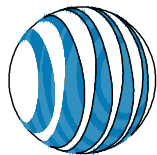
JOB #: 12682142

S-1.2



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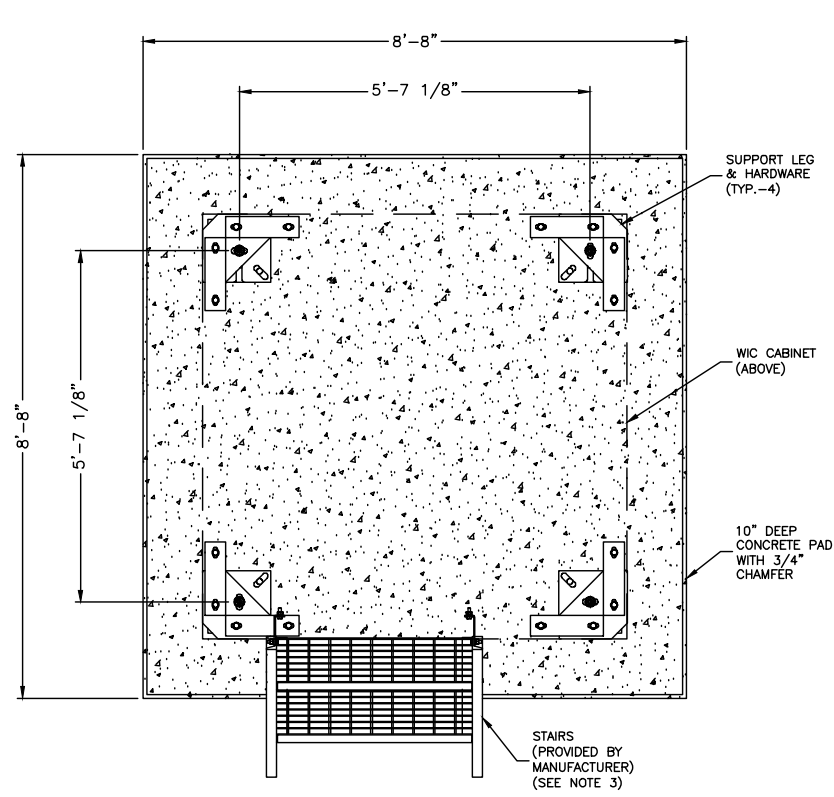
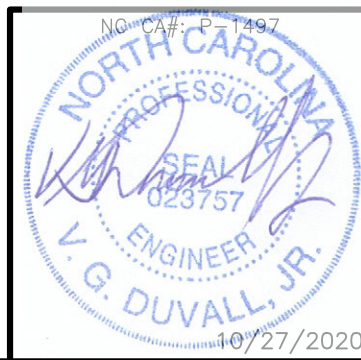
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368-766  
**AT&T EQUIPMENT -  
WIC FOOTING DESIGN**

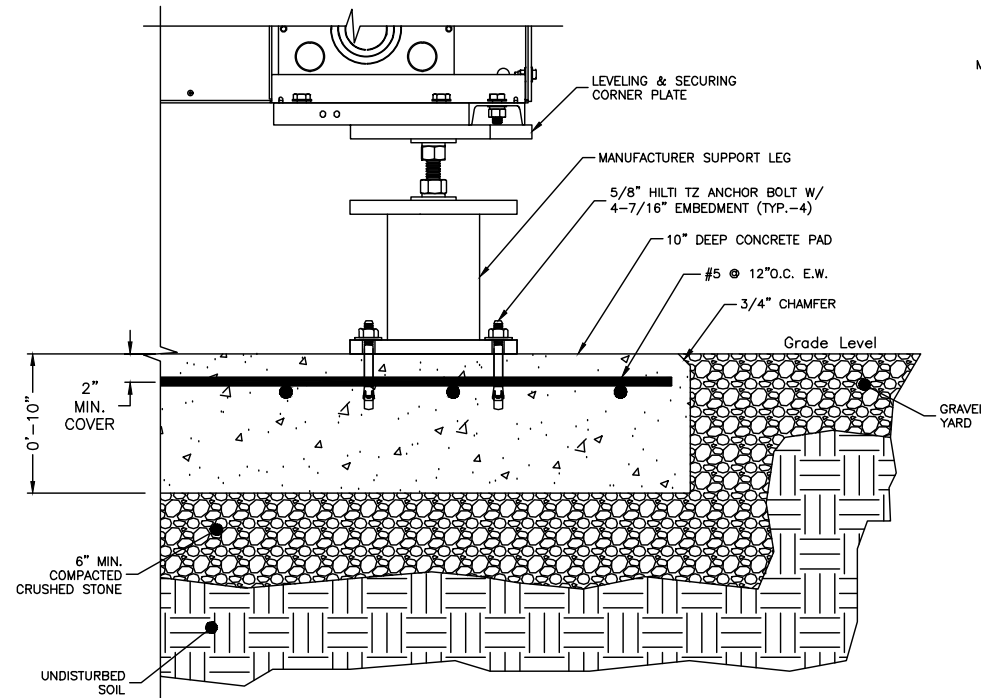
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CHECKED:	MAW
LAST REVISION BY:	BLS

JOB #: 12682142

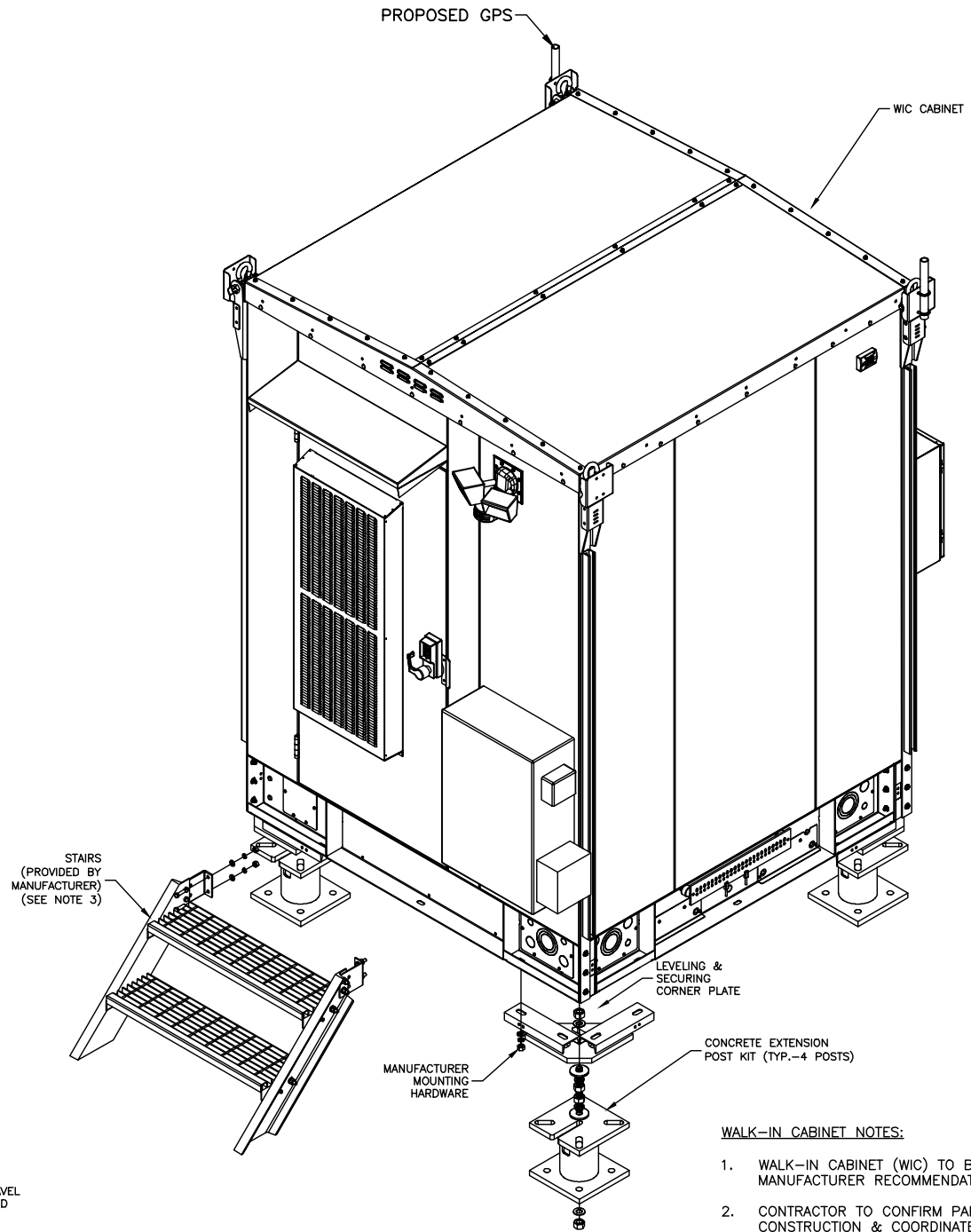
**S-1.3**



**WIC FOUNDATION DETAIL**  
11'x17' SCALE: 3/8" = 1'-0"



**WIC BASE SECTION**  
11'x17' SCALE: 1" = 1'-0"



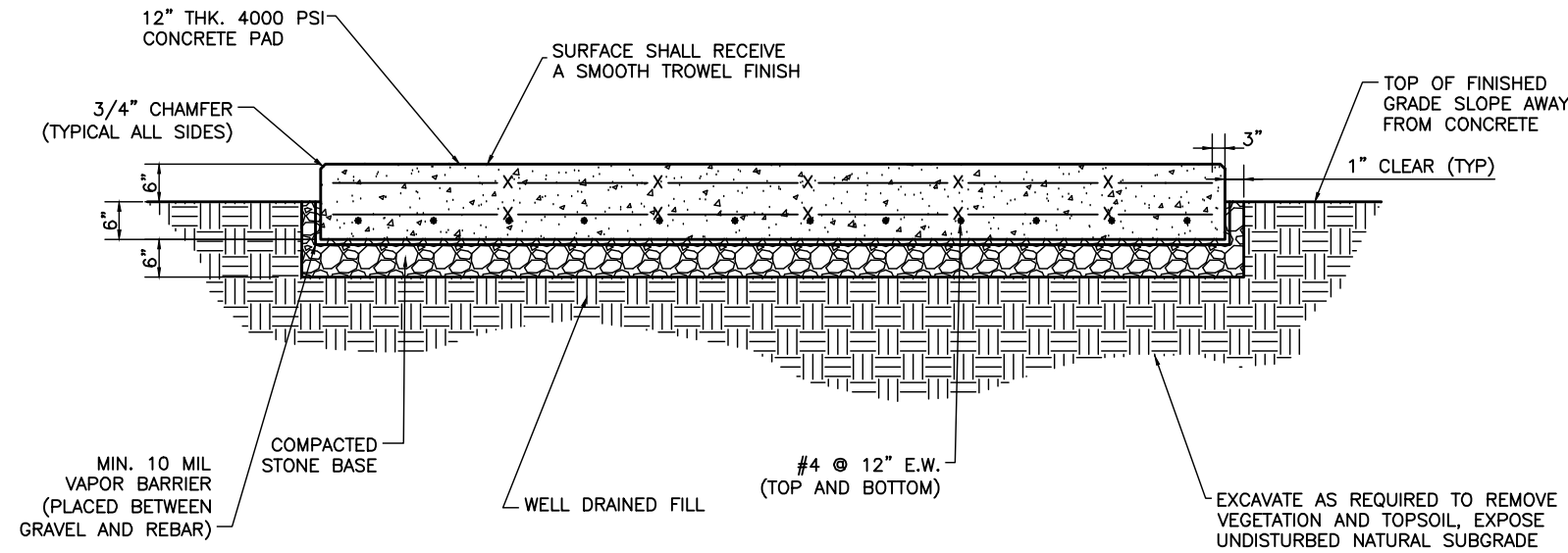
**WIC ISOMETRIC**  
11'x17' SCALE: N.T.S.

DETAILS BY OTHERS NOTE:  
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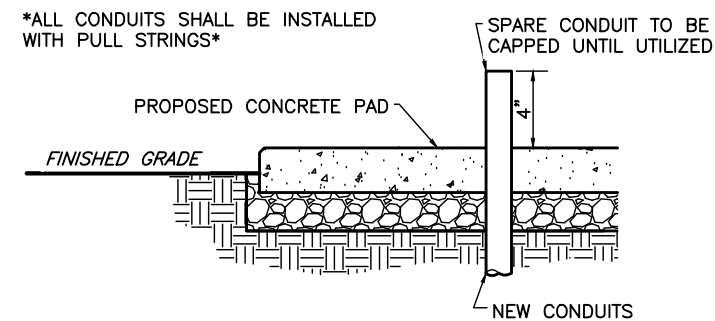
**WALK-IN CABINET NOTES:**

1. WALK-IN CABINET (WIC) TO BE INSTALLED ACCORDING TO MANUFACTURER RECOMMENDATIONS & SPECIFICATIONS.
2. CONTRACTOR TO CONFIRM PARTS & HARDWARE PRIOR TO CONSTRUCTION & COORDINATE WITH AT&T CM.
3. FOUNDATION TO BE FLUSH WITH EXISTING GRADE. CONTRACTOR SHALL MAINTAIN A MAXIMUM 18" CLEARANCE FROM GRADE TO BOTTOM OF WIC TO ACCOMMODATE STAIRS. VERIFY IN FIELD PRIOR TO POST INSTALLATION.
4. COORDINATE POWER & TELCO CONDUIT STUBUP PLACEMENT WITH ELECTRICAL TRADES. SEE E-1 FOR ADDITIONAL INFORMATION.
5. PROVIDE WORKING HVAC AND ELECTRICAL WORKING SPACE CLEARANCES PER MANUFACTURER RECOMMENDATIONS & CODE REQUIREMENTS.
6. WIC DIMENSIONS: 6'-8"W X 6'-8"L X 9'-6" TALL (NO BASE)  
WIC WEIGHT: 5500 LBS (EMPTY) 7500 LBS (FULLY INTEGRATED)
7. CONTRACTOR TO PROVIDE AND INSTALL SPECIFIED CONCRETE ANCHORS.

NO GEOTECHNICAL REPORT HAS BEEN PROVIDED TO SMW ENGINEERING AT THIS TIME. GEO REPORT TO BE PROVIDED AT LATER DATE.



