

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

IN RE: :
: :
APPLICATION OF CELLCO PARTNERSHIP : DOCKET NO. 442
D/B/A VERIZON WIRELESS FOR A :
CERTIFICATE OF ENVIRONMENTAL :
COMPATIBILITY AND PUBLIC NEED FOR :
THE CONSTRUCTION, MAINTENANCE :
AND OPERATION OF A WIRELESS :
TELECOMMUNICATIONS FACILITY AT :
284 NEW CANAAN AVENUE, NORWALK, :
CONNECTICUT : JANUARY 11, 2023

**RESPONSES OF CELLCO PARTNERSHIP D/B/A VERIZON WIRELESS
TO CONNECTICUT SITING COUNCIL D&M PLAN INTERROGATORIES**

On December 28, 2022, the Connecticut Siting Council (“Council”) issued D&M Plan Interrogatories to Cellco Partnership d/b/a Verizon Wireless (“Cellco”), relating to Docket No. 442. Below are Cellco’s responses.

Question No. 1

The initial site plans included in the Development and Management (D&M) Plan submitted by the Certificate Holder on November 25, 2014, and supplemental site plans submitted on December 24, 2014 and January 20, 2015, show Cellco at different tower levels and a different compound layout when compared to Cellco's December 9, 2022 D&M Plan. Explain why the revisions to the antenna heights and compound layout are necessary.

Response

Since the approval of the AT&T D&M Plan, Cellco determined that it would prefer to install its antennas at the top of the proposed uni-pole tower rather than the lower levels previous referenced. Moving its antennas up in the uni-pole would allow Cellco to maximize its wireless service in the area, particularly along the Merritt Parkway.

Due to more recent changes in its antenna configuration and deployment practices, Cellco can now accommodate its needs by installing antennas and remote radio heads in two, rather than three, antenna mounting locations maximizing the potential for tower sharing at this site. *See* Revised D&M Plan Sheet A-2 included in Attachment 1. In addition to changes to its antenna configuration, Cellco no longer utilizes shelters to house its radio equipment. In this instance, Cellco intends to install two outdoor equipment cabinets and a propane fueled backup generator on a concrete equipment pad near the base of the tower. Revised D&M Plan Sheet A-3. Cellco will also now install a 500-gallon propane fuel tank within the fenced compound and will locate that tank closer to its equipment pad than previously shown.

Question No. 2

Will the tower be painted to match the existing West Unipole, consistent with the D&M Plan submitted by the Certificate Holder on November 25, 2014 and the supplemental site plans submitted on January 20, 2015, and approved by the Council on January 23, 2015? If yes, provide this information on the Site Plans. If no, explain.

Response

Yes. Information about the tower color (Brown) has been added to the Revised D&M Plan Sheet A-1 included in Attachment 1.

Question No. 3

Are there any changes to the Antenna Schedule on Site Plan RF-1 since the last update to the D&M Plan in August 2021? If, yes, provide the revised antenna/equipment schedule.

Response

No. There are no changes to the Antenna Schedule included on Plan Sheet RF-1, dated 08/16/21.

Question No. 4

What is the run time for the emergency backup generator before the propane fuel tank requires refilling?

Response

Under normal loading conditions, the proposed 30 kW propane generator can operate for approximately 5-7 days before (propane) refueling would be required.

Question No. 5

Page 9 of the geotechnical report recommends a geo-technical engineer should be on-site to observe excavation and foundation preparation. Does Cellco intend to implement this recommendation?

Response

Yes.

Question No. 6

Site Plans GN-1 and SN-1 refer to EIA/TIA-222-G. Revise the drawings to include reference to EIA/TIA-222-H.

Response

See Attachment 1 – Revised D&M Plans, Sheets GN-1 and SN-1.

Question No. 7

The Connecticut State Building Code was updated effective October 1, 2022. Has the facility been designed to the updated code? If not, what changes are necessary to the design of the facility to comply with the updated code?

Response

The antenna mount assessment report has been revised to indicate compliance with the

new Connecticut State Building Code requirements. *See Attachment 2.*

Question No. 8

Provide a rigorous cumulative far-field radio frequency analysis for the facility that accounts for Cellco's proposed equipment on the East Unipole and AT&T's existing equipment and DISH's proposed equipment (TS-DISH-103-221206) on the West Unipole, accounting for a 6-foot tall person at ground level and the actual antenna patterns for the facility with a cumulative %MPE at or below 100%. Identify the distance from the uni-poles with the highest cumulative %MPE.

Response

See Attachment 3. The distance from the uni-poles with the highest cumulative %MPE is 372.5 feet.

Question No. 9

Provide a construction schedule including hours and days of the week for construction activities.

Response

Construction will occur from 7 a.m. to 7 p.m., Monday through Saturday. Cellco anticipates construction of the approved facility to take 4-6 months.

Question No. 10

Confirm notice of the filing, or a copy of the D&M Plan, was provided to the property owner, pursuant to Regulations of Connecticut State Agencies §16-50j-75(e).

Response

A copy of the complete D&M Plan package was mailed to the property owner on December 29, 2022.

CERTIFICATE OF SERVICE

I hereby certify that on the 11th day of January 2023, a copy of the foregoing was sent,
via electronic and first class mail, to:

Daniel Patrick, Esq.
Lucia Chiochio, Esq.
Cuddy & Feder LLP
445 Hamilton Avenue, 14th Floor
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Indian Hill RE LLC
46 Indian Hill Road
Westport, CT 06880

Harry Rilling, Mayor
City of Norwalk
125 East Avenue
P.O. Box 5125
Norwalk, CT 06856-5125



Kenneth C. Baldwin

ATTACHMENT 1

CELLCO PARTNERSHIP
d.b.a. Verizon
 WIRELESS COMMUNICATIONS FACILITY

NORWALK 3 CT
 284 NEW CANAAN AVENUE
 NORWALK, CT 06850
 DOCKET NO. 442

FOR CONSTRUCTION

PREPARED FOR: CELLCO PARTNERSHIP D.B.A.
verizon
TEP
 NORTH EAST
 45 BEECHWOOD DRIVE, NORTH ANDOVER, MA 01845
 TEL: (978) 557-5553



CHECKED BY: JX

APPROVED BY: DPH

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
8	01/09/23	REV. BLDG CODE, TWR PAINT NOTE	TR
5	05/19/22	REVISED ANTENNA CANISTER SIZE	SLY
4	08/16/21	ADD ICE CANOPY, REV./NEW RFDS	SLY
3	11/21/19	ADDED TOWER FOUNDATION BUFFER	SLY
2	09/10/18	REVISED PER COMMENTS	KAM
1	08/10/18	REVISED PER COMMENTS	KAM
0	08/13/18		KAM

SITE NAME:
NORWALK 3 CT

SITE ADDRESS:
 284 NEW CANAAN AVENUE
 NORWALK, CT 06850

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1



VICINITY MAP SCALE: N.T.S.

DIRECTIONS TO SITE: FROM VERIZON WALLINGFORD CT OFFICE

20 ALEXANDER DRIVE, WALLINGFORD, CT 06492

HEAD NORTH ON ALEXANDER DR TOWARD BARNES INDUSTRIAL RD S
 TURN RIGHT ONTO BARNES INDUSTRIAL RD S
 TURN LEFT AT THE 1ST CROSS STREET ONTO CT-68 W
 TURN RIGHT TOWARD US-5 N/N COLONY RD
 TURN RIGHT ONTO US-5 N/N COLONY RD
 TURN LEFT TO MERGE ONTO CT-15 S TOWARD NEW HAVEN
 TAKE EXIT 38 FOR CT-123/NEW CANAAN AVENUE
 TURN RIGHT ONTO CT-123 S/NEW CANAAN AVE
 ARRIVE AT 284 NEW CANAAN AVENUE, NORWALK, CT ON LEFT

CONSULTANT TEAM

PROJECT ENGINEER
 TOWER ENGINEERING PROFESSIONAL,
 OPCO, LLC
 45 BEECHWOOD DRIVE
 NORTH ANDOVER, MA 01845
 TEL: 1-(978)-557-5553

PROJECT SUMMARY

SITE NAME: NORWALK 3 CT

SITE ADDRESS: 284 NEW CANAAN AVENUE
 NORWALK, CT 06850

APPLICANT: CELLCO PARTNERSHIP
 d/b/a VERIZON WIRELESS
 20 ALEXANDER DRIVE
 WALLINGFORD, CT 06492

LATITUDE: N 41° 08' 09.45"

LONGITUDE: W 73° 27' 21.85"

PARCEL ID: 17508

PROPERTY OWNER: INDIAN HILL RE LLC
 46 INDIAN HILL ROAD
 WESTPORT, CT 06880

SHEET INDEX

SHT. NO.	DESCRIPTION
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GN-1	GENERAL NOTES
C-1	SITE PLAN
C-2	COMPOUND PLAN
A-1	ELEVATION
A-2	ANTENNA DETAILS
A-3	EQUIPMENT PLAN AND DETAILS
A-4	CABLE SUPPORT DETAILS
A-5	SITE SURFACE COVER AND EROSION CONTROL DETAILS
A-6	CONCRETE PAD DETAILS
SN-1	STRUCTURAL NOTES AND SPECIAL INSPECTIONS
S-1	ICE CANOPY DETAILS
S-2	ICE CANOPY DETAILS
E-1	ELECTRICAL/TELCO RISER DIAGRAM AND NOTES
E-2	GROUNDING RISER DIAGRAM
E-3	GROUNDING PLAN
E-4	GROUNDING DETAILS
RF-1	RF PLUMBING DIAGRAM & BILL OF MATERIAL

CONSTRUCTION DRAWINGS ARE VALID FOR SIX MONTHS AFTER ENGINEER OF RECORD'S STAMPED AND SIGNED SUBMITTAL DATE LISTED HEREIN.



NOTE TO GENERAL CONTRACTOR:

'RF' DESIGN AND EQUIPMENT IS BASED UPON
RFDS ISSUED BY VZW DATED: 01/03/2023 REV 5
 THE CONTRACTOR OF RECORD SHALL CONTACT VZW PRIOR TO ANY AND ALL ORDERING/PURCHASING/INSTALLATION OF EQUIPMENT TO VERIFY THAT THE 'RF' LISTED IN THE DRAWING SET IS CURRENT AND UP TO DATE.

DIVISION 01000 - GENERAL REQUIREMENTS

PART 1 - GENERAL

REFER TO VERIZON STANDARD CONSTRUCTION SPECIFICATIONS. IN CASE OF A CONFLICT, VERIZON STANDARD CONSTRUCTION SPECIFICATIONS (LATEST EDITION) SHALL BE FOLLOWED.

PART 2 - GENERAL NOTES

1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
2. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) VERIZON'S REPRESENTATIVE OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK.
4. THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE THEMSELVES WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONSTRUCTION DRAWINGS.
6. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS / CONTRACT DOCUMENTS.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S / VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
8. THE CONTRACTOR SHALL MAINTAIN A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUM'S OR CLARIFICATIONS AVAILABLE FOR THE USE OF ALL PERSONNEL INVOLVED WITH THE PROJECT.
9. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
11. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING SITE CONDITIONS DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
12. THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE ALL UNNECESSARY MATERIAL.
13. THE CONTRACTOR SHALL COMPLY WITH ALL PERTINENT SECTIONS OF THE STATE BASIC BUILDING CODE, LATEST EDITION, AND ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY THE ARCHITECT/ENGINEER.
14. THE CONTRACTOR SHALL NOTIFY VERIZON'S REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL THE CONFLICT IS RESOLVED BY VERIZON'S REPRESENTATIVE.
15. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
16. THE CONTRACTOR SHALL NOTIFY THE RF ENGINEER FOR ANTENNA AZIMUTH VERIFICATION (DURING ANTENNA INSTALLATION) PRIOR TO CONDUCTING SITE SWEEPING.
17. THE GENERAL CONTRACTOR SHALL IN ALL INSTANCES CONFORM TO THE SPECIFICATIONS ISSUED BY VERIZON.
18. WHERE APPLICABLE PROVIDE CORE DRILLING AS NECESSARY FOR PENETRATIONS OR RISERS THROUGH THE BUILDING. DO NOT PENETRATE STRUCTURAL MEMBERS WITHOUT STRUCTURAL ENGINEER'S APPROVAL. SLEEVES AND/OR PENETRATIONS IN FIRE RATED CONSTRUCTION SHALL BE PACKED WITH FIRE RATED MATERIAL WHICH SHALL MAINTAIN THE FIRE RATING OF THE STRUCTURE. FILL FOR FLOOR PENETRATIONS SHALL PREVENT PASSAGE OF WATER, SMOKE FIRE AND FUMES. ALL MATERIAL SHALL BE UL APPROVED FOR THIS PURPOSE.

CONCRETE

CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.01 DESCRIPTION

WORK INCLUDES CONSTRUCTION OF CAST-IN-PLACED CONCRETE FOUNDATIONS, INCLUDING FURNISHING AND INSTALLING READY-MIX CONCRETE, REINFORCING, FORMWORK, AND ACCESSORY MATERIALS AS SHOWN ON THE DRAWINGS. CAST-IN-PLACE CONCRETE INCLUDES ALL SITE CONCRETE, INCLUDING FOUNDATIONS, SLABS ON GRADE, EQUIPMENT PADS, PIERS AND GUARD POST FOUNDATIONS.

1.02 RELATED WORK

- A. COORDINATE UNDER SLAB CONDUITS
- B. COORDINATE WITH GROUNDING

1.03 APPLICABLE STANDARDS

- A. ACI-301 - SPECIFICATIONS FOR STRUCTURAL CONCRETE BUILDINGS.
- B. ACI 347 - GUIDE TO FORMWORK FOR CONCRETE.
- C. ASTM C33 - CONCRETE AGGREGATES
- D. ASTM C94 - READY-MIXED CONCRETE
- E. ASTM C150 - PORTLAND CEMENT
- F. ASTM C280 - AIR-ENTRAINING ADMIXTURES FOR CONCRETE.
- G. ASTM C309 - LIQUID MEMBRANE FORMING COMPOUNDS FOR CURING CONCRETE.
- H. ASTM C494 - CHEMICAL ADMIXTURES FOR CONCRETE.

- I. ASTM A615 - DEFORMED STEEL BARS FOR CONCRETE REINFORCEMENT.
- J. ASTM A185 - STEEL WELDED WIRE FABRIC FOR CONCRETE REINFORCEMENT

1.04 QUALITY ASSURANCE

CONCRETE MATERIALS AND OPERATIONS SHALL BE TESTED AND INSPECTED BY THE ENGINEER AS DIRECTED BY VERIZON.

1.05 TESTS

CONCRETE TESTS SHALL BE AS DETAILED BELOW OR AS DIRECTED BY VERIZON. CONCRETE MATERIALS AND OPERATIONS SHALL BE TESTED AND INSPECTED BY THE ENGINEER AS THE WORK PROGRESSES. FAILURE TO DETECT ANY DEFECTIVE WORK OR MATERIAL SHALL NOT IN ANY WAY PREVENT LATER REJECTION WHEN SUCH DEFECT IS DISCOVERED NOR SHALL IT OBLIGATE THE ENGINEER FOR FINAL ACCEPTANCE.

A. THREE CONCRETE TEST CYLINDERS SHALL BE TAKEN OF THE TOWER PIER FOUNDATION. ONE SHALL BE TESTED @ THREE DAYS, ONE @ TWENTY-EIGHT DAYS. THE THIRD CYLINDER SHALL BE KEPT SEPARATELY. (IF REQUIRED TO BE USED IN THE FUTURE.)

B. ONE SLUMP TEST SHALL BE TAKEN FOR EACH SET OF TEST CYLINDERS TAKEN. SLUMP SHALL NOT EXCEED 4" UNLESS OTHERWISE NOTED.

PART 2 - PRODUCT

2.01 CONCRETE MATERIALS

CONCRETE SHALL BE COMPOSED OF PORTLAND CEMENT, WATER, FINE AND COARSE AGGREGATES, AND ADMIXTURES AS SPECIFIED BELOW, ALL WELL MIXED AND BROUGHT TO PROPER CONSISTENCY, CLASS I, II, III, OR V.

A. CEMENT: CEMENT SHALL BE TYPE II, GRAY COLOR, LOW-ALKALI PORTLAND CEMENT CONFORMING TO ASTM C150.

B. FINE AND COARSE AGGREGATES: AGGREGATES FOR USE IN CONCRETE SHALL COMPLY WITH ASTM C033.

C. WATER: WATER FOR MIXING AND CURING CONCRETE SHALL BE FREE FROM SEWAGE, OIL, ACID, ALKALI, AND SALTS AND SHALL BE FREE FROM QUESTIONABLE QUANTITIES OF SILT, ORGANIC MATTER, AND OTHER DELETERIOUS SUBSTANCES.

2.02 ADMIXTURES

A. CHEMICAL ADMIXTURE: ASTM C494, TYPE A- WATER REDUCING OR TYPE D - WATER REDUCING AND RETARDING.

2.03 CURING COMPOUND: ASTM C309, TYPE 1. CLASS B; TRANSLUCENT.

2.04 ACCESSORIES

A. NONSHRINK GROUT: PREMIXED COMPOUND CONSISTING OF NONMETALLIC AGGREGATE, CEMENT, WATER REDUCING AND PLASTICIZING AGENTS; CAPABLE OF DEVELOPING MINIMUM COMPRESSIVE STRENGTH OF 7,000 PSI IN 28 DAYS.

B. JOINT FILLER: BITUMINOUS TYPE, ASTM D1751 OR NON-BITUMINOUS TYPE ASTM D1752.

C. ANCHOR BOLTS: ASTM A307. UNPRIMED.

2.05 CONCRETE MIX

A. CONCRETE SHALL BE PROPORTIONED PER REQUIREMENTS OF ACI 301 & VERIZON CONSTRUCTION SPECIFICATIONS FOR DESIGN STRENGTH & WORKABILITY. CONCRETE SHALL BE DELIVERED WITHIN 45 MINUTES OF ADDITION OF WATER TO MIX.

B. THE FOLLOWING STRENGTHS SHALL BE USED:
1. FENCE POST FOUNDATIONS - DESIGN COMPRESSIVE STRENGTH AT 28 DAYS OF 3,000 PSI.
2. EQUIPMENT PLATFORM PIERS FOUNDATION - DESIGN COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS UNLESS OTHERWISE NOTED. (CONTRACTOR FURNISH 4,000 PSI CONCRETE).

3. CONCRETE STRENGTH FOR MONOPOLE OR TOWER FOUNDATION SHALL BE 1,000 PSI MORE THAN THE MANUFACTURER'S RECOMMENDATIONS, 4,000 PSI MINIMUM.

C. USE ACCELERATING ADMIXTURES IN COLD WEATHER AND RETARDING ADMIXTURES IN HOT WEATHER ONLY WHEN APPROVED BY THE ENGINEER.

D. TOTAL AIR CONTENT SHALL BE 5 PERCENT PLUS OR MINUS 1 PERCENT.

PART 3 - EXECUTION

3.01 INSPECTION

THE CONTRACTOR SHALL VERIFY ANCHORS, SEATS, PENETRATIONS, PLATES, REINFORCEMENT, AND OTHER ITEMS TO CAST INTO CONCRETE ARE ACCURATELY PLACED, HELD SECURELY, AND SHALL NOT CAUSE HARDSHIP IN PLACING CONCRETE.

3.02 PREPARATION

A. THE CONTRACTOR SHALL PREPARE PREVIOUSLY PLACED CONCRETE BY CLEANING WITH STEEL BRUSH AND APPLYING BONDING AGENT. APPLY BONDING AGENT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

3.03 PLACING CONCRETE

A. THE ENGINEER SHALL BE NOTIFIED NOT LESS THAN 24 HOURS IN ADVANCE OF CONCRETE PLACEMENT. UNLESS INSPECTION IS WAIVED IN EACH CASE, PLACING OF CONCRETE SHALL BE PERFORMED ONLY IN THE PRESENCE OF THE ENGINEER.

CONCRETE SHALL NOT BE PLACED UNTIL ALL FORM WORK, EMBEDDED PARTS, STEEL REINFORCEMENT, FOUNDATION SURFACES, AND JOINTS INVOLVED IN THE PLACING HAVE BEEN APPROVED, AND UNTIL FACILITIES ACCEPTABLE TO THE VERIZON REPRESENTATIVE HAVE BEEN PROVIDED AND MADE READY FOR ACCOMPLISHMENT OF THE WORK AS SPECIFIED. CONCRETE MAY NOT BE ORDERED FOR PLACEMENT UNTIL ALL ITEMS HAVE BEEN APPROVED AND VERIZON HAS PERFORMED A FINAL INSPECTION AND GIVEN APPROVAL TO START PLACEMENT IN WRITING.

B. UNLESS SPECIFIED TO BE BEVELED, EXPOSED EDGES OF FLOATED OR TROWELED SURFACES SHALL BE EDGED WITH A TOOL HAVING A 1/4" CORNER RADIUS.

C. PLACEMENT OF CONCRETE SHALL BE IN ACCORDANCE WITH ACI 301.

D. THE CONTRACTOR SHALL ENSURE THAT REINFORCEMENT, INSERTS, EMBEDDED PARTS, FORMED JOINTS AND VAPOR BARRIERS ARE NOT DISTURBED DURING CONCRETE PLACEMENT.

E. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
CONCRETE CAST AGAINST EARTH.....3 IN.
CONCRETE EXPOSED TO EARTH OR WEATHER:
#6 AND LARGER.....2 IN.
#5 AND SMALLER & WWF.....1 1/2 IN.
CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:
SLAB AND WALL.....3/4 IN.
BEAMS AND COLUMNS.....1 1/2 IN.

3.04 SURFACE FINISHES

A. SURFACES AGAINST WHICH BACK FILL OR CONCRETE SHALL BE PLACED REQUIRE NO TREATMENT EXCEPT REPAIR OF DEFECTIVE AREAS.

B. SURFACES THAT WILL BE PERMANENTLY EXPOSED SHALL PRESENT A UNIFORM FINISH PROVIDED BY THE REMOVAL OF FINES AND THE FILLING OF HOLES AND OTHER IRREGULARITIES WITH DRY PACK GROUT, OR BY SACKING WITH UTILITY OR ORDINARY GROUT.

C. SURFACES THAT WOULD NORMALLY BE LEVEL AND WHICH WILL BE PERMANENTLY EXPOSED TO THE WEATHER SHALL BE SLOPED FOR DRAINAGE. UNLESS ENGINEER'S DESIGN DRAWING SPECIFIES A HORIZONTAL SURFACE OR SHOWS THE SLOPE REQUIRED. THE TOPS OF NARROW SURFACES, SUCH AS STAIR TREADS, WALLS, CURBS, AND PARAPETS SHALL BE SLOPED APPROXIMATELY 3/8" /FT OF WIDTH. BROADER SURFACES SUCH AS WALKS, ROADS, PARKING AREAS AND PLATFORMS SHALL BE SLOPED APPROXIMATELY 1/4" /FT.

D. SURFACES THAT WILL BE COVERED BY BACKFILL OR CONCRETE SHALL BE SMOOTH SCREEDED.

E. EXPOSED SLAB AND PIER SURFACES SHALL BE CONSOLIDATED, SCREEDED, FLOATED, AND "STEEL TROWELED." HAND OR POWER-DRIVEN EQUIPMENT MAY BE USED FOR FLOATINGS WHICH SHALL BE STARTED AS SOON AS THE SCREEDED SURFACE HAS ATTAINED A STIFFNESS TO PERMIT FINISHING OPERATIONS. ALL EDGES MUST HAVE A 3/4" CHAMFER. CONCRETE EXPANSION ANCHORS AND EPOXY ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS. MANUFACTURER'S MINIMUM CONCRETE EDGE DISTANCE SHALL BE MAINTAINED DURING INSTALLATION.

3.05 PATCHING

THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY UPON REMOVAL OF THE FORMS TO OBSERVE CONCRETE SURFACE CONDITIONS. IMPERFECTIONS SHALL BE PATCHED ACCORDING TO THE ENGINEERS DIRECTION.

3.06 DEFECTIVE CONCRETE

THE CONTRACTOR SHALL MODIFY OR REPLACE CONCRETE NOT CONFORMING TO REQUIRED LEVELS AND LINES, DETAILS, AND ELEVATIONS AS SPECIFIED IN ACI 301.

