Cove Creek

Site Address (E-911 TBD)
430 GLENGARNOCK RD
TRYON, NC 28782
POLK COUNTY
LATITUDE: 35° 12' 20.42" N
LONGITUDE: 82° 14' 59.79" W
TAX/PIN #: T16-E7
ZONING: P-1

Jurisdiction:
TOWN OF TRYON
STATE: NORTH CAROLINA
TOWER TYPE: MONOPOLE TOWER
TOWER HEIGHT: 195' (195' TO HIGHEST APPURTENANCE)
NUMBER OF CARRIERS: 6 EXISTING, 1 PROPOSED
USE: PROPOSED TELECOMMUNICATIONS TOWER AND UNMANNED EQUIPMENT
FLOOD INFO: SITE IS LOCATED WITHIN FEMA FLOOD MAP AREA 371052540003 DATED 09/13/2008 WITHIN FLOOD ZONE X.

Project Summary

Developer
VERIZON WIRELESS
8921 RESEARCH DRIVE
CHARLOTTE, NC 28262
PHONE: (704) 577-8785
ATTN: MICHAEL HAVEN
POWER COMPANY: DUKE ENERGY
PHONE: (800) 777-9688
ATTN: CUSTOMER SERVICE

Property Owner
TOWN OF TRYON
TOWN OF TRYON
TRYON, NC 28782
PHONE: (828) 859-6654
ATTN: TIM DANIELS

Consultant
KIMLEY-HORN AND ASSOCIATES, INC.
11720 AMBER PARK DRIVE, SUITE 600
ALEPHARETTA, GEORGIA 30009
PHONE: (770) 945-6105
ATTN: DAVID FRANKLIN

Contacts

Permit Information

NEW COUNTY ISSUED FOR BY: 12/24/21 CONSTRUCTION ORC
DRAWN BY: 01/05/3312
CHECKED BY: GDS

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purposes and objectives for which it was prepared. Plans and specifications referenced on this document shall be subject to additional authorization and execution by Kimley-Horn and Associates, Inc., shall be subject to the authority of Kimley-Horn and Associates, Inc., in whole or in part.
GENERAL NOTES

1. This Specific Purpose Survey is for the Lessee Premises and Easements Only. This Specific Purpose Survey was prepared for the exclusive use of Verizon Wireless and exclusively for the transfer of the Lessee Premises and the Rights of Easement shown herein and shall not be used as an exhibit or evidence in the fee simple transferal of the Parent Parcel nor any portion or portions thereof. Boundary information shown herein has been compiled from tax maps and deed descriptions only. No boundary survey of the Parent Parcel was performed.

2. This drawing does not represent a boundary survey.

3. The Specific Purpose Survey was prepared without benefit of a title report which may reveal additional conveyances, easements, or rights-of-way not shown herein.

4. Survey equipment used for angular & linear measurements: Trimble 58 Robotic Total Station.

5. The 1' contours and spot elevations shown on the Specific Purpose Survey are adjusted to NAVD 88 Datum (computed using GCEID 18) and have a vertical accuracy of +/- 0.5'. Contours outside the immediate site area are approximate.

6. Bearings shown on this Specific Purpose Survey are based on Grid North (NAD83).

7. Per FEMA Floodplain Maps, this site is located in an area designated as Zone X (Areas of Minimal Flood Hazard). Community Panel #: P-924 (Not printed) FIRM Map No. 2.57024002 Dated September 3, 2008.

8. No underwater areas have been investigated by this Specific Purpose Survey.

9. All zoning information should be verified with Polk County Zoning Officials.

10. No underground utilities have been shown from above ground field survey information. The Surveyor makes no guarantees that any underground utilities shown in the site area are in-service or abandoned. The Surveyor further does not warrant that any underground utilities shown are in the exact location indicated although they are located as accurately as possible from information available. The Surveyor has not physically located and underground utilities.

POSITIONAL ACCURACY:

Class of Survey: Class "A" Positional Accuracy: ±0.10' GPS Procedure: NGCS Network RTK using a Trimble SP59B5 GPS Rover with TSC3 Controller Datum/Epoch: NAD83 (NRS2007) / NAVD 88 Public/Fixed Control: NC VPS Network Good Control: GeoID38 (CONUS) Combined Grid Factor: 0.9998169 Units: U.S. Survey Feet Dates of Survey: June 29th-30th, July 2nd and August 27th 2021 GRAPHIC SCALE 75 0 75.75 150 300 1 IN FEET 1 inch = 150 ft.

PARENT PARCEL:

Owner: Town of Tryon Site Address: 430 Glengarnock Road Tryon, NC 28782 Parcel ID: T16-E7 Area: 6.439 Acres Zoning: P-1 (Municipal) References: DB 101 pg. 35-36

SURVEYOR’S CERTIFICATION:

I, Neal H. O’Connor, Jr., do hereby certify that this map was drawn under my supervision from an actual GPS/conventional field survey made under my supervision, and accurately depicts the locations of this site as surveyed in the field and is not intended to represent a Boundary Survey of the Property or Properties shown herein. This survey is not for Recordation purposes.

Neal H. O’Connor, Jr. NCPLS # L-4105
This survey was made with the aid of Title work prepared by U.S. Title Solutions, issue date of 12/14/2020, examined from 8/12/1984 to 11/25/2020, being File No.66717~NC2011~5013 Reference No. 250511000083, for the Parent Parcel to determine the impacts of existing title exceptions listed below:

(A) Judgment lien
None within period searched.

(B) Liens
None within period searched.

(C) Other filed documents
None within period searched.

(D) Easements and Right of Ways
None within period searched.

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF LICENSED ARCHITECT, PROFESSIONAL ENGINEER, LANDSCAPE ARCHITECT, OR LAND SURVEYOR TO ALTER ANY ITEM ON THIS DOCUMENT IN ANY WAY. ANY LICENSEE WHO ALTERS THIS DOCUMENT IS REQUIRED BY LAW TO AFFIX HIS OR HER SEAL AND THE NOTATION “ALTERED BY” FOLLOWED BY HIS OR HER SIGNATURE AND SPECIFIC DESCRIPTION OF THE ALTERATIONS.

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DRAWING ALTERATION

SUMMIT DESIGN AND ENGINEERING

PREPARED FOR

REVISIONS

No. DATE DESCRIPTION CHK APP

SPECIFIC PURPOSE SURVEY:

COVE CREEK

430 GLENGARNOCK ROAD

TRYON, NC 28782

POLK COUNTY

DATES OF SURVEY: JUNE 25th, 29th-30th, JULY 2nd, & August 27th, 2021

SPECIFIC PURPOSE SURVEY:

TOWER LEESEE PREMISES SITE SHEET 3 OF 3

(Not Valid without all Sheets)

TITLE EXCEPTIONS:

(Judgement, Lien, UCC)

(Other filed Documents)

(Easements and Right of Ways)

PARENT PARCEL

Property located in the Town of Tryon, Polk County, North Carolina.

All that certain piece, parcel or tract of land lying and being situated on the south side of Glenscreek Avenue Extension and on the north side of Glencarne Road and being in the Town of Tryon, Polk County, North Carolina, containing six and 48.69/100 Acres (6.489 Acres), more or less, and being the same property conveyed to the Town of Tryon by Deed Book 101 pages 35–37, dated December 3rd, 1992 and recorded in the Polk County Register of Deeds.

TAX PARCEL ID: T16–E7

LEESEE PREMISES

All that tract or parcel of land lying and being in the Town of Tryon, Polk County, North Carolina, and being the same property conveyed to the Town of Tryon by Deed Book 101 pages 35–37, recorded in the Polk County Register of Deeds and being more particularly described as follows:

To find the Point of Beginning, Commencing at a PK Nail found at the intersection of Glencarne Road and Laurel Way being a referenced corner for said Town of Tryon property, having a North Carolina Grid North (NAD83) value of N 545.597.5350 and E 1.029.032.5370 and being the POINT OF COMMENCEMENT, thence with a true-line N 82° 42' 08" E 320.44 feet to a point being the TRUE POINT OF BEGINNING for the Lessee Premises; thence N 05° 47' 15" W 60.00 feet to a point being the TRUE POINT OF BEGINNING for the 30-foot wide Lessee Non-Exclusive Access, Fiber & Utility Easement; thence N 05° 47' 15" W 30.00 feet to a point; thence N 51° 15' 38" W 4.75 feet to a point; thence N 65° 28' 03" W 41.47 feet to a point; thence N 37° 42' 29" W 23.48 feet to a point; thence N 30° 49' 03" W 67.84 feet to a point; thence N 08° 19' 42" E 43.63 feet to a point; thence N 33° 26' 35" E 26.34 feet to a point; thence N 38° 09' 34" E 58.13 feet to a point; thence N 71° 58' 46" E 75.80 feet to a point at the edge of Glenscreek Avenue Extension (Town of Tryon Public Right of Way being edge to edge of driving surface); thence with Right of Way along edge of gravel for (2) calls: S 47° 55' 04" E 17.30 feet to a point; thence S 51° 06' 50" E 17.90 feet to a point; thence bearing said Right of Way S 71° 06' 47" W 85.08 feet to a point; thence S 38° 09' 34" W 42.70 feet to a point; thence S 33° 26' 35" W 18.42 feet to a point; thence S 08° 19' 42" W 26.28 feet to a point; thence S 30° 49' 03" E 55.37 feet to a point; thence S 37° 42' 29" E 14.26 feet to a point; thence S 65° 28' 03" E 37.80 feet to a point; thence S 51° 15' 38" E 26.99 feet to a point; thence N 84° 12' 45" E 17.22 feet to a point; thence S 05° 47' 15" E 30.00 feet to a point at the Lessee Premises.

SITE INFORMATION:

Lessee Premises:
3,600.00 Square Feet (0.083 Acres)
Latitude at center of Premises:
N 35° 12' 20.4329" (NAD83) (35.205676)
Longitude at center of Premises:
W 82° 14' 59.788" (NAD83) (-82.249941)
Elevation at center of Premises:
1203.00’ A.M.S.L.

SPECIFIC PURPOSE EASEMENT:
LESSEE PREMISES AND 30’ LEESEE NON-EXCLUSIVE ACCESS, FIBER & UTILITY EASEMENT

Also conveyed is a Lessee 5 foot wide Temporary Construction Easement along the above described Lessee Premises and the 30-foot wide Lessee Non-Exclusive Access, Fiber & Utility Easement being shown herein for Verizon Wireless.

