



700 PARK OF COMMERCE DRIVE
BOCA RATON FL, 33487
TEL: (561) 948-6367

CROSSPOINT

SITE ADDRESS (E-911 TBD)

NC HIGHWAY 42
MONCURE, NC 27559
CHATHAM COUNTY
LATITUDE: 35° 34' 20.644" N
LONGITUDE: 78° 59' 35.379" W
TAX/PIN #: 0606-23-2136.000
ZONING: R-1

SHEET NO.	SHEET TITLE
T1	COVER SHEET
T2	APPENDIX B - BUILDING CODE SUMMARY
--	SITE SURVEY (SHEET 1 OF 3)
--	SITE SURVEY (SHEET 2 OF 3)
--	SITE SURVEY (SHEET 3 OF 3)
N1	GENERAL NOTES
C1	OVERALL AERIAL PLAN
C1.1	OVERALL PARCEL PLAN
C1.2	OVERALL SITE PLAN
C2	SITE PLAN
C3	EQUIPMENT PAD LAYOUT
C4	EQUIPMENT RACK DETAIL - FRONT
C5	EQUIPMENT RACK DETAIL - REAR
C6	CONCRETE PAD FOUNDATION DETAILS
C7	FENCE, GATE, AND COMPOUND DETAILS
C7.1	CATTLE GATE DETAILS
C7.2	CATTLE FENCE DETAILS
C8	GRADING AND EROSION CONTROL PLAN
C8.1	GRADING AND EROSION CONTROL PLAN
C8.2	DRIVEWAY PLAN AND PROFILE
C9	GRADING AND EROSION CONTROL DETAILS
C10	ACCESS ROAD DETAILS
C11	SITE SIGNAGE DETAILS
C12	WAVEGUIDE BRIDGE DETAILS
C13	ANTENNA AND TOWER ELEVATION DETAILS
L1	LANDSCAPING PLAN
E1	ELECTRICAL NOTES
E2	OVERALL UTILITY SERVICE ROUTING PLAN
E2.1	UTILITY SERVICE ROUTING PLAN
E3	METER RACK DETAILS - FRONT
E3.1	METER RACK DETAILS - REAR
E4	ELECTRICAL SINGLE LINE DIAGRAM
E5	PANEL SCHEDULE
E6	ELECTRICAL DETAILS
E7	GROUNDING NOTES
E8	GROUNDING PLAN
E9	GROUNDING SINGLE LINE DIAGRAM
E10	GROUNDING DETAILS
E11	GROUNDING DETAILS

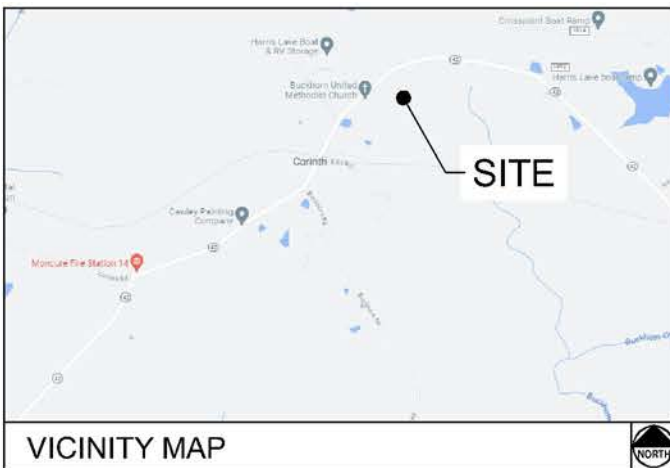
SHEET INDEX

CHATHAM COUNTY PLANNING
80 EAST ST A
PITTSBORO, NC 27312
PHONE: (919) 542-8204
ATTN.: CUSTOMER SERVICE

PERMIT INFORMATION

BROADWAY POLICE DEPARTMENT
103 N MAIN ST.
BROADWAY, NC 27505
PHONE: (919) 258-9232
ATTN.: CUSTOMER SERVICE

MONCURE FIRE STATION 14
1321 NC-42
MONCURE, NC 27559
PHONE: (919) 542-4191
ATTN.: CUSTOMER SERVICE



JURISDICTION:
CHATHAM COUNTY

STATE:
NORTH CAROLINA

TOWER TYPE:
MONOPOLE TOWER

TOWER HEIGHT:
195' (199' TO HIGHEST APPURTENANCE)

NUMBER OF CARRIERS:
0 EXISTING, 1 PROPOSED

USE:
PROPOSED TELECOMMUNICATIONS TOWER AND UNMANNED EQUIPMENT

FLOOD INFO
SITE IS LOCATED WITHIN FEMA FLOOD MAP AREA 3720060600K DATED 02/02/2007 WITHIN FLOOD ZONE X.

PROJECT SUMMARY

DEVELOPER
THE TOWERS, LLC
750 PARK OF COMMERCE DR. SUITE 200
BOCA RATON, FL 33487
PHONE: (678) 488-1866
ATTN: MATT GRUGAN

POWER COMPANY
DUKE ENERGY PROGRESS
PHONE: (800) 777-9898
ATTN.: CUSTOMER SERVICE

PROPERTY OWNER
HARVEY L WEST JR & KIMBERLY ANNE COTTEN-WEST
378 JORDAN THICK RD
PLYMOUTH, NC 27962
PHONE: (919) 971-5828
ATTN.: STEPHEN LOUIE

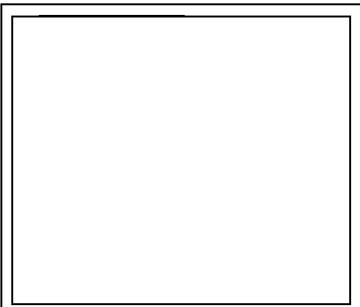
CONSULTANT
KIMLEY-HORN AND ASSOCIATES, INC.
11720 AMBER PARK DRIVE, SUITE 600
ALPHARETTA, GEORGIA 30009
PHONE: (678) 274-5032
ATTN.: DAVID COUSINS

CONTACTS

verticalbridge
700 PARK OF COMMERCE DRIVE
BOCA RATON FL, 33487
TEL: (561) 948-6367

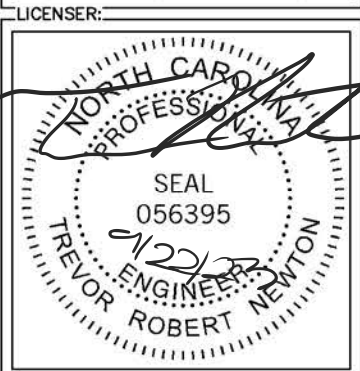
PROJECT INFORMATION:
SITE NAME:
CROSSPOINT
SITE No.: US-NC-5292
PROJECT #: 2112981
NC HIGHWAY 42
MONCURE, NC 27559
CHATHAM COUNTY

PLANS PREPARED BY:
Kimley»Horn
11720 AMBER PARK DRIVE, SUITE 600
ALPHARETTA, GA 30009
PHONE: 770-619-4280
WWW.KIMLEY-HORN.COM
NC License F-0102



REV: DATE: ISSUED FOR: BY:

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0	09/19/23	CONSTRUCTION	TRN



KHA PROJECT NUMBER:
013291005

DRAWN BY: XQD CHECKED BY: DMF

SHEET TITLE:

COVER SHEET

SHEET NUMBER:
T1

K:\ATL_Wireless\Vertical_Bridge\US-NC-5292_Crosspoint\CAD\GB\ECor-GB.dwg 09/22/23 10:26 AM by: christopher.strange

2018 APPENDIX B BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS (EXCEPT 1 AND 2-FAMILY DWELLINGS AND TOWNHOUSES)

Name of Project: THE TOWERS, LLC - CROSSPOINT
Address: NC HIGHWAY 42, MONCURE, NC
Zip Code: 27559
Owner/Authorized Agent: TREVOR NEWTON Phone # (770) 545-6105 E-Mail: trevor.newton@kimley-horn.com

CONTACT: TREVOR R. NEWTON, P.E. (#056395)
DESIGNER FIRM NAME LICENSE # TELEPHONE # E-MAIL
Architectural: KIMLEY-HORN & ASSOC. TREVOR R. NEWTON_056395 (470) 299-7052 trevor.newton@kimley-horn.com
Civil: KIMLEY-HORN & ASSOC. TREVOR R. NEWTON_056395 (470) 299-7052 trevor.newton@kimley-horn.com

2018 NC BUILDING CODE: [X] New Building [] Addition [] Renovation
[] 1st Time Interior Completion
[] 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): TELECOMMUNICATIONS SITE
RENOVATED: (date) PROPOSED OCCUPANCY(S) (Ch. 3): TELECOMMUNICATIONS SITE
RISK 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
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.)

Gross Building Area Table
FLOOR EXISTING (SQFT) NEW (SQFT) SUB-TOTAL
3rd Floor
2nd Floor
Mezzanine
1st Floor
Basement
TOTAL

ALLOWABLE AREA
Primary Occupancy Classification(s): 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 Deftagrate [] H-3 Combust [] H-4 Health [] H-5 HPM
Institutional [] I-1 Condition [] I [] 2 [] I-2 Condition [] I [] 2 [] I-3 Condition [] I [] 2 [] 3 [] 4 [] 5 [] I-4
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):
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.

Actual Area of Occupancy A / Allowable Area of Occupancy A + Actual Area of Occupancy B / Allowable Area of Occupancy B <= 1
+ <= 1.00

Table with 5 columns: STORY NO., DESCRIPTION AND USE, (A) BLDG AREA PER STORY (ACTUAL), (B) TABLE 506.2 AREA, (C) AREA FOR FRONTAGE INCREASE^{1,2}, (D) ALLOWABLE AREA PER STORY OR UNLIMITED³

1 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 = _____ (F)
b. Total Building Perimeter = _____ (P)
c. Ratio (F/P) = _____ (F/P)
d. W = Minimum width of public way = _____ (W)
e. Percent of frontage increase I = 100[(F/P) - 0.25] x W/30 = _____ (%)
2 Unlimited area applicable under conditions of Section 507.
3 Maximum Building Area = total number of stories in the building x D (maximum 3 stories) (506.2).
4 The maximum area of open parking garages must comply with Table 406.4.4. The maximum area of air traffic control towers must comply with Table 412.3.1.
5 Frontage increase is based on the un sprinklered area value in Table 506.2.

ALLOWABLE HEIGHT
Table with 4 columns: ALLOWABLE, SHOWN ON PLANS, CODE REFERENCE
Building Height in Feet (Table 504.5)
Building Height in Stories (Table 504.4)

FIRE PROTECTION REQUIREMENTS
Table with 7 columns: BUILDING ELEMENT, FIRE SEPARATION DISTANCE (FEET), RATING REQ'D, RATING PROVIDED (W/REDUCTION), DETAIL # AND SHEET #, DESIGN # FOR RATED ASSEMBLY, SHEET # FOR RATED PENETRATION, SHEET # FOR RATED JOINTS
Structural Frame, including columns, girders, trusses
Bearing Walls
Exterior: North, East, West, South, Interior
Nonbearing Walls and Partitions
Exterior walls: North, East, West, South
Interior walls and partitions
Floor Construction
Including supporting beams and joists
Floor Ceiling Assembly
Column Supporting Floors
Roof Construction, including supporting beams and joists
Roof Ceiling Assembly
Column Supporting Roof
Shaft Enclosures - Exit
Shaft Enclosures - Other
Corridor Separation
Occupancy/Fire Barrier Separation
Party/Fire Wall Separation
Smoke Barrier Separation
Smoke Partition
Tenant Dwelling Unit/Sleeping Unit Separation
Incidental Use Separation

PERCENTAGE OF WALL OPENING CALCULATIONS
Table with 4 columns: FIRE SEPARATION DISTANCE (FEET) FROM PROPERTY LINES, DEGREE OF OPENINGS PROTECTION (TABLE 705.8), ALLOWABLE AREA (%), ACTUAL SHOWN ON PLANS (%)

LIFE SAFETY SYSTEM REQUIREMENTS
Emergency Lighting: [] No [] Yes
Exit Signs: [] No [] Yes
Fire Alarm: [] No [] Yes
Smoke Detection Systems: [] No [] Yes [] Partial
Carbon Monoxide Detection: [] No [] Yes

LIFE SAFETY PLAN REQUIREMENTS
Life Safety Plan Sheet #: _____
[] 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 1-2 (407.5)
[] Note any code exceptions or table notes that may have been utilized regarding the items above

ACCESSIBLE DWELLING UNITS (SECTION 1107)
Table with 8 columns: 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

ACCESSIBLE PARKING (SECTION 1106)
Table with 5 columns: LOT OR PARKING AREA, TOTAL # OF PARKING SPACES REQUIRED, # OF ACCESSIBLE SPACES PROVIDED, TOTAL # ACCESSIBLE UNITS PROVIDED
OF ACCESSIBLE SPACES PROVIDED: REGULAR WITH 5' ACCESS AISLE, 132" ACCESSIBLE, 8' ACCESS AISLE

PLUMBING FIXTURE REQUIREMENTS (TABLE 2902.1)
Table with 10 columns: USE, WATERCLOSETS, URINALS, LAVATORIES, SHOWERS, DRINKING FOUNTAINS
WATERCLOSETS: MALE, FEMALE, UNSEX
URINALS: MALE, FEMALE, UNSEX
LAVATORIES: MALE, FEMALE, UNSEX
SHOWERS: TUBS, REGULAR, ACCESSIBLE
DRINKING FOUNTAINS: REGULAR, ACCESSIBLE

SPECIAL APPROVALS
Special approval: Local Jurisdiction, Department of Insurance, OSC, DPI, DHHS, etc., describe below

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)
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:

NOTE: SCOPE OF WORK INCLUDES INSTALLATION OF CAST IN PLACE CONCRETE PAD, PREFABRICATED EQUIPMENT CABINETS AND GENERATOR. NO NEW BUILDING BEING CONSTRUCTED.

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

DESIGN LOADS:
Importance Factors: Snow (Is) _____ Seismic (Ie) _____
Live Loads: Roof _____ psf Mezzanine _____ psf Floor _____ psf
Ground Snow Load: _____ psf
Wind Load: Basic Wind Speed _____ mph (ASCE-7) Exposure Category _____

NOTE: STRUCTURAL ANALYSIS COMPLETED BY TOWER OWNER. SEE ANALYSIS BY OTHERS FOR ADDITIONAL STRUCTURAL DATA.

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 Ss _____ %g S1 _____ %g
Site Classification (ASCE 7) [] A [] B [] C [] D [] E [] F
Data Source: [] Field Test [] Presumptive [] Historical Data
Basic structural system: [] Bearing Wall [] Dual w/Special Moment 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) _____ psf
Presumptive Bearing capacity _____ psf
Pile size, type, and capacity _____

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

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

ELECTRICAL SUMMARY
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

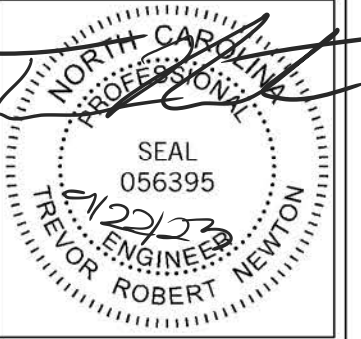
Additional Efficiency Package Options
(When using the 2018 ASCEC; not required for ASHRAE 90.1)
[] C406.2 More Efficient HVAC Equipment Performance
[] C406.3 Reduced Lighting Power Density
[] C406.4 Enhanced Digital Lighting Controls
[] C406.5 On-Site Renewable Energy
[] C406.6 Dedicated Outdoor Air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

verticalbridge
700 PARK OF COMMERCE DRIVE
BOCA RATON FL 33487
TEL: (561) 948-6367

PROJECT INFORMATION:
SITE NAME: CROSSPOINT
SITE No.: US-NC-5292
PROJECT #: 2112981
NC HIGHWAY 42
MONCURE, NC 27559
CHATHAM COUNTY

PLANS PREPARED BY:
Kimley-Horn
11720 AMBER PARK DRIVE, SUITE 600
ALPHARETTA, GA 30009
PHONE: 770-619-4280
WWW.KIMLEY-HORN.COM
NC License F-0102

REV: DATE: ISSUED FOR: BY:
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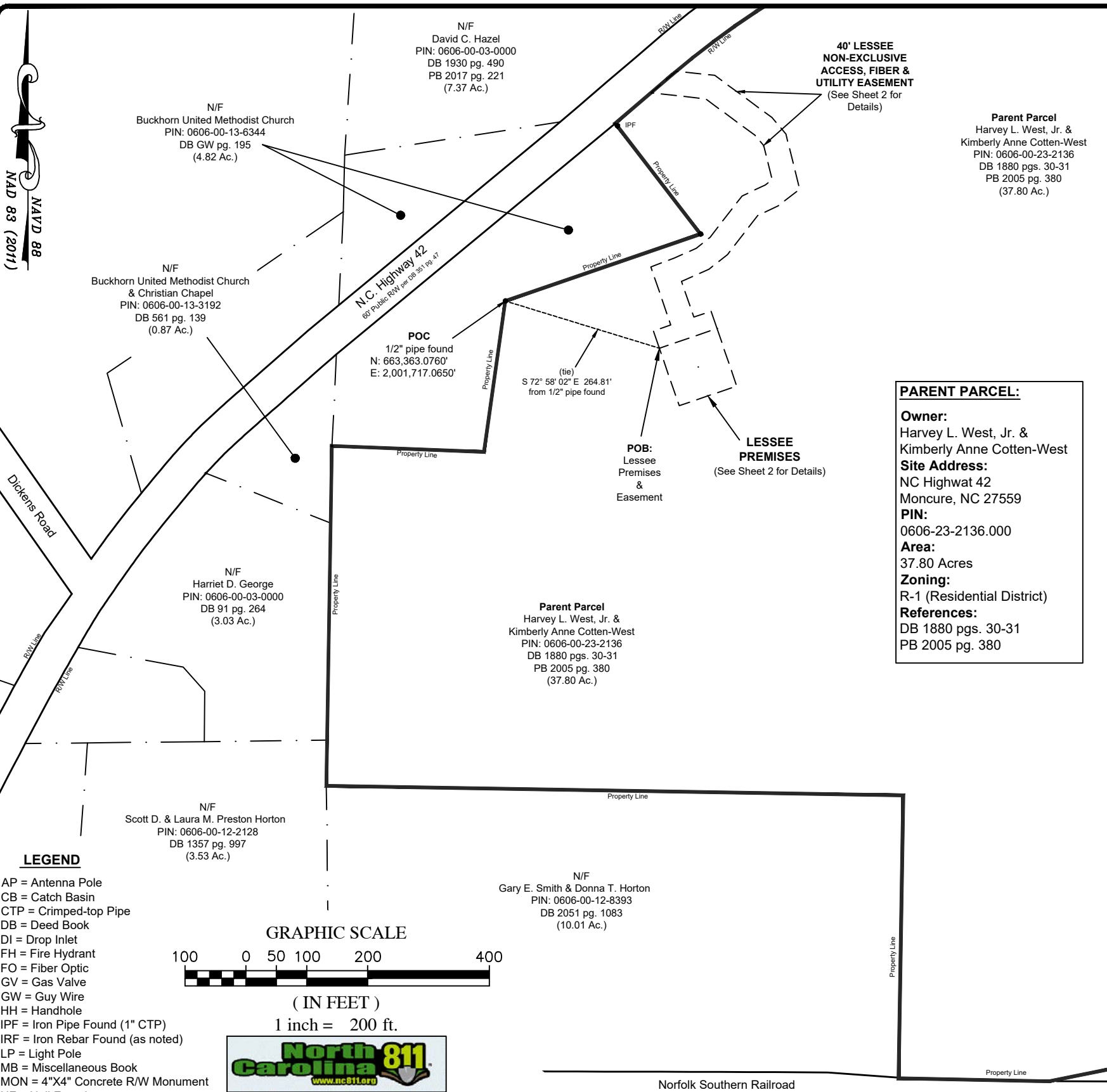


KHA PROJECT NUMBER: 013291005
DRAWN BY: XQD CHECKED BY: DMF

SHEET TITLE: APPENDIX B - BUILDING CODE SUMMARY

SHEET NUMBER: T2

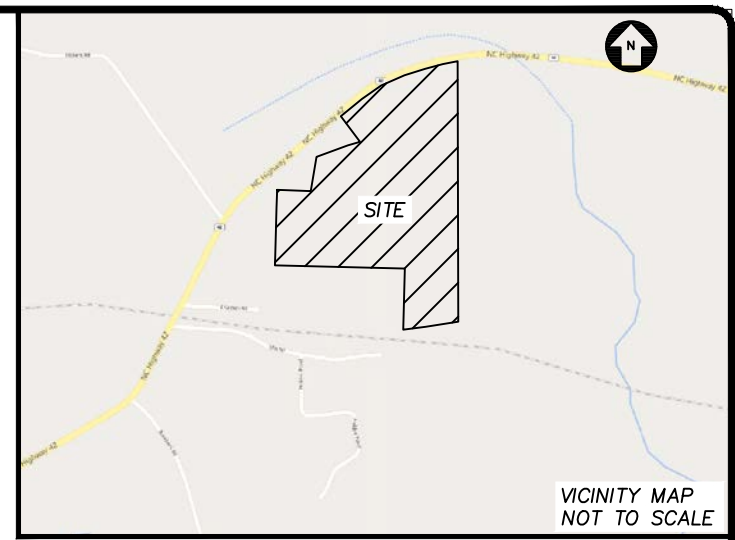
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GENERAL NOTES

1. This Specific Purpose Survey is for the Lessee Premises and Easements Only. This Specific Purpose Survey was prepared for the exclusive use of The Towers, LLC and exclusively for the transfer of the Lessee Premises and the Rights of Easement shown hereon and shall not be used as an exhibit or evidence in the fee simple transfer of the Parent Parcel nor any portion or portions thereof. Boundary information shown hereon 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 with the benefit of a title report which may reveal additional conveyances, easements, or rights-of-way not shown hereon.
4. Survey equipment used for angular & linear measurements: Trimble S5 Robotic Total Station.
5. The 1' contours and spot elevations shown on the Specific Purpose Survey are adjusted to NAVD 88 Datum (computed using GEOID 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 #: 0606.
8. No wetland areas have been investigated by this Specific Purpose Survey.
9. All zoning information should be verified with Chatham County Zoning Officials.
10. Any underground utilities shown have been located from above ground field survey information. The Surveyor makes no guarantees that any underground utilities shown comprise all such utilities in the area, either 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 any underground utilities.
11. Access and Utility Easements terminate at a confirmed public ROW, as shown hereon.
12. All Lease and Easement Area's shown hereon, lie entirely within the Parent Parcel.
13. At the time of this survey (August 30th, September 6th & 15th, 2023), there were no visible encroachments located on the Lease or Easement Area's shown hereon.
14. The survey data shown hereon was taken from the March 10th, 2023 field observations for Verizon Wireless, with this plan set being re-verified for The Towers, LLC on August 30th, September 6th & 15th, 2023.

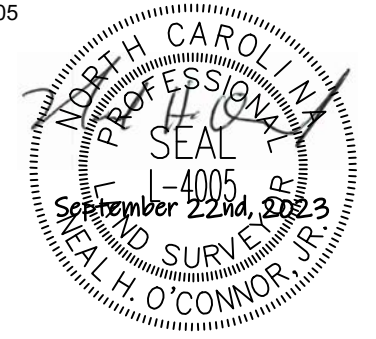
PARENT PARCEL:
Owner: Harvey L. West, Jr. & Kimberly Anne Cotten-West
Site Address: NC Highway 42, Moncure, NC 27559
PIN: 0606-23-2136.000
Area: 37.80 Acres
Zoning: R-1 (Residential District)
References: DB 1880 pgs. 30-31, PB 2005 pg. 380



SURVEYOR'S CERTIFICATION:

I, Neal H. O'Connor, Jr., do hereby certify to: The Towers, LLC, a Delaware limited liability company, its subsidiaries, and their respective successors and/or assigns; and (ii) Toronto Dominion (Texas) LLC, as Administrative Agent, for itself and on behalf of the lenders parties from time to time to that certain Second Amended and Restated Loan Agreement dated June 17, 2016 with The Towers, LLC, as borrower, and The Towers, LLC, as parent, as may be amended, restated, modified or renewed, their successors and assigns as their interests may appear; and Tower Title, LLC.

Neal H. O'Connor, Jr. September 22nd, 2023
 Neal H. O'Connor, Jr. Date
 NCPLS # L-4005



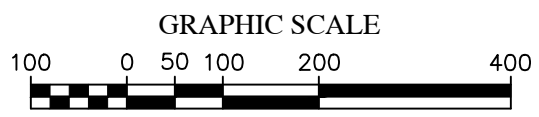
LINETYPE LEGEND

- - - - - = Lessee & 30' Easement Line
- . - . - = Parcel Line
- o - o - = Fence Line
- - - - - = Curb & Gutter
- FO - = Fiber Optic Line
- - - - - = Right of Way Line
- OE - = Overhead Electric Power Line
- - - - - = River Line (Property)

HATCH LEGEND

- [Pattern] = Concrete
- [Pattern] = Brick Walkway
- [Pattern] = Grass
- [Pattern] = Wall

- LEGEND**
- AP = Antenna Pole
 - CB = Catch Basin
 - CTP = Crimped-top Pipe
 - DB = Deed Book
 - DI = Drop Inlet
 - FH = Fire Hydrant
 - FO = Fiber Optic
 - GV = Gas Valve
 - GW = Guy Wire
 - HH = Handhole
 - IPF = Iron Pipe Found (1" CTP)
 - IRF = Iron Rebar Found (as noted)
 - LP = Light Pole
 - MB = Miscellaneous Book
 - MON = 4"x4" Concrete R/W Monument
 - NF = Nail Found
 - PC = Plat Cabinet
 - PG = Page
 - PKF = PK Nail Found
 - POB = Point of Beginning
 - POC = Point of Commencement
 - R/W = Right-of-Way
 - TBM = Temporary Benchmark
 - TP = Telephone Pedestal
 - UP = Utility Pole
 - WM = Water Meter
 - WV = Water Valve



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 SUMMIT
 DESIGN AND ENGINEERING

DRAWING ALTERATION

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.

PREPARED FOR
The Towers, LLC

Kimley»Horn

REVISIONS					
No.	DATE	DESCRIPTION	BY	CHK	APP

SPECIFIC PURPOSE SURVEY:
US-NC-5292 CROSSPOINT
 NC HIGHWAY 42
 MONCURE, NC 27559
 CHATHAM COUNTY
 DATES OF SURVEY: AUGUST 30TH, SEPTEMBER 6TH & 15TH, 2023

License: # P-0339
 320 Executive Court
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SPECIFIC PURPOSE SURVEY

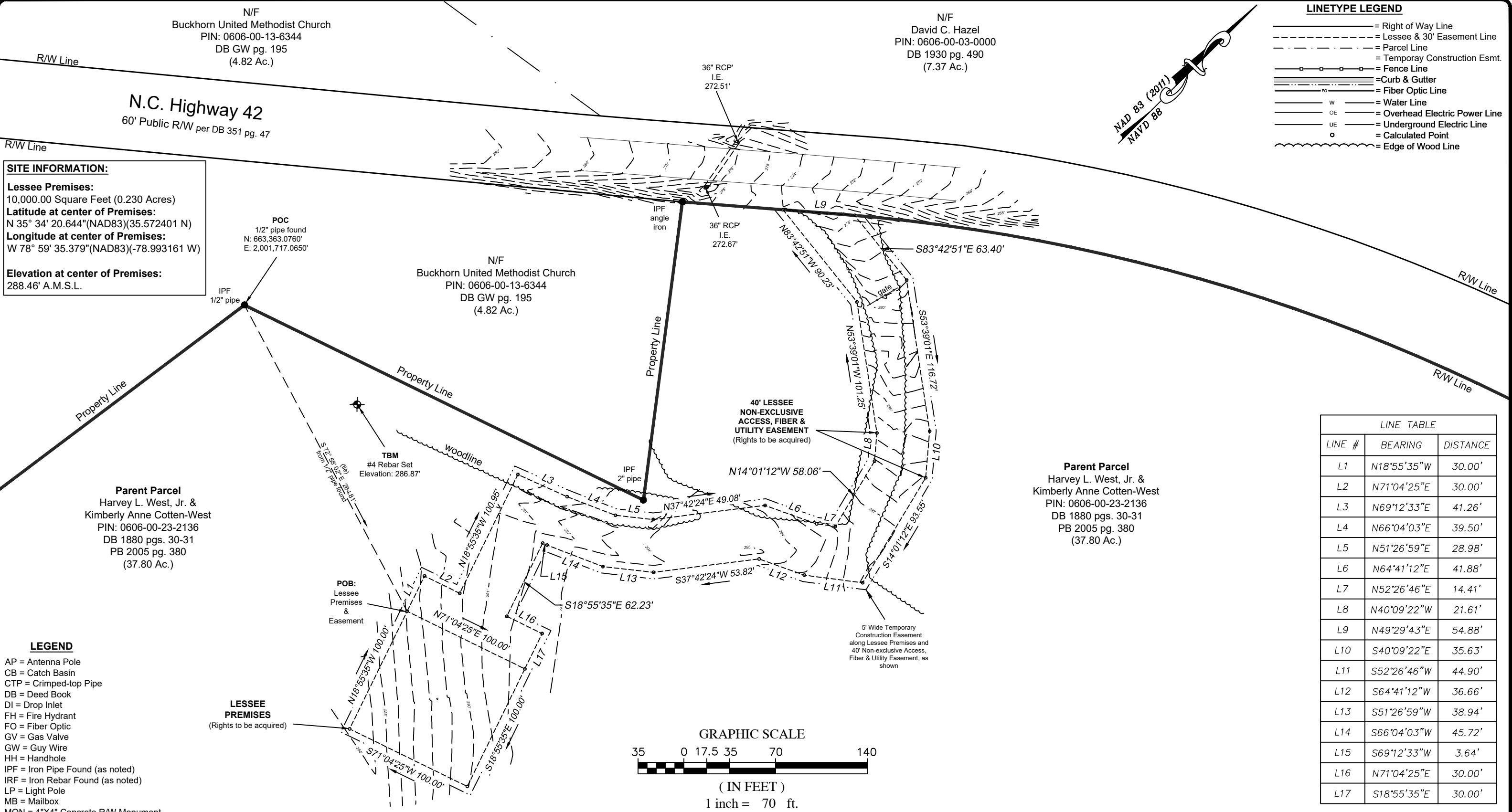
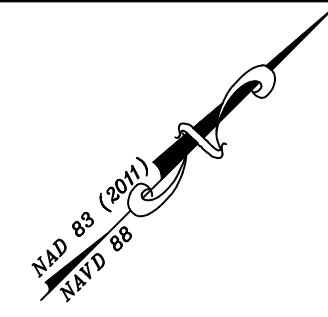
TOWER LESSEE PREMISES SITE SHEET 1 OF 5

(Not Valid without all Sheets)

TAB 6-Construction Drawings

LINETYPE LEGEND

- = Right of Way Line
- = Lessee & 30' Easement Line
- = Parcel Line
- = Temporary Construction Esmt.
- = Fence Line
- = Curb & Gutter
- = Fiber Optic Line
- = Water Line
- = Overhead Electric Power Line
- = Underground Electric Line
- = Calculated Point
- = Edge of Wood Line



SITE INFORMATION:
Lessee Premises:
 10,000.00 Square Feet (0.230 Acres)
Latitude at center of Premises:
 N 35° 34' 20.644"(NAD83)(35.572401 N)
Longitude at center of Premises:
 W 78° 59' 35.379"(NAD83)(-78.993161 W)
Elevation at center of Premises:
 288.46' A.M.S.L.

POC
 1/2" pipe found
 N: 663,363.0760'
 E: 2,001,717.0650'

IPF
 1/2" pipe

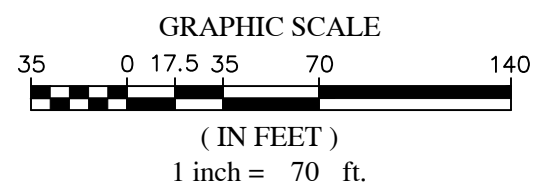
TBM
 #4 Rebar Set
 Elevation: 286.87'

Parent Parcel
 Harvey L. West, Jr. &
 Kimberly Anne Cotten-West
 PIN: 0606-00-23-2136
 DB 1880 pgs. 30-31
 PB 2005 pg. 380
 (37.80 Ac.)

Parent Parcel
 Harvey L. West, Jr. &
 Kimberly Anne Cotten-West
 PIN: 0606-00-23-2136
 DB 1880 pgs. 30-31
 PB 2005 pg. 380
 (37.80 Ac.)

- LEGEND**
- AP = Antenna Pole
 - CB = Catch Basin
 - CTP = Crimped-top Pipe
 - DB = Deed Book
 - DI = Drop Inlet
 - FH = Fire Hydrant
 - FO = Fiber Optic
 - GV = Gas Valve
 - GW = Guy Wire
 - HH = Handhole
 - IPF = Iron Pipe Found (as noted)
 - IRF = Iron Rebar Found (as noted)
 - LP = Light Pole
 - MB = Mailbox
 - MON = 4"x4" Concrete R/W Monument
 - PB = Plat Book
 - PG = Page
 - PKF = PK Nail Found
 - POB = Point of Beginning
 - POC = Point of Commencement
 - R/W = Right-of-Way
 - TBM = Temporary Benchmark
 - TP = Telephone Pedestal
 - UP = Utility Pole
 - WM = Water Meter
 - WV = Water Valve

LESSEE PREMISES
 (Rights to be acquired)



LINE TABLE		
LINE #	BEARING	DISTANCE
L1	N18°55'35"W	30.00'
L2	N71°04'25"E	30.00'
L3	N69°12'33"E	41.26'
L4	N66°04'03"E	39.50'
L5	N51°26'59"E	28.98'
L6	N64°41'12"E	41.88'
L7	N52°26'46"E	14.41'
L8	N40°09'22"W	21.61'
L9	N49°29'43"E	54.88'
L10	S40°09'22"E	35.63'
L11	S52°26'46"W	44.90'
L12	S64°41'12"W	36.66'
L13	S51°26'59"W	38.94'
L14	S66°04'03"W	45.72'
L15	S69°12'33"W	3.64'
L16	N71°04'25"E	30.00'
L17	S18°55'35"E	30.00'

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PREPARED FOR
The Towers, LLC

Kimley»Horn

REVISIONS					
No.	DATE	DESCRIPTION	BY	CHK	APP

SPECIFIC PURPOSE SURVEY:
US-NC-5292 CROSSPOINT
 NC HIGHWAY 42
 MONCURE, NC 27559
 CHATHAM COUNTY

DATES OF SURVEY: AUGUST 30TH, SEPTEMBER 6TH & 15th, 2023

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SPECIFIC PURPOSE SURVEY

TOWER LESSEE PREMISES SITE SHEET 2 OF 5

(Not Valid without all Sheets)

PARENT PARCEL

Property located in the Town of Moncure, Cape Fear Township, Chatham County, North Carolina.

All that certain piece, parcel or tract of land lying and being situated on the south side of NC Highway 42 and being 0.24 miles north of the intersection with Dickens Street in Chatham County, North Carolina, containing thirty-seven and 80/100 Acres (37.80 Acres), more or less, and being the same property conveyed to Harvey L West, Jr. & Kimberly Anne Cotten–West by Deed Book 1880 pages 30–31 and dated September 13th, 2016, and recorded in the Chatham County Register of Deeds.