3.07 PROTECTION

A. IMMEDIATELY AFTER PLACEMENT, THE CONTRACTOR SHALL PROTECT THE CONCRETE FROM PREMATURITY DRYING. EXCESSIVELY HOT OR COLD TEMPERATURES, AND MECHANICAL INJURY. FINISHED WORK SHALL BE PROTECTED.

B. CONCRETE SHALL BE MAINTAINED WITH MINIMAL MOISTURE LOSS AT RELATIVELY CONSTANT TEMPERATURE FOR PERIOD NECESSARY FOR HYDRATION OF CEMENT AND HARDENING OF CONCRETE.

C. ALL CONCRETE SHALL BE WATER CURED PER ACCEPTABLE PRACTICES SPECIFIED BY ACI CODE.

METALS

PART 1 - GENERAL

1.01 WORK INCLUDED

A. THE WORK CONSISTS OF THE FABRICATION AND INSTALLATION OF ALL MATERIALS TO BE FURNISHED, AND WITHOUT LIMITING THE GENERALITY THEREOF, INCLUDES ALL EQUIPMENT, LABOR AND SERVICES REQUIRED FOR ALL STRUCTURAL STEEL WORK, INCLUDING ALL ITEMS INCIDENTAL THERETO AS SPECIFIED HEREIN AND AS SHOWN ON THE DRAWINGS. INCLUDING:

1. STEEL FRAMING INCLUDING BEAMS, ANGLES, CHANNELS AND PLATES.

2. WELDING AND BOLTING OF ATTACHMENTS.

1.02 REFERENCE STANDARDS

A. THE WORK SHALL CONFORM TO THE CODES AND STANDARDS OF THE FOLLOWING AGENCIES AS FURTHER CITED HEREIN:

1. ASTM: AMERICAN SOCIETY FOR TESTING AND MATERIALS, AS PUBLISHED IN "COMPILATION OF ASTM STANDARDS IN BUILDING CODES"

2. AWS: AMERICAN WELDING SOCIETY INC., AS PUBLISHED IN "STANDARD D1.1-2015, STRUCTURAL WELDING CODE".

3. AISC: AMERICAN INSTITUTE FOR STEEL CONSTRUCTION, AS PUBLISHED IN "CODE FOR STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES", "SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".

4. EIA/TIA-222-H STRUCTURAL STANDARDS FOR STEEL ANTENNA SUPPORTING STRUCTURES.

PART 2 - STRUCTURAL NOTES

ALL STEEL WORK SHALL BE PAINTED OR GALVANIZED IN ACCORDANCE WITH THE DRAWINGS AND VERIZON SPECIFICATIONS UNLESS OTHERWISE NOTED. STRUCTURAL STEEL SHALL BE ASTM-A992-50 UNLESS OTHERWISE NOTED ON THE SITE SPECIFIC DRAWINGS. STEEL DESIGN, INSTALLATION AND BOLTING SHALL BE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) "MANUAL OF STEEL CONSTRUCTION". MISC. STEEL TO BE A36.

1. DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS. ANSI/TIA-222-H STRUCTURAL STANDARDS FOR STEEL ANTENNA SUPPORTING STRUCTURES.

2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND ENGINEER OF RECORD.

3. DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".

4. STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE A, OR ASTM A53 PIPE STEEL BLACK AND HOT-DIPPED ZINC-COATED WELDED AND SEAMLESS TYPE E OR S, GRADE B. PIPE SIZES INDICATED ARE NOMINAL. ACTUAL OUTSIDE DIAMETER IS LARGER.

5. STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS (BEARING TYPE) AND CONFORM TO ASTM A325 "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS". UNLESS OTHERWISE NOTED, ALL BOLTS SHALL BE 5/8" DIA TYPE X.

6. ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.

7. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.

8. FIELD WELDS, DRILL HOLES, SAW CUTS AND ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED WITH AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH REQUIREMENTS OF ASTM A780. GALVANIZING REPAIR PAINT SHALL HAVE 85 PERCENT ZINC BY WEIGHT, ZIRP BY DUNCAN GALVANIZING, GALVA BRIGHT PREMIUM BY CROWN OR EQUAL. THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NOT LESS THAN 4 COATS (ALLOW TIME TO DRY BETWEEN COATS) WITH A RESULTING COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.

9. CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING ETOX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND D11. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION", 14TH EDITION.

10. INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE CONSTRUCTION MANAGER APPROVAL.

11. UNISTRUTS SHALL BE FORMED STEEL CHANNEL STRUT FRAMING AS MANUFACTURED BY UNISTRUT CORP, WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1 5/8"x1 5/8"x12GA. UNLESS OTHERWISE NOTED, AND SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION FOR EXTERNAL USE APPLICATIONS.

12. UNLESS OTHERWISE NOTED, EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HILTI-HIT HY-270 AND OR HY-200 SYSTEMS (AS SPECIFIED ON DWG.) OR ENGINEERS APPROVED EQUAL WITH 4-1/4" MIN. EMBEDMENT DEPTH.

13. UNLESS OTHERWISE NOTED, EXPANSION BOLTS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 4, CLASS I, HILTI KWIK BOLT II OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. MINIMUM EMBEDMENT SHALL BE THREE AND ONE HALF (3 1/2) INCHES.

WOOD

1. PLYWOOD SHALL MEET THE RECOMMENDATIONS OF THE A.P.A.
2. ALL LUMBER SHALL BE SPRUCE-PINE-FIR (SPF) #1 GRADE.
3. ALL LUMBER SHALL BE PRESSURE TREATED WITH PRESERVATIVES. ALLOWABLE BENDING STRESS: fb min = 1,000 PSI. MODULUS OF ELASTICITY: 1.6x10⁶ PSI
4. ALL JOIST HANGERS, CLIP ANGLES AND PLATES TO BE HEAVY GALVANIZED AS MANUFACTURED BY SIMPSON CO., OR APPROVED EQUAL.
5. ALL LVL'S TO BE MANUFACTURED BY BOSIE CASCADE OR APPROVED EQUAL.

SPECIAL CONSTRUCTION ANTENNA INSTALLATION

PART 1 - GENERAL

1.01 WORK INCLUDED

A. ANTENNAS AND HYBRIFLEX CABLES SHALL BE AS SPECIFIED ON THESE DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF PERSONNEL AND PROPERTY. STRICT ADHERENCE TO OSHA STANDARDS IS MANDATED.

B. INSTALL ANTENNAS AS INDICATED ON DRAWINGS AND VERIZON SPECIFICATIONS.

C. INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS.

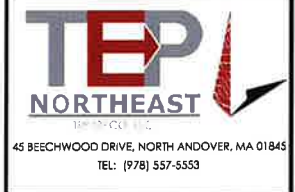
D. INSTALL HYBRIFLEX CABLES AND TERMINATION'S BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. WEATHERPROOF ALL CONNECTORS BETWEEN THE ANTENNA AND EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. TERMINATE ALL COAXIAL CABLE THREE (3) FEET IN EXCESS OF ENTRY PORT LOCATION UNLESS OTHERWISE STATED.

E. ANTENNA MOUNTS AND HARDWARE SHALL BE PAINTED TO MATCH EXISTING CONDITIONS.

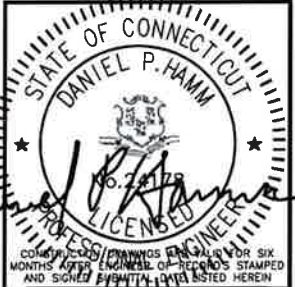
F. ANTENNA AND HYBRIFLEX CABLE GROUNDING:
1. ALL EXTERIOR #6 GREEN GROUND WIRE "DAISY CHAIN" CONNECTIONS ARE TO BE WEATHER SEALED.
2. ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL CABLE (NOT WITHIN BENDS).

FOR CONSTRUCTION

PREPARED FOR: CELLCO PARTNERSHIP D.B.A.



SPECIAL CONSTRUCTION ANTENNA INSTALLATION
PART 1 - GENERAL
1.01 WORK INCLUDED
A. ANTENNAS AND HYBRIFLEX CABLES SHALL BE AS SPECIFIED ON THESE DRAWINGS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF PERSONNEL AND PROPERTY. STRICT ADHERENCE TO OSHA STANDARDS IS MANDATED.
B. INSTALL ANTENNAS AS INDICATED ON DRAWINGS AND VERIZON SPECIFICATIONS.
C. INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS.
D. INSTALL HYBRIFLEX CABLES AND TERMINATION'S BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. WEATHERPROOF ALL CONNECTORS BETWEEN THE ANTENNA AND EQUIPMENT PER MANUFACTURER'S REQUIREMENTS. TERMINATE ALL COAXIAL CABLE THREE (3) FEET IN EXCESS OF ENTRY PORT LOCATION UNLESS OTHERWISE STATED.
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2. ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL CABLE (NOT WITHIN BENDS).



CHECKED BY: JX

APPROVED BY: DPH

SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
6	01/09/23	REV. BLDG CODE, THIR PAINT NOTE	TR
5	05/19/22	REVISED ANTENNA CASTER SIZE	SLY
4	08/16/21	ADD ICE CANOPY, REV. NEW RTDS	SLY
3	11/21/19	ADDED TOWER FOUNDATION BUFFER	SLY
2	09/10/18	REVISED PER COMMENTS	KAW
1	08/10/18	REVISED PER COMMENTS	KAW
0	08/13/18		KAW

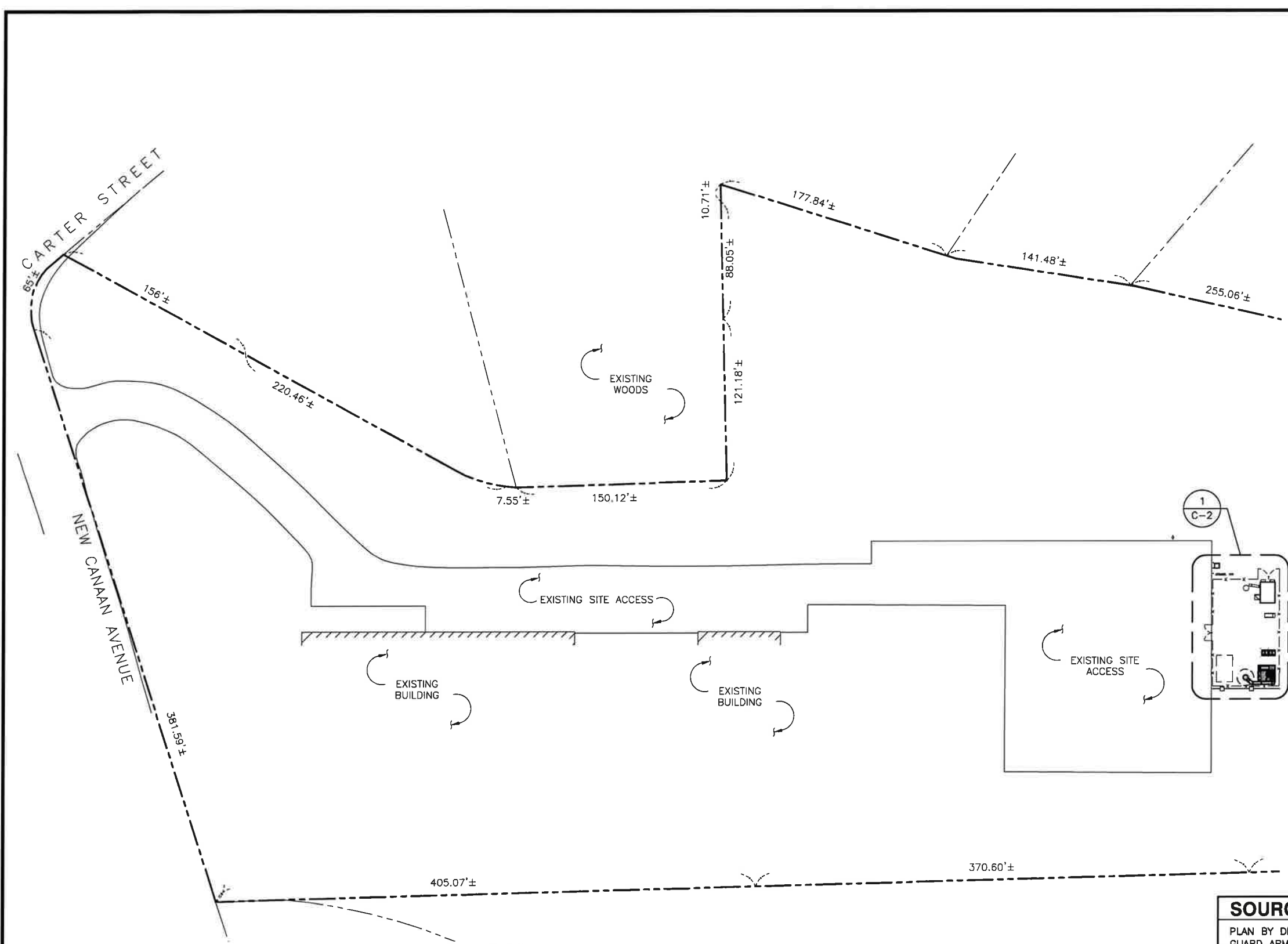
SITE NAME:
NORWALK 3 CT

SITE ADDRESS:
284 NEW CANAAN AVENUE
NORWALK, CT 06850

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
GN-1

IF ASSUMED EXISTING CONDITION DIFFERS, ENGINEER MUST BE INFORMED OF ACTUAL FIELD CONDITION. SUBCONTRACTOR TO VERIFY EXISTING DIMENSIONS PRIOR TO STEEL FABRICATION.



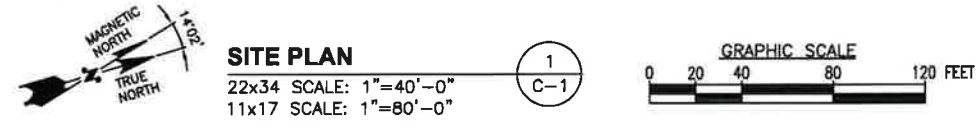
LEGEND

- PROPERTY LINE - SUBJECT PARCEL
- ABUTTERS PROPERTY LINE
- - - EXISTING CONTOUR LINE
- ~ ~ ~ TREE LINE
- BARBED WIRE FENCE REMAINS
- OHW OVERHEAD WIRE
- EXISTING RAIL FENCE
- WETLAND FLAG LINE
- 1-22 WETLAND FLAG NUMBER
- CONIFEROUS TREE
- DECIDUOUS TREE
- STONE WALL
- TOWER CONTROL POINT
- WELL
- ⊕ UTILITY POLE
- × 197.0 EXISTING SPOT ELEVATION
- TOW TOP OF WALL
- BOW BOTTOM OF WALL
- EXISTING BUILDING
- SILT SOCK
- PROPOSED FENCE

SOURCE:
 PLAN BY DEWBERRY ENGINEERS, INC., ENTITLED "NATIONAL GUARD ARMORY" DRAWING No. S-4, DATED 05/16/14

SITE SPECIFIC NOTES:

1. PROPERTY LINE INFORMATION IS COMPILED FROM ASSESSORS PLAN AND RECORD DOCUMENTS AND IS NOT TO BE CONSTRUED AS HAVING BEEN OBTAINED AS THE RESULT OF A FIELD BOUNDARY SURVEY, AND IS SUBJECT TO CHANGE AS AN ACCURATE FIELD SURVEY MAY DISCLOSE. A FULL BOUNDARY SURVEY WAS NOT PERFORMED.
2. VERIFY AZIMUTHS W/ RF ENGINEER.

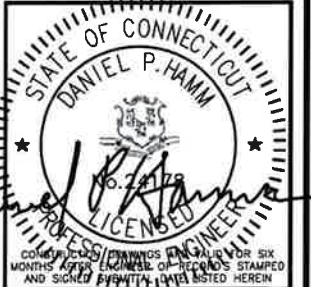


SITE PLAN
 22x34 SCALE: 1"=40'-0"
 11x17 SCALE: 1"=80'-0"

FOR CONSTRUCTION

PREPARED FOR: CELLCO PARTNERSHIP D.B.A.
verizon

TEP
NORTHEAST
 ENGINEERS, INC.
 45 BEECHWOOD DRIVE, NORTH ANDOVER, MA 01845
 TEL: (978) 557-5553



CHECKED BY: JX

APPROVED BY: DPH

SUBMITTALS

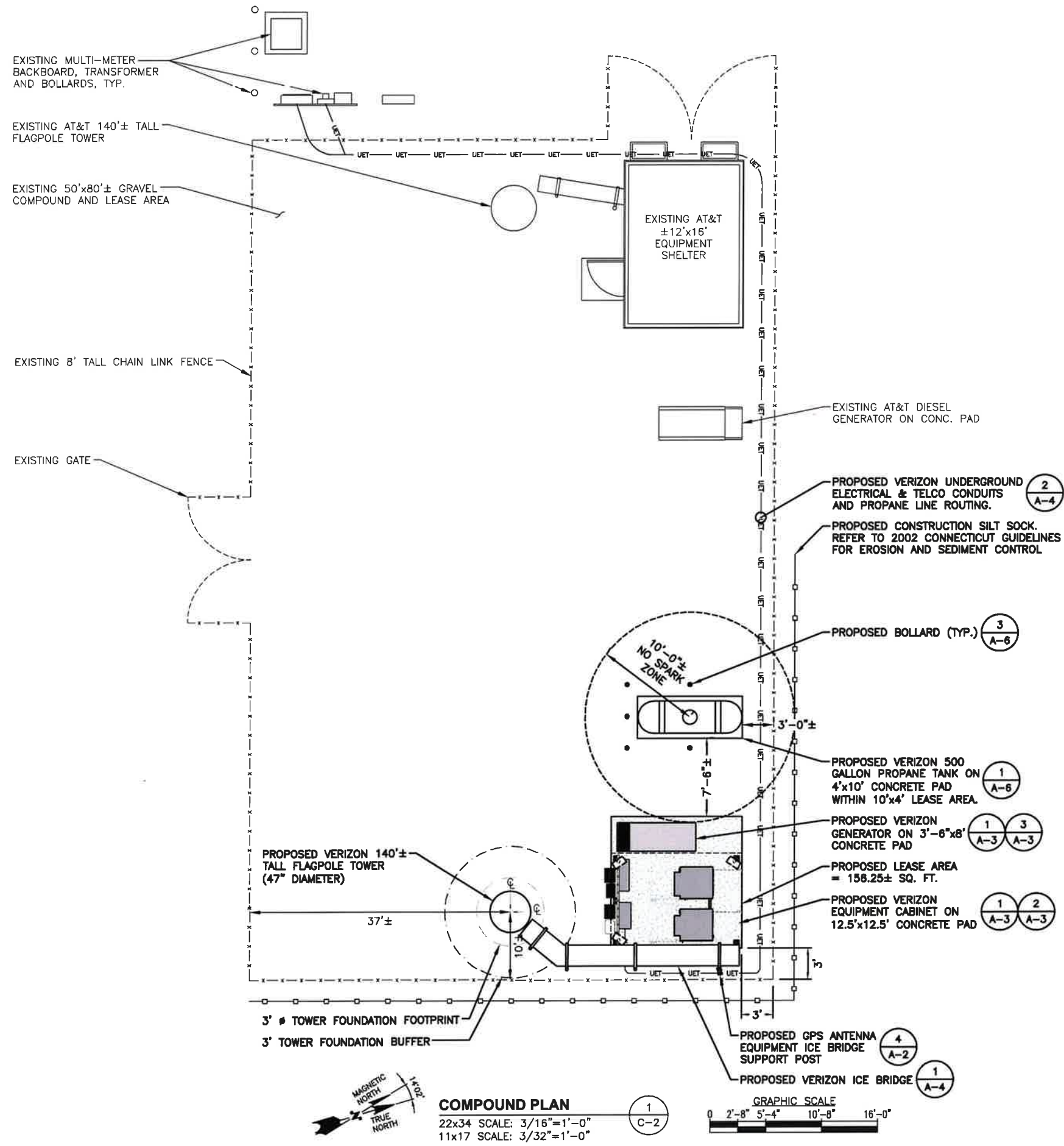
REV.	DATE	DESCRIPTION	BY
6	01/08/23	REV. BLDG CODE, THIR PRINT NOTE	TR
5	10/19/22	REVISED ANTENNA CANISTER SIZE	SLY
4	08/18/21	ADD ICE CANOPY, REV. NEW RFDS	SLY
3	11/21/19	ADDED TOWER FOUNDATION BUFFER	SLY
2	09/10/18	REVISED PER COMMENTS	NAM
1	09/10/18	REVISED PER COMMENTS	NAM
0	08/13/18		NAM

SITE NAME:
NORWALK 3 CT

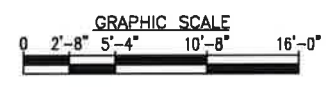
SITE ADDRESS:
 284 NEW CANAAN AVENUE
 NORWALK, CT 06850

SHEET TITLE:
SITE PLAN

SHEET NUMBER:
C-1



COMPOUND PLAN
 22x34 SCALE: 3/16"=1'-0"
 11x17 SCALE: 3/32"=1'-0"



LEGEND

- PROPERTY LINE -- SUBJECT PARCEL
- - - ABUTTERS PROPERTY LINE
- EXISTING CONTOUR LINE
- TREE LINE
- BARBED WIRE FENCE REMAINS
- OHW --- OVERHEAD WIRE
- EXISTING RAIL FENCE
- WETLAND FLAG LINE
- 1-22 WETLAND FLAG NUMBER
- ☀ CONIFEROUS TREE
- ☀ DECIDUOUS TREE
- STONE WALL
- TOWER CONTROL POINT
- WELL
- ♂ UTILITY POLE
- × 197.0 EXISTING SPOT ELEVATION
- TOW TOP OF WALL
- BOW BOTTOM OF WALL
- ▨ EXISTING BUILDING
- SILT SOCK
- PROPOSED FENCE

FOR CONSTRUCTION

PREPARED FOR: CELCO PARTNERSHIP D.B.A.



TEP
NORTHEAST
 45 BEECHWOOD DRIVE, NORTH ANDOVER, MA 01845
 TEL: (978) 557-5553



CHECKED BY: JX

APPROVED BY: DPH

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
6	01/09/23	REV. BLDG CODE, TWR PAINT NOTE	TR
5	05/19/22	REVISED ANTENNA CANISTER SIZE	SLY
4	08/16/21	ADD ICE CANOPY, REV./NEW RTDS	SLY
3	11/21/19	ADDED TOWER FOUNDATION BUFFER	SLY
2	09/10/18	REVISED PER COMMENTS	KAM
1	09/10/18	REVISED PER COMMENTS	KAM
0	08/13/18		KAM

SITE NAME:
NORWALK 3 CT

SITE ADDRESS:
 284 NEW CANAAN AVENUE
 NORWALK, CT 06850

SHEET TITLE
COMPOUND PLAN

SHEET NUMBER
C-2

- TOP PROPOSED FLAGPOLE
 ELEV. 140'-0"± (AGL)
 ELEV. 339'-3"± (AMSL)
- Q PROPOSED VERIZON ANTENNAS
 ELEV. 136'-9"± (AGL)
 ELEV. 336'-0"± (AMSL)
- Q PROPOSED VERIZON ANTENNAS
 ELEV. 127'-0"± (AGL)
 ELEV. 326'-3"± (AMSL)
- Q FUTURE CARRIER ANTENNAS
 ELEV. 116'-9"± (AGL)
 ELEV. 316'-0"± (AMSL)
- Q FUTURE CARRIER ANTENNAS
 ELEV. 106'-9"± (AGL)
 ELEV. 306'-0"± (AMSL)
- Q FUTURE CARRIER ANTENNAS
 ELEV. 96'-9"± (AGL)
 ELEV. 296'-0"± (AMSL)



PROPOSED VERIZON 140'± TALL FLAGPOLE TOWER (TOWER TO BE PAINTED BROWN IN COLOR)

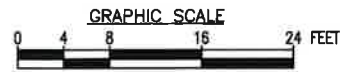
EXISTING 8' TALL CHAINLINK FENCE

PROPOSED VERIZON EQUIPMENT ON CONCRETE PAD

EXISTING GRADE
 ELEV. 0'-0"± (AGL)
 ELEV. 199'-3"± (AMSL)

EAST ELEVATION
 22x34 SCALE: 1/8"=1'-0"
 11x17 SCALE: 1/16"=1'-0"

1
A-1



NOTE:
 AN ASSESSMENT OF THE CAPACITY OF THE EXISTING STRUCTURE TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY TEP NORTHEAST (TEP NE).
 DATED: JANUARY 03, 2023 (REV. 1)

NOTE:
 AN ANALYSIS OF THE CAPACITY OF THE EXISTING STRUCTURE TO SUPPORT THE PROPOSED LOADING HAS BEEN COMPLETED BY SABRE INDUSTRIES.
 DATED: APRIL 11, 2022

- NOTE:**
1. PROPOSED NEW TOWER AND FOUNDATION DESIGN BY OTHERS
 2. VERIFY AZIMUTHS W/ RF ENGINEER.