30’ LEESEE NON-EXCLUSIVE ACCESS, FIBER & UTILITY EASEMENT

Together with a 30-foot wide Lessee Non-Exclusive Access, Fiber & Utility Easement lying and being in the Town of Tryon, Polk County, North Carolina, and being the same property conveyed to the Town of Tryon by Deed Book 101 pages 35–37, recorded in the Polk County Register of Deeds and being more particularly described as follows:

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Lessee Premises:
3,600.00 Square Feet (0.083 Acres)
Latitude at center of Premises:
N 35° 12' 20.4329" (NAD83) (35.205676)
Longitude at center of Premises:
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Elevation at center of Premises:
1203.00’ A.M.S.L.

SPECIFIC PURPOSE SURVEY:

COVE CREEK

430 GLENGARNOCK ROAD

TRYON, NC 28782

POLK COUNTY

DATES OF SURVEY: JUNE 25th, 29th-30th, JULY 2nd, & August 27th, 2021

SPECIFIC PURPOSE SURVEY:

TOWER LEESEE PREMISES SITE SHEET 3 OF 3

(Not Valid without all Sheets)
1.00 GENERAL NOTES

1.01 ALL MATERIALS AND WORKMATERIAL SHALL CONFORM TO THE DRAWINGS AND SPECIFICATIONS, ALL WORK MUST BE CARRIED OUT IN ACCORDANCE WITH THE LATEST EDITION OF THE STATE, LOCAL, AND NATIONAL CODES, ORDINANCES AND OR REGULATIONS APPLICABLE TO THIS PROJECT.

1.02 THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES AND SHALL CHECK ALL CONDITIONS. ALL DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE PROJECT MANAGER AND/OR ENGINEER AND BE RESOLVED BEFORE PROCEEDING WITH WORK. THERE IS A CONFLICT BETWEEN DRAWING AND VERIZON SPECIFICATIONS, THE VERIZON PROJECT MANAGER WILL BE CONTACTED FOR RESOLUTION.

1.03 ALL INFORMATION SHOWN ON THE DRAWINGS RELATIVE TO EXISTING CONDITIONS IS GIVEN AS THE BEST PRESENT KNOWLEDGE, BUT WITHOUT GUARANTEE OF ACCURACY, WHERE ACTUAL CONDITIONS CONFLICT WITH THE DRAWINGS, THEY SHALL BE REPORTED TO THE PROJECT MANAGER AND/OR ENGINEER SO THAT PROPER REVISIONS MAY BE MADE. MODIFICATION OF DETAILS OF CONSTRUCTION SHALL NOT BE MADE WITHOUT WRITTEN APPROVAL OF THE PROJECT MANAGER AND/OR ENGINEER.

1.04 CONTRACTOR SHALL REVIEW AND BE FAMILIAR WITH SITE CONDITIONS AS SHOWN ON THE ATTACHED SITE PLAN AND/OR SURVEY DRAWINGS.

1.05 WAVEGUIDE BRIDGE AND EQUIPMENT CABINETS ARE SHOWN FOR REFERENCE ONLY. REFER TO SEPARATE DRAWINGS FOR SPECIFIC INFORMATION.

1.06 ALL FINISHED GRADES SHALL SLOPE MINIMUM 1/4 IN/FT. AWAY FROM EQUIPMENT IN ALL DIRECTIONS. CONTRACTOR SHALL SLOPE SCAFFOLS AS REQUIRED ALONG EXISTING TERRAIN TO DRAIN AWAY FROM COMPOUND AND ACCESS DRIVE.

1.07 THE PROPOSED TOWER AND TOWER FOUNDATION DESIGNS WERE BASED ON THE BEST INFORMATION PROVIDED ON THESE PLANS. ALL WORK MUST BE CARRIED OUT IN ACCORDANCE WITH THE SPECIFICATIONS AND THE CONTRACTOR TO COMPLY WITH ALL LAWS AND REGULATIONS.

1.08 THE CONTRACTOR SHALL PROVIDE ADEQUATE EXCAVATION SLOPING, SANDING, BRACING, AND GUARDING IN ACCORDANCE WITH ALL NATIONAL, STATE, AND LOCAL SAFETY ORDINANCES.

1.09 UPON COMPLETION OF CONSTRUCTION, CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL MATERIALS AND CLEANING UP ALL CONSTRUCTION AREAS TO THE MANUFACTURER'S SPECIFICATIONS.

1.10 THE CONTRACTOR IS HEREBY NOTIFIED THAT PRIOR TO CONSUMING COMMERCING CONSTRUCTION, HE IS RESPONSIBLE FOR CONTACTING THE UTILITIES COMPANIES INVOLVED AND SHALL REQUEST VERIFICATION OF THE LOCATION OF THEIR UNDERGROUND UTILITIES AND WHERE THEY MAY POSITIVELY CONFLICT WITH THE MARYLAND APPROPRIATEMENT COMMISSION. THE CONTRACTOR SHALL BEABE THE TOWING OF ALL MATERIALS AND OR EQUIPMENT TO THE SITE.

1.11 CONTRACTOR TO PROVIDE SIIPPER AND PORTABLE TOILET FACILITY DURING CONSTRUCTION.

1.12 CONTRACTOR TO PROVIDE EYEWELL L—OR EQUIVALENT AS APPROVED BY VERIZON PROJECT MANAGER.

1.13 CONTRACTOR TO PROVIDE ANY NECESSARY SIGNALS P—R VERIZON PROJECT MANAGER'S INSTRUCTIONS. SEE DETAIL ON SHEET C11.

2.00 EQUIPMENT FOUNDATION NOTES

2.01 FOUNDATIONS ARE DESIGNED FOR A PRESUMED ALLOWABLE SOIL BEARING CAPACITY OF 2,000 PSF. CONTRACTOR SHALL VERIFY FOUNDATION MATERIALS BE PREPAVED IN ACCORDANCE WITH THE LAST EDITION OF THE STATE, LOCAL, AND NATIONAL CODES, ORDINANCES, AND REGULATIONS APPLICABLE TO THIS PROJECT.

2.02 EXCAVATE A MINIMUM 18" BELOW PROPOSED EQUIPMENT FOUNDATIONS OF EXPANSION, ORGANIC, UNSOLIDIFIED OR OTHERWISE UNACCEPTABLE MATERIAL AND REPLACE WITH WELL-COMPACTED MATERIAL ACCEPTABLE TO VERIZON.

2.03 CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, PROTECTING, AND RELOCATING AS REQUIRED ALL SERVICE AND UTILITY LINES IN VIOLENT OF THE WORK SITE. ALL EXCAVATIONS NEAR THESE LINES SHALL BE CARRIED OUT WITH EXTREME CAUTION TO PROTECT ALL RELOCATIONS WITH THE PROPERTY OWNER.

2.04 CONTRACTOR TO CUT/PULL EXISTING COMPUND SUBSOIL TO A MAXIMUM DEPTH AS SHOWN ON THE ATTACHED SITE PLAN AND/OR SURVEY DRAWINGS. WAVEGUIDE BRIDGE AND EQUIPMENT CABINETS ARE SHOWN FOR REFERENCE ONLY. REFER TO SEPARATE DRAWINGS FOR SPECIFIC INFORMATION.

2.05 CONCRETE SHALL HAVE A MINIMUM COMpressive STRENGTH OF 4000 PSF AT 28 DAYS AND SHALL BE INSTALLED IN ACCORDANCE WITH THE LAST EDITION OF ADO—310 BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE.

2.06 CONCRETE SHALL HAVE A SLUMP BETWEEN 3" AND 6".

2.07 FIBERS FOR CONCRETE SHALL BE FIBER-WEAR 850, 100 PERCENT VIRGIN POLYPROPYLENE FIBER-FREE FIBER. OF THE MATERIALS, THE FIBERS SHALL CONFORM TO ASTM C1166 TYPE 1 AND MANUFACTURED SPECIFICALLY FOR THE SECONDARY REINFORCEMENT OF CONCRETE.

2.08 THE FIBERS SHALL BE MANUFACTURED IN AN ISO 9001:2008 CERTIFIED MANUFACTURING FACILITY, UNLESS OTHERWISE STATED, FIBER-WEAR 850 MACRO-SYNTHETIC FIBERS SHALL BE ADDED TO THE CONCRETE AT THE BATCHING PLANT AT THE RECOMMENDED APPLICATION RATE OF 3 LBS/M3 AND MIXED FOR 15 MINUTES MIXING RPM) TO ENSURE UNIFORM DISTRIBUTION OF THE FIBERS THROUGHOUT THE CONCRETE. THE CONCRETE REINFORCEMENT SHALL BE MANUFACTURED BY FIBER-WEAR, 4025 INDUSTRY DRIVE, CHATTANOOGA, TN 37416 USA, TEL: 862-1273, WEBSITE: WWW.FIBER-WEAR.COM

2.09 AT THE REQUEST OF THE VERIZON WIRELESS PROJECT MANAGER, TEST CEMENTS SHALL BE MOLDED AND LABORATORY CURLED IN ACCORDANCE WITH ASTM C31. THREE CEMENTS SHALL BE TAKEN EACH DAYS' CONCRETE PLACEMENT, CEMENTS SHALL BE TESTED IN ACCORDANCE WITH THE LAST EDITION OF ASTM C31.

2.10 CHAMFER ALL EXPOSED EXTERIOR CORNERS OF CONCRETE WITH 1/2" X 45° CHAMFER, UNLESS OTHERWISE NOTED.

2.11 CONCRETE FORMWORK IS TO BE STRIPPED WITHIN 48 HOURS. VIBRATION OF THE CONCRETE MUST BE ADEQUATE TO ENSURE COMPLETION OF THE PLACEMENT OF ALL MATERIALS. ANY UTILITIES DAMAGES BY CONSTRUCTION ACTIVITIES SHALL BE REPAIRED BY THE CONTRACTOR, AT THE EXPENSE OF THE OWNER.