TAX PARCEL ID NUMBER: 0606–23–2136.000

LESSEE PREMISES

All that tract or parcel of land lying and being in the Town of Moncure, Cape Fear Township, Chatham County, North Carolina, and being the same property conveyed to Harvey L West, Jr. & Kimberly Anne Cotten–West by Deed Book 1880 pages 30–31 and dated September 13th, 2016, and recorded in the Chatham County Register of Deeds and being more particularly described as follows:

To find the Point of Beginning, Commencing at a 1/2" pipe found on the northwestern property line of said Harvey L West, Jr. & Kimberly Anne Cotten–West property with the northeastern property line of the Buckhorn United Methodist Church property as described in Deed Book GW page 195, having a North Carolina Grid North (NAD83) value of N: 663,363.0760' and E: 2,001,717.0650' and being labeled POINT OF COMMENCEMENT; thence with a tie–line S 72° 58' 02" E 264.81 feet to a point being the Point of Beginning for the 40–foot wide Lessee Non–Exclusive Access, Fiber & Utility Easement and the TRUE POINT OF BEGINNING for the Lessee Premises; thence N 71° 04' 25" E 100.00 feet to a point; thence S 18° 55' 35" E 100.00 feet to a point; thence S 71° 04' 25" W 100.00 feet to a point; thence N 18° 55' 35" W 100.00 feet to the POINT OF BEGINNING.

Bearings based on North Carolina Grid North, NAD83.

Said described parcel containing 0.230 Acres (10,000.00 square feet), more or less and subject to any and all easements, reservations, restrictions and conveyances of record, being shown hereon for The Towers, LLC.

40' LESSEE NON-EXCLUSIVE ACCESS, FIBER & UTILITY EASEMENT

Together with a 40–foot wide Lessee Non–Exclusive Access, Fiber & Utility Easement lying and being in the Town of Moncure, Cape Fear Township, Chatham County, North Carolina, and being the same property conveyed to Harvey L West, Jr. & Kimberly Anne Cotten–West by Deed Book 1880 pages 30–31 and dated September 13th, 2016, and recorded in the Chatham County Register of Deeds and being more particularly described as follows:

To find the Point of Beginning, Commencing at a 1/2" pipe found on the northwestern property line of said Harvey L West, Jr. & Kimberly Anne Cotten–West property with the northeastern property line of the Buckhorn United Methodist Church property as described in Deed Book GW page 195, having a North Carolina Grid North (NAD83) value of N: 663,363.0760' and E: 2,001,717.0650' and being labeled POINT OF COMMENCEMENT; thence with a tie–line S 72° 58' 02" E 264.81 feet to a point being the Point of Beginning for the Lessee Premises and the TRUE POINT OF BEGINNING for the 40–foot wide Lessee Non–Exclusive Access, Fiber & Utility Easement; thence N 18° 55' 35" W 30.00 feet to a point; thence N 71° 04' 25" E 30.00 feet to a point; thence N 18° 55' 35" W 100.95 feet to a point; thence N 69° 12' 33" E 41.26 feet to a point; thence N 66° 04' 03" E 39.50 feet to a point; thence N 51° 26' 59" E 28.98 feet to a point; thence N 37° 42' 24" E 49.08 feet to a point; thence N 37° 56' 31" E 36.96 feet to a point; thence N 64° 41' 12" E 41.88 feet to a point; thence N 52° 26' 46" E 14.41 feet to a point; thence N 14° 01' 12" W 58.06 feet to a point; thence N 40° 09' 22" W 21.61 feet to a point; thence N 53° 39' 01" W 101.25 feet to a point; thence N 83° 42' 51" W 90.23 feet to a point on the Right of Way of NC Highway 42 (Having a 60' Public Right of Way); thence with said Right of Way thence N 49° 29' 43" E 54.88 feet to a point; thence leaving said Right of Way S 83° 42' 51" E 63.40 feet to a point; thence S 53° 39' 01" E 116.72 feet to a point; thence S 40° 09' 22" E 35.63 feet to a point; thence S 14° 01' 12" E 93.55 feet to a point; thence S 52° 26' 46" W 44.90 feet to a point; thence S 64° 41' 12" W 36.66 feet to a point; thence S 37° 56' 31" W 27.37 feet to a point; thence S 37° 42' 24" W 53.82 feet to a point; thence S 51° 26' 59" W 38.94 feet to a point; thence S 66° 04' 03" W 45.72 feet to a point; thence S 69° 12' 33" W 3.64 feet to a point; thence S 18° 55' 35" E 62.23 feet to a point; thence N 71° 04' 25" E 30.00 feet to a point; thence S 18° 55' 35" E 30.00 feet to a point at the Lessee premises; thence with said Lessee Premises S 71° 04' 25" W 100.00 feet to the POINT OF BEGINNING.

Bearings based on North Carolina Grid North, NAD83.

Said described parcel containing 0.641 Acres (27,935.07 square feet), more or less and subject to any and all easements, reservations, restrictions and conveyances of record, being shown hereon for The Towers, LLC.

LESSEE PREMISES AND 40' LESSEE NON-EXCLUSIVE ACCESS, FIBER & UTILITY EASEMENTS 5 FOOT WIDE TEMPORARY CONSTRUCTION EASEMENT

Also conveyed is a Lessee 5 foot wide Temporary Construction Easement along the above described Lessee Premises and the 40–foot wide Lessee Non–Exclusive Access, Fiber & Utility Easement being shown hereon for The Towers, LLC.

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PREPARED FOR

The Towers, LLC

Kimley»Horn

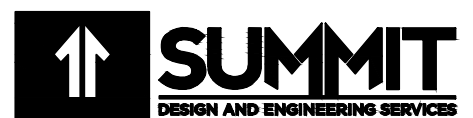
REVISIONS					
No.	DATE	DESCRIPTION	BY	CHK	APP

SPECIFIC PURPOSE SURVEY:

US-NC-5292 CROSSPOINT

NC HIGHWAY 42
 MONCURE, NC 27559
 CHATHAM COUNTY

DATES OF SURVEY: AUGUST 30TH, SEPTEMBER 6TH & 15th, 2023



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SPECIFIC PURPOSE SURVEY

TOWER LESSEE PREMISES SITE SHEET 3 OF 5

(Not Valid without all Sheets)

TITLE EXCEPTIONS:

This survey was made with the aid of Title work prepared by Tower Title, LLC, Westcor Land Title Insurance Company, Commitment date of 08/18/2023, being Client File Number/The Towers, LLC File Number: US-NC-5292, Commitment Number/Title Tower File Number: VTB-159206-C, ALTA Universal ID: R11029 for the Parent Parcel to determine the impacts of existing title exceptions listed below:

1. Any defect, lien, encumbrance, adverse claim, or other matter that appears for the first time in the Public Records or is created, attaches, or is disclosed between the Commitment Date and the date on which all of the Schedule B, Part I-Requirements are met.

[No plat matters.]

2. Rights or claims of parties in possession not shown by the public records.

[No plat matters.]

3. Easements or claims of easements not shown by the public records.

[No plat matters.]

4. Discrepancies, conflicts in boundary lines, encroachments, overlaps, variations or shortage in area or content, party walls and any other matters that would be disclosed by a correct survey and/or physical inspection of the land.

[No plat matters.]

5. Any lien, or right to lien, for services, labor or material heretofore or hereafter furnished, imposed by law and not shown by the public record.

[No plat matters.]

6. Any water or well rights, or rights or title to water or claims thereof, in, on or under the land.

[No plat matters.]

7. Unpatented mining claims, reservations or exceptions in patents or in the Acts authorizing the issuance of said patents.

[No plat matters.]

8. All taxes, assessments, levies and charges which constitute liens or are due or payable including unredeemed tax sales.

[Not a matter of surveying.]

SPECIAL EXCEPTIONS:

9. Rights of fee simple owners in and to the subject property.

[No issues, statement is Blanket in Nature.]

10. Easement between H. S. Cotten & wife Dallie W. Cotten; and Carolina Power & Light Company, dated June 22, 1955 and recorded July 15, 1955 in (book) L-Y (page) 240, in Chatham County, North Carolina.

[Easement describes utility installation & maintenance that isn't plottable and is Blanket in Nature.]

11. Right of Way Agreement between Hudson S. Cotten and wife Dallie W. Cotten; and State Highway Commission, dated March 16, 1970 and recorded April 13, 1970 in (book) 351 (page) 47, in Chatham County, North Carolina.

[Agreement describes 60' Right of Way along NC Highway 42 shown hereon.]

12. Any and all matters disclosed on the map entitled "James Hudson Cotton HWY 42 Chatham Co., NC" dated November 9, 2005 and recorded November 14, 2005 in (book) 2005 (page) 380, in Chatham County, North Carolina.

[No plat matters, the plat describes Parent Parcel.]

13. Terms and conditions of an unrecorded lease, as evidenced by a(n) Memorandum of Lease between Harvey L. West, Jr. and Kimberly Anne Cotten-West and Cellco Partnership d/b/a Verizon Wireless, dated May 9, 2023 and recorded July 12, 2023 in (book) 02371 (page) 0477 (instrument) 06075, in Chatham County, North Carolina.

[Unrecorded Lease describes the initial tower survey for Verizon Wireless made by this office, dated December 13th, 2022 and revised March 10th, 2023.]

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PREPARED FOR
The Towers,
LLC

Kimley»Horn

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SPECIFIC PURPOSE SURVEY
TOWER LESSEE
PREMISES SITE
SHEET 4 OF 5
(Not Valid without all Sheets)

**LEGAL DESCRIPTION:
EXHIBIT "A"**

Leasehold Interest in Below Property

All those certain lots or parcels of land situated in Cape Fear Township, Chatham County, North Carolina, and more particularly described as:

Being all of Tract 2, containing 37.80 acres, more or less, as shown on a plat entitled "Survey for James Hudson Cotton Hwy 42 Chatham Co., NC" prepared by Bracken & Associates, dated October 2, 2005, and recorded in Plat Slide 2005-380.

Parcel ID: 0083021 (PIN: 606 00 23 2136)

This being the same property conveyed to Harvey L. West, Jr. and Kimberly Anne Cotten-West, a married couple from Joyce J. Cotten in a deed dated September 13, 2016 and recorded September 13, 2016 as Instrument No. 09103, in Chatham County, NC.

SITE INFORMATION:
Lessee Premises:
 10,000.00 Square Feet (0.230 Acres)
Latitude at center of Premises:
 N 35° 34' 20.644"(NAD83)(35.572401 N)
Longitude at center of Premises:
 W 78° 59' 35.379"(NAD83)(-78.993161 W)
Elevation at center of Premises:
 288.46' A.M.S.L.

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PREPARED FOR
 The Towers,
 LLC

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SPECIFIC PURPOSE SURVEY
 TOWER LESSEE
 PREMISES SITE
 SHEET 5 OF 5
 (Not Valid without all Sheets)

1.00 GENERAL NOTES

- 1.01 ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE DRAWINGS AND SPECIFICATIONS. ALL WORK SHALL BE DONE 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 DIMENSIONS. ALL DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE PROJECT MANAGER AND/OR ENGINEER AND BE RESOLVED BEFORE PROCEEDING WITH WORK. WHERE THERE IS A CONFLICT BETWEEN DRAWING AND THE TOWERS, LLC SPECIFICATIONS, THE TOWERS, LLC ENGINEER SHOULD BE CONTACTED FOR CLARIFICATION.
- 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 SWALES AS REQUIRED ALONG EXISTING TERRAIN TO DRAIN AWAY FROM COMPOUND AND ACCESS DRIVE.
- 1.07 THE PROPOSED TOWER AND TOWER FOUNDATIONS WERE DESIGNED BY OTHERS. TOWER INFORMATION PROVIDED ON THESE PLANS ARE PROVIDED FOR REFERENCE PURPOSES ONLY. NOTIFY ENGINEER OR PROJECT MANAGER OF ANY CONFLICTS OR DISCREPANCIES. CONTRACTOR TO OBTAIN COPY OF TOWER DESIGN DRAWINGS, IF AVAILABLE, FROM THE TOWERS, LLC PROJECT MANAGER TO CONFIRM COAX ROUTING AND ANTENNA MOUNT INFORMATION.
- 1.08 THE CONTRACTOR SHALL PROVIDE ADEQUATE EXCAVATION SLOPING, SHORING, BRACING, AND GUYS IN ACCORDANCE WITH ALL NATIONAL, STATE, AND LOCAL SAFETY ORDINANCES.
- 1.09 UPON COMPLETION OF CONSTRUCTION, CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE CAUSED BY CONSTRUCTION ACTIVITIES TO THE EXISTING ACCESS ROAD AND COMPOUND GRAVEL AREAS. ANY NEW FILL MATERIALS SHALL BE COMPACTED.
- 1.10 THE CONTRACTOR IS HEREBY NOTIFIED THAT PRIOR TO COMMENCING CONSTRUCTION, HE IS RESPONSIBLE FOR CONTACTING THE UTILITY COMPANIES INVOLVED AND SHALL REQUEST A VERIFICATION AT THE CONSTRUCTION SITE OF THE LOCATIONS OF THEIR UNDERGROUND UTILITIES AND WHERE THEY MAY POSSIBLY CONFLICT WITH THE PLACEMENT OF IMPROVEMENTS AS SHOWN ON THESE PLANS. THE CONTRACTOR OR ANY SUBCONTRACTOR FOR THIS CONTRACT WILL BE REQUIRED TO NOTIFY "NORTH CAROLINA 811" 48 HOURS IN ADVANCE OF PERFORMING ANY WORK BY CALLING THE TOLL FREE NUMBER (800) 632-4949 (OR 811). ANY UTILITIES DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE REPAIRED BY THE CONTRACTOR, AT NO EXPENSE TO THE OWNER.
- 1.11 CONTRACTOR TO PROVIDE DUMPSTER AND PORTABLE TOILET FACILITY DURING CONSTRUCTION.
- 1.12 CONTRACTOR TO PROVIDE STYMIE LOCK OR EQUIVALENT AS APPROVED BY THE TOWERS, LLC PROJECT MANAGER.
- 1.13 CONTRACTOR TO PROVIDE ANY NECESSARY SIGNAGE PER THE TOWERS, LLC PROJECT MANAGER'S INSTRUCTIONS. SEE DETAIL ON SHEET C11.

2.00 EQUIPMENT FOUNDATION NOTES

- 2.01 FOUNDATIONS ARE DESIGNED FOR A PRESUMPTIVE ALLOWABLE SOIL BEARING CAPACITY OF 2,000 PSF. CONTRACTOR SHALL VERIFY SOIL CONDITIONS AND BEARING CAPACITY PRIOR TO CONSTRUCTION.
- 2.02 EXCAVATE A MINIMUM 18" BELOW PROPOSED EQUIPMENT FOUNDATIONS OF EXPANSIVE, ORGANIC, UNCONSOLIDATED 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 VICINITY OF THE WORK SITE. ALL EXCAVATIONS NEAR THESE LINES TO BE CARRIED OUT WITH EXTREME CAUTION. COORDINATE ALL RELOCATIONS WITH THE PROPERTY OWNER.
- 2.04 CONTRACTOR TO CUT/FILL EXISTING COMPOUND SUBSOIL TO PROVIDE AN AREA AS LEVEL AS POSSIBLE FOR THE EQUIPMENT FOUNDATIONS. ALL FILL AREAS ARE TO BE FILLED WITH SUITABLE MATERIALS. FILL MATERIALS ARE TO BE PLACED, COMPACTED, AND TESTED IN MAXIMUM LAYERS OF 8". COMPACTION OF ALL FILL MATERIAL SHALL ACHIEVE 95 PERCENT OF MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT IN ACCORDANCE WITH ASTM D 698. ALL TESTS MUST MEET THE MINIMUM SPECIFIED SOIL BEARING CAPACITY. COMPACTION TESTING IS BY THE GEOTECHNICAL TESTING COMPANY DESIGNATED FOR THE PROJECT. SCHEDULING AND COORDINATION IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. REPORTS OF ALL TESTING ARE TO BE PROMPTLY DELIVERED OR FAXED TO THE TOWERS, LLC PROJECT MANAGER.
- 2.05 CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS AND SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST REVISION TO ACI-318 BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE.
- 2.06 CONCRETE SHALL HAVE A SLUMP BETWEEN 3" AND 6".
- 2.07 FIBERS FOR CONCRETE SHALL BE FIBERMESH 650, 100 PERCENT VIRGIN POLYPROPYLENE FIBRILLATED FIBERS, e3 PATENTED TECHNOLOGY PATENTED TECHNOLOGY, CONTAINING NO REPROCESSED OLEFIN MATERIALS. THE FIBERS SHALL CONFORM TO ASTM C1116 TYPE III 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, FIBERMESH 650 MACRO-SYNTHETIC FIBERS SHALL BE ADDED TO THE CONCRETE AT THE BATCHING PLANT AT THE RECOMMENDED APPLICATION RATE OF 3 LBS/YD³ AND MIXED FOR A SUFFICIENT TIME (MINIMUM 5 MINUTES AT FULL MIXING SPEED) TO ENSURE UNIFORM DISTRIBUTION OF THE FIBERS THROUGHOUT THE CONCRETE. FIBROUS CONCRETE REINFORCEMENT SHALL BE MANUFACTURED BY FIBERMESH, 4019 INDUSTRY DRIVE, CHATTANOOGA, TN 37416 USA, TEL: 800 621-1273, WEBSITE: WWW.FIBERMESH.COM
- 2.09 AT THE REQUEST OF THE TOWERS, LLC PROJECT MANAGER, TEST CYLINDERS SHALL BE MOLDED AND LABORATORY CURED IN ACCORDANCE WITH ASTM C31. THREE CYLINDERS SHALL BE TAKEN FOR EACH DAY'S CONCRETE PLACEMENT. CYLINDERS SHALL BE TESTED IN ACCORDANCE WITH THE LATEST REVISION TO ASTM C39.
- 2.10 CHAMFER ALL EXPOSED EXTERNAL CORNERS OF CONCRETE WITH 3/4" x 45° CHAMFER, UNLESS OTHERWISE NOTED.
- 2.11 CONCRETE FORMWORK IS TO BE STRIPPED WITHIN 48 HOURS. VIBRATION OF THE CONCRETE MUST ASSURE THAT HONEYCOMBING WILL BE AT A MINIMUM. MECHANICAL VIBRATION OF ALL CONCRETE IS REQUIRED UNLESS OTHERWISE DIRECTED BY THE TOWERS, LLC PROJECT MANAGER. ABOVE GRADE CONCRETE IS TO BE RUBBED AND PATCHED TO ASSURE SMOOTH FINISH AT TIME OF FORMS REMOVAL. CONTRACTOR SHALL PROVIDE A BROOM FINISH ON THE TOP SURFACE OF THE EQUIPMENT FOUNDATION UNLESS OTHERWISE DIRECTED BY THE TOWERS, LLC PROJECT MANAGER.
- 2.12 TOPS OF CONCRETE FOUNDATION MUST BE WITHIN 0.02' OF ELEVATION REQUIRED.
- 2.13 TOP OF FOUNDATION FINISH TO BE LEVEL ±1/8" IN 10'.
- 2.14 TOP OF FOUNDATION TO HAVE MEDIUM BROOM FINISH.
- 2.15 CONTRACTOR SHALL REFER TO DRAWINGS OF OTHER TRADES AND VENDOR 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 VENDORS SPECIFICATIONS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL OPENINGS AND SLEEVES FOR PROPER DISTRIBUTION OF ALL UTILITIES.

verticalbridge
700 PARK OF COMMERCE DRIVE
BOCA RATON FL 33487
TEL: (561) 948-6367

PROJECT INFORMATION:

SITE NAME:
CROSSPOINT
SITE No.: US-NC-5292
PROJECT #: 2112981
NC HIGHWAY 42
MONCURE, NC 27559
CHATHAM COUNTY

PLANS PREPARED BY:

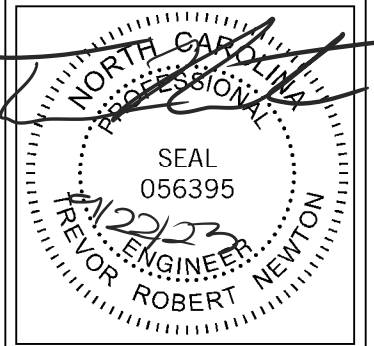
Kimley»Horn

11720 AMBER PARK DRIVE, SUITE 600
ALPHARETTA, GA 30009
PHONE: 770-619-4280
WWW.KIMLEY-HORN.COM
NC License F-0102

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KHA PROJECT NUMBER:

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DRAWN BY: CHECKED BY:

XQD DMF

SHEET TITLE:

GENERAL NOTES

SHEET NUMBER:

N1

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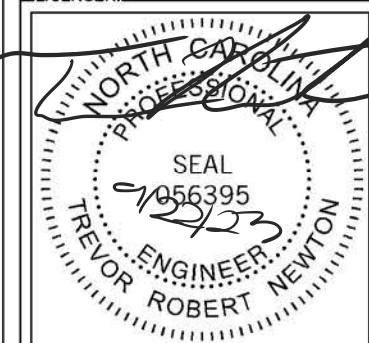
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SHEET TITLE:

OVERALL AERIAL
PLAN

SHEET NUMBER:

C1

TOWER SETBACKS TO PROPERTY LINES (FROM TOWER CENTER)	
NORTHWEST	205'-6"
SOUTH	698'-2"
EAST	719'-7"
NORTHWEST	328'-10"

N/F
DAVID C. HAZEL
PIN: 0606-00-03-0000
DB: 1930 PG: 490
PB: 2017 PG: 221
(7.37 AC)

N/F
BUCKHORN UNITED METHODIST CHURCH
PIN: 0606-00-13-6344
DB: GW: PG: 195
(4.82 AC)

N/F
BUCKHORN UNITED METHODIST CHURCH
PIN: 0606-00-13-3192
DB: 561 PG: 139
(0.87 AC.)

N/F
HARRIET D. GEORGE
PIN: 0606-00-03-0000
DB: 91 PG: 264
(3.03 AC.)

N/F
SCOTT D. & LAURA M. PRESTON HORTON
PIN: 0606-00-12-2128
DB: 1357 PG: 997
(3.53 AC.)

N/F
GARY E. SMITH & DONNA T. HORTON
PIN: 0606-00-12-8393
DB: 2051 PG: 1083
(10.01 AC.)

PARENT PARCEL
HARVEY L. WEST, JR. & KIMBERLY ANNE COTTEN-WEST
PIN: 0606-00-23-2136
DB: 2005 PG: 380
(37.80 AC.)

PROPOSED 100' X 100'
THE TOWERS, LLC PREMISES
(±10,000 SQ. FT.)
(SEE SHEET C2)

CONTRACTOR TO PROVIDE CONCRETE JERSEY BARRIERS ALONG EXISTING DIRT ROAD BETWEEN PARENT PARCEL AND CHURCH PROPERTY. GC TO COORDINATE WITH PROPERTY OWNER AND CHURCH ON EXACT LOCATION

(60' PUBLIC R/W PER N.C. HIGHWAY 42
PB: 2017 PG: 221)

EAST COTTEN RD

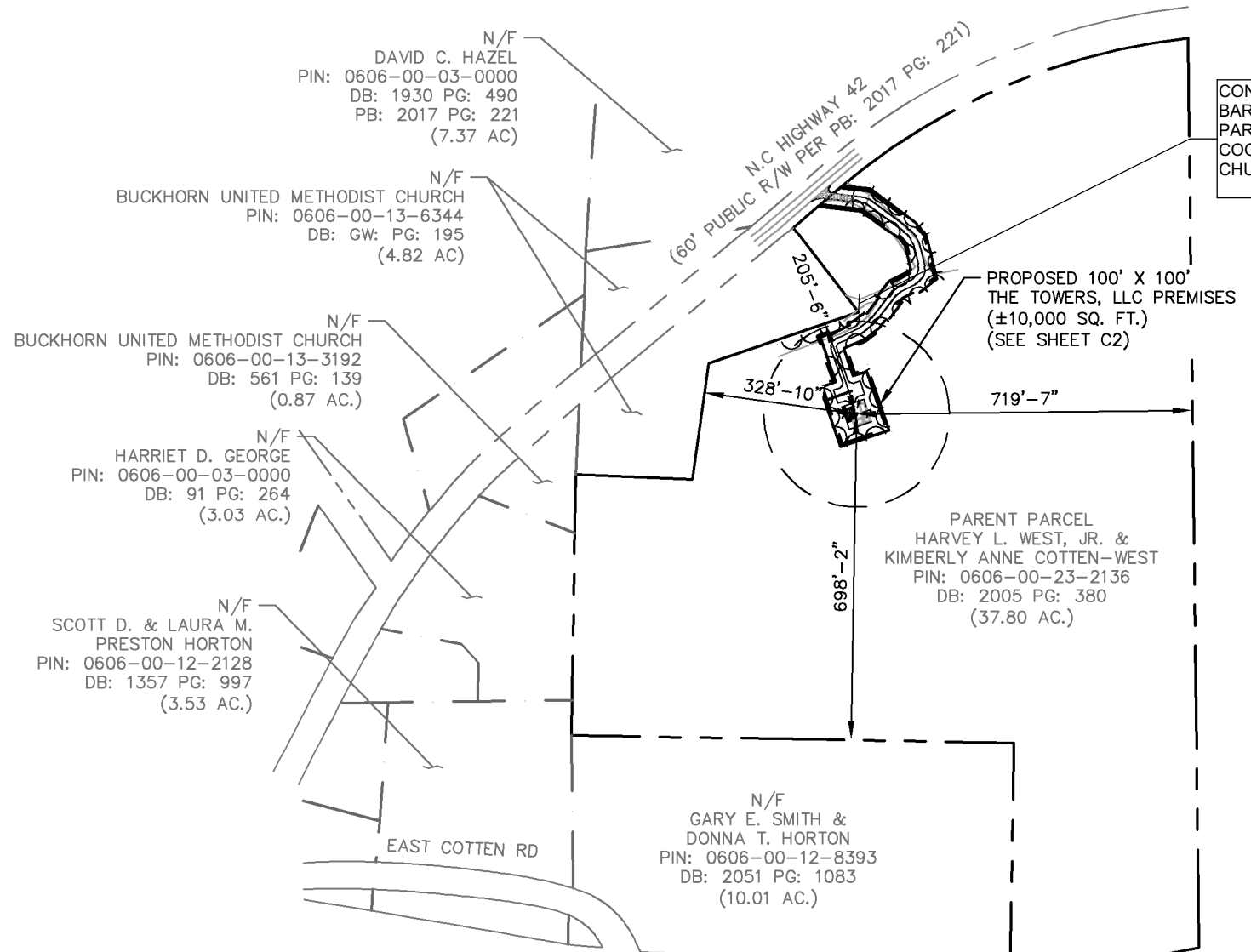


SURVEY NOTE:

1. THE TOWERS, LLC 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 02/01/23 AND SITE VISIT ON 12/13/2022.

1 OVERALL SITE PLAN
C1 SCALE: 1" = 350'

TOWER SETBACKS TO PROPERTY LINES (FROM TOWER CENTER)	
NORTHWEST	205'-6"
SOUTH	698'-2"
EAST	719'-7"
NORTHWEST	328'-10"



CONTRACTOR TO PROVIDE CONCRETE JERSEY BARRIERS ALONG EXISTING DIRT ROAD BETWEEN PARENT PARCEL AND CHURCH PROPERTY. GC TO COORDINATE WITH PROPERTY OWNER AND CHURCH ON EXACT LOCATION

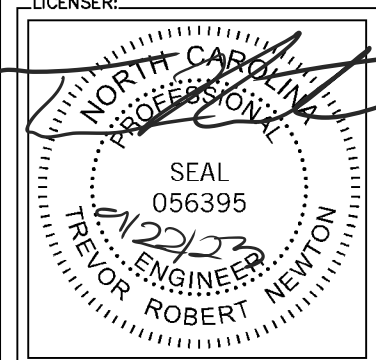
verticalbridge
 700 PARK OF COMMERCE DRIVE
 BOCA RATON FL 33487
 TEL: (561) 948-6367

PROJECT INFORMATION:
 SITE NAME:
 CROSSPOINT
 SITE No.: US-NC-5292
 PROJECT #: 2112981
 NC HIGHWAY 42
 MONCURE, NC 27559
 CHATHAM COUNTY

PLANS PREPARED BY:
Kimley»Horn
 11720 AMBER PARK DRIVE, SUITE 600
 ALPHARETTA, GA 30009
 PHONE: 770-619-4280
 WWW.KIMLEY-HORN.COM
 NC License F-0102

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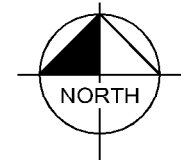
SHEET TITLE:
OVERALL PARCEL PLAN

SHEET NUMBER:
 C1.1

SURVEY NOTE:

1. THE TOWERS, LLC STAFF SHALL COORDINATE WITH THE PROPERTY OWNER TO OBTAIN THE PROPER EASEMENT AGREEMENTS TO CONSTRUCT AND MAINTAIN EQUIPMENT IN AND AROUND THE TOWER COMPOUND.
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1 OVERALL SITE PLAN
 C1.1 SCALE: 1" = 350'



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 NC HIGHWAY 42
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 CHATHAM COUNTY

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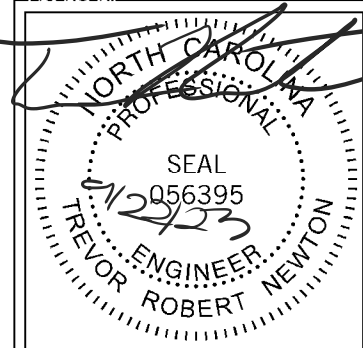
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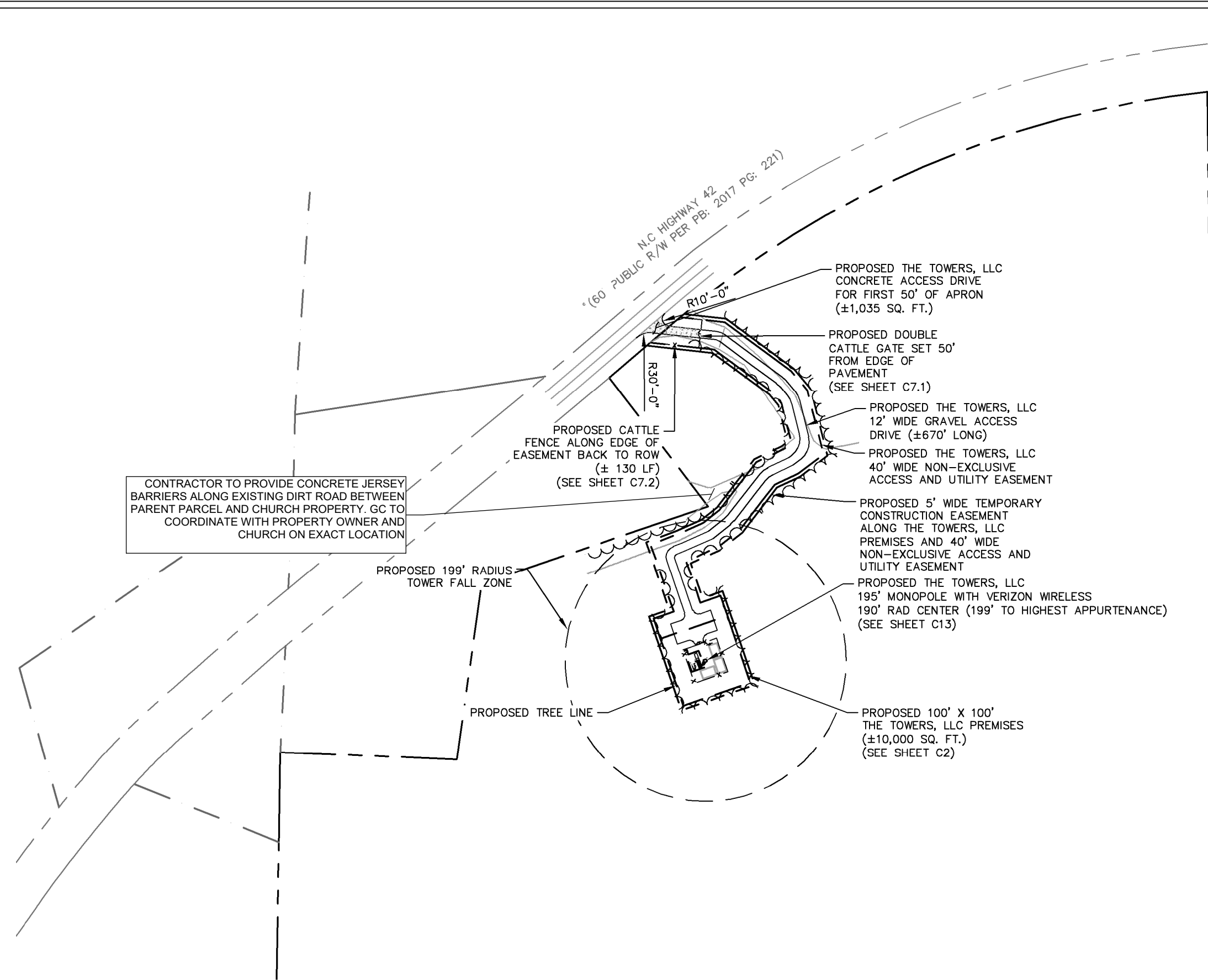
SHEET TITLE:

OVERALL SITE PLAN

SHEET NUMBER:

C1.2

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CONTRACTOR TO PROVIDE CONCRETE JERSEY BARRIERS ALONG EXISTING DIRT ROAD BETWEEN PARENT PARCEL AND CHURCH PROPERTY. GC TO COORDINATE WITH PROPERTY OWNER AND CHURCH ON EXACT LOCATION

N.C. HIGHWAY 42
 (60' PUBLIC R/W PER PB: 2017 PG: 221)
 R10'-0"
 R30'-0"

- PROPOSED THE TOWERS, LLC CONCRETE ACCESS DRIVE FOR FIRST 50' OF APRON (±1,035 SQ. FT.)
- PROPOSED DOUBLE CATTLE GATE SET 50' FROM EDGE OF PAVEMENT (SEE SHEET C7.1)
- PROPOSED THE TOWERS, LLC 12' WIDE GRAVEL ACCESS DRIVE (±670' LONG)
- PROPOSED THE TOWERS, LLC 40' WIDE NON-EXCLUSIVE ACCESS AND UTILITY EASEMENT
- PROPOSED 5' WIDE TEMPORARY CONSTRUCTION EASEMENT ALONG THE TOWERS, LLC PREMISES AND 40' WIDE NON-EXCLUSIVE ACCESS AND UTILITY EASEMENT
- PROPOSED THE TOWERS, LLC 195' MONOPOLE WITH VERIZON WIRELESS 190' RAD CENTER (199' TO HIGHEST APPURTENANCE) (SEE SHEET C13)
- PROPOSED 100' X 100' THE TOWERS, LLC PREMISES (±10,000 SQ. FT.) (SEE SHEET C2)

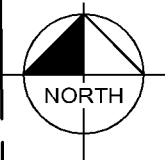
PROPOSED 199' RADIUS TOWER FALL ZONE

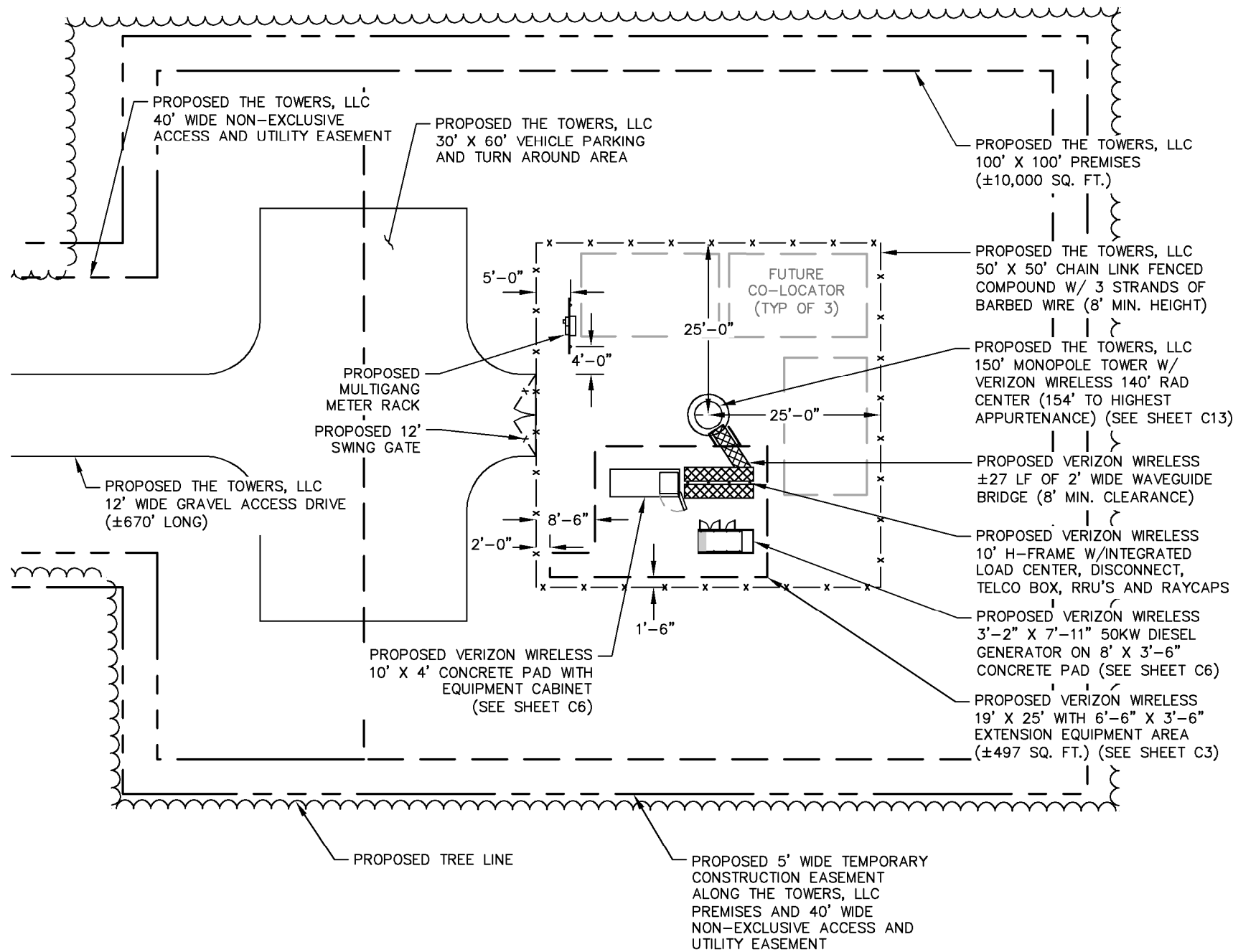
PROPOSED TREE LINE

SURVEY NOTE:

1. THE TOWERS, LLC 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 02/01/23 AND SITE VISIT ON 12/13/2022.

1 OVERALL SITE PLAN
 C1.2 SCALE: 1" = 150'

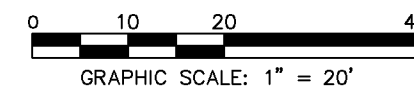
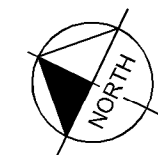




SITE NOTES:

1. THE TOWERS, LLC 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 02/01/23 AND SITE VISIT ON 12/13/2022.
3. CONTRACTOR TO CONFIRM WITH THE TOWERS, LLC 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 PROCURED BY THE TOWERS, LLC COORDINATE ANY CHANGES WITH THE TOWERS, LLC CONSTRUCTION MANAGER.
6. ROUTE COAX/FIBER UP TOWER PER STRUCTURAL ANALYSIS BY TOWER OWNER.
7. TOWER DIMENSIONS SHOWN ON THIS PLAN ARE FOR TOWER CENTER LOCATION. CONTRACTOR TO OBTAIN COPY OF TOWER ERECTION DRAWINGS FROM THE TOWERS, LLC CONSTRUCTION MANAGER PRIOR TO DRILLING TOWER FOUNDATIONS. CASSIONS AND TOWER SHOWN ON THIS PLAN ARE ILLUSTRATIVE, SEE DESIGN DRAWING BY OTHERS. DO NOT SCALE.