1 CONCRETE GENERATOR PAD DETAIL  
S-1.4 SCALE: NOT TO SCALE

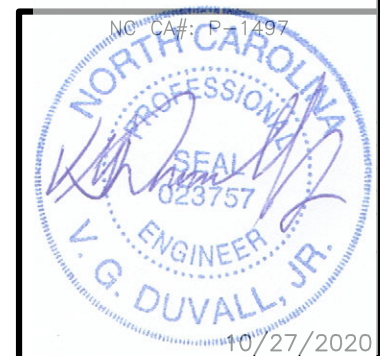


2 CONDUIT PENETRATION DETAIL - GENERATOR  
S-1.4 SCALE: NOT TO SCALE

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AT&T EQUIPMENT

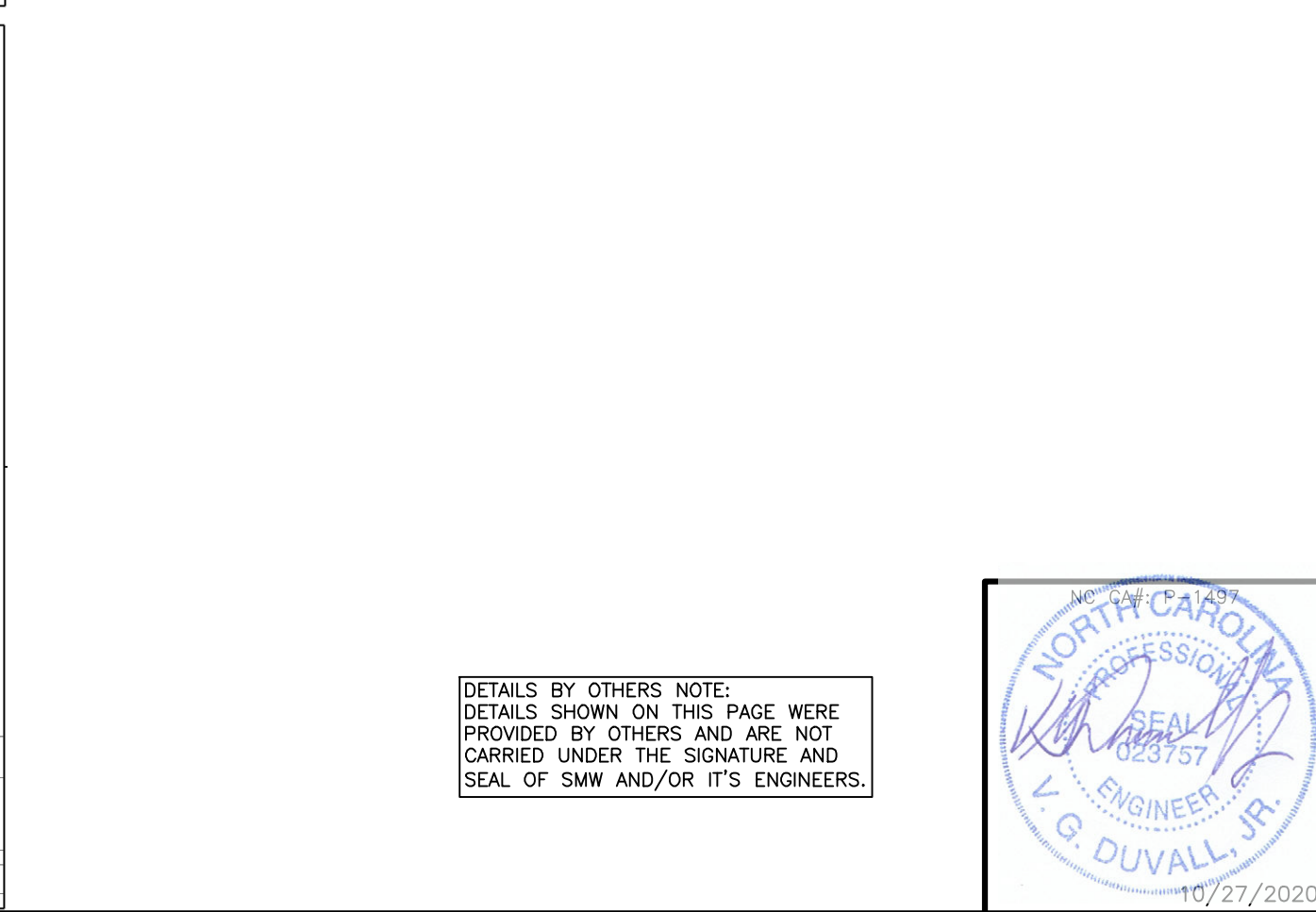
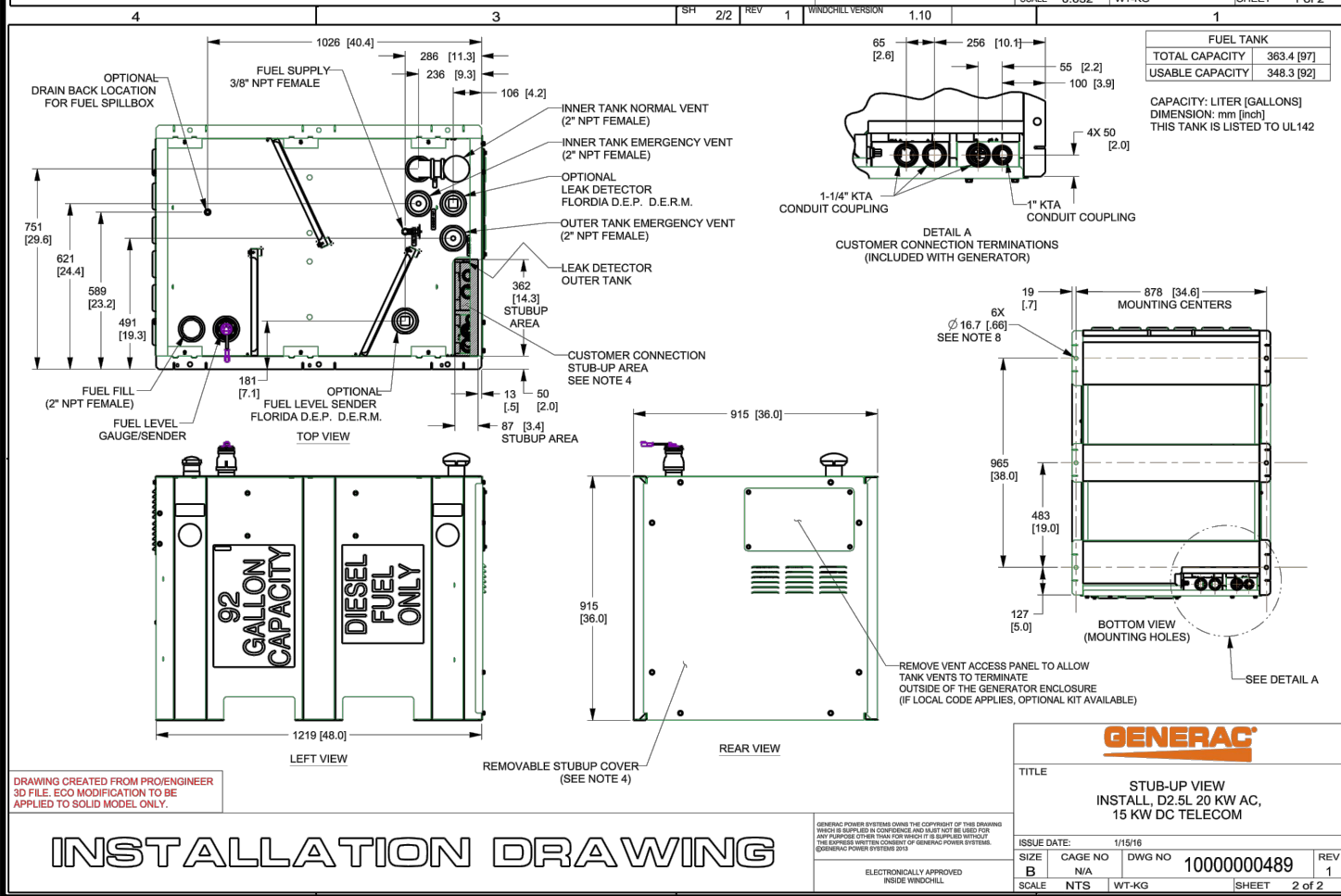
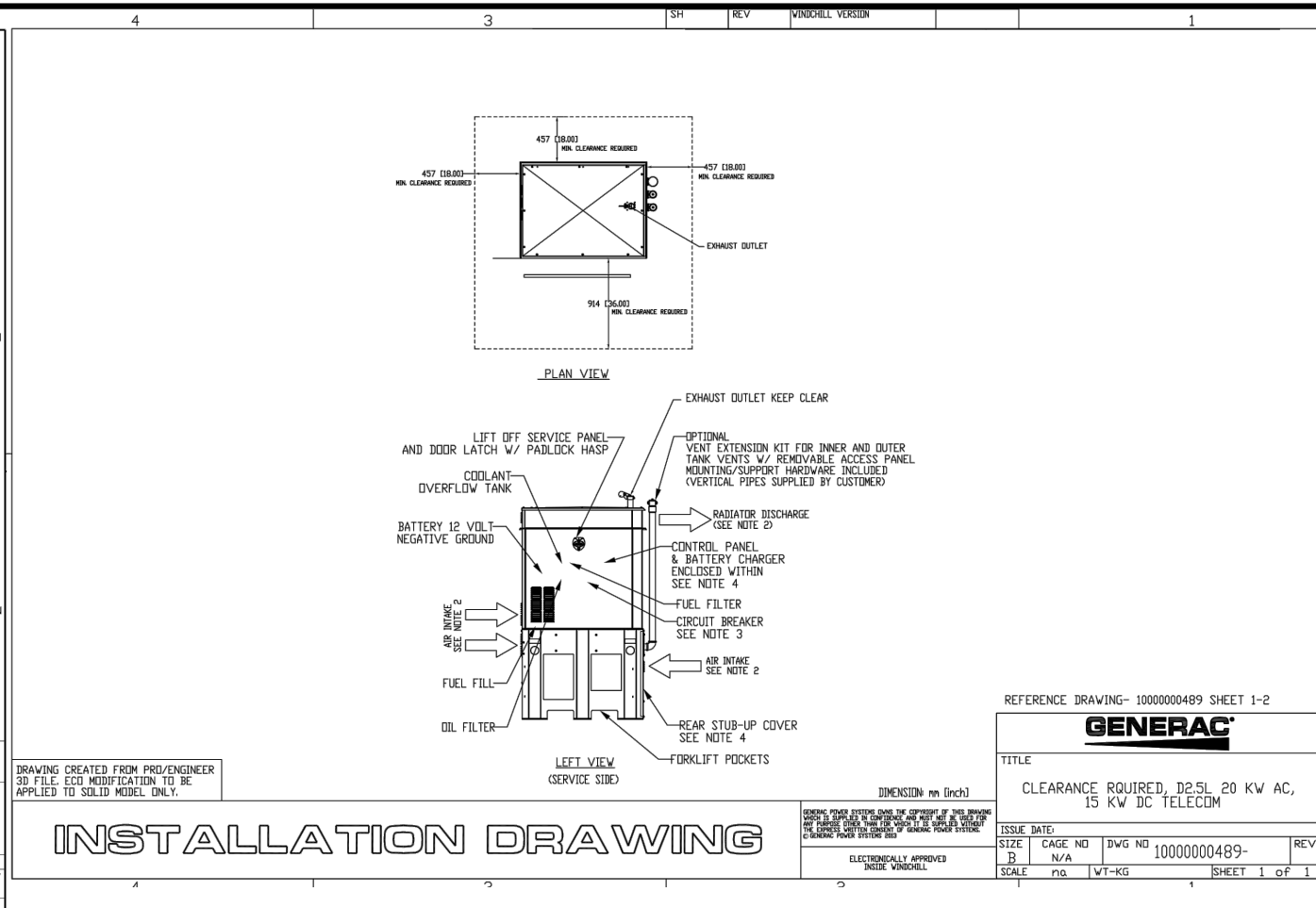
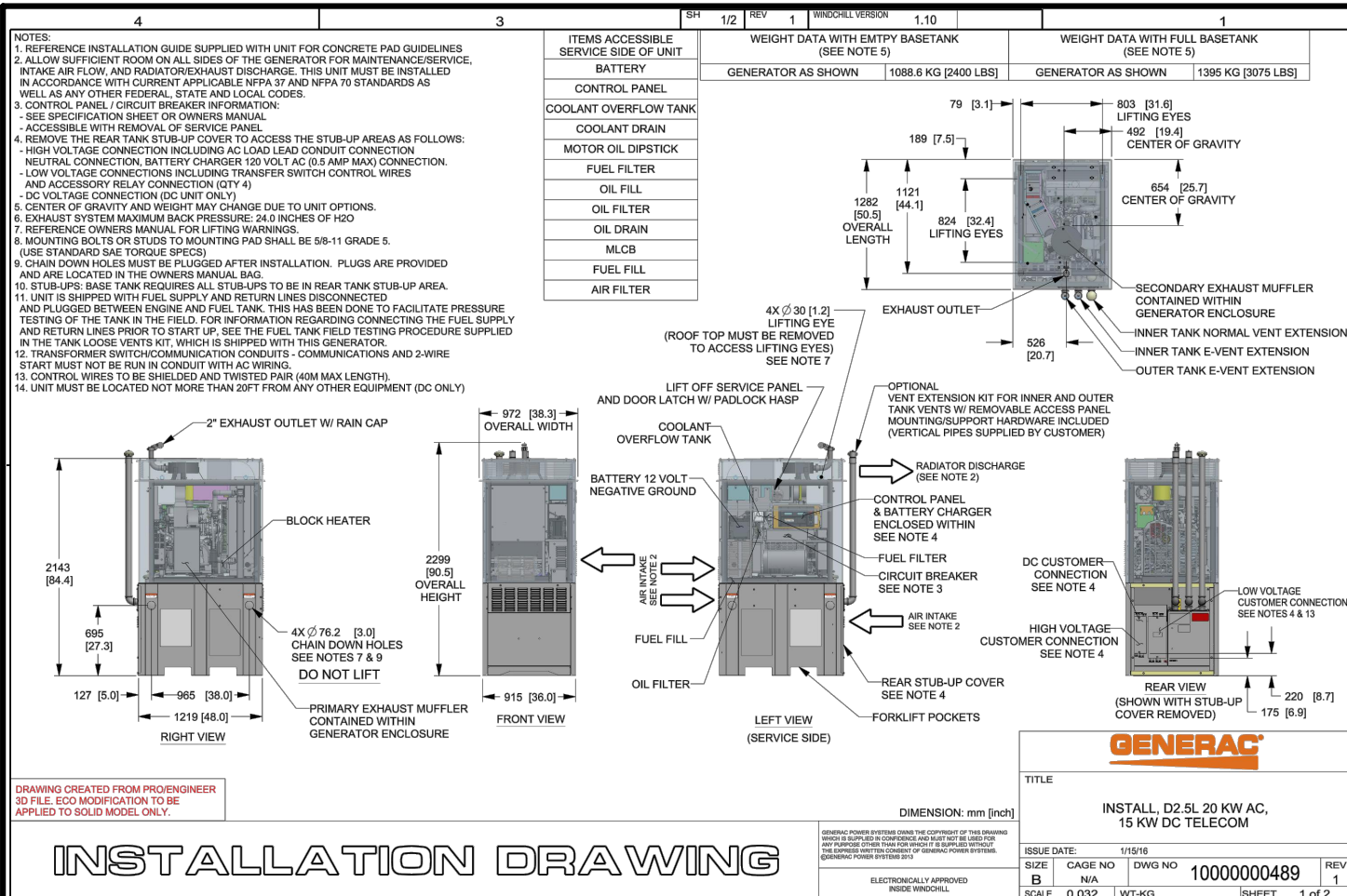


DESIGNED:	VGD
DRAWN:	BLS
CHECKED:	MAW
LAST REVISION BY:	BLS

JOB #: 12682142

S-1.4

10/27/2020



**SMW**  
 ENGINEERING GROUP, N.C., PLLC  
 158 BUSINESS CENTER DRIVE  
 BIRMINGHAM, AL 35203  
 TEL: 205-252-6985 FAX: 205-220-1504

SMW # 20-0569.1

**at&t**  
 mobility corp.

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**AT&T EQUIPMENT**

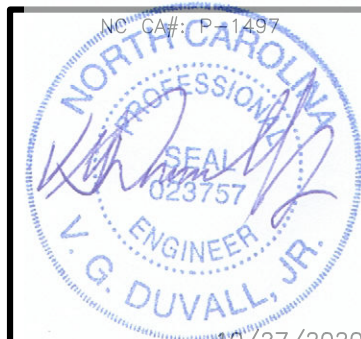
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 DRAWN: BLS  
 CHECKED: MAW  
 LAST REVISION BY: BLS

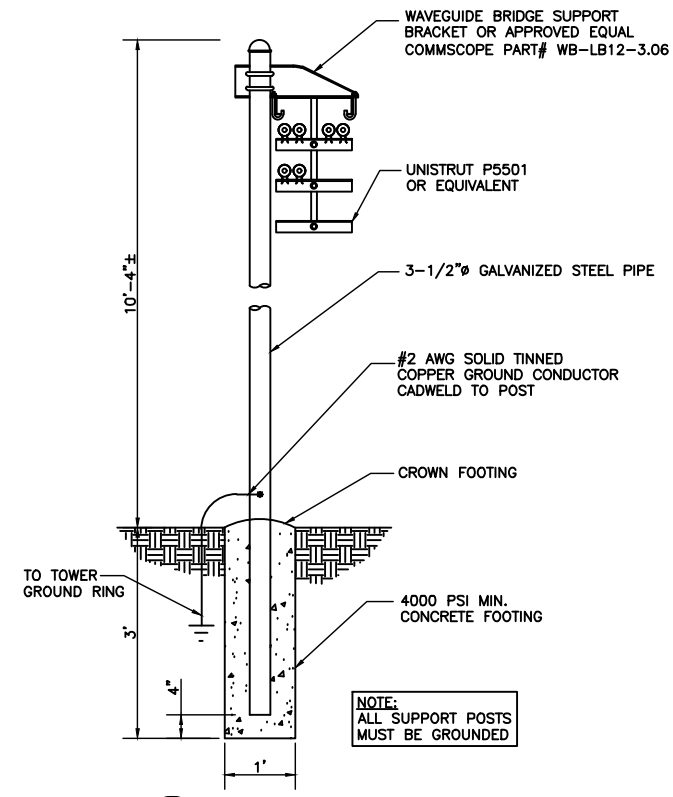
JOB #: 12682142

**S-2**

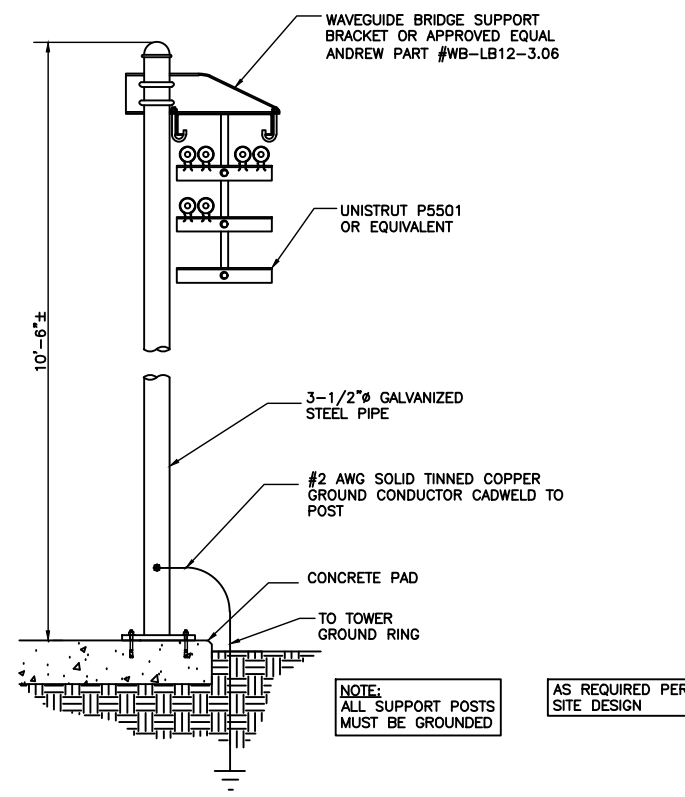
10/27/2020

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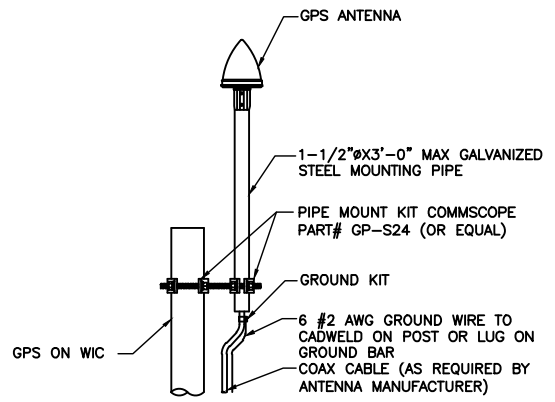




