Robinson+Cole

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September 7, 2022

Via Federal Express

Melanie A. Bachman, Esq.
Executive Director/Staff Attorney
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **Petition No. 1461 – SBA Communications Corporation ("SBA") Petition for a Declaratory Ruling, Pursuant to Connecticut General Statutes §4-176 and §16-50k, for the Proposed Replacement and Extension of an Existing Telecommunications Facility Located at 130 Welles Road, Groton, Connecticut**

Dear Attorney Bachman:

In accordance with the Council's November 19, 2021 approval of the above-referenced Petition, enclosed please find the following:

1. Updated project plans, including soil erosion and sedimentation control plans for the proposed modifications to the SBA (CT46142A) site at 130 Welles Road, Groton, CT, submitted in response to Condition No. 2.

2. A Final Determination of No Hazard to Air Navigation dated November 9, 2021, from the Federal Aviation Administration submitted in response to Council Condition No. 3.

3. An updated Structural Design Report (Revision C) dated August 19, 2022; Foundation Design Drawings dated May 31, 2022; and an Engineer's Letter dated August 22, 2022, from Sabre Industries confirming that the final structural design for the approved replacement tower includes a yield point, in response to Council Condition Nos. 4 and 5.

In addition, this letter will serve as notice to the Council of SBA's intent to commence construction of the facility modifications on or about October 3, 2022.

If you have any questions or need any additional information regarding the Petition No. 1461 facility please feel free to contact me.

Sincerely,

Kenneth C. Baldwin

KCB/kmd
Attachments
Copy to:
Andrea Gassner, SBA Network Services Inc.

ATTACHMENT 1

PROJECT SUMMARY

SITE NAME:	SOUTH LEDYARD
SITE I.D.:	CT46142A
SITE ADDRESS:	130 WELLES ROAD GROTON, CT 06340
JURISDICTION:	TOWN OF GROTON
LAND USE:	MUNICIPALITY
PROPERTY OWNER:	TOWN OF GROTON
APPLICANT:	SBA COMMUNICATIONS CORPORATION 8051 CONGRESS AVENUE BOCA RATON, FL 33487-1307 OFFICE: (561) 226-9457
PIN:	271014348692 L:E
ZONING CLASS:	RU-80
1A CERTIFICATION: LATITUDE: LONGITUDE:	 N 41° 23' 34.193" (NAD '83) W 71° 58' 12.031" (NAD '83)
GROUND ELEVATION:	52.8'± (NAVD '88)
OCCUPANCY TYPE:	TELECOMMUNICATIONS FACILITY
CONSTRUCTION TYPE:	PROPOSED MONOPOLE TOWER
DRIVING DIRECTIONS:	FROM HARTFORD, CT: TAKE PREFERRED ROUTE TO I-84 E. TAKE EXIT 2 FOR CT-2 E TOWARDS NORWICH. TAKE EXIT 28S FOR I-395 S/CT-2A TOWARDS NEW HAVEN. TAKE EXIT 9 FOR CT-2. TURN RIGHT ONTO CT-12 S. TURN LEFT ONTO CT-214 E. TURN RIGHT ONTO CT-184 E. TURN LEFT ONTO WELLES RD. TURN LEFT. SITE WILL BE ON THE RIGHT.

HANDICAPPED REQUIREMENTS

FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION.
HANDICAP ACCESS NOT REQUIRED.

PLUMBING REQUIREMENTS

FACILITY HAS NO PLUMBING.

CONSULTING TEAM

ARCHITECTURAL - ENGINEERING FIRM:
TOWER ENGINEERING PROFESSIONALS, INC.
326 TRYON ROAD, RALEIGH, NC 27603
CONTACT: SCOTT C. BRANTLEY, P.E.
PHONE: (919) 661-6351 FAX: (919) 661-6350

SURVEYING FIRM:
MILLMAN SURVEYING, INC., CORPORATE HEADQUARTERS
4111 BRADLEY CIRCLE NW, CANTON, OH 44718
CONTACT: GENERAL OFFICE
PHONE: (800) 520-1010