1 SITE PLAN
C2 SCALE: 1" = 20'



verticalbridge
700 PARK OF COMMERCE DRIVE
BOCA RATON FL 33487
TEL: (561) 948-6367

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NC HIGHWAY 42
MONCURE, NC 27559
CHATHAM COUNTY

PLANS PREPARED BY:

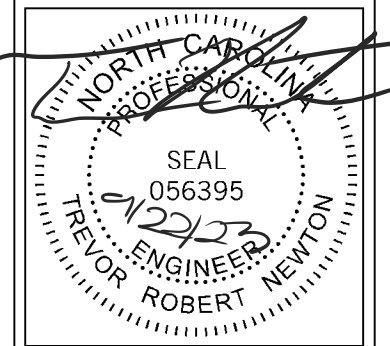
Kimley»Horn

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ALPHARETTA, GA 30009
PHONE: 770-619-4280
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LICENSER:



KHA PROJECT NUMBER:

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DRAWN BY: CHECKED BY:

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SHEET TITLE:

SITE PLAN

SHEET NUMBER:

C2

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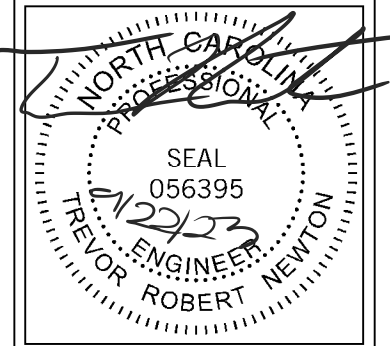
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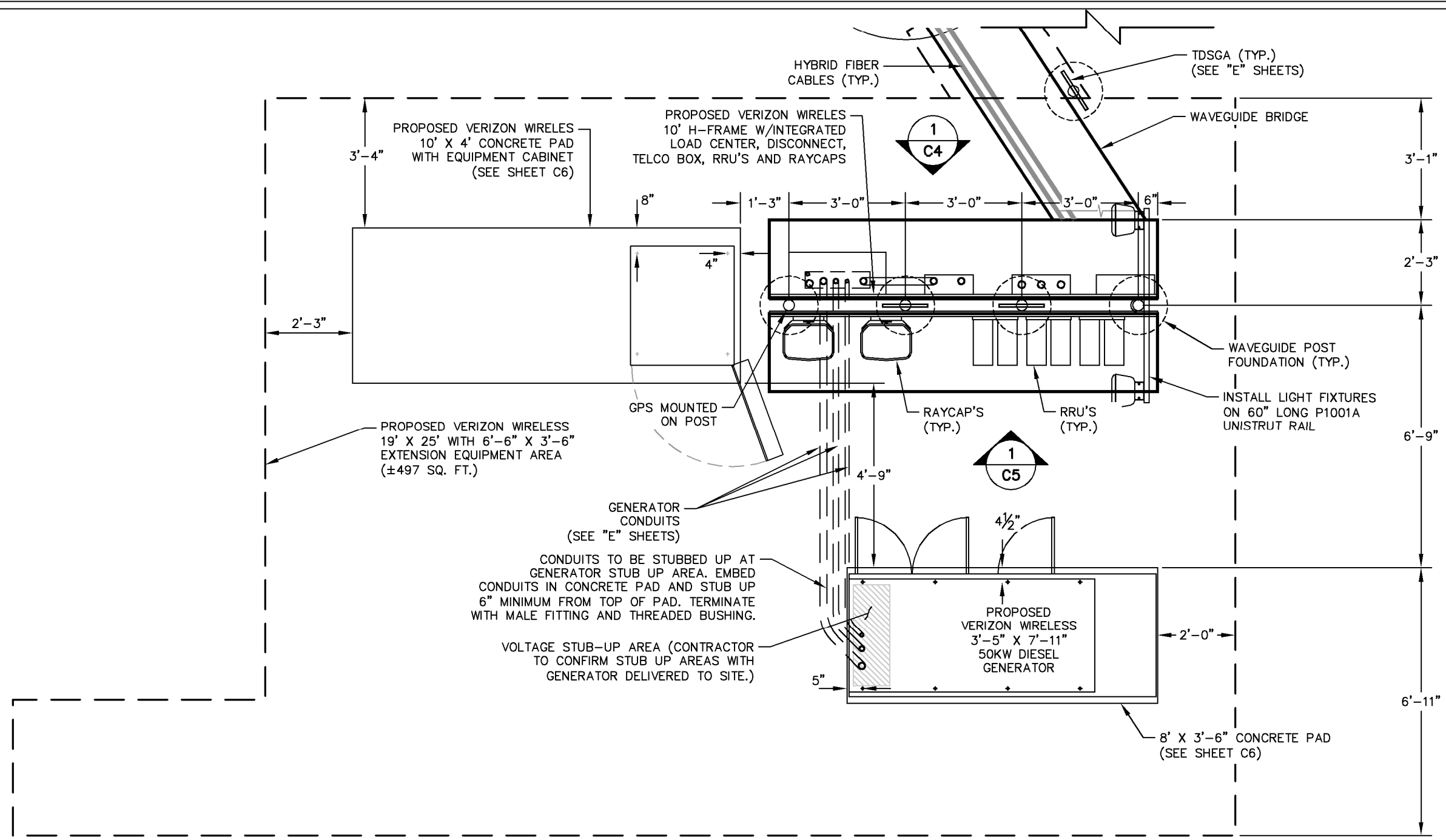
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SHEET TITLE:

EQUIPMENT PAD LAYOUT

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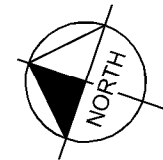
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1 EQUIPMENT PAD LAYOUT
C3 SCALE: 1" = 3'

EQUIPMENT PAD/ROUTING NOTES:

- REFER TO THE SITE PLAN FOR EQUIPMENT PAD LOCATION AND ORIENTATION.
- RUN 2" FLEX TELCO CONDUIT FROM BOTTOM OF TELCO BOX TO SIDE OF RF CABINET WITH CHASE NIPPLE THROUGH FACTORY KNOCKOUT.
- RUN (2) 2" FLEX POWER CONDUIT AND (1) 1" ALARM CONDUIT FROM BOTTOM OF ILC TO SIDE OF RF CABINET WITH CHASE NIPPLES THROUGH FACTORY KNOCKOUTS.
- RUN 2" FLEX FIBER CONDUIT FROM BOTTOM OF OVP TO SIDE OF RF CABINET WITH CHASE NIPPLE THROUGH FACTORY KNOCKOUT.
- RUN (1) 1½" FLEX POWER CONDUIT FOR EVERY (6) RRU CIRCUITS FROM BOTTOM OF OVP TO SIDE OF RF CABINET WITH CHASE NIPPLE THROUGH FACTORY KNOCKOUT.
- SUPPORT FLEX CONDUIT ON HORIZONTAL H-FRAME RAILS OR ON VERTICAL SITE STRUT SNT10 RAILS ADDED TO H-FRAME FOR CONDUIT/CABLE MANAGEMENT.
- RUN HYBRID CABLE FOR TOWER MOUNTED RRU'S OVERHEAD ON TRAPEZE SUSPENDED FROM WAVE GUIDE BRIDGE. SWEEP 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 TDSGA GROUND BAR AT BASE OF H-FRAME.
- RUN COAX CABLE FOR GROUND MOUNTED RRU'S (IF USED) OVERHEAD ON TRAPEZE SUSPENDED FROM WAVE GUIDE BRIDGE. TERMINATE 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 TDSGA GROUND BAR NEAR TOP OF POST.
- GPS ANTENNA TO BE MOUNTED TO STANDARD HEIGHT POST WITH EXTENDED MOUNTING PIPE, USING COMMSCOPE GPS-U MOUNTING KIT. MOUNT AS NEAR AS PRACTICAL TO RBA84 CABINET.
- BOLT CABINETS AND GENERATOR TO SLAB USING FASTENERS SPECIFIED BY EQUIPMENT MANUFACTURER IN FACTORY PROVIDED MOUNTING HOLES.

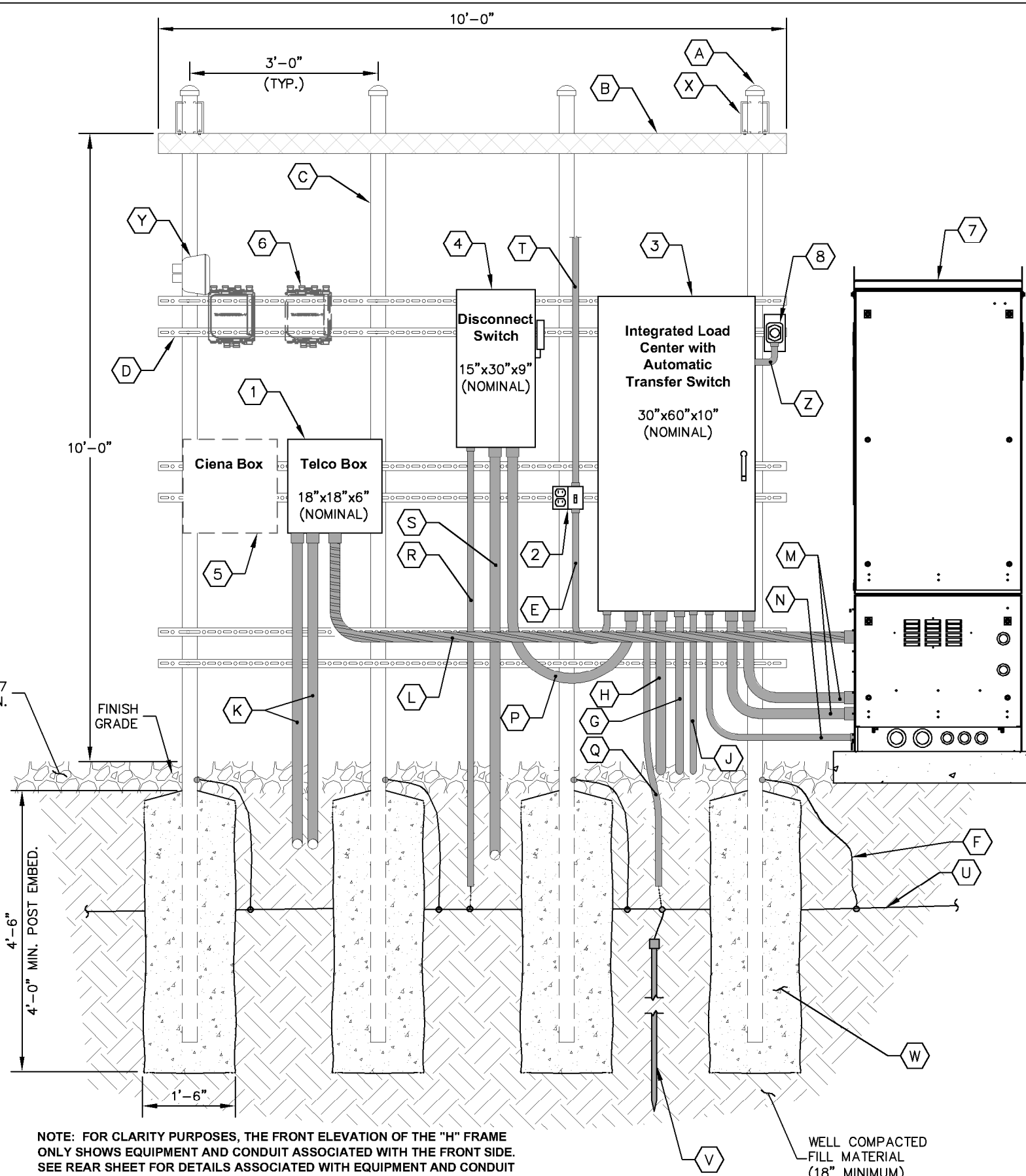


KEY NOTES - CONDUIT, CONDUCTORS, & MISC

- (A) GALVANIZED RIGID STEEL CAP, TYPICAL.
- (B) ICE BRIDGE, SEE CIVIL SHEETS FOR ADDITIONAL DETAILS.
- (C) 3" GALVANIZED RIGID STEEL PIPE, TYPICAL.
- (D) 1 5/8" X 1 5/8" GALVANIZED STEEL CHANNEL (UNISTRUT #P1000) WITH PLASTIC END CAP (UNISTRUT #P2860), TYPICAL.
- (E) 1" PVC CONDUIT FOR ROUTING POWER CONDUCTORS TO LIGHTS/DUPLEX OUTLET.
- (F) ONE (1) #2 AWG BARE SOLID TINNED COPPER BONDING CONDUCTOR (BC) FROM H-FRAME VERTICAL PIPE TO GROUND RING, EXOTHERMIC WELD BOTH ENDS.
- (G) 1" PVC CONDUIT FOR ROUTING GENERATOR CONTROL AND ALARM SIGNAL CABLES TO THE GENERATOR.
- (H) 2" PVC CONDUIT FOR ROUTING POWER CONDUCTORS TO THE GENERATOR.
- (J) 1" PVC CONDUIT FOR ROUTING POWER CONDUCTORS TO THE GENERATOR BATTERY CHARGER AND THE GENERATOR BLOCK HEATER.
- (K) TWO (2) 2" PVC TELCO CONDUITS, WITH TWO (2) PULL ROPES EACH.
- (L) 2" FLEX CONDUIT FOR TELCO CABLES TO RF CABINET. REFER TO ROUTING NOTES ON EQUIPMENT PAD LAYOUT.
- (M) (2) 2" PVC CONDUIT FOR ROUTING POWER CONDUCTORS TO RF CABINET. REFER TO ROUTING NOTES ON EQUIPMENT PAD LAYOUT.
- (N) 1" PVC CONDUIT FROM INTEGRATED LOAD CENTER (ILC) TO RF CABINET FOR ALARM SIGNAL CABLE. REFER TO ROUTING NOTES ON EQUIPMENT PAD LAYOUT.
- (P) 2" PVC CONDUIT FOR ROUTING POWER CONDUCTORS FROM THE DISCONNECT SWITCH TO THE UTILITY BREAKER IN THE ILC.
- (Q) 3/4" PVC CONDUIT WITH ONE (1) - #2 AWG BARE TINNED COPPER FROM GROUNDING LUG IN ILC TO GROUND ROD, EXOTHERMIC WELD TO GROUND ROD.
- (R) 3/4" PVC CONDUIT WITH ONE (1) - #2 AWG BARE TINNED COPPER FROM GROUNDING LUG IN DISCONNECT SWITCH TO GROUND RING, EXOTHERMIC WELD TO GROUND RING.
- (S) 2" PVC CONDUIT FOR ROUTING POWER CONDUCTORS FROM THE UTILITY COMPANY METER TO THE DISCONNECT SWITCH.
- (T) 1" PVC CONDUIT FOR ROUTING POWER CONDUCTORS TO AREA LIGHTS.
- (U) GROUND RING (SEE "E" SHEETS).
- (V) GROUND ROD, EXOTHERMIC WELD TO GROUND RING (SEE "E" SHEETS).
- (W) CONCRETE FOUNDATION FOR H-FRAME VERTICAL PIPE. CONCRETE SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI. AND INCLUDE FIBERMESH 650.
- (X) WB-K210-B15 HORSEHEAD SUPPORT BRACKET (SEE "WAVEGUIDE BRIDGE DETAILS" SHEET). THRU BOLTS REQUIRED FOR ATTACHMENT IN LIEU OF FACTORY PROVIDED U-BOLTS.
- (Y) INSTALL LIGHT FIXTURES ON 60" LONG P1001A UNISTRUT RAIL (SEE "EQUIPMENT PAD LAYOUT" SHEET). ATTACH P1001A TO H-FRAME POST USING TWO (2) UB3 UNISTRUT CLAMPS. LIGHTS TO BE INSTALLED 7'-6" ABOVE GRADE.
- (Z) 1" PVC CONDUIT FOR ROUTING POWER CONDUCTORS FROM THE ILC TO THE EMERGENCY GENERATOR STOP SWITCH.

KEY NOTES - ELECTRICAL EQUIPMENT

- (1) NEMA 3R ENCLOSURE TELCO BOX WITH REMOVABLE FRONT PANEL, PVC, (18" X 18" X 6" NOMINAL).
- (2) 20 AMP GFCI DUPLEX RECEPTACLE AND TIMER SWITCH, ENERLITES HET06 SERIES (OR APPROVED EQUIVALENT) IN LOCKABLE NEMA 3R ENCLOSURE, 2 GANG BOX WITH RED DOT 2CKPM-W COVER.
- (3) 200 AMP, 120/240 VOLT, INTEGRATED LOAD CENTER WITH 42 SPACE PANEL AND AUTOMATIC TRANSFER SWITCH (30" X 60" X 10" NOMINAL).
- (4) SE RATED, 240 V, 200 AMP, 2-POLE, NON-FUSED DISCONNECT IN NEMA 3R ENCLOSURE.
- (5) CIENA ETHERNET IF REQUIRED (COORDINATE WITH VERIZON CONSTRUCTION MANAGER FOR ADDITIONAL CONDUIT AND WIRING REQUIREMENTS).
- (6) DIPLEXERS "AS NEEDED".
- (7) VERIZON RF CABINET - REAR VIEW.
- (8) EMERGENCY SHUTOFF SWITCH FOR GENERATOR MOUNTED ON 4" X 7" GALVANIZED J-BOX COVER PLATE



NOTE: FOR CLARITY PURPOSES, THE FRONT ELEVATION OF THE "H" FRAME ONLY SHOWS EQUIPMENT AND CONDUIT ASSOCIATED WITH THE FRONT SIDE. SEE REAR SHEET FOR DETAILS ASSOCIATED WITH EQUIPMENT AND CONDUIT MOUNTED ON THE REAR SIDE OF THE "H" FRAME.

WELL COMPACTED FILL MATERIAL (18" MINIMUM)

1 EQUIPMENT RACK DETAILS - FRONT
C4 NOT TO SCALE

verticalbridge
 700 PARK OF COMMERCE DRIVE
 BOCA RATON FL 33487
 TEL: (561) 948-6367

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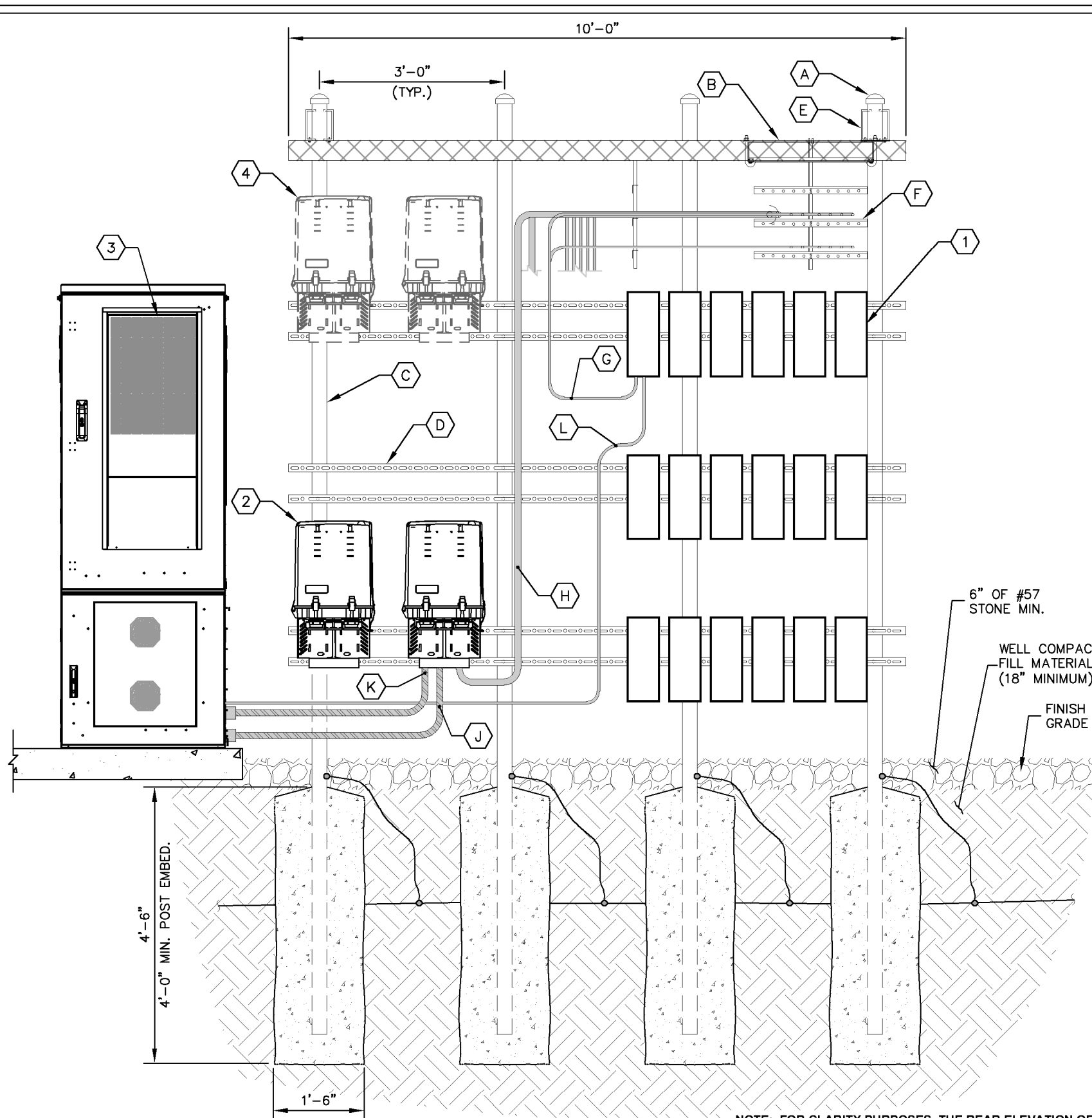
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 056395
 11/22/23
 TREVOR ROBERT NEWTON
 PROFESSIONAL ENGINEER

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 013291005
 DRAWN BY: XQD CHECKED BY: DMF

SHEET TITLE:
**EQUIPMENT RACK
 DETAIL - FRONT**

SHEET NUMBER:
C4

K:\ATL_Wireless\Vertical_Bridge\US-NC-5292_Crosspoint\CAD\GB\ECar-GB.dwg 09/22/23 10:26 AM by: christopher.strange



KEY NOTES - CONDUIT, CONDUCTORS, & MISC

- (A) GALVANIZED RIGID STEEL CAP, TYPICAL.
- (B) ICE BRIDGE, SEE CIVIL SHEETS FOR ADDITIONAL DETAILS.
- (C) 3" GALVANIZED RIGID STEEL PIPE, TYPICAL.
- (D) 1 1/2" X 1 1/2" GALVANIZED STEEL CHANNEL (UNISTRUT #P1000) WITH PLASTIC END CAP (UNISTRUT #P2860), TYPICAL.
- (E) WB-K210-B15 HORSEHEAD SUPPORT BRACKET (SEE "WAVEGUIDE BRIDGE DETAILS" SHEET). THRU BOLTS REQUIRED FOR ATTACHMENT IN LIEU OF FACTORY PROVIDED U-BOLTS.
- (F) ICE BRIDGE RUNNING TOWARDS TOWER (SEE "EQUIPMENT PAD LAYOUT" SHEET).
- (G) COAX JUMPER CABLES INTO BOTTOM OF RRU'S, TYPICAL.
- (H) HYBRID CABLES RUNNING INTO BOTTOM OF RAYCAPS, TYPICAL (SEE NOTE 7 ON "EQUIPMENT PAD LAYOUT" SHEET).
- (J) 1 1/2" POWER FLEX CONDUIT RUNNING FROM BOTTOM OF RAYCAPS TO CABINET, TYPICAL (SEE "EQUIPMENT PAD LAYOUT" SHEET).
- (K) 2" FIBER FLEX CONDUIT RUNNING FROM BOTTOM OF RAYCAPS TO CABINET, TYPICAL (SEE "EQUIPMENT PAD LAYOUT" SHEET).
- (L) FIBER/POWER JUMPER TO RRU (TYP. FOR EACH RRU).

KEY NOTES - ELECTRICAL EQUIPMENT

- (1) VERIZON RF RRU'S (MODEL, QUANTITY OF, AND CONFIGURATION DETERMINED BY RF DESIGN).
- (2) VERIZON RAYCAPS (MODEL, QUANTITY OF, AND CONFIGURATION DETERMINED BY RF DESIGN).
- (3) VERIZON RF CABINET - FRONT VIEW.
- (4) FUTURE VERIZON RAYCAPS.

NOTE: FOR CLARITY PURPOSES, THE REAR ELEVATION OF THE "H" FRAME ONLY SHOWS EQUIPMENT AND CONDUIT ASSOCIATED WITH THE REAR SIDE. SEE FRONT SHEET FOR DETAILS ASSOCIATED WITH EQUIPMENT AND CONDUIT MOUNTED ON THE FRONT SIDE OF THE "H" FRAME.

1 EQUIPMENT RACK DETAILS - REAR
C5 NOT TO SCALE

verticalbridge
 700 PARK OF COMMERCE DRIVE
 BOCA RATON FL 33487
 TEL: (561) 948-6367

PROJECT INFORMATION:

SITE NAME:
 CROSSPOINT
 SITE No.: US-NC-5292
 PROJECT #: 2112981
 NC HIGHWAY 42
 MONCURE, NC 27559
 CHATHAM COUNTY

PLANS PREPARED BY:

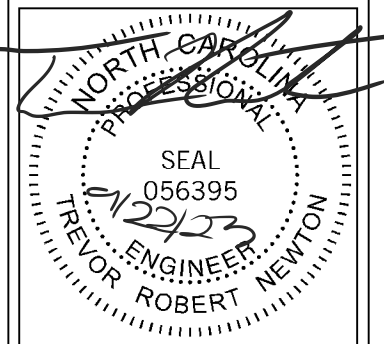
Kimley»Horn

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 WWW.KIMLEY-HORN.COM
 NC License F-0102

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KHA PROJECT NUMBER:

013291005

DRAWN BY: CHECKED BY:

XQD

DMF

SHEET TITLE:

**EQUIPMENT RACK
 DETAIL - REAR**

SHEET NUMBER:

C5

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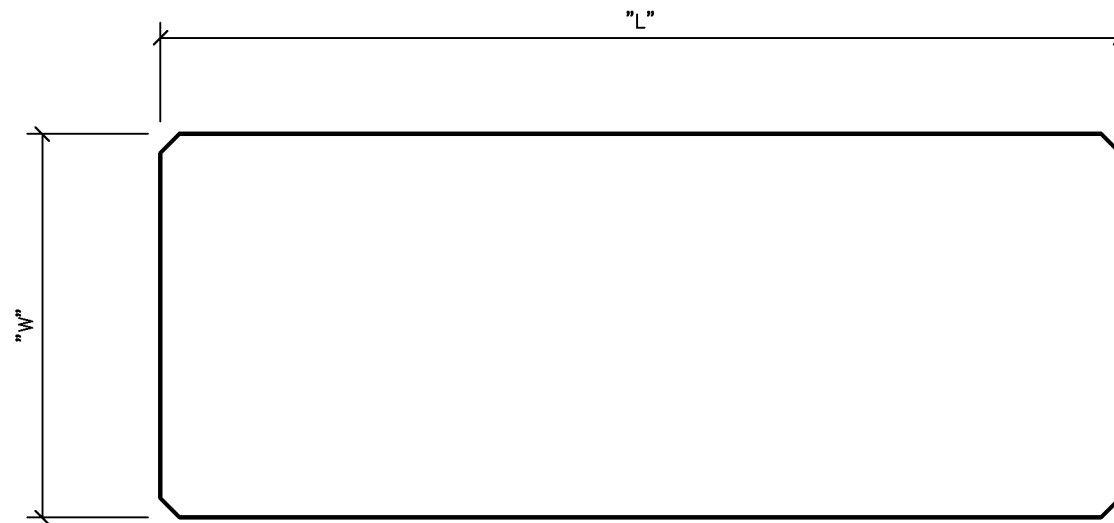
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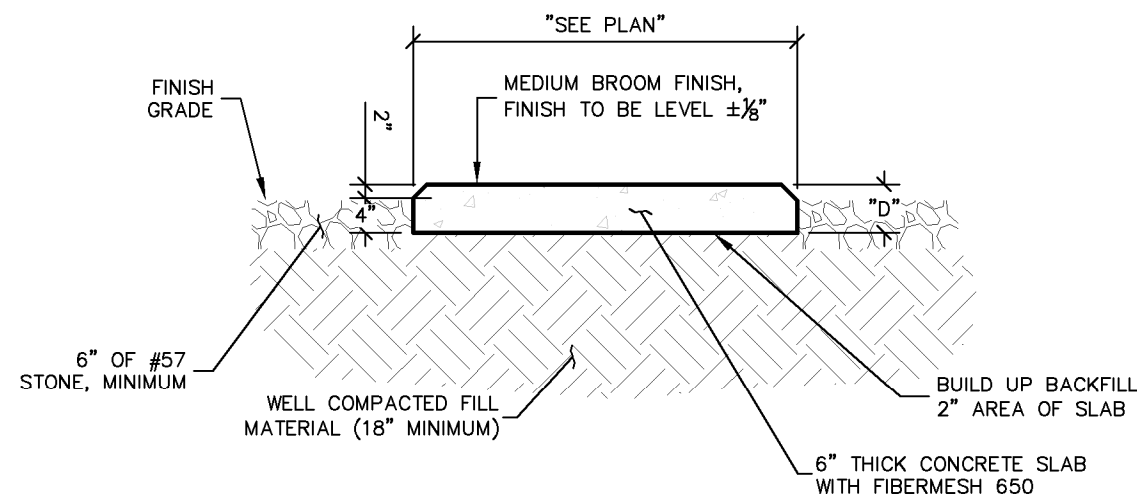
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CONCRETE PAD SCHEDULE				
PAD TYPE	"L"	"W"	"D"	REINFORCEMENT
EQUIPMENT PAD	10'-0"	4'-0"	6"	SEE DETAIL 2/C6
GENERATOR PAD	8'-0"	3'-6"	6"	SEE DETAIL 2/C6



1 CONCRETE PAD PLAN
 C6 NOT TO SCALE

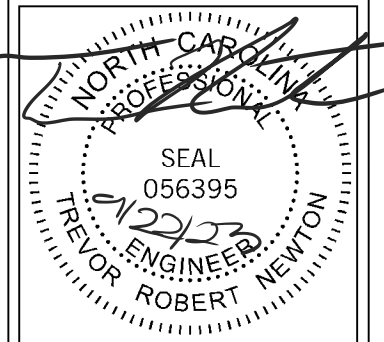


2 CONCRETE PAD FOUNDATION SECTION
 C6 NOT TO SCALE

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DRAWN BY: CHECKED BY:

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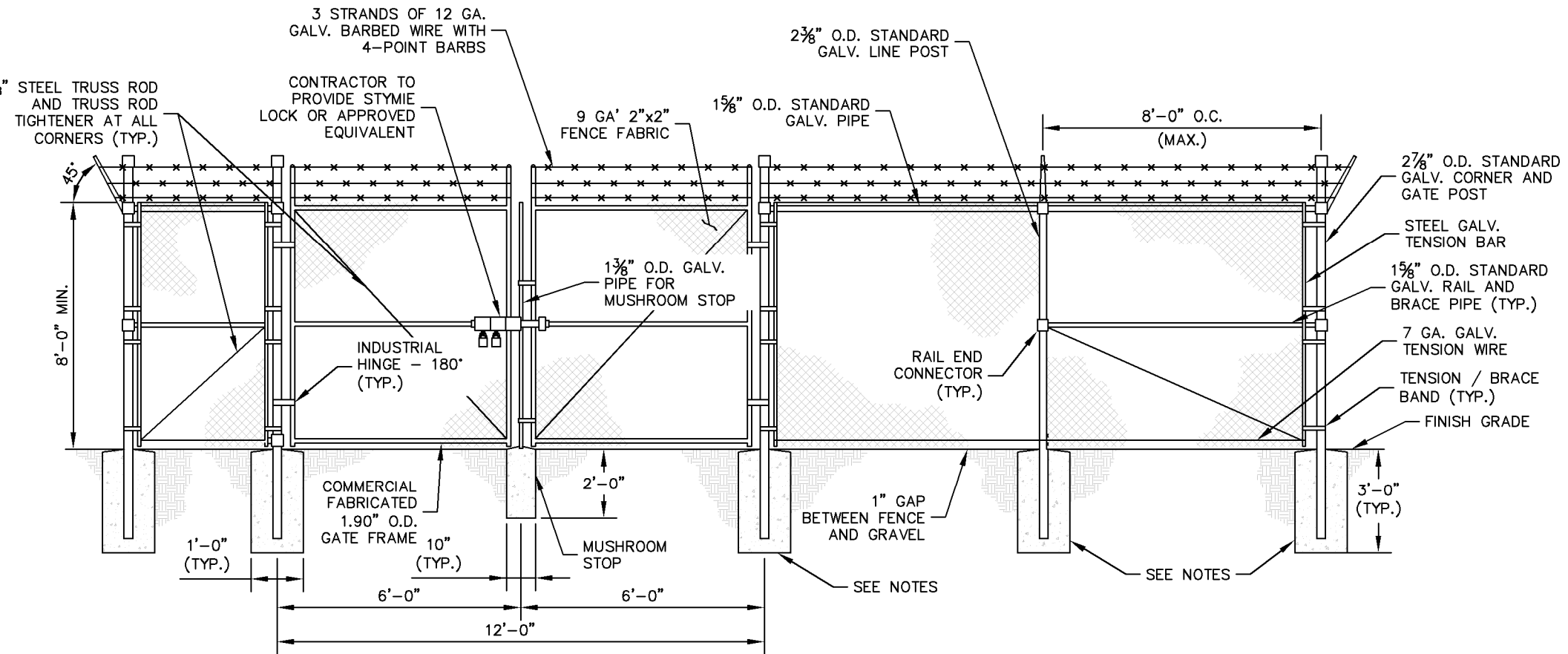
CONCRETE PAD
 FOUNDATION
 DETAILS

SHEET NUMBER:

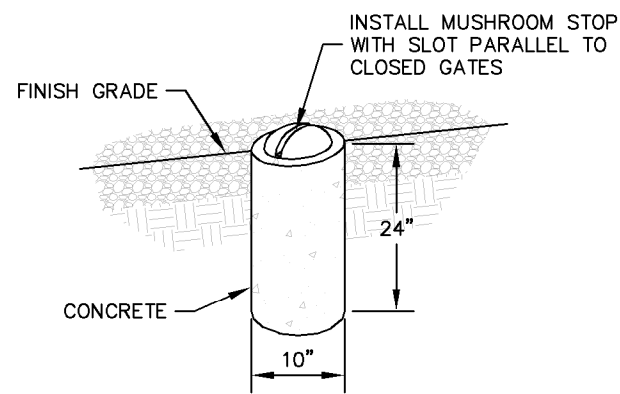
C6

FENCE NOTES:

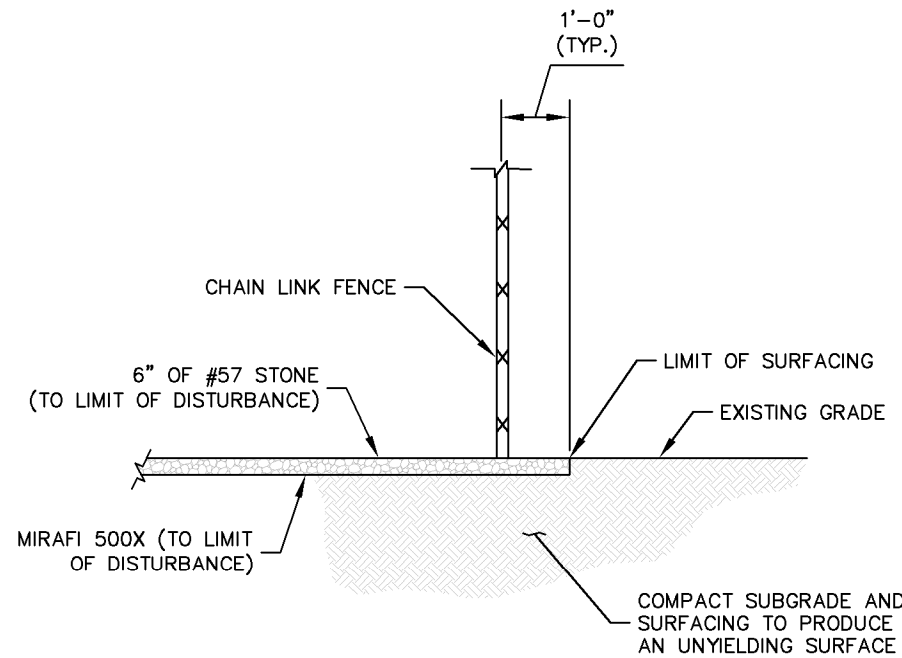
- USE 3,000-PSI CONCRETE, FULLY CONSOLIDATED AROUND THE POST.
- WHERE THE POST IS SET IN ROCK OR CONCRETE, CORE A HOLE 12" DEEP AND 1" LARGER IN DIAMETER THAN THE POST. SET THE POST AND GROUT IN PLACE USING NON-SHRINK GROUT.
- ALL POSTS MUST BE PLUMB AND ALIGNED WITH ONE ANOTHER IN BOTH HORIZONTAL AND VERTICAL PLANES.
- CORNERS AND GATEPOSTS FOR CHAIN LINK FENCES SHALL EXTEND ABOVE THE TOP STRAND OF BARBED WIRE TO PROVIDE TENSIONING FOR THE BARBED WIRE.
- PROVIDE MIDRAILS AND BRACING AT ALL CORNER POSTS WHERE THE FENCE CHANGES DIRECTION BY MORE THAN 30 DEGREES.
- THE GRADE OF THE SITE AND INSTALLATION OF THE FENCE SHALL PROVIDE FOR NO MORE THAN A 1" GAP BETWEEN THE BOTTOM OF THE FENCE MATERIAL AND FINISH GRADE.
- CONTRACTOR SHALL PROVIDE HOLD OPEN DEVICES FOR ALL GATES AT THE SPECIFIED OPEN POSITIONS, DRIVEN PIPE TYPE RECEIVERS ARE NOT AUTHORIZED.
- CONTRACTOR SHALL ALSO PROVIDE A MUSHROOM TYPE RECEIVER AT THE CLOSE POSITION.



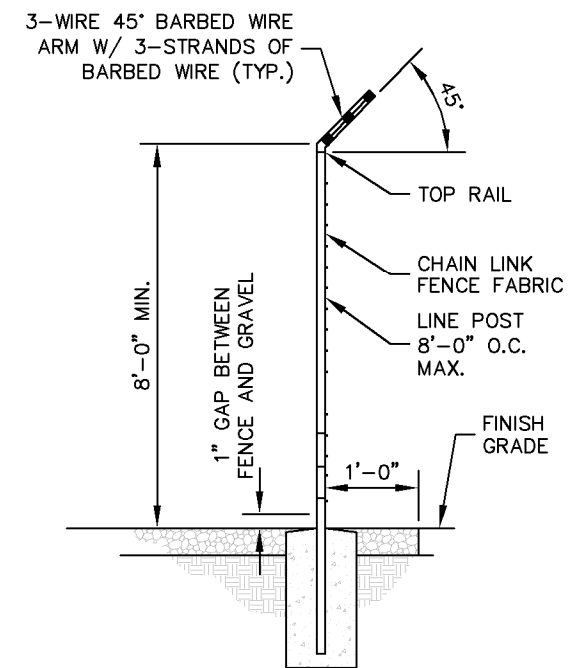
1 CHAIN LINK FENCE AND GATE ELEVATION
C7 NOT TO SCALE



2 MUSHROOM STOP
C7 NOT TO SCALE



3 SITE COMPOUND SURFACE DETAIL
C7 NOT TO SCALE



4 SECTION AT FENCE
C7 NOT TO SCALE

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700 PARK OF COMMERCE DRIVE
BOCA RATON FL 33487
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CHATHAM COUNTY

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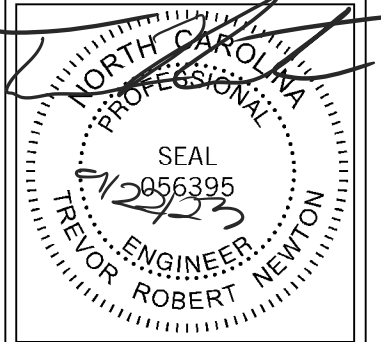
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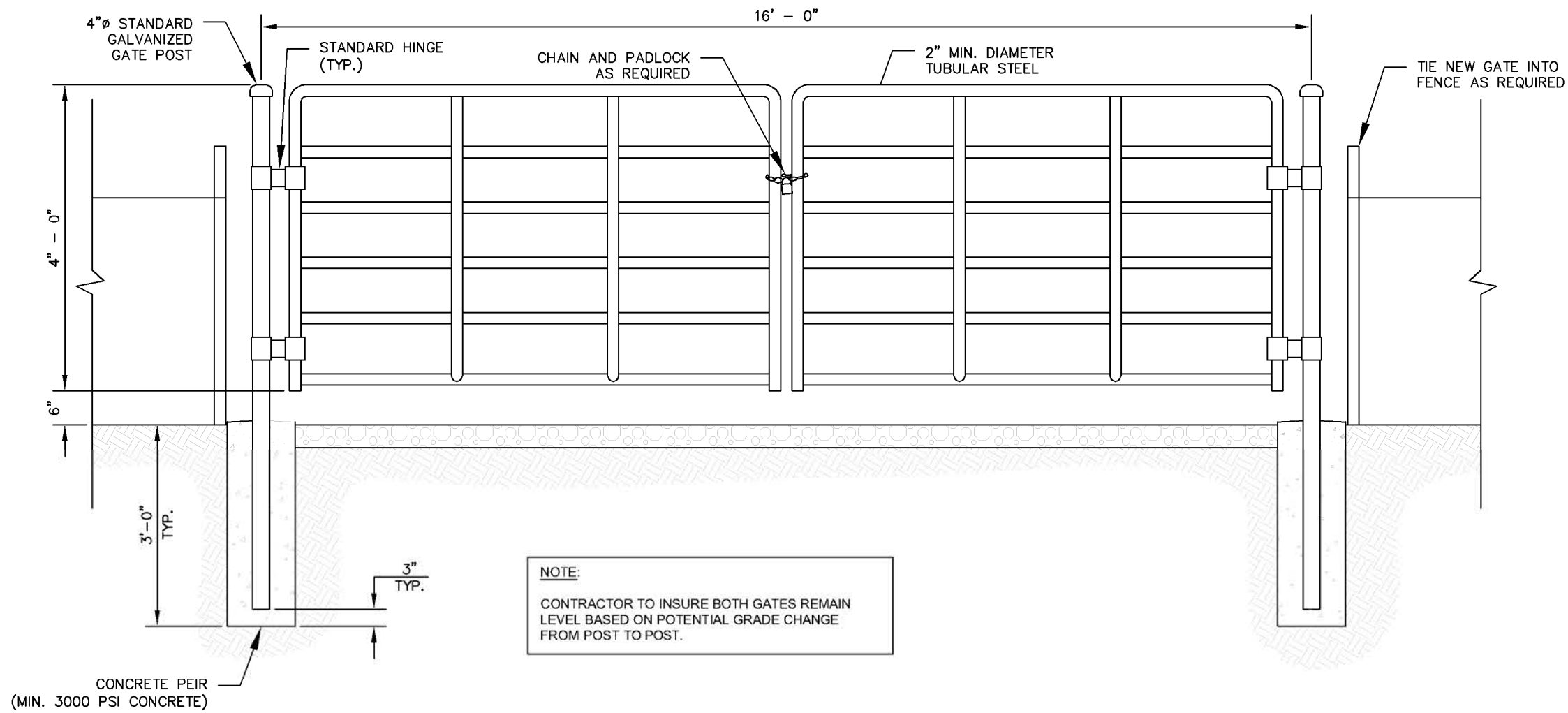
XQD DMF

SHEET TITLE:

FENCE, GATE, AND
COMPOUND
DETAILS

SHEET NUMBER:

C7



1 CATTLE GATE DETAILS
C7.1 NOT TO SCALE

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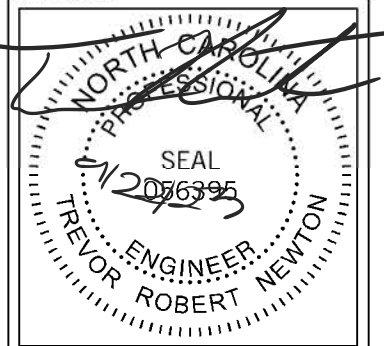
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DMF

SHEET TITLE:

CATTLE GATE
DETAILS

SHEET NUMBER:

C7.1

TAB 6-Constrction Drawings

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CHATHAM COUNTY

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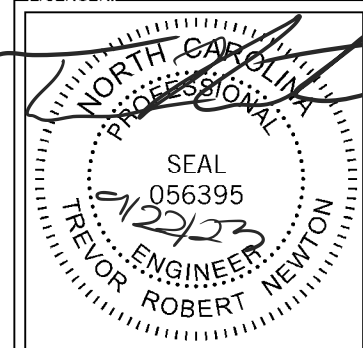
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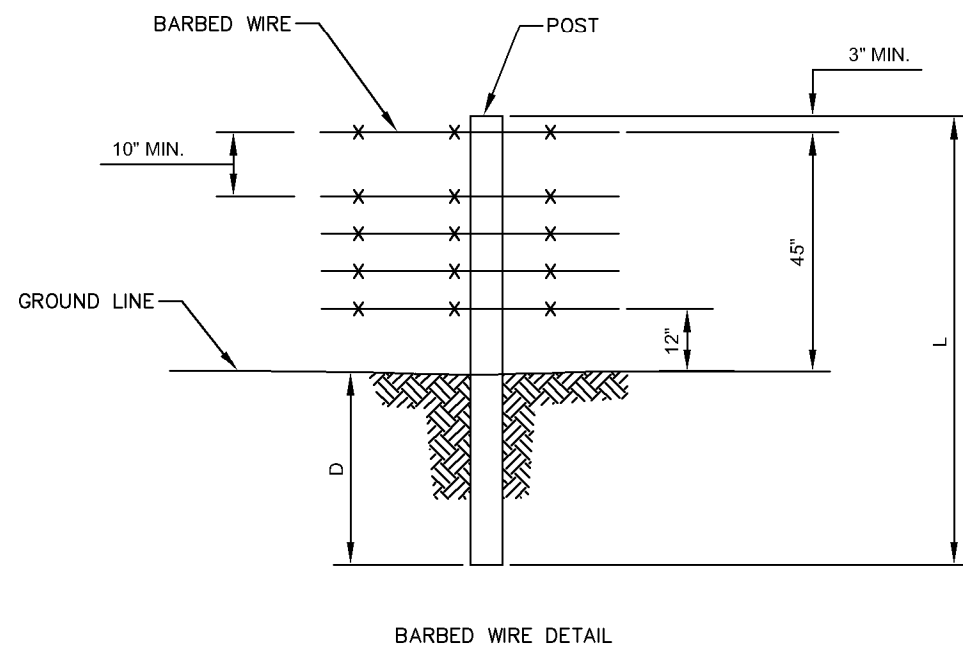
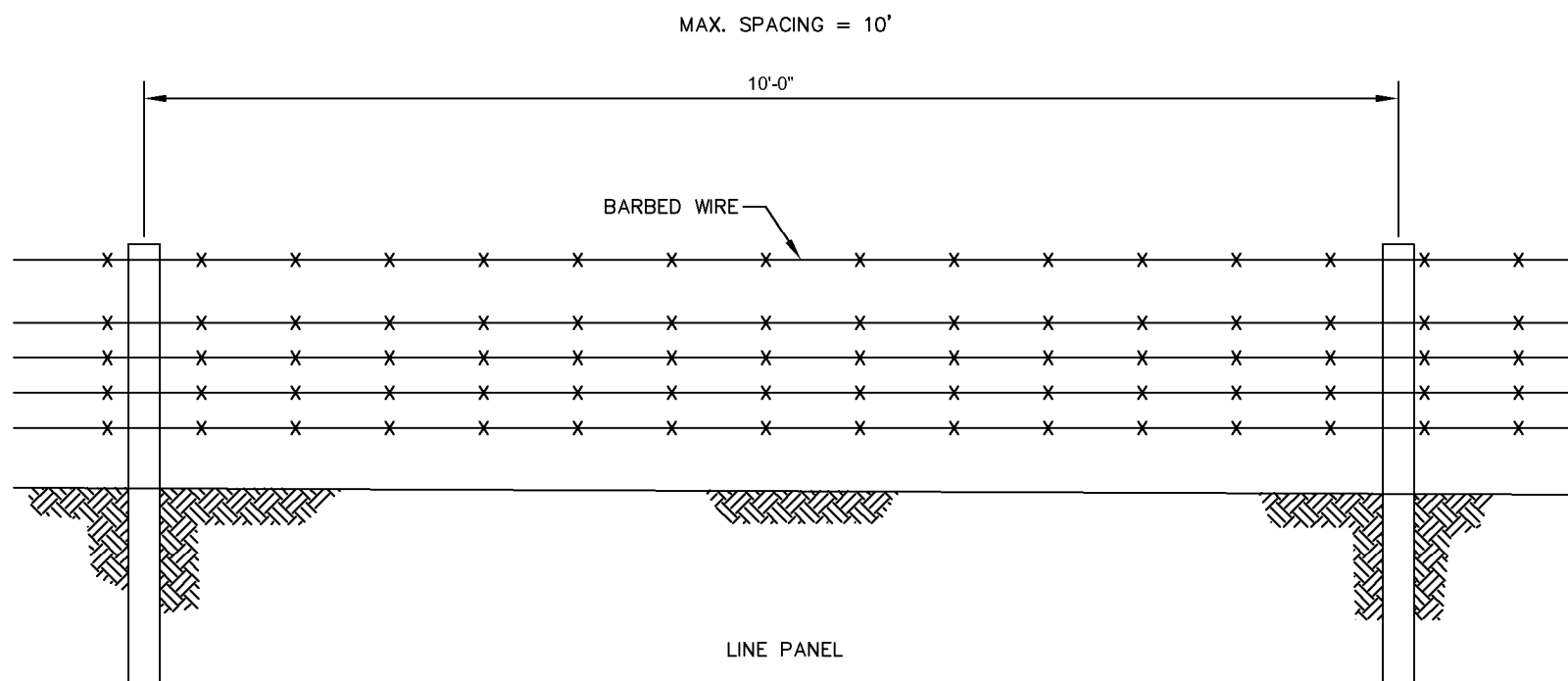
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SHEET TITLE:

CATTLE FENCE
DETAILS

SHEET NUMBER:

C7.2



BARBED WIRE: 12½ GAUGE CONVENTIONAL

2 TWISTED STRANDS WITH 14 GAUGE OR HEAVIER
FOUR POINT BARBS ON APPROX. 5 INCH CENTERS.

CLASS 1 (MIN. OR EQUIV.) ZINC-COATING AS PER
ASTM A-121.

LINE POSTS:

WOOD: L = 6 FT. MIN.
D = 24 IN. MIN.
DIA = 3 IN. MIN.

STEEL: L = 5½ FT. MIN.
D = 18 IN. MIN.
STANDARD "T" OR "U";
> 1.25 LBS/FT OF LENGTH.

CORNER/GATE POSTS:

WOOD: L = 7 FT. MIN.
D = 3 FT. MIN.
DIA = 5 IN. MIN.

NOTE: 5 WOOD POSTS PER CORNER.
(CORNER POST PLUS TWO
ADDITIONAL WOOD POSTS IN EACH
DIRECTION)

NOTE: ALL POSTS MUST BE
PLUMB AND ALIGNED
WITH ONE ANOTHER
IN BOTH HORIZONTAL
AND VERTICAL
PLANES.

1 CATTLE FENCE DETAILS
C7.2 NOT TO SCALE

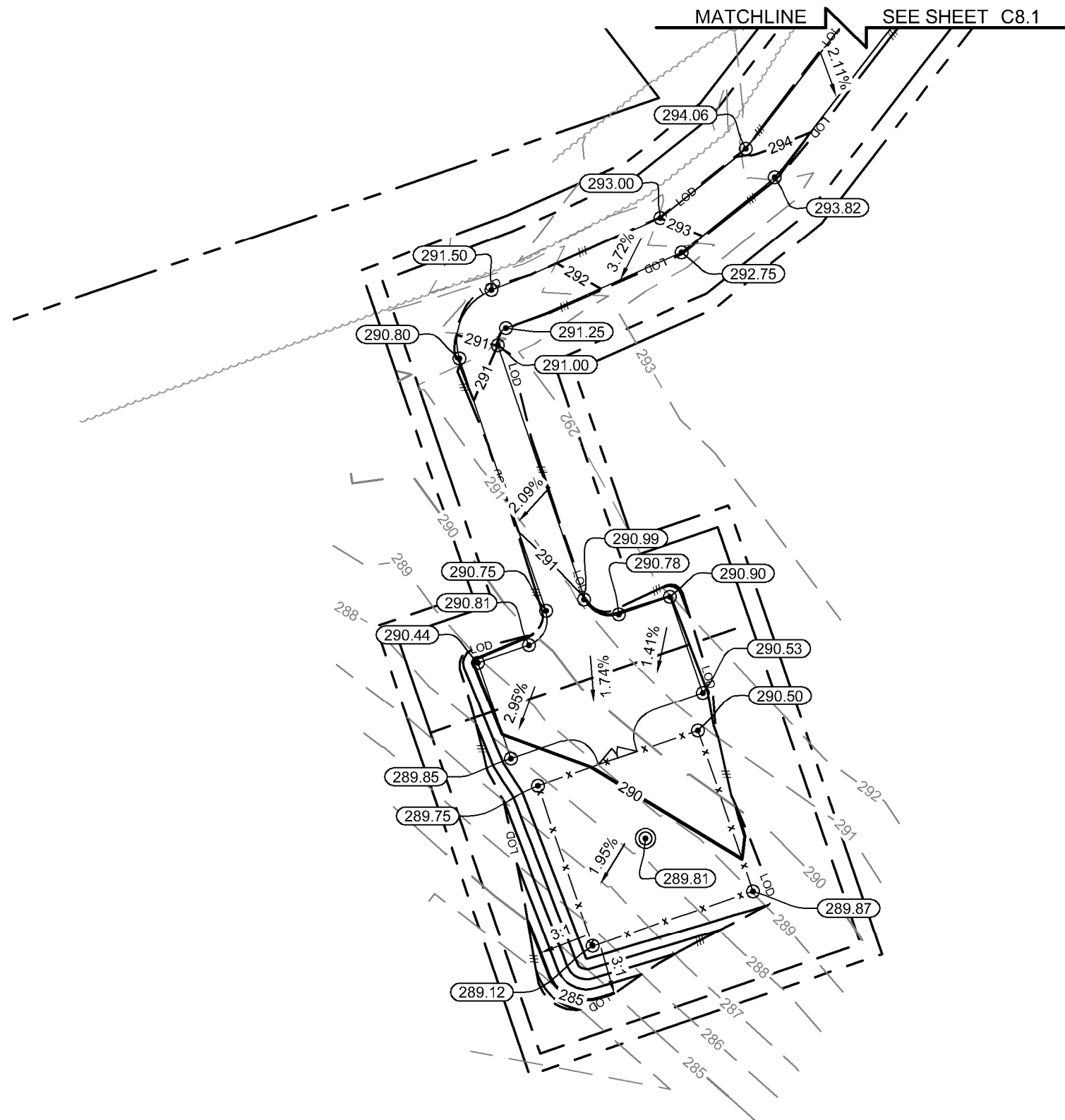
NOTE:
CURRENT DESIGN ANTICIPATES APPROXIMATELY 18,374± SQ. FT. (0.42 ACRES) OF CLEARING AND GRADING FOR THE PROPOSED PROJECT. IF ADDITIONAL CLEARING IS REQUIRED BEYOND WHAT IS SHOWN IN THE PLANS THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND/OR PROJECT MANAGER. IF DURING THE BID WALK OR CONSTRUCTION IT 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.

GRADING NOTES:

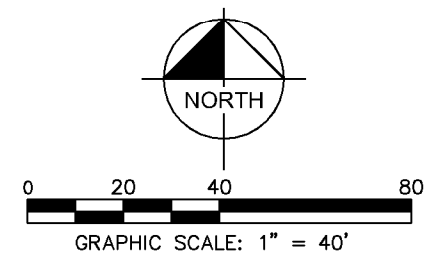
1. THE CONTRACTOR SHALL CLEAR AND GRUB THE SITE AND PLACE, COMPACT, AND MOISTURE CONDITION ALL FILL PER THE PROJECT GEOTECHNICAL ENGINEERS SPECIFICATIONS. FILL MATERIAL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT.
2. ALL PROPOSED CONTOURS AND SPOT ELEVATIONS REFLECT FINISHED GRADES.
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 C9.
9. MAXIMUM CUT SLOPE = 2H:1V UNLESS OTHERWISE NOTED.
10. MAXIMUM FILL SLOPE = 3H:1V UNLESS OTHERWISE NOTED.

LEGEND

- EXISTING CONTOURS - - - - -
- PROPOSED CONTOURS _____
- LOD/SILT FENCE — — — LOD — — — ///
- TPF ————— TPF ————— TPF —————
- EXISTING SPOT ELEVATION x XXX
- PROPOSED SPOT ELEVATION ● XXX



1 GRADING & EROSION CONTROL PLAN
C8 SCALE: 1" = 40'



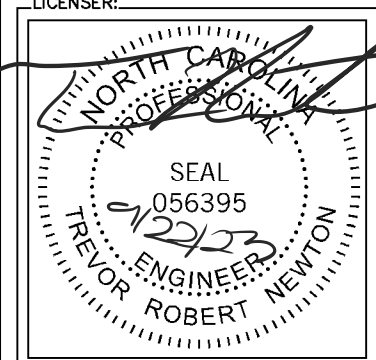
verticalbridge
700 PARK OF COMMERCE DRIVE
BOCA RATON FL 33487
TEL: (561) 948-6367

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CHATHAM COUNTY

PLANS PREPARED BY:
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KHA PROJECT NUMBER:
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DRAWN BY: XQD **CHECKED BY:** DMF

SHEET TITLE:
GRADING AND EROSION CONTROL PLAN

SHEET NUMBER:
C8

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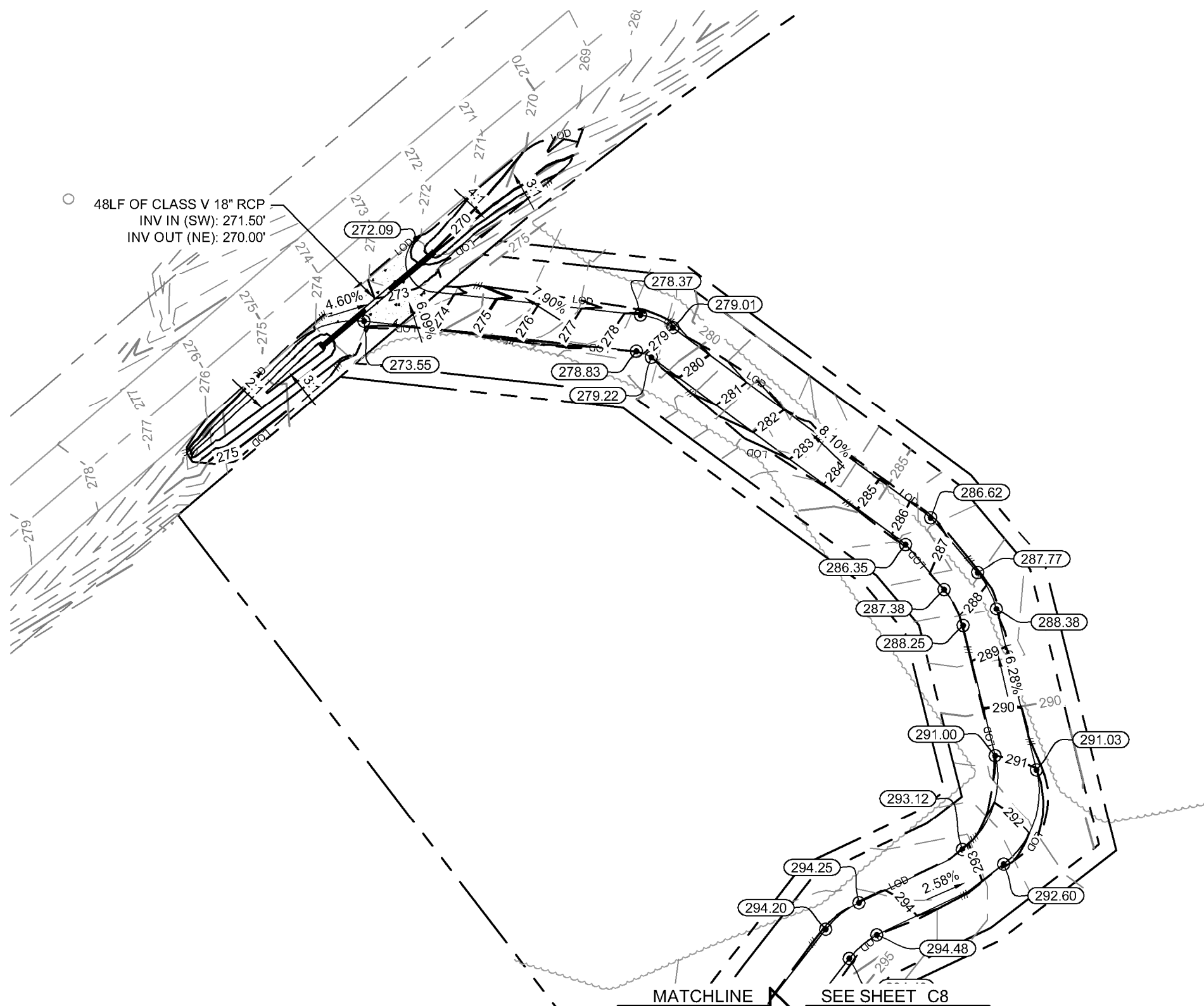
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GRADING NOTES:

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10. MAXIMUM FILL SLOPE = 3H:1V UNLESS OTHERWISE NOTED.