- TOWER NOTES:**
- 1.) TOWER ELEVATION IS SHOWN FOR REFERENCE ONLY. CONTRACTOR SHALL REFER TO TOWER MANUFACTURER DRAWINGS FOR COMPLETE INSTALLATION AND BILL OF MATERIAL INFORMATION.
 - 2.) TOWER MINIMUM DESIGN SPECIFICATIONS SHALL BE IN ACCORDANCE WITH ANSI/TIA/EIA 222-H "STRUCTURAL STANDARDS FOR SUPPORTING STRUCTURES AND ANTENNAS, REVISION H" AND GOVERNING FEDERAL, STATE, AND LOCAL CODE REQUIREMENTS
 - 3.) TOWER MANUFACTURER SHALL BE RESPONSIBLE FOR DESIGN AND STRUCTURAL COMPONENTS OF THE TOWER.
 - 4.) FINAL UTILITY CONNECTIONS SHALL BE COORDINATED WITH THE LOCAL UTILITIES.

NOTE TO GENERAL CONTRACTOR:
 'RF' DESIGN AND EQUIPMENT IS BASED UPON
RFDS ISSUED BY VZW DATED: 01/03/2023 REV 5
 THE CONTRACTOR OF RECORD SHALL CONTACT VZW PRIOR TO ANY AND ALL ORDERING/PURCHASING/INSTALLATION OF EQUIPMENT TO VERIFY THAT THE 'RF' LISTED IN THE DRAWING SET IS CURRENT AND UP TO DATE.

FOR CONSTRUCTION

PREPARED FOR: CELCO PARTNERSHIP D.B.A.

TEP NORTHEAST
 ENGINEERS, INC.
 45 BEECHWOOD DRIVE, NORTH ANDOVER, MA 01845
 TEL: (978) 557-5553



STATE OF CONNECTICUT
 DANIEL P. HAMM
 LICENSED PROFESSIONAL ENGINEER
 No. 22189
 CONSTRUCTION DRAWINGS VALID FOR SIX MONTHS AFTER DATE OF RECORDS STAMPED AND SIGNED BY THIS ENGINEER

Daniel P. Hamm

CHECKED BY: JX
 APPROVED BY: DPH

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
6	01/09/23	REV. BLDG CODE, TWR PAINT NOTE	TR
5	05/19/22	REVISED ANTENNA CANISTER SIZE	SLY
4	08/18/21	ADD ICE CANOPY, REV, NEW RFDS	SLY
3	11/21/18	ADDED TOWER FOUNDATION BUFFER	SLY
2	08/10/18	REVISED PER COMMENTS	KAM
1	08/10/18	REVISED PER COMMENTS	KAM
0	08/13/18		KAM

SITE NAME:
 NORWALK 3 CT

SITE ADDRESS:
 284 NEW CANAAN AVENUE
 NORWALK, CT 06850

SHEET TITLE
 ELEVATION

SHEET NUMBER
A-1

FOR CONSTRUCTION

PREPARED FOR: CELLCO PARTNERSHIP D.B.A.

45 BEECHWOOD DRIVE, NORTH ANDOVER, MA 01845
TEL: (978) 557-5553

CHECKED BY: JX
APPROVED BY: DPH

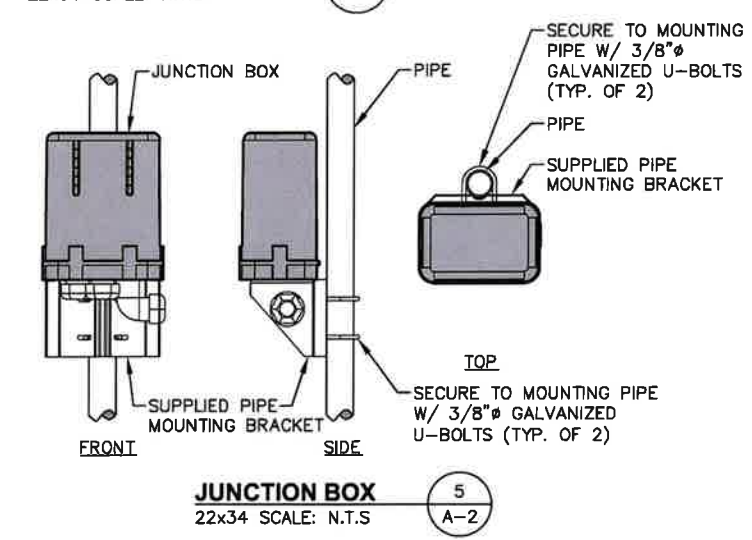
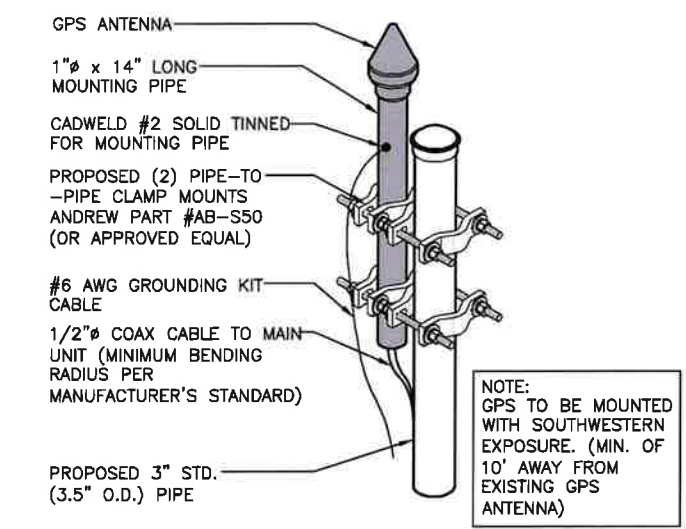
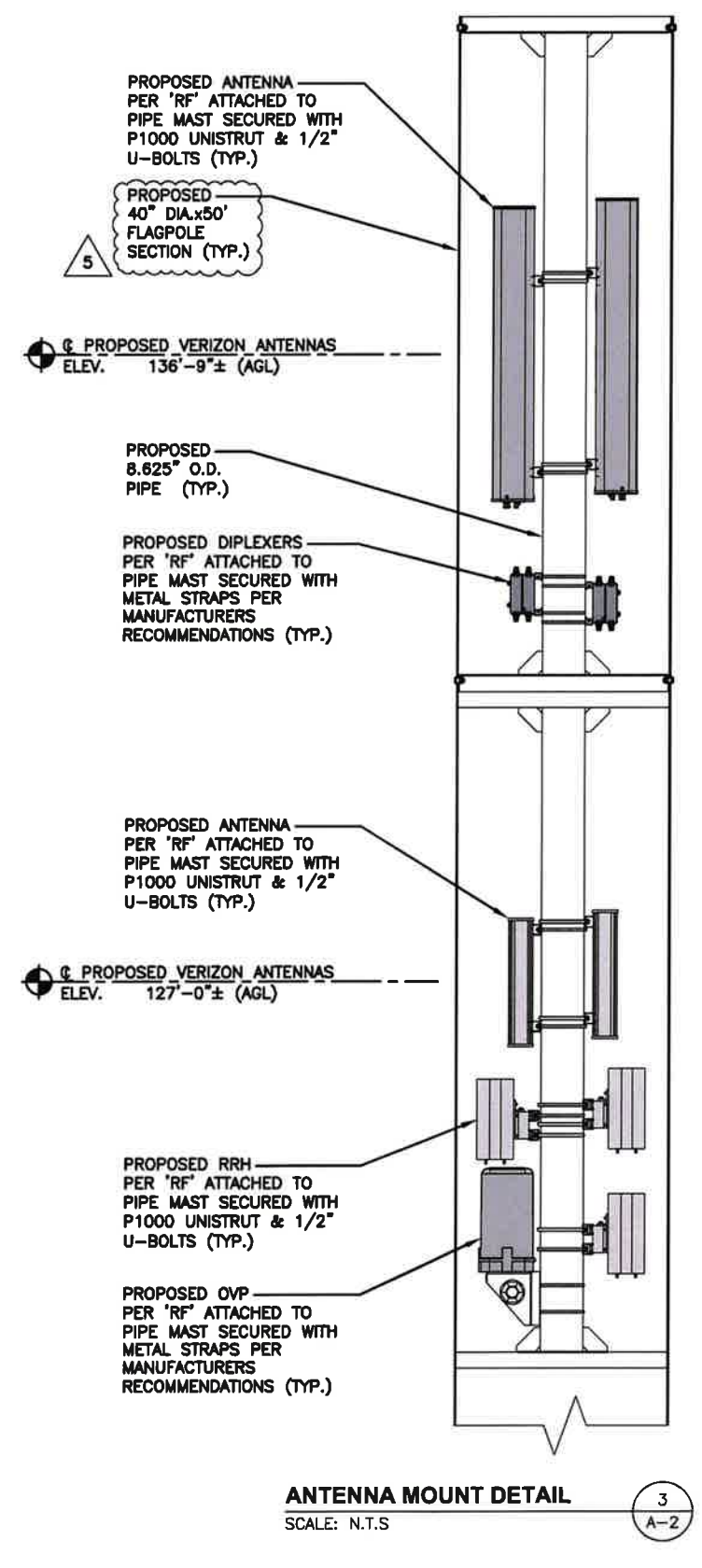
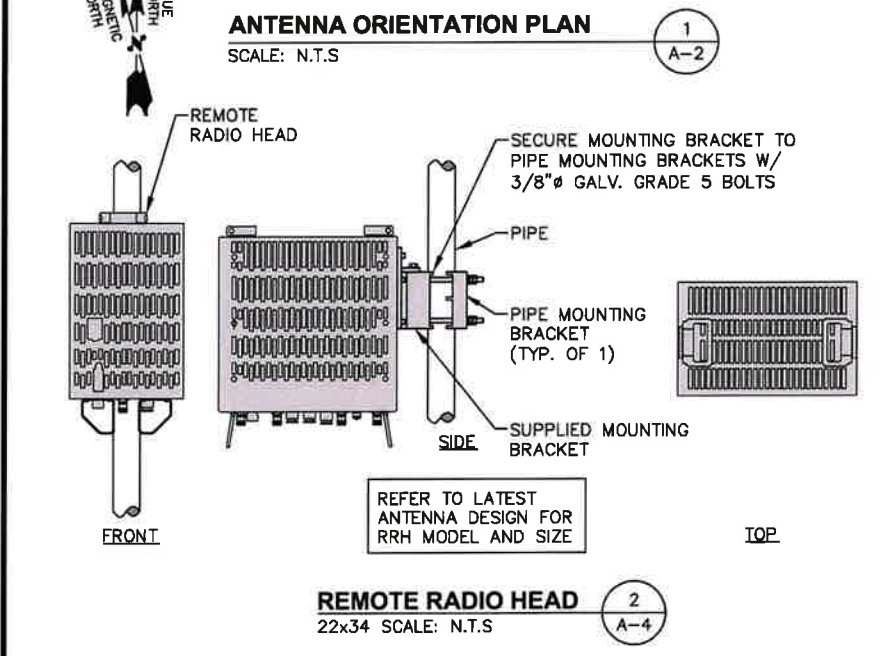
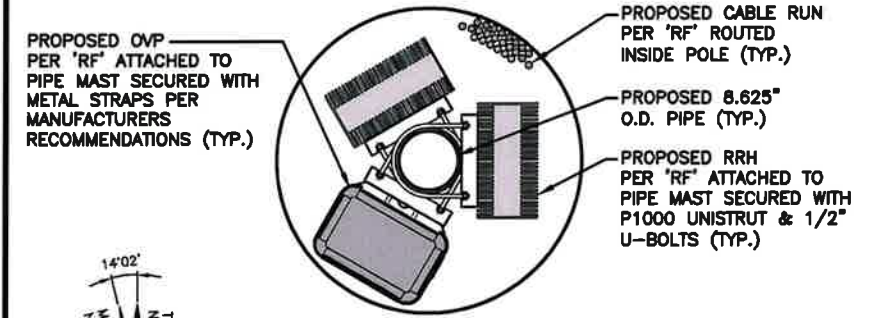
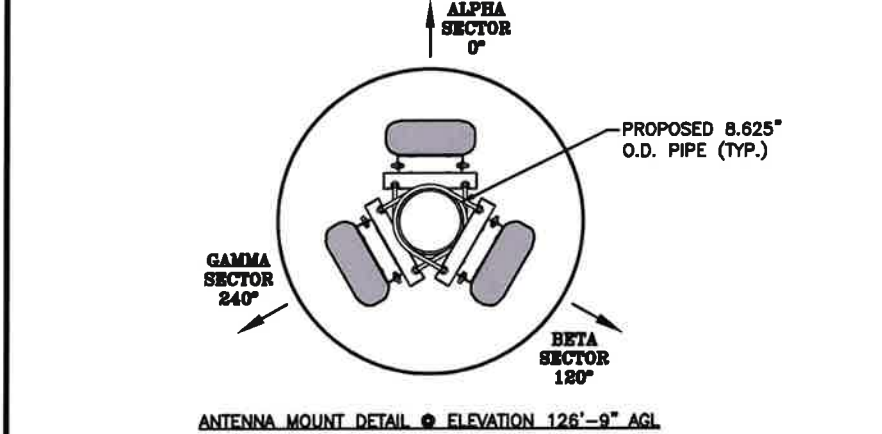
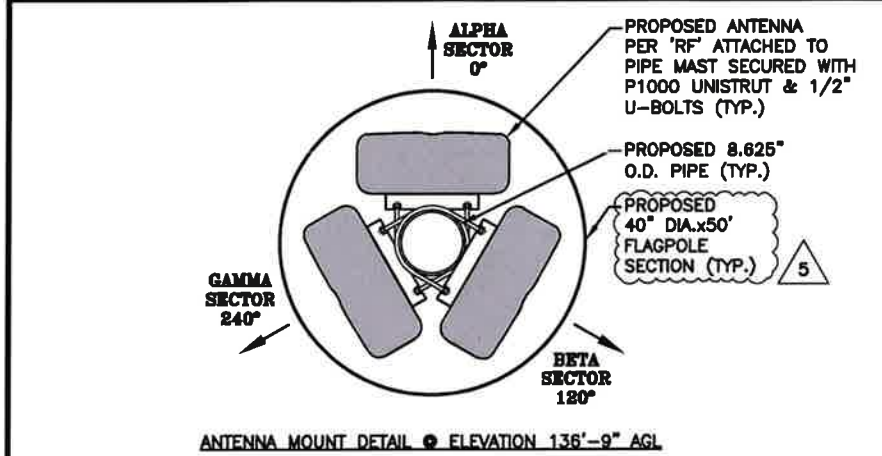
SUBMITTALS			
REV.	DATE	DESCRIPTION	BY
6	01/08/23	REV. BLDG CODE, THIR PRINT NOTE	TR
5	05/19/22	REVISED ANTENNA CANISTER SIZE	SLY
4	08/16/21	ADD ICE CANOPY/REV/NEW RFDS	SLY
3	11/21/19	ADDED TOWER FOUNDATION BUFFER	SLY
2	09/10/18	REVISED PER COMMENTS	KAW
1	08/10/18	REVISED PER COMMENTS	KAW
0	08/13/18		KAW

SITE NAME:
NORWALK 3 CT

SITE ADDRESS:
284 NEW CANAAN AVENUE
NORWALK, CT 06850

SHEET TITLE
ANTENNA DETAILS

SHEET NUMBER
A-2



NOTE TO GENERAL CONTRACTOR:

'RF' DESIGN AND EQUIPMENT IS BASED UPON **RFDS ISSUED BY VZW DATED: 01/03/2023 REV 5**

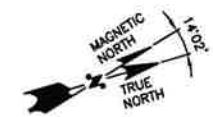
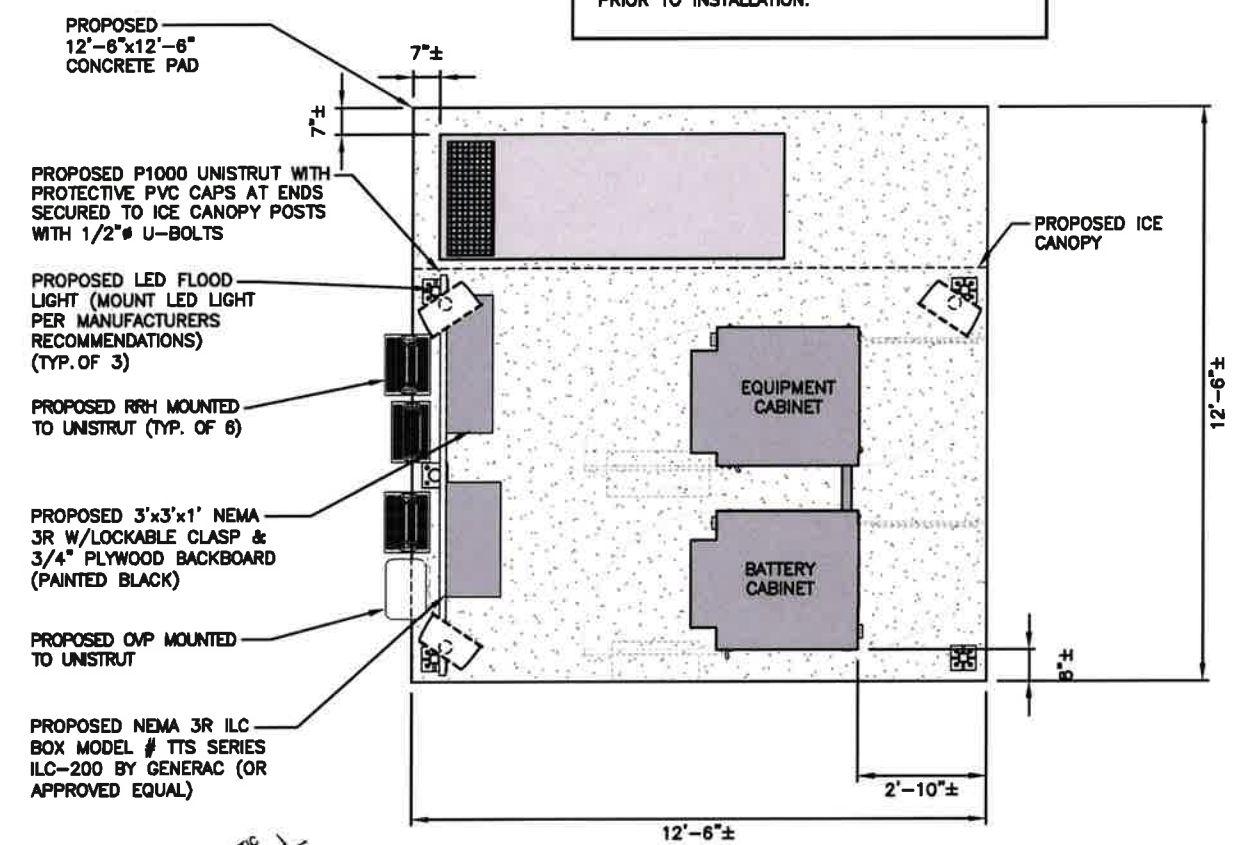
THE CONTRACTOR OF RECORD SHALL CONTACT VZW PRIOR TO ANY AND ALL ORDERING/PURCHASING/INSTALLATION OF EQUIPMENT TO VERIFY THAT THE 'RF' LISTED IN THE DRAWING SET IS CURRENT AND UP TO DATE.

FOR CONSTRUCTION

PREPARED FOR: CELLCO PARTNERSHIP D.B.A.

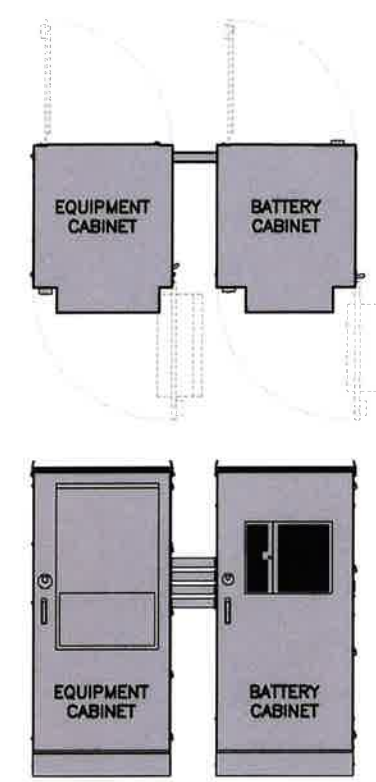
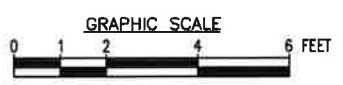
45 BEECHWOOD DRIVE, NORTH ANDOVER, MA 01845
TEL: (978) 557-5553

NOTE:
CONTRACTOR SHALL NOT INSTALL ANY HARDWARE/EQUIPMENT IN AND AROUND ANY WORKING AREAS THAT CREATE A TRIP HAZARD. E.O.R. SHALL BE NOTIFIED IF ANY EXISTING HARDWARE/EQUIPMENT CREATES A TRIP HAZARD PRIOR TO INSTALLATION.



EQUIPMENT PLAN
22x34 SCALE: 1/2"=1'-0"
11x17 SCALE: 1/4"=1'-0"

1
A-3



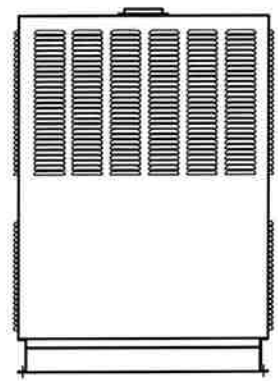
SPECIFICATIONS:
MANUFACTURER: COMMSCOPE
PART NO.: CMC74-36B
BATTERY CABINET
SIZE: 80.75"x36.2"x43.7"
WEIGHT: TBD LBS

SPECIFICATIONS:
MANUFACTURER: COMMSCOPE
PART NO.: CMC74-36E
EQUIPMENT CABINET
SIZE: 80.75"x36.2"x43.7"
WEIGHT: TBD LBS

NOTE:
ANCHOR CABINET TO STEEL PLATFORM PER MANUFACTURERS RECOMMENDATIONS

DUAL CABINET DETAIL (EQUIPMENT & BATTERY)
SCALE: N.T.S.

2
A-3



SPECIFICATIONS:
MANUFACTURER: KOHLER
PART NO.: 30CCL
SIZE: 89.8"x32.7"x46.5"
WEIGHT: 1432 LBS.

NOTE:
ANCHOR CABINET TO CONCRETE PAD PER MANUFACTURERS RECOMMENDATIONS

GENERATOR DETAIL
SCALE: N.T.S.

3
A-3



COOPER LIGHTING NFFLD NIGHT FALCON
NFFLD-A25-E-UNV-66-S-BK
SLIPFITTER MOUNT AND VANDAL SHIELD
MOUNT PER MANUFACTURER'S SPECIFICATIONS.

LED FLOOD LIGHT DETAIL
SCALE: N.T.S.

4
A-3



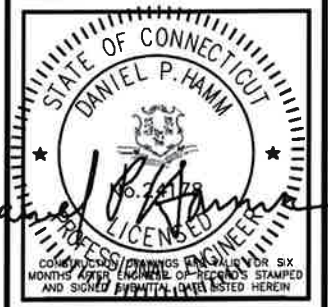
INTERMATIC WP1220C
TYPE: DOUBLE GANG
HINGE: VERTICAL
INSERT: WP217
DEPTH: 2-1/4"
COLOR: CLEAR
OR APPROVED EQUIVALENT



INTERMATIC FF6H
TIME CYCLE: 6 HOURS
SWITCH: SPST
HOLD: NO
OR APPROVED EQUIVALENT

SWITCH DETAIL
SCALE: N.T.S.