2.12 TOPS OF CONCRETE FOUNDATION MUST BE WITHIN 0.02' OF ELEVATION REQUIRED.

2.13 TOP OF FOUNDATION FINISH TO BE LEVEL 3/16" IN 10'.

2.14 TOP OF FOUNDATION TO HAVE MEDIUM BROOM FINISH.

2.15 CONTRACTOR TO REFER TO DRAWINGS OF OTHER TRADES AND VERIZON DRAWINGS FOR EMBEDDED ITEMS AND RECESSES NOT SHOWN ON THE STRUCTURAL DRAWINGS. CONTRACTOR SHALL VERIFY PLACEMENT OF EQUIPMENT AND LOCATION OF CONDUIT FOR MANUFACTURER'S AND VERIZON SPECIFICATIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL OPENINGS AND SLEEVES FOR PROPER DISTRIBUTION OF ALL UTILITIES.
SURVEY NOTE:
1. VERIZON WIRELESS STAFF SHALL COORDINATE WITH THE PROPERTY OWNER TO OBTAIN THE PROPER EASEMENT AGREEMENTS TO CONSTRUCT AND MAINTAIN EQUIPMENT IN AND AROUND THE TOWER COMPOUND.
2. PROPOSED COMPOUND LAYOUT BASED ON SURVEY PROVIDED BY SUMMIT DESIGN AND ENGINEERING SERVICES DATED 09/13/21 AND SITE VISIT ON 09/27/21.

OVERALL SITE PLAN
SCALE: 1" = 50'

GRAPHIC SCALE: 1" = 50'

PARCEL PLAN
C1

This document, together with the survey plans and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Race of and improper reliance on this document without written authorization and adoption by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

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SITE NOTES:
1. VERIZON WIRELESS STAFF SHALL COORDINATE WITH THE PROPERTY OWNER AND/OR TOWER OWNER TO OBTAIN THE PROPER EASEMENT AGREEMENTS TO CONSTRUCT AND MAINTAIN EQUIPMENT IN AND AROUND THE TOWER COMPOUND.

2. PROPOSED COMPOUND LAYOUT BASED ON SURVEY PROVIDED BY SUMMIT DESIGN AND ENGINEERING SERVICES DATED 09/13/21 AND SITE VISIT ON 06/04/21.

3. CONTRACTOR TO CONFIRM WITH VERIZON CONSTRUCTION MANAGER THAT THE SHELTER/EQUIPMENT SHOWN HAS BEEN ORDERED/SCHEDULED FOR DELIVERY TO THIS SITE.

4. THE BASIS OF EQUIPMENT DESIGN INCLUDES ONE (1) RF CABINET, ONE (1) FUTURE BATTERY CABINET, AND ONE (1) FUTURE EXPANSION CABINET.

5. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING AND MODIFYING SCOPE OF WORK TO ACCOMMODATE ANY CHANGES IN THE EXACT EQUIPMENT PROVIDED BY VERIZON WIRELESS. COORDINATE ANY CHANGES WITH VERIZON WIRELESS CONSTRUCTION MANAGER.

6. ROUTE COAX/FIBER UP TOWER PER STRUCTURAL ANALYSIS BY TOWER OWNER.

7. TOWER IMPROVEMENTS SHOWN ON THIS PLAN ARE FOR TOWER CENTER LOCATION. CONTRACTOR TO OBTAIN COPY OF TOWER ERECTION DRAWINGS FROM VERIZON CONSTRUCTION MANAGER PRIOR TO DRILLING TOWER FOUNDATIONS. CAISSONS AND TOWER SHOWN ON THIS PLAN ARE ILLUSTRATIVE, SEE DESIGN DRAWING BY OTHERS, DO NOT SCALE.

This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and effect for which it was prepared. Reproduction of any improper reliance on this document without written authorization and approval by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.
1. REFER TO THE SITE PLAN FOR EQUIPMENT PAD LOCATION AND ORIENTATION.

2. RUN 2" FLEX TELCO CONDUIT FROM BOTTOM OF TELCO BOX TO SIDE OF RF CABINET WITH CHASE NIPPLE THROUGH FACTORY KNOCKOUT.

3. RUN (2) 2" FLEX POWER CONDUIT AND (1) 1" ALARM CONDUIT FROM BOTTOM OF ILC TO SIDE OF RF CABINET WITH CHASE NIPPLE THROUGH FACTORY KNOCKOUT.

4. RUN 2" FLEX FIBER CONDUIT FROM BOTTOM OF OVP TO SIDE OF RF CABINET WITH CHASE NIPPLE THROUGH FACTORY KNOCKOUT.

5. RUN (1) 1/2" FLEX POWER CONDUIT FOR EVERY (6) RRU CIRCUITS FROM BOTTOM OF OVP TO SIDE OF RF CABINET WITH CHASE NIPPLE THROUGH FACTORY KNOCKOUT.

6. SUPPORT FLEX CONDUIT ON HORIZONTAL H-FRAME RAILS OR ON VERTICAL SITE STRUT SNTIO RAILS ADDED TO H-FRAME FOR CONDUIT/CABLE MANAGEMENT.

7. RUN HYBRID CABLE FOR TOWER MOUNTED RRU'S OVERHEAD ON TRAPEZE SUSPENDED FROM WAVE GUIDE BRIDGE. SLEEP DOWN ONTO H-FRAME RAILS, THEN LOOP UNDER OVP AND CONNECT TO BOTTOM OF OVP. ATTACH GROUND KITS TO HYBRID CABLE BEFORE LOOPING UNDER OVP, AND BOND TO TDSA GROUND BAR AT BASE OF H-FRAME.

8. RUN COAX CABLE FOR GROUND MOUNTED RRU'S (IF USED) OVERHEAD ON TRAPEZE SUSPENDED FROM WAVE GUIDE BRIDGE. TRANSITION COAX ON ICE BRIDGE AND TRANSITION TO JUMPERS JUST BEFORE REACHING H-FRAME. ATTACH GROUND KITS TO COAX CABLE ON TOWER SIDE OF LAST ICE BRIDGE POST AND BOND TO TDSA GROUND BAR NEAR TOP OF POST.

9. GPS ANTENNA TO BE MOUNTED TO STANDARD HEIGHT POST WITH EXTENDED MOUNTING PIPE, USING COMBOSCOPE GPS-L MOUNTING KIT. MOUNT AS NEAR AS PRACTICAL TO RRU CABINET.

10. BOLT CABINETS AND GENERATOR TO SLAB USING FASTENERS SPECIFIED BY EQUIPMENT MANUFACTURER IN FACTORY PROVIDED MOUNTING HOLES.
CONCRETE PAD SCHEDULE

<table>
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<th>PAD TYPE</th>
<th>&quot;L&quot;</th>
<th>&quot;W&quot;</th>
<th>&quot;D&quot;</th>
<th>REINFORCEMENT</th>
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<tr>
<td>EQUIPMENT PAD</td>
<td>10'-0&quot;</td>
<td>4'-0&quot;</td>
<td>6&quot;</td>
<td>SEE DETAIL 2/C6</td>
</tr>
<tr>
<td>GENERATOR PAD</td>
<td>10'-0&quot;</td>
<td>3'-0&quot;</td>
<td>6&quot;</td>
<td>SEE DETAIL 2/C6</td>
</tr>
</tbody>
</table>

CONCRETE PAD PLAN

1 C6 NOT TO SCALE

FINISH GRADE

MEDIUM BROOM FINISH, FINISH TO BE LEVEL 4/8" "SEE PLAN"

BUILD UP BACKFILL 2" IN AREA OF SLAB

6" THICK CONCRETE SLAB WITH FIBERMESH 650

CONCRETE PAD FOUNDATION SECTION

2 C6 NOT TO SCALE
FENCE NOTES:
1. USE 2,000–PSI CONCRETE, FULLY CONSOLIDATED AROUND THE POST.
2. WHERE THE POST IS SET IN ROCK OR CONCRETE, CORE A HOLE 12" DEEP AND 1" LARGER IN DIAMETER THAN THE POST. SET THE POST AND GROUT IN PLACE USING NON-SHRINKING GROUT.
3. ALL POSTS MUST BE PLUMB AND ALIGNED WITH ONE ANOTHER IN BOTH HORIZONTAL AND VERTICAL PLANES.
4. CORNERS AND CATERPODS FOR CHAIN LINK FENCES SHALL EXTEND ABOVE THE TOP STRAND OF BARBED WIRE TO PROVIDE TENSIONING FOR THE BARBED WIRE.
5. PROVIDE MORRALS AND BRACING AT ALL CORNER POSTS WHERE THE FENCE CHANGES DIRECTION BY MORE THAN 30 DEGREES.
7. CONTRACTOR SHALL PROVIDE HOLD OPEN DEVICES FOR ALL GATES AT THE SPECIFIED OPEN POSITIONS. DRIVEN PIPE TYPE RECEIVERS ARE NOT AUTHORIZED.
8. CONTRACTOR SHALL ALSO PROVIDE A MUSHROOM TYPE RECEIVER AT THE CLOSE POSITION.

1. CHAIN LINK FENCE AND GATE ELEVATION

2. MUSHROOM STOP

3. SITE COMPOUND SURFACE DETAIL

4. SECTION AT FENCE

Not To Scale

DRAWN BY: C7
CHECKED BY: C7

Sheet Title: C7
Sheet Number: C7

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NOTE: CURRENT DESIGN ANTICIPATES APPROXIMATELY 19,265.5 SQ. FT. (0.44 ACRES) OF CLEARING AND GRADED FOR THE PROPOSED PROJECT, IF ADDITIONAL CLEARING IS REQUIRED BEYOND WHAT IS SHOWN IN THE PLANS THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND/OR PROJECT MANAGER. IF DURING THE BID WALK OR CONSTRUCTION IT IS DETERMINED THAT MORE THAN (1) ACRE OF LAND IS TO BE DISTURBED FOR CONSTRUCTION AN EROSION AND SEDIMENTATION CONTROL PLAN MUST BE FILED 30 DAYS PRIOR TO CONSTRUCTION.