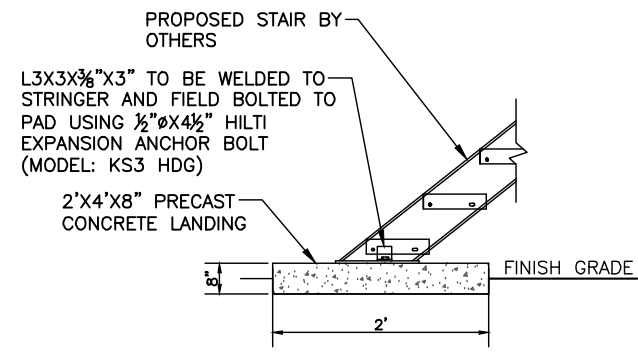
**1 CABLE BRIDGE DETAIL**  
SCALE: NOT TO SCALE



**3 CABLE BRIDGE DETAIL - CONCRETE SLAB**  
SCALE: NOT TO SCALE



**2 GPS ANTENNA MOUNTING DETAIL**  
SCALE: NOT TO SCALE



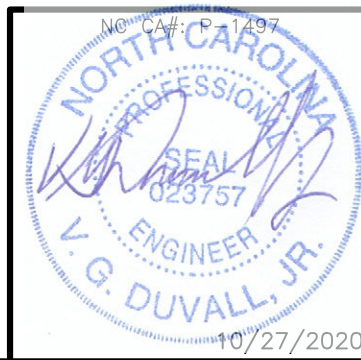
**4 STAIR STOOP DETAIL**  
SCALE: NOT TO SCALE

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368-766  
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DRAWN:	BLS
CHECKED:	MAW
LAST REVISION BY:	BLS

JOB #: 12682142  
**S-3**



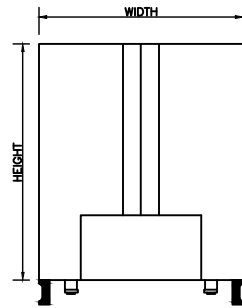


SIZE AND WEIGHT TABLE

RRH	WIDTH	DEPTH	HEIGHT W/O CABLE MANAGEMENT COVER	WEIGHT W/O BRACKET
4415 (B25)	13.2"	5.4"	15"	46 LBS
4426 (B66)	13.2"	5.8"	15"	48.4 LBS
4478	13.2"	7.4"	15"	59.9 LBS

NOTE:  
DIMENSIONS DO NOT INCLUDE MOUNTING BRACKET AND SOLAR SHIELD.

1 REMOTE RADIO HEAD (RRH)  
SCALE: NOT TO SCALE

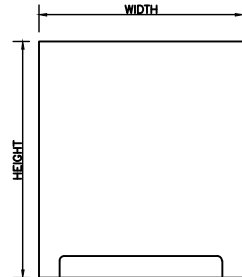


SIZE AND WEIGHT TABLE

RRH	WIDTH	DEPTH	HEIGHT W/O CABLE MANAGEMENT COVER	WEIGHT W/O BRACKET
4449	13.2"	9.4"	17.9"	70.5 LBS
8843	13.2"	10.9"	14.9"	72 LBS

NOTE:  
DIMENSIONS DO NOT INCLUDE MOUNTING BRACKET AND SOLAR SHIELD.

2 REMOTE DUAL RADIO HEAD (RRH)  
SCALE: NOT TO SCALE

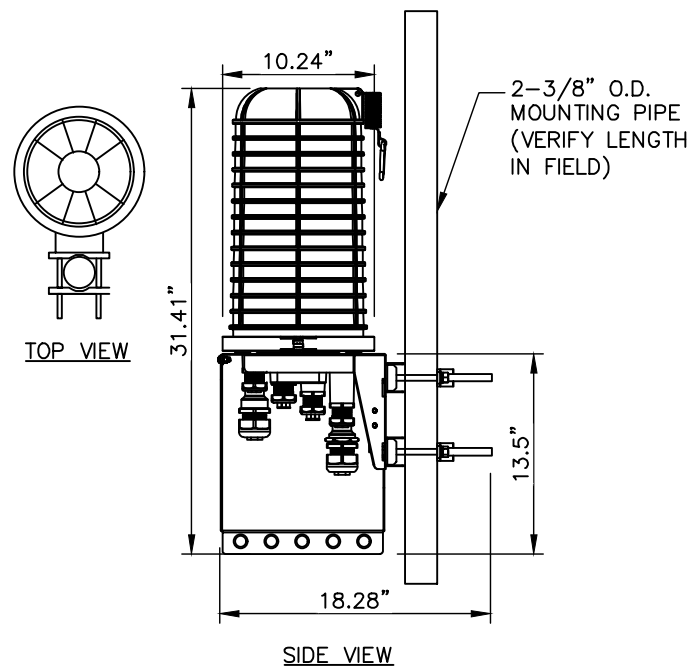
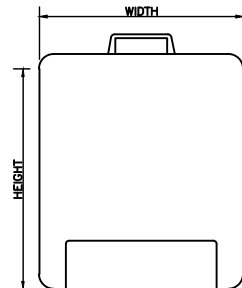


SIZE AND WEIGHT TABLE

RRH	WIDTH	DEPTH	HEIGHT W/O CABLE MANAGEMENT COVER	WEIGHT W/O BRACKET
4415	13.4"	5.9"	16.5"	46 LBS
4478	13.4"	8.26"	18.1"	59.4 LBS

NOTE:  
DIMENSIONS DO NOT INCLUDE MOUNTING BRACKET AND SOLAR SHIELD.

3 REMOTE RADIO HEAD (RRH)  
SCALE: NOT TO SCALE



4 RAYCAP DC9-48-60-24-8C-EV  
SCALE: NOT TO SCALE

CONTRACTOR TO  
OBTAIN LATEST RFDS  
FOR FINAL ANTENNA  
CONFIGURATION.

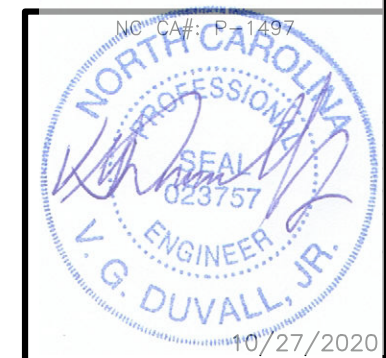


SMW # 20-0569.1



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4	10/27/20	ISSUED FOR CONSTRUCTION

368-766  
RRH, ANTENNA &  
EQUIPMENT SPECS  
(ERICSSON)



DESIGNED:	VGD
DRAWN:	BLS
CHECKED:	MAW
LAST REVISION BY:	BLS

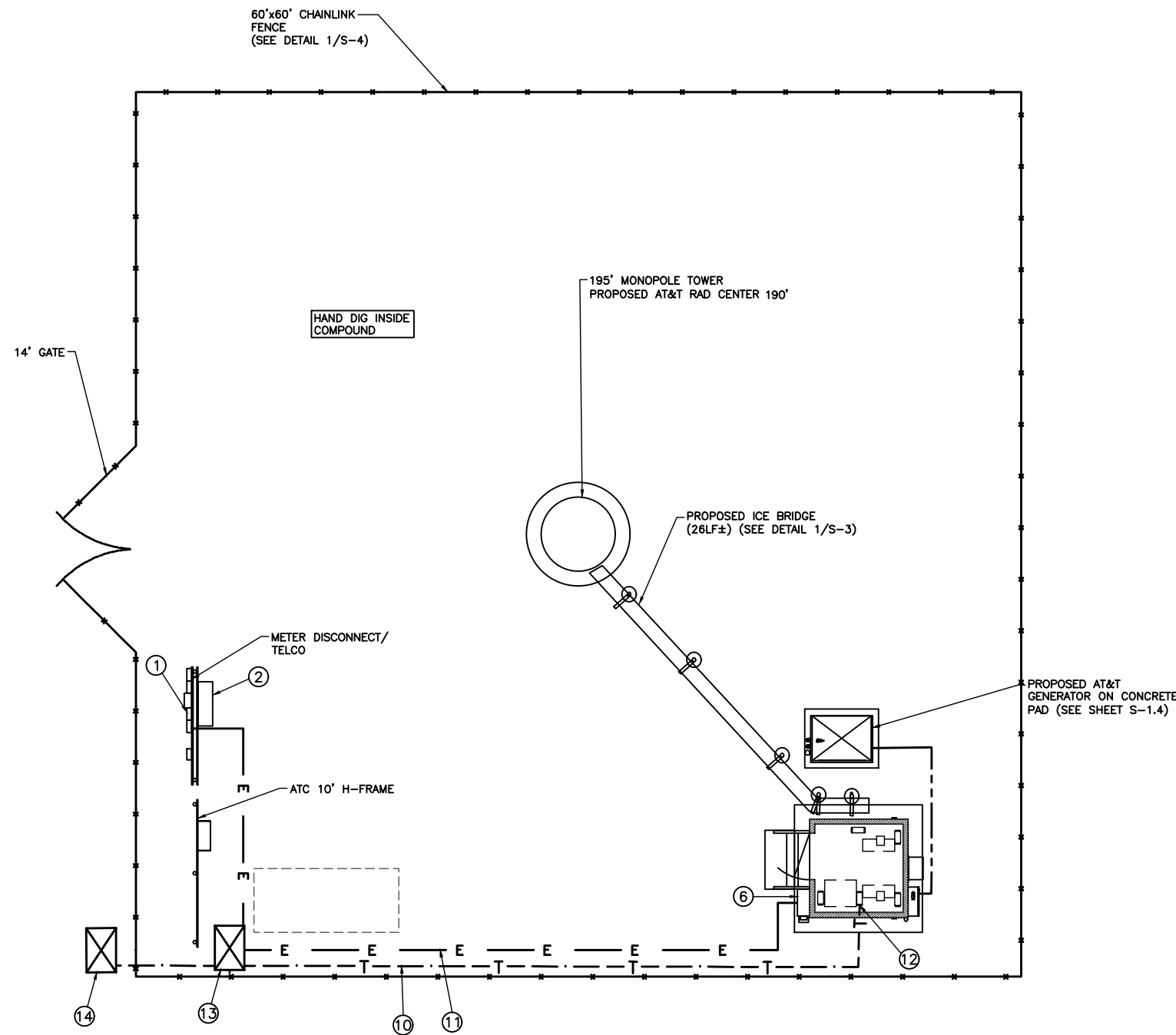
JOB #: 12682142

A-2



**ELECTRICAL KEY NOTES**

- ① 4 GANG METER PANEL. SEE SHEET E-2 FOR ELECTRICAL ONE-LINE DIAGRAM ELECTRICAL KEY NOTES
- ② TELCO CABINET.
- ③ NOT USED.
- ④ NOT USED.
- ⑤ NOT USED.
- ⑥ PROPOSED ELECTRICAL LOAD CENTER
- ⑦ NOT USED
- ⑧ NOT USED.
- ⑨ NOT USED.
- ⑩ PROPOSED TRENCH FOR NEW U/G TELCO SERVICES (70'±) (1) 4"Ø PVC W/ (3) 1-1/4" INNERDUCTS AND MULE TAPE FROM NEW COMMUNITY UTILITIES RACK TO NEW AT&T EQUIPMENT PAD.
- ⑪ PROPOSED TRENCH FOR NEW U/G ELECTRICAL SERVICE (70'±) (1) 2.5"Ø SCH 80 PVC FROM NEW COMMUNITY UTILITIES RACK TO NEW AT&T EQUIPMENT PAD.
- ⑫ PROPOSED TELCO PORT ON FLOOR OF WIC.
- ⑬ PULL BOX REQUIRED WHEN CONDUIT RUNS CONTAIN MORE THAN 360° IN BENDS BETWEEN END TURNUPS.
- ⑭ PROPOSED PULLBOX OUTSIDE OF COMPOUND



THE ELECTRICAL CONTRACTOR, UPON COMPLETION OF HIS WORK, SHALL PROVIDE AS-BUILT INFORMATION ON EXACT LOCATIONS OF UNDERGROUND SERVICES. INFORMATION SHOULD BE GIVEN TO THE GENERAL CONTRACTOR FOR INCLUSION IN FINAL AS-BUILT SURVEY DOCUMENTS TO BE GIVEN TO AT&T WIRELESS.

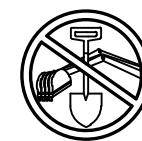
PROVIDE PULLSTRING IN ALL EMPTY CONDUITS.

CONTRACTOR SHALL USE SCH 80 PVC UNDER ANY DRIVEWAY OR VEHICLE ACCESS POINTS.

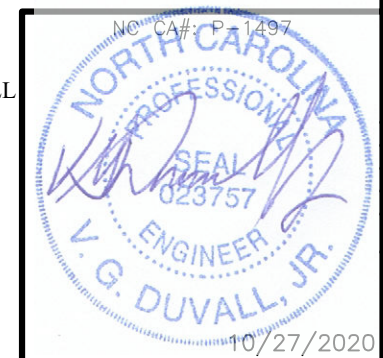
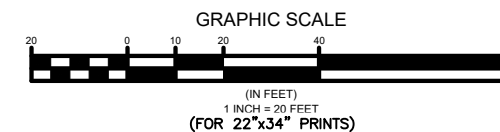
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368-766