5
A-3



CHECKED BY: JX
APPROVED BY: DPH

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
6	01/09/23	REV. BLDG CODE, TIR PAINT NOTE	TR
5	05/19/22	REVISED ANTENNA CANISTER SIZE	SLY
4	08/16/21	ADD ICE CANOPY, REV. NEW RFDS	SLY
3	11/21/19	ADDED TOWER FOUNDATION BUFFER	SLY
2	09/10/18	REVISED PER COMMENTS	KAM
1	09/10/18	REVISED PER COMMENTS	KAM
0	08/13/18		KAM

SITE NAME:
NORWALK 3 CT

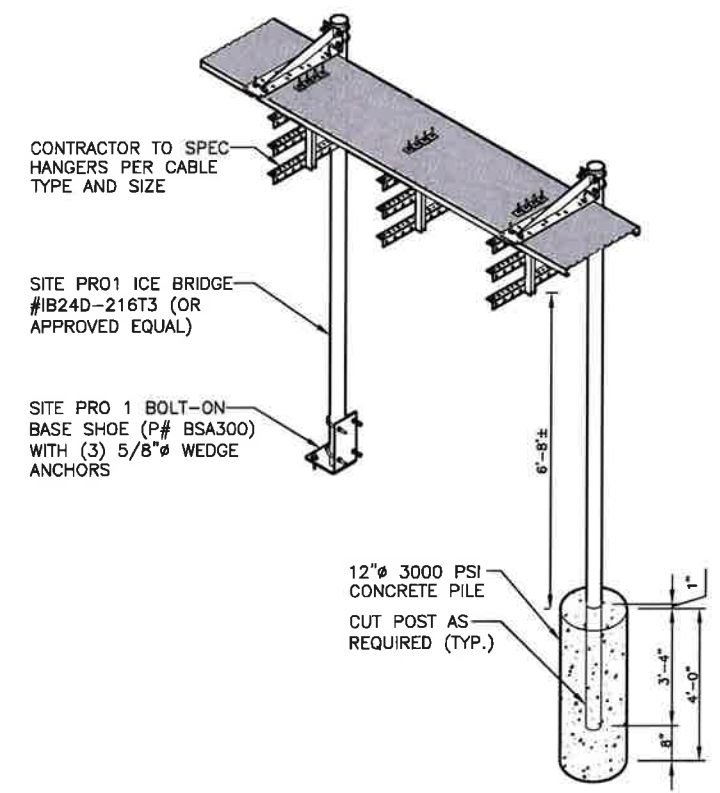
SITE ADDRESS:
284 NEW CANAAN AVENUE
NORWALK, CT 06850

SHEET TITLE
EQUIPMENT PLAN
AND DETAILS

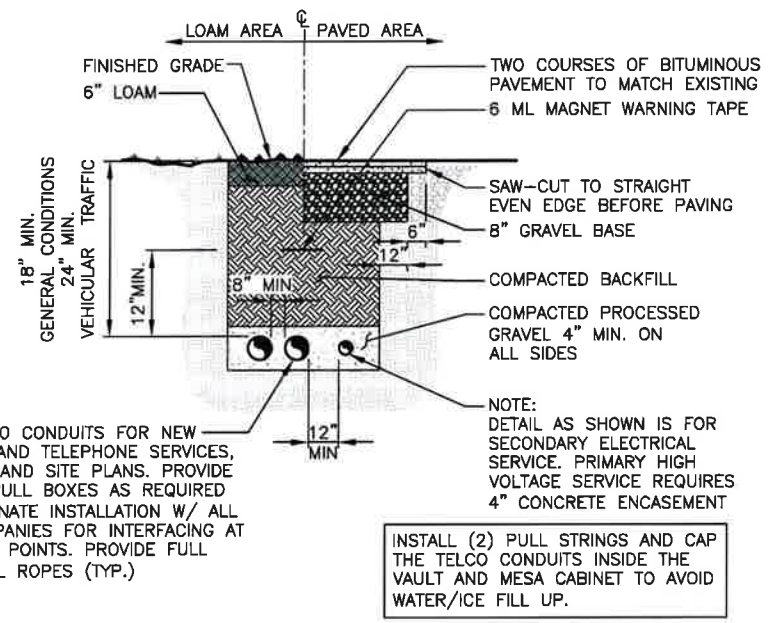
SHEET NUMBER
A-3

FOR CONSTRUCTION

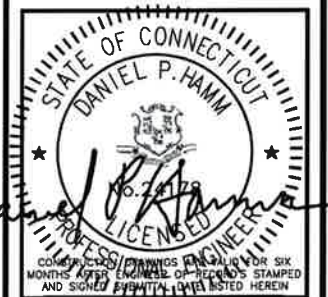
PREPARED FOR: CELLCO PARTNERSHIP D.B.A.



ICE BRIDGE DETAIL
SCALE: N.T.S.



BURIED CONDUIT DETAIL
SCALE: N.T.S.



CHECKED BY: JX

APPROVED BY: DPH

SUBMITTALS

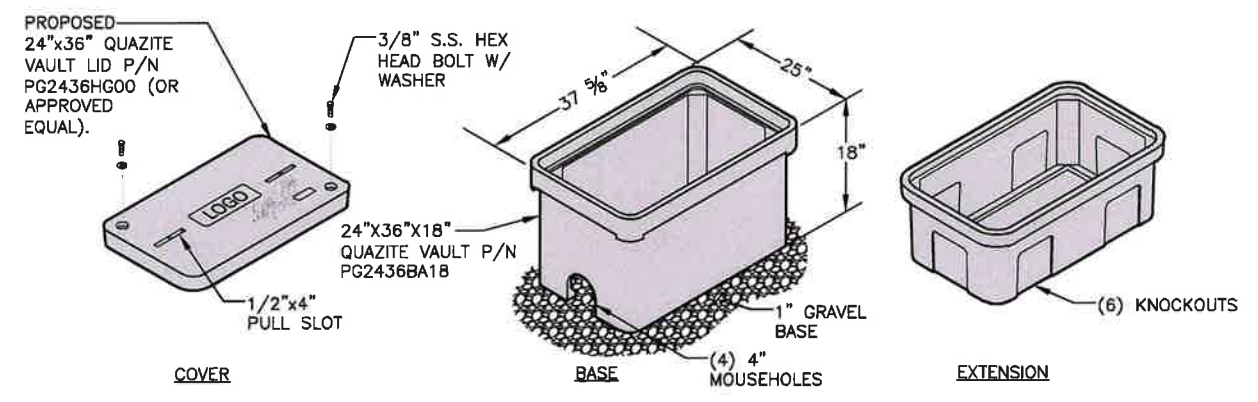
REV.	DATE	DESCRIPTION	BY
6	01/09/23	REV. BLDG CODE, THIR PRINT NOTE	TR
5	05/19/22	REVISED ANTENNA CASTER SIZE	SLY
4	08/16/21	ADD ICE CANOPY, REV./NEW RFDS	SLY
3	11/21/19	ADDED TOWER FOUNDATION BUFFER	SLY
2	09/10/18	REVISED PER COMMENTS	KAM
1	09/10/18	REVISED PER COMMENTS	KAM
0	08/13/18		KAM

SITE NAME:
NORWALK 3 CT

SITE ADDRESS:
284 NEW CANAAN AVENUE
NORWALK, CT 06850

SHEET TITLE
**CABLE SUPPORT
DETAILS**

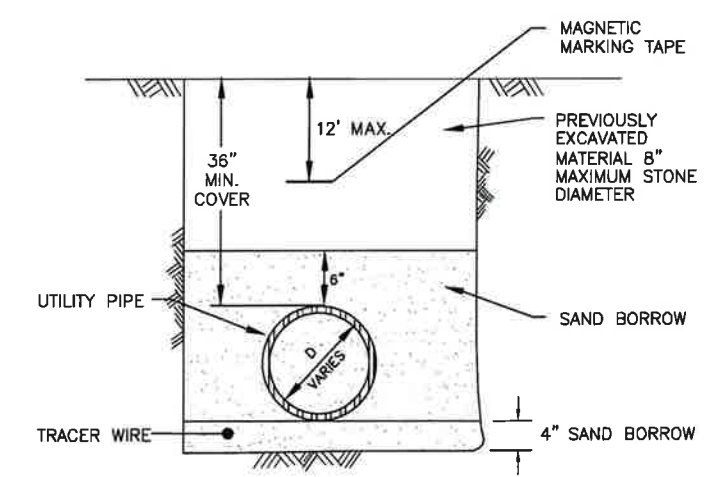
SHEET NUMBER
A-4



NOTE:

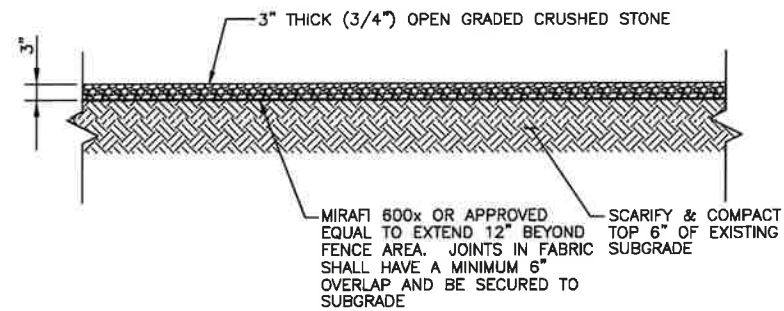
1. THIS INFORMATION MAY NOT CONTAIN ALL DETAILS REQUIRED FOR CONSTRUCTION. APPROPRIATE MODIFICATION MAY BE REQUIRED TO ENSURE SUITABILITY OF THESE DRAWINGS FOR THE SPECIFIC APPLICATION. SEE SPECIFICATION PROVIDED BY ELECTRICAL DESIGNER FOR FURTHER DETAIL AND INSTALLATION.
2. PROVIDE STANDARD HANDHOLE. COVER COLOR SHALL BE AS SPECIFIED BY THE NIH.
3. PROVIDE 25mm (1") X 10mm (3/8") BELL PULL SLOT FOR EACH HANDHOLE.
4. COVER, RING AND BOX SHALL BE MADE OF SAME MATERIAL.
5. PROVIDE IMPRINTED LOGO TO MATCH.

FOR TELCO AND POWER
HANDHOLE DETAIL
SCALE: N.T.S.

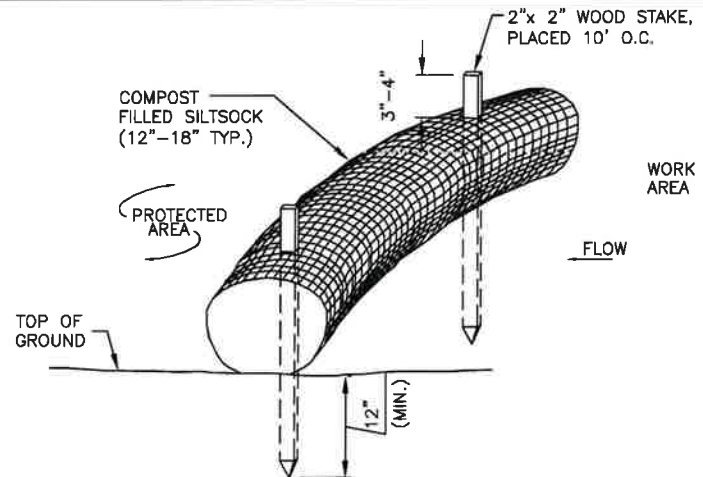


NOTES: 1 COMPACT ALL BACKFILL MATERIAL WITH VIBRATORY PLATE EQUIPMENT (MINIMUM TWO PASSES) TO A MINIMUM DENSITY OF 95 PERCENT OF THE STANDARD PROCTOR DENSITY AS DETERMINED BY ASTM D698. 2 PLACE BACKFILL MATERIALS IN MAXIMUM ONE FOOT LIFTS.

GAS PIPING TRENCH SECTION
SCALE: N.T.S.



COMPOUND SURFACE DETAIL 1
22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0" A-5



- NOTES:
- SILT SOCK SHALL BE FILTREXX SILT SOCK, OR APPROVED EQUAL.
 - COMPOST MATERIAL SHALL BE DISPERSED ON SITE, AS DETERMINED BY THE ENGINEER.
 - SILT SOCK SHALL BE INSPECTED PERIODICALLY AND AFTER ALL STORM EVENTS, AND REPAIR OR REPLACEMENT SHALL BE PERFORMED PROMPTLY AS NEEDED.
 - SEE SPECIFICATIONS FOR SOCK SIZE, AND COMPOST FILL, REQUIREMENTS.

SILT SOCK DETAIL 2
SCALE: N.T.S. A-5

GENERAL CONSTRUCTION SEQUENCE:

- THIS IS A GENERAL CONSTRUCTION SEQUENCE OUTLINE SOME ITEMS OF WHICH MAY NOT APPLY TO PARTICULAR SITES.
- CLEAR AND GRUB AREAS OF PROPOSED CONSTRUCTION.
 - INSTALL TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES AS REQUIRED.
 - REMOVE AND STOCKPILE TOPSOIL. STOCKPILE SHALL BE SEEDED TO PREVENT EROSION.
 - CONSTRUCT CLOSED DRAINAGE SYSTEM. PROTECT CULVERT INLETS AND CATCH BASINS WITH SEDIMENTATION BARRIERS.
 - CONSTRUCT ROADWAYS AND PERFORM SITE GRADING, PLACING HAY BALES AND SILTATION FENCES AS REQUIRED TO CONTROL SOIL EROSION.
 - INSTALL UNDERGROUND UTILITIES.
 - BEGIN TEMPORARY AND PERMANENT SEEDING AND MULCHING. ALL CUT AND FILL SLOPES SHALL BE SEEDED OR MULCHED IMMEDIATELY AFTER THEIR CONSTRUCTION. NO AREA SHALL BE LEFT UNSTABILIZED FOR A TIME PERIOD OF MORE THAN 30 DAYS.
 - DAILY, OR AS REQUIRED, CONSTRUCT, INSPECT, AND IF NECESSARY, RECONSTRUCT TEMPORARY BERMS, DRAINS, DITCHES, SILT FENCES AND SEDIMENT TRAPS INCLUDING MULCHING AND SEEDING.
 - BEGIN EXCAVATION FOR AND CONSTRUCTION OF TOWERS AND PLATFORMS.
 - FINISH PAVING ALL ROADWAYS, DRIVES, AND PARKING AREAS.
 - COMPLETE PERMANENT SEEDING AND LANDSCAPING.
 - NO STORM WATER FLOW SHALL BE DIVERTED TO ANY WETLANDS UNTIL A HEALTHY STAND OF GRASS HAS BEEN ESTABLISHED IN REGRADED AREAS.
 - AFTER GRASS HAS BEEN FULLY GERMINATED IN ALL SEEDED AREAS, REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.

EROSION CONTROL MEASURES:

- DISTURBED AREAS SHALL BE KEPT TO THE MINIMUM AREA NECESSARY TO CONSTRUCT THE ROADWAYS AND ASSOCIATED DRAINAGE FACILITIES.
- HAY BALE BARRIERS AND SEDIMENT TRAPS SHALL BE INSTALLED AS REQUIRED. BARRIERS AND TRAPS ARE TO BE MAINTAINED AND CLEANED UNTIL ALL SLOPES HAVE A HEALTHY STAND OF GRASS.
- BALED HAY AND MULCH SHALL BE MOWINGS OF ACCEPTABLE HERBACEOUS GROWTH, FREE FROM NOXIOUS WEEDS OR WOODY STEMS, AND SHALL BE DRY. NO SALT HAY SHALL BE USED.
- FILL MATERIAL SHALL BE FREE FROM STUMPS, WOOD, ROOTS, ETC.
- STOCKPILED MATERIALS SHALL BE PLACED IN AREAS SHOWN ON THE PLANS. STOCKPILES SHALL BE PROTECTED BY SILTATION FENCE AND SEEDED TO PREVENT EROSION. THESE MEASURES SHALL REMAIN UNTIL ALL MATERIAL HAS BEEN PLACED OR DISPOSED OFF SITE.
- ALL DISTURBED AREAS SHALL BE LOAMED AND SEEDED. A MINIMUM OF 4 INCHES OF LOAM SHALL BE INSTALLED WITH NOT LESS THAN ONE POUND OF SEED PER 50 SQUARE YARDS OF AREA.
- APPLICATION OF GRASS SEED, FERTILIZERS AND MULCH SHALL BE ACCOMPLISHED BY BROADCAST SEEDING OR HYDROSEEDING AT THE RATES OUTLINED BELOW:

LIMESTONE: 75-100 LBS./1,000 SQUARE FEET.
FERTILIZER: RATE RECOMMENDED BY MANUFACTURER.
MULCH: HAY MULCH APPROXIMATELY 3 TONS/ACRE UNLESS EROSION CONTROL MATTING IS USED.

SEED MIX (SLOPES LESS THAN 4:1)	LBS./ACRE
CREeping RED FESCUE	20
TALL FESCUE	20
REDTOP	2
	42
SLOPE MIX (SLOPES GREATER THAN 4:1)	LBS./ACRE
CREeping RED FESCUE	20
TALL FESCUE	20
BIRDSFOOT TREEFOIL	8
	48

TREATMENT SWALE PLANTING SPECIFICATIONS

TALL FESCUE	20 LBS/ACRE	OR	0.45 LBS/10,000 SF
CREeping RED FESCUE	20 LBS/ACRE	OR	0.45 LBS/10,000 SF
BIRDSFOOT TREEFOIL	8 LBS/ACRE	OR	0.20 LBS/10,000 SF

LIME AND FERTILIZER SHOULD BE APPLIED PRIOR TO OR AT TIME OF SEEDING AND INCORPORATED INTO THE SOIL. THE FOLLOWING RATES ARE RECOMMENDED:

AGRICULTURAL LIMESTONE	2 TONS/ACRE	OR	100 LBS/1,000 SF
NITROGEN (N)	50 LBS/ACRE	OR	1.1 LBS/10,000 SF
PHOSPHATE (P205)	100 LBS/ACRE	OR	2.2 LBS/10,000 SF
POTASH (K2O)	100 LBS/ACRE	OR	2.2 LBS/10,000 SF

(THIS IS EQUIVALENT TO 500 LBS/ACRE OF 10-20-20 FERTILIZER OR 1,000 LBS/ACRE OF 5-10-10).

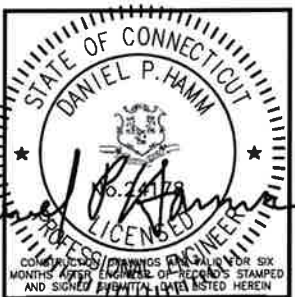
- AFTER ALL DISTURBED AREAS HAVE BEEN STABILIZED THE TEMPORARY EROSION CONTROL MEASURES ARE TO BE REMOVED.
- PAVED ROADWAYS MUST BE KEPT CLEAN AT ALL TIMES.
- ALL CATCH BASIN INLETS WILL BE PROTECTED WITH LOW POINT SEDIMENTATION BARRIER.
- ALL STORM DRAINAGE OUTLETS WILL BE STABILIZE AND CLEANED AS REQUIRED, BEFORE THE DISCHARGE POINTS BECOME OPERATIONAL.
- ALL DEWATERING OPERATIONS MUST DISCHARGE DIRECTLY INTO A SEDIMENT FILTER AREA.
- NO DISCHARGE SHALL BE DIRECTED TOWARDS ANY PROPOSED DITCHES, SWALES, OR PONDS UNTIL THEY HAVE BEEN PROPERLY STABILIZED.

FOR CONSTRUCTION

PREPARED FOR: CELLCO PARTNERSHIP D.B.A.



45 BEECHWOOD DRIVE, NORTH ANDOVER, MA 01845
TEL: (978) 557-5553



CHECKED BY: JX

APPROVED BY: DPH

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
8	01/08/23	REV. BLDG CODE, THIR PAINT NOTE	TR
5	05/19/21	REVISED ANTENNA CANISTER SIZE	SLY
4	08/16/21	ADD ICE CANOPY, REV. NEW RFDS	SLY
3	11/21/18	ADDED TOWER FOUNDATION BUFFER	SLY
2	09/10/18	REVISED PER COMMENTS	KAM
1	09/10/18	REVISED PER COMMENTS	KAM
0	08/13/18		KAM

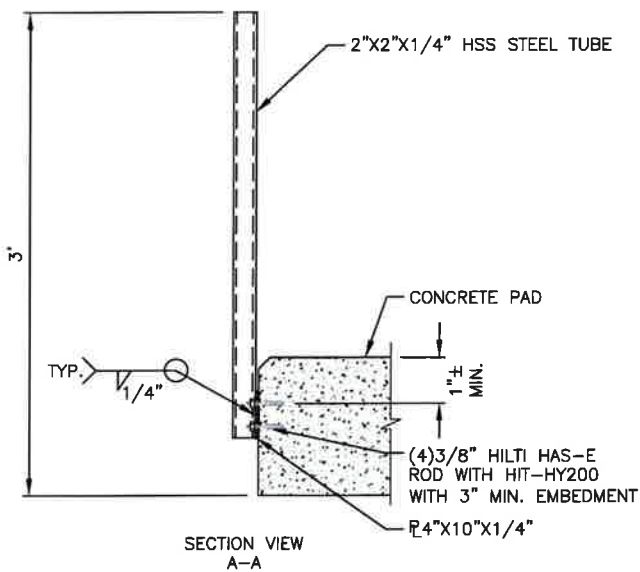
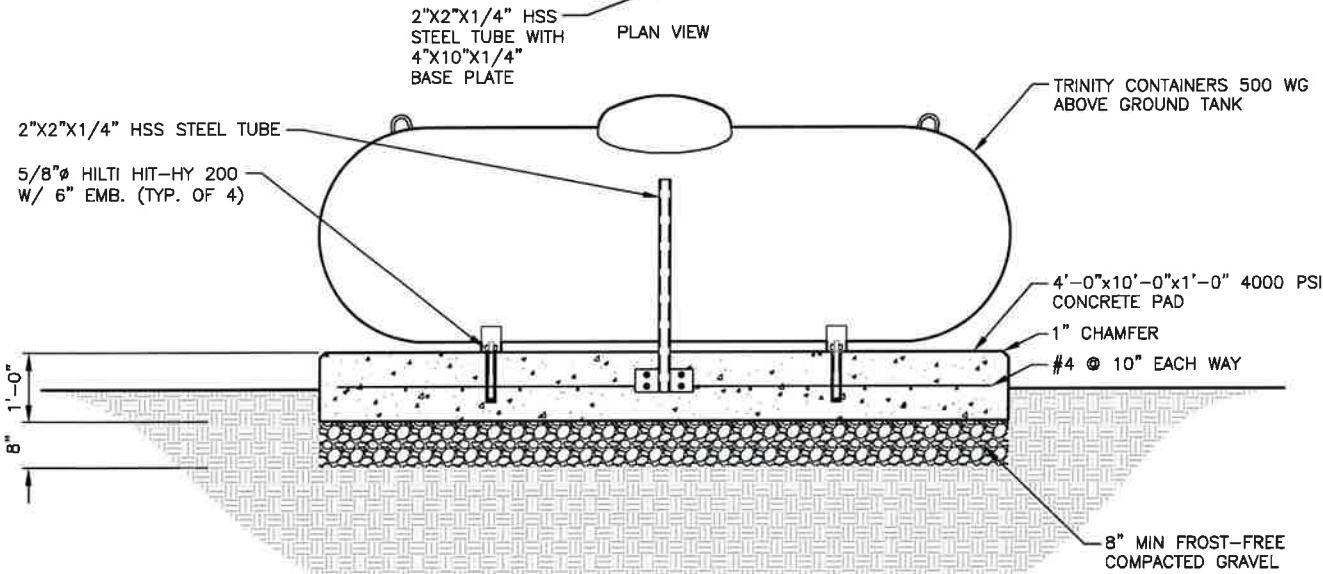
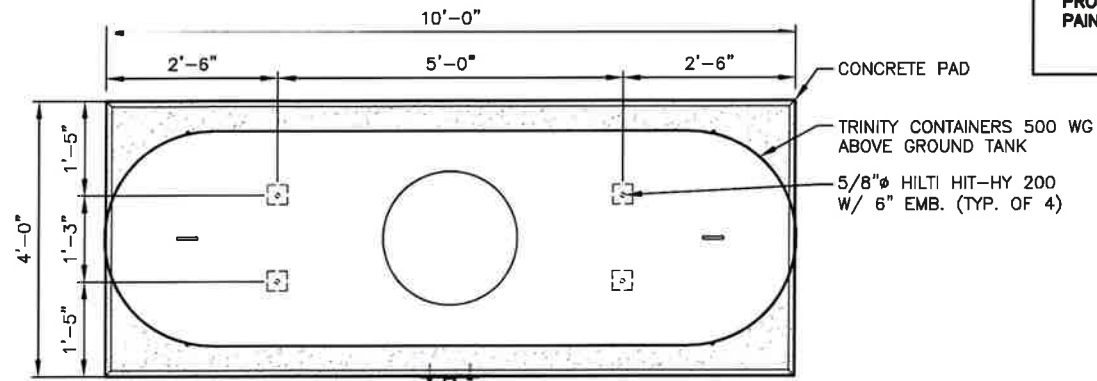
SITE NAME:
NORWALK 3 CT

SITE ADDRESS:
284 NEW CANAAN AVENUE
NORWALK, CT 06850

SHEET TITLE
SITE SURFACE
COVER AND EROSION
CONTROL DETAILS

SHEET NUMBER
A-5

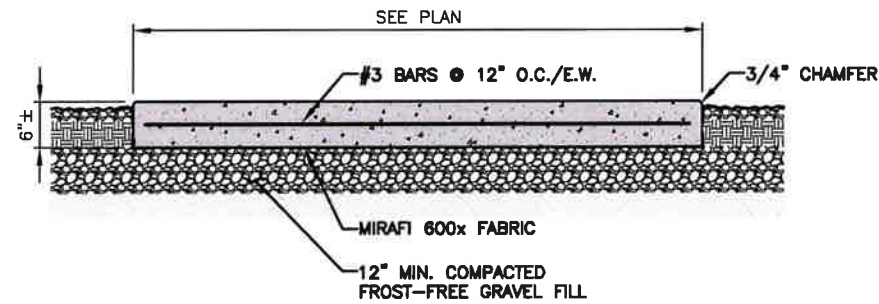
NOTE:
PROPANE TANK TO BE PAINTED WHITE.