1. THE CONTRACTOR SHALL CLEAR AND GRUB THE SITE AND PLACE, COMPACT, AND MOISTURE CONDITION ALL FILL PER THE PROJECT GEOTECHNICAL ENGINEERS SPECIFICATIONS. FILL MATERIAL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT.
2. ALL PROPOSED CONTOURS AND SPOT ELEVATIONS REFLECT FINISHED GRADES.
3. CONTRACTOR SHALL BLEND EARTHWORK SMOOTHLY TO TRANSITION BACK TO EXISTING GRADE.
4. PORTIONS OF THE SITE NOT SPECIFICALLY MENTIONED WITHIN THE GEOTECHNICAL REPORT SHALL BE COMPACTED TO 95 PERCENT OF THE MATERIALS MAXIMUM DRY DENSITY WITHIN 3 PERCENT OF OPTIMUM MOISTURE CONTENT.
5. FILL SHALL BE PLACED IN MAXIMUM 8 INCH LOOSE LIFTS.
6. UNDISTURBED AREAS WITHIN 30' HORIZON/ELEVATION EASEMENT NOT NEEDED FOR UTILITY ROUTING TO BE LEFT UNDISTURBED.
7. GROUND WATER SHOULD BE REASONABLY EXPECTED. ANY DE-WATERING OR MOISTURE CONDITIONING IS THE RESPONSIBILITY OF THE CONTRACTOR AND SHOULD BE INCLUDED IN THE CONTRACT PRICE.
8. SEED ALL DISTURBED AREAS NOT TOPPED WITH GRAVEL PER SEEDING SCHEDULE ON DETAIL ON SHEET C8.
9. MAXIMUM CUT SLOPE = 2H:1V UNLESS OTHERWISE NOTED.
10. MAXIMUM FILL SLOPE = 3H:1V UNLESS OTHERWISE NOTED.

EXISTING CONTOURS
PROPOSED CONTOURS
SILT/SEDIMENT FENCE
TPF
EXISTING SPOT ELEVATION
PROPOSED SPOT ELEVATION

LEGEND

GRADING & EROSION CONTROL PLAN

SCALE: 1" = 30'

C8

0 15 30 45 60

GRAPHIC SCALE: 1" = 30'
NOTE:
CURRENT DESIGN ANTICIPATES APPROXIMATELY 10,265 SQ. FT. (0.44 ACRES) OF CLEARING AND GRAVING FOR THE PROPOSED PROJECT. IF ADDITIONAL CLEARING IS REQUIRED BEYOND WHAT IS ShOWN IN THE PLANS THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND/OR PROJECT MANAGER. IF DURING THE BID WALK OR CONSTRUCTION IT IS DETERMINED THAT MORE THAN 7.30 ACRES OF LAND IS TO BE DISTURBED FOR CONSTRUCTION AN EROSION AND SEDIMENTATION CONTROL PLAN MUST BE FILED 30 DAYS PRIOR TO CONSTRUCTION.

GRADING NOTES:

1. The contractor shall clear and grub the site and place, compact, and moisture condition all fill per the project geotechnical engineers specifications. Fill material shall be approved by the geotechnical engineer prior to placement.

2. All proposed contours and spot elevations reflect finished grades.

3. Contractor shall blend earthwork smoothly to transition back to existing grade.

4. Portions of the site not specifically mentioned within the geotechnical report shall be compacted to 95 percent of the materials maximum dry density within 3 percent of optimum moisture content.

5. Fill shall be placed in maximum 8 inch loose lifts.

6. Undisturbed areas within 30' ingress/egress easement not needed for utility routing to be left undisturbed.

7. Ground water should be reasonably expected. Any de-watering or moisture conditioning is the responsibility of the contractor and should be included in the contract price.

8. Seed all disturbed areas not topped with gravel per seeding schedule on detail on Sheet C8.

9. Maximum cut slope = 2H:1V unless otherwise noted.

10. Maximum fill slope = 3H:1V unless otherwise noted.

LEGEND

EXISTING CONTOURS
PROPOSED CONTOURS
LOG/SILT FENCE — L20 — #/#
TPF — — — — — —
EXISTING SPOT ELEVATION • XXX
PROPOSED SPOT ELEVATION • XXX

SCALE: 1"=30'
Erosion Control Notes:
1. Erosion control shall be installed prior to construction and shall be adequate to maintain sediment on site.
2. All excavated soils not needed on site for backfill operations shall become the property of the contractor and shall be taken off site and legally disposed of.
3. Soil remaining on site shall have silt fence tightly placed around the entire circumference of the pile.
4. Provide erosion controls as necessary to prevent existing soils from draining off site or into existing drainage structures.
5. Erection of erosion controls shall be in accordance with state and local erosion control regulations.

Seeding Schedule for Winter / Spring Construction Activities

Seeding Mixture
Species | Rate (lbs/acre)
--- | ---
Rye (gry) | 120
Annual Ryegrass (Koza in Plamodium and Coastal Plain), Korean in Mountains | 50

Seeding Dates
- Mountain: Above 2500 ft: Feb 15 – May 15
- Below 2500 ft: Jan 1 – May 1
- Piedmont: Jan 1 – May 1
- Coastal Plain: Dec 1 – Apr 15

Soil Amendments
Foliar recommendations of soil tests of apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10-10-10 fertilizer.

Mulch
Apply 4,000 lb/acre straw. Anchor straw by tucking with asphalt, nailing, or a metal draping tool. A trowel with multiple sets nearly straight can be used as a mulch anchoring tool.

Maintenance
Retardant if growth is not fully adequate. Rake, reseed, and reestablish by following the next operation or other damage.

Seeding Schedule for Summer Construction Activities

Seeding Mixture
Species | Rate (lbs/acre)
--- | ---
Common Bermudagrass | 40-80 (1-2 lb/1,000 sq. ft.)

Seeding Dates
Coastal Plain: Apr 1 – July
Piedmont: Apr 15 – June 30

Soil Amendments
Apply lime and fertilizer according to soil tests, or apply 3,000 lb/acre ground agricultural limestone and 500 lb/acre 10-10-10 fertilizer.

Mulch
Use jute, excellar matting, or other effective channel lining material to cover the bottom of channels and ditches. The lining should extend above the highest calculated depth of flow. On channel side slopes above this height, and in drainage structures not requiring temporary lining, apply 4,000 lb/acre grass straw and anchor straw by stapling netting over the top.

Maintenance
A minimum of 3 weeks is required for establishment. Inspect and repair mulch frequently. Retard the following Apr, with 50 lb/acre nitrogen.

Section
Sediment Fence (Silt Fence)
NOT TO SCALE

Tree Protection Fence
NOT TO SCALE
**PLAN**

**NOTES:**
1. PUT SILT FENCE OR TREE PROTECTION FENCE UP TO ENSURE CONSTRUCTION ENTRANCE IS USED.
2. IF CONSTRUCTION ON THE SITES ARE SUCH THAT THE MUD IS NOT REMOVED BY THE VEHICLE TRAVELING OVER THE STONE, THEN THE TIRES OF THE VEHICLES MUST BE WASHED BEFORE ENTERING THE PUBLIC ROAD.
3. IF A PROJECT CONTINUES TO PULL MUD AND DEBRIS ON TO THE PUBLIC ROAD, THE GOVERNING AUTHORITY WILL CLEAN THE AREA AND INVOICE THE FINANCIALLY RESPONSIBLE PERSON AS INDICATED ON THE FINANCIAL RESPONSIBILITY FORM.

**CONSTRUCTION ENTRANCE**

**NOT TO SCALE**

**STANDARD ACCESS ROAD AND TURN-AROUND DETAIL**

**NOT TO SCALE**
NO TRESPASSING
VIOLATORS WILL BE PROSECUTED

INFORMATION
This is a Verizon Wireless Antenna Site
Site ID:
800-264-6620

NOTICE
No Trespassing Sign (White)
Operations Provided

WARNING
12" wide x 18" high

CAUTION
12" wide x 18" high

NOTICE
RF Sign (Blue)
12" wide x 18" high

SIGN PLACEMENT PLAN VIEW
C11
NOT TO SCALE

TYPICAL SIGNS AND SPECIFICATIONS
C11
NOT TO SCALE

SIGN PLACEMENT FRONT GATE VIEW
C11
NOT TO SCALE

NOTE: SEE TYPICAL SIGNS AND SPECIFICATIONS DETAIL ON THIS SHEET FOR SIGN DESIGNATIONS.

SIGNAGE NOTES:
1. SIGNS SHALL BE FABRICATED FROM CORROSION RESISTANT PRESSURIZED METAL, AND PAINTED WITH LONG LASTING UV RESISTANT COATINGS.
2. SIGNS (EXCEPT WHERE NOTED OTHERWISE) SHALL BE MOUNTED TO THE TOWER, GATE, AND FENCE USING A MINIMUM OF 9 GAUGE ALUMINUM WIRE, HOG RINGS (AS UTILIZED IN FENCE INSTALLATIONS) OR BRACKETS WHERE NECESSARY. BRACKETS SHALL BE OF SIMILAR METAL TO THE STRUCTURE TO AVOID GALVANIC CORROSION.
NOTE:
1. ALL MATERIALS FURNISHED BY CONTRACTOR UNLESS OTHERWISE NOTED.
ANTENNA ORIENTATION PLAN

NOT TO SCALE, FOR ILLUSTRATIVE PURPOSES ONLY, SEE STRUCTURAL ANALYSIS BY OTHERS TO CONFIRM ANTENNA MOUNT TYPE.

NOTE:
REFER TO RFDS PROVIDED BY VERIZON, CONTRACTOR TO CONTACT THE VERIZON WIRELESS CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION FOR THE CONSTRUCTION RFDS.

MONOPOLE TOWER ELEVATION

NOT TO SCALE

NOTE:
1. ALL ATTACHMENTS TO TOWER BASED ON TOWER DESIGN DRAWINGS BY OTHERS (SEE GENERAL NOTE 1.07, SHEET N1).
2. THE TOWER ELEVATION SHOWN IS FOR REFERENCE ONLY.
3. COAX/FIBER CABLE LENGTHS ARE APPROXIMATE, CONTRACTOR TO VERIFY CORRECT LENGTH IN FIELD AT TIME OF CONSTRUCTION.
4. PROPOSED TOWER WILL BE CARLICAIZED STEEL, GRAY IN COLOR.