UTILITY PLAN



NORTH CAROLINA ONE-CALL  
STATE WIDE CALL: 811  
CALL BEFORE YOU DIG



1 UTILITY PLAN  
E-1 SCALE: 1" = 20'

DESIGNED: VGD  
DRAWN: BLS  
CHECKED: MAW  
LAST REVISION BY: BLS

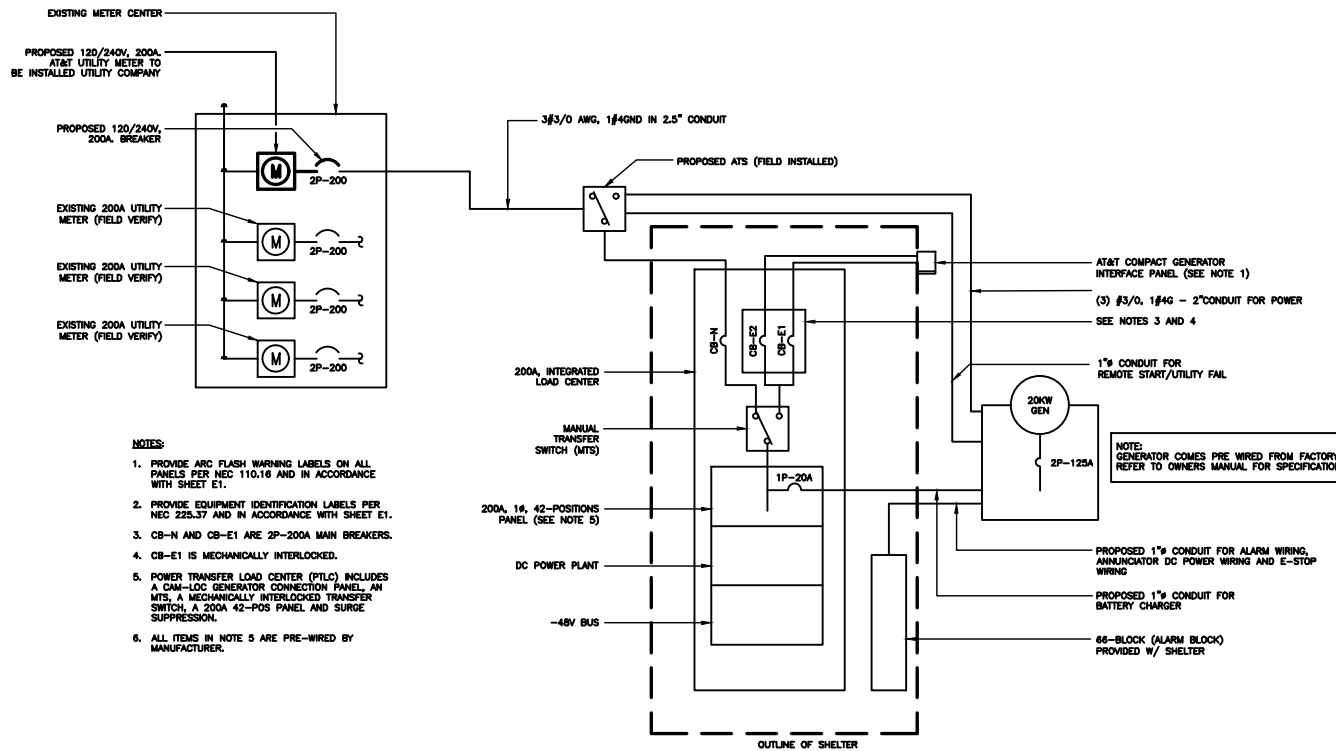
JOB #: 12682142

E-1

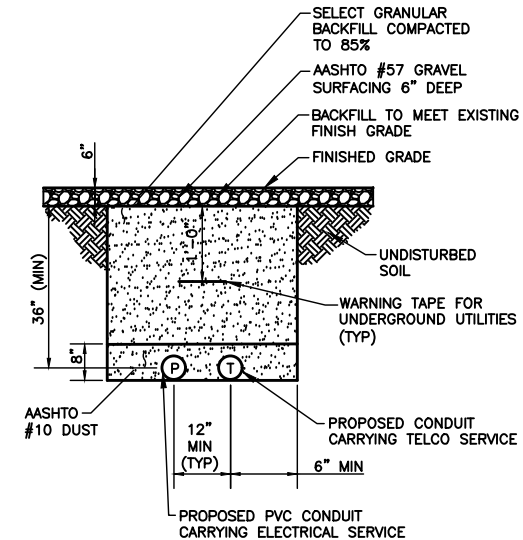


**ELECTRICAL NOTES**

- SUBMITTAL OF BID INDICATES THAT THE CONTRACTOR IS COGNIZANT OF ALL JOB SITE CONDITIONS AND WORK TO BE PERFORMED UNDER THIS CONTRACT.
- CONTRACTOR SHALL PERFORM ALL VERIFICATIONS, OBSERVATION TESTS, AND EXAMINATION WORK PRIOR TO ORDERING OF ANY EQUIPMENT AND THE ACTUAL CONSTRUCTION. CONTRACTOR SHALL ISSUE A WRITTEN NOTICE OF ALL FINDINGS TO THE PROJECT MANAGER LISTING ALL MALFUNCTIONS, FAULTY EQUIPMENT AND DISCREPANCIES.
- VERIFY HEIGHTS WITH PROJECT MANAGER PRIOR TO INSTALLATION.
- THESE PLANS ARE DIAGRAMMATIC ONLY, FOLLOW AS CLOSELY AS POSSIBLE.
- CONTRACTOR SHALL COORDINATE ALL WORK BETWEEN TRADES AND ALL OTHER SCHEDULING AND PROVISIONARY CIRCUMSTANCES SURROUNDING THE PROJECT.
- CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, INSURANCE, EQUIPMENT, INSTALLATION CONSTRUCTION TOOLS, TRANSPORTATION, ETC., FOR COMPLETE AND FUNCTIONALLY OPERATING SYSTEMS ENERGIZED AND READY FOR USE THROUGHOUT AS INDICATED ON DRAWINGS, AS SPECIFIED HEREIN AND/OR AS OTHERWISE REQUIRED.
- ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND IN PERFECT CONDITION WHEN INSTALLED AND SHALL BE OF THE BEST GRADE AND OF THE SAME MANUFACTURER THROUGHOUT FOR EACH CLASS OR GROUP OF EQUIPMENT. ELECTRICAL MATERIALS SHALL BE LISTED AND APPROVED BY UNDERWRITER'S LABORATORIES AND SHALL BEAR THE INSPECTION LABEL "U" WHERE SUBJECT TO SUCH APPROVAL. MATERIALS SHALL MEET WITH APPROVAL OF ALL GOVERNING BODIES HAVING JURISDICTION OVER THE CONSTRUCTION. MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH ALL CURRENT APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA AND NBFU. ALL MATERIALS AND EQUIPMENT SHALL BE APPROVED FOR THEIR INTENDED USE AND LOCATION.
- ALL WORK SHALL COMPLY WITH ALL APPLICABLE GOVERNING STATE, COUNTY AND CITY CODES AND OSHA, NFPA, NEC & ASHRAE REQUIREMENTS.
- ENTIRE JOB SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR AFTER THE DATE OF JOB ACCEPTANCE. ALL WORK, MATERIAL AND EQUIPMENT FOUND TO BE FAULTY DURING THAT PERIOD SHALL BE CORRECTED AT ONCE, UPON WRITTEN NOTIFICATION, AT THE EXPENSE OF THE CONTRACTOR.
- PROPERLY SEAL ALL PENETRATIONS. PROVIDE UL LISTED FIRE-STOPS WHERE PENETRATIONS ARE MADE THROUGH FIRE-RATED ASSEMBLIES. WATER-TIGHT USING SILICONE SEALANT.
- DELIVER ALL BROCHURES, OPERATING MANUALS, CATALOGS AND SHOP DRAWINGS TO THE PROJECT MANAGER AT JOB COMPLETION. PROVIDE MAINTENANCE MANUALS FOR MECHANICAL EQUIPMENT. AFFIX MAINTENANCE LABELS TO MECHANICAL EQUIPMENT.
- ALL CONDUCTORS SHALL BE COPPER. MINIMUM CONDUCTOR SIZE SHALL BE #12 AWG., UNLESS OTHERWISE NOTED. CONDUCTORS SHALL BE TYPE THHW, RATED IN ACCORDANCE WITH NEC 110-14(C).
- ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING RATING NOT LESS THE MAXIMUM INTERRUPTING CURRENT TO WHICH THEY MAY BE SUBJECTED.
- THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE; ARTICLES 250 & 810 AND THE UTILITY COMPANY STANDARDS.
- CONDUIT:
  - RIGID CONDUIT SHALL BE U.L. LABEL GALVANIZED ZINC COATED WITH ZINC INTERIOR AND SHALL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLABS, IN CONTACT WITH THE EARTH, UNDER PUBLIC ROADWAYS, IN MASONRY WALLS OR EXPOSED ON BUILDING EXTERIOR. RIGID CONDUIT IN CONTACT WITH EARTH SHALL BE 1/2 LAPPED WRAPPED WITH HUNTS WRAP PROCESS NO. 3.
  - ELECTRICAL METALLIC TUBING SHALL HAVE U.L. LABEL, FITTINGS SHALL BE GLAND RING COMPRESSION TYPE. EMT SHALL BE USED ONLY FOR INTERIOR RUNS.
  - LIQUID-TIGHT FLEXIBLE METAL CONDUIT SHALL BE U.L. LISTED AND SHALL BE USED AT FINAL CONNECTIONS TO MECHANICAL EQUIPMENT & RECTIFIERS AND WHERE PERMITTED BY CODE. ALL CONDUIT IN EXCESS OF SIX FEET IN LENGTH SHALL CONTAIN A FULL-SIZE GROUND CONDUCTOR.
  - CONDUIT RUNS SHALL BE SURFACE MOUNTED ON CEILINGS OR WALLS UNLESS NOTED OTHERWISE. ALL CONDUIT SHALL RUN PARALLEL OR PERPENDICULAR TO WALLS, FLOOR, CEILING, OR BEAMS. VERIFY EXACT ROUTING OF ALL EXPOSED CONDUIT WITH THE PROJECT MANAGER PRIOR TO INSTALLING.
  - PVC CONDUIT MAY BE PROVIDED ONLY WHERE SHOWN, OR IN UNDERGROUND INSTALLATIONS. PROVIDE UV-RESISTANT CONDUIT WHERE EXPOSED TO THE ATMOSPHERE. PROVIDE GROUND CONDUCTOR IN ALL PVC RUNS; EXCEPT WHERE PERMITTED BY CODE TO OMIT.
- ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT ENGRAVED PLASTIC LABELS. BACKGROUND SHALL BE BLACK WITH WHITE LETTERS; EXCEPT AS REQUIRED BY CODE TO FOLLOW A DIFFERENT SCHEME.
- UPON COMPLETION OF WORK, CONDUCT CONTINUITY, SHORT CIRCUIT, AND FALL OF POTENTIAL GROUNDING TESTS FOR APPROVAL. SUBMIT TEST REPORTS TO PROJECT MANAGER. GROUNDING SYSTEM RESISTANCE SHALL NOT EXCEED 5 OHMS. IF THE RESISTANCE VALUE IS EXCEEDED, NOTIFY THE PROJECT MANAGER FOR FURTHER INSTRUCTION ON METHODS FOR REDUCING THE RESISTANCE VALUE.
- CLEAN PREMISES OF ALL DEBRIS RESULTING FROM WORK AND LEAVE WORK IN A COMPLETE AND UNDAMAGED CONDITION. LEGALLY DISPOSE OF ALL REMOVED, UNUSED AND EXCESS MATERIAL GENERATED BY THE WORK OF THIS CONTRACT. DELIVER ITEMS INDICATED ON THE DRAWINGS TO THE OWNER IN GOOD CONDITION. OBTAIN SIGNED RECEIPT UPON DELIVERY.
- COORDINATE WITH UTILITY COMPANY FOR CONNECTION OF TEMPORARY AND PERMANENT POWER TO THE SITE. THE TEMPORARY POWER AND ALL HOOKUP COSTS SHALL BE PAID BY THE CONTRACTOR.
- VERIFY ALL EXISTING CIRCUITRY PRIOR TO REMOVAL AND NEW WORK. MAINTAIN POWER TO ALL OTHER AREAS & CIRCUITS NOT SCHEDULED FOR REMOVAL.
- RED LINED AS-BUILT PLANS SHALL BE PROVIDED TO THE CONSTRUCTION MANAGER.

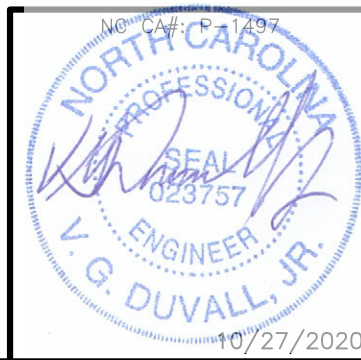


1 ONE-LINE DETAIL - PROPOSED METER IN EXISTING METER PANEL  
E-2 NTS



NOTE:  
1. EXCAVATE EXISTING SUBGRADE AS REQUIRED TO INSTALL CONDUITS IN ACCORDANCE WITH OSHA AND ALL APPLICABLE CODES.  
2 TYPICAL TRENCH DETAIL  
E-2 NTS

INTEGRATED LOAD CENTER																												
LOAD			LOAD PER PHASE (VA)							TRIP			LOAD PER PHASE (VA)			LOAD												
DESCRIPTION	QTY.	UNIT V.A.	PHASE		WIRE COLOR	LOADS CONTINUOUS	LOADS NON-CONTINUOUS	LOADS SUB-PANEL	WIRE SIZE	GROUNDING WIRE SIZE	TRIP	TRIP	GROUNDING WIRE SIZE	WIRE SIZE	LOADS CONTINUOUS	LOADS NON-CONTINUOUS	LOADS SUB-PANEL	WIRE COLOR	PHASE		UNIT V.A.	QTY.	DESCRIPTION					
			A	B															A	B								
RECTIFIER #1	1	1400	1400		BLK	X			8	(10)	40	40	(10)	8				BLK	1400		1400	1	RECTIFIER #5	2				
	1	1400		1400	RED													RED		1400	1400	1		4				
RECTIFIER #2	1	1400	1400		BLK				8	(10)	40	40	(10)	8				BLK	1400		1400	1	RECTIFIER #6	6				
	1	1400		1400	RED	X												RED		1400	1400	1		8				
RECTIFIER #3	1	1400	1400		BLK				8	(10)	40	40	(10)	8				BLK	1400		1400	1	RECTIFIER #7	10				
	1	1400		1400	RED	X												RED		1400	1400	1		12				
RECTIFIER #4	1	1400	1400		BLK				8	(10)	40	40	(10)	8				BLK	1400		1400	1	RECTIFIER #8	14				
	1	1400		1400	RED	X												RED		1400	1400	1		16				
					BLK													BLK						18				
					RED	X			12	12	20							RED						20				
GFCI RECEPTACLES	2	180	360		BLK	X			12	(12)	20							BLK						22				
OPTIONAL FIBER BOX RECEPTACLE	1	180		180	RED	X			12	12	20							RED						24				
BATTERY CHARGER	1	240	240		BLK	X			12	12	20							BLK						26				
BLOCK HEATER	1	1500		1500	RED	X			12	12	20							RED						28				
OIL HEATER	1	180	180		BLK	X			12	12	20							BLK						30				
SUBTOTAL CONTINUOUS			6,380	7,280																			5,600	5,600	SUBTOTAL CONTINUOUS		TOTAL KVA CONTINUOUS x 1.25	31.075
SUBTOTAL NON-CONTINUOUS			-	-																			-	-	SUBTOTAL NON-CONTINUOUS		TOTAL KVA NON-CONTINUOUS	-
SUBTOTAL SUB-PANEL			-	-																			-	-	SUBTOTAL SUB-PANEL		TOTAL KVA SUB-PANEL	-
PANEL DESIGNATION: ELECTRICAL PANEL (ITEM 2)																						TOTAL KVA		31.075				
MAIN LUGS: N/A		MAIN BREAKER: 200 AMP																				BRANCH BREAKER TYPE: SIEMENS - BL		TOTAL KVA		31.075		
VOLTAGE: 120/240		CYCLE: 60		PHASE: 1		WIRES: 3		MAIN COPPER BUS: 200 AMPS				NEUTRAL: 200 AMPS				TOTAL AMPS		129.48										



SMW # 20-0569.1



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368-766  
ELECTRICAL PANEL  
SCHEDULE, DIAGRAM  
& NOTES

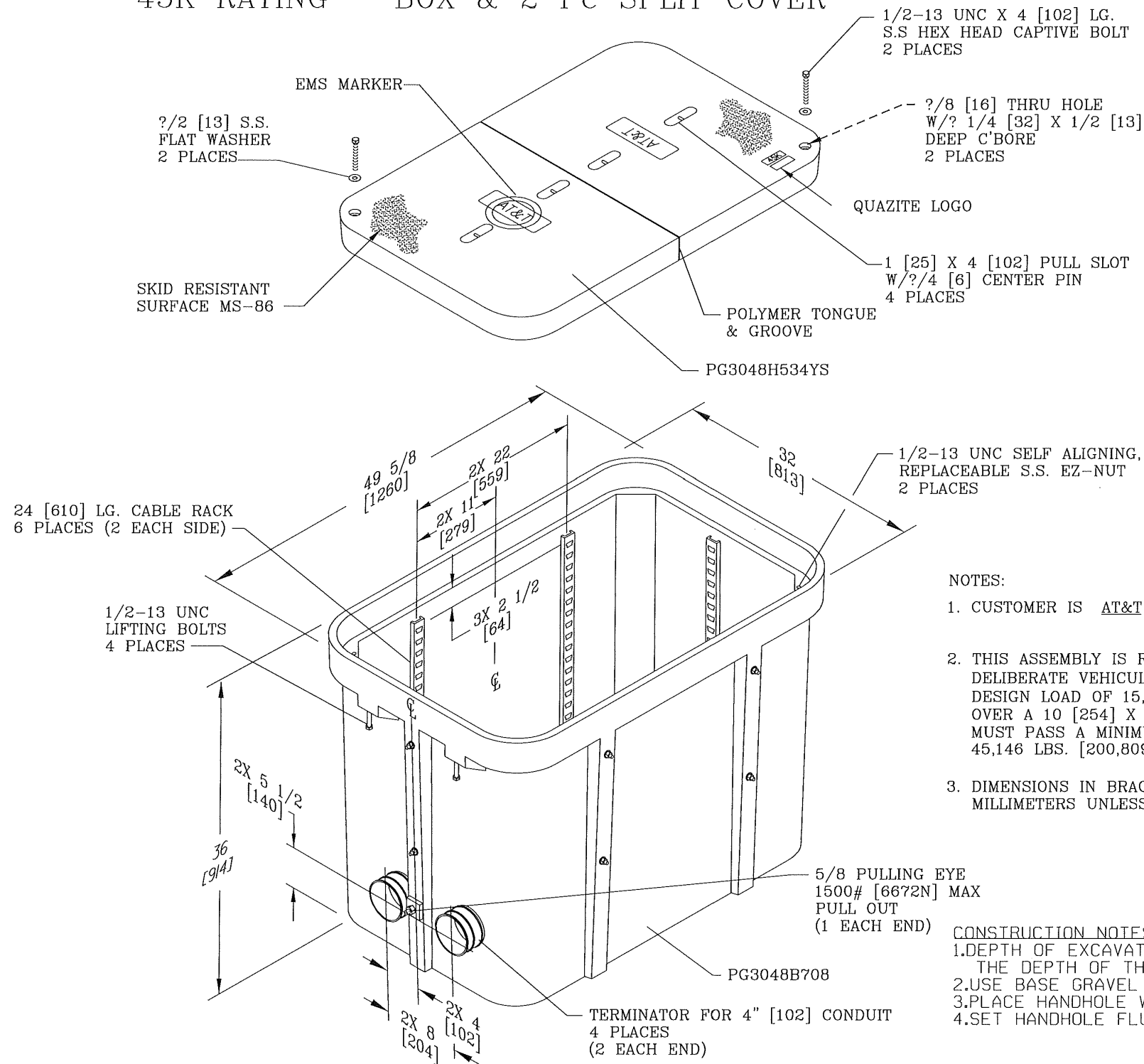
DESIGNED:	VGD
DRAWN:	BLS
CHECKED:	MAW
LAST REVISION BY:	BLS
JOB #:	12682142