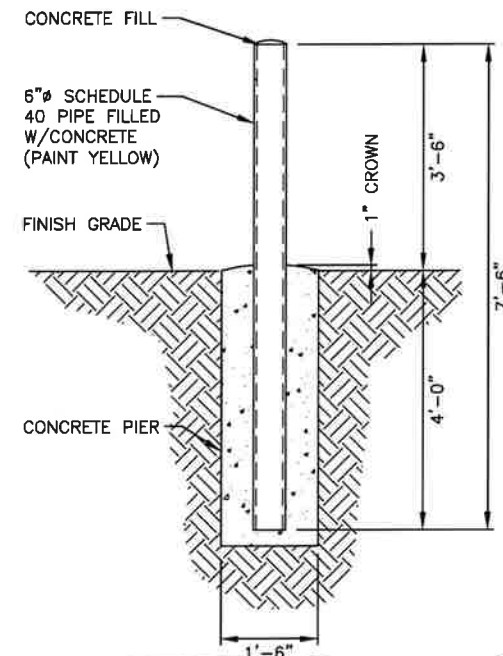
PROPANE TANK MOUNTING DETAILS 1
SCALE: N.T.S. A-6

FOUNDATION NOTES & CONCRETE SPECIFICATIONS:

1. FOUNDATION AREA SHALL BE EXCAVATED TO THE DEPTH AND DIMENSIONS SHOWN ON THE PLANS. EXISTING LEDGE AND ALL OTHER EXISTING UNSUITABLE MATERIAL SHALL BE REMOVED AND LEGALLY DISPOSED OF OFF-SITE. THE SUBGRADE SHALL BE ROLLED WITH A 1-TON, VIBRATORY, WALK-BEHIND ROLLER AT A SPEED OF LESS THAN 2 FPS, 6 PASSES MINIMUM, TO PROVIDE UNYIELDING SURFACE.
2. UNDERCUT SOFT OR "WEAVING" AREAS A MINIMUM OF 12 INCHES DEEP. BACKFILL UNDERCUT AREA WITH FILL MEETING THE SPECIFICATIONS OF STRUCTURAL FILL.
3. CONCRETE TO HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH (f'c)=4000 psi. CONCRETE TO BE AIR ENTRAINED, DESIRED AIR CONTENT TO BE 6% (PLUS OR MINUS 2%)
4. REINFORCING BAR TO BE ASTM A615 GRADE 60.
5. WELDED WIRE FABRIC TO CONFORM TO THE REQUIREMENTS OF ASTM A185. WIRES FOR FABRIC TO CONFORM TO THE REQUIREMENTS OF ASTM A82.
6. ALL REINFORCING TO HAVE MINIMUM CONCRETE COVER PER ACI SPECIFICATIONS.
7. ALL CONCRETE MATERIALS AND WORKMANSHIP SHALL CONFORM TO LATEST EDITION OF ACI 318 AND APPLICABLE STATE BUILDING CODE.



CONCRETE PAD DETAIL 2
22x34 SCALE: N.T.S. A-6



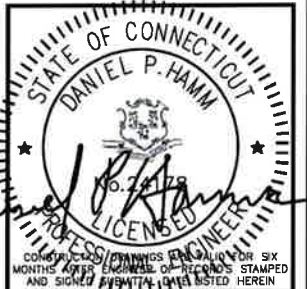
CONCRETE FILLED BOLLARD 3
SCALE: N.T.S. A-6

FOR CONSTRUCTION

PREPARED FOR: CELLCO PARTNERSHIP D.B.A.



45 BEECHWOOD DRIVE, NORTH ANDOVER, MA 01845
TEL: (978) 557-5553



CHECKED BY: JX

APPROVED BY: DPH

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6	01/09/23	REV. BLDG CODE, TWR PAINT NOTE	TR
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0	08/13/18		KAM

SITE NAME:

NORWALK 3 CT

SITE ADDRESS:

284 NEW CANAAN AVENUE
NORWALK, CT 06850

SHEET TITLE

CONCRETE PAD
DETAILS

SHEET NUMBER

A-6

STRUCTURAL NOTES:

- DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, INTERNATIONAL BUILDING CODE, EIA/TIA-222-H STRUCTURAL STANDARDS FOR STEEL ANTENNA, TOWERS AND ANTENNA SUPPORTING STRUCTURES.
- CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND ENGINEER OF RECORD.
- DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
- STRUCTURAL STEEL SHALL CONFORM TO ASTM A992 (Fy=50 ksi), MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36 UNLESS OTHERWISE INDICATED.
- STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE B, OR ASTM A53 PIPE STEEL BLACK AND HOT-DIPPED ZINC-COATED WELDED AND SEAMLESS TYPE E OR S, GRADE B. PIPE SIZES INDICATED ARE NOMINAL. ACTUAL OUTSIDE DIAMETER IS LARGER.
- STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS (BEARING TYPE) AND CONFORM TO ASTM A325 TYPE-X "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS". ALL BOLTS SHALL BE 3/4" DIA UON.
- ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.
- ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.
- FIELD WELDS, DRILL HOLES, SAW CUTS AND ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED WITH AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH REQUIREMENTS OF ASTM A780. GALVANIZING REPAIR PAINT SHALL HAVE 65 PERCENT ZINC BY WEIGHT, ZIRP BY DUNCAN GALVANIZING, GALVA BRIGHT PREMIUM BY CROWN OR EQUAL. THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NOT LESS THAN 4 COATS (ALLOW TIME TO DRY BETWEEN COATS) WITH A RESULTING COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.
- CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND D.I. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "STEEL CONSTRUCTION MANUAL". 14TH EDITION.
- INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NON-CONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE CONSTRUCTION MANAGER APPROVAL.
- UNISTRUT SHALL BE FORMED STEEL CHANNEL STRUT FRAMING AS MANUFACTURED BY UNISTRUT CORP., WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1 5/8"x1 5/8"x12GA, UNLESS OTHERWISE NOTED, AND SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
- EPOXY ANCHOR ASSEMBLY SHALL CONSIST OF STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HILTI-HIT HY-70 AND OR HY-200 SYSTEMS (AS SPECIFIED IN DWG.) OR ENGINEERS APPROVED EQUAL.
- EXPANSION BOLTS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 4, CLASS I, HILTI KWIK BOLT III OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- LUMBER SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION AND THE NATIONAL FOREST PRODUCTS ASSOCIATION'S NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION. ALL LUMBER SHALL BE PRESSURE TREATED AND SHALL BE STRUCTURAL GRADE NO. 2 OR BETTER.
- WHERE ROOF PENETRATIONS ARE REQUIRED, THE CONTRACTOR SHALL CONTACT AND COORDINATE RELATED WORK WITH THE BUILDING OWNER AND THE EXISTING ROOF INSTALLER. WORK SHALL BE PERFORMED IN SUCH A MANNER AS TO NOT VOID THE EXISTING ROOF WARRANTY. ROOF SHALL BE WATERTIGHT.
- ALL FIBERGLASS MEMBERS USED ARE AS MANUFACTURED BY STRONGWELL COMPANY OF BRISTOL, VA 24203. ALL DESIGN CRITERIA FOR THESE MEMBERS IS BASED ON INFORMATION PROVIDED IN THE DESIGN MANUAL. ALL REQUIREMENTS PUBLISHED IN SAID MANUAL MUST BE STRICTLY ADHERED TO.
- NO MATERIALS TO BE ORDERED AND NO WORK TO BE COMPLETED UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED IN WRITING.
- SUBCONTRACTOR SHALL FIREPROOF ALL STEEL TO PRE-EXISTING CONDITIONS.

SPECIAL INSPECTIONS (REFERENCE IBC CHAPTER 17):

GENERAL: WHERE APPLICATION IS MADE FOR CONSTRUCTION, THE OWNER OR THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE ACTING AS THE OWNER'S AGENT SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PERFORM INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED IN THE INSPECTION CHECKLIST ABOVE.

THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AND ENGINEERS OF RECORD INVOLVED IN THE DESIGN OF THE PROJECT ARE PERMITTED TO ACT AS THE APPROVED AGENCY AND THEIR PERSONNEL ARE PERMITTED TO ACT AS THE SPECIAL INSPECTOR FOR THE WORK DESIGNED BY THEM, PROVIDED THOSE PERSONNEL MEET THE QUALIFICATION REQUIREMENTS.

STATEMENT OF SPECIAL INSPECTIONS: THE APPLICANT SHALL SUBMIT A STATEMENT OF SPECIAL INSPECTIONS PREPARED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE IN ACCORDANCE WITH SECTION 107.1 AS A CONDITION FOR ISSUANCE. THIS STATEMENT SHALL BE IN ACCORDANCE WITH SECTION 1705.

REPORT REQUIREMENT: SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS SHALL BE SUBMITTED.

SPECIAL INSPECTION CHECKLIST

BEFORE CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	ENGINEER OF RECORD APPROVED SHOP DRAWINGS ¹
REQUIRED	MATERIAL SPECIFICATIONS REPORT ²
N/A	FABRICATOR NDE INSPECTION
REQUIRED	PACKING SLIPS ³
ADDITIONAL TESTING AND INSPECTIONS:	
DURING CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	STEEL INSPECTIONS
N/A	HIGH STRENGTH BOLT INSPECTIONS
N/A	HIGH WIND ZONE INSPECTIONS ⁴
REQUIRED	FOUNDATION INSPECTIONS
REQUIRED	CONCRETE COMP. STRENGTH, SLUMP TESTS AND PLACEMENT
N/A	POST INSTALLED ANCHOR VERIFICATION ⁵
N/A	GROUT VERIFICATION
N/A	CERTIFIED WELD INSPECTION
REQUIRED	EARTHWORK: LIFT AND DENSITY
N/A	ON SITE COLD GALVANIZING VERIFICATION
N/A	GUY WIRE TENSION REPORT
ADDITIONAL TESTING AND INSPECTIONS:	
AFTER CONSTRUCTION	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY ENGINEER OF RECORD)	REPORT ITEM
REQUIRED	MODIFICATION INSPECTOR REDLINE OR RECORD DRAWINGS ⁶
N/A	POST INSTALLED ANCHOR PULL-OUT TESTING
REQUIRED	PHOTOGRAPHS
ADDITIONAL TESTING AND INSPECTIONS:	

NOTES:

- REQUIRED FOR ANY NEW SHOP FABRICATED FRP OR STEEL.
- PROVIDED BY MANUFACTURER, REQUIRED IF HIGH STRENGTH BOLTS OR STEEL.
- PROVIDED BY GENERAL CONTRACTOR; PROOF OF MATERIALS.
- HIGH WIND ZONE INSPECTION CATB 120MPH OR CAT C,D 110MPH INSPECT FRAMING OF WALLS, ANCHORING, FASTENING SCHEDULE.
- ADHESIVE FOR REBAR AND ANCHORS SHALL HAVE BEEN TESTED IN ACCORDANCE WITH ACI 355.4 AND ICC-ES AC308 FOR CRACKED CONCRETE AND SEISMIC APPLICATIONS. DESIGN ADHESIVE BOND STRENGTH HAS BEEN BASED ON ACI 355.4 TEMPERATURE CATEGORY B WITH INSTALLATIONS INTO DRY HOLES DRILLED USING A CARBIDE BIT INTO CRACKED CONCRETE THAT HAS CURED FOR AT LEAST 21 DAYS. ADHESIVE ANCHORS REQUIRING CERTIFIED INSTALLATIONS SHALL BE INSTALLED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER PER ACI 318-11 D.9.2.2. INSTALLATIONS REQUIRING CERTIFIED INSTALLERS SHALL BE INSPECTED PER ACI 318-11 D.8.2.4.
- AS REQUIRED; FOR ANY FIELD CHANGES TO THE ITEMS IN THIS TABLE.

NOTES:

- ALL CONNECTIONS TO BE SHOP WELDED & FIELD BOLTED USING 3/4" # A325-X BOLTS, UNLESS OTHERWISE NOTIFIED.
- SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED BEFORE ORDERING MATERIAL.
- SHOP DRAWING ENGINEER REVIEW & APPROVAL REQUIRED PRIOR TO STEEL FABRICATION.
- VERIFICATION OF EXISTING ROOF CONSTRUCTION IS REQUIRED PRIOR TO THE INSTALLATION OF THE ROOF PLATFORM. ENGINEER OF RECORD IS TO APPROVE EXISTING CONDITIONS IN ORDER TO MOVE FORWARD.
- CENTERLINE OF PROPOSED STEEL PLATFORM SUPPORT COLUMNS TO BE CENTRALLY LOCATED OVER THE EXISTING BUILDING COLUMNS.
- EXISTING BRICK MASONRY COLUMNS/BEARING TO BE REPAIRED/REPLACED AT ALL PROPOSED PLATFORM SUPPORT POINTS. ENGINEER OF RECORD TO REVIEW AND APPROVE.

FOR CONSTRUCTION

PREPARED FOR: CELLCO PARTNERSHIP D.B.A.



CHECKED BY: JX

APPROVED BY: DPH

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
6	01/09/23	REV. BLDG CODE, THIR PAINT NOTE	TR
5	05/19/22	REVISED ANTENNA CANNISTER SIZE	SLY
4	08/18/21	ADD ICE CANOPY, REV./NEW RFDS	SLY
3	11/21/19	ADDED TOWER FOUNDATION BUFFER	SLY
2	09/10/18	REVISED PER COMMENTS	KAM
1	08/10/18	REVISED PER COMMENTS	KAM
0	08/13/18		KAM

SITE NAME:
NORWALK 3 CT

SITE ADDRESS:
284 NEW CANAAN AVENUE
NORWALK, CT 06850

SHEET TITLE
STRUCTURAL NOTES
AND SPECIAL
INSPECTIONS

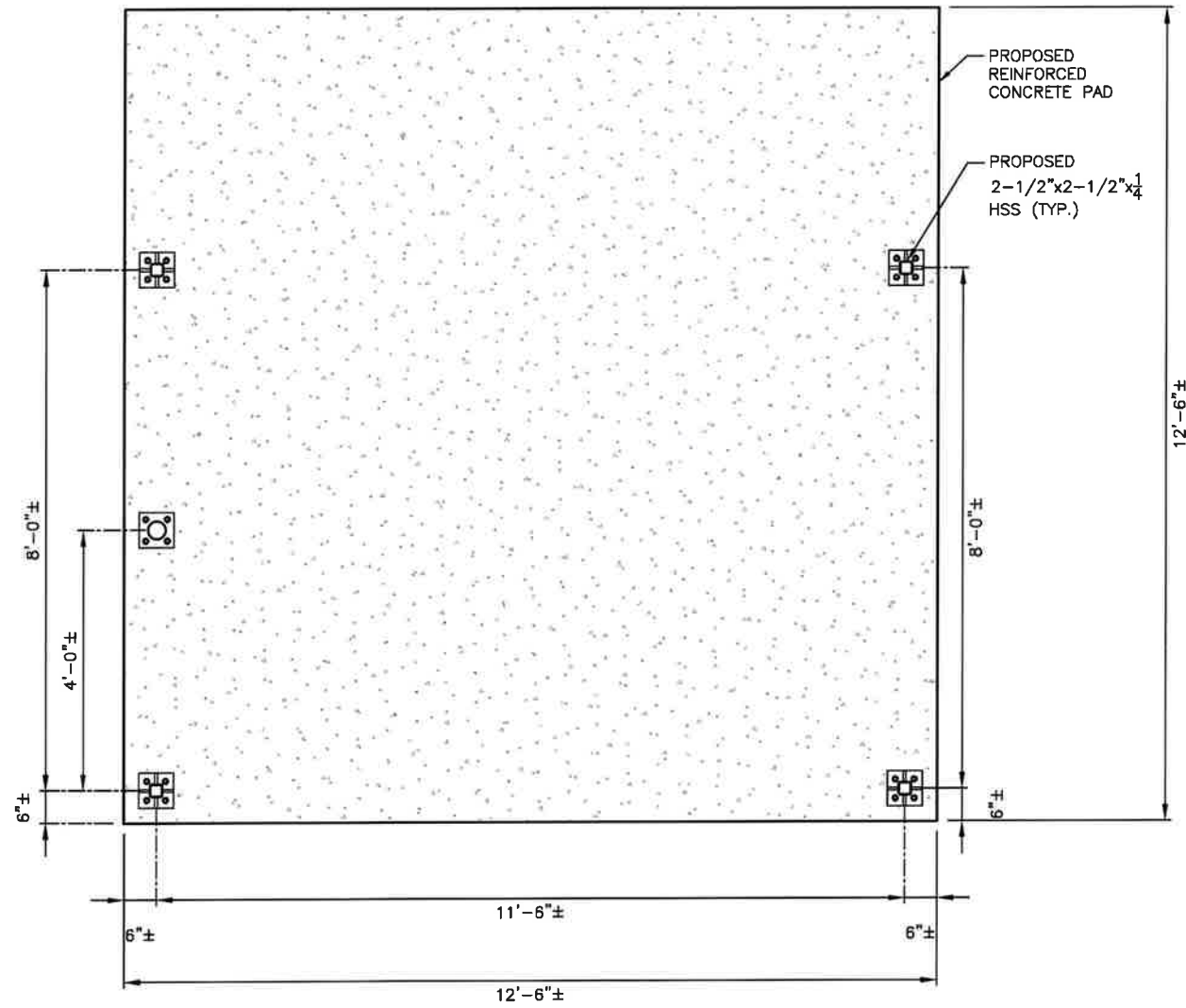
SHEET NUMBER
SN-1

FOR CONSTRUCTION

PREPARED FOR: CELCO PARTNERSHIP D.B.A.

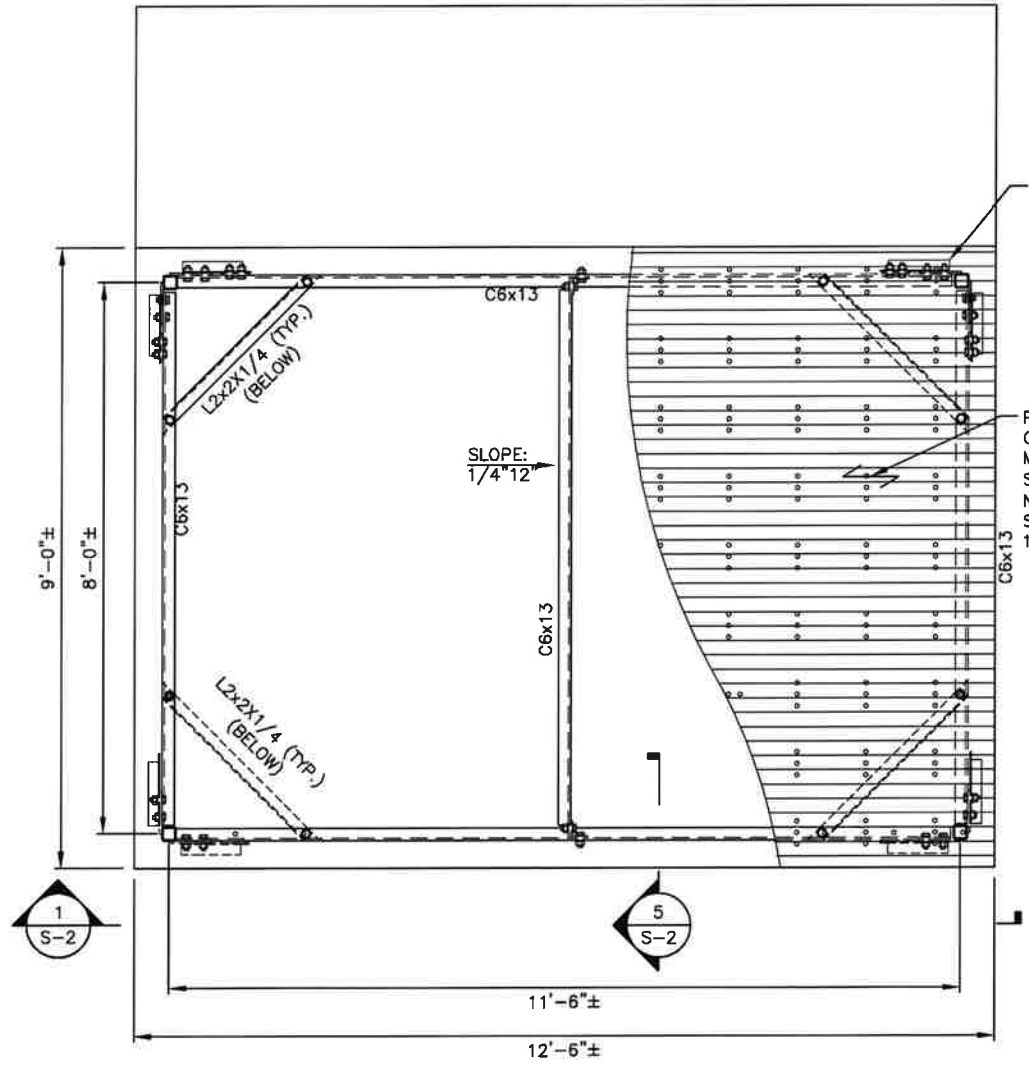



45 BEECHWOOD DRIVE, NORTH ANDOVER, MA 01845
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HSS COLUMN PLAN
22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0"

GRAPHIC SCALE
0 16 32 64 96 FEET



ICE CANOPY FRAME PLAN
22x34 SCALE: 3/4"=1'-0"
11x17 SCALE: 3/8"=1'-0"

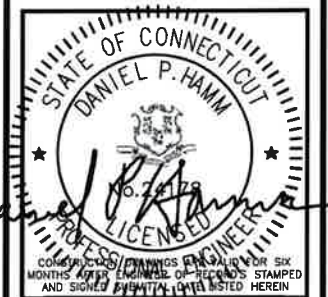
GRAPHIC SCALE
0 16 32 64 96 FEET

PROPOSED 2-1/2"x2-1/2"x1/4" HSS (TYP.)

PROPOSED REINFORCED CONCRETE PAD

PROPOSED L2"x2"x1/4" KNEE BRACE (TYP.)

PROPOSED 16 GAUGE 1-1/2" CORRUGATED GALVANIZED SHEET METAL OVERLAP MIN. 6" W/ SILICONE SEALANT. FASTEN W/ NO. 12 (USE #5 DRILL PT.) S.S. SELF-TAPPING SCREW @ MAX. 12" O.C.