LEGEND

- EXISTING CONTOURS ————
- PROPOSED CONTOURS ————
- LOD/SILT FENCE ——— LOD ——— ///
- TPF ——— TPF ——— TPF ———
- EXISTING SPOT ELEVATION x XXX
- PROPOSED SPOT ELEVATION ● XXX



1 GRADING & EROSION CONTROL PLAN
C8.1 SCALE: 1" = 40'

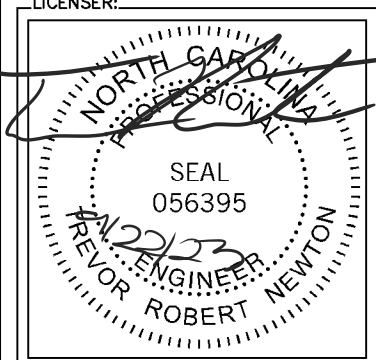
verticalbridge
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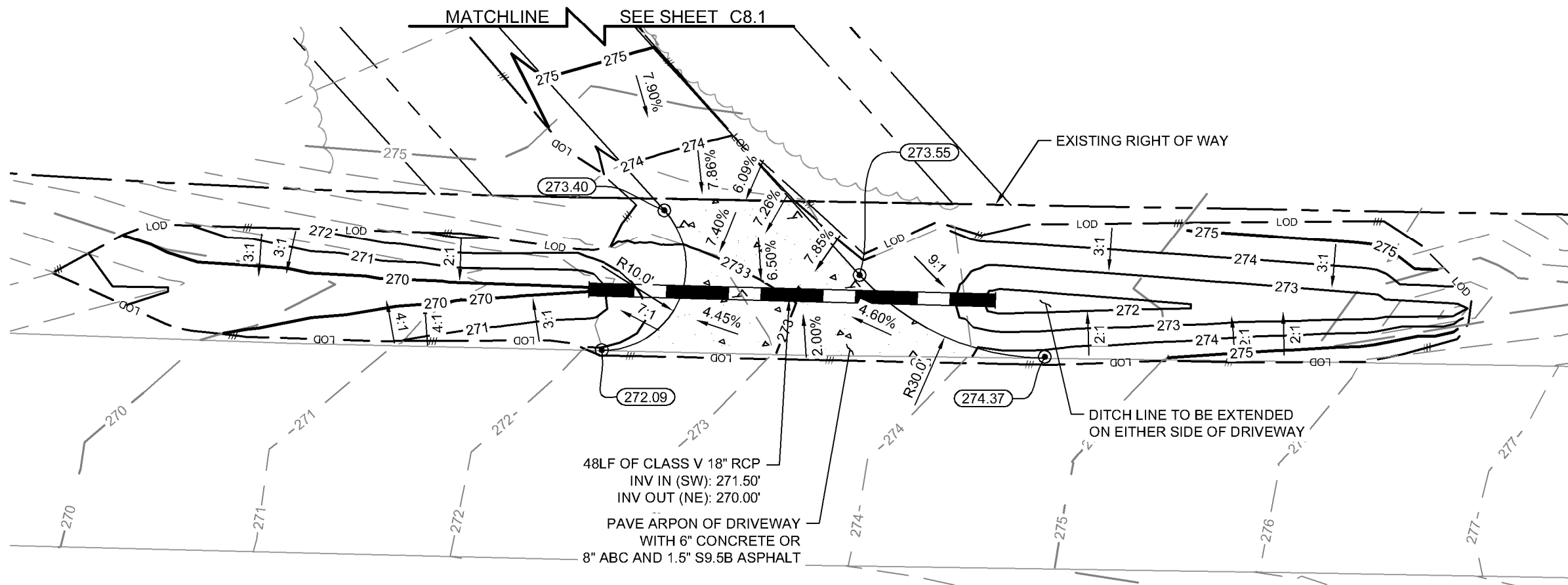


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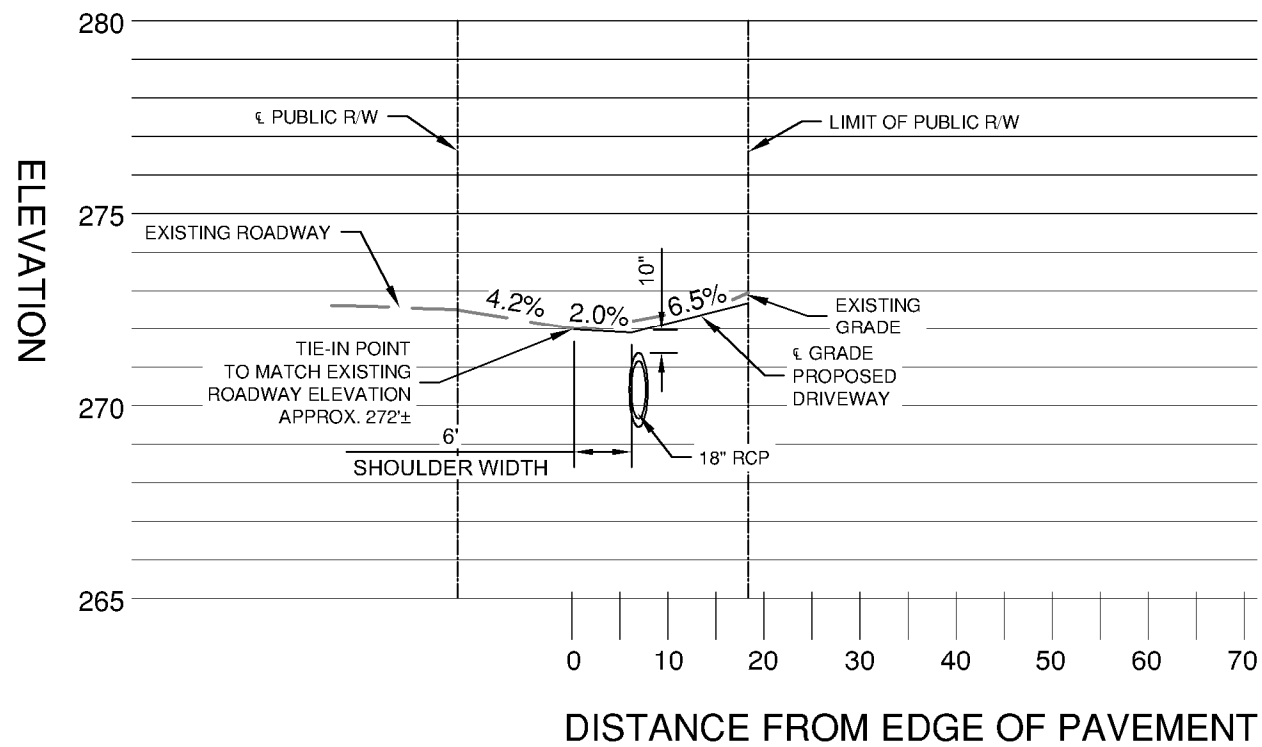
SHEET TITLE: GRADING AND EROSION CONTROL PLAN

SHEET NUMBER: C8.1

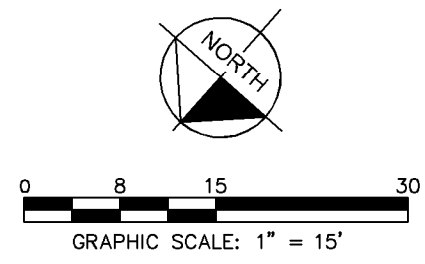
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1 DRIVEWAY PLAN
C8.2 SCALE: 1" = 15'



2 DRIVEWAY PROFILE
C8.2 SCALE: H:20, V:5



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LICENSER:
SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER
056395
TREVOR ROBERT NEWTON
09/22/23

KHA PROJECT NUMBER:
013291005
DRAWN BY: XQD CHECKED BY: DMF

SHEET TITLE:
DRIVEWAY PLAN AND PROFILE

SHEET NUMBER:
C8.2

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EROSION CONTROL NOTES:

1. EROSION CONTROLS 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 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 (lb/acre)
Rye (grain)	120
Annual lespedeza (Kobe in Piedmont and Coastal Plain, Korean in Mountains)	50

Omit annual lespedeza when duration of temporary cover is not to extend beyond June.

SEEDING DATES

Mountains-- Above 2500 ft:	Feb 15 - May 15
Below 2500 ft.:	Feb. 1 - May 1
Piedmont--Jan. 1 - May 1	
Coastal Plain--Dec. 1 - Apr. 15	

SOIL AMENDMENTS

Follow recommendations of soil tests or 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 tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.

MAINTENANCE

Refertilize if growth is not fully adequate. Reseed, refertilize and mulch immediately following erosion or other damage.

SEEDING SCHEDULE FOR SUMMER CONSTRUCTION ACTIVITIES

SEEDING MIXTURE

Species	Rate (lb/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

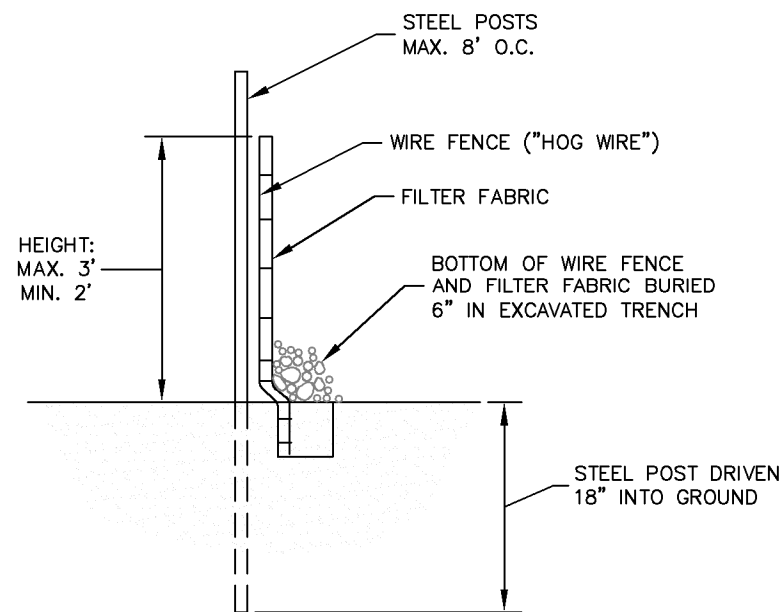
Apply lime and fertilizer according to soil tests, or apply 3,000 lb/acre ground agricultural limestone and 500 lb/acre 10-10-10 fertilizer.

MULCH

Use jute, excelsior 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 drainages not requiring temporary lining, apply 4,000 lb/acre grain straw and anchor straw by stapling netting over the top.

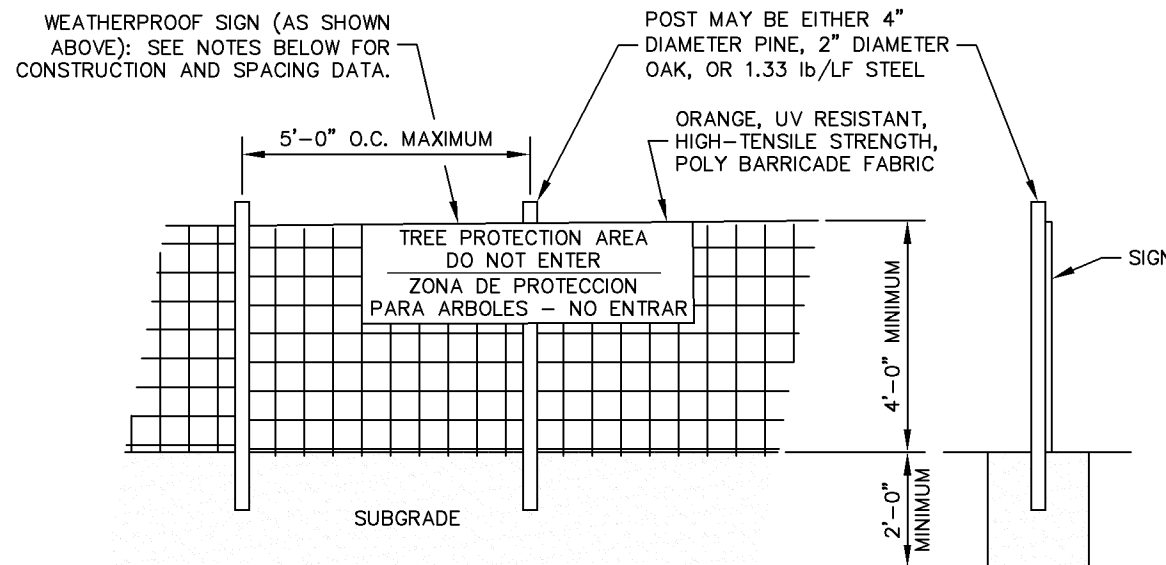
MAINTENANCE

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



SECTION

1 SEDIMENT FENCE (SILT FENCE)
C9 NOT TO SCALE



NOTES
INSTALL TREE PROTECTION FENCE AND SIGNAGE PRIOR TO CALLING FOR SITE INSPECTION. MAINTAIN TREE PROTECTION FENCE THROUGHOUT DURATION OF PROJECT. ADDITIONAL SIGNS MAY BE REQUIRED BASED ON ACTUAL FIELD CONDITIONS.

2 TREE PROTECTION FENCE
C9 NOT TO SCALE

verticalbridge
700 PARK OF COMMERCE DRIVE
BOCA RATON FL 33487
TEL: (561) 948-6367

PROJECT INFORMATION:

SITE NAME:
CROSSPOINT
SITE No.: US-NC-5292
PROJECT #: 2112981
NC HIGHWAY 42
MONCURE, NC 27559
CHATHAM COUNTY

PLANS PREPARED BY:

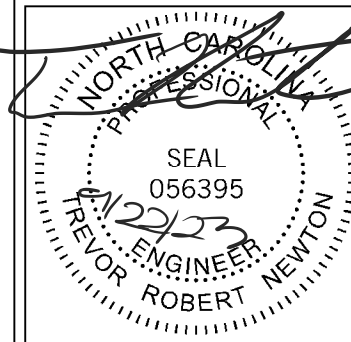
Kimley»Horn

11720 AMBER PARK DRIVE, SUITE 600
ALPHARETTA, GA 30009
PHONE: 770-619-4280
WWW.KIMLEY-HORN.COM
NC License F-0102

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0	09/19/23	CONSTRUCTION	TRN

LICENSER:



KHA PROJECT NUMBER:

013291005

DRAWN BY: CHECKED BY:

XQD

DMF

SHEET TITLE:

GRADING AND
EROSION
CONTROL DETAILS

SHEET NUMBER:

C9

verticalbridge
700 PARK OF COMMERCE DRIVE
BOCA RATON FL 33487
TEL: (561) 948-6367

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CHATHAM COUNTY

PLANS PREPARED BY:

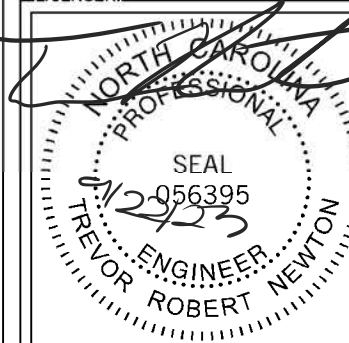
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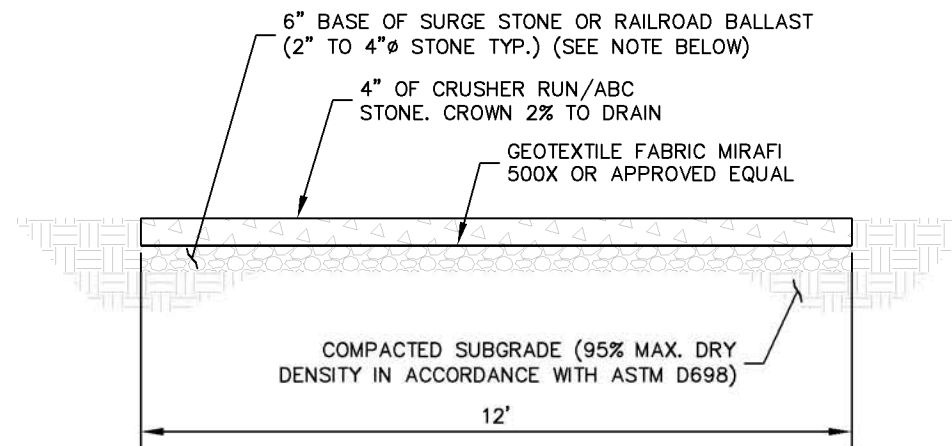
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SHEET TITLE:

ACCESS ROAD
DETAILS

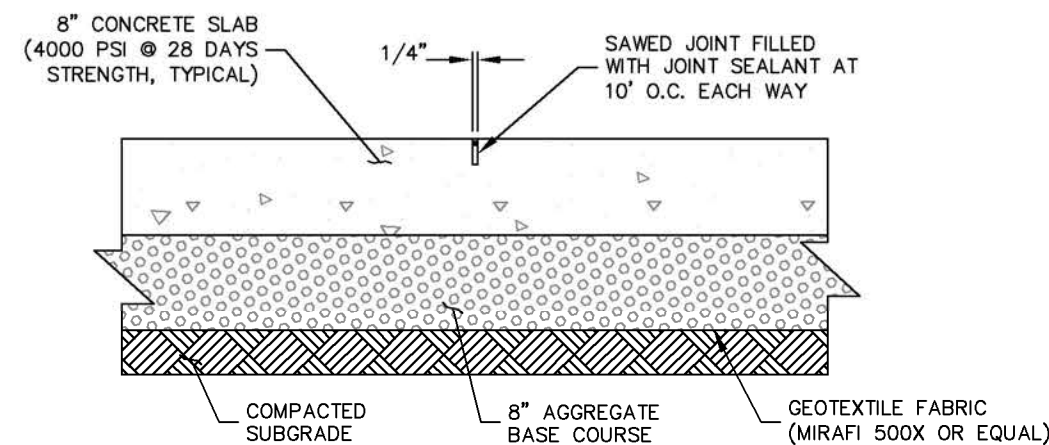
SHEET NUMBER:

C10



NOTE:
IF DETERMINED NECESSARY DURING GRADING AND CONSTRUCTION OF THE ACCESS ROAD BY THE VERIZON WIRELESS PROJECT MANAGER, THE CONTRACTOR SHALL INSTALL 6" BASE OF SURGE STONE OR RAILROAD BALLAST (2" TO 4" Ø STONE TYP.)

2 STANDARD ACCESS ROAD AND TURN-AROUND DETAIL
NOT TO SCALE

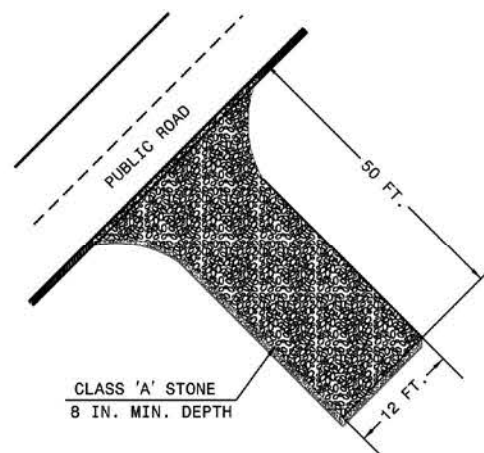


JOINT SHALL BE SAWED IMMEDIATELY AFTER INITIAL SET, BEFORE CONCRETE BEGINS TO COOL, AS SOON AS CONCRETE SURFACE IS FIRM ENOUGH NOT TO BE DAMAGED BY THE BLADE, AND BEFORE RANDOM DRYING SHRINKAGE CRACKS CAN FORM.

3 CONCRETE PAVEMENT DETAIL
NOT TO SCALE

NOTES:

1. PROVIDE TURNING RADIUS SUFFICIENT TO ACCOMMODATE LARGE TRUCKS.
2. LOCATE ENTRANCES TO PROVIDE FOR UTILIZATION BY ALL CONSTRUCTION VEHICLES.
3. MUST BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR DIRECT FLOW OF MUD ONTO STREETS. PERIODIC TOPDRESSING WITH STONE WILL BE NECESSARY.
4. ANY MATERIAL TRACKED ONTO THE ROADWAY MUST BE CLEANED UP IMMEDIATELY.
5. LOCATE GRAVEL CONSTRUCTION ENTRANCE AT ALL POINTS OF INGRESS AND EGRESS UNTIL SITE IS STABILIZED. PROVIDE FREQUENT CHECKS OF THE DEVICE AND TIMELY MAINTENANCE.
6. NUMBER AND LOCATION OF CONSTRUCTION ENTRANCES TO BE DETERMINED BY THE ENGINEER.
7. USE CLASS 'A' STONE OR OTHER COARSE AGGREGATE APPROVED BY THE ENGINEER.
8. INSTALL CONSTRUCTION ENTRANCES IN A WAY TO PREVENT VEHICLES FROM BYPASSING CONSTRUCTION ENTRANCE LEAVING PROJECT SITE.



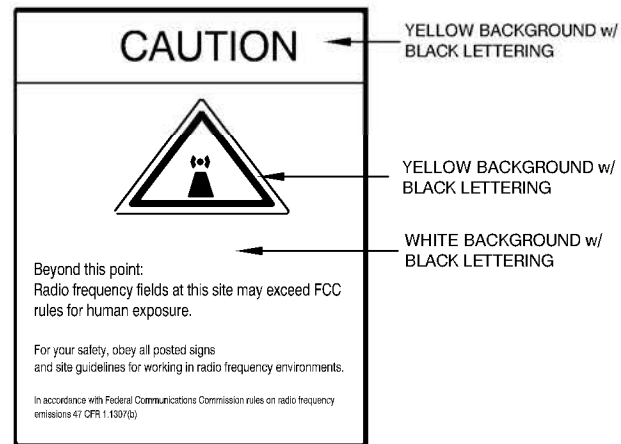
NOTE: PLACE GEOTEXTILE FOR DRAINAGE BENEATH STONE

1 CONSTRUCTION ENTRANCE
NOT TO SCALE

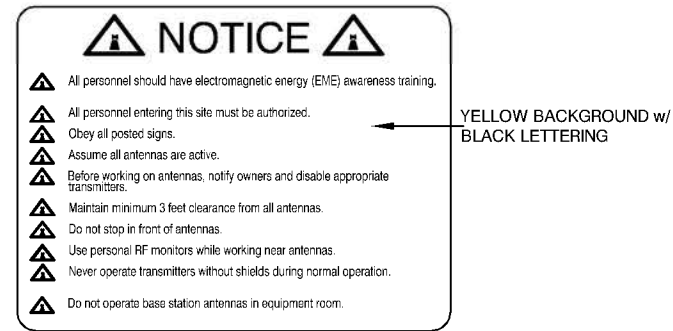
K:\ATL_Wireless\Vertical_Bridge\US-NC-5292_Crosspoint\CAD\GB\ECar-GB.dwg ----- 09/22/23 10:28 AM by: christopher.strange



① VERTICAL BRIDGE - SITE ID SIGN



② RF EXPOSURE CAUTION SIGN



③ NOTICE-RFE SIGN
12" HIGH X 18" WIDE
(OPERATIONS PROVIDED)

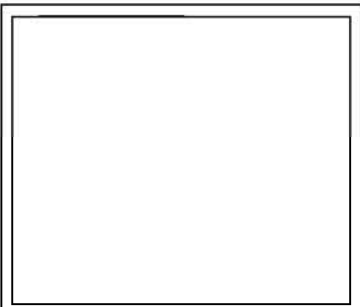
SIGNAGE NOTES:

- SIGNS SHALL BE FABRICATED FROM CORROSION RESISTANT PRESSED METAL, AND PAINTED WITH LONG LASTING UV RESISTANT COATINGS.
- 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 AS THE STRUCTURE TO AVOID GALVANIC CORROSION.
- ADDITIONAL SITE # AND EMERGENCY CONTACT SIGNS SHALL BE MOUNTED AT EACH ACCESS ROAD GATE LEADING TO THE COMPOUND AS WELL AS THE COMPOUND GATE ITSELF.
- CARRIER SITE # AND EMERGENCY CONTACT SIGNS SHALL BE MOUNTED ON THE EQUIPMENT CABINET W/ PERMANENT SET ADHESIVE. TWO SIDED TAPE SHALL BE UTILIZED AT EACH CORNER ON THE BACKSIDE TO AID PLACEMENT UNTIL ADHESIVE SETS.

verticalbridge
700 PARK OF COMMERCE DRIVE
BOCA RATON FL 33487
TEL: (561) 948-6367

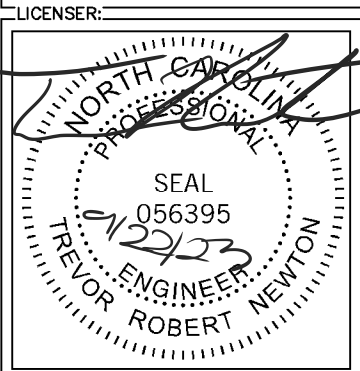
PROJECT INFORMATION:
SITE NAME:
CROSSPOINT
SITE No.: US-NC-5292
PROJECT #: 2112981
NC HIGHWAY 42
MONCURE, NC 27559
CHATHAM COUNTY

PLANS PREPARED BY:
Kimley»Horn
11720 AMBER PARK DRIVE, SUITE 600
ALPHARETTA, GA 30009
PHONE: 770-619-4280
WWW.KIMLEY-HORN.COM
NC License F-0102



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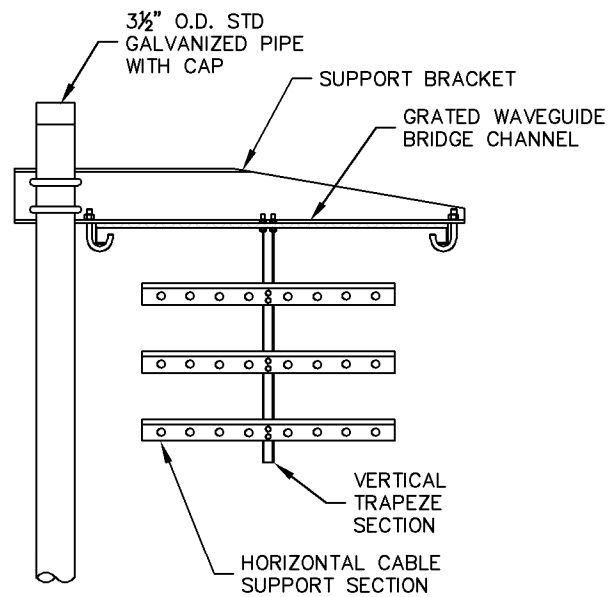
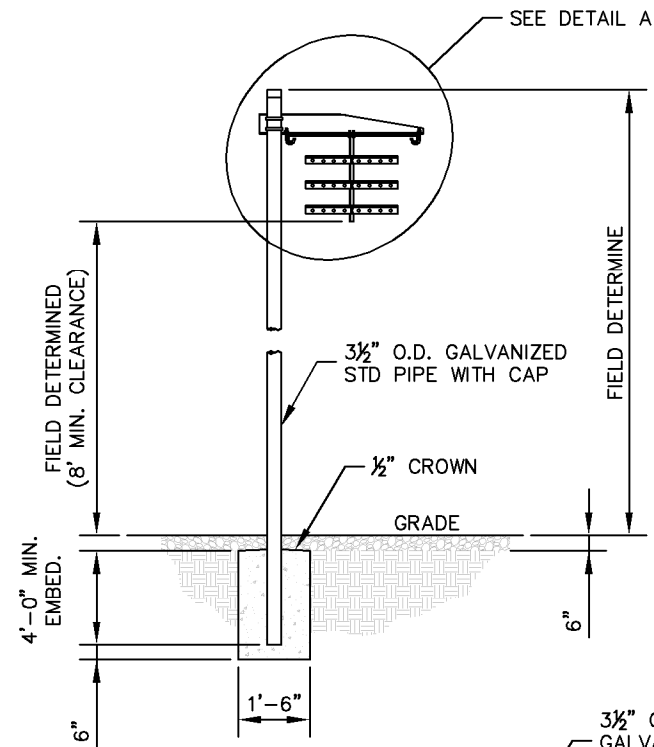


KHA PROJECT NUMBER:
013291005

DRAWN BY: XQD CHECKED BY: DMF

SHEET TITLE:
**SITE SIGNAGE
DETAILS**

SHEET NUMBER:
C11



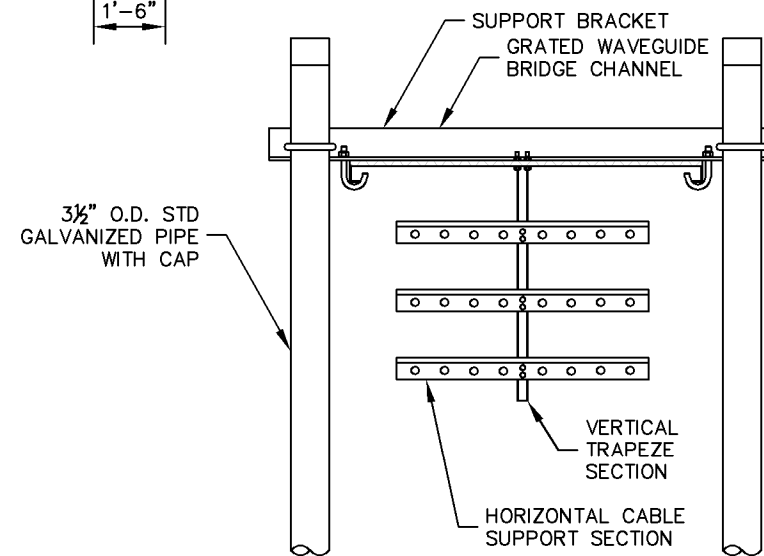
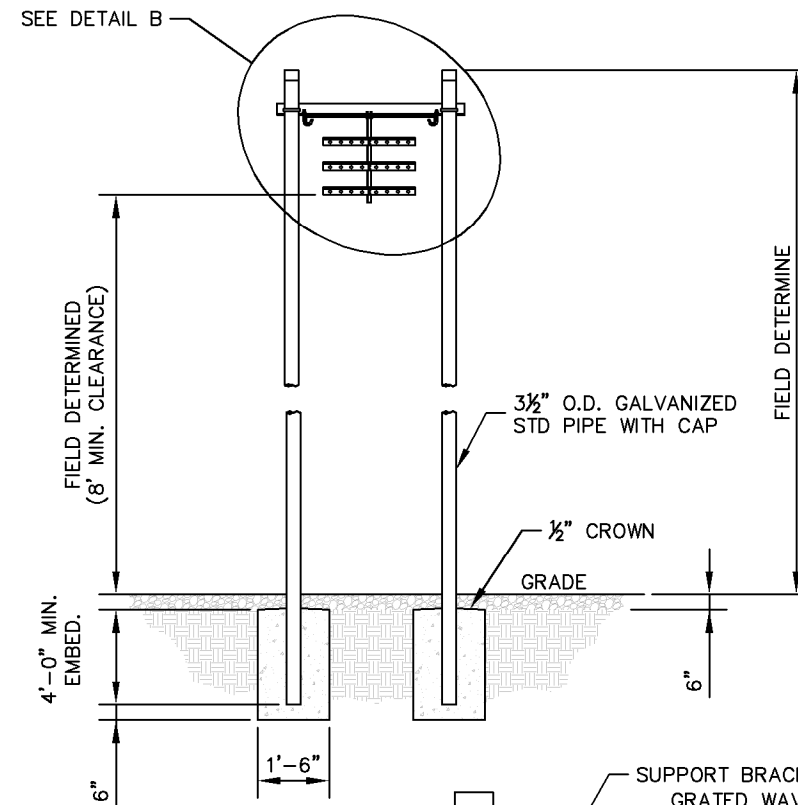
DETAIL A

ANDREW 1 POST WAVEGUIDE BRIDGE KIT (PART #: WB-K210-B15, OR APPROVED EQUIVALENT)

NOTE:

1. ALL MATERIALS FURNISHED BY CONTRACTOR UNLESS OTHERWISE NOTED.

1 WAVEGUIDE BRIDGE DETAIL
C12 NOT TO SCALE



DETAIL B

ANDREW 2 POST WAVEGUIDE BRIDGE KIT (PART #: WB-K410-B15, OR APPROVED EQUIVALENT)

NOTE:

1. ALL MATERIALS FURNISHED BY CONTRACTOR UNLESS OTHERWISE NOTED.

2 WAVEGUIDE BRIDGE DETAIL (ALT DESIGN - 2 PIPE COLUMNS)
C12 NOT TO SCALE

verticalbridge
700 PARK OF COMMERCE DRIVE
BOCA RATON FL 33487
TEL: (561) 948-6367

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PROJECT #: 2112981
NC HIGHWAY 42
MONCURE, NC 27559
CHATHAM COUNTY

PLANS PREPARED BY:

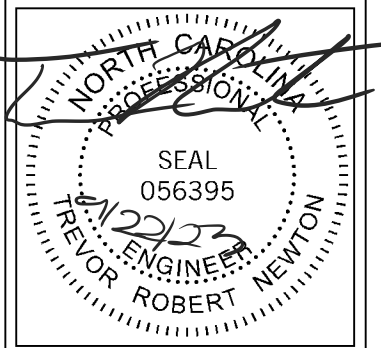
Kimley»Horn

11720 AMBER PARK DRIVE, SUITE 600
ALPHARETTA, GA 30009
PHONE: 770-619-4280
WWW.KIMLEY-HORN.COM
NC License F-0102

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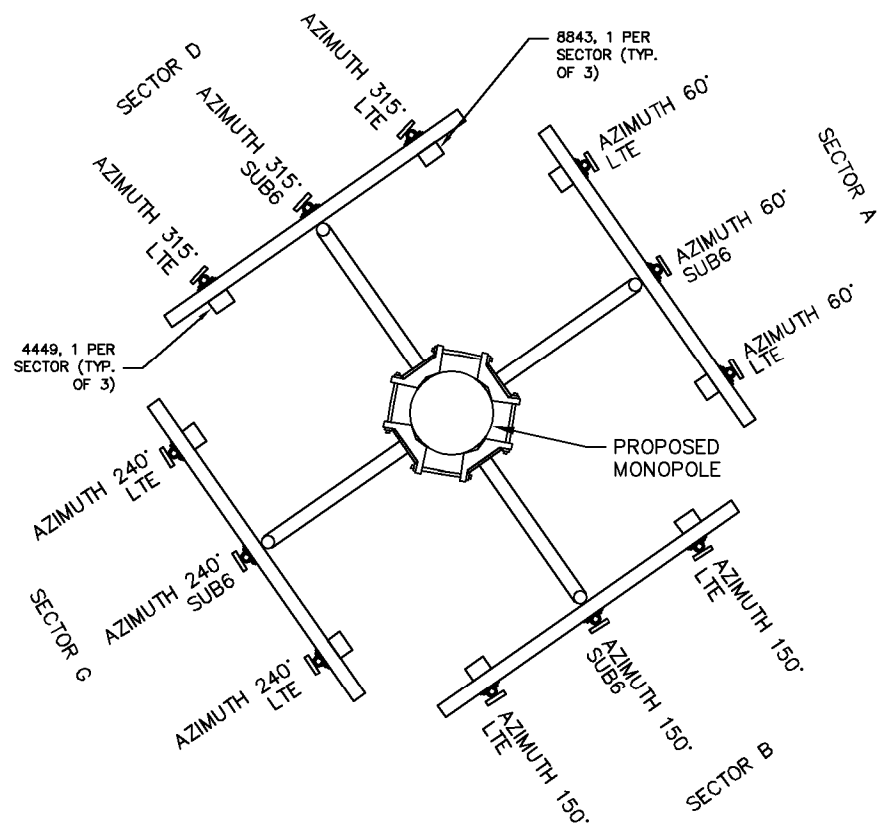
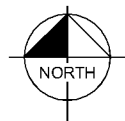
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SHEET TITLE:

WAVEGUIDE BRIDGE DETAILS

SHEET NUMBER:

C12



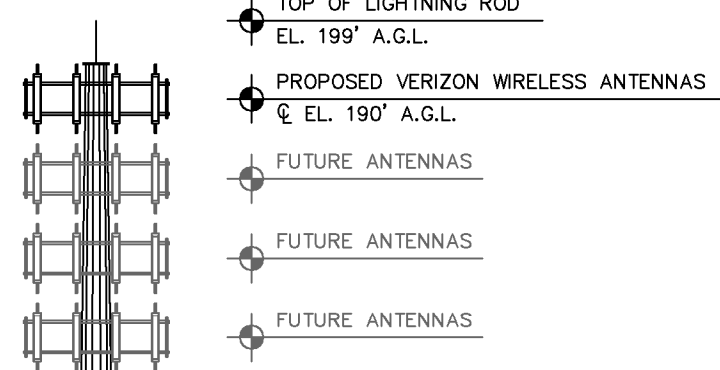
1 ANTENNA ORIENTATION PLAN
 (NOT TO SCALE, FOR ILLUSTRATIVE PURPOSES ONLY, SEE STRUCTURAL ANALYSIS BY OTHERS TO CONFIRM ANTENNA MOUNT TYPE)

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

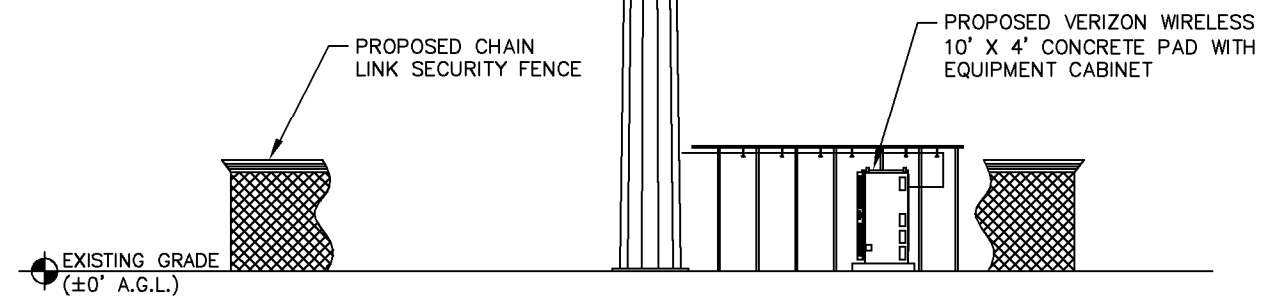
NOTES:
 1. ALL INFORMATION ON THIS PAGE IS PROVIDED BY VERIZON WIRELESS AND/OR OTHERS AND IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. CONTRACTOR SHALL CONTACT THE VERIZON WIRELESS CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION FOR ALL DETAILED ANTENNA, AND COAX CABLE INFORMATION.
 2. REFER TO STRUCTURAL ANALYSIS 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.

NOTE: GENERAL CONTRACTOR TO INSTALL RAYCAP OVP, NUMBER AND TYPE PER VERIZON CONSTRUCTION MANAGER.

TOP OF TOWER
 EL. 195' A.G.L.