E-2  
10/27/2020



**TYPICAL AT&T HANDHOLE DETAIL**

HANDHOLE - 30"x48"x36"  
45K RATING - BOX & 2 Pc SPLIT COVER



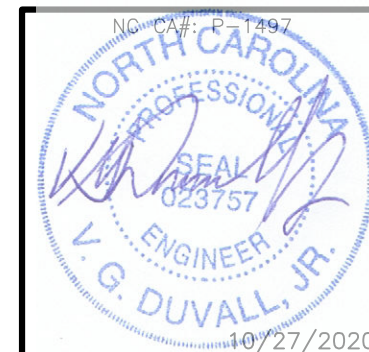
NOTES:

1. CUSTOMER IS AT&T
2. THIS ASSEMBLY IS RATED FOR NON-DELIBERATE VEHICULAR TRAFFIC WITH A DESIGN LOAD OF 15,000 LBS. [66,720 N] OVER A 10 [254] X 20 [508] AREA AND MUST PASS A MINIMUM STATIC TEST LOAD 45,146 LBS. [200,809 N].
3. DIMENSIONS IN BRACKETS ARE IN MILLIMETERS UNLESS NOTED OTHERWISE.

DETAILS BY OTHERS NOTE:  
DETAILS SHOWN ON THIS PAGE WERE PROVIDED BY OTHERS AND ARE NOT CARRIED UNDER THE SIGNATURE AND SEAL OF SMW AND/OR IT'S ENGINEERS.

CONSTRUCTION NOTES:

1. DEPTH OF EXCAVATION IS 4" DEEPER THAN THE DEPTH OF THE HANDHOLE.
2. USE BASE GRAVEL NO LARGER THAN 1/2 "
3. PLACE HANDHOLE WITH COVER IN PLACE.
4. SET HANDHOLE FLUSH WITH GRADE



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368-766

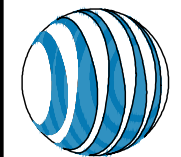
HANDHOLE DETAIL

DESIGNED:	VGD
DRAWN:	BLS
CHECKED:	MAW
LAST REVISION BY:	BLS

JOB #: 12682142

E-21

10/27/2020



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368-766

**DC/FIBER SYSTEM DIAGRAM**

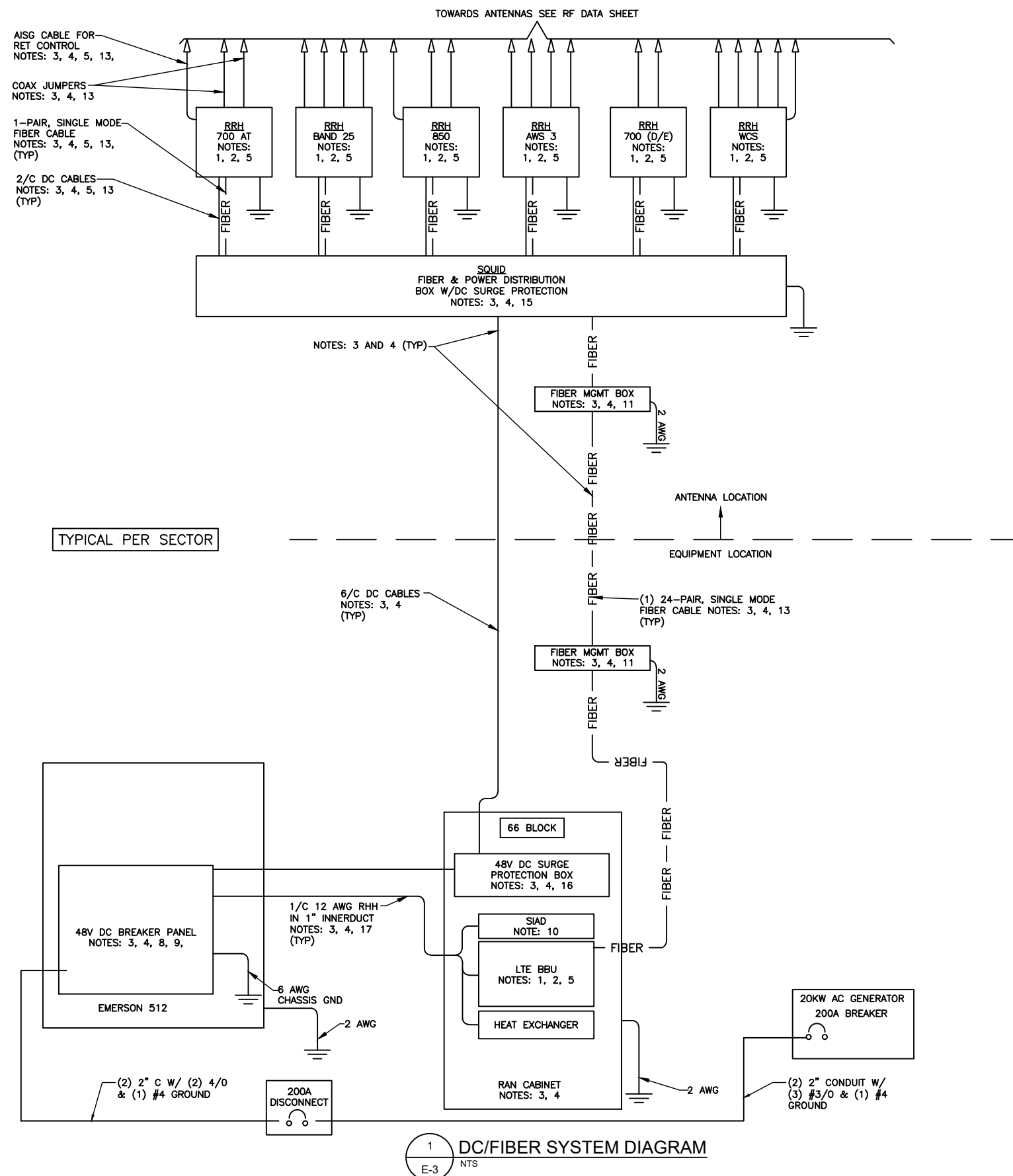
DESIGNED:	VGD
DRAWN:	BLS
CHECKED:	MAW
LAST REVISION BY:	BLS

JOB #: 12682142

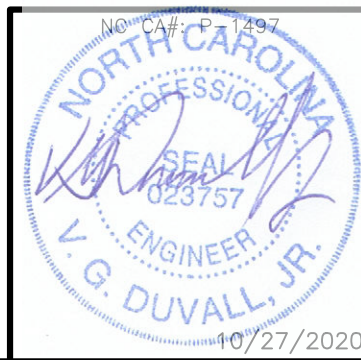
**E-3**

**NOTES:**

- FURNISHED BY OEM/AT&T.
- INSTALLED BY OEM OR AS SCOPED BY MARKET.
- FURNISHED BY OTHERS
- INSTALLED BY OTHERS
- FINAL CONNECTION BY OEM OR AS SCOPED BY MARKET.
- OPEN END OF CONDUITS TO BE LEFT WEATHERPROOFED UNTIL TERMINATED.
- DELETED.
- BREAKERS SPECIFIED SOLD SEPERATELY.
- BREAKERS TO BE TAGGED AND LOCKED OUT.
- SIAD IS FURNISHED AND INSTALLED BY OTHERS AND INCLUDES POWER CONNECTIONS AND FIBER TO THE UNIT OR AS SCOPED BY MARKET. INSTALL 10 AWG CHASSIS GROUND, PROVIDE (2) 10A BREAKERS FROM A 24V DC POWER SOURCE OR (2) 5A BREAKERS FROM A 48V DC POWER SOURCE AND CONNECT USING MFR POWER CABLE WITH SPECIAL CONNECTOR.
- FIBER MANAGEMENT BOX IS J-SOURCE MODEL 12126FM4SEC.
- LEC TO FURNISH AND INSTALL NETWORK INTERFACE DEVICE.
- LEAVE COILED AND PROTECTED UNTIL TERMINATED.
- SEE DETAIL 1408 FOR DC POWER CABLE SIZES.
- FIBER AND POWER DISTRIBUTION BOX 4/48V SURGE SHALL BE RAYCAP MODEL DC9-48-60-24-8F.
- POWER DISTRIBUTION W/DC SURGE PROTECTION BOX SHALL BE RAYCAP MODEL DC9-48-60-0-18.
- SINGLE-CONDUCTOR DC POWER CABLES SHALL BE TELCOFLEX OR KS24194, COPPER, UL LISTED RHH NON-HALOGEN, LOW SMOKE WITH BRAIDED COVER, TYPE TC (1/0 AND LARGER), UNLESS OTHERWISE NOTED, STRANDING SHALL BE CLASS B (TYPE III) FOR CABLES SIZES 14, 12 & 10 AWG AND CLASS 1 (TYPE IV) FOR SIZES 8 AWG AND LARGER. CABLES SHALL BE COLOR CODED RED FOR +24V, BLUE FOR -48V AND GRAY FOR 24V AND 48V RETURN CONDUCTORS. MULTI-CONDUCTOR DC POWER CABLES SHALL COPPER, CLASS B STRANDED WITH FLAME RETARDANT PVC JACKET, TYPE TC, UL LISTED FOR 90°C DRY/ 75°C WET INSTALLATION.
- 10A FUSE FOR HEAT EXCHANGER FURNISHED AND INSTALLED BY OTHERS.
- DELETED
- GROUNDING WIRES SHALL BE COPPER, GREEN THHN/THWN UL LISTED FOR 90°C DRY/75°C WET INSTALLATION. MINIMUM SIZE IS 6 AWG UNLESS NOTED OTHERWISE.
- RET CONTROL FROM THE RRH IS AN OPTIONAL METHOD OF CONNECTION. REFER TO RF DATA SHEET FOR APPLICABILITY.
- DELETED.
- FIBER AND POWER DISTRIBUTION BOX 4/48V SURGE SHALL BE RAYCAP MODEL DC9-48-60-0-1E.
- FIBER MANAGEMENT BOX IS COMMSCOPE MODEL FB 18188.
- FIBER AND POWER DISTRIBUTION BOX 4/48V SURGE SHALL BE RAYCAP MODEL DC12-48-60-0-25E.



**1 DC/FIBER SYSTEM DIAGRAM**  
E-3 NTS



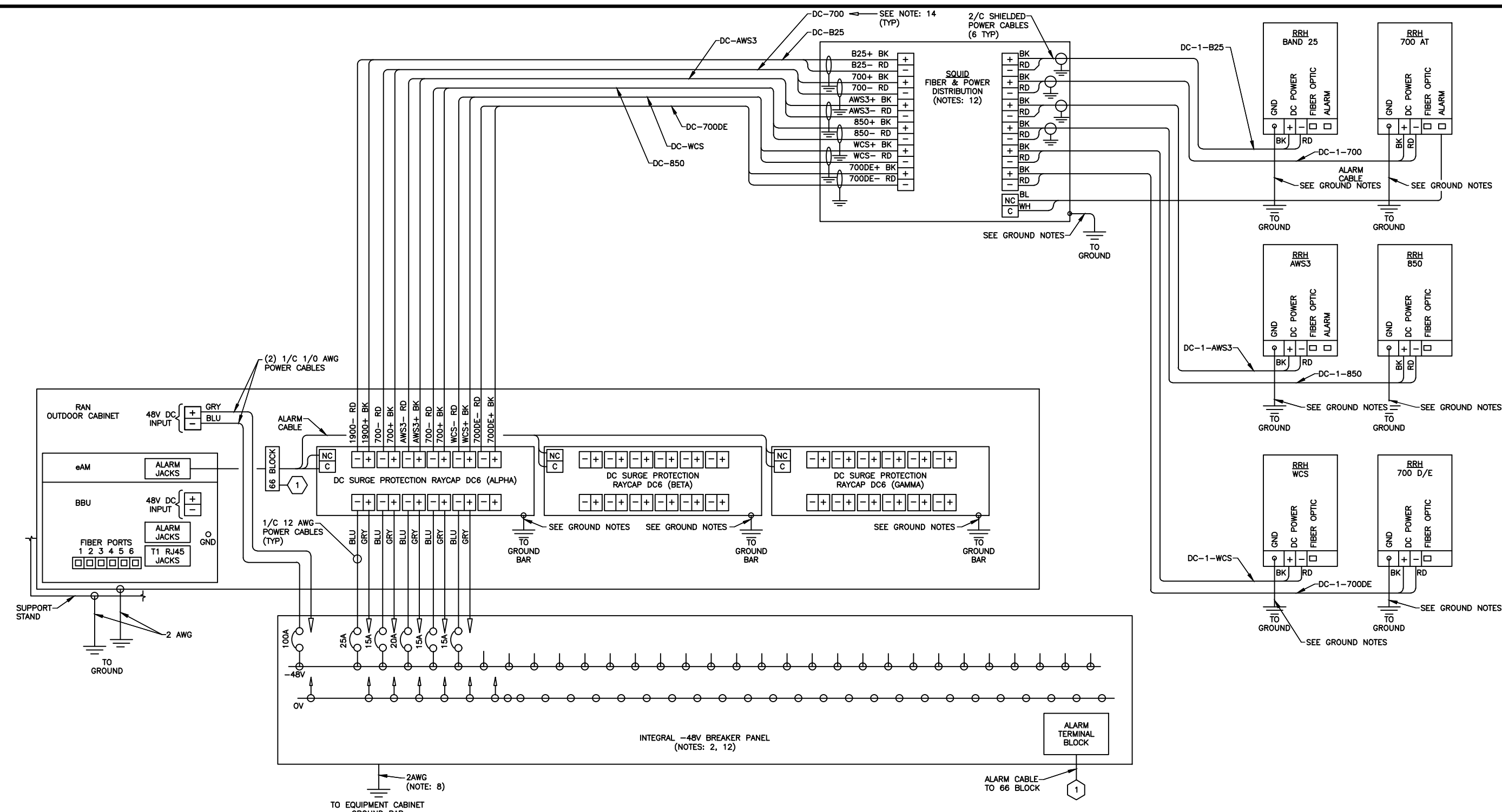


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368-766  
**DC WIRING DIAGRAM**

DESIGNED:	VGD
DRAWN:	BLS
CHECKED:	MAW
LAST REVISION BY:	BLS

JOB #: 12682142  
**E-4**

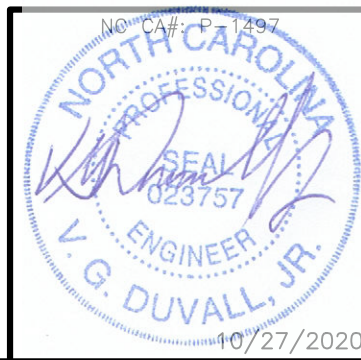


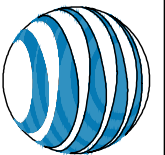
- NOTES**
- LABEL THE DC POWER CABLES AT BOTH ENDS OF EVERY WIRE AND IN ANY PULL BOX IF USED. LABEL SHALL BE DURABLE, SELF ADHESIVE, WRAPPED LONGITUDINALLY ALONG THE CABLE AND STATE THE SECTOR, FREQUENCY BAND AND POLARITY; I.E. "A-AWS+".
  - INSTALL ON IN AUXILIARY EQUIPMENT CABINET.
  - CABLE TERMINALS FOR +24V INPUT FEED A, FEED B AND REFERENCE GROUND SHALL BE 2-HOLE: 3/8" ON 1" CENTER.
  - INSTALL CABLE TERMINALS FOR FEED A AND FEED B RETURN BACK-TO-BACK ON OPPOSITE SIDES OF PAD USING 1-HOLE 3/8" TERMINALS.
  - CABLE TERMINALS FOR CHASSIS GROUND SHALL BE 2-HOLE, 1/4" ON 5/8" CENTER.
  - WHEN DISTRIBUTION BOX IS NOT USED, INSTALL 3 RUNS OF (2) 2/C CABLES IN CONDUIT, 1 EACH FROM DC SURGE SHELF TO DC6s.
  - A JUNCTION BOX IS REQUIRED WHEN FIBER OPTIC CABLES ARE INSTALLED IN CONDUIT AS SCOPED BY MARKET.
  - CONVERTER REFERENCE GROUND IS NOT REQUIRED WHEN CONVERTER AND 24V DC POWER PLANT ARE ON THE SAME RACK OR ENCLOSURE.
  - THE BARE GROUND WIRE OF EACH MULTI-CONDUCTOR CABLE AND DRAIN WIRE WHEN A SHIELDED CABLE IS USED, SHALL BE CONNECTED TO THE EQUIPMENT CABINET GROUND BAR.
  - SEE ALARM BLOCK ASSIGNMENT DETAIL FOR ALARM CABLE CONNECTIONS.
  - PROVIDE A JUNCTION BOX, AS SCOPED BY MARKET, TO COIL EXCESS DC POWER AND OPTICAL FIBER CABLES (FIBER CALES NOT SHOWN FOR CLARITY)
  - NOTED EQUIPMENT MAY BE COMMON TO LTE AND UMS SYSTEMS.
  - CABLE GROUND WIRE AND SHIELD DRAIN WIRE TO BE LEFT UN-TERMINATED AT RRH.
  - WHEN AN RRH IS USED INSTEAD OF AN AWS RRH CABLE, LABELS SHOULD REFLECT CORRECT FREQUENCY BAND.