CHECKED BY: JX
APPROVED BY: DPH

SUBMITTALS

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1	09/10/18	REVISED PER COMMENTS	KAM
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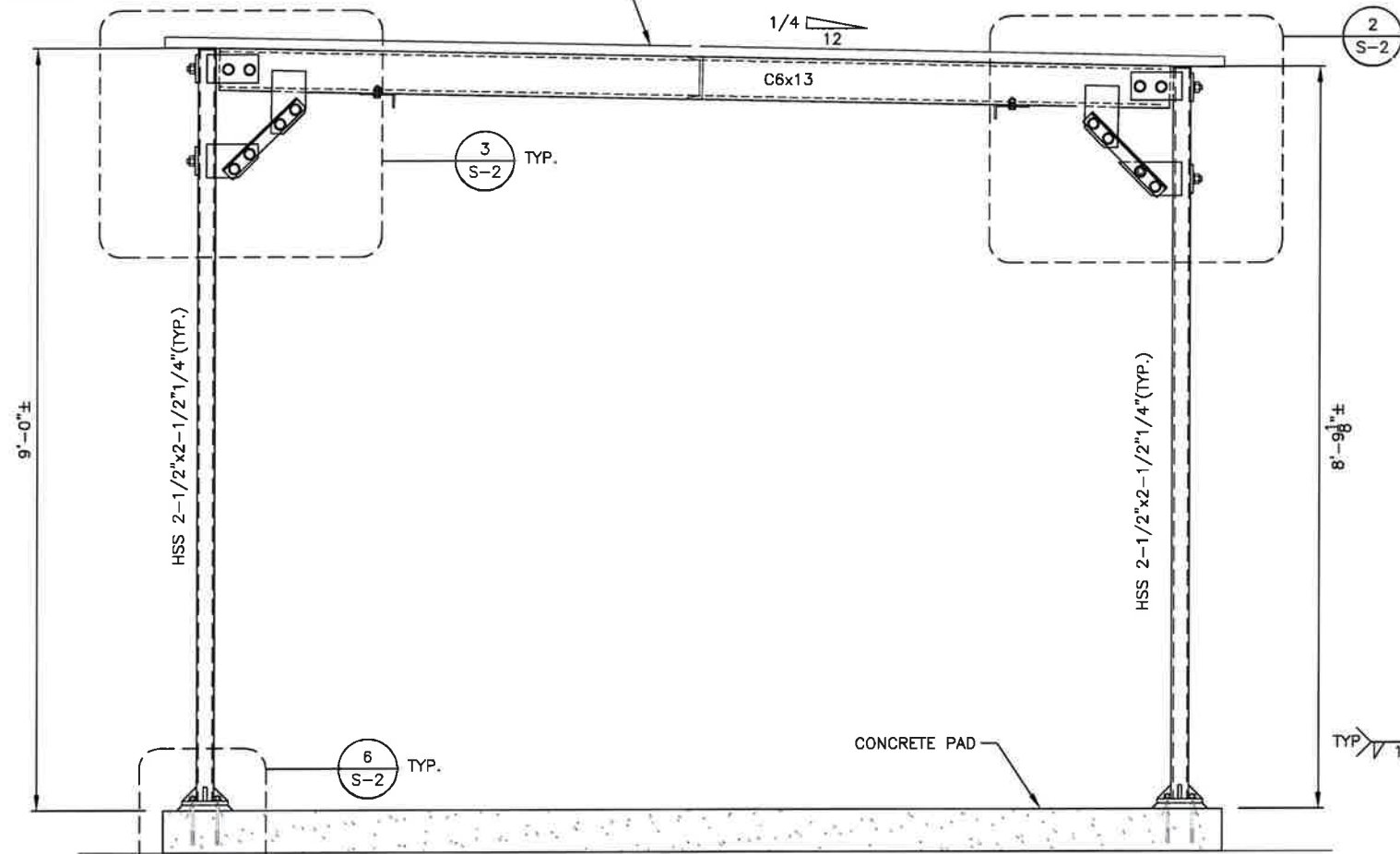
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NORWALK 3 CT

SITE ADDRESS:
284 NEW CANAAN AVENUE
NORWALK, CT 06850

SHEET TITLE
ICE CANOPY DETAILS

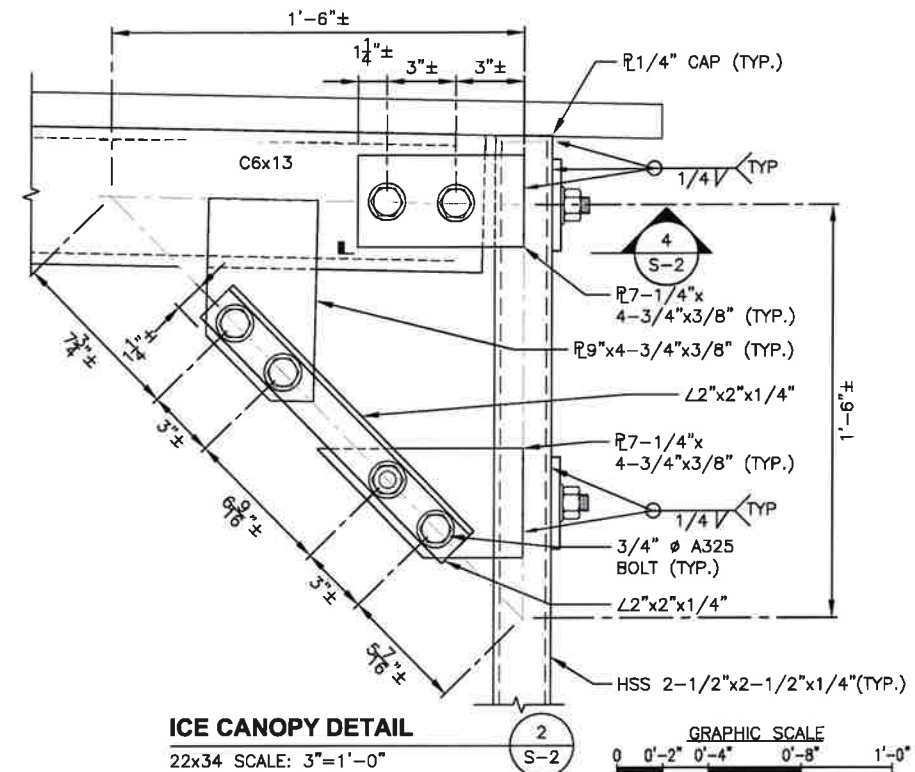
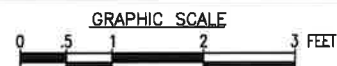
SHEET NUMBER
S-1

PROPOSED 16 GAUGE 1-1/2" CORRUGATED GALVANIZED SHEET METAL OVERLAP MIN. 6" W/ SILICONE SEALANT. FASTEN W/ NO. 12 (USE #5 DRILL PT.) S.S. SELF-TAPPING SCREW @ MAX. 12" O.C.



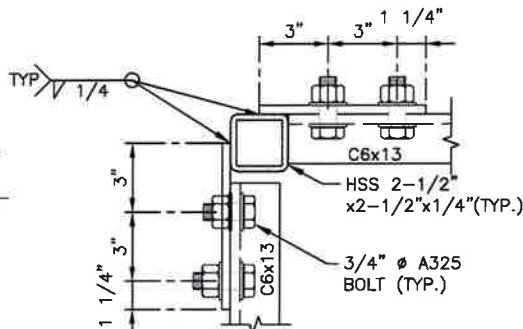
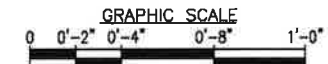
ICE CANOPY SECTION

22x34 SCALE: 1"=1'-0"
11x17 SCALE: 1/2"=1'-0"



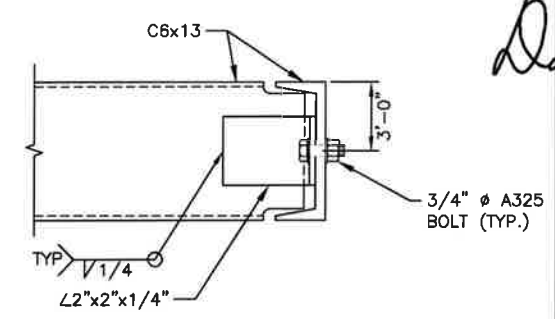
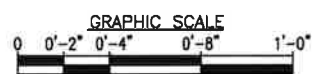
ICE CANOPY DETAIL

22x34 SCALE: 3"=1'-0"
11x17 SCALE: 1-1/2"=1'-0"



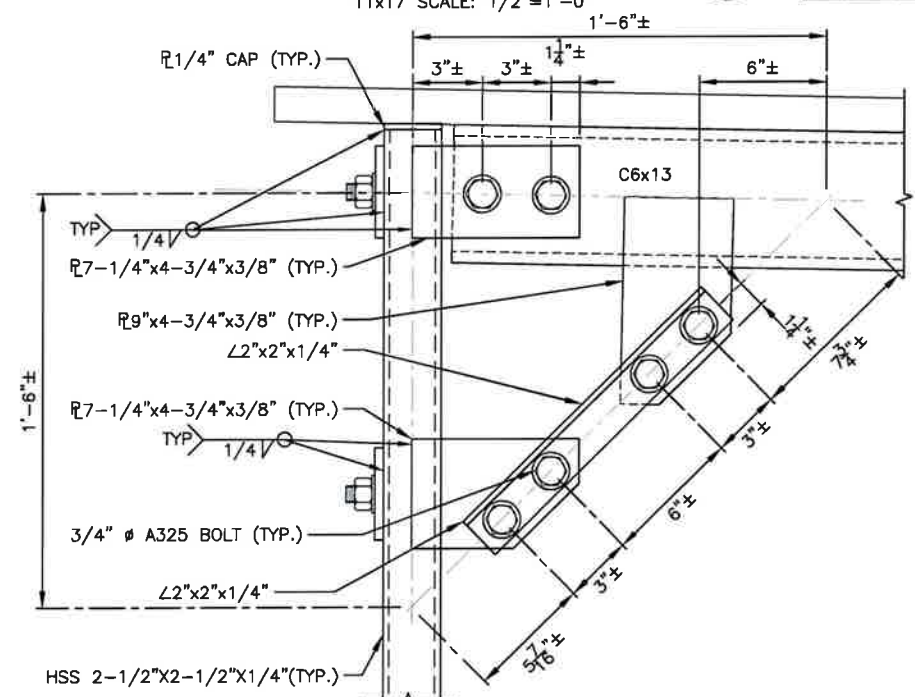
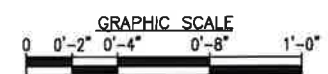
TYPICAL CHANNEL TO HSS CONNECTION DETAIL

22x34 SCALE: 3"=1'-0"
11x17 SCALE: 1-1/2"=1'-0"



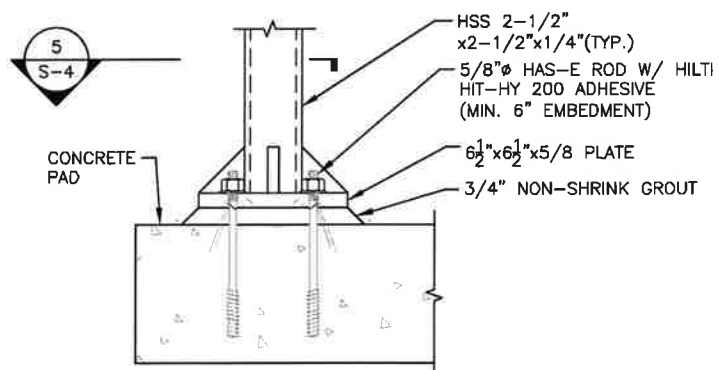
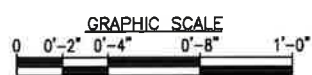
MID CHANNEL TO CHANNEL CONNECTION

22x34 SCALE: 3"=1'-0"
11x17 SCALE: 1-1/2"=1'-0"



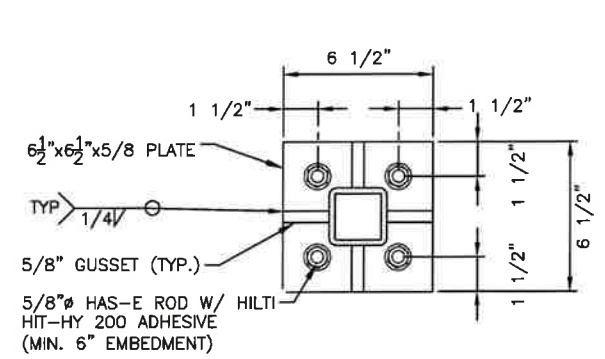
ICE CANOPY DETAIL

22x34 SCALE: 3"=1'-0"
11x17 SCALE: 1-1/2"=1'-0"



TYPICAL HSS BASE PLATE CONNECTION SECTION

22x34 SCALE: 3"=1'-0"
11x17 SCALE: 1-1/2"=1'-0"



TYPICAL HSS BASE PLATE CONNECTION DETAIL

22x34 SCALE: 3"=1'-0"
11x17 SCALE: 1-1/2"=1'-0"

FOR CONSTRUCTION

PREPARED FOR: CELLCO PARTNERSHIP D.B.A.

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TEL: (978) 557-5553

CHECKED BY: JX
APPROVED BY: DPH

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SITE NAME:
NORWALK 3 CT

SITE ADDRESS:
284 NEW CANAAN AVENUE
NORWALK, CT 06850

SHEET TITLE
ICE CANOPY DETAILS

SHEET NUMBER
S-2

GENERAL NOTES

- ELECTRICAL**
- ALL CONDUCTORS SHALL BE COPPER.
 - ALL WIRING DEVICES AND EQUIPMENT SHALL BE SPECIFICATION GRADE AND UL LISTED.
 - ALL UNDERGROUND LINES ON SITE SHALL BE LOCATED PRIOR TO CONSTRUCTION (IF APPLICABLE).
 - THE INSTALLATION OF ALL MATERIALS SHALL COMPLY WITH THE NATIONAL ELECTRIC CODE.
 - ALL MATERIALS SHALL BE NEW.
 - OUTLETS AND JUNCTION BOXES SHALL BE ZINC-COATED OR CADMIUM PLATED SHEET STEEL BOXES NOT LESS THAN FOUR INCHES SQUARE AND SUITABLE FOR THE TYPE OF SERVICE OUTLET. ALL OUTLET AND JUNCTION BOXES SHALL BE SECURELY SURFACE MOUNTED.
 - THE ENTIRE SYSTEM SHALL BE SOLIDLY GROUNDED USING COMPRESSION-TYPE CONDUIT FITTINGS ON CONDUITS AND PROPERLY BONDED GROUND CONDUCTORS. CRIMP-TYPE AND SET SCREW-TYPE CONDUIT FITTINGS ARE NOT ALLOWED. ALL RECEPTACLES AND EQUIPMENT CIRCUITS SHALL BE GROUNDED USING A FULL-SIZE EQUIPMENT GROUNDING CONDUCTOR RUN WITH THE CURRENT CONDUCTORS.
 - ALL WALL PENETRATIONS FOR TELCO, POWER, AND GROUNDING SHALL REQUIRE RIGID STEEL SLEEVES.
 - ALL SWITCHES SHALL BE 48 INCHES A.F.F.
 - ALL RECEPTACLES SHALL BE 18 INCHES A.F.F.
 - ALL T-STATS SHALL BE 60 INCHES A.F.F.

- CABLE TRAY**
- BOTTOM OF CABLE TRAY SHALL BE 7'-6" A.F.F.
 - CABLE TRAY ANCHORS SHALL BE MOUNTED TO STRUCTURAL CEILING.
 - AFTER FINAL LEVELING OF CABLE TRAY, CUT THREADED RODS 1/2" BELOW NUT AND CAP OFF.

- ALARM AND SIGNAL**
- ALL ALARM WIRES SHALL BE RUN FROM EACH OF THE COMPONENTS TERMINAL STRIP. LEAVE ADDITIONAL ALARM WIRE COILED WITH SUFFICIENT LENGTH TO REACH THE FLOOR.
 - ALL ALARM WIRES SHALL BE TAGGED AND LABELED WITH THE APPROPRIATE ALARM ITEM. ALL CONTRACTORS WILL BE NORMALLY CLOSED, DRY, AND ISOLATED FROM GROUND, U.O.N.
 - ALL ALARM WIRING SHALL BE 1/2"C., (2) #22 AWG, UNLESS OTHERWISE NOTED.
 - ELECTRICAL CONTRACTOR TO CARRY POWER FEED OF LESSEE'S MOD CELL EQUIPMENT.
 - ALL ENCLOSURES TO BE NEMA.
 - INTEGRATED LOAD CENTER ASSEMBLY SUPPLIED BY LESSEE.

ELECTRICAL NOTES

- UTILITY SERVICES SHOWN ARE PROPOSED, THE ELECTRIC CONTRACTOR SHALL COORDINATE EXACT TELEPHONE AND ELECTRIC SERVICE CONNECTION POINTS, PULL BOXES, ROUTING AND ASSOCIATED REQUIREMENTS WITH OWNER AND LOCAL UTILITY CO. VISIT SITE AND EXAMINE CONDITIONS UNDER WHICH WORK MUST BE PERFORMED. REPORT ADVERSE CONDITIONS IN WRITING TO LICENSEE. COMMENCEMENT OF WORK SHALL BE CONSTRUED AS COMPLETE ACCEPTANCE OF EXISTING CONDITIONS INCLUDING PREPARATORY WORK DONE BY OTHERS.
- GIVE NOTICES, FILE PLANS, OBTAIN PERMITS AND LICENSES, PAY FEES AND BACK CHARGES, AND OBTAIN NECESSARY APPROVALS FROM AUTHORITIES THAT HAVE JURISDICTION.
- PERFORM WORK AS REQUIRED BY BOCA AND PER LOCAL LAWS.
- THE ELECTRICAL CONTRACTOR SHALL COORDINATE ALL CONDUIT ROUTING WITH OWNER AND FIELD CONSTRUCTION MANAGER.
- ALL EXTERIOR WALL PENETRATIONS SHALL BE SILICONE SEALED. MATERIAL AND EQUIPMENT SHALL BE UL, NEMA, ANSI, IEEE, ADA & CBM APPROVED FOR INTENDED SERVICE. INSTALLATION SHALL MEET REQUIREMENTS OF NATIONAL AND STATE ELECTRICAL CODE.
- ALL ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING RATING NOT LESS THEN THE MAXIMUM SHORT CIRCUIT CURRENT TO WHICH THEY MAY BE SUBJECTED, AND A MINIMUM OF 10,000 A.I.C..
- ALL NEW WIRING SHALL BE TYPE THWN RATED 75°C., 600 VOLT. WET OR DRY LOCATIONS. MINIMUM BRANCH CIRCUIT WIRING SHALL BE #12 AWG SOLID COPPER.
- ALL METALLIC CONDUITS SHALL BE PROVIDED WITH BONDING BUSHINGS.
- ALL BROCHURES, OPERATING MANUALS, CATALOGS, SHOP DRAWINGS, ETC. SHALL BE TURNED OVER TO THE LICENSEE PROJECT MANAGER AT JOB COMPLETION.
- PROVIDE THE OWNER WITH ONE SET OF COMPLETE ELECTRICAL "AS BUILT" DRAWINGS AT THE COMPLETION OF THE JOB.
- GUARANTEE WORK IN WRITING FOR ONE YEAR FROM DATE OF FINAL ACCEPTANCE. REPAIR OR REPLACE DEFECTIVE MATERIALS OR INSTALLATION AT NO COST TO OWNER. CORRECT DAMAGE CAUSED IN MAKING NECESSARY REPAIRS AND REPLACEMENTS UNDER GUARANTEE AT NO COST TO OWNER.
- CONTRACTOR SHALL CONTACT "DIG SAFE" (1-888-DIG-SAFE) PRIOR TO COMMENCEMENT OF WORK.

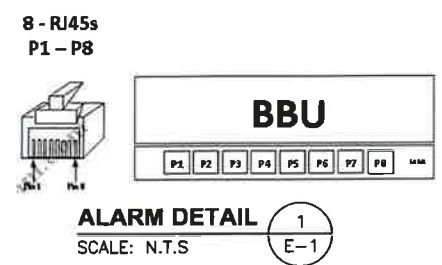
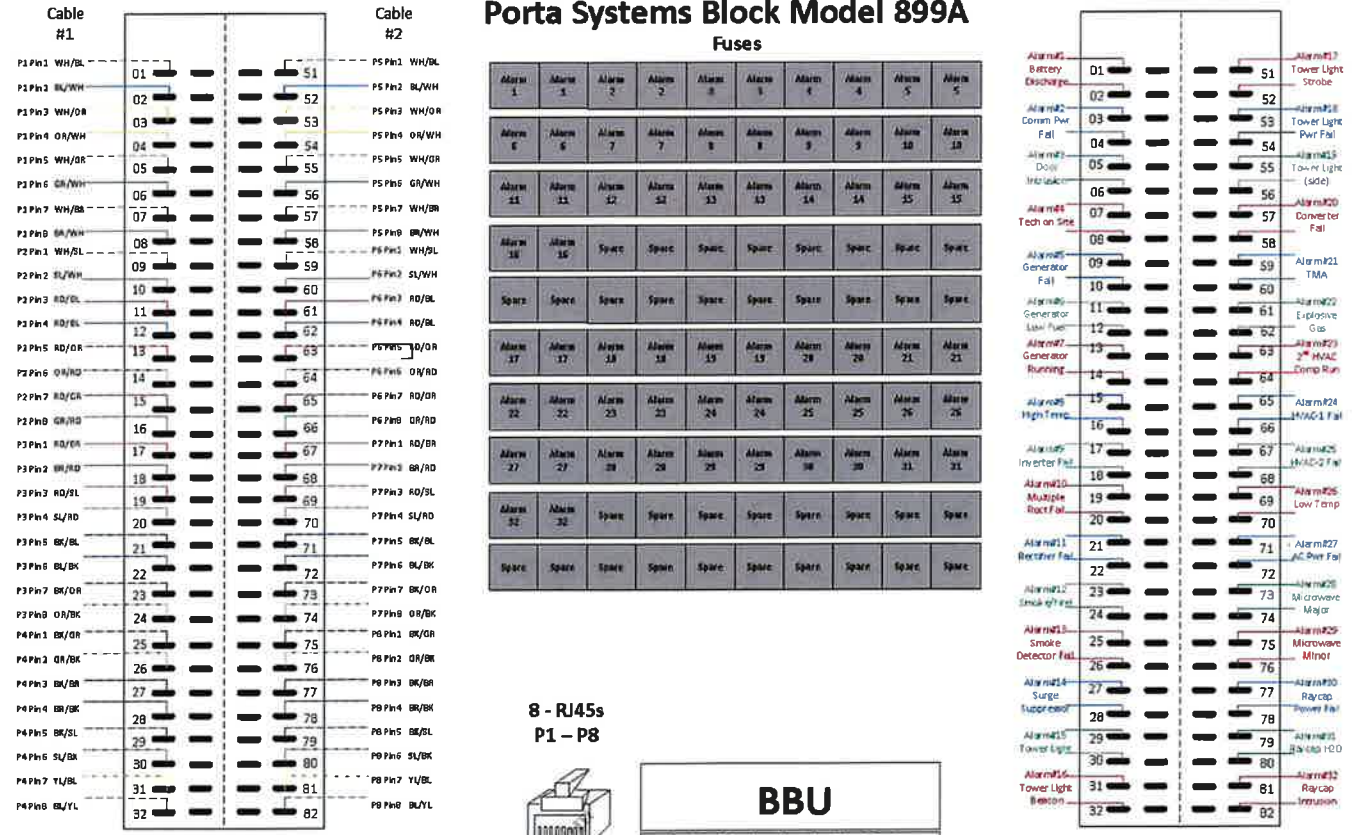
ABBREVIATIONS