APPLICANT/LESSEE CONTACTS:
SBA COMMUNICATIONS CORPORATION
GREG HINES - (561) 226-9532

POWER COMPANY:
EVERSOURCE
CUSTOMER SERVICE
1 (888) 544-4826

TELCO COMPANY:
AT&T
CUSTOMER SERVICE
PHONE: 1 (800) 288-2020

CIVIL/ELECTRICAL ENGINEER:
TOWER ENGINEERING PROFESSIONALS, INC.
326 TRYON ROAD, RALEIGH, NC 27603
CONTACT: SCOTT C. BRANTLEY, P.E.
PHONE: (919) 661-6351 FAX: (919) 661-6350

SBA

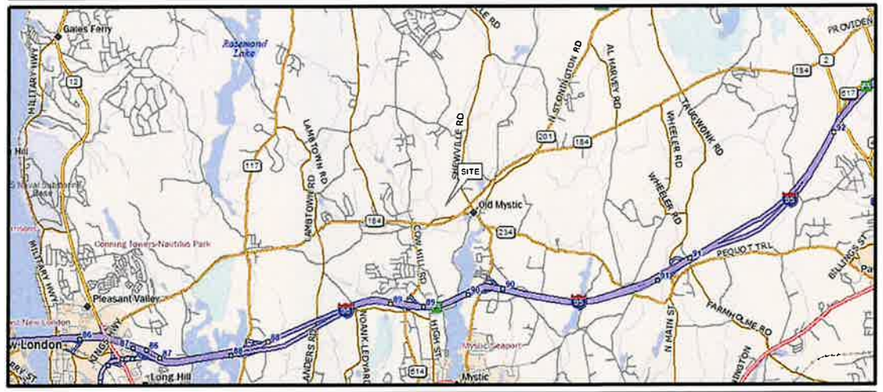
SITE NAME
SOUTH LEDYARD

SBA SITE I.D.
CT46142A

ADDRESS
130 WELLES ROAD
GROTON, CT 06340

PROJECT TYPE
PROPOSED 180' MONOPOLE TOWER

LOCATION & VICINITY MAPS



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APPROVALS

LANDLORD		DATE
PROPERTY		DATE
CONSTRUCTION		DATE
RSM		DATE
TENANT		DATE
ZONING		DATE

CALL TOLL FREE FOR CONNECTICUT
1-800-922-4455 OR DIAL 811
CALL TWO FULL WORKING DAYS IN ADVANCE TO LOCATE BURIED UTILITY PIPES AND CABLES

THE UTILITIES SHOWN HEREON ARE FOR THE CONTRACTORS CONVENIENCE ONLY THERE MAY BE OTHER UTILITIES NOT SHOWN ON THESE PLANS. THE ENGINEER/SURVEYOR ASSUMES NO RESPONSIBILITY FOR THE LOCATIONS SHOWN AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL UTILITIES WITHIN THE LIMITS OF THE WORK. ALL DAMAGE MADE TO EXISTING UTILITIES BY THE CONTRACTOR SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

APPLICANT/LESSEE:

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487-1307
OFFICE: (561) 226-9457

PROJECT INFORMATION:

SITE NAME: SOUTH LEDYARD
SITE ID: CT46142A

130 WELLES ROAD
GROTON, CT 06340
(NEW LONDON COUNTY)

PLANS PREPARED BY:

TOWER ENGINEERING PROFESSIONALS
326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net

SEAL:

May 26, 2022

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DRAWN BY: THD | CHECKED BY: ANG

SHEET TITLE:

TITLE SHEET

SHEET NUMBER: **T-1**

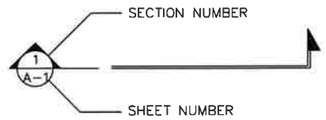
REVISION: **5**

TEP #: 255888

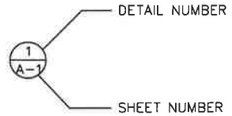
ABBREVIATIONS:

AB	ANCHOR BOLT	GR	GRADE	SIM	SIMILAR
AC	ASPHALTIC CONCRETE	GYP	GYPSUM	SPECS	SPECIFICATIONS
A/C	AIR CONDITIONING	GFCI	GROUND FAULT CIRCUIT INTERRUPT	SS	STAINLESS STEEL
ADJ	ADJUSTABLE			STL	STEEL
A.F.F.	ABOVE FINISH FLOOR	GND	GROUND	STOR	STORAGE
ARCH	ARCHITECTURAL	HC	HOLLOW CORE	STRUCT	STRUCTURAL
APPROX	APPROXIMATELY	HDW	HARDWARE	SUSP	SUSPENDED
A.G.L.	ABOVE GRADE LEVEL	HTR	HEATER	SW	SWITCH
A.M.S.L.	ABOVE MEAN SEA LEVEL	HM	HOLLOW METAL	SWBO	SWITCHBOARD
BD	BOARD	HORIZ	HORIZONTAL	THK	THICK
BLDG	BUILDING	HR	HOUR	TI	TENANT IMPROVEMENT
BLKG	BLOCKING	HT	HEIGHT	TMA	TOWER MOUNTED AMPLIFIER
BOT	BOTTOM	HV	HIGH VOLTAGE	TOS	TOP OF SURFACE
BSMT	BASEMENT	ID	INSIDE DIMENSION	TS	TUBE STEEL
BTS	BASE TRANSCEIVER STATION	INS	INSULATION	TYP	TYPICAL
		INT	INTERIOR	U	UNDERGROUND
C	COURSE(S)	JT	JOINT	UNO	UNLESS NOTED OTHERWISE
CEM	CEMENT	LAM	LAMINATED		
CL	CHAIN LINK	LBS	POUNDS	VCT	VINYL COMPOSITION TILE
CLG	CEILING	LT	LIGHT		
CLR	CLEAR	LA	LIGHTNING ARRESTOR		
COL	COLUMN	LNA	LOW NOISE AMPLIFIER	VERT	VERTICAL
CONC	CONCRETE	MFR	MANUFACTURER	V.I.F.	VERIFY IN FIELD
CONST	CONSTRUCTION	MAT	MATERIAL	VG	VERTICAL GRAIN
CONT	CONTINUOUS	MAX	MAXIMUM	W/	WITH
CORR	CORRIDOR	MECH	MECHANICAL	WD	WOOD
CO	CONDUIT ONLY	MIN	MINIMUM	WR	WATER RESISTANT
DIA	DIAMETER	MISC	MISCELLANEOUS	WT	WEIGHT
DBL	DOUBLE	ML	METAL LATH	XFMR	TRANSFORMER
DEPT	DEPARTMENT	MO	MASONRY OPENING	@	AT
DEMO	DEMOLITION	MS	MACHINE SCREW	[	CHANNEL
DIM	DIMENSION	MTD	MOUNTED	℄	CENTERLINE
DN	DOWN	MTL	METAL	∠	ANGLE
DR	DOOR	(N)	NEW	PL	PROPERTY LINE
DTL	DETAIL	NIC	NOT IN CONTRACT		
DWG	DRAWING	NO	NUMBER		
(E)	EXISTING	NTS	NOT TO SCALE		
EA	EACH	O	OVERHEAD		
ELEC	ELECTRIC	OA	OVERALL		
ELEV	ELEVATION	O.C.	ON CENTER		
EQUIP	EQUIPMENT	OPNG	OPENING		
EXP	EXPANSION	OPP	OPPOSITE		
EXT	EXTERIOR	PARTN	PARTITION		
FA	FIRE ALARM	PL	PLATE		
FB	FLAT BAR	PLAS	PLASTER		
FF	FINISH FLOOR	PLYWD	PLYWOOD		
FH	FLAT HEAD	POC	POINT OF CONNECTION		
FIN	FINISH(ED)	PROP	PROPERTY		
FLR	FLOOR	PT	PRESSURE TREATED		
FOS	FACE OF STUDS	R	RISER		
FS	FINISH SURFACE	REQD	REQUIRED		
FT	FOOT, FEET	RD	ROOF DRAIN		
FTG	FOOTING	RM	ROOM		
FW	FINISH WALL	RMS	ROOMS		
F.G.	FINISH GRADE	RO	ROUGH OPENING		
FUT	FUTURE	SC	SOLID CORE		
GA	GAUGE	SCHED	SCHEDULE		
GALV	GALVANIZED	SECT	SECTION		
GL	GLASS	SHT	SHEET		

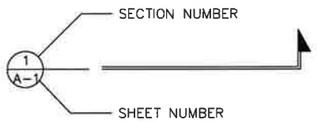
SYMBOLS:



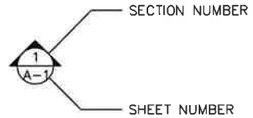
BUILDING SECTION REFERENCE



DETAIL REFERENCE



DETAIL SECTION REFERENCE



ELEVATION VIEW REFERENCE

- # KEY NOTE REFERENCE
- 101 DOOR NUMBER
- 101 AREA AND/OR ROOM NUMBER
- A/2 MECHANICAL UNIT
- UTILITY POLE
- WORK POINT
- # REVISION OR CONTROL POINT
- (REFERENCE POINT) / (ELEVATION) ELEVATION REFERENCE

- MASONRY
- BRICK
- CONCRETE
- EARTH
- STEEL
- GRAVEL
- CENTER LINE
- PROPERTY LINE
- LEASE LINE
- EASEMENT LINE
- RIGHT-OF-WAY
- CHAIN LINK FENCE
- WOOD FENCE
- SILT FENCE
- UE — BELOW GRADE ELECTRIC
- UT — BELOW GRADE TELEPHONE
- OE/OT — OVERHEAD ELECTRIC/TELEPHONE
- UT — OVERHEAD TELEPHONE
- UE — OVERHEAD ELECTRIC
- 276 — CONTOUR
- TREE PROTECTION FENCE
- TREE LINE
- TREES, SHRUBS, BUSHES
- SAN — SANITARY SEWER LINE
- WL — WATER LINE
- NG — NATURAL GAS LINE

ABBREVIATIONS & SYMBOLS

SCALE: N.T.S.

APPLICANT/LESSEE:

SBA

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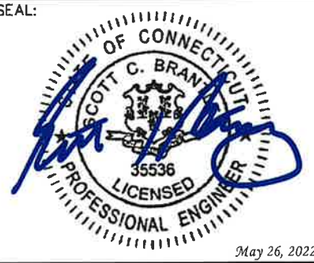

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REVISION: **5**

TEP #: 255888

GENERAL NOTES:

1. ALL REFERENCES MADE TO OWNER IN THESE DOCUMENTS SHALL BE CONSIDERED SBA COMMUNICATIONS OR IT'S DESIGNATED REPRESENTATIVE.
2. ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE. THE CONTRACTOR MUST HAVE CONSIDERABLE EXPERIENCE IN PERFORMANCE OF WORK SIMILAR TO THAT DESCRIBED HEREIN. BY ACCEPTANCE OF THIS ASSIGNMENT, THE CONTRACTOR IS ATTESTING THAT HE DOES HAVE SUFFICIENT EXPERIENCE AND ABILITY, THAT HE IS KNOWLEDGEABLE OF THE WORK TO BE PERFORMED AND THAT HE IS PROPERLY LICENSED AND PROPERLY REGISTERED TO DO THIS WORK IN THE STATE OF CONNECTICUT.
3. WORK SHALL BE COMPLETED IN ACCORDANCE WITH TIA/EIA-222-G STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES, ASCE 7-05 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES AND THE INTERNATIONAL BUILDING CODE, 2015 EDITION.
4. UNLESS SHOWN OR NOTED OTHERWISE ON THE CONTRACT DRAWINGS, OR IN THE SPECIFICATIONS, THE FOLLOWING NOTES SHALL APPLY TO THE MATERIALS LISTED HEREIN, AND TO THE PROCEDURES TO BE USED ON THIS PROJECT.
5. ALL HARDWARE ASSEMBLY MANUFACTURER'S INSTRUCTIONS SHALL BE FOLLOWED EXACTLY AND SHALL SUPERSEDE ANY CONFLICTING NOTES ENCLOSED HEREIN.
6. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO INSURE THE SAFETY OF THE STRUCTURE AND IT'S COMPONENT PARTS DURING ERECTION AND/OR FIELD MODIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF TEMPORARY BRACING, GUYS OR TIE DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER THE COMPLETION OF THE PROJECT.
7. ALL DIMENSIONS, ELEVATIONS, AND EXISTING CONDITIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING ANY MATERIALS ORDERING, FABRICATION OR CONSTRUCTION WORK ON THIS PROJECT. CONTRACTOR SHALL NOT SCALE CONTRACT DRAWINGS IN LIEU OF FIELD VERIFICATION. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND THE OWNER'S ENGINEER. THE DISCREPANCIES MUST BE RESOLVED BEFORE THE CONTRACTOR IS TO PROCEED WITH THE WORK. THE CONTRACT DOCUMENTS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE OWNER AND/OR THE ENGINEER SHALL NOT