NOTES:
1. ALL INFORMATION ON THIS PAGE IS PROVIDED BY VERIZON WIRELESS AND/OR OTHERS AND IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. CONTRACTOR SHALL CONTACT THE VERIZON WIRELESS CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION FOR ALL DETAILED ANTENNA, AND COAX CABLE INFORMATION.
2. REFER TO STRUCTURAL ANALYSIS BY TOWER OWNER FOR ANALYSIS OF PROPOSED TOWER.
3. IT IS UNDERSTOOD THAT KIMLEY-HORN MAKES NO WARRANTY, EITHER EXPRESSED OR IMPLIED, FINDINGS, DESIGNS, RECOMMENDATIONS, SPECIFICATIONS, OPINION, OR PROFESSIONAL ADVICE RELATING TO THE STRUCTURAL ADEQUACY OF THE PROPOSED TOWER OR ATTACHMENT OF ANTENNAS OR OTHER APPURTENANCES.
KEY NOTES - CONDUIT, CONDUCTORS, & MISC
A. 1" SCHEDULE 40 STEEL PIPE, PIPE MATERIAL TO COMPLY WITH SECTION 403.4.2 OF THE 2018 NORTH CAROLINA FUEL GAS CODE. PIPE SIZED FOR AN INLET PRESSURE OF 11" IN WC AND A MAXIMUM LENGTH OF 50 LF.
B. 1" POLYETHYLENE PIPE WITH A TRACER WIRE, PIPE MATERIAL TO COMPLY WITH SECTION 403.6.6 OF THE 2018 NORTH CAROLINA FUEL GAS CODE. PIPE SIZED FOR INLET PRESSURE OF 11" IN WC, AND MAXIMUM LENGTH OF 50 LF. TRACER WIRE SHALL COMPLY WITH SECTION 404.17.3 OF 2018 NORTH CAROLINA FUEL GAS CODE.
C. 4" SCHEDULE 80 PVC SLEEVE.
D. CONNECTIONS TO BE MADE WITH FLEXIBLE FITTINGS.

KEY NOTES - EQUIPMENT
1. LIQUID PROPANE TANK WITH AN INTEGRAL MANUAL SHUTOFF VALVE, SIZE AND TYPE PER VERIZON WIRELESS. TANK SHALL COMPLY WITH ALL REQUIREMENTS OF THE NFPA AND INTERNATIONAL FUEL GAS CODE.
2. FIRST STAGE REGULATOR PER NFPA 58 SECTION 6.8.1.1.
3. 4" PVC CAP.
4. PROPOSED VALVE, DNB OEM. SECOND STAGE REGULATOR, AND FLEXIBLE CONNECTORS. ALL MATERIALS SHALL BE INSTALLED PER THE 2015 NORTH CAROLINA FUEL GAS CODE.
5. PROPOSED LP GENERATOR.

ADDITIONAL NOTES
1. UPON COMPLETION OF ASSEMBLY, PIPING SYSTEMS (INCLUDING HOSE) SHALL BE TESTED AND PROVEN FREE OF LEAKS IN ACCORDANCE WITH SECTION 406 OF THE 2018 NORTH CAROLINA FUEL GAS CODE.
2. GENERATOR SUPPLY LINE UPSTREAM OF SECOND STAGE REGULATOR SIZED FOR 632 THOUSAND BTU AT 30 FEET MAXIMUM Piping LENGTH, LINES SIZED PER TABLES 402.4(28) AND 402.4(33) OF THE 2018 NORTH CAROLINA FUEL GAS CODE. IF THE INSTALLATION OF THE SERVICE LINE CANNOT BE MADE WITHIN 30 FEET, THE CONTRACTOR SHALL CONTACT THE ENGINEER PRIOR TO ORDERING MATERIALS TO RECEIVE DIRECTION.
3. COORDINATE ALL ROUTING WITH OTHER TRADES SHOWN ON CIVIL AND ELECTRICAL DRAWINGS.
4. MAXIMUM SEPARATION BETWEEN POINT OF DISCHARGE OF CONTAINER PRESSURE RELIEF VALVE, VENT OF A FIXED MAXIMUM LIQUID LEVEL GAUGE ON A CONTAINER, AND THE CONTAINER FILLING CONNECTION TO EXTERIOR SOURCES SHALL BE NO LESS THAN FIVE FEET TO ANY SPARK SOURCE. NOTE THAT THIS SEPARATION IS DETERMINED BY SECTION 4.8.3.3 OF THE NFPA AND IS NOT VALID IF A MAINWIND BLOW OFF VALVE IS INSTALLED.
ELECTRICAL NOTES

1.00 CODES, STANDARDS, & SPECIFICATIONS

1.01 IT IS THE CONTRACTOR’S RESPONSIBILITY TO ENSURE THAT ALL MATERIALS AND LABOR RELATED DIRECTLY OR INDIRECTLY TO ALL ELECTRICAL WORK DOCUMENTED IN THESE DRAWINGS SHALL BE PROVIDED AND PERFORMED IN CONFORMITY WITH ALL CURRENT GOVERNING CODES, STANDARDS, AND PROFESSIONAL STANDARDS OF CARE TO INCLUDE THE AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM), UNDERWRITERS LABORATORIES (UL), NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA), AMERICAN STANDARDS ASSOCIATION (ASA), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), AND THE NATIONAL ELECTRICAL CODE (NEC).

1.02 MATERIALS SHALL BE NEW AND SHALL CONFORM TO ALL APPLICABLE CURRENT GOVERNING STANDARDS ESTABLISHED FOR EACH ITEM BY ASTM, UL, LMA, ASA, NFPA, AND NFPA.

1.03 ALL ELECTRICAL WORK SHALL COMPLY WITH ALL APPLICABLE STATE, COUNTY, AND MUNICIPAL CODES AND ORDINANCES, AS WELL AS ALL CURRENT GOVERNING STANDARDS AND PRACTICES AS REQUIRED BY NEC, NEMA, ANSI, NFPA, UL, IEEE, AND THE LOCAL UTILITY COMPANY.

1.04 ALL ELECTRICAL GROUNDING SHALL COMPLY WITH THE CURRENT EDITION.

1.05 CONTRACTOR SHALL MAINTAIN UL LISTED FIRE RATING AT ALL WALL PENETRATIONS.

1.06 CONTRACTOR SHALL MAINTAIN A MINIMUM CLEARANCE OF 36" IN FRONT OF ALL ELECTRICAL EQUIPMENT AS REQUIRED BY NEC. MINIMUM CLEARANCE SHALL BE OBSERVED FOR BOTH THE FRONT AND THE REAR OF THE METER H-FRAME RACK AND THE EQUIPMENT H-FRAME RACK.

2.00 GENERAL

2.01 CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITS AND INSPECTION FEES RELATED TO THE PROJECT AND SHALL DELIVER A COPY OF ALL PERMITS TO THE VERIZON REPRESENTATIVE.

2.02 CONTRACTOR SHALL SCHEDULE AND ATTEND ALL REQUIRED PERMISSORY ACTIONS REQUIRED BY THE CITY OR COUNTY AUTHORITY.

2.03 CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, TOOLS, ACCESSORIES, ETC., FOR A COMPLETE WORKING ELECTRICAL INSTALLATION.

2.04 ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH APPLICABLE BUILDING CODES AND LOCAL ORDINANCES, INSTALLED IN A NEAT MANNER, AND SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER.

2.05 CONTRACTOR SHALL PROTECT ADJACENT EQUIPMENT AND FINISHES FROM DAMAGE AND SHALL BE RESPONSIBLE FOR ANY DAMAGE AGAINST ANY ITEMS DAMAGED AS A RESULT OF THE WORK.

2.06 CONTRACTOR SHALL REPAIR ANY LANDSCAPING DISTURBED DURING WORK.

2.07 IF CONDUIT RUNS HAVE MORE THAN THREE (3) 90 DEGREE TURNS, THE CONTRACTOR SHALL INSTALL BOXES AS REQUIRED BY NEC.

2.08 CONTRACTOR SHALL INDICATE THE LOCATION OF ALL CARDED UNDERGROUND SPA CONDUIT ON THE RECORD DRAWINGS SUBMITTED TO THE OWNER.

2.09 CONTRACTOR SHALL COORDINATE EXACT ROUTING OF CONDUIT WITH OWNER. ALL CONDUIT SHALL BE ROUTED WITHIN 3 FEET, EITHER SIDE, OF PERIMETER FENCING.

3.00 MATERIALS

3.01 ALL EQUIPMENT AND MATERIALS SHOWN SHALL BE CONSIDERED NEW UNLESS SPECIFICALLY NOTED OTHERWISE.

3.02 FINAL CONNECTIONS OF EQUIPMENT SHALL BE PER MANUFACTURER’S APPROVED WIRING DIAGRAMS, DETAILS, AND INSTRUCTIONS (ASMA), UNDERWRITERS LABORATORIES (UL), NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA), AMERICAN STANDARDS ASSOCIATION (ASA), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA), AND THE NATIONAL ELECTRICAL CODE (NEC).

3.03 CONTRACTOR SHALL PROVIDE AN UPDATED PANELBOARD DIRECTORY FOR THE PANEL FROM WHICH THE NEW VERIZON EQUIPMENT CIRCUIT WILL BE CONNECTED. CONTRACTOR SHALL SUBMIT UPDATED DIRECTORY IN A PLASTIC COVER TO THE BUILDING OWNER FOR APPROVAL PRIOR TO INSTALLATION.

3.04 CONTRACTOR SHALL FIELD DETERMINE ACTUAL CONDUIT ROUTING AND SHALL OBTAIN APPROPRIATE CONDUIT FROM THE TOWER OWNER OF THE PROPOSED ROUTING PRIOR TO CONDUIT INSTALLED/UTILITY COMPANY.

3.05 ALL CONDUCTORS SHALL BE COPPER WITH TWISTED INSULATION AND ALL TERMINATIONS SHALL BE RATED FOR AT LEAST 75 DEGREES CELSIUS.

3.06 ALL NEUTRAL CONDUCTORS SHALL HAVE WHITE INSULATION. ALL GROUND CONDUCTORS SHALL HAVE GREEN INSULATION. COLOR TAPE IDENTIFICATION OF THESE CONDUCTORS IS NOT PERMITTED.

3.07 CONTRACTOR SHALL SEAL ALL CONDUITS ENTERING AN ENCLOSURE WITH CONDUIT SEALANT THAT IS COMPATIBLE WITH THE INSULATION OF THE CONDUCISTS INSIDE.