A	AMPERES
AC	ALTERNATING CURRENT
ADA	AMERICANS WITH DISABILITIES ACT
AFF	AROVF FINISH FLOOR
AGB	COPPER ANTENNA GROUND BAR
AIC	AMPERE INTERRUPTING CAPACITY
AWG	AMERICAN WIRE GAUGE
BCW	BARE COPPER WIRE
BTS	BASE TRANSMISSION SYSTEM
C	CONDUIT
C/B	CIRCUIT BREAKER
CIGBE	COAX INSULATED GROUND BAR EXTERNAL
DC	DIRECT CURRENT
DWG	DRAWING
EMT	ELECTRICAL METALLIC TUBING
FACP	FIRE ALARM CONTROL PANEL
G	GROUND
GEN	GENERATOR
GPS	GLOBAL POSITIONING SYSTEM
GR	GROWTH
HVAC	HEATING VENTILATION AND AIR-CONDITIONING
IEEE	INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS
IGR	INTERNAL GROUND RING (HALO)
kcmil	ONE THOUSAND CIRCULAR MILS
LAGB	LOWER ANTENNA COPPER GROUND BAR
MIGB	MASTER ISOLATED GROUND BAR
NEC	NATIONAL ELECTRIC CODE
NEMA	NATIONAL ELECTRIC MANUFACTURER'S ASSOCIATION
PCS	PERSONAL COMMUNICATION SYSTEM
PH	PHASE
PPC	POWER PROTECTION CABINET
PRC	PRIMARY RADIO CABINET
RGS	RIGID GALVANIZED STEEL
RWY	RACEWAY
TYP	TYPICAL
UAGB	UPPER ANTENNA COPPER GROUND
UL	UNDERWRITERS LABORATORIES
UON	UNLESS OTHERWISE NOTED
V	VOLTS
VA	VOLT-AMPS
W	WATTS

PANEL NAME: PROPOSED AC PANEL

1ø, 3W 120/240V, 200A						MOUNTING: SURFACE MANUFACTURER: I.B.D.					
CKT No.	BREAKER AMPS	POLES	LOAD DESCRIPTION	LOAD kVA	BRANCH CKT	CKT No.	BREAKER AMPS	POLES	LOAD DESCRIPTION	LOAD kVA	BRANCH CKT
1	40	2	SURGE	9.6	3#8, 1#8G, 1"C	2	40	2	RECTIFIER #5	9.6	3#8, 1#8G, 1"C
3						4					
5	40	2	RECTIFIER #1	9.6	3#8, 1#8G, 1"C	6	40	2	RECTIFIER #6	9.6	3#8, 1#8G, 1"C
7						8					
9						10					
11	40	2	RECTIFIER #2	9.6	3#8, 1#8G, 1"C	12	40	2	RECTIFIER #7	9.6	3#8, 1#8G, 1"C
13						14					
15	40	2	RECTIFIER #3	9.6	3#8, 1#8G, 1"C	16	40	2	RECTIFIER #8	9.6	3#8, 1#8G, 1"C
17						18	20	1	EQUIPMENT CABINET	2.4	2#12, 1#8G, 3/4"C
19	40	2	RECTIFIER #4	9.6	3#8, 1#8G, 1"C	20	20	1	TELCO/TWISTLOCK	2.4	2#12, 1#8G, 3/4"C
21		1	SPARE			22	20	1	LIGHTING	2.4	2#12, 1#8G, 3/4"C
23		1	SPARE			24		1	SPARE		

Wiring Diagram for Porta Systems Block Model 899A

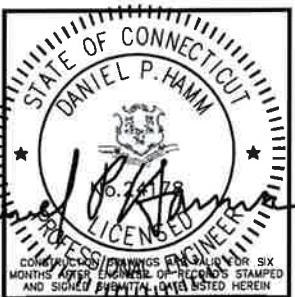


FOR CONSTRUCTION

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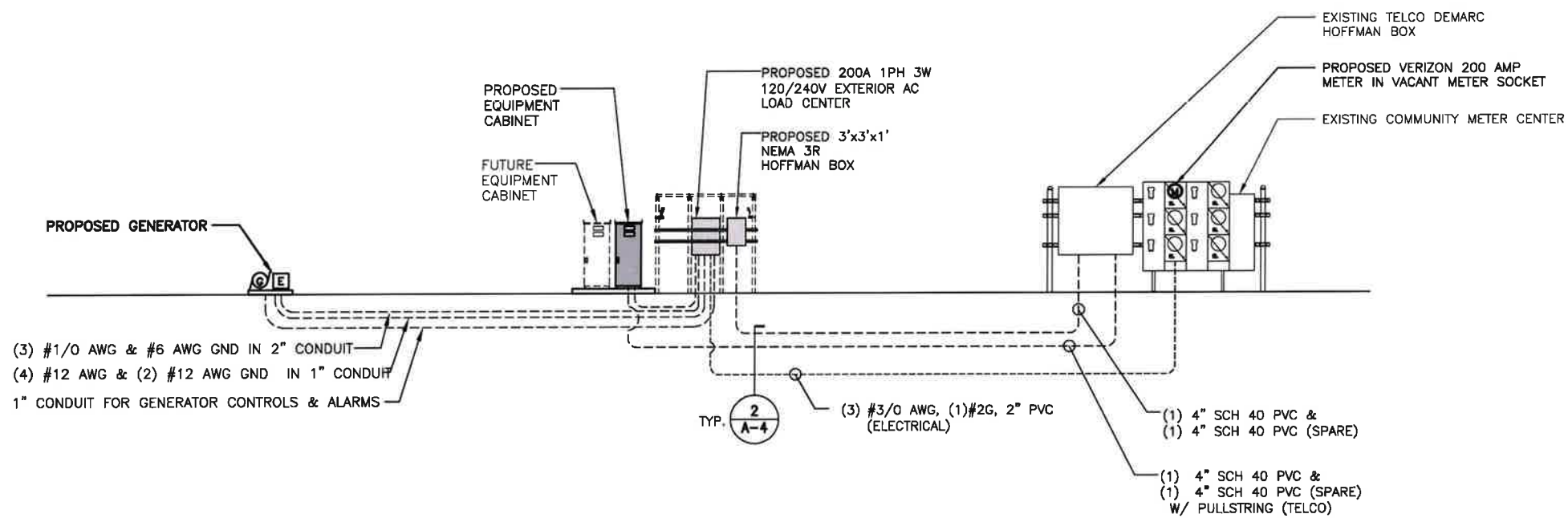
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NORWALK, CT 06850

SHEET TITLE
ELECTRICAL/TELCO RISER DIAGRAM AND NOTES

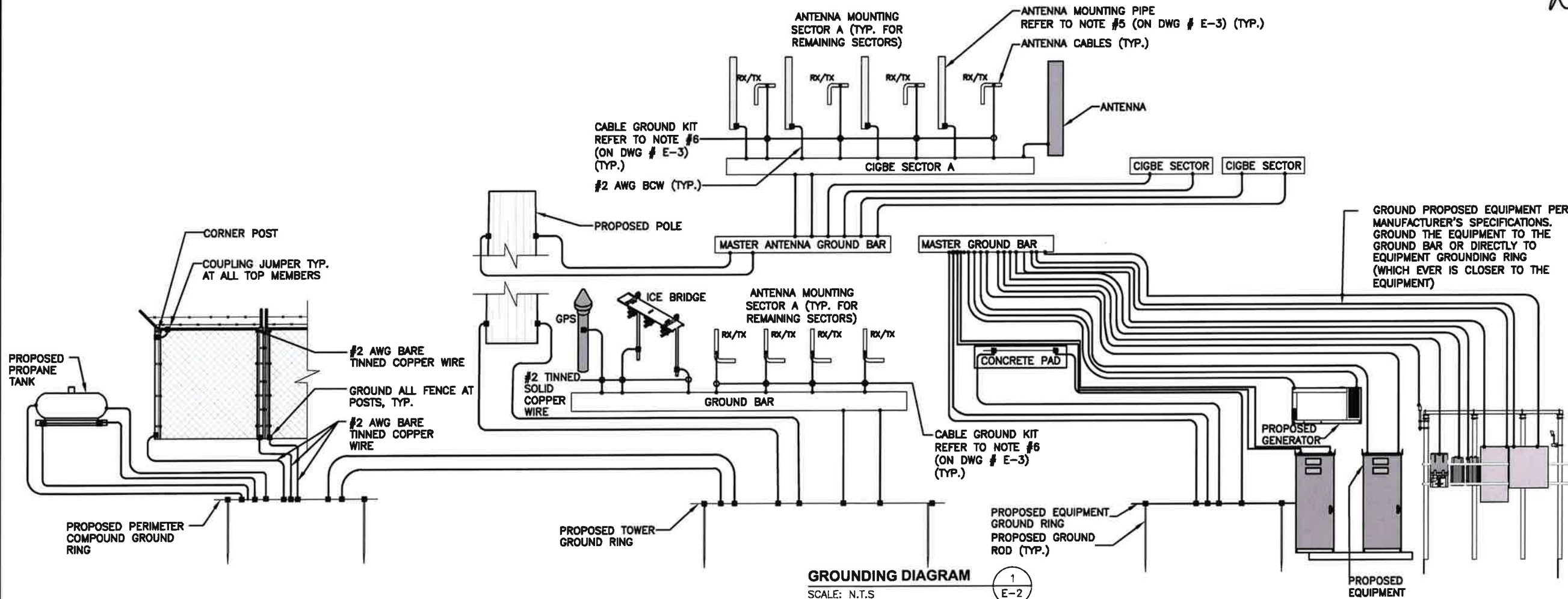
SHEET NUMBER
E-1



POWER & TELEPHONE RISER DIAGRAM

SCALE: N.T.S

1
E-1



GROUNDING DIAGRAM

SCALE: N.T.S

1
E-2

FOR CONSTRUCTION

PREPARED FOR: CELCO PARTNERSHIP D.B.A.



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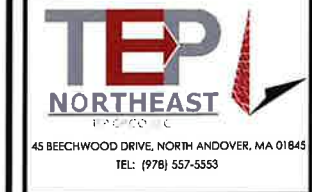
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SHEET TITLE
GROUNDING RISER DIAGRAM

SHEET NUMBER
E-2



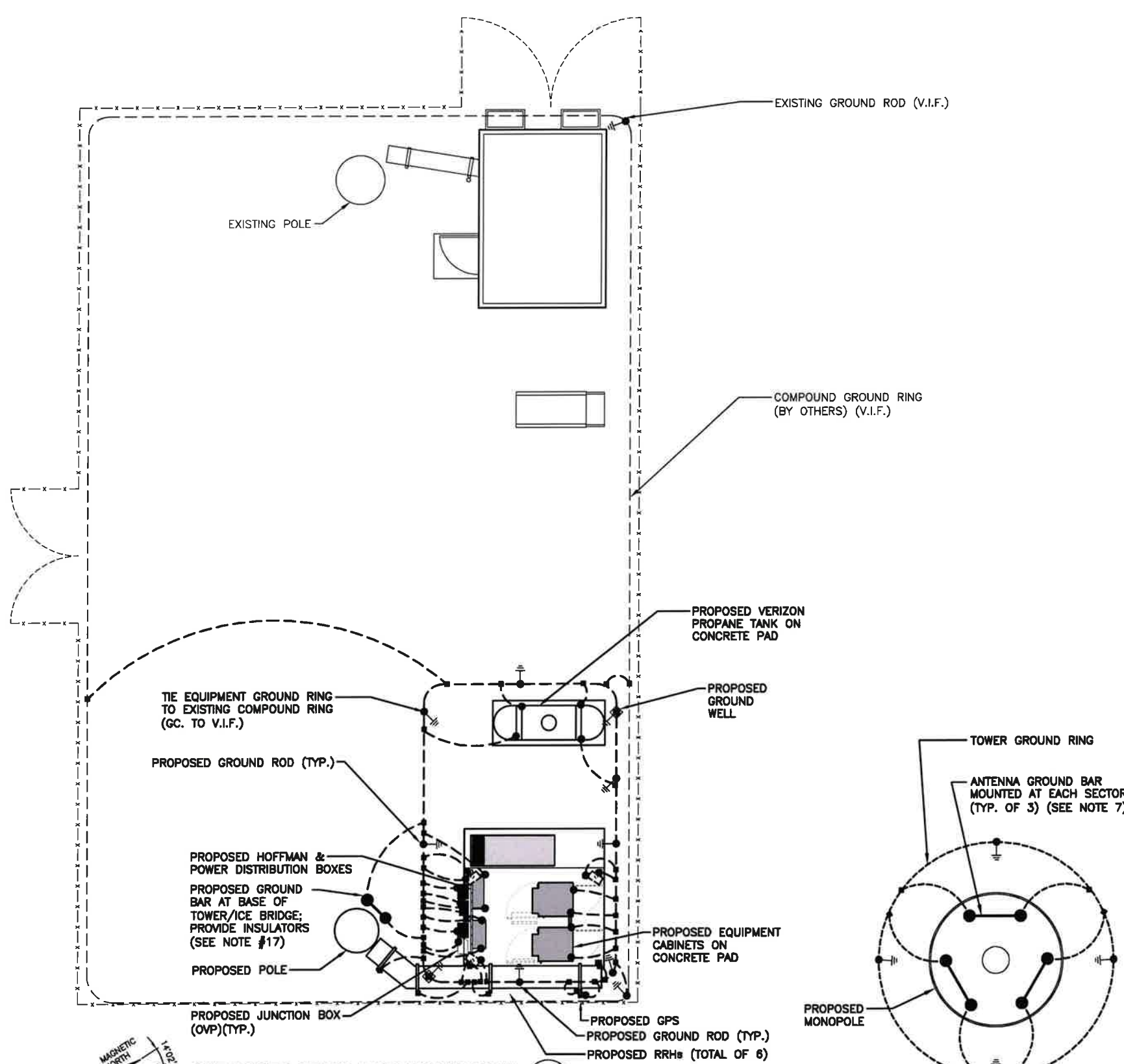
FOR CONSTRUCTION

GROUNDING NOTES

1. ALL GROUND WIRE SHALL BE BARE COPPER #2 AWG UNLESS OTHERWISE NOTED.
2. ALL GROUND WIRES SHALL PROVIDE A STRAIGHT, DOWNWARD PATH TO GROUND WITH GRADUAL BENDS AS REQUIRED. GROUND WIRES SHALL NOT BE LOOPED OR SHARPLY BENT.
3. ELECTRICAL CONTRACTOR SHALL COORDINATE INSTALLATION OF GROUND RODS AND GROUND RING WITH FOUNDATION AND UNDERGROUND CONDUIT.
4. EACH EQUIPMENT CABINET SHALL BE CONNECTED TO THE MASTER ISOLATION GROUND BAR (MIGB) WITH #2 AWG INSULATED STRANDED COPPER WIRE. EQUIPMENT CABINETS SHALL EACH HAVE (2) CONNECTIONS.
5. PROVIDE DEDICATED #2 AWG COPPER GROUND WIRE FROM EACH ANTENNA MOUNTING PIPE TO ASSOCIATED CIGBE (TYPICAL FOR FOUR MOUNTING PIPES PER SECTOR).
6. ANTENNA GROUND KITS SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR.
7. COORDINATE NEW LICENSEE GROUND SYSTEM WITH EXISTING SITE GROUND SYSTEM.
8. EACH SECTION OF CABLE TRAY, ICE BRIDGE AND ICE SHIELD SHALL BE CONNECTED IN A FASHION TO PROVIDE A CONTINUOUS GROUND.
9. AT ALL TERMINATIONS AT EQUIPMENT ENCLOSURES, PANELS AND FRAMES OF EQUIPMENT, AND WHERE EXPOSED FOR GROUNDING, CONDUCTOR TERMINATION SHALL BE PERFORMED UTILIZING TWO HOLE BOLTED TONGUE COMPRESSION TYPE WITH STAINLESS STEEL SELF-TAPPING SCREWS.
10. ALL CLAMPS AND SUPPORTS USED TO SUPPORT THE GROUNDING SYSTEM CONDUCTORS AND PVC CONDUITS SHALL BE PVC TYPE (NON CONDUCTIVE). DO NOT USE METAL BRACKETS OR SUPPORTS WHICH WOULD FORM A COMPLETE RING AROUND ANY GROUNDING CONDUCTOR.
11. ALL GROUNDING CONNECTIONS SHALL BE COATED WITH A COPPER SHIELD ANTI-CORROSIVE AGENT SUCH AS T&B KOPR SHIELD. VERIFY PRODUCT WITH LICENSEE PROJECT MANAGER.
12. ALL BOLTS, WASHERS, AND NUTS USED ON GROUNDING CONNECTIONS SHALL BE STAINLESS STEEL.
13. INSTALL GROUND BUSHINGS ON ALL METALLIC CONDUITS AND BOND TO THE EQUIPMENT GROUND BUS IN THE PANELBOARD.
14. GROUND ANTENNA BASES, FRAMES, CABLE RACKS AND OTHER METALLIC COMPONENTS WITH #2 AWG GROUNDING CONDUCTORS AND CONNECT TO INSULATED SURFACE MOUNTED GROUND BARS. CONNECTION DETAILS SHALL FOLLOW MANUFACTURER'S SPECIFICATIONS FOR GROUNDING.
15. GROUND COAXIAL SHIELD AT BOTH ENDS USING MANUFACTURER'S GUIDELINES.
16. REINFORCEMENT IN EQUIPMENT SLAB TO BE WELDED AND REINFORCEMENT TO BE BONDED TO GROUNDING RING.
17. CONCRETE-ENCASED ELECTRODES GREATER THAN 20 S.F. OF SURFACE AREA & 1/2" OR GREATER REINFORCING STEEL MUST BE BONDED TO THE GROUNDING RING PER NEC 250.50.
18. ALL GROUND BARS SHALL BE GALVANIZED WITH ANTI-THEFT HARDWARE.

GROUNDING LEGEND

- COMPRESSION TYPE CONNECTION
- EXOTHERMIC
- ⊗ CHEMICAL ELECTROLYTIC GROUNDING SYSTEM
- ||● 5/8" X 10'-0" COPPER CLAD GROUND ROD
- ||● T TEST 5/8" X 10'-0" COPPER CLAD GROUND ROD WITH INSPECTION SLEEVE
- ⊗ EXOTHERMIC WITH INSPECTION SLEEVE
- #2 SOLID TINNED COPPER WIRE UNLESS OTHERWISE NOTED GROUNDING CONDUCTOR
- GROUNDING BAR
- PIGTAIL GROUND CONDUCTOR



GROUNDING PLAN AT ANTENNA LEVEL
SCALE: N.T.S.

SITE POWER, TELCO & GROUNDING PLAN
SCALE: N.T.S.

CHECKED BY: JX

APPROVED BY: DPH

SUBMITTALS

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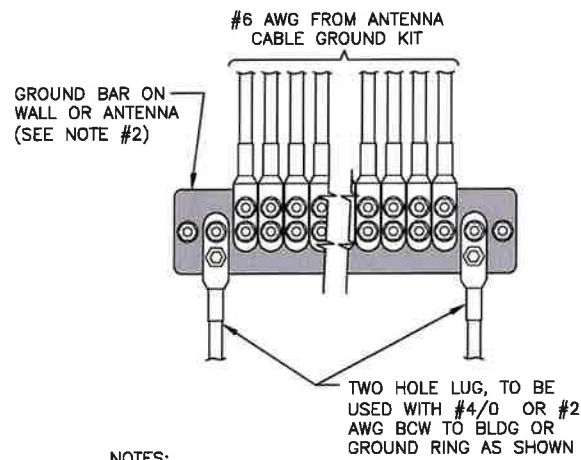
SITE NAME:
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NORWALK, CT 06850

SHEET TITLE
GROUNDING PLAN

SHEET NUMBER
E-3





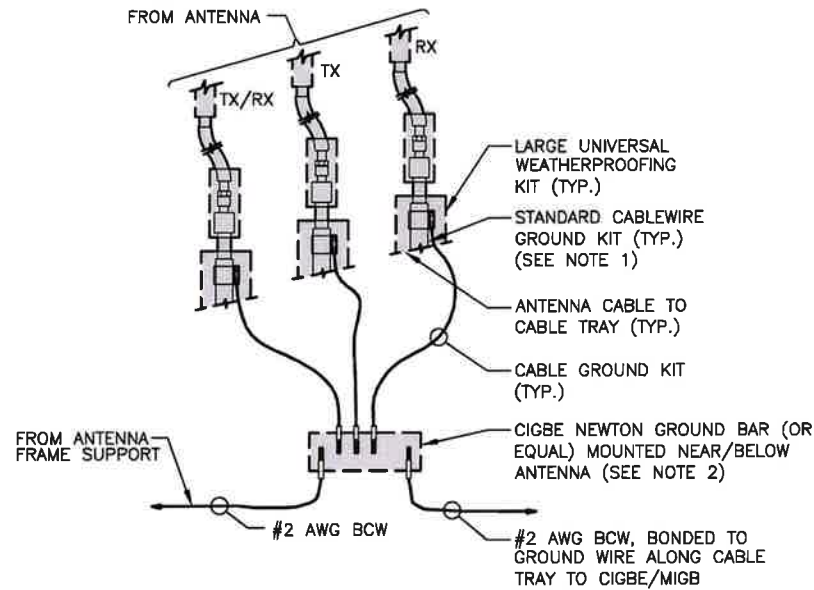
NOTES:

1. CONTRACTOR TO UTILIZE KOPR-SHIELD (THOMAS & BETTS) ON ALL LUG CONNECTIONS.
2. ALL GROUND BARS SHALL BE GALVANIZED WITH ANTI-THEFT HARDWARE.

**GROUNDING - STANDARD
DETAIL INSTALLATION OF
GROUNDWIRE TO GROUND BAR**

SCALE: N.T.S

1
E-4



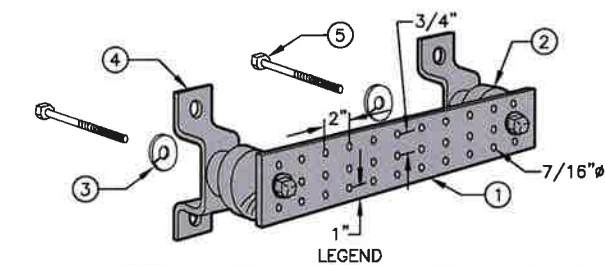
NOTES:

1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE.
2. ALL GROUND BARS SHALL BE GALVANIZED WITH ANTI-THEFT HARDWARE.

**GROUNDING - STANDARD DETAIL
CONNECTION OF GROUND WIRES
TO GROUND BAR (CIGBE)**

SCALE: N.T.S

3
E-4



- 1 GALVANIZED STEEL GROUND BAR, 1/4"x4"x20", OR OTHER LENGTH AS REQUIRED, HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION.
- 2 INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061-4 OR EQUAL.
- 3 5/8" LOCKWASHERS OR EQUAL.
- 4 WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT. NO. A-8056 OR EQUAL.
- 5 5/8-11 x 1" H.H.C.S. BOLTS

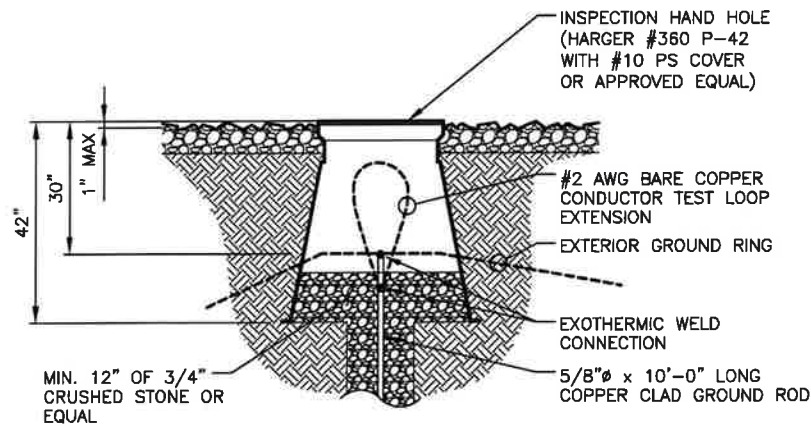
NOTES:

1. ALL BOLTS, NUTS, WASHERS, AND LOCK WASHERS SHALL BE 18-8 STAINLESS STEEL.
2. ALL GROUND BARS SHALL BE GALVANIZED WITH ANTI-THEFT HARDWARE.