PROPOSED 195' MONOPOLE TOWER



2 MONOPOLE TOWER ELEVATION
 NOT TO SCALE

NOTES:
 1. ALL PROPOSED 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 GALVANIZED STEEL-GRAY IN COLOR.

verticalbridge
 700 PARK OF COMMERCE DRIVE
 BOCA RATON FL 33487
 TEL: (561) 948-6367

PROJECT INFORMATION:
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 PROJECT #: 2112981
 NC HIGHWAY 42
 MONCURE, NC 27559
 CHATHAM COUNTY

PLANS PREPARED BY:
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 11720 AMBER PARK DRIVE, SUITE 600
 ALPHARETTA, GA 30009
 PHONE: 770-619-4280
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FOR ILLUSTRATIVE PURPOSES ONLY- NO SIGNATURE REQUIRED

KHA PROJECT NUMBER:
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 DRAWN BY: _____ CHECKED BY: _____
 XQD DMF

SHEET TITLE:
ANTENNA AND TOWER ELEVATION DETAILS

SHEET NUMBER:
C13

K:\ATL_Wireless\Vertical_Bridge\US-NC-5292_Crosspoint\CAD\GBL\ECar-GBL.dwg 09/22/23 10:28 AM by: christopher.strange

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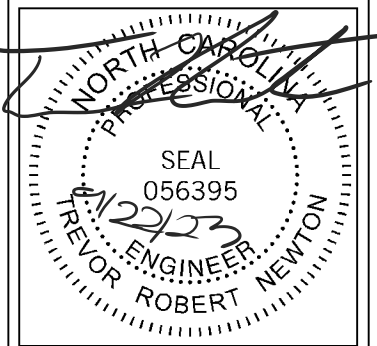
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SHEET TITLE:

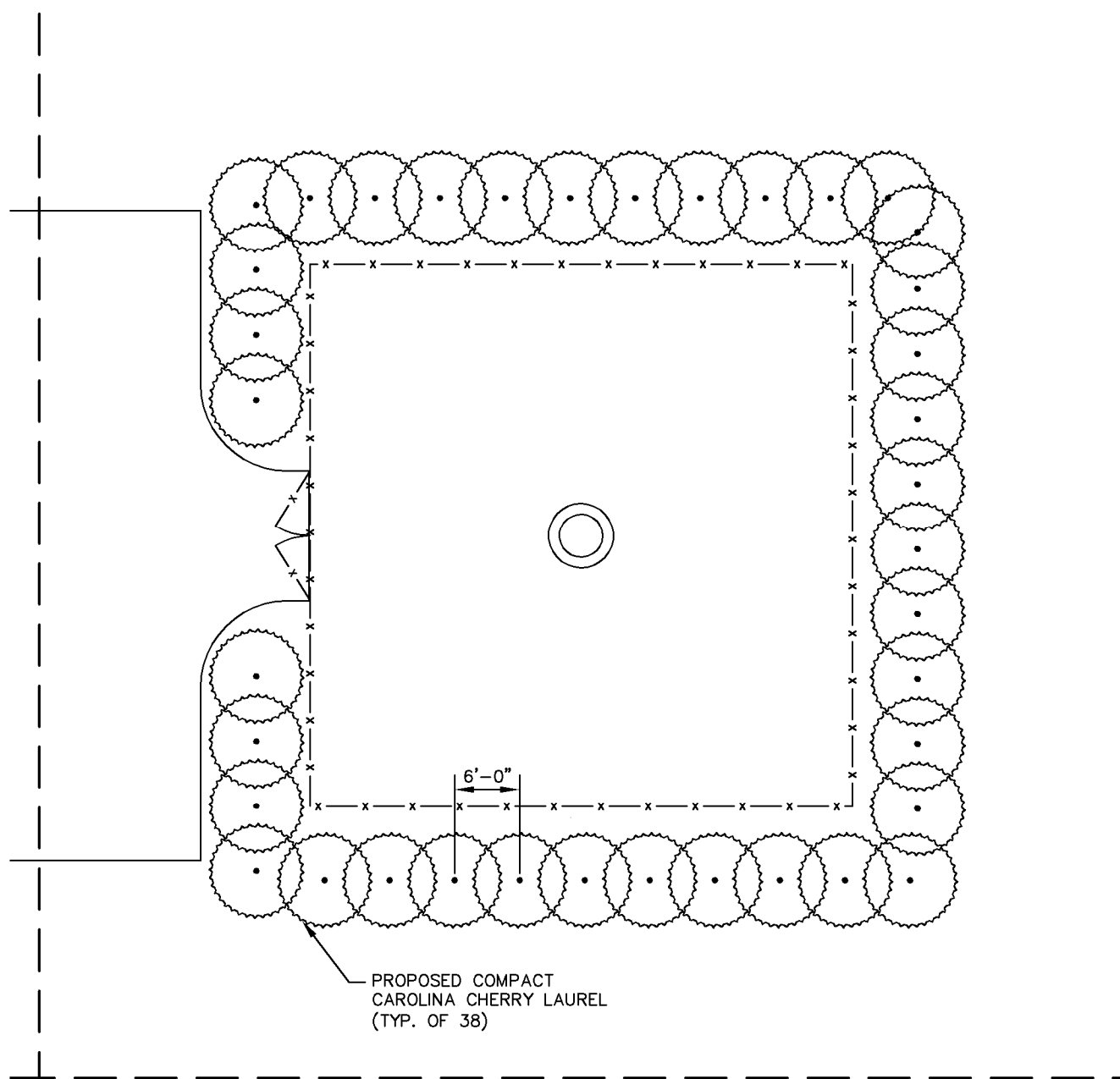
LANDSCAPING
PLAN

SHEET NUMBER:

L1

GENERAL LANDSCAPE NOTES:

1. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF HIS WORK WITH THAT OF ALL OTHER CONTRACTORS. THIS PLAN DOES NOT GUARANTEE THE EXISTENCE OR NON-EXISTENCE OF ANY UTILITIES. PRIOR TO COMMENCEMENT OF ANY WORK, THE LANDSCAPE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL ABOVE GROUND AND UNDERGROUND UTILITIES.
2. THE QUALITY AND SIZE OF ALL PLANT MATERIAL SHALL CONFORM TO THE MOST CURRENT STANDARDS AS SET FORTH IN ANSI Z60.180 - AMERICAN STANDARD FOR NURSERY STOCK.
3. ALL DISTURBED AREAS NOT COVERED BY HARDSCAPE OR PLANT MATERIALS SHALL BE COVERED WITH SEED AND STRAW.
4. PLANT SUBSTITUTION MAY BE PERMITTED ONLY AFTER PROOF THAT SPECIFIED PLANTS ARE UNAVAILABLE AND THE REQUEST HAS BEEN SUBMITTED TO THE OWNER OR LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL PROVIDE THE NEAREST EQUIVALENT OBTAINABLE SIZE AND VARIETY OF THE PLANT HAVING THE SAME ESSENTIAL CHARACTERISTICS AS THE PLANT SPECIFIED
5. MINOR PLANT LOCATION ADJUSTMENTS MAY BE MADE IN THE FIELD TO ENSURE ACCESS TO UTILITY JUNCTION BOXES, FREE SITE LIGHTING OF FUTURE TREE CANOPY INTERFERENCE AND ALLOW UNINHIBITED PEDESTRIAN / VEHICULAR CIRCULATION ON ALL PAVEMENTS OR FOUNDATIONS.
6. ALL SHRUB MASSES OF TWO OR MORE SHALL BE EDGED INTO A PLANTING BED AND MULCHED PER DETAIL. ALL INDIVIDUAL TREES AND SHRUBS SHALL HAVE A MULCH SAUCER EQUAL IN DIAMETER TO THE PLANTING PIT DIAMETER AND SHALL BE MULCHED AS SHOWN ON THE DETAILS. UNLESS OTHERWISE INDICATED, ALL BED EDGES SHALL BE A DEEP CUT CLEAN SPADE EDGE.
7. THE CONTRACTOR SHALL VERIFY THAT EACH TREE OR SHRUB PIT WILL DRAIN BEFORE INSTALLING PLANT MATERIAL. HE SHALL FILL THE HOLE WITH SIX INCHES (6") OF WATER THAT SHOULD PERCOLATE OUT WITHIN TWENTY-FOUR HOURS. SHOULD ANY AREA NOT DRAIN PROPERLY, A PERFORATED DRAIN LINE SHALL BE INSTALLED, OR THE PLANTS RELOCATED.
8. THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY IF HE ENCOUNTERS ANY UNSUITABLE SURFACE OR SUBSURFACE DRAINAGE CONDITIONS, SOIL DEPTH, LATENT SOILS, HARD PAN, UTILITY LINES, OR OTHER CONDITIONS THAT WILL JEOPARDIZE THE HEALTH AND VIGOR OF THE PLANTS. SHOULD THE CONTRACTOR NOT NOTIFY THE OWNER OF A PROBLEM AREA, HE WARRANTS THAT THE AREAS ARE SUITABLE FOR PROPER GROWTH AND DEVELOPMENT OF ALL PLANTS INSTALLED.
9. THE CONTRACTOR SHOULD VERIFY LANDSCAPING/TREE PLANTING LOCATIONS WITH THE PUBLIC UTILITIES DEPARTMENT TO AVOID CONFLICTS WITH WATER, SEWER, AND GAS LINES.
10. PLANTS SHALL BE SO TRAINED IN DEVELOPMENT AND APPEARANCE AS TO BE UNQUESTIONABLE SUPERIOR IN FORM, COMPACTNESS AND SYMMETRY. THEY SHALL BE SOUND, HEALTHY, VIGOROUS, WELL BRANCHED AND DENSELY FOLIATED WHEN IN LEAF, AND FREE OF DISEASE AND INSECT ADULT EGGS, PUPAE OR LARVAE. THEY SHALL HAVE HEALTHY, WELL-DEVELOPED ROOT SYSTEMS AND SHALL BE FREE FROM PHYSICAL DAMAGE OR OTHER CONDITIONS THAT WOULD PREVENT THRIVING GROWTH.
11. THERE SHALL BE NO CIRCLING OR GIRDLING ROOTS. CIRCLING ROOTS SHOULD BE CUT IN AT LEAST ONE PLACE.
12. THERE SHOULD BE ONE DOMINANT LEADER TO THE TOP OF THE TREE WITH THE LARGEST BRANCHES SPACED AT LEAST 6 INCHES APART. THERE CAN BE TWO LEADERS IN THE TOP 10% OF THE TREE IF IT IS OTHERWISE OF GOOD QUALITY.
13. THE TREE CANOPY SHOULD BE SYMMETRICAL AND FREE OF LARGE VOIDS. CLEAR TRUNK SHOULD BE NO MORE THAN 40% OF TREE HEIGHT UNLESS OTHERWISE SPECIFIED IN THE PLANTING SPECIFICATIONS. CLEAR TRUNK SHALL BE OF SUFFICIENT HEIGHT TO CLEAR SURROUNDING USES THAT MAY BE IMPACTED BY THE FUTURE GROWTH OF THE TREE.
14. OPEN TRUNK AND BRANCH WOUNDS SHALL BE LESS THAN 10% OF THE CIRCUMFERENCE AT THE WOUND AND NO MORE THAN 2 INCHES TALL. PROPERLY MADE PRUNING CUTS ARE NOT CONSIDERED OPEN TRUNK WOUNDS. THERE SHOULD BE NO CONKS OR BLEEDING, AND THERE SHOULD BE NO SIGNS OF INSECTS OR DISEASE ON MORE THAN 5% OF THE TREE.
15. IF ANY OF THE ABOVE CONDITIONS ARE NOT MET, TREES MAY BE REJECTED.
16. TREE PROTECTION DEVICES MUST BE INSTALLED AND INSPECTED PRIOR TO ANY CLEARING, GRUBBING, OR GRADING OF THE SITE BY THE LOCAL ARBORIST.

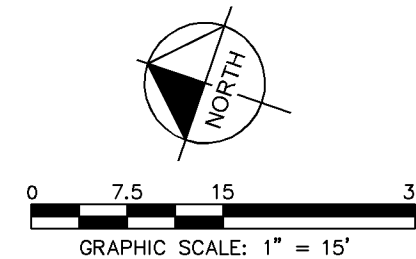


PROPOSED COMPACT
CAROLINA CHERRY LAUREL
(TYP. OF 38)

1 LANDSCAPING PLAN
L1 SCALE: 1" = 15'

LEGEND	
	COMPACT CAROLINA CHERRY LAUREL

PLANTING LIST						
SYM./KEY	QTY.	BOTANICAL NAME	COMMON NAME	SPECIFICATION		
				PLANTING HEIGHT	ROOT	SPACING
CCCL	38	PRUNUS CAROLINIANA	COMPACT CAROLINA CHERRY LAUREL	2' MIN.	B&B	SEE PLAN



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 CONFORMANCE WITH ALL CURRENT GOVERNING CODES, STANDARDS, AND PROFESSIONAL STANDARD OF CARE TO INCLUDE THE AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM), UNDERWRITERS LABORATORY (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, NEMA, ASA, 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, UBC, UL, IEEE, AND THE LOCAL UTILITY COMPANY.
- 1.04 ALL ELECTRICAL GROUNDING SHALL COMPLY WITH THE CURRENT EDITION OF THE NEC.
- 1.05 CONTRACTOR SHALL MAINTAIN UL LISTED FIRE RATINGS 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 ASSOCIATED FEES RELATED TO THE PROJECT AND SHALL DELIVER A COPY OF ALL PERMITS TO THE VERIZON REPRESENTATIVE.
- 2.02 CONTRACTOR SHALL SCHEDULE AND SHOULD ATTEND ALL INSPECTIONS REQUIRED BY THE JURISDICTION HAVING 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 REPAIR TO ORIGINAL CONDITION ANY ITEMS DAMAGED AS A RESULT OF THE WORK.
- 2.06 CONTRACTOR SHALL REPAIR ANY LANDSCAPING DISTURBED DURING CONSTRUCTION.
- 2.07 IF CONDUIT RUNS HAVE MORE THAN THREE (3) CONSECUTIVE 90 DEGREE TURNS, THE CONTRACTOR SHALL INSTALL PULL BOXES AS REQUIRED BY NEC.
- 2.08 CONTRACTOR SHALL INDICATE THE LOCATION OF ALL CAPPED UNDERGROUND SPARE 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 ON THE DRAWINGS.
- 3.02 FINAL CONNECTIONS OF EQUIPMENT SHALL BE PER MANUFACTURER'S APPROVED WIRING DIAGRAMS, DETAILS, AND INSTRUCTIONS. THE ELECTRICAL CONTRACTOR SHALL PROVIDE MATERIALS AND EQUIPMENT COMPATIBLE WITH EQUIPMENT SUPPLIED BY VERIZON.
- 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 APPROVAL FROM THE TOWER OWNER OF THE PROPOSED ROUTING PRIOR TO CONDUIT INSTALLATION.
- 3.05 ALL CONDUCTORS SHALL BE COPPER WITH THWN 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 CONDUCTORS IN THE CONDUIT.
- 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. WHEN CONDUIT IS ROUTED UNDER A ROADWAY, SCHEDULE 80 PVC CONDUIT SHALL BE UTILIZED. MANUFACTURED BEND RADII SHALL BE PER NEC.
- 3.10 CONTRACTOR SHALL PROVIDE TWO (2) 200 POUND TEST POLYETHYLENE PULL CORDS IN ALL CONDUITS AND ALL INNERDUCTS. 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 BOND 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 UNDERGROUND CONDUITS AND PROVIDE AND INSTALL 90 DEGREE ELBOWS WITH VERTICAL CONDUIT EXTENSIONS TO EXTEND 3" ABOVE FINISHED CRUSHED AGGREGATE GRADE. CONTRACTOR SHALL TERMINATE CONDUITS WITH MANUFACTURED CONDUIT CAPS THAT THE CONTRACTOR HAS PAINTED ORANGE.
- 3.13 CONTRACTOR SHALL PROVIDE AND INSTALL AN ENGRAVED PHENOLIC PLATE ON THE FRONT OF THE INTEGRATED LOAD CENTER. THE WORDING ON THE PLATE SHALL READ AS FOLLOWS: "MAXIMUM DRAW OF ALL RECTIFIERS AND EQUIPMENT ON THE LOAD CENTER CANNOT EXCEED 50kW. IF ADDITIONAL POWER IS REQUIRED, THE EXISTING 50kW GENERATOR MUST BE REPLACED."

4.00 PRE-CONSTRUCTION COORDINATION

- 4.01 CONTRACTOR SHALL VISIT THE SITE PRIOR TO BID AND NOTE EXISTING CONDITIONS THAT MIGHT AFFECT THEIR WORK. ALL SUCH CONDITIONS SHALL BE REPORTED TO THE ENGINEER PRIOR TO BID.
- 4.02 THE CONTRACTOR SHALL PROVIDE A UTILITY LOCATOR AND SHALL VERIFY THE ACTUAL LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITIES. ANY DAMAGE TO EXISTING UTILITIES SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- 4.03 CONTRACTOR SHALL VERIFY, PRIOR TO ROUGH-IN, THAT SITE CONDITIONS ALLOW FOR THE PLACEMENT OF THE ELECTRICAL EQUIPMENT AS SHOWN ON THE PLANS.
- 4.04 CONTRACTOR SHALL COORDINATE WITH LOCAL ELECTRICAL UTILITY REGARDING THE EXACT LOCATION OF THE TRANSFORMER, ALL METERING REQUIREMENTS, AND CONDUIT ROUTING BETWEEN TRANSFORMER AND METER.
- 4.05 CONTRACTOR SHALL COORDINATE WITH LOCAL TELCO UTILITY REGARDING THE EXACT LOCATION OF THE TELCO SERVICE ENTRY POINT.
- 4.06 CONTRACTOR SHALL COORDINATE WITH AUTHORITY HAVING JURISDICTION REGARDING LOCAL FROST LINE REQUIREMENTS FOR RACEWAY MATERIAL SELECTION AND INSTALLATION.
- 4.07 CONTRACTOR SHALL PERFORM AN ARC FLASH ANALYSIS AT THE INTEGRATED LOAD CENTER AND PROVIDE ARC FLASH LABEL PER NEC.
- 4.08 ALL CIRCUIT BREAKERS AND EQUIPMENT SHALL HAVE A MINIMUM AIC RATING OF 10,000 AMPS. IF THE RATING OF THE UTILITY TRANSFORMER PROVIDING THE ELECTRICAL SERVICE IS GREATER THAN 75 kVA, THE CONTRACTOR SHALL PERFORM A SHORT CIRCUIT ANALYSIS TO DETERMINE THE REQUIRED AIC RATING FOR THE CIRCUIT BREAKERS AND EQUIPMENT. PRIOR TO PURCHASING EQUIPMENT, THE CONTRACTOR SHALL CONTACT THE ELECTRIC UTILITY AND OBTAIN IN WRITING THE MAXIMUM AVAILABLE FAULT CURRENT (AFC) AT THE UTILITY SERVICE POINT. PROVIDE MAX. AFC SIGNAGE AS REQUIRED PER NEC 110.24. THE CONTRACTOR SHALL ENSURE ALL ELECTRICAL EQUIPMENT, CIRCUIT BREAKERS, DISCONNECTS, FUSES, AND PANELBOARDS HAVE A FAULT CURRENT INTERRUPTING RATING GREATER THAN THE AVAILABLE FAULT CURRENT.

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PROJECT INFORMATION:

SITE NAME:
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SITE No.: US-NC-5292
PROJECT #: 2112981
NC HIGHWAY 42
MONCURE, NC 27559
CHATHAM COUNTY

PLANS PREPARED BY:

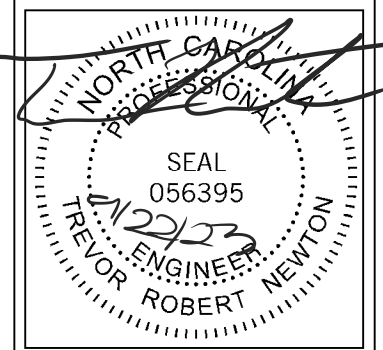
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LICENSER:



KHA PROJECT NUMBER:

013291005

DRAWN BY: CHECKED BY:

XQD DMF

SHEET TITLE:

ELECTRICAL NOTES

SHEET NUMBER:

E1

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POWER NOTES:

1. CONTRACTOR TO CONTACT DAVID MELTON (DAVID.MELTON@DUKE-ENERGY.COM) 919-339-3073, PRIOR TO CONSTRUCTION.
2. UNDERGROUND POWER TO BE INSTALLED 10' INSIDE OF UTILITY EASEMENT.
3. COUNTY TO INSPECT METER BASE.
4. DUKE ENERGY WILL PROCEED 8 WEEKS AFTER NOTIFICATION.
5. THERE IS NO INITIAL CONSTRUCTION FEE ASSOCIATED WITH THIS PROJECT. (DUE TO MARKET FLUCTUATIONS, THIS ESTIMATE EXPIRES AFTER 90 DAYS. CONTRACTOR TO CONTACT DAVID MELTON FOR AN UPDATED ESTIMATE).



1 OVERALL UTILITY SERVICE ROUTING PLAN
E2 SCALE: 1" = 100'

KEY NOTES - ELECTRICAL EQUIPMENT

- ① EXISTING LIT-FIBER HANDHOLE/PEDESTAL.
- ② TRAFFIC RATED TELCO VAULT LABELED "VZW FIBER". (SPACED EVERY 500', AT MAJOR TRANSITIONS, AND AS NEEDED TO ALLOW DARK FIBER TO BE PULLED)(SEE NOTE 4.05 ON SHEET E1)
- ③ EXISTING ONE FIBER HANDHOLE (CONTRACTOR TO CONFIRM EXISTENCE AND LOCATION)
- ④ 50 KVA TRANSFORMER TO BE FURNISHED AND INSTALLED BY DUKE ENERGY
- ⑤ PROPOSED POWER STUB UP TO BE FURNISHED AND INSTALLED BY GENERAL CONTRACTOR OUTSIDE OF FENCED COMPOUND
- ⑥ PROPOSED POWER POLE BY DUKE ENERGY
- ⑦ EXISTING POWER POLE

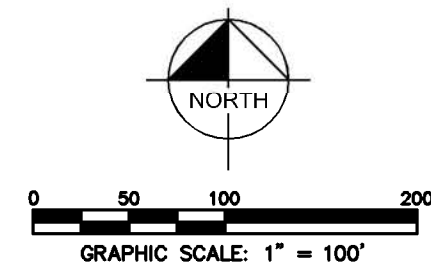
KEY NOTES - CONDUIT, CONDUCTORS, & MISC.

- Ⓐ TWO (2) 2" PVC CONDUIT FOR "VZW FIBER" WITH TWO (2) PULL ROPES. (SEE DETAIL 2/E6); (APPROXIMATELY 696± LF); GENERAL CONTRACTOR TO CONFIRM NEED FOR CONDUITS TO RIGHT OF WAY AND HANDHOLE AT RIGHT OF WAY WITH VERIZON CONSTRUCTION MANAGER.
- Ⓑ 4" PVC BRIDGE FIBER CONDUIT. (IF NO EXISTING LIT FIBER HANDHOLE/PEDESTAL IS PRESENT CONTRACTOR TO PROVIDER A 5' LONG CAPPED STUB BRIDGE CONDUIT).
- Ⓒ 4" PVC BRIDGE FIBER CONDUIT. (IF NO EXISTING ONE FIBER HANDHOLE IS PRESENT, BRIDGE CONDUIT WILL BE BY OTHERS)
- Ⓓ ONE (1) 2" PVC CONDUIT FOR UNDERGROUND PRIMARY AND PRIMARY CONDUCTORS FURNISHED AND INSTALLED BY DUKE ENERGY. (APPROXIMATELY 630 LF)
- Ⓔ ONE (1) 3" PVC CONDUIT FOR UNDERGROUND SECONDARY AND SECONDARY CONDUCTORS TO BE FURNISHED AND INSTALLED BY DUKE ENERGY. (APPROXIMATELY 45 LF)
- Ⓕ OVERHEAD PRIMARY POWER FURNISHED AND INSTALLED BY DUKE ENERGY.

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.

PROPOSED VERIZON TELCO VAULT WITHIN RIGHT OF WAY LOCATED APPROXIMATELY 35' 34' 25.50"N, 78' 59' 36.20"W BASED ON GOOGLE EARTH IMAGERY.



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PROJECT #: 2112981
 NC HIGHWAY 42
 MONCURE, NC 27559
 CHATHAM COUNTY

PLANS PREPARED BY:

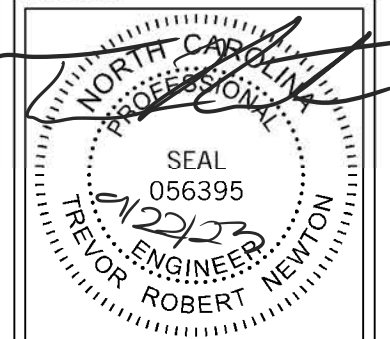
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LICENSER:



KHA PROJECT NUMBER:

013291005

DRAWN BY: CHECKED BY:

XQD DMF

SHEET TITLE:

OVERALL UTILITY SERVICE ROUTING PLAN

SHEET NUMBER:

E2

KEY NOTES - ELECTRICAL EQUIPMENT

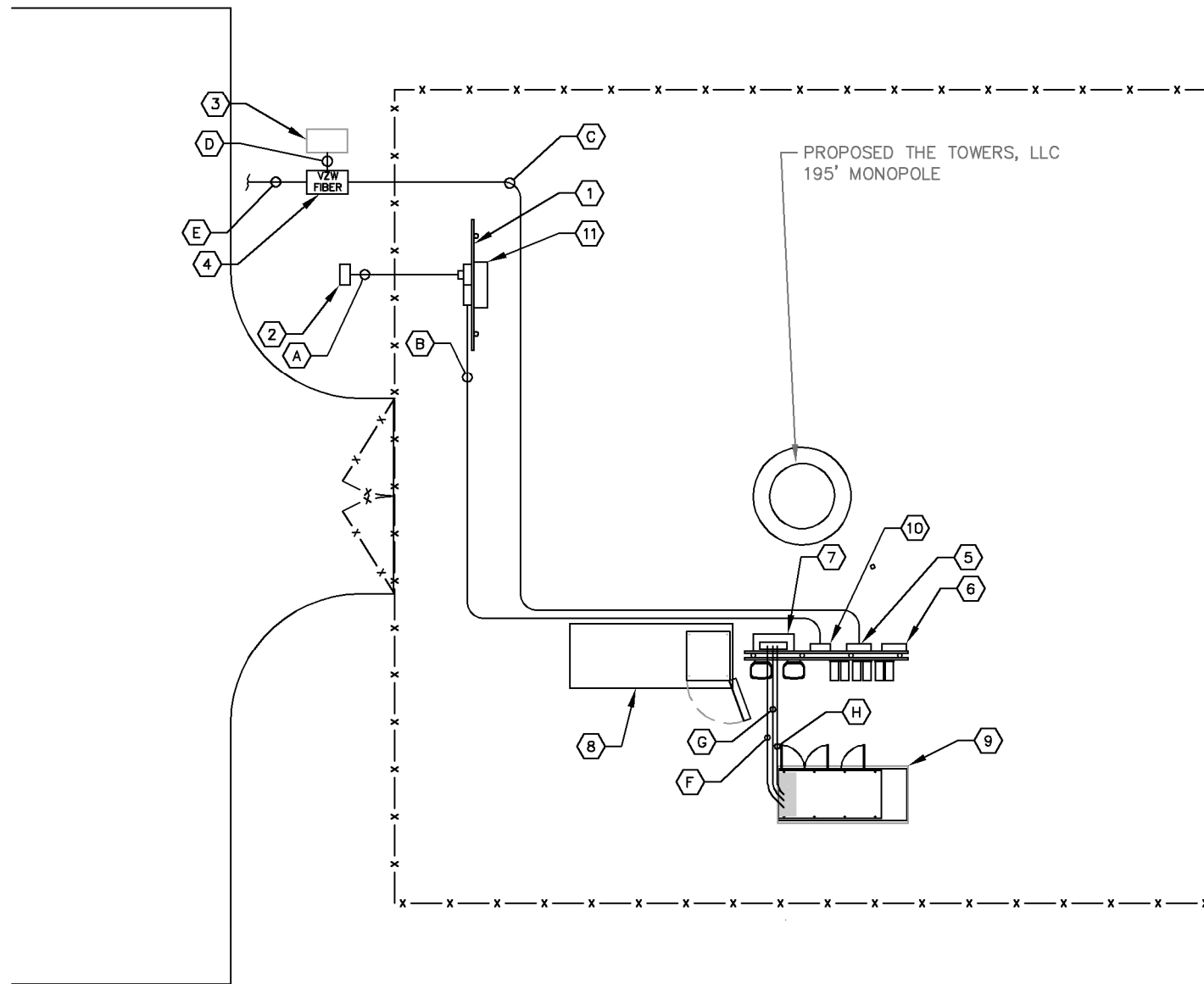
- ① UTILITY METER H-FRAME (SEE DETAIL 1/E3).
- ② POWER STUB UP (SEE NOTE 4.04 ON SHEET E1).
- ③ EXISTING LIT FIBER HANDHOLE/PEDESTAL. (CONTRACTOR TO CONFIRM EXISTENCE AND LOCATION).
- ④ TRAFFIC RATED TELCO VAULT LABELED "VZW FIBER". (SEE NOTE 4.05 ON SHEET E1)
- ⑤ TELCO BOX (SEE SHEET C4).
- ⑥ CIENA UNIT, IF NEEDED (SEE SHEET C4).
- ⑦ INTEGRATED LOAD CENTER (SEE SHEET C4).
- ⑧ VERIZON CONCRETE EQUIPMENT PAD (SEE SHEET C6).
- ⑨ VERIZON CONCRETE GENERATOR PAD (SEE SHEET C6).
- ⑩ DISCONNECT SWITCH (SEE SHEET C4).
- ⑪ HOFFMAN BOX IN NEMA 4X ENCLOSURE.

KEY NOTES - CONDUIT, CONDUCTORS, & MISC.

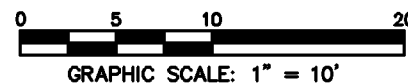
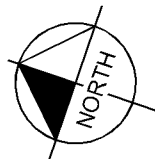
- A ONE (1) 3" PVC POWER CONDUIT FOR INCOMING SERVICE LATERALS FURNISHED AND INSTALLED BY GENERAL CONTRACTOR (±10 LF) (SEE TRENCH DETAIL 2/E6).
- B 2" PVC POWER CONDUIT FROM PROPOSED METER RACK TO EQUIPMENT RACK (SEE TRENCH DETAIL 2/E6).
- C TWO (2) 2" PVC TELCO CONDUITS, WITH TWO (2) PULL ROPES EACH (SEE TRENCH DETAIL 2/E6).
- D 4" PVC BRIDGE FIBER CONDUIT. (IF NO EXISTING LIT FIBER HANDHOLE/PEDESTAL IS PRESENT CONTRACTOR TO PROVIDE A 5' LONG CAPPED STUB BRIDGE CONDUIT).
- E TWO (2) 2" PVC CONDUITS FROM RIGHT OF WAY W/TWO (2) PULL ROPES (SEE TRENCH DETAIL 2/E6 AND SHEET E2).
- F 2" PVC CONDUIT FOR ROUTING POWER CONDUCTOR TO THE GENERATOR. (SEE TRENCH DETAIL 2/E6).
- G 1" PVC CONDUIT FOR ROUTING GENERATOR CONTROL AND ALARM SIGNAL CABLES TO THE GENERATOR (SEE TRENCH DETAIL 2/E6).
- H 1" PVC CONDUIT FOR ROUTING POWER CONDUCTOR TO THE GENERATOR BATTERY CHARGER AND THE GENERATOR BLOCK HEATER (SEE TRENCH DETAIL 2/E6).

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.



1 UTILITY SERVICE ROUTING PLAN
E2.1 SCALE: 1" = 10'



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SITE NAME:
 CROSSPOINT
 SITE No.: US-NC-5292
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 NC HIGHWAY 42
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 CHATHAM COUNTY

PLANS PREPARED BY:

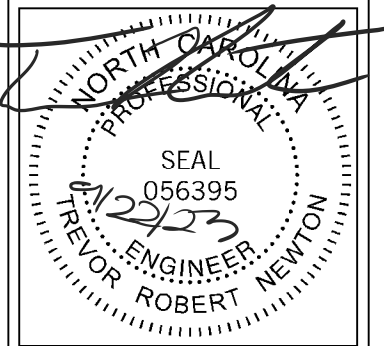
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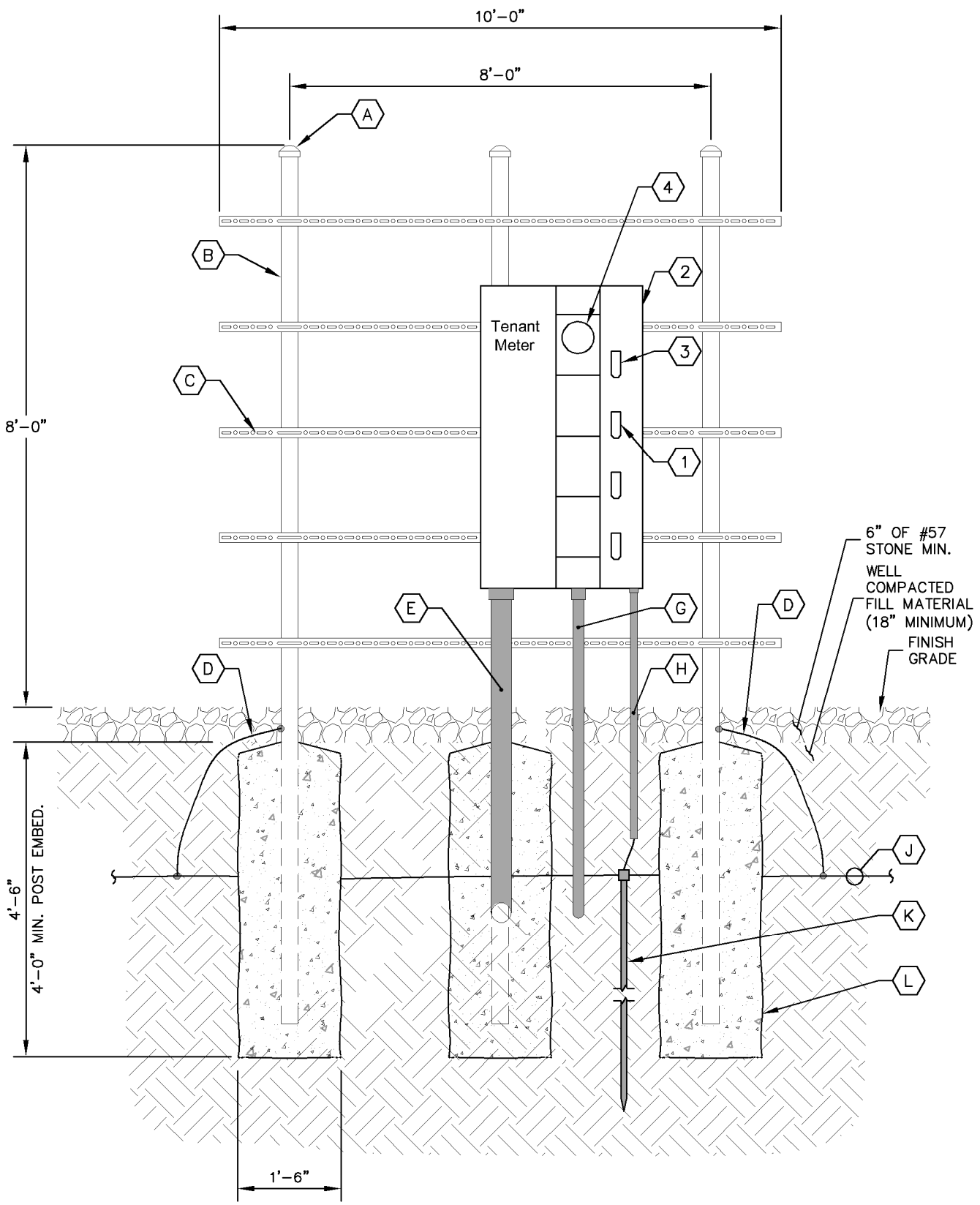
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SHEET TITLE:

UTILITY SERVICE
 ROUTING PLAN

SHEET NUMBER:

E2.1



KEY NOTES - CONDUIT, CONDUCTORS, & MISC

- (A) GALVANIZED RIGID STEEL CAP, TYPICAL.
- (B) 3" GALVANIZED RIGID STEEL PIPE, TYPICAL.
- (C) 1 5/8" x 1 5/8" GALVANIZED STEEL CHANNEL (UNISTRUT #P1000 OR APPROVED EQUIVALENT) WITH PLASTIC END CAP (UNISTRUT #P2860), TYPICAL.
- (D) ONE (1) #2 AWG BARE SOLID TINNED COPPER BONDING CONDUCTORS (BC) FROM H-FRAME VERTICAL PIPE TO GROUND RING, EXOTHERMIC WELD BOTH ENDS.
- (E) ONE (1) 3" PVC CONDUIT FURNISHED AND INSTALLED BY GC FOR INCOMING SERVICE LATERALS FROM LOCAL UTILITY.
- (F) KEYNOTE NOT USED.
- (G) 2" PVC CONDUIT FOR ROUTING FEEDERS TO NON-FUSED DISCONNECT SWITCH.
- (H) 3/4" PVC CONDUIT WITH ONE (1) - 2/0 BARE STRANDED TINNED COPPER GROUNDING ELECTRODE CONDUCTOR (GEC) FROM GROUNDING LUG TO GROUND ROD, EXOTHERMIC WELD GEC TO GROUND ROD.
- (J) GROUND RING (SEE SHEETS E8 & E9).
- (K) GROUND ROD, EXOTHERMIC WELD TO GROUND RING.
- (L) 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.
- (2) 800 AMP, 22KAIC, 4 GANG, SERVICE ENTRANCE RATED METER CENTER IN NEMA 3R ENCLOSURE. BOND TO RACK PER NEC.
- (3) 200 AMP, 2 POLE (22KAIC) DISCONNECT CIRCUIT BREAKER FOR TOP METER ONLY. CONTRACTOR SHALL MOUNT THE METER CENTER SUCH THAT THE TOP CIRCUIT BREAKER IS NO MORE THAN 6" ABOVE GRADE.