3.08 CONDUIT RUNS SHALL HAVE A CONTINUOUS DOWNWARD SLOPE AWAY FROM ALL EQUIPMENT TO PREVENT WATER INFILTRATION.

3.09 ALL CONDUIT SHALL BE SCHEDULE 40 PVC UNLESS NOTED OTHERWISE ON THE PLANS. CONDUIT EXIT IS ROUTED UNDER A ROOF WITH GAME TO PROVIDE PROTECTION required by the local building authority.

3.10 CONTRACTOR SHALL PROVIDE TWO (2) 200 POUND TEST POLYETHYLENE Pull CORDS IN ALL CONDUITS AND ALL MINERIALS. Pull CORDS SHALL BE SECURED AT EACH END OF CONDUIT RUNS. ALL SPARE CONDUIT ENDS SHALL BE CAPPED WITH MANUFACTURED PVC FITTINGS.

3.11 CONTRACTOR SHALL BEND EACH METALLIC CONDUIT ENTERING A METALLIC ENCLOSURE WITH A #8 MIN AWG INSULATED COPPER BONDING JUMPER PER NEC. CONTRACTOR SHALL BOND ALL ELECTRICAL EQUIPMENT TO THE H-FRAME RACK ON WHICH EQUIPMENT IS MOUNTED WITH #8 MIN AWG INSULATED COPPER BONDING JUMPERS PER NEC.

3.12 CONTRACTOR SHALL IDENTIFY THE END OF ALL SPARE UNDERGROUNDS CONDUITS AND PROVIDE AND INSTALL A DEGREE ELOMBS WITH VERTICAL INSULATION EXTENSIONS TO EXTEND 3" ABOVE FINISHED GROUND. AGGRADE CONDUCTORS SHALL TERMINATE CONDUCTORS WITH MANUFACTURED CONDUIT CAPS THAT THE CONTRACTOR HAS PAINTED ORANGE.

KEY NOTES - ELECTRICAL EQUIPMENT

1. UTILITY METER H-FRAME (SEE DETAIL 1/E4).
2. POWER STUB UP (SEE NOTE 4.04 ON SHEET E1).
3. EXISTING LIT FIBER HANDHELD/PEDESTAL (CONTRACTOR TO CONFIRM EXISTENCE AND LOCATION).
4. TRAFFIC RATED TELCO VAULT LABELED "VZ FIBER". (SEE NOTE 4.05 ON SHEET E1).
5. TELCO BOX (SEE SHEET C4).
6. CENA UNIT, IF NEEDED (SEE SHEET C4).
7. INTEGRATED LOAD CENTER (SEE SHEET C4).
8. VERIZON CONCRETE EQUIPMENT PAD (SEE SHEET C5).
9. VERIZON CONCRETE GENERATOR PAD (SEE SHEET C5).
10. DISCONNECT SWITCH (SEE SHEET C4).

KEY NOTES - CONDUIT, CONDUCTORS, & MISC.

4. TWO (2) 4" PVC POWER CONDUITS FOR INCOMING SERVICE LATERALS FROM LOCAL UTILITY (SEE TRENCH DETAIL 2/E7).
5. 2" PVC POWER CONDUIT FROM PROPOSED METER RACK TO EQUIPMENT RACK (SEE TRENCH DETAIL 2/E7).
6. TWO (2) 2" PVC TELCO CONDUITS WITH TWO (2) PULL ROPES EACH (SEE TRENCH DETAIL 2/E7).
7. 4" PVC BRIDGE FIBER CONDUIT. (IF NO EXISTING LIT FIBER HANDHELD/PEDESTAL IS PRESENT CONTRACTOR TO PROVIDE A 5" LONG CAPPED STUB BRIDGE CONDUIT).
8. TWO (2) 2" PVC CONDUITS FROM RIGHT OF WAY TO/TWO (2) PULL ROPES (SEE TRENCH DETAIL 2/E7 AND SHEET E3).
9. 2" PVC CONDUIT FOR ROUTING POWER CONDUCTOR TO THE GENERATOR. (SEE TRENCH DETAIL 2/E7).
10. 1" PVC CONDUIT FOR ROUTING GENERATOR CONTROL AND ALARM SIGNAL CABLES TO THE GENERATOR (SEE TRENCH DETAIL 3/E7).
11. 1" PVC CONDUIT FOR ROUTING POWER CONDUCTOR TO THE GENERATOR BATTERY CHARGER AND THE GENERATOR BLOCK HEATER (SEE TRENCH DETAIL 3/E7).

NOTES:

GENERAL CONTRACTOR IS TO CONFIRM WITH VERIZON CONSTRUCTION MANAGER WHETHER INSTALLATION OF THE TWO (2) 2" CONDUITS TO THE RIGHT OF WAY WILL BE PART OF THE INITIAL CONSTRUCTION.
KEY NOTES - CONDUIT, CONDUCTORS, & MISC

A. GALVANIZED RIGID STEEL CAP, TYPICAL.
B. 3" GALVANIZED RIGID STEEL PIPE, TYPICAL.
C. 1 1/8" x 1 1/8" GALVANIZED STEEL CHANNEL, (UNISTRUT #1000 OR APPROVED EQUIVALENT) WITH PLASTIC END CAP (UNISTRUT #22600), TYPICAL.
D. ONE (1) #6 AWG MATLAB SOLID TINNED COPPER BONDING CONDUCTOR (BCC) FROM H-FRAME VERTICAL PIPE TO GROUND RING, EXOTHERMIC WELD BOTH ENDS.
E. 4" PVC CONDUIT FOR INCOMING SERVICE LATERALS FROM LOCAL UTILITY, TYPICAL OF 2.
F. KEYNOTE NOT USED.
G. 2" PVC CONDUIT FOR ROUTING FEEDERS TO NON-FUSED DISCONNECT SWITCH.
H. 3" PVC CONDUIT WITH ONE (1) - 2/0 BARE STRANDED TINNED COPPER GROUNDING ELECTRODE CONDUCTOR (SEC) FROM GROUNDING LUG TO GROUND ROD, EXOTHERMIC WELD SEC TO GROUND ROD.
I. GROUND RING (SEE "E" SHEETS).
J. GROUND ROD, EXOTHERMIC WELD TO GROUND RING. (SEE "E" SHEETS).
K. CONCRETE FOUNDATION FOR H-FRAME VERTICAL PIPE. CONCRETE SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI AND INCLUDE FIBERMESH 650-3E.

KEY NOTES - ELECTRICAL EQUIPMENT

1. 200 AMP METER SOCKET IN NEMA 3R ENCLOSURE, TYPICAL OF 4. ONLY TOP SOCKET WILL RECEIVE METER UNDER THIS CONTRACT.
2. 600 AMP, 225KAC, 4 GANG, SERVICE ENTRANCE RATED METER CENTER IN NEMA 3R ENCLOSURE. BOND TO RACK PER NEC.
3. 200 AMP, 2 POLE (225KAC) DISCONNECT CIRCUIT BREAKER FOR TOP METER ONLY. CONTRACTOR SHALL MOUNT THE METER CENTER SUCH THAT THE TOP CIRCUIT BREAKER IS NO MORE THAN 8" ABOVE GRADE.
KEY NOTES - CONDUIT, CONDUCTORS, & MISC

A. TWO (2) 4" CONDUITS BY CONTRACTOR FOR INCENDING SERVICE LATERALS BY LOCAL UTILITY FOR 800 AMP, 120/240 VOLT SINGLE PHASE SERVICE.
B. BOND GROUND BUS TO NEUTRAL BUS AND GROUND BUS TO ENCLOSURE WITH 2/0 BONDING JUMPERS.
C. ONE (1) 2/0 BARE STRANDED TINNED COPPER DEC TO GROUND ROD, EXOTHERMIC WELD DEC TO GROUND ROD.
D. THREE (3) 5/0 CONDUCTORS AND ONE (1) #6 AWG GROUND IN 2" CONDUIT.
E. TWO (2) #2 AWG CONDUCTORS AND ONE (1) #6 AWG GROUND IN 1" CONDUIT.
F. ONE (1) #2 TINNED COPPER FROM GROUNDING LUG IN ILC TO GROUND ROD, EXOTHERMIC WELD TO GROUND ROD.
G. AUTOMATIC TRANSFER SWITCH ALARM AND GENERATOR CONTROL CABLES
H. IN 1" CONDUIT.
I. FOUR (4) #2 CONDUCTORS AND ONE (1) #12 AWG GROUND IN 1" CONDUIT.
J. THE GENERATOR, WHEN UTILIZING A TWO POLE ATS WITH A SOLID NEUTRAL, IS NOT A SEPARATELY DERIVED SYSTEM. THEREFORE, DO NOT BOND THE NEUTRAL TO THE GROUND AT THE GENERATOR.
K. TWELVE (12) #10 AWG THHN CONDUCTORS AND THREE (3) #10 AWG EG IN 2" PVC CONDUIT.
L. ALARM CABLES IN 1" PVC CONDUIT.
M. ONE (1) – #2 BARE TINNED COPPER FROM GROUNDING LUG IN DISCONNECT SWITCH TO GROUND, EXOTHERMIC WELD TO GROUND RING.
N. THREE (3) 5/0 AWG CONDUCTORS AND ONE (1) #4 AWG EG IN 2" CONDUIT. VERIFY GENERATOR BREAKER DOES NOT EXCEED 200 AMPS.
O. 1" PVC CONDUIT FOR ROUTING POWER CONDUCTORS FROM THE ILC TO THE EMERGENCY GENERATOR STOP SWITCH.
P. TWELVE (12) #10 AWG THHN CONDUCTORS AND THREE (3) #10 AWG FOR RECTIFIERS AND TWO (2) #10 THHN CONDUCTORS AND ONE (1) #10 AWG FOR CABINET MOUNTED GLI OUTLET, ALL IN ONE 2" PVC CONDUIT.