**GROUNDING - STANDARD
DETAIL GROUND BAR**

SCALE: N.T.S

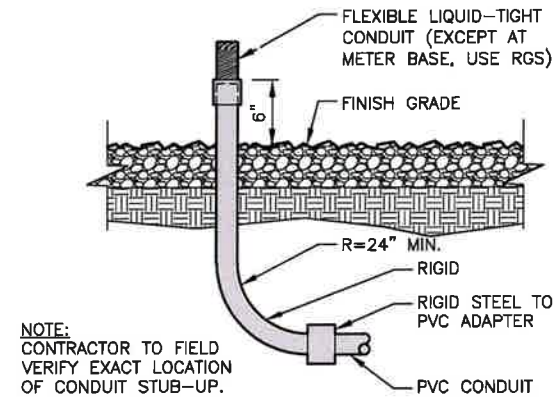
2
E-4



GROUNDING WELL DETAIL

SCALE: N.T.S

4
E-4

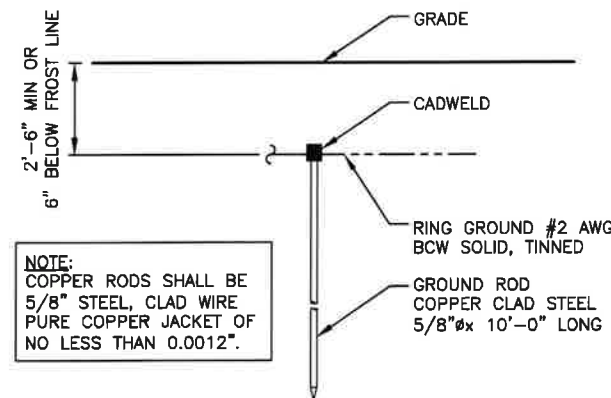


NOTE:
CONTRACTOR TO FIELD
VERIFY EXACT LOCATION
OF CONDUIT STUB-UP.

CONDUIT STUB-UP

SCALE: N.T.S

5
E-4

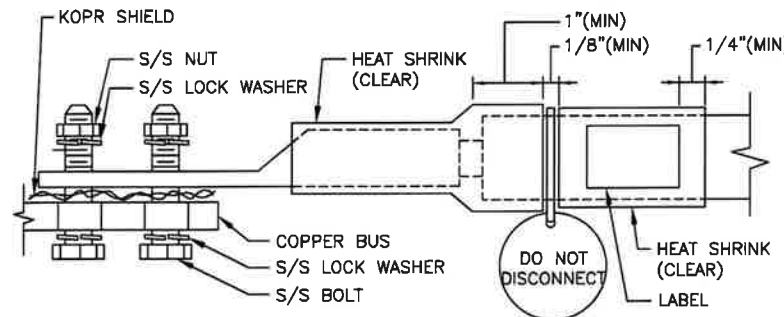


NOTE:
COPPER RODS SHALL BE
5/8" STEEL, CLAD WIRE
PURE COPPER JACKET OF
NO LESS THAN 0.0012".

TYPICAL GROUND ROD DETAIL

SCALE: N.T.S

6
E-4



NOTES:

1. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING LOCK WASHERS, COAT ALL SURFACES WITH KOPR-SHIELD BEFORE MATING.
2. FOR GROUND BOND TO STEEL ONLY: INSERT A DRAGON TOOTH WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH KOPR-SHIELD.
3. CADWELD DOWNLEADS FROM UPPER EGB, LOWER EGB, AND MGB.
4. "DOUBLING UP" OR "STACKING" OF CONNECTION IS NOT PERMITTED.

TYPICAL GROUND BAR CONNECTION DETAIL

SCALE: N.T.S

7
E-4

FOR CONSTRUCTION

PREPARED FOR: CELCO PARTNERSHIP D.B.A.



45 BEECHWOOD DRIVE, NORTH ANDOVER, MA 01843
TEL: (978) 557-5553



CHECKED BY: JX

APPROVED BY: DPH

SUBMITTALS

REV.	DATE	DESCRIPTION	BY
8	01/09/23	REV. BLDG CODE, TWR PAINT NOTE	TR
5	05/19/22	REVISED ANTENNA CANISTER SIZE	SLY
4	06/16/21	ADD ICE CANOPY, REV./NEW REFS	SLY
3	11/21/19	ADDED TOWER FOUNDATION BUFFER	SLY
2	08/10/18	REVISED PER COMMENTS	KAM
1	09/10/18	REVISED PER COMMENTS	KAM
0	08/13/18		KAM

SITE NAME:

NORWALK 3 CT

SITE ADDRESS:

284 NEW CANAAN AVENUE
NORWALK, CT 06850

SHEET TITLE

GROUNDING
DETAILS

SHEET NUMBER

E-4

ATTACHMENT 2

January 3, 2023 (Rev.1)
July 29, 2021



Verizon Wireless
20 Alexander Drive
Wallingford, CT 06492

RE: Site Name: NORWALK 3 CT
Site Address: 284 New Canaan Avenue
Norwalk, CT 06850

To Whom It May Concern:

TEP Northeast (TEP NE) has been authorized by Verizon to perform a structural assessment on the existing antenna mount to determine its capability of supporting the following additional Verizon equipment:

- (3) MX08FIT265-01 Antennas (one per sector)
- (3) NNH4-65B-R6H4 Antennas (one per sector)
- (3) RT-8808-77A RRH's (one per sector)
- (6) CBC61923T-DS-43 Quadplexers (two per sector)
- (1) OVP Box (one per sector)

Based on our evaluation, we have determined that the existing mounts **ARE CAPABLE** of supporting the proposed installation. TEP NE reviewed loading and field photographs to determine this assessment.

Reference Documents:

- Structural Design Report prepared by Sabre Industries dated April 11, 2022.

This analysis was conducted in accordance with EIA/TIA-222-H, Structural Standards for Steel Antenna Towers and Antenna Supporting Structures, and the International Building Code 2021 with 2022 Connecticut State Building Code.

This determination was based on the following limitations and assumptions:

1. TEP NE is not responsible for any modifications completed prior to and hereafter which TEP NE was not directly involved.
2. All structural members and their connections are assumed to be in good condition and are free from defects with no deterioration to its member capacities. Contractor to perform pre-inspection prior to construction.
3. All antennas, coax cables and waveguide cables are assumed to be properly installed and supported as per the manufacturer's requirements.
4. All the components supporting the Verizon antennas mounts are assumed to be designed to all applicable codes and designed for identical to or larger than the currently proposed loads.
5. The existing mounts have been adequately secured to the structure per the mount manufacturer's specifications.
6. All components pertaining to Verizon's mounts must be tightened and re-plumbed prior to installation of new appurtenances.

Please feel free to contact our office should you have any questions.

Respectfully Submitted,
TEP Northeast

Michael Cabral
Director



Daniel P. Hamm, PE
Vice President

ATTACHMENT 3

CUMULATIVE MPE TABLE

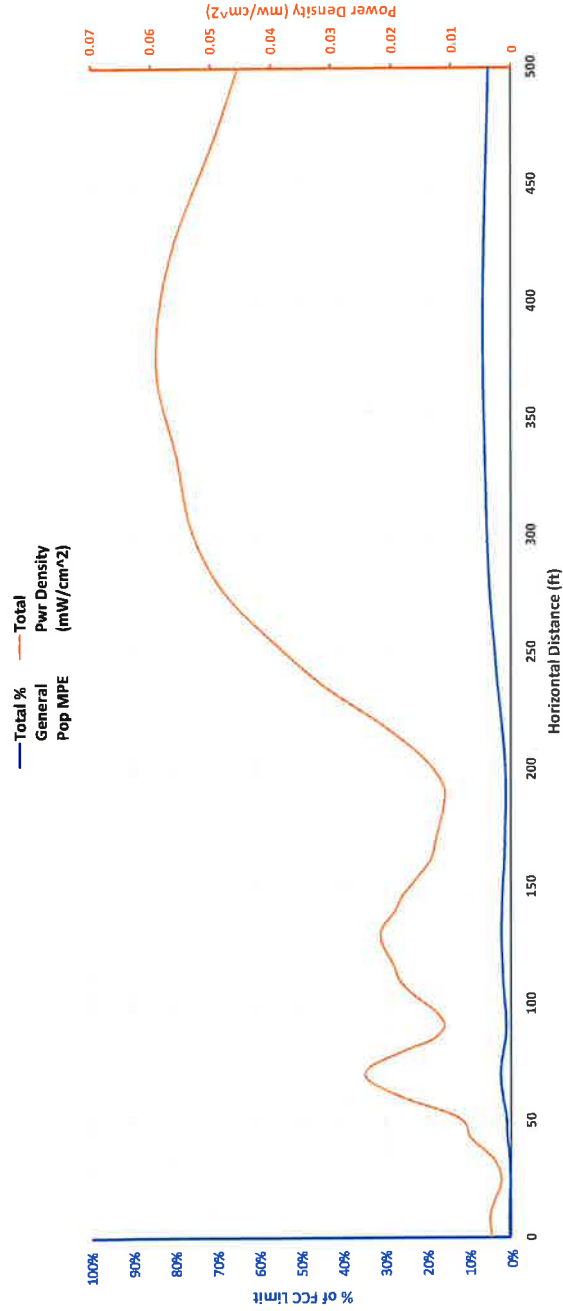
Carrier	MPE %
DISH	0.5326%
AT&T	1.3194 %
*Verizon Wireless	6.7 %
<i>Site Total</i>	<i>8.552 %</i>

*See attached Verizon Wireless far field tables for full detail.

Note: the data for DISH and AT&T in the above table was compiled from the Pinnacle Telecom Group Antenna Site FCC RF Compliance Assessment and Report, dated October 25, 2022 submitted by DISH on November 22, 2022 (TS-DISH-103-221206). AT&T's equipment is on the existing 140' flagpole tower in the western portion of the existing compound. DISH's proposed equipment will be located on the same 140' flagpole tower as AT&T.

NORWALK 3 CT					
Location	1/15/2023				
Dist. Band	C-Band	AWS	PCS	850-LTE	700
Operating Frequency (MHz)	3,700	2,145	1,970	880	746
General Population MPE (mW/cm ²)	1	1	1	0.5866666667	0.4973333333
ERP Per Transmitter (Watts)	4,264	1,445	1,276	386	950
Number of Transmitters	6	12	12	12	6
Antenna Centerline (feet)	127	136.75	136.75	136.75	136.75
Total ERP (Watts)	25,583	17,345	15,317	4,634	5,701
Total ERP (dBm)	74	72	72	67	68
Maximum of Service Population (Mph)	6.7%				

RF Exposure 6ft Above Ground Level Far Field Formula (per FCC OET65)



Angle Below Horizon	Power Density (mW/cm ²)										Total % General Pop MPE						
	C-Band	AWS	PCS	850-LTE	700 MHz	3GPP	T-Mobile	C-Band	CRBS	AWS		PCS	Cellular	CDMA	T-Mobile	Distance	Total Pwr Density (mW/cm ²)
90	0.003106163	1.93705E-06	5.49721E-07	4.74179E-05	3.53926E-05	0.00%	0.00%	0.31%	0.00%	0.00%	0.00%	0.01%	0.00%	0.01%	0	0.003231549	0.33%
89	0.003105938	3.50038E-06	9.55246E-08	4.65496E-05	3.62148E-05	0.00%	0.00%	0.31%	0.00%	0.00%	0.00%	0.01%	0.00%	0.01%	1.029848831	0.003234647	0.33%
88	0.003177593	8.31829E-06	4.58178E-07	4.52725E-05	3.44989E-05	0.00%	0.00%	0.32%	0.00%	0.00%	0.00%	0.01%	0.00%	0.01%	2.0603254	0.003310537	0.34%
87	0.003220629	1.59551E-05	1.76157E-06	4.31221E-05	3.08795E-05	0.00%	0.00%	0.32%	0.00%	0.00%	0.00%	0.01%	0.00%	0.01%	3.092058878	0.003357887	0.34%
86	0.003293937	2.38621E-05	3.49711E-06	3.98575E-05	2.65143E-05	0.00%	0.00%	0.33%	0.00%	0.00%	0.00%	0.01%	0.00%	0.01%	4.125661905	0.003434289	0.35%
85	0.003291809	2.86065E-05	5.37608E-06	3.57492E-05	2.25028E-05	0.00%	0.00%	0.33%	0.00%	0.00%	0.00%	0.01%	0.00%	0.01%	5.161831148	0.003431299	0.35%
84	0.003365775	2.768E-05	8.35923E-06	3.14751E-05	1.93169E-05	0.00%	0.00%	0.34%	0.00%	0.00%	0.00%	0.01%	0.00%	0.01%	6.201149881	0.003500374	0.35%
83	0.003362562	2.1568E-05	1.33909E-05	2.77723E-05	1.70837E-05	0.00%	0.00%	0.34%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	7.244289093	0.003491351	0.35%

17	0.003160639	0.002217838	4.64441E-06	0.001080764	0.000165844	0.00%	0.40%	0.32%	0.06%	0.22%	0.00%	0.18%	0.01%	0.03%	192.903045	0.011262174	1.22%
16	0.008243173	0.000857052	0.000505833	0.000594003	6.57222E-05	0.00%	0.40%	0.82%	0.07%	0.09%	0.05%	0.10%	0.00%	0.01%	205.7574522	0.014952205	1.54%
15	0.015331797	3.7347E-05	0.001742836	0.000209922	0.000202315	0.00%	0.38%	1.53%	0.07%	0.00%	0.17%	0.04%	0.00%	0.04%	220.1909876	0.022059916	2.24%
14	0.024085676	0.000423793	0.002518573	5.9835E-05	0.000535705	0.00%	0.32%	2.41%	0.07%	0.04%	0.25%	0.04%	0.01%	0.11%	236.6360751	0.031550951	3.22%
13	0.031840085	0.001236151	0.002065723	0.000217206	0.001108774	0.00%	0.27%	3.18%	0.07%	0.12%	0.21%	0.04%	0.02%	0.22%	255.5570766	0.0400015288	4.14%
12	0.040131287	0.00129491	0.000847696	0.000717862	0.001927574	0.00%	0.25%	4.01%	0.07%	0.13%	0.08%	0.12%	0.05%	0.39%	277.5731765	0.048385847	5.10%
11	0.045325544	0.000530521	7.39099E-05	0.001480823	0.002873912	0.00%	0.20%	4.53%	0.06%	0.05%	0.01%	0.25%	0.08%	0.58%	303.5286869	0.053372781	5.76%
10	0.046275877	4.22907E-06	0.000380404	0.00236073	0.003775866	0.00%	0.17%	4.63%	0.06%	0.00%	0.04%	0.40%	0.12%	0.76%	334.6056274	0.05577282	6.17%
9	0.046984377	0.000428835	0.001192038	0.003162938	0.004477762	0.00%	0.15%	4.70%	0.05%	0.04%	0.12%	0.54%	0.16%	0.90%	372.5113394	0.059147553	6.66%
8	0.042957338	0.001198722	0.001444504	0.003702707	0.004836038	0.00%	0.11%	4.30%	0.04%	0.12%	0.14%	0.63%	0.19%	0.97%	419.8068136	0.056749406	6.50%
7	0.034968575	0.001249074	0.000836736	0.003858239	0.004779246	0.00%	0.08%	3.50%	0.03%	0.12%	0.08%	0.66%	0.20%	0.96%	480.5164393	0.04802895	5.64%
6	0.027900212	0.000540278	0.000125204	0.003584412	0.004319049	0.00%	0.07%	2.79%	0.02%	0.05%	0.01%	0.51%	0.20%	0.87%	561.3475028	0.038530659	4.63%
5	0.0193774626	8.59406E-05	0.000184586	0.002964828	0.003523464	0.00%	0.04%	1.94%	0.02%	0.01%	0.02%	0.51%	0.17%	0.71%	674.3730859	0.027733585	3.41%
4	0.01195466	0.000527597	0.000957862	0.002138472	0.00253556	0.00%	0.03%	1.20%	0.01%	0.05%	0.10%	0.36%	0.13%	0.51%	843.7393091	0.019265795	2.39%
3	0.006279054	0.001239635	0.001593196	0.001285567	0.001545486	0.00%	0.02%	0.63%	0.01%	0.12%	0.15%	0.22%	0.09%	0.31%	1125.787065	0.012613685	1.54%
2	0.002382521	0.001215894	0.001255729	0.000560359	0.000713948	0.00%	0.01%	0.24%	0.00%	0.12%	0.13%	0.10%	0.04%	0.14%	1689.538944	0.00648145	0.78%
1	0.000485711	0.000466138	0.000435026	0.000140383	0.000178766	0.00%	0.00%	0.05%	0.00%	0.05%	0.04%	0.02%	0.01%	0.04%	3380.107736	0.001791388	0.21%

degree below horizon	AT1K02 (39GHz)	AT1K01 (28GHz)	MT6407-77A (3,730MHz)	XXDWMM- 12.5-65 (3,550MHz)	AWS (2,155MHz)	PCS (1,962MHz)
0	0.08	0.08	3.28	1.8	0	0
1	0.39	0.39	2.19	1.3	0.68	0.44
2	0.3	0.3	1.29	0.8	2.52	1.84
3	0	0	0.58	0.5	5.93	4.45
4	0.31	0.31	0.25	0.2	12.1	8.97
5	0.42	0.42	0.05	0.1	21.87	18.01
6	0.13	0.13	0	0	15.41	21.22
7	0.44	0.44	0.3	0	13.04	14.24
8	0.36	0.36	0.5	0.1	14.3	12.95
9	0.09	0.09	1.06	0.2	19.7	14.72
10	0.4	0.4	1.96	0.3	40.58	20.5
11	0.52	0.52	2.79	0.7	20.32	28.34
12	0.26	0.26	3.98	1	17.09	18.39
13	0.57	0.57	5.58	1.5	17.87	15.1
14	0.51	0.51	7.33	2	23.04	14.76
15	0.26	0.26	9.78	2.6	34.06	16.83
16	0.58	0.58	12.92	3.3	20.88	22.63
17	1.07	1.07	17.49	4.2	17.14	43.39
18	0.55	0.55	26.19	5.3	16.55	22.35
19	0.58	0.58	31.65	6.7	18.33	18.53
20	1.08	1.08	21.32	8.2	22.99	17.99
21	0.59	0.59	17.7	9.9	29.47	19.88
22	0.65	0.65	15.7	11.8	24.59	24.9
23	1.22	1.22	14.89	14.5	21.68	30.64
24	0.99	0.99	14.59	18.2	21.39	24.21
25	0.8	0.8	15.18	23.8	22.04	21.17
26	1.11	1.11	15.83	33.9	21.32	21.01
27	1.12	1.12	16.93	27.7	19.41	23.56
28	0.95	0.95	18.33	21.5	18.2	30.74
29	1.25	1.25	19.62	18	18.43	29.74
30	2.03	2.03	20.49	15.7	20.6	22.7
31	3.32	3.32	20.49	14.1	26.47	19.86
32	5.21	5.21	19.83	13	36.14	19.27
33	7.88	7.88	19.23	12.3	23	20.67
34	11.74	11.74	18.52	12.1	18.36	25.02
35	16.19	16.19	18.29	11.9	16.07	40.4
36	14.94	14.94	18.06	11.7	15	25.76
37	15.07	15.07	18.29	11.7	14.65	19.64
38	16.33	16.33	18.49	11.8	14.73	16.6
39	15.38	15.38	19.03	12	15.01	14.96

40	15.03	15.03	19.78	12.5	15.31	14.19
41	15.75	15.75	20.69	13.1	15.55	13.99
42	17.49	17.49	21.79	13.7	15.71	14.2
43	20.55	20.55	23.18	14.2	15.89	14.64
44	21.87	21.87	24.78	14.5	16.21	15.21
45	20.56	20.56	26.65	15.1	16.82	15.8
46	20.35	20.35	28.85	15.9	17.86	16.38
47	21.02	21.02	31.4	16.8	19.49	16.91
48	21.62	21.62	33.3	17.8	21.96	17.38
49	20.49	20.49	33	18.7	25.7	17.81
50	20.28	20.28	31	19.7	31.64	18.21
51	20.83	20.83	28.8	20.7	36.07	18.66
52	22.1	22.1	27.2	21.6	30.89	19.22
53	22.84	22.84	25.96	22.4	27.7	20
54	23.96	23.96	25.16	22.9	26.24	21.09
55	25.61	25.61	24.59	23.3	25.78	22.57
56	24.75	24.75	24.19	23.4	25.98	24.57
57	24.54	24.54	24.19	23.3	26.63	27.31
58	24.84	24.84	24.18	22.7	27.62	31.29
59	25.6	25.6	24.38	21.9	28.97	38
60	25.03	25.03	24.98	21.2	30.76	44.15
61	24.18	24.18	25.49	20.7	33.15	35.84
62	23.83	23.83	26.09	20.5	36.26	31.74
63	23.88	23.88	26.99	20.3	39.9	29.52
64	24.25	24.25	27.98	20.3	43.26	28.28
65	24.7	24.7	28.58	20.5	46.03	27.64
66	24.47	24.47	29.08	20.9	49.78	27.45
67	24.47	24.47	29.18	21.3	53.69	27.61
68	24.68	24.68	28.55	21.7	49.39	28.06
69	25.07	25.07	27.75	21.8	45.95	28.78
70	25.64	25.64	26.95	21.6	44.9	29.72
71	26.36	26.36	26.25	21.2	45.62	30.87
72	27.24	27.24	25.5	21	47.63	32.27
73	28.26	28.26	24.8	21	49.73	33.91
74	28.68	28.68	24.3	21.2	49.74	35.67
75	28.98	28.98	23.9	21.6	47.91	37.23
76	29.37	29.37	23.6	22.1	45.94	38.36
77	29.83	29.83	23.4	22.8	44.58	39.16
78	30.36	30.36	23.1	23.5	44.13	39.83
79	30.94	30.94	22.9	24.5	44.68	40.35
80	30.89	30.89	22.8	25.6	45.79	40.71
81	30.44	30.44	22.7	26.8	45.86	41.18
82	30.13	30.13	22.7	28.2	44.13	42.15

83	29.93	29.93	22.7	29.7	42.27	43.8
84	29.81	29.81	22.7	31.1	41.19	45.85
85	29.76	29.76	22.8	31.9	41.05	47.77
86	29.78	29.78	22.8	32.5	41.84	49.64
87	29.85	29.85	22.9	32.9	43.59	52.62
88	29.97	29.97	22.96	33.3	46.42	58.47
89	30.13	30.13	23.06	33.6	50.18	65.28
90	30.33	30.33	23.06	34.4	52.75	57.68

850-LTE (880MHz)	850-CDMA (869MHz)	700-LTE (746MHz)
0.51	0	0.18
0.16	0	0.01
0	0.2	0
0.04	0.5	0.14
0.29	1.1	0.45
0.76	1.8	0.91
1.46	2.7	1.55
2.41	3.9	2.38
3.67	5.3	3.41
5.29	7	4.68
7.38	9.1	6.24
10.13	11.6	8.15
13.92	14.6	10.53
19.69	18.9	13.51
25.81	25.2	17.19
20.83	35.1	21.89
16.74	30.3	27.2
14.53	26	23.57
13.37	24.5	18.91
12.89	24.5	16.71
12.93	25.7	15.63
13.41	28.4	15.2
14.28	33.4	15.26
15.53	36.4	15.73
17.16	30.9	16.55
19.16	26.6	17.67
21.48	24	18.97
24.2	22.5	20.26
27.53	21.5	21.39
30.94	21	22.32
31.36	21	23.11
29.8	21.4	23.83
28.9	22	24.58
29.01	23.1	25.48
30.04	24.4	26.85
31.52	26.2	30.81
31.7	27.9	30.52
30.05	29.2	28.11
28.99	29.4	27.22
26.02	28.4	26.77

23.12	27	26.29
21.23	25.8	25.77
19.92	24.9	25.33
19.01	24.3	24.19
18.44	23.9	22.55
18.15	23.8	21.12
18.12	23.9	20.01
18.32	24.2	19.16
18.75	24.6	18.52
19.41	25.3	18.06
20.31	26.1	17.76
21.47	27.1	17.61
22.92	28.4	17.61
24.72	30	17.74
26.92	32	18
29.57	34.1	18.4
32.53	37.2	18.91
34.89	40	19.54
35.14	40	20.29
34.08	40	21.15
33	40	22.12
32.19	39.6	23.19
31.61	38.2	24.38
31.19	37.2	25.69
30.88	36.5	27.15
30.62	36	28.82
30.36	35.5	30.76
30.1	35.3	33.13
29.84	35.2	36.08
29.59	35.2	38.79
29.42	35.4	40.04
29.38	35.6	39.98
29.52	35.8	39.14
29.87	36	38.15
30.42	36.5	37.47
31.16	36.6	37.17
32.06	37	37.17
33.05	37.4	37.4
34.04	38	37.77
34.92	38.5	38.19
35.57	38.9	38.56
35.88	39.4	38.78
35.82	40	38.76

35.44	40	38.45
34.9	40	37.92
34.35	40	37.26
33.88	40	36.55
33.54	40	35.89
33.33	40	35.41
33.21	40	35.2
33.13	40	35.3