1 METER RACK DETAILS
E3 NOT TO SCALE

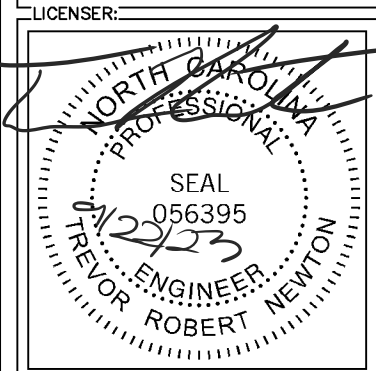
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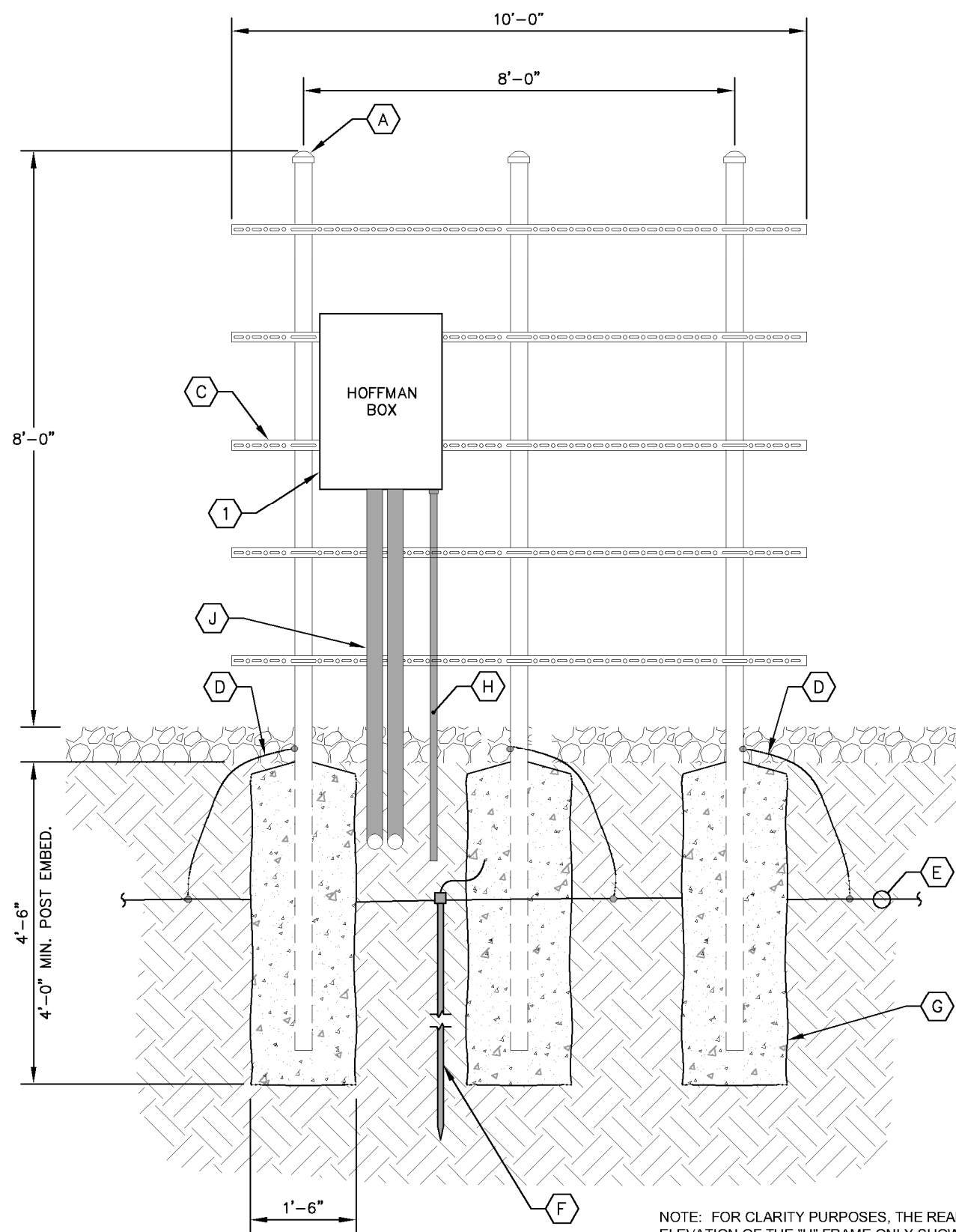
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SHEET TITLE:
**METER RACK
 DETAILS - FRONT**

SHEET NUMBER:
E3

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NOTE: FOR CLARITY PURPOSES, THE REAR ELEVATION OF THE "H" FRAME ONLY SHOWS EQUIPMENT AND CONDUIT ASSOCIATED WITH THE REAR SIDE. SEE SHEET E4 FOR DETAILS ASSOCIATED WITH EQUIPMENT AND CONDUIT MOUNTED ON THE FRONT SIDE OF THE "H" FRAME.

KEY NOTES - CONDUIT, CONDUCTORS, & MISC

- (A) GALVANIZED RIGID STEEL CAP, TYPICAL.
- (B) KEY NOTE NOT USED.
- (C) 1 5/8" x 1 5/8" GALVANIZED STEEL CHANNEL (UNISTRUT #P1000 OR APPROVED EQUIVALENT) WITH PLASTIC END CAP (UNISTRUT #P2860), TYPICAL.
- (D) ONE (1) #2 AWG BARE SOLID TINNED COPPER BONDING CONDUCTORS (BC) FROM H-FRAME VERTICAL PIPE TO GROUND RING, EXOTHERMIC WELD BOTH ENDS.
- (E) GROUND RING (SEE SHEETS E6 & E7).
- (F) GROUND ROD, EXOTHERMIC WELD TO GROUND RING. (SEE DETAIL 2/E7).
- (G) CONCRETE FOUNDATION FOR H-FRAME VERTICAL PIPE. CONCRETE SHALL HAVE A 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI. AND INCLUDE FIBERMESH 300-3E.
- (H) 3/4" PVC WITH ONE (1) - #2 AWG BARE TINNED COPPER GROUNDING ELECTRODE CONDUCTOR (GEC) FROM GROUNDING LUG TO GROUND ROD, EXOTHERMIC WELD GEC TO GROUND ROD.
- (J) TWO (2) 4" CONDUIT TO ROUTED PER FIBER PROVIDER REQUIREMENTS.

KEY NOTES - ELECTRICAL EQUIPMENT

- (1) 36" x 36" x 12" HOFFMAN BOX IN NEMA 4X ENCLOSURE.

1 METER RACK DETAILS
E3.1 NOT TO SCALE

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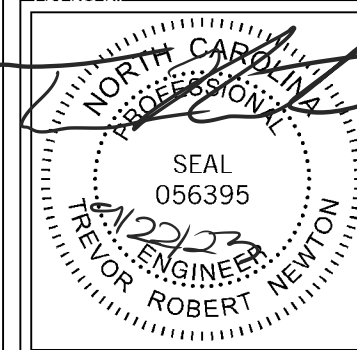
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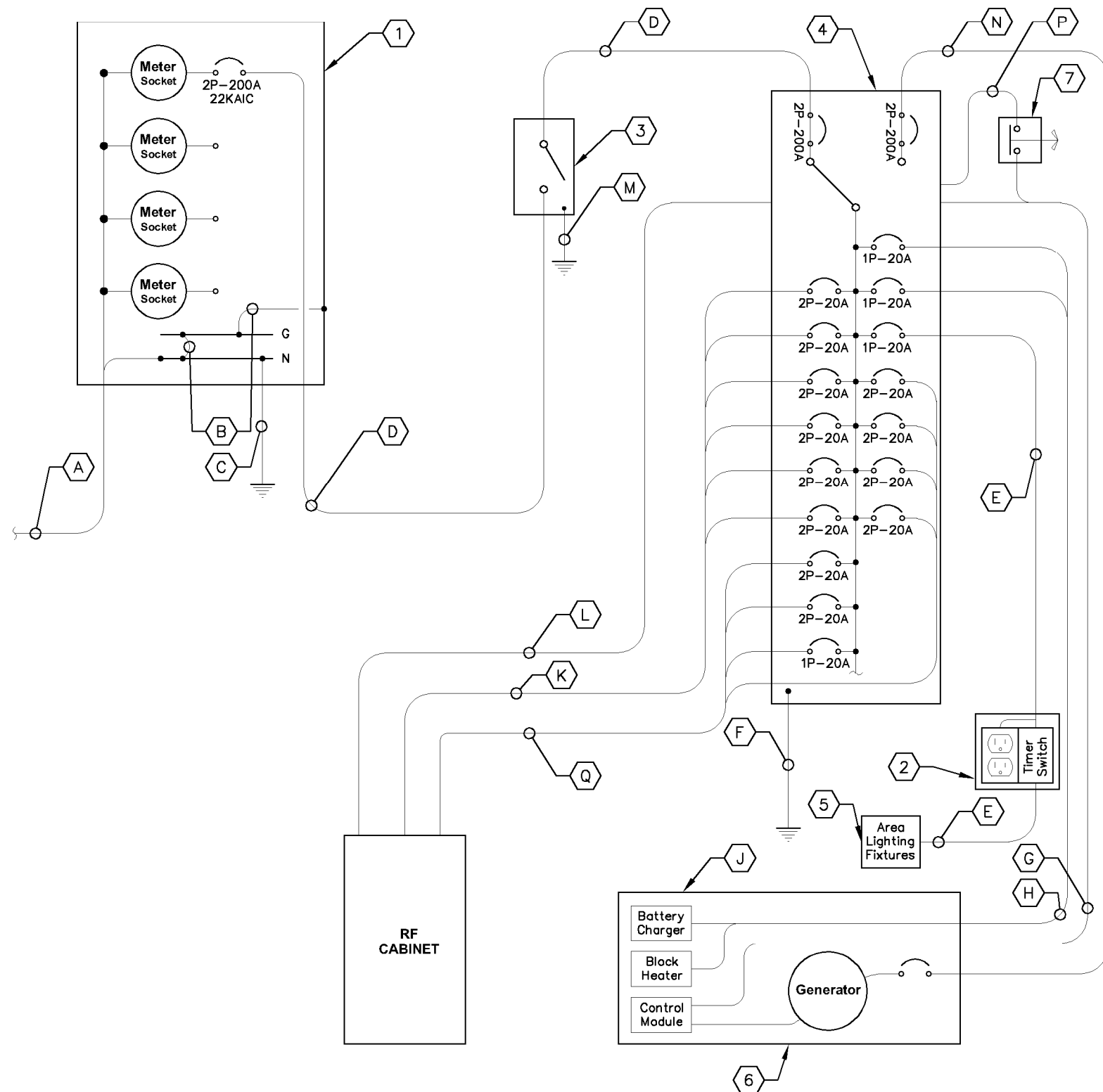
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SHEET TITLE:

**METER RACK
DETAILS - REAR**

SHEET NUMBER:

E3.1



KEY NOTES - CONDUIT, CONDUCTORS, & MISC

- A ONE (1) 3" CONDUIT BY CONTRACTOR FOR INCOMING 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 GEC TO GROUND ROD, EXOTHERMIC WELD GEC TO GROUND ROD.
- D THREE (3) 3/0 CONDUCTORS AND ONE (1) #6 AWG GROUND IN 2" CONDUIT.
- E TWO (2) #12 AWG CONDUCTORS AND ONE (1) #12 AWG GROUND IN 1" CONDUIT.
- F ONE (1) #2 BARE TINNED COPPER FROM GROUNDING LUG IN ILC TO GROUND ROD, EXOTHERMIC WELD TO GROUND ROD.
- G AUTOMATIC TRANSFER SWITCH ALARM AND GENERATOR CONTROL CABLES IN 1" CONDUIT.
- H FOUR (4) #12 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 RING, EXOTHERMIC WELD TO GROUND RING.
- N THREE (3) 3/0 AWG CONDUCTORS AND ONE (1) #4 AWG EG IN 2" CONDUIT. VERIFY GENERATOR BREAKER DOES NOT EXCEED 200 AMPS.
- P 1" PVC CONDUIT FOR ROUTING POWER CONDUCTORS FROM THE ILC TO THE EMERGENCY GENERATOR STOP SWITCH.
- Q 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 GFI OUTLET, ALL IN ONE 2" PVC CONDUIT.

KEY NOTES - ELECTRICAL EQUIPMENT

- 1 FURNISH AND INSTALL 800 AMP, 3-WIRE, SINGLE PHASE, 120/240 VOLT, 22KAIC, FOUR-SPACE MULTI-GANG METER CENTER WITH 200 AMP RATED METER SOCKETS IN NEMA 3R ENCLOSURE, SE RATED. CONTRACTOR SHALL FURNISH AND INSTALL 200 AMP CIRCUIT BREAKER AT METER BASE IF NOT ALREADY EXISTING.
- 2 20 AMP GFCI DUPLEX OUTLET RECEPTACLE AND TIMER SWITCH, ENERLITES HET06 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 SPACE PANEL AND AUTOMATIC TRANSFER SWITCH. ALL CIRCUIT BREAKERS SHALL BE RATED 10KAIC MINIMUM. ILC IS FURNISHED BY VZW AND INSTALLED BY GENERAL CONTRACTOR.
- 5 FURNISH AND INSTALL TWO (2) AREA LIGHTS, (LITHONIA HFR-250M-TA120-DNA-LP1), (OR APPROVED EQUIVALENT).
- 6 50 KW DIESEL GENERATOR, CONTRACTOR SHALL COORDINATE SPECIFIC GENERATOR CONFIGURATION WITH OWNER AND INSTALL THE GENERATOR IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. GENERATOR BREAKER SIZED AND PROVIDED BY GENERATOR MANUFACTURER.
- 7 EMERGENCY GENERATOR STOP SWITCH IN NEMA 3R ENCLOSURE WILL BE FURNISHED BY VERIZON AND INSTALLED BY GC.

REQUIRED SIGNAGE PER NEC 702 AT SERVICE DISCONNECT
 "WARNING: Shock hazard exists if grounding electrode conductor or bonding jumper connection in this equipment is removed while alternate source(s) is energized. Opening the equipment disconnect will cause the stand-by generator to start. To remove power entirely from the equipment, the generator must be turned OFF using emergency stop switch."

REQUIRED SIGNAGE PER NEC 702 AT SERVICE DISCONNECT & INTEGRATED LOAD CENTER
 "NOTE: Emergency power is supplied by a stand-by generator located behind Verizon equipment rack."

1 ELECTRICAL SINGLE LINE DIAGRAM
E4 NOT TO SCALE

verticalbridge
 700 PARK OF COMMERCE DRIVE
 BOCA RATON FL 33487
 TEL: (561) 948-6367

PROJECT INFORMATION:
 SITE NAME:
 CROSSPOINT
 SITE No.: US-NC-5292
 PROJECT #: 2112981
 NC HIGHWAY 42
 MONCURE, NC 27559
 CHATHAM COUNTY

PLANS PREPARED BY:
Kimley»Horn
 11720 AMBER PARK DRIVE, SUITE 600
 ALPHARETTA, GA 30009
 PHONE: 770-619-4280
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LICENSER:

 SEAL
 056395
 9/22/23
 REVOR ENGINEER
 ROBERT NEWTON

KHA PROJECT NUMBER:
 013291005
 DRAWN BY: XQD CHECKED BY: DMF

SHEET TITLE:
ELECTRICAL SINGLE LINE DIAGRAM

SHEET NUMBER:
E4

K:\ATL_Wireless\Vertical_Bridge\US-NC-5292_Crosspoint\CAD\GB\ECar-GB.dwg 09/22/23 10:29 AM by: christopher.strange

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%

Load Served	Load (kVA)		Circuit Bkr Size	Ckt Nbr	Phase A B	Ckt Nbr	Circuit Bkr Size	Load (kVA)		Load Served
	A	B						A	B	
RECTIFIER 1	1.78		2P-20	1	A B	2	1P-20	0.58		AREA LIGHTS/GFCI
		1.78								4
RECTIFIER 2	1.78		2P-20	5	A B	6	1P-20	0.30		GEN BATTERY CHARGER
		1.78								8
RECTIFIER 3	1.78		2P-20	9	A B	10	1P-20	0.18		CAB DUPLEX OUTLET
		1.78								12
RECTIFIER 4	1.78		2P-20	13	A B	14	2P-20	1.78		RECTIFIER 9
		1.78								
RECTIFIER 5	1.78		2P-20	17	A B	18	2P-20	1.78		RECTIFIER 10
		1.78								
RECTIFIER 6	1.78		2P-20	21	A B	22	2P-20	0.00		RECTIFIER 11 (SPARE)
		1.78								
RECTIFIER 7	1.78		2P-20	25	A B	26	2P-20	0.00		RECTIFIER 12 (SPARE)
		1.78								
RECTIFIER 8	1.78		2P-20	29	A B	30	----	0.00		SPACE
		1.78								
SPACE	0.00		----	33		34		0.00		SPACE
SPACE		0.00	----	35		36		0.00		SPACE
SPACE	0.00		----	37		38		0.00		SPACE
TVSS (INTERNAL TO ILC)		0.00	2P-30	39	A B	40	----		0.00	SPACE
	0.00								42	
Sub-Total (kVA)	14.24	14.24						4.62	5.06	Sub-Total (kVA)

LOAD SUMMARY

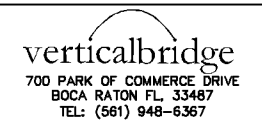
Load Description	Connected Load (kVA)		Demand Factor	Demand Load (kVA)	
	A	B		A	B
RECTIFIERS/EQUIP	17.80	17.80	1.00	17.80	17.80
LARGEST MOTOR	0.00	0.00	1.00	0.00	0.00
ALL OTHER MOTORS	0.00	0.00	1.00	0.00	0.00
LIGHTING	0.40	0.00	1.25	0.50	0.00
DUPLEX RECEPTACLES	0.36	0.00	1.00	0.36	0.00
TOTAL MISCELLANEOUS	0.30	1.50	1.00	0.30	1.50

Total Power per Phase	18.96	19.30	kVA
Total Demand Current per Phase	158.00	161.00	Amps
Total Demand Power	38.26		kVA

Total Connected (kVA)
 A: 18.86, B: 19.30
 Total: 38.16

*NOTE: CIRCUIT LOAD AND DEMAND FACTOR PROVIDED BY VERIZON.

1 PANEL SCHEDULE
E5 NOT TO SCALE

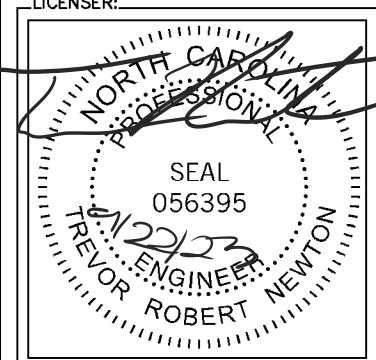


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PLANS PREPARED BY:
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 DRAWN BY: XQD CHECKED BY: DMF

SHEET TITLE:
PANEL SCHEDULE
 SHEET NUMBER:
E5

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verticalbridge
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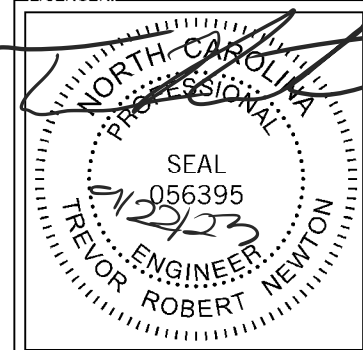
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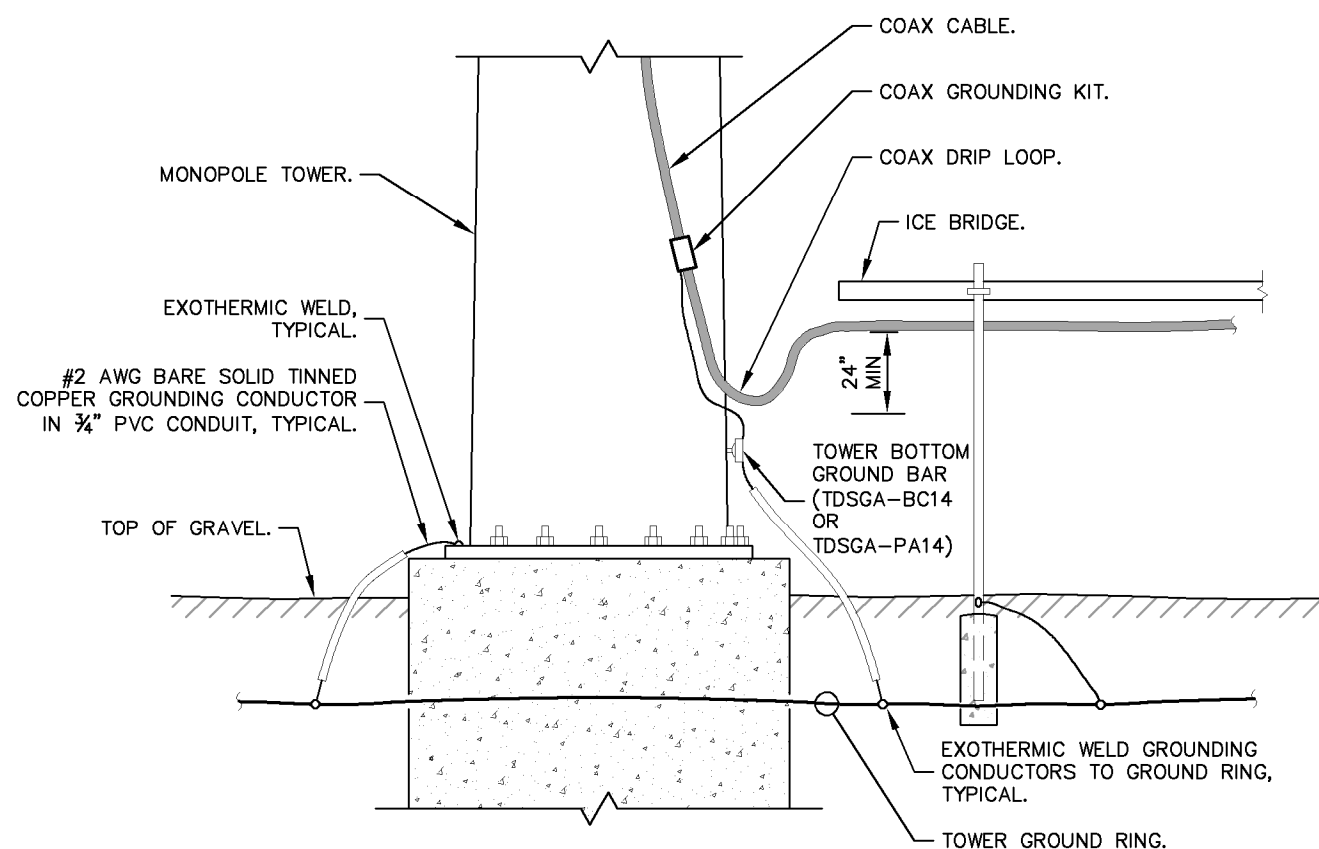
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SHEET TITLE:

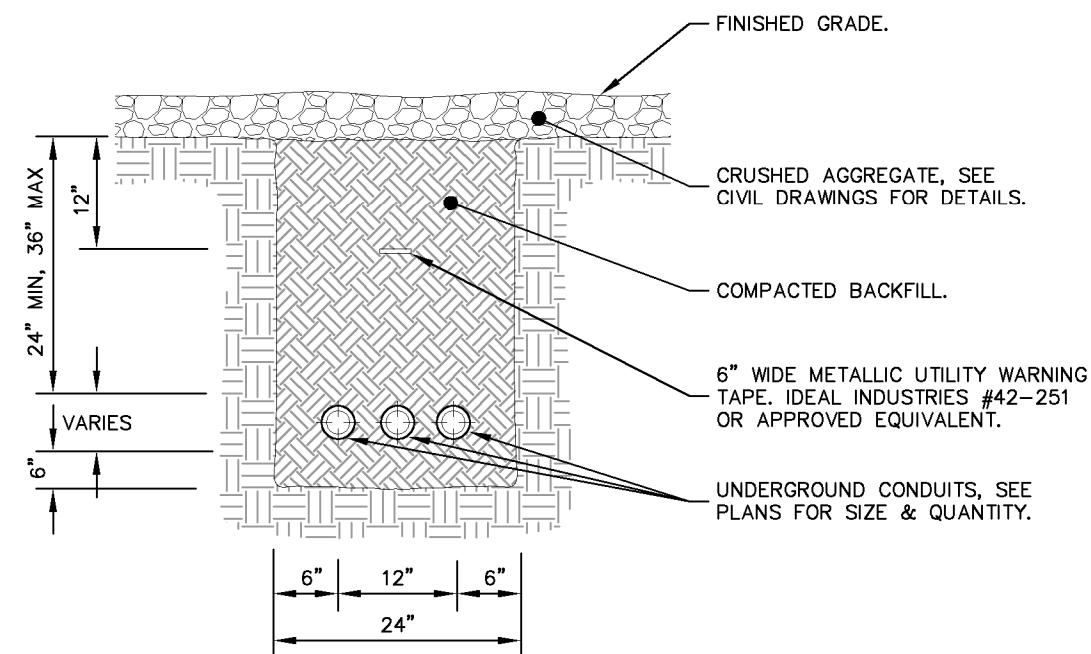
**ELECTRICAL
DETAILS**

SHEET NUMBER:

E6



1 DRIP LOOP DETAIL
E6 NOT TO SCALE



2 TYPICAL TRENCH DETAIL
E6 NOT TO SCALE

NOTES:

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). LOCATE 24" MINIMUM AND 36" MAXIMUM FROM EQUIPMENT AREA AND FROM TOWER FOUNDATION. ALL CONNECTIONS SHALL BE MADE USING A PARALLEL TYPE EXOTHERMIC WELD, UNLESS NOTED OTHERWISE.
2. INSTALL GROUND RODS AS SHOWN AND AS REQUIRED. GROUND RODS TO BE COPPER CLAD STEEL, 5/8" DIAMETER AND 10FT IN LENGTH. SPACING BETWEEN GROUND RODS SHALL BE 10FT MINIMUM AND 15FT MAXIMUM. TOP OF GROUND ROD TO BE 30" MINIMUM BELOW GRADE (OR BELOW FROST LINE). BOND TOP OF GROUND ROD TO GROUND WIRE WITH EXOTHERMIC WELD. DO NOT EXOTHERMICALLY WELD ANYTHING TO GROUND ROD EXCEPT GROUND WIRE WHICH PASSES OVER TOP OF GROUND ROD (CLAMPED CONNECTIONS TO GROUND ROD PER TOWER MANUFACTURERS DETAILS ARE ACCEPTABLE).
3. EQUIPMENT GROUND RING SHALL HAVE A MINIMUM OF 4 GROUND RODS, INSTALLED AT THE CORNERS OF THE GROUND RING PLUS ADDITIONAL RODS AS REQUIRED TO COMPLY WITH THE SPACING REQUIREMENTS. TOWER GROUND RING SHALL HAVE A MINIMUM OF 3 GROUND RODS, EXCEPT USE 4 RODS AT A MONOPOLE TOWER. WHERE SPREAD TOWER FOOTING WOULD PREVENT GROUND RODS FROM BEING DRIVEN INTO SOIL ADJACENT TO TOWER, PROVIDE VERTICAL 1" DIAMETER PVC SLEEVES 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 LEG BONDED TO GROUND RING, MONOPOLES AND GUYED TOWERS SHALL HAVE GROUND LEADS EQUALLY SPACED AROUND TOWER. EXOTHERMICALLY WELD GROUND LEADS TO TOP OF BASE PLATES, OR ATTACH TO TOWER USING TOWER MANUFACTURER PROVIDED DETAIL.
6. PROVIDE #2 STC RADIALS FROM THE TOWER GROUND RING TO EACH FENCE CORNER POST. RADIALS SHALL HAVE GROUND RODS AS PER THE REQUIRED SPACING. THE GROUND ROD AT THE END OF EACH RADIAL SHALL BE 24" MAXIMUM FROM FENCE CORNER POST. EQUIPMENT AREA GROUND RING AND CONNECTING GROUND LEADS [BETWEEN EQUIPMENT AREA AND TOWER GROUND RINGS] MAY BE USED AS PART OF THE RADIAL GOING TO THE FENCE CORNER POST CLOSEST TO THE EQUIPMENT AREA.
7. MINIMUM BEND RADIUS FOR #2 AWG GROUND WIRE IS 12", EXCEPT USE 24" FOR TOWER GROUND RINGS AND EQUIPMENT PAD GROUND RINGS.
8. GROUND ALL EXTERIOR EXPOSED METAL OBJECTS. 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 GALV.) TO ALL EXOTHERMIC WELDS, AND TO ANY METAL EXPOSED BY CLEANING, STRIPPING, GRINDING, CUTTING OR DRILLING.
9. ALL GROUNDING CONDUCTORS ABOVE GRADE SHALL BE RUN IN 3/4" FLEXIBLE PVC CONDUIT. CONDUIT SHALL BEGIN 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.
- 10A. AT GUYED AND SELF SUPPORT TOWERS MOUNT TDSGA-PA14 TOWER BOTTOM GROUND BAR ON DEDICATED POST DIRECTLY BELOW COAX CABLES COMING OFF TOWER. POST TO BE 3.5" OD GALVANIZED SCHEDULE 40 PIPE WITH GALVANIZED PIPE CAP. TOP OF POST TO BE 78" ABOVE GRADE. EMBED POST 30" MINIMUM IN 12" DIAMETER BY 36" DEEP MINIMUM CONCRETE FOOTING WITH TOP OF FOOTING 6" BELOW GRADE. IF TOWER FOUNDATION OBSTRUCTS AUGERED FOOTING, USE POST WITH 10" SQUARE GALVANIZED STEEL FLANGE PLATE WELDED TO BOTTOM AND BOLT FLANGE TO TOP OF CONCRETE TOWER FOOTING.
- 10B. AT MONOPOLE TOWERS CLAMP TDSGA-BC14 TOWER BOTTOM GROUND BAR DIRECTLY TO TOWER. IF RUNNING COAX INSIDE MONOPOLE, CLAMP ONTO BOTTOM LIP OF EXIT PORT. IF BANDING COAX TO OUTSIDE OF TOWER, CLAMP ONTO STEEL ANGLE WHICH IS Banded TO TOWER. BOND TDSGA-BC14 TO TOWER GROUND RING WITH TWO #2 STC LEADS LUGGED TO GROUND BAR AND EXOTHERMICALLY WELDED TO GROUND RING.
11. AT EQUIPMENT AREA, INSTALL TDSGA-PA14 EXTERIOR GROUND BAR (THRU-BOLTED STYLE) AT BASE OF (2) INTERIOR H-FRAME POSTS AND AT TOP OF ICE BRIDGE POST WHICH IS NEAREST TO (BUT CLOSER TO TOWER THAN) THE COAX CABLE TERMINATION. MOUNT GROUND BAR TO H-FRAME POSTS AT 6" ABOVE GRAVEL AND TO ICE BRIDGE POST AT 6FT ABOVE GRAVEL.
12. ALL ICE BRIDGE SECTIONS ARE TO BE JUMPERED TOGETHER WITH #2 WIRE, EITHER BARE TINNED COPPER OR GREEN INSULATED STRANDED. ICE BRIDGE SHALL BE GROUNDED AT EACH END WITH #2 STC WIRE LUGGED TO ICE BRIDGE AND EXOTHERMICALLY WELDED TO UPPER PORTION OF NEAREST ICE BRIDGE POST. ICE BRIDGE SECTIONS ABOVE H-FRAME SHALL BE BONDED TO EACH OTHER WITH JUMPERS AT EACH END - THIS ASSEMBLY WILL BE CONSIDERED AS A SINGLE ICE BRIDGE SECTION FOR GROUNDING PURPOSES.
13. BOND EACH ICE BRIDGE POST, H-FRAME POST OR DEDICATED GROUNDING POST TO BURIED GROUNDING SYSTEM WITH #2 STC LEAD EXOTHERMICALLY WELDED TO POST BELOW TOP OF GRAVEL AND EXOTHERMICALLY WELDED TO GROUND RING. EACH POST TO HAVE SEPARATE GROUND LEAD DIRECTLY TO GROUND RING - DO NOT DAISY CHAIN POSTS TOGETHER.
14. BOND EACH RF CABINET TO EQUIPMENT GROUND RING WITH #2 AWG TINNED SOLID BARE COPPER CONDUCTOR LUGGED TO CABINET BODY AND EXOTHERMICALLY WELDED TO GROUND RING. LUG TO CABINET BODY USING LOCATION AT WHICH STUDS ON CABINET CHASSIS HAVE DIRECT GROUND WIRE CONNECTION TO CABINET INTERNAL GROUND BAR. RUN CONDUIT AND CONDUCTOR ACROSS BACK OF CABINET (DO NOT RUN TOWARDS NEAREST CORNER OF CABINET AND THEN BEND GROUND WIRE SHARPLY), ACROSS CONCRETE PAD BELOW CABLE LADDER, THEN DOWN INTO GRAVEL AREA.
15. BOND EACH BATTERY CABINET TO GROUND RING WITH #2 AWG TINNED SOLID BARE COPPER CONDUCTOR LUGGED TO CABINET BODY AND EXOTHERMICALLY WELDED TO GROUND RING. RUN GROUND LEAD IN FLEX CONDUIT ALONG BACK OF RBA72 CABINET, ACROSS CONCRETE PAD BELOW CABLE LADDER, THEN DOWN INTO GRAVEL AREA. CONNECT TWO HOLE LUG TO BACK OF CABINET AT FACTORY PROVIDED GROUNDING STUDS.
16. BOND GENERATOR TO GROUND RING WITH #2 STC AT TWO DIAGONALLY OPPOSITE LOCATIONS BY DRILLING AND BOLTING TWO HOLE LUG TO FINS ON GENERATOR BASE STRUCTURE. GROUND LEADS SHOULD TAKE SHORTEST PATH ACROSS CONCRETE PAD TO GRAVEL AREA, THEN CONTINUE TO GROUND RING.
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 EXOTHERMICALLY WELDED TO GROUND RING. GROUND LEAD SHOULD RUN TO TANK SUPPORT AND TAKE SHORTEST PATH ACROSS CONCRETE PAD TO GRAVEL AREA, THEN CONTINUE TO GROUND RING. IF PROPANE TANK FUEL LINE IS METALLIC 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 EXOTHERMICALLY WELDED TO GROUND RING.
18. BOND GPS ANTENNA and GPS ANTENNA MOUNT TO TSDGA GROUND BAR AT BOTTOM OF H-FRAME POST WITH #2 GREEN INSULATED STRANDED GROUND WIRE.
19. PROVIDE TWO GROUND RODS OUTSIDE GATES OF COMPOUND. DISTANCE BETWEEN GROUND RODS SHALL MATCH WIDTH OF GATE OPENING, AND DISTANCE FROM FENCE SHALL MATCH LENGTH OF LONGEST INDIVIDUAL GATE LEAF. BOND GATE POSTS TOGETHER WITH #2 STC LEAD WHICH RUNS PAST AND CONNECTS TO GROUND RODS OUTSIDE GATES.
20. BOND EACH GATE POST WITH #2 STC TO NEAREST PORTION OF GROUNDING SYSTEM INSIDE COMPOUND.
21. BOND EACH GATE TO GATE POST WITH FLEXIBLE INSULATED OR BRAIDED #4/0 COPPER STRAP. EXOTHERMICALLY WELD STRAP TO BOTH GATE AND GATE POSTS.
22. ANY METAL FENCE POST WITHIN 6FT OF A GROUNDED METAL OBJECT SHALL BE BONDED TO THE NEAREST GROUND RING. ANY METAL FENCE WITHIN 6FT OF A GROUND RING SHALL HAVE THE LINE POSTS BONDED TO THE GROUND RING AT 20FT MAXIMUM INTERVALS AS MEASURED ALONG THE LENGTH OF THE FENCE.
23. WHERE GROUND BASED RRU'S, RAYCAP OVP'S OR DIPLEXERS ARE INSTALLED AT THE EQUIPMENT AREA, BOND EACH COMPONENT TO NEAREST TDSGA GROUND BAR BELOW THE COMPONENT WITH #2 GREEN INSULATED STRANDED GROUND WIRE. SINGLE HOLE LUG OR RING TYPE CONNECTOR IS SUITABLE FOR CONNECTION TO GROUNDING STUD ON EACH COMPONENT.
24. NOTIFY VZW CM TO INSPECT GROUND RING BEFORE BACKFILLING. CONTRACTOR SHALL HIRE A 3RD PARTY TO PERFORM AN IEEE81 FALL OF POTENTIAL METHOD GROUND TEST. MAXIMUM ALLOWABLE RESISTANCE TO GROUND IS 5 OHMS. PROVIDE ADDITIONAL GROUND SYSTEM COMPONENTS AS REQUIRED TO ACHIEVE THIS VALUE.
25. REFER TO TOWER GROUNDING DIAGRAM AND NOTES FOR GROUND SYSTEM REQUIREMENTS ON THE TOWER.
26. GROUNDING OF ALL ELECTRICAL EQUIPMENT SHALL BE AS PER NEC, MUNICIPAL AND UTILITY COMPANY REQUIREMENTS.