KEY NOTES - ELECTRICAL EQUIPMENT

1. FURNISH AND INSTALL ROD AMP, 3-WIRE SINGLE PHASE, 120/240 VOLT, 22KVA, FOUR-Space MULTI-GANG METER CENTER WITH 200 AMP RATED METAL BOXES IN NEMA 3R ENCLOSURE. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL 200 AMP CIRCUIT BREAKER AT METER BASE IF NOT ALREADY EXISTING.
2. 20 AMP GFCI DUALITY OUTLET RECEPTACLE AND TIMER SWITCH, ENERLITES HETO SERIES (OR APPROVED EQUIVALENT) IN LOCKABLE NEMA 3R ENCLOSURE.
3. FURNISH AND INSTALL SE RATED 240 V, 200 AMP, 2 POLE, NON-FUSED DISCONNECT IN NEMA 3R ENCLOSURE.
4. 200 AMP, 120/240 VOLT, ILC WITH 42 SQUARE PANEL AND AUTOMATIC TRANSFER SWITCH. ALL CIRCUIT BREAKERS SHALL BE RATED 100/120V, MINIMUM, ILC IS FURNISHED BY VENDOR AND INSTALLED BY GENERAL CONTRACTOR.
5. FURNISH AND INSTALL TWO (2) AREA LIGHTS, (LITHonia HHF-250W-TA10-DIVA-LPS), (OR APPROVED EQUIVALENT).
6. 50 KW SEE GENERATOR, CONTRACTOR SHALL COORDINATE SPECIFIC GENERATOR DESCRIPTION WITH CUSTOMER AND INSTALL THE GENERATOR IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. GENERATOR BREAKER SIZE AND PROVIDED BY GENERATOR MANUFACTURER.
7. EMERGENCY GENERATOR STOP SWITCH IN NEMA 3R ENCLOSURE WILL BE FURNISHED BY VENDOR AND INSTALLED BY GC.
# PANEL SCHEDULE - VERIZON INTEGRATED LOAD CENTER

**Voltage:** 240/120 Volts  
**Phase/Wires:** Single Phase, 3 Wire  
**Mounting Type:** Surface  
**Enclosure Type:** NEMA 3R  
**MCB Size:** 200 Amps  
**AIC Rating:** 10,000 Amps/min  
**Bus Rating:** 200 Amps  
**Neutral Rating:** 100%  

<table>
<thead>
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<th>Load Served</th>
<th>Load (kVA)</th>
<th>Circuit Bkr Size</th>
<th>Calc A B</th>
<th>Phase</th>
<th>Chi Nbr</th>
<th>Circuit Bkr Size</th>
<th>Calc A B</th>
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**NOTE:** CIRCUIT LOAD AND DEMAND FACTOR PROVIDED BY VERIZON.
1. If ground surface is other than newly graveled area, contractor is to restore to original condition.
2. Provide PVC conduit below grade except as noted below.
3. Provide schedule 40 or schedule 80 PVC conduit & elbows at stub up locations (i.e., poles, equipment, etc.).
4. Provide schedule 80 PVC conduit below parking lots and roadways.
GROUNDING NOTES

1. THE GROUND RING SHALL CONSIST OF #2 AWG BARE SOLID TINNED COPPER (STC) CONDUCTOR, UNLESS NOTED OTHERWISE, BURIED AT 30" BELOW FINISHED GRADE (OR BELOW FROST LINE), LOCATED 24" MINIMUM AND 36" MAXIMUM FROM EQUIPMENT AREA AND FROM TOWER FOUNDATION, ALL CONNECTIONS SHALL BE MADE USING A FABRICATED TYPE EXOTERIC WELD, UNLESS OTHERWISE NOTED.

2. INSTALL GROUND RINGS AT 30" MINIMUM AND AS REQUIRED, GROUND RINGS TO BE COPPER CLAD STEEL, 5/8" DIAMETER AND 10FT IN LENGTH, SPACING BETWEEN GROUND RODS SHALL BE 10FT MINIMUM AND 10FT MAXIMUM, TOP OF GROUND ROD TO BE 30" MINIMUM BELOW GRADE (OR BELOW FROST LINE). BOND TOP OF GROUND ROD TO GROUND WIRE WITH EXOTERIC WELD, DO NOT EXOTERICALLY WELD ANYTHING TO GROUND ROD EXCEPT WIRE WHICHPasses OVER TOP OF GROUND ROD (CLAMPED CONNECTIONS TO GROUND ROD PER TOVER MANUFACTURERS DETAILS ARE ACCEPTABLE).

3. EQUIPMENT GROUND RING SHALL HAVE A MINIMUM OF 4 GROUND ROADS BURIED AT THE CORNERS OF THE GROUND RING PLUS ADDITIONAL RODS AS REQUIRED TO COMPLY WITH THE SPACING REQUIREMENTS. GROUND RODS SHALL NOT BE LESS THAN 1/4" IN DIAMETER OR A GROUND ROD EXCEPT WIRE, USE A MONOPOLAR TOWER, WHERE SPREAD TOWER FOOTING WOULD PREVENT WIRE FROM BEING DRIVEN INTO SOIL, ADJACENT TO TOWER, PROVIDE VERTICAL 1" DIAMETER PVC SLEEVES IN EMBEDDED IN FOOTING TO ALLOW INSTALLATION OF GROUND RODS.

4. EQUIPMENT GROUND RING AND TOWER GROUND RING SHALL BE BONDED TOGETHER WITH TWO #2 STC GROUND LEADS, TYPICALLY ONE ON EACH SIDE OF ICE BRIDGE.

5. BOND TOWER TO TOWER GROUND RING AT THREE LOCATIONS WITH #2 STC GROUND LEAD. SELF SUPPORT TOWERS SHALL HAVE EACH ICE BRIDGE BONDED TO GROUND RINGS, MONOPOLAR AND GDED TOWERS SHALL HAVE GROUND LEADS EQUALLY SPACED AROUND TOWER. EXCEPT WHERE TOWER HAVING LESS THAN 4 BONDING PLATES OR ATTACH TO TOWER USING TOWER MANUFACTURER PROVIDED DETAILS.

6. PROVIDE #2 RADIALS FROM THE GROUND RING TO EACH CORNER POST. RADIALS SHALL HAVE GROUND RODS AS PER THE NEXT COMPLIANCE. THE GROUND RINGS TO EACH RADIAL SHALL BE 24" MINIMUM FROM FENCER POST. EQUILIBRATED TOWERS, THE GROUND RING AND GROUNDING CONNECTIONS (BETWEEN EQUIPMENT AREA AND TOWER GROUND RINGS) MAY BE USED WITH YOUR OWN JUDGMENT. PROVIDE #2 GROUND LEAD IN THE FENCER POST CLOSEST TO THE EQUIPMENT AREA.

7. MINIMUM BEND RADIUS FOR #2 AWG GROUND WIRE IS 12", EXCEPT USED FOR TOWER GROUND RINGS AND EQUIPMENT PAD GROUND RINGS.

8. GROUND ALL EXTERIOR EXPOSED METAL ELEMENTS, USE TWO HOLE LUGS FOR CONNECTION TO FLAT METAL SURFACES USE ONLY STAINLESS STEEL HARDWARE ON ALL MECHANICAL CONNECTIONS. CLEAN ALL SURFACES (AND STRIP PAINTED SURFACES) TO BARE BRIGHT METAL PRIOR TO MAKING GROUND CONNECTIONS. APPLY ANTI-OXIDE COMPOUND TO ALL CONNECTIONS, APPLY ZINC RICH PAINT (COLD CALX) TO ALL EXTERIOR MEETAL, AND ANY METAL EXPOSED BY CLEANING, STRIPPING, GRINDING, CUTTING OR DRILLING.

9. ALL GROUNDING CONDUCTORS ABOVE GRADE SHALL BE RUN IN 3/4" FIBERFLEX PVC CONDUIT 6IL 1/4" WITHIN 3/4" OF ABOVE GROUND CONNECTION POINT, SHALL EXTEND 24" BELOW GRADE MINIMUM, AND SHALL BE FILLED WITH SEALANT AT ABOVE GROUND CONNECTION POINT. SECURE CONDUIT EVERY 24" ON VERTICAL RUNS AND EVERY 36" ELSEWHERE WITH NON-METALLIC TIES.

10. AT GUYED AND SELF SUPPORT TOWERS MOUNT TDGA-P14A TOWER BOTTOM GROUND BAR ON DEDICATED POINT DIRECTLY BELOW GROUND BAR. TOWER BOTTOM GROUND BAR ISrun WITH DEDICATED GROUNDING CABLE 4 GROUND BAR. PIPE WITH GALVANIZED PIPE CAP. TOP OF POSTS WILL BE 12" ABOVE GRADE, EXPOSED POSTS WILL BE 12" IN LENGTH, 36" MINIMUM CONCRETE FOOTING WITH TOP OF FOOTING 6" BELOW GRADE. IF TOWER FOUNDATION OBSTRUCTS AUJTANCED FOOTING, USE POST WITH 12" SQUARE GALVANIZED STEEL FLANGE PLATE WELDED TO BOTTOM AND BOLT FLANGE TO TOP OF CONCRETE TOWER FOOTING.

11. AT MONOPOLAR TOWERS CLAMP TDGA-BC14A TOWER BOTTOM GROUND BAR DIRECTLY TO TOWER, IF RUNNING COAX INSIDE MONOPOLAR, CLAMP ONTOP LIP OF EXIT PORT. IF BANDING COAX TO OUTSIDE OF TOWER, CLAMP INTO STEEL ANGLE WHICH IS BONDED TO TOWER. BOND TDGA-BC14A TO TOWER GROUND RING WITH TWO #2 STC LEADS WELDED TO GROUND BAR AND BOND AND EXOTERICALLY WELDED TO GROUND RING.

12. AT EQUIPMENT AREA, INSTALL TDGA-P14A EXTERIOR GROUND BAR (THRU-BOLED STYLE) AT BASE OF (2) INTERIOR H-FRAME POSTS AND (2) ICE BRIDGE POST. BOND H-FRAME POST WITH LESS THAN 2" SQUARE TO H-FRAME POST CLOSER TO THAN THE COAX CABLE TERMINATION, MOUNT GROUND BAR TO H-FRAME POSTS AT 6" ABOVE GRAVEL AND TO ICE BRIDGE POST AT 9FT ABOVE GRAVEL.

13. ALL ICE BRIDGE SECTIONS ARE TO BE JUMPED TOGETHER WITH #2 WIRE, EITHER BARE TINNED COPPER OR GREEN INSULATED STRANDED ICE BRIDGE SHALL BE GROUND AT EACH END WITH #2 WIRE WELDED TO ICE BRIDGE AND EXOTERICALLY WELDED TO UPPER PORTION OF NEAREST ICE BRIDGE POST. ICE BRIDGE SECTIONS ABOVE H-FRAME BAR IS BONDED TO EACH OTHER WITH JUMPERS AT EACH END – THIS ASSEMBLY WILL BE CONSIDERED A SINGLE ICE BRIDGE SECTION FOR GROUNDING PURPOSES.

14. BOND EACH ICE BRIDGE POST, H-FRAME POST OR DEDICATED GROUNDING POST TO BURIED GROUNDING SYSTEM WITH #2 STC LEAD EXOTERICALLY WELDED TO REINFORCED CONCRETE GRAVEL, AND EXOTERICALLY WELDED TO GROUND RING, EACH POST TO HAVE A GROUND LEAD DIRECTLY TO GROUND RING – DO NOT DASY CHAIN POSTS TOGETHER.

15. BOND EACH DIE CABINET TO EQUIPMENT GROUND RING WITH #2 GROUND WIRE. SOME CABINETS AND CONDUCTORS ARE CONNECTED BETWEEN CABINET BODY AND EXOTERICALLY WELDED TO GROUND RING. LUG TO CABINET BODY USING LOCATION (A) WHEN SOMES ON CABINET CHASSIS HAVE DIRECT GROUND WIRE CONNECTION TO CABINET INERTIAL GROUND BAR RUN CONDUCTOR ACROSS BACK OF CABINET (DO NOT RUN TOWARDS NEAREST CORNER OF CABINET AND THEN TINNED RING BAR WARD OF CONCRETE PAD BELOW CABINET LADDER, THEN DOWN INTO GRAVEL AREA)

16. BOND EACH BATTERY CABINET TO GROUND RING WITH #2 AWG TINNED BARE COPPER CONDUCTOR (CABINET BODY AND EXOTERICALLY WELDED TO GROUND RING) IN FLEX CONDUIT ALONG BACK OF BATTERY CABINET, ACROSS CONCRETE PAD BLOWER CABINET LADDER, THEN ACROSS CONCRETE PAD TO CABINET FACTORY PROVIDED GROUNDING STUDS.

17. WHERE PROPANE TANK IS INSTALLED TO FUEL GENERATOR, BOND PROPANE TANK TO GROUND RING WITH A SINGLE #2 STC CLAMPED TO FILLER PIPE OF PROPANE TANK AND EXOTERICALLY WELDED TO GROUND RING. GROUND LEAD SHOULD RUN TO TANK SUPPORT AND TAKE SHORTEST PATH ACROSS CONCRETE PAD TO GRAY AREA, THEN CONTINUE TO GROUND RING. IF PROPANE TANK FUEL LINE IS METALS AND CROSSES EQUIPMENT GROUND RING, BOND FUEL LINE TO EQUIPMENT GROUND RING WHERE THE TWO LINES CROSS WITH A SINGLE #2 STC CLAMPED TO FUEL LINE AND EXOTERICALLY WELDED TO GROUND RING.

18. BOND GPS ANTENNA AND GPS ANTENNA MOUNT TO TDGA-GROUND BAR AT BOTTOM OF H-FRAME POST WITH #2 GREEN INSULATED STRANDED GROUND WIRE.

19. PROVIDE TWO GROUND RODS INSIDE GROUNDS CONDUCTORS DISTANCE BETWEEN GROUND RODS SHALL MATCH WIDTH OF GATE OPENING AND, DISTANCE FROM FENCE SHALL MATCH LENGTH OF GROUND, INDIVIDUAL GATE LEAD, BOND GATE POSTS TOGETHER WITH #2 STC WELDED TO FENCE POSTS AND CONNECTS TO GROUND RODS OUTSIDE GATES.

20. BOND EACH GATE POST WITH #2 STC TO NEAREST PORTION OF GROUNDING SYSTEM INSIDE CONDUIT.

21. BOND EACH GATE POST TO FLEXIBLE INSULATED OR BRAIDED #2 COPPER STRAP, EXOTERICALLY WELDED STRAP TO BOTH GATE AND GATE POSTS.

22. ANY METAL FENCE POST WITHIN 5FT OF A GROUNDED METAL OBJECT SHOULD BE BONDED TO THE NEAREST GROUND RING. ANY METAL FENCE POST WITHIN 5FT OF A GROUNDED METAL OBJECT SHOULD BE BONDED TO THE NEAREST GROUND RING.

23. WHERE GROUND BASED BUOYS, RAYCOP DVP'S OR DIPLOYERS ARE INSTALLED AT THE EQUIPMENT AREA, BOND EACH COMPONENT TO NEAREST TDGA GROUND BAR BELOW THE COMPONENT WITH #2 GREEN INSULATED STRANDED GROUND WIRE, SINGLE HOLE LUG OR THROUGH TYPE CONNECTOR IS SUITABLE FOR CONNECTION TO GROUNDING STUD ON EACH COMPONENT.

24. NOTIFY VZW TO INSPECT GROUND RING BEFORE BACKFILLING, CONTRACTOR SHALL HAVE A 3RD PARTY TO PERFORM AN EEM, FALL OF POTENTIAL METER GROUND TEST, MAXIMUM ALLOWABLE ROAD, TO GROUND RING IS 5 OHMS. PROVIDE ADDITIONAL GROUNDING SYSTEM COMPONENTS AS REQUIRED TO ACHIEVE THIS VALUE.

25. REFER TO TOWER GROUNDING DIAGRAM AND NOTES FOR GROUNDING SYSTEM REQUIREMENTS ON THE TOWER.

26. GROUNDING OF ALL ELECTRICAL EQUIPMENT SHALL BE AS PER NEC, MUNICIPAL AND UTILITY COMPANY REQUIREMENTS.
KEY NOTES - GROUNDING EQUIPMENT

1. GROUND ROD TEST WELLS WITH RED PAINTED CAPS (SEE DETAIL 1/11).
2. GROUND ROD, TYPICAL (SEE DETAIL 1/11 AND NOTES 2 AND 3 ON EB).
3. TOWER AND EQUIPMENT GROUND RING (SEE NOTES 1, 3, 4, 5, 6, 7 AND 1 ON EB).
4. TIDGA=PA14 OR TIDGA=BC14 WHERE APPLICABLE (SEE NOTES 10 AND 11 ON EB).
5. GENERATOR GROUNDING (SEE NOTE 16 ON EB).
6. GPS ANTENNA GROUNDING (SEE NOTE 18 ON EB).
7. RF CABINET GROUNDING (SEE NOTE 14 ON EB).
8. BBU'S AND OVP'S GROUNDING (SEE NOTE 23 ON EB).
9. ICE BRIDGE POST BOND TO GROUND RING, TYPICAL (SEE NOTES 12 AND 13 ON EB).
10. FURNE'S POST GROUNDING, TYPICAL (SEE NOTE 22 ON EB).
11. GATE GROUNDING, TYPICAL (SEE NOTES 18, 20 & 21 ON EB).
12. UTILITY H-FRAME GROUNDING, TYPICAL (SEE SHEET 5 AND NOTE 13 ON EB).
13. TOWER GROUNDING, TYPICAL (SEE NOTES 5, 6 & 25 ON EB).
14. GROUND RADIALS, TYPICAL (SEE NOTE 6 ON EB).
15. REFER TO SHEETS EB, E10, F11 & F12 FOR GROUNDING NOTES, DETAILS, AND SPECIFICATIONS.

LEGEND:

- G - GROUND RING
- G - GROUND ROD EXOTHERMICALLY WELDED TO GROUND RING
- EXOTHERMIC WELD
- G - GROUND ROD TEST WELL (SEE DETAIL 1/11)
- - MECHANICAL CONNECTION
1. GROUND ROD TEST WELL DETAIL

- ThREADED 6" DIAMETER SCHEDULE 40 PVC PLUG.
- CRUSHED AGGREGATE, SEE CIVIL DRAWINGS FOR DETAILS.
- LOOP GROUND RING INTO TEST WELL.
- COMPACTED BACKFILL.
- 8" DIAMETER SCHEDULE 40 PVC PIPE WITH VERTICAL SLOT TO ALLOW PIPE PLACEMENT THRU GROUND RING.
- #2 AWG BARE SOLID TINNED COPPER GROUND RING, EXOTHERMIC WELD TO GROUND ROD.
- 3/4" x 10' COPPER CLAD GROUND ROD.
- 6" OF CRUSHED AGGREGATE.

2. GROUND ROD INSTALLATION DETAIL

- CRUSHED AGGREGATE, SEE CIVIL DRAWINGS FOR DETAILS.
- EXOTHERMIC WELD SEAL WITH TWO (2) COATS OF COLD GALVANIZED PAINT.
- #2 BARE SOLID TINNED COPPER GROUND RING, EXOTHERMIC WELD TO GROUND ROD.
- 3/4" x 10' COPPER CLAD GROUND ROD.
- PLACEMENT OF GROUND ROD SHALL NOT EXCEED 30 DEGREES FROM VERTICAL.
1. **BAR NONE GROUNDED BEAM CLAMP (TDSGA-BC14)**
   - NOT TO SCALE
   - #6 AWG incoming grounding conductors from coax grounding kits. (For tower top coxge's occurs only on guyed towers, or on other structures where required to achieve 75 ft maximum distance between coax grounding locations.)
   - Coxge ground bars on antenna tower, isolate from tower.

2. **BAR NONE POST MOUNTED (TDSGA-PA14)**
   - NOT TO SCALE
   - Tinned copper long-barrel, double-lug connector, typical.
   - Stainless steel hardware, typical.

3. **ANTENNA GROUND WIRE INSTALLATION DETAIL**
   - NOT TO SCALE
   - #2 AWG grounding conductor run from lower to upper using clamp, or run #2 AWG insulated grounding conductor to next lower coxge.

4. **BAR NONE INSULATED (TDSGA-WB17)**
   - NOT TO SCALE
   - Stainless steel hardware, typical.

**NOTES:**

1. All coxge ground bars on tower are to be ERICO TDSGA, typically use TDSGA-WB17 isolated from unistrut bracket.
2. If coxge cannot be connected to tower with #2 AWG grounding conductor, use clamp or exothermic weld, then run #2 AWG black ground lead from coxge down to next lower coxge. Secure ground lead with non-metallic ties at same spacing as coax supports.