- GROUND NOTES:**
- #2 SOLID TINNED FOR ALL GROUND LEVEL GROUND WIRES
  - #2 COPPER TINNED GREEN JACKETED UV RATED GROUND WIRE FOR ALL TOWER APPLICATIONS
  - #2 COPPER TINNED GREEN JACKETED UV RATED GROUND WIRE IS USED IN ALL OUTSIDE APPLICATIONS WHERE #2 SOLID IS NOT SPEC'D OUT.

1 DC WIRING DIAGRAM  
E-4 NTS

TYPICAL PER SECTOR





#	DATE	DESCRIPTION:
0	08/03/20	ISSUED FOR CLIENT REVIEW
1	08/06/20	REVISED PER CLIENT COMMENTS
2	10/02/20	REVISED PER 20KW GENERAC GENERATOR
3	10/07/20	REV. PER CLIENT COMMENTS
4	10/27/20	ISSUED FOR CONSTRUCTION

368-766

**GROUNDING PLAN**

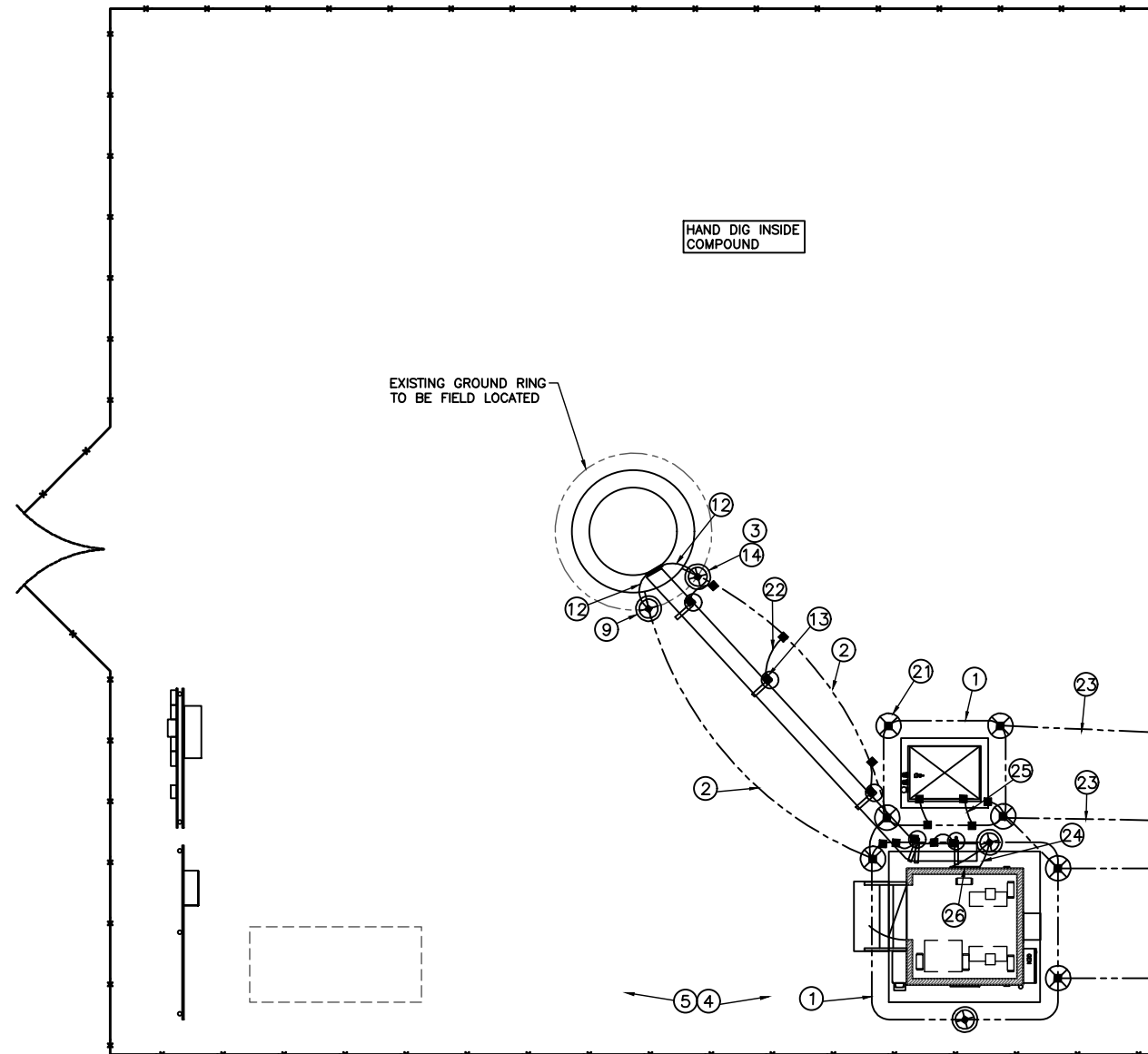
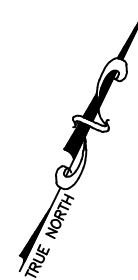
DESIGNED:	VGD
DRAWN:	BLS
CHECKED:	MAW
LAST REVISION BY:	BLS

JOB #: 12682142

**G-1**

**GROUNDING NOTES**

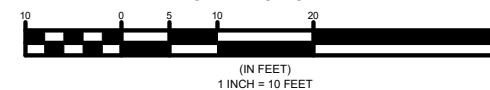
- BURIED GROUND RING FOR GENERATOR AND WIC SHALL BE #2 AWG. SOLID, TINNED COPPER CONDUCTOR INSTALLED 30" BELOW FINISHED GRADE UNLESS OTHERWISE NOTED. AN ANTI-OXIDE COMPOUND SHALL BE APPLIED TO ALL EXTERIOR, ABOVE GRADE GROUND CONNECTIONS. .
  - BURIED GROUND RING SHALL BE #2 AWG. SOLID, TINNED COPPER CONDUCTOR INSTALLED 18" BELOW FINISHED GRADE UNLESS OTHERWISE NOTED. AN ANTI-OXIDE COMPOUND SHALL BE APPLIED TO ALL EXTERIOR, ABOVE GRADE GROUND CONNECTIONS.
  - INSPECTION GROUND RODS SHALL BE 5/8" DIA. X 10' LONG, COPPER CLAD TYPE. TOP OF ROD SHALL BE 18" BELOW FINISHED GRADE. GROUND RODS SHALL BE FURNISHED WITH AN INSPECTION SLEEVE. SEE "GROUND INSPECTION SLEEVE DETAIL" ON SHEET E-3. ALL GROUND RODS SHALL BE DRIVEN STRAIGHT DOWN, PERPENDICULAR TO FINISHED GRADE. SUITABLE PROTECTION SHALL BE PROVIDED ON END OF RODS TO PREVENT MUSHROOMING DURING INSTALLATION.
  - GROUND CONNECTIONS TO TOWER, COMMUNITY H-FRAME, ETC., SHALL BE MADE WITH THE SAME TYPE AND SIZE CONDUCTOR AS THE BURIED GROUND RING CONDUCTOR UNLESS OTHERWISE NOTED.
  - ALL MATERIALS AND LABOR REQUIRED FOR THE GROUNDING SYSTEM AS INDICATED ON THE PLANS AND DETAILS, AND AS DESCRIBED HEREIN AND IN THE SPECIFICATIONS, SHALL BE FURNISHED BY THE CONTRACTOR UNLESS OTHERWISE NOTED.
- #6, #7 AND 8 ARE NOT USED
- EXACT LOCATION OF GROUND RODS AND GROUND CONNECTION POINTS SHALL BE DETERMINED IN FIELD, BUT WILL GENERALLY BE INSTALLED EVERY 10 FEET. ADJUST LOCATIONS INDICATED ON PLANS ACCORDING TO ACTUAL EQUIPMENT AND BUILDING COMPONENT LOCATIONS TO KEEP THE GROUND CONNECTION CABLES AS SHORT AS PRACTICAL. GROUND CONDUCTORS SHALL HAVE 9" MIN. BENDING RADIUS AND 90° MAXIMUM BEND.
  - NOT USED
  - NOT USED
  - CONNECTION TO TOWER EXIT GROUND BAR. INSTALL GROUND CONDUCTOR IN 3/4" P-C CONDUIT FROM GROUND BAR TO 12" ABOVE FINISHED GRADE. GROUND CONDUCTOR CONNECTION TO GROUND BAR SHALL BE MADE USING EXOTHERMIC WELD PROCESS (CADWELD OR EQUAL). SEE TOWER EXIT GROUND BAR DETAIL ON SHEET E-3.
  - ICE BRIDGE GROUND CONNECTION (CADWELD OR EQUAL). ALL METALLIC COMPONENTS ON ICE BRIDGE, INCLUDING EXTERIOR HATCH PLATE AND SUPPORT LEGS, SHALL BE BONDED TOGETHER WITH GROUND CONDUCTORS.
  - FRICTION ACCESS COVERS FOR GROUND INSPECTION SLEEVE SHALL BE BROUGHT FLUSH WITH STONE, FINISHED GRADE, OR CONCRETE (TYPICAL ALL LOCATIONS). SEE "GROUND INSPECTION SLEEVE DETAIL" ON SHEET. E-3.
- #15 TO 20 NOT USED
- GROUND RODS SHALL BE 5/8" DIA. X 10' LONG, COPPER CLAD TYPE. TOP OF ROD SHALL BE 18" BELOW FINISHED GRADE.
  - GROUND TO ICE BRIDGE POST
  - GROUND TO FENCE POST TO GENERATOR AND WIC GROUND RING.
  - GROUND WIC BUSS BAR TO GROUND RING PER MANUFACTURERS SPECS.
  - GROUND GENERATOR TO GROUND RING PER MANUFACTURERS SPECS.
  - WIC BUSS BAR



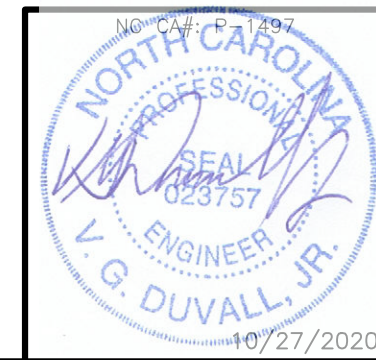
**GROUNDING LEGEND**

- EXOTHERMIC WELD CONNECTION
- COMPRESSION FITTING CONNECTION
- 5/8"x10' COPPER-CLAD STEEL GROUND ROD
- ⊙ 5/8"x10' COPPER-CLAD STEEL GROUND ROD WITH INSPECTION WELL
- - - PROPOSED GROUND WIRING
- - - EXISTING GROUND WIRING
- ▬ TINNED COPPER GROUND BAR 1/4"x4"x12" OR 1/4"x4"x20"
- CGB** COLLECTOR GROUND BAR
- MGB** MAIN GROUND BAR

**GRAPHIC SCALE**



**1**  
GROUND PLAN  
SCALE: 1" = 10'



**GROUNDING NOTES:**

- GROUNDING SHALL COMPLY WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE.
- ALL GROUNDING DEVICES SHALL BE U.L. APPROVED OR LISTED FOR THEIR INTENDED USE.
- ALL WIRES SHALL BE AWG THHN/THWN COPPER UNLESS NOTED OTHERWISE.
- GROUNDING CONNECTIONS TO GROUND RODS, GROUND RING WIRE, TOWER BASE AND FENCE POSTS SHALL BE EXOTHERMIC ("CADWELDS") UNLESS NOTED OTHERWISE. CLEAN SURFACES TO SHINY METAL. WHERE GROUND WIRES ARE CADWELDED TO GALVANIZED SURFACES, SPRAY CADWELD WITH GALVANIZING PAINT.
- GROUNDING CONNECTIONS TO GROUND BARS ARE TO BE TWO-HOLE BRASS MECHANICAL CONNECTORS WITH STAINLESS STEEL HARDWARE (INCLUDING SCREW SET) CLEAN GROUND BAR TO SHINY METAL. AFTER MECHANICAL CONNECTION, TREAT WITH PROTECTIVE ANTIOXIDANT COATING.
- GROUND COAXIAL CABLE SHIELDS AT BOTH ENDS WITH MANUFACTURER'S GROUNDING KITS.
- ROUTE GROUNDING CONDUCTORS THE SHORTEST AND STRAIGHTEST PATH POSSIBLE. BEND GROUNDING LEADS WITH A MINIMUM 12" RADIUS.
- INSTALL #2 AWG GREEN-INSULATED STRANDED WIRE FOR ABOVE GRADE GROUNDING AND #2 BARE TINNED COPPER WIRE FOR BELOW GRADE GROUNDING UNLESS OTHERWISE NOTED.
- REFER TO GROUNDING PLAN FOR GROUND BAR LOCATIONS. GROUNDING CONNECTIONS SHALL BE EXOTHERMIC TYPE ("CADWELDS") TO ANTENNA MOUNTS AND GROUND RING. REMAINING GROUNDING CONNECTIONS SHALL BE COMPRESSION FITTINGS. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO-HOLE LUGS.
- THE GROUND ELECTRODE SYSTEM SHALL CONSIST OF DRIVEN GROUND RODS POSITION ACCORDING TO GROUNDING PLAN. THE GROUND RODS SHALL BE 5/8"x10'-0" COPPER CLAD STEEL INTERCONNECTED WITH #2 BARE TINNED COPPER WIRE BURIED 36" BELOW GRADE. BURY GROUND RODS A MAXIMUM OF 15' APART, AND A MINIMUM OF 8' APART.
- IF ROCK IS ENCOUNTERED GROUND RODS SHALL BE PLACED AT AN OBLIQUE ANGLE NOT TO EXCEED 45°.
- EXOTHERMIC WELDS SHALL BE MADE IN ACCORDANCE WITH ERICO PRODUCTS BULLETIN A-AT.
- CONSTRUCTION OF GROUND RING AND CONNECTIONS TO EXISTING GROUND RING SYSTEM SHALL BE DOCUMENTED WITH PHOTOGRAPHS PRIOR TO BACKFILLING SITE. PROVIDE PHOTOS TO THE VERIZON WIRELESS CONSTRUCTION MANAGER.
- ALL GROUND LEADS EXCEPT THOSE TO THE EQUIPMENT ARE TO BE #2 BARE TINNED COPPER WIRE. ALL EXTERIOR GROUND BARS TINNED COPPER.
- PRIOR TO INSTALLING LUGS ON GROUND WIRES, APPLY THOMAS & BETTS KOPR-SHIELD (TM OF JET LUBE INC.). PRIOR TO BOLTING GROUND WIRE LUGS TO GROUND BARS, APPLY KOPR-SHIELD OR EQUAL.
- ENGAGE AN INDEPENDENT ELECTRICAL TESTING FIRM TO TEST AND VERIFY THAT IMPEDANCE DOES NOT EXCEED FIVE OHMS TO GROUND BY MEANS OF "FALL OF POTENTIAL TEST". TEST SHALL BE WITNESSED BY A METROPCS REPRESENTATIVE, AND RECORDED ON THE "GROUND RESISTANCE TEST" FORM.
- WHERE BARE COPPER GROUND WIRES ARE ROUTED FROM ANY CONNECTION ABOVE GRADE TO GROUND RING, INSTALL WIRE IN 3/4" PVC SLEEVE, FROM 1" BELOW GRADE AND SEAL TOP WITH SILICONE MATERIAL.
- PREPARE ALL BONDING SURFACES FOR GROUNDING CONNECTIONS BY REMOVING ALL PAINT AND CORROSION DOWN TO SHINY METAL. FOLLOWING CONNECTION, APPLY APPROPRIATE ANTI-OXIDIZATION PAINT.
- ANY SITE WHERE THE EQUIPMENT (BTS, CABLE BRIDGE, PPC, GENERATOR, ETC.) IS LOCATED WITHIN 6 FEET OF METAL FENCING, THE GROUND RING SHALL BE BONDED TO THE NEAREST FENCE POST USING (3) RUNS OF #2 BARE TINNED COPPER WIRE.