verticalbridge
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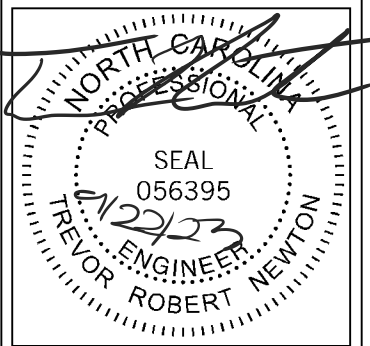
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KHA PROJECT NUMBER:

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DRAWN BY: CHECKED BY:

XQD DMF

SHEET TITLE:

GROUNDING NOTES

SHEET NUMBER:

E7

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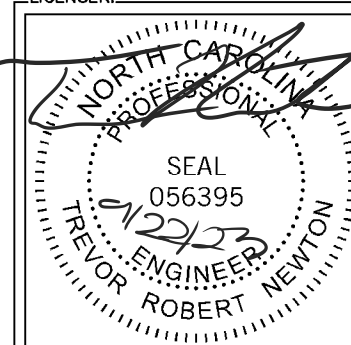
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GROUNDING PLAN

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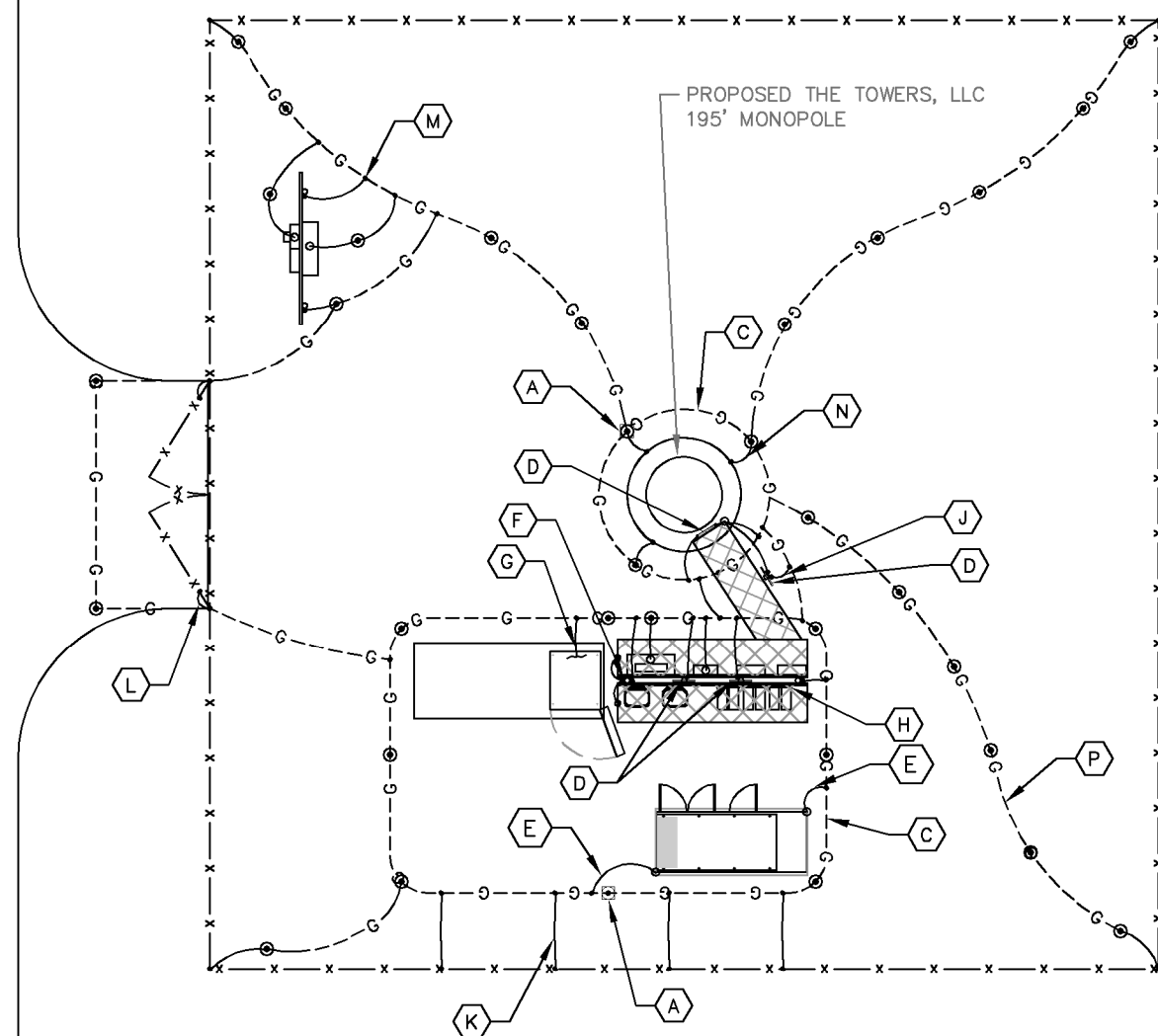
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KEY NOTES - GROUNDING EQUIPMENT

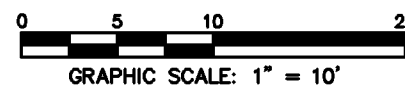
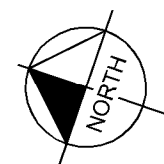
- (A) GROUND ROD TEST WELL (SEE DETAIL 1/E10).
- (B) GROUND ROD, TYPICAL (SEE DETAIL 2/E10 AND NOTES 2 AND 3 ON E7).
- (C) TOWER AND EQUIPMENT GROUND RING (SEE NOTES 1, 3, 4, 5, 6 AND 7 ON E7).
- (D) TDSGA-PA14 OR TDSGA-BC14 WHERE APPLICABLE (SEE NOTES 10 AND 11 ON E7).
- (E) GENERATOR GROUNDING (SEE NOTE 16 ON E7).
- (F) GPS ANTENNA GROUNDING (SEE NOTE 18 ON E7).
- (G) RF CABINET GROUNDING (SEE NOTE 14 ON E7).
- (H) RRU'S AND OVP'S GROUNDING (SEE NOTE 23 ON E7).
- (J) ICE BRIDGE POST BOND TO GROUND RING, TYPICAL (SEE NOTES 12 AND 13 ON E7).
- (K) FENCE POST GROUNDING, TYPICAL (SEE NOTE 22 ON E7).
- (L) GATE GROUNDING, TYPICAL (SEE NOTES 19, 20 & 21 ON E7).
- (M) UTILITY H-FRAME GROUNDING, TYPICAL (SEE SHEET E3 AND NOTE 13 ON E7).
- (N) TOWER GROUNDING, TYPICAL (SEE NOTES 5, 6 & 25 ON E7).
- (P) GROUND RADIALS, TYPICAL (SEE NOTE 6 ON E7).
- (Q) REFER TO SHEETS E7, E9, E10 & E11 FOR GROUNDING NOTES, DETAILS, AND SPECIFICATIONS.

LEGEND:

- G---G--- GROUND RING
- G⊙---G--- GROUND ROD EXOTHERMICALLY WELDED TO GROUND RING
- EXOTHERMIC WELD
- ⊙ GROUND ROD TEST WELL (SEE DETAIL 1/E10)
- ⊕ MECHANICAL CONNECTION

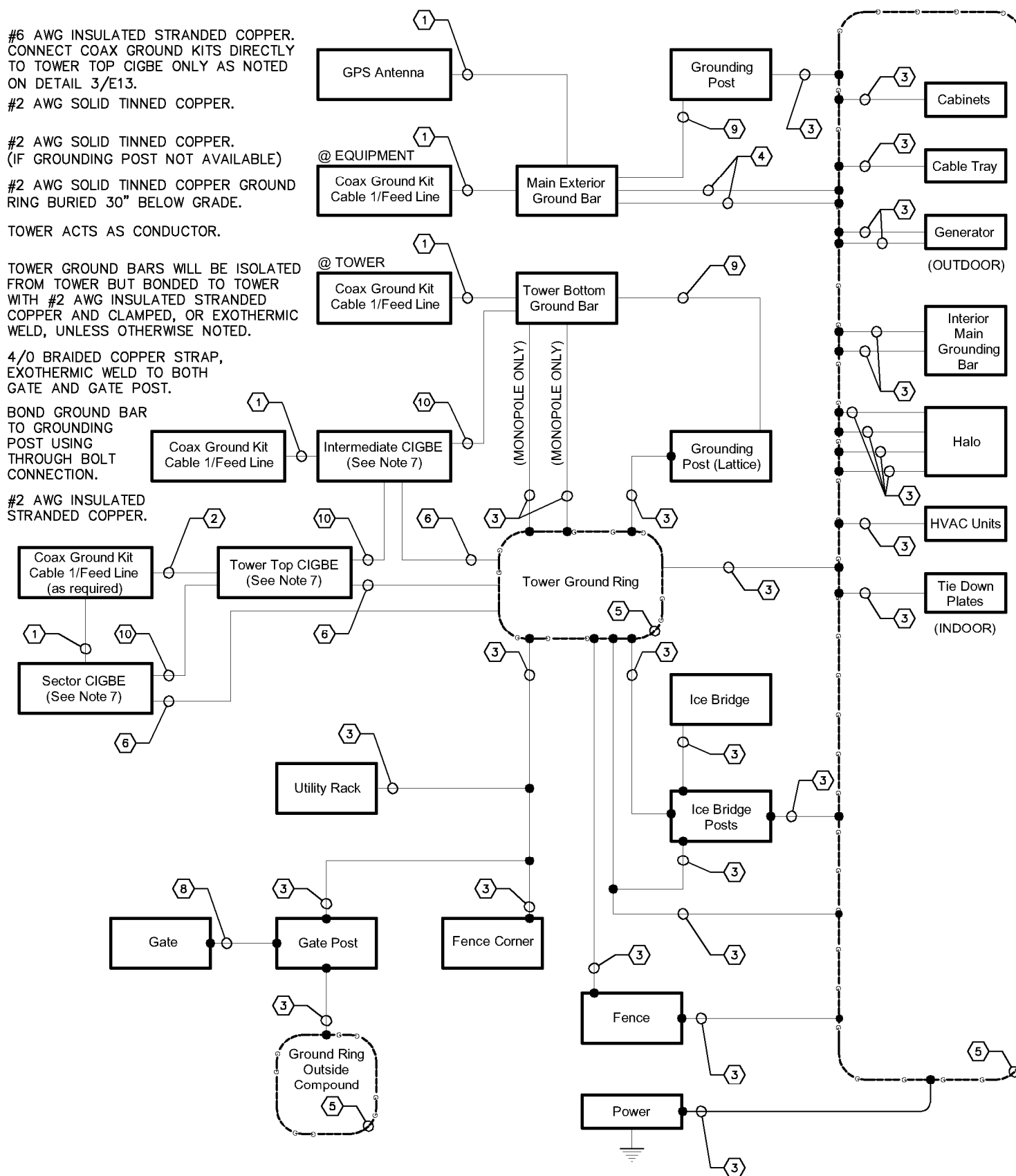


1 GROUNDING PLAN
E8 SCALE: 1" = 10'

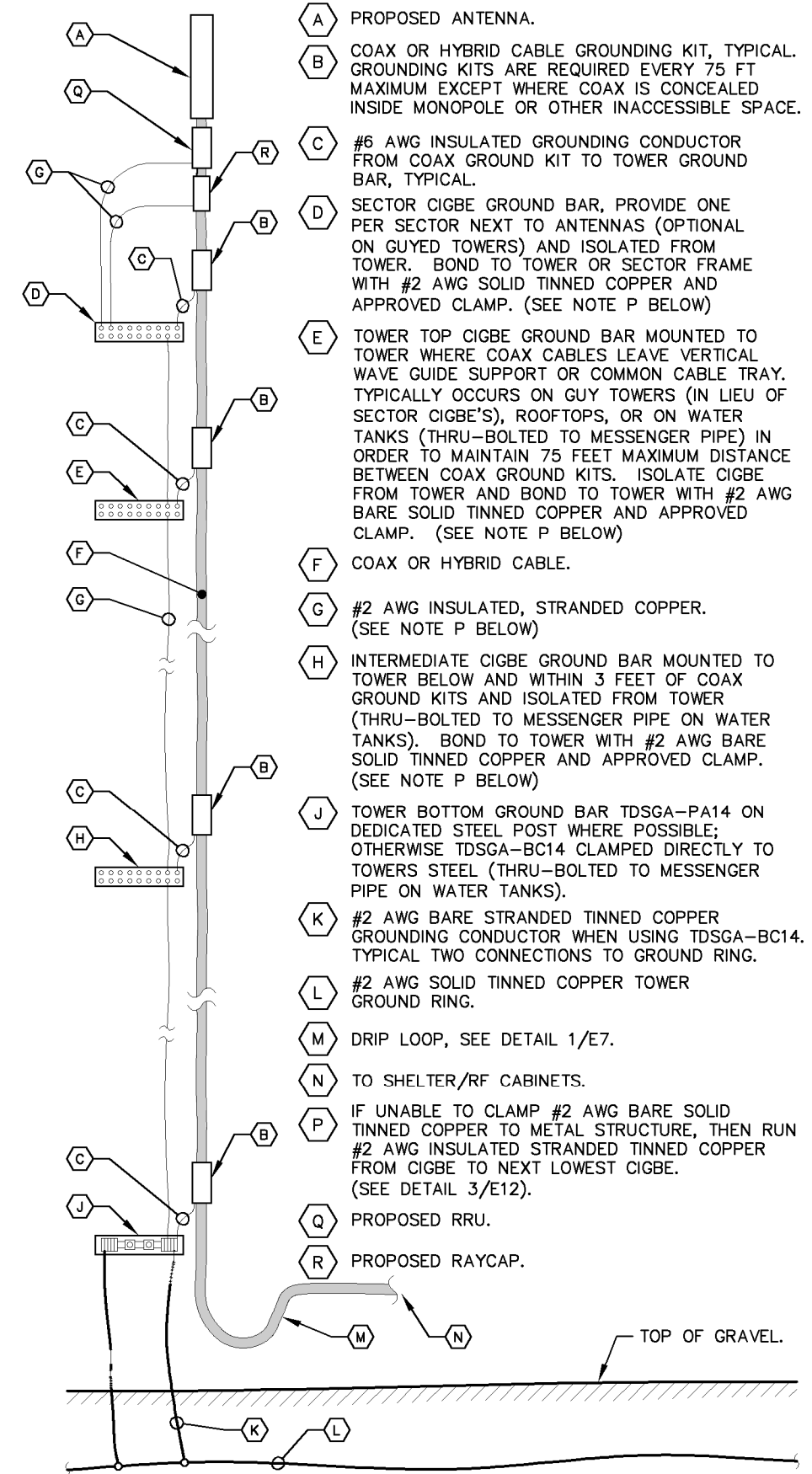


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- 1 #6 AWG INSULATED STRANDED COPPER.
- 2 #6 AWG INSULATED STRANDED COPPER. CONNECT COAX GROUND KITS DIRECTLY TO TOWER TOP CIGBE ONLY AS NOTED ON DETAIL 3/E13.
- 3 #2 AWG SOLID TINNED COPPER.
- 4 #2 AWG SOLID TINNED COPPER. (IF GROUNDING POST NOT AVAILABLE)
- 5 #2 AWG SOLID TINNED COPPER GROUND RING BURIED 30" BELOW GRADE.
- 6 TOWER ACTS AS CONDUCTOR.
- 7 TOWER GROUND BARS WILL BE ISOLATED FROM TOWER BUT BONDED TO TOWER WITH #2 AWG INSULATED STRANDED COPPER AND CLAMPED, OR EXOTHERMIC WELD, UNLESS OTHERWISE NOTED.
- 8 4/0 BRAIDED COPPER STRAP, EXOTHERMIC WELD TO BOTH GATE AND GATE POST.
- 9 BOND GROUND BAR TO GROUNDING POST USING THROUGH BOLT CONNECTION.
- 10 #2 AWG INSULATED STRANDED COPPER.



1 GROUNDING SINGLE LINE DIAGRAM
E9 NOT TO SCALE



2 COAX-TOWER GROUNDING SCHEMATIC
E9 NOT TO SCALE

verticalbridge
700 PARK OF COMMERCE DRIVE
BOCA RATON FL 33487
TEL: (561) 948-6367

PROJECT INFORMATION:
SITE NAME:
CROSSPOINT
SITE No.: US-NC-5292
PROJECT #: 2112981
NC HIGHWAY 42
MONCURE, NC 27559
CHATHAM COUNTY

PLANS PREPARED BY:
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NC License F-0102

REV: DATE: ISSUED FOR: BY:

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LICENSER:
TREVOR ENGINEER
SEAL
056395
11/22/23
TREVOR ROBERT NEWTON

KHA PROJECT NUMBER:
013291005
DRAWN BY: XQD CHECKED BY: DMF

SHEET TITLE:
GROUNDING SINGLE LINE DIAGRAM

SHEET NUMBER:
E9

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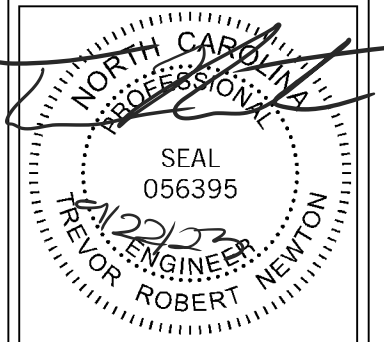
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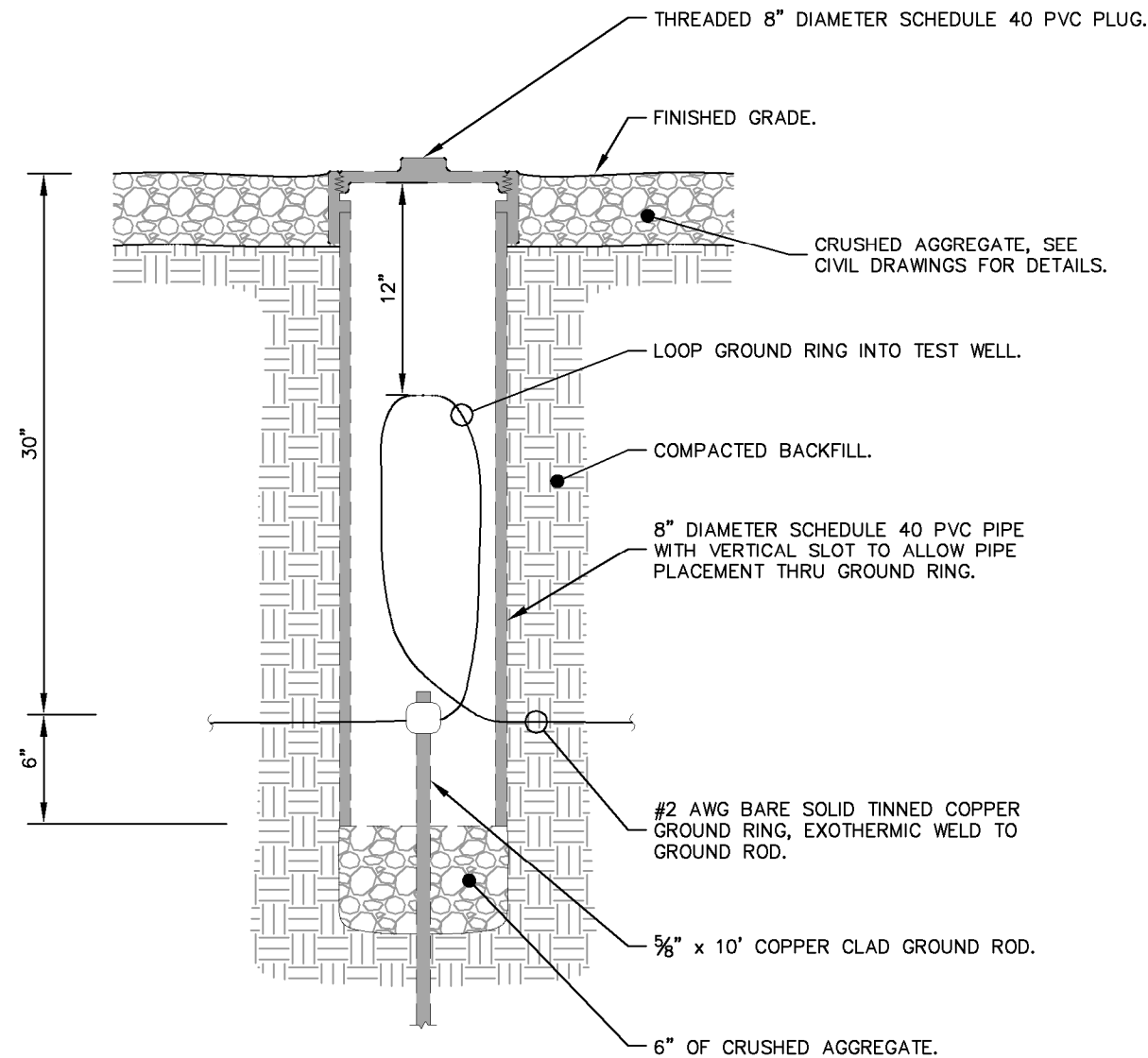
XQD DMF

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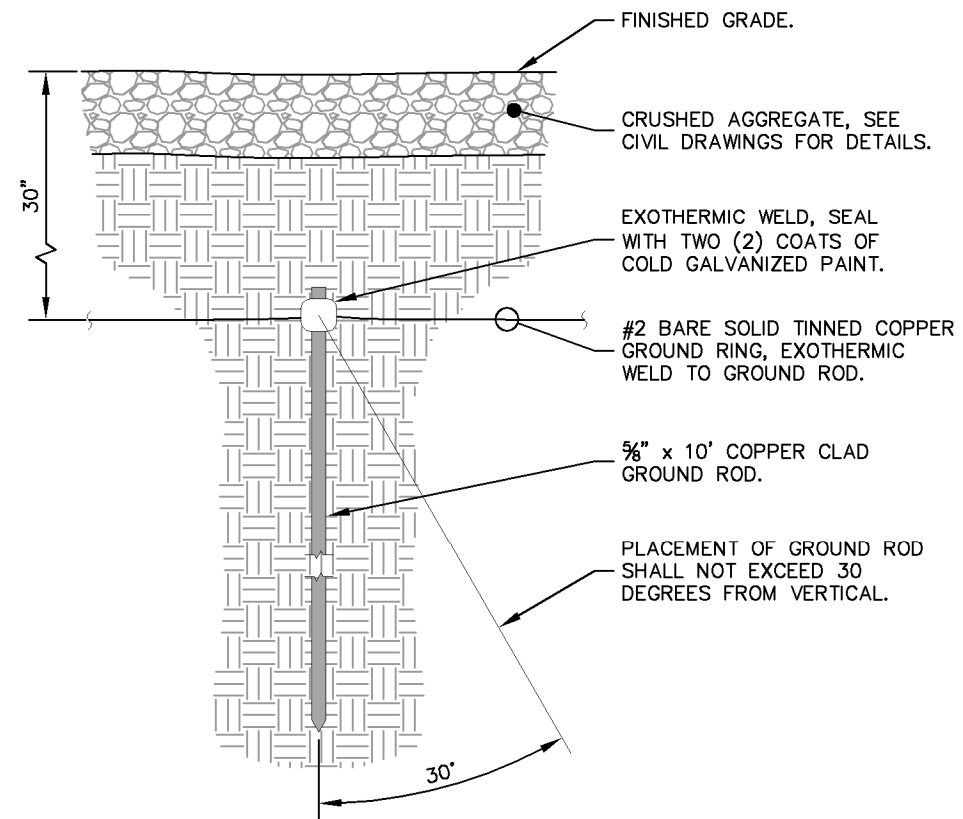
**GROUNDING
 DETAILS**

SHEET NUMBER:

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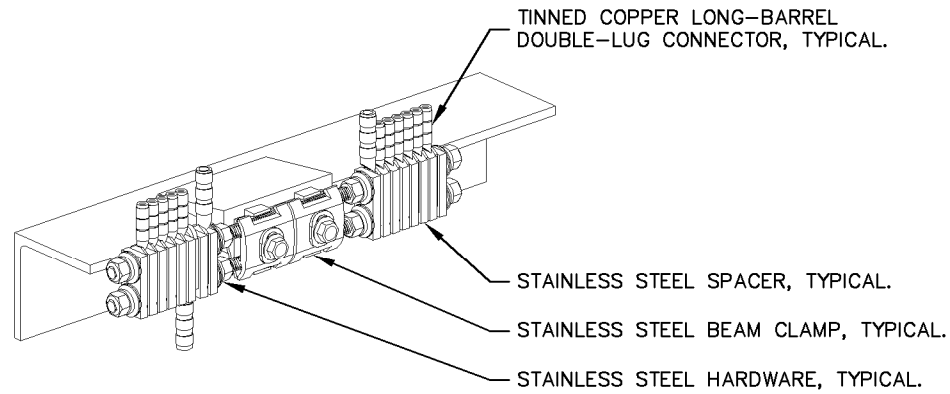


1 GROUND ROD TEST WELL DETAIL
 E10 NOT TO SCALE

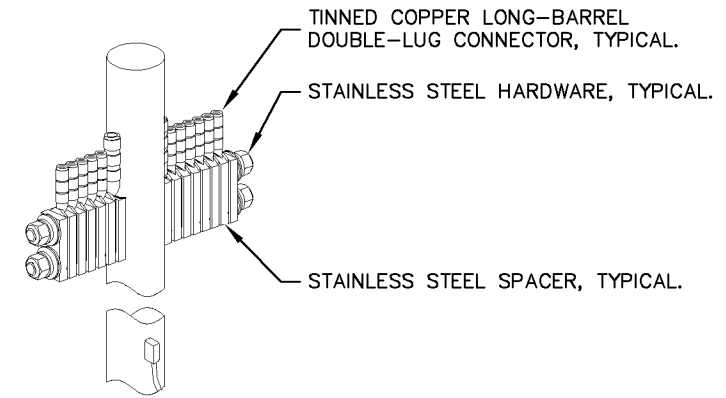


2 GROUND ROD INSTALLATION DETAIL
 E10 NOT TO SCALE

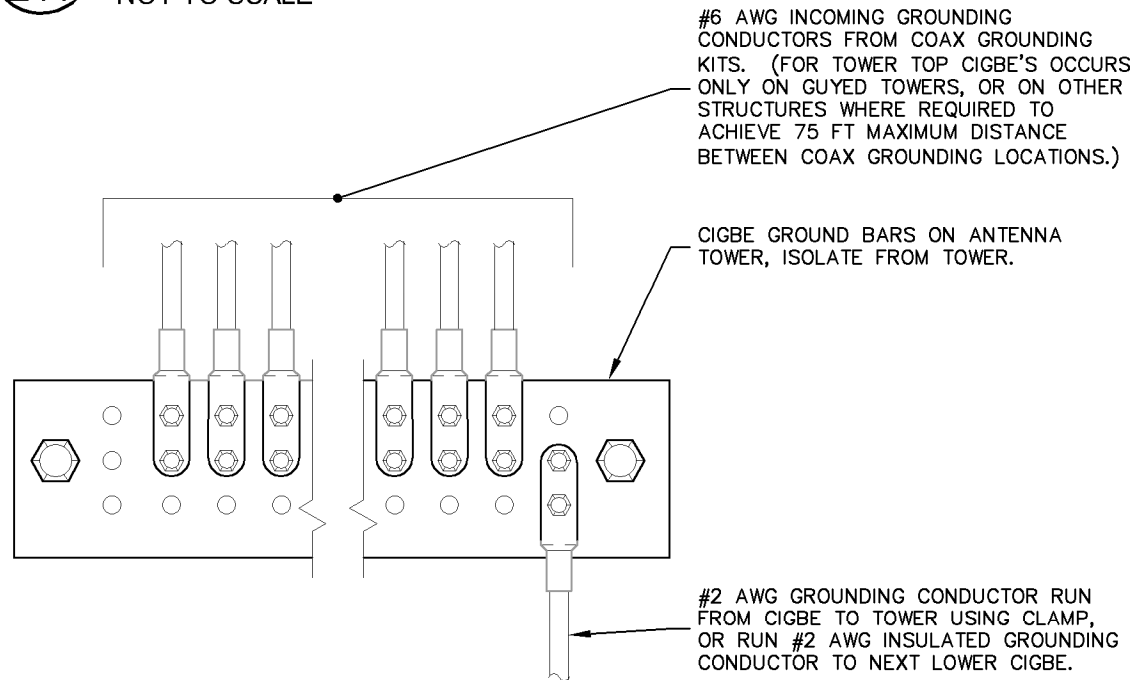
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1 BAR NONE GROUNDED BEAM CLAMP (TDSGA-BC14)
E11 NOT TO SCALE



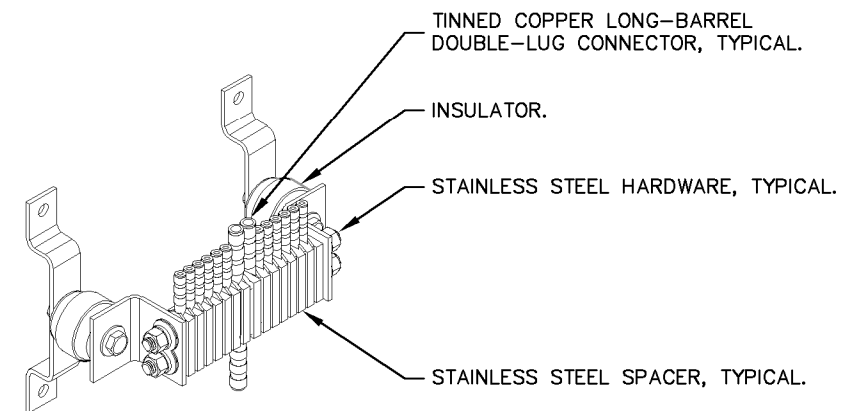
2 BAR NONE POST MOUNTED (TDSGA-PA14)
E11 NOT TO SCALE



3 ANTENNA GROUND WIRE INSTALLATION DETAIL
E11 NOT TO SCALE

NOTES:

1. ALL CIGBE GROUND BARS ON TOWER ARE TO BE ERICO TDSGA. TYPICALLY USE TDSGA-WB17 ISOLATED FROM UNISTRUT BRACKET.
2. IF CIGBE CANNOT BE CONNECTED TO TOWER WITH #2 AWG GROUNDING CONDUCTOR, VIA CLAMP OR EXOTHERMIC WELD, THEN RUN #2 AWG BLACK GROUND LEAD FROM CIGBE DOWN TO NEXT LOWER CIGBE. SECURE GROUND LEAD WITH NON-METALIC TIES AT SAME SPACING AS COAX SUPPORTS.



4 BAR NONE INSULATED (TDSGA-WB17)
E11 NOT TO SCALE

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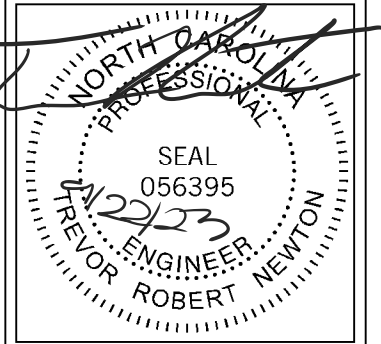
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LICENSER:



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013291005

DRAWN BY: CHECKED BY:

XQD

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SHEET TITLE:

**GROUNDING
 DETAILS**

SHEET NUMBER:

E11