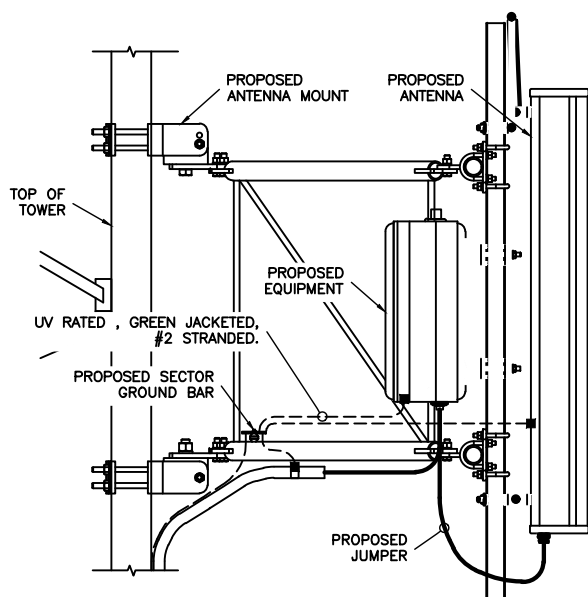
**CABLE COLOR CODING NOTES:**

- SECTOR ORIENTATION/AZIMUTH WILL VARY FROM REGION AND IS SITE SPECIFIC. REFER TO RF REPORT FOR EACH SITE TO DETERMINE THE ANTENNA LOCATION AND FUNCTION OF EACH TOWER SECTOR FACE.
- THE ANTENNA SYSTEM CABLES SHALL BE LABELED WITH VINYL TAPE EXCEPT IN LOCATIONS WHERE ENVIRONMENTAL CONDITIONS CAUSE PHYSICAL DAMAGE, THEN PHYSICAL TAGS ARE PREFERRED.
- THE STANDARD IS BASED ON EIGHT COLORED TAPES - RED, BLUE, GREEN, YELLOW, ORANGE, BROWN, WHITE & VIOLET. THESE TAPES MUST BE 3/4" WIDE & UV RESISTANT SUCH AS SCOTCH 35 VINYL ELECTRICAL COLOR CODING TAPE AND SHOULD BE READILY AVAILABLE TO THE ELECTRICIAN OR SUBCONTRACTOR ON SITE.
- USING COLOR BANDS ON THE CABLES, MARK ALL RF CABLES BY SECTOR AND NUMBER AS SHOWN ON "CABLE MARKING COLOR CONVENTION TABLE".
- WHEN AN EXISTING COAXIAL LINE THAT IS INTENDED TO BE A SHARED LINE BETWEEN GSM/3G AND IS-136 TDMA IS ENCOUNTERED, THE SUBCONTRACTOR SHALL REMOVE THE EXISTING COLOR CODING SCHEME AND REPLACE IT WITH THE COLOR CODING AND TAGGING STANDARD THAT IS OUTLINED IN THE CURRENT VERSION OF ND-00027. IN THE ABSENCE OF AN EXISTING COLOR CODING TAGGING SCHEME, OR WHEN INSTALLING PROPOSED COAXIAL CABLES, THIS GUIDELINE SHALL BE IMPLEMENTED AT THAT SITE REGARDLESS OF TECHNOLOGY.
- ALL COLOR CODE TAPE SHALL BE 3M-35 AND SHALL BE A MINIMUM OF (3) WRAPS OF TAPE AND SHALL BE NEATLY TRIMMED AND SMOOTHED OUT SO AS TO AVOID UNRAVELING.
- ALL COLOR BANDS INSTALLED AT THE TOP OF TOWER SHALL BE A MINIMUM OF 3" WIDE AND SHALL HAVE A MINIMUM OF 3/4" OF SPACE IN BETWEEN EACH COLOR.
- ALL COLOR CODES SHALL BE INSTALLED AS TO ALIGN NEATLY WITH ONE ANOTHER FROM SIDE TO SIDE.
- IF EXISTING CABLES AT THE SITE ALREADY HAVE A COLOR CODING SCHEME AND THEY ARE NOT INTENDED TO BE REUSED OR SHARED WITH THE GSM TECHNOLOGY, THE EXISTING COLOR CODING SCHEME SHALL REMAIN UNTOUCHED.

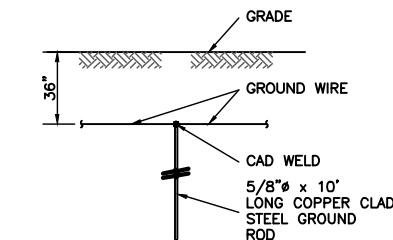
**CABLE MARKING TAGS:**

WHEN USING THE ALTERNATIVE LABELING METHOD, EACH RF CABLE SHALL BE IDENTIFIED WITH A METAL ID TAG MADE OF STAINLESS STEEL OR BRASS. THE TAG SHALL BE 1-1/2" IN DIAMETER WITH 1/4" STAMPED LETTERS AND NUMBERS INDICATING THE SECTOR, ANTENNA POSITION AND CABLE NUMBER. ID MARKING LOCATIONS SHOULD BE AS PER "CABLE MARKING LOCATIONS TABLE". THE TAG SHOULD BE ATTACHED WITH CORROSION PROOF WIRE AROUND THE CABLE AT THE SAME LOCATION AS DEFINED ABOVE. THE TAG SHOULD BE LABELED AS SHOWN ON THE "GSM AND UMTS LINE TAG" DETAIL.

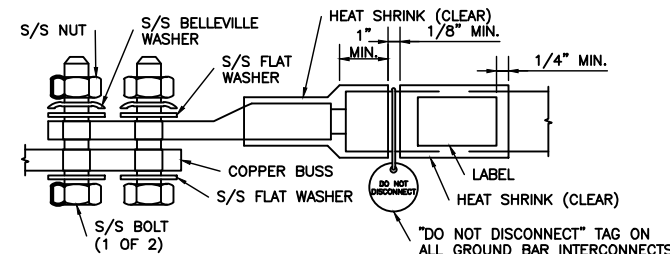
CABLE MARKING LOCATIONS TABLE	
NO.	LOCATIONS
1	EACH JUMPER SHALL BE COLOR CODED WITH (1) SET OF 3" WIDE BANDS.
2	EACH MAIN COAX SHALL BE COLOR CODED WITH (1) SET OF 3" WIDE BANDS AT THE TOP JUMPER CONNECTION AND WITH (1) SET OF 3/4" WIDE COLOR BANDS PRIOR TO ENTERING THE BTS OR SHELTER.
3	CABLE ENTRY PORT ON THE INTERIOR OF SHELTER.
4	ALL BOTTOM JUMPERS SHALL BE COLOR CODED WITH (1) SET OF 3/4" WIDE BANDS ON EACH END OF THE BOTTOM JUMPER.
5	ALL BOTTOM JUMPERS SHALL BE COLOR CODED WITH (1) SET OF 3/4" WIDE BANDS ON EACH END OF THE BOTTOM JUMPER.



2 ANTENNA & CABLE GROUNDING  
SCALE: NOT TO SCALE



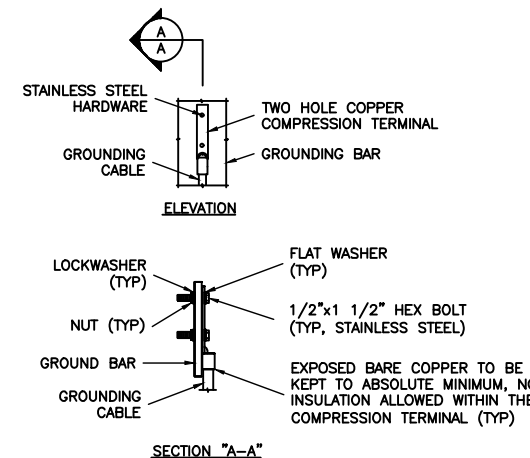
3 GROUNDING ROD DETAIL  
SCALE: NOT TO SCALE



**NOTES:**

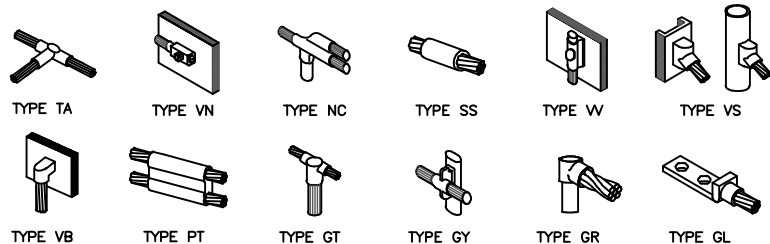
- ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING BELLEVILLES. COAT ALL SURFACES WITH ANTI-OXIDATION COMPOUND BEFORE MATING. FOR GROUND BOND TO STEEL ONLY: INSERT A DRAGON TOOTH WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH ANTI-OXIDATION COMPOUND.
- COAT ALL BARRELS WITH ANTI-OXIDATION COMPOUND BEFORE CRIMPING.

4 GENERAL LUG DETAIL  
SCALE: NOT TO SCALE

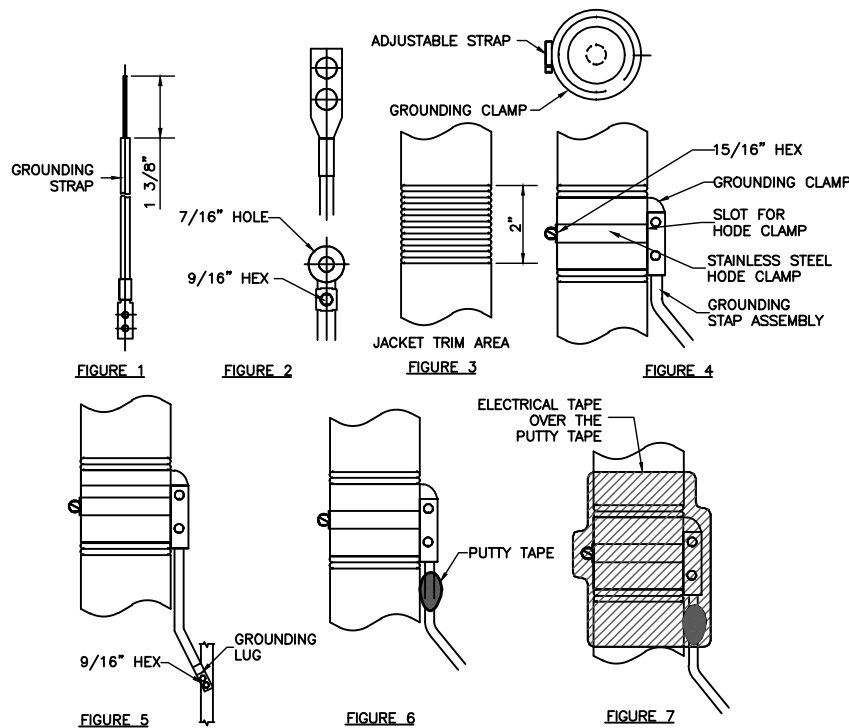


- NOTE:**
- "DOUBLING UP" OR "STACKING" OF CONNECTIONS IS NOT PERMITTED.
  - OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.

6 TYPICAL GROUND BAR CONNECTION DETAIL  
SCALE: NOT TO SCALE



1 CADWELD GROUNDING CONNECTION DETAILS  
SCALE: NOT TO SCALE



5 GROUNDING STRAP WEATHERPROOFING DETAIL  
SCALE: NOT TO SCALE



SMW # 20-0569.1



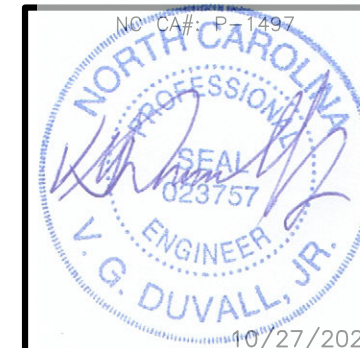
#	DATE	DESCRIPTION:
0	08/03/20	ISSUED FOR CLIENT REVIEW
1	08/06/20	REVISED PER CLIENT COMMENTS
2	10/02/20	REVISED PER 20KW GENERAC GENERATOR
3	10/07/20	REV. PER CLIENT COMMENTS
4	10/27/20	ISSUED FOR CONSTRUCTION

368-766  
GROUNDING DETAILS & NOTES (SST & MONOPOLE TOWER)

DESIGNED: VGD  
DRAWN: BLS  
CHECKED: MAW  
LAST REVISION BY: BLS

JOB #: 12682142

G-2



10/27/2020



#	DATE	DESCRIPTION:
0	08/03/20	ISSUED FOR CLIENT REVIEW
1	08/06/20	REVISED PER CLIENT COMMENTS
2	10/02/20	REVISED PER 20KW GENERAC GENERATOR
3	10/07/20	REV. PER CLIENT COMMENTS
4	10/27/20	ISSUED FOR CONSTRUCTION

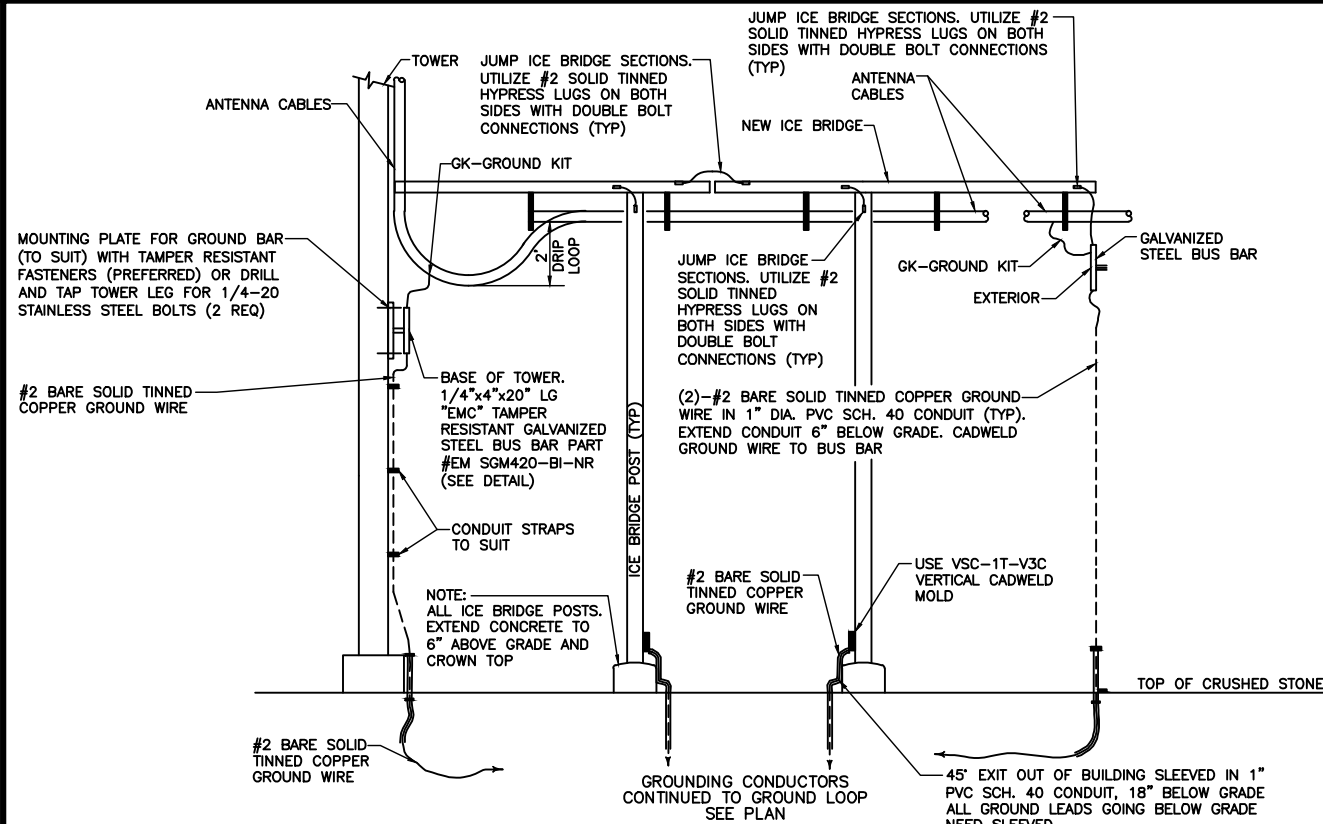
368-766

**GROUNDING  
DETAILS**

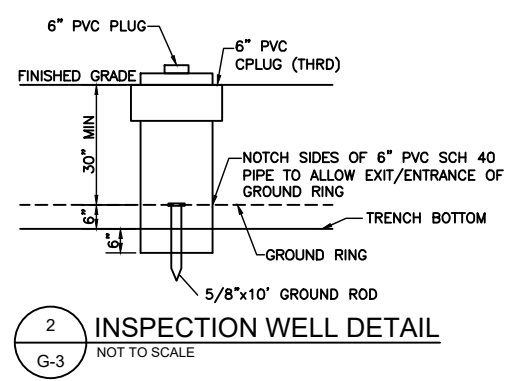
DESIGNED:	VGD
DRAWN:	BLS
CHECKED:	MAW
LAST REVISION BY:	BLS

JOB #: 12682142

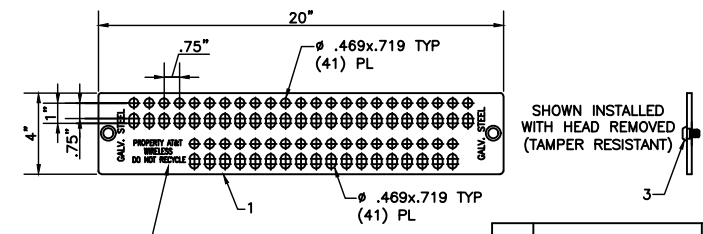
**G-3**



**1 COAXIAL GROUNDING AT ICE BRIDGE**  
G-3 NOT TO SCALE



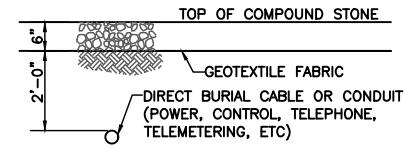
**2 INSPECTION WELL DETAIL**  
G-3 NOT TO SCALE



**3 TOWER LEG BUS BAR DETAIL**  
G-3 NOT TO SCALE

ITEM	PART NO.	DESCRIPTION	REQ
4	02-009-0663-000 (SUB ASSEMBLY)	3/8-16x5/8" TORQUE SHEAR HEAD BOLT IN A STANDARD 4x6 BAG INCLUDES: (2) 3/8-16x5/8" TORQUE SHEAR HEAD BOLT (NON-REMOVABLE) WITH VIBRSEAL; STAINLESS STEEL (303) P/N 02-009-0603-000 (1) STANDARD 4"x6" BAG (P/N 03-009-0209-00)	1
3	02-009-0633-000	3/8-16x5/8" TORQUE SHEAR HEAD BOLT (NON-REMOVABLE) WITH VIBRSEAL; STAINLESS STEEL (303)	2
2	-	NOT USED	2
1	02-009-0672-000	20" GROUND BAR; STEEL; GALVANIZED	1

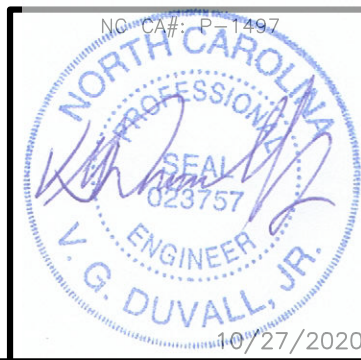
**ELECTRIC MOTION CO., INC.**  
110 GROppo DR./ BOX 626  
WINSTED, CT 06098  
PART #EM SGM420-BI-NR



**4 STANDARD MARKER TAPE DETAIL**  
G-3 NOT TO SCALE

- INSTALLATION**
- THE TAPE SHALL BE LAID DIRECTLY ABOVE THE CABLE OR CONDUIT UNDER RIGID TYPE AND OIL MAT PAVEMENTS, AND DIRECTLY ON TOP OF THE COMPACTED EARTH SUBGRADE IMMEDIATELY BEFORE RESTORING THE PAVEMENT.
  - IN OPEN AREAS, THE TAPE SHALL BE LAID DURING THE BACKFILLING OPERATION ON SMOOTH, COMPACTED BACKFILL AT A DISTANCE OF 8" BELOW THE SURFACE OF THE AREA.
  - THE ENDS OF THE TAPE SHALL BE LAPPED APPROXIMATELY SIX (6) INCHES.
  - TAPE SHALL BE THE COLOR AS INDICATED AND HAVE THE FOLLOWING MARKINGS:

RED	CAUTION BURIED ELECTRIC LINE BELOW	CAUTION BURIED ELECTRIC LINE BELOW	CAUTION BURIED ELECTRIC LINE BELOW
ORANGE	CAUTION BURIED TELEPHONE LINE BELOW	CAUTION BURIED TELEPHONE LINE BELOW	CAUTION BURIED TELEPHONE LINE BELOW



10/27/2020

Section 1 - RFDS GENERAL INFORMATION

RFDS NAME:	ECL02660	DATE:	06/10/2020	RF DESIGN ENG:	SHOHEL CHOWDHURY	RF PERF ENG:		RFDS PROGRAM TYPE:	2020 New Site		
ISSUE:		Approved? (Y/N):	Yes	RF DESIGN PHONE:		RF PERF PHONE:		RFDS TECHNOLOGY:	LTE 5C		
REVISION:		RF MANAGER:	JONES, JERRY O	RF DESIGN EMAIL:	sc3730@att.com	RF PERF EMAIL:		STATE/STATUS:	Preliminary/Approved		
INITIATIVE /PROJECT:						ADDITIONAL WORKFLOW NOTIFICATIONS:	RFDS ID:			4001664	
						RFDS VERSION:	1.00	Created By:	au844f	Updated By:	au844f
						UMTS FREQUENCY:		Date Created:	6/10/2020 2:46:00 PM	Date Updated:	6/17/2020 12:16:32 PM
						LTE FREQUENCY:		EXPIRATION DATE:			
						5G FREQUENCY:		ESTIMATED SQIN:		Calculation ID:	
						I-PLAN JOB # 1:	SER-RVWN-18-04954	IPLAN PRD GRP    SUB GRP #1:			New Site    LTE Only 1C
						I-PLAN JOB # 2:	NER-RVWN-20-03310	IPLAN PRD GRP    SUB GRP #2:			LTE Next Carrier    LTE 2C
						I-PLAN JOB # 3:	NER-RVWN-20-03311	IPLAN PRD GRP    SUB GRP #3:			LTE Next Carrier    LTE 3C
						I-PLAN JOB # 4:	NER-RVWN-20-03312	IPLAN PRD GRP    SUB GRP #4:			LTE Next Carrier    LTE 4C
						I-PLAN JOB # 5:	NER-RVWN-20-03313	IPLAN PRD GRP    SUB GRP #5:			LTE Next Carrier    LTE 5C
					I-PLAN JOB # 6:		IPLAN PRD GRP    SUB GRP #6:				
					I-PLAN JOB # 7:		IPLAN PRD GRP    SUB GRP #7:				
					I-PLAN JOB # 8:		IPLAN PRD GRP    SUB GRP #8:				

Section 2 - LOCATION INFORMATION

USID:	142556	FA LOCATION CODE:	12682142	LOCATION NAME:	368-766	ORACLE PTN # 1:	2301A0HFYS	PACE JOB # 1:	MRCAR033561
REGION:	SOUTHEAST	MARKET CLUSTER:	NORTH CAROLINA/SOUTH CAROLINA	MARKET:	RALEIGH	ORACLE PTN # 2:	2301A0W82B	PACE JOB # 2:	MRVWN005673
ADDRESS:	824 MCFARLAND ROAD	CITY:	BROADWAY	STATE:	NC	ORACLE PTN # 3:	2301A0W82H	PACE JOB # 3:	MRVWN005719
ZIP CODE:	27505	COUNTY:	HARNETT	LONG (DEC. DEG.):	-79.0372724	ORACLE PTN # 4:	2301A0W83W	PACE JOB # 4:	MRVWN005640
LATITUDE (D-M-S):	35d 22m59.8692s	LONGITUDE (D-M-S):	-79d -2m-14.18064s	LAT (DEC. DEG.):	35.3832970	ORACLE PTN # 5:	2301A0W849	PACE JOB # 5:	MRVWN005716
DIRECTIONS, ACCESS AND EQUIPMENT LOCATION:	START OUT ON I-85 N FOR 84 MILES. TAKE EXIST 126A TO MERGE ONTO US-421 S TOWARD SANFORD. TAKE THE OLD LIBERTY RD EXIT TOWARD LIBERTY. TURN LEFT ONTO OLD LIBERTY RD. TURN LEFT TO MERGE ONTO US-421 N TOWARD GREENSBORO. TURN LEFT ONTO SHILOH RD. TURN RIGHT ONTO BROWNS MEADOW RD. TAKE THE 1ST RIGHT ONTO US-421 S. TAKE EXIT 174 FOR PINEY GROVE CHURCH ROAD. TURN LEFT ONTO PINEY GROVE CHURCH RD. TURN LEFT TO MERGE ONTO US-421 N TOWARD GREENSBORO. TAKE EXIT 180 TOWARD LIBERTY/STALEY. TURN LEFT ONTO OLD US HWY 421. TURN LEFT TO MERGE ONTO US-421 S TOWARD SANFORD. TURN RIGHT ONTO THE US-1 N/2 US-501 N/2 US-15 N/2 N CAROLINA 87 N RAMP. MERGE ONTO U.S. 1 N/2 US-15 N/2 US-501 N. TAKE THE EXIT ONTO US-421 BYPASS S. CONTINUE ONTO NC-87 S. TURN LEFT ONTO BROADWAY RD. SLIGHT RIGHT ONTO MCDOWGALD RD. SLIGHT LEFT ONTO MCFARLAND RD FOR 3.4 MILES. ARRIVE AT SITE ON THE LEFT (ADDRESS 824 MCFARLAND RD).					ORACLE PTN # 6:		PACE JOB # 6:	
						ORACLE PTN # 7:		PACE JOB # 7:	
						ORACLE PTN # 8:		PACE JOB # 8:	
						BORDER CELL WITH CONTOUR COORD:		SEARCH RING NAME:	
						AM STUDY REQ'D (Y/N):	No	SEARCH RING ID:	
						FREQ COORD:		BTA:	
								MSA / RSA:	
								LAC(UMTS):	
						RF DISTRICT:	Raleigh		
						RF ZONE:	1	RNC(UMTS):	
		MME POOL ID(LTE):	FF10						
		PARENT NAME(UMTS):							

Section 3 - LICENSE COVERAGE/FILING INFORMATION

CGSA - NO FILING TRIGGERED (Yes/No):	No	CGSA LOSS:		PCS REDUCED - UPS ZIP:		CGSA CALL SIGNS:
CGSA - MINOR FILING NEEDED (Yes/No):	No	CGSA EXT AGMT NEEDED:		PCS POPS REDUCED:		
CGSA - MAJOR FILING NEEDED (Yes/No):	Yes	CGSA SCORECARD UPDATED:				

Section 4 - TOWER/REGULATORY INFORMATION

STRUCTURE AT&T OWNED?:	No	GROUND ELEVATION (ft):		STRUCTURE TYPE:	MONOPOLE	MARKET LOCATION 700 MHz Band:		
ADDITIONAL REGULATORY?:	No	HEIGHT OVERALL (ft):	195	FCC ASR NUMBER:	1289620	MARKET LOCATION 850 MHz Band:		
SUB-LEASE RIGHTS?:	No	STRUCTURE HEIGHT (ft):	195.00			MARKET LOCATION 1900 MHz Band:		
LIGHTING TYPE:	DUAL-RED AND MEDIUM INTENSITY						MARKET LOCATION AWS Band:	
						MARKET LOCATION WCS Band:		
						MARKET LOCATION Future Band:		































	PORT 5	142556.A.WCS.4G.tmp1	ECL02660_3A_1		LTE WCS	NNH4-65C-R6- V3_2350MHz_02DT	15.79		2	TOP	FIBER								
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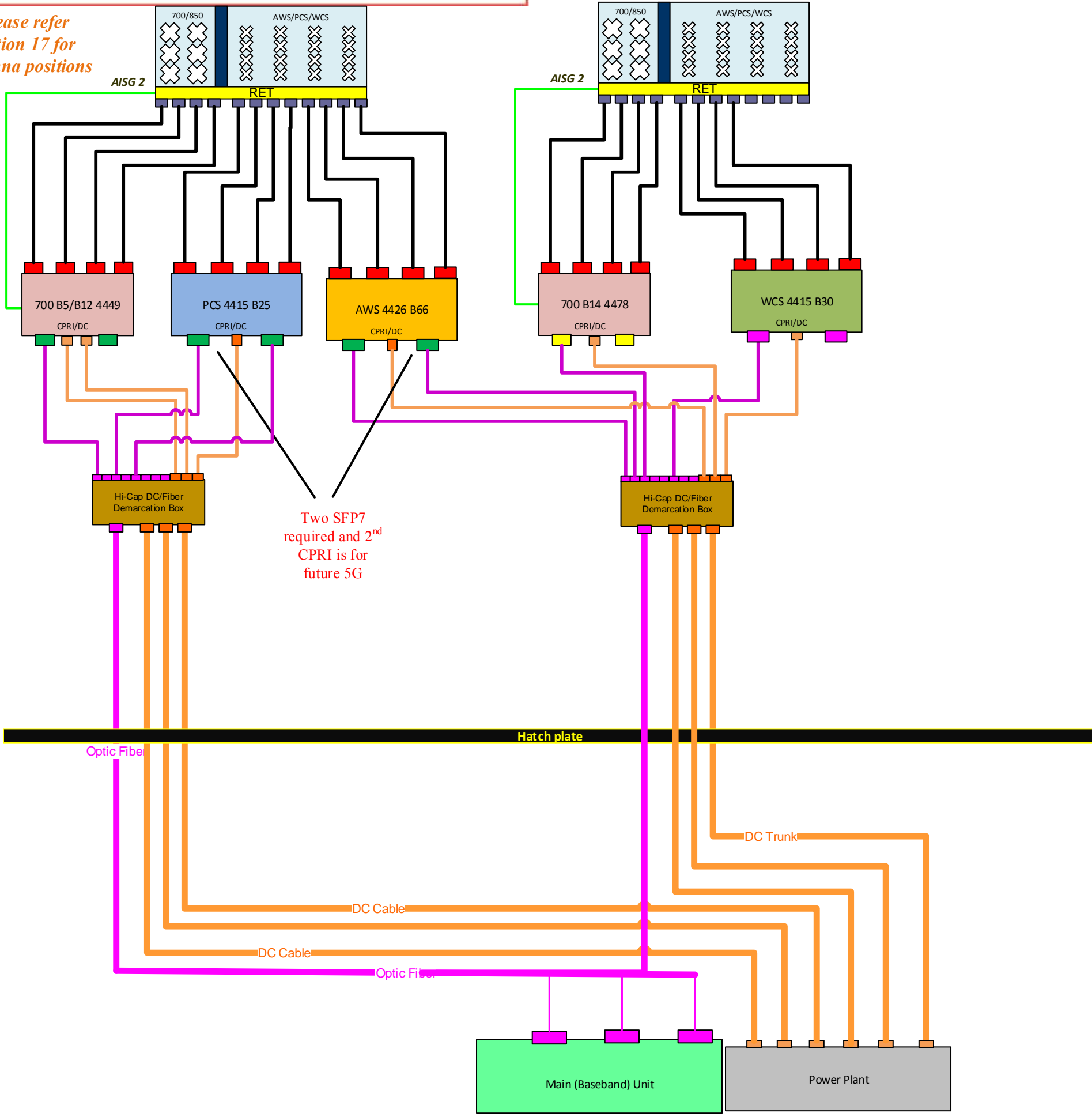


**Alpha/Beta/Gamma Sector**

**Important Note:**  
 For detailed radio to antenna wiring refer to the latest 4T4R Antenna/Radio Port Connections Field Notice (RF-HW-2016-234) and the 4T Wiring Playbook



*Please refer section 17 for Antenna positions*



Two SFP7 required and 2<sup>nd</sup> CPRI is for future 5G

WORKFLOW SUMMARY

Date	FROM State / Status	FROM ATTUID	TO State / Status	TO ATTUID	Operation	Comments	PACE Status
06/17/2020	Preliminary In Progress	au844f	Preliminary Submitted for Approval	SH0548	Promote	NSB RFDSs	SER-RVWN-18-04954 FAILURE 06/17/2020 12:13:21 PM NER-RVWN-20-03310 MRVWN005673 SUCCESS 06/17/2020 12:13:21 PM NER-RVWN-20-03311 MRVWN005719 SUCCESS 06/17/2020 12:13:21 PM NER-RVWN-20-03312 MRVWN005640 SUCCESS 06/17/2020 12:13:21 PM NER-RVWN-20-03313 MRVWN005716 SUCCESS 06/17/2020 12:13:21 PM
06/18/2020	Preliminary Submitted for Approval	SH0548	Preliminary Approved	CA130Y	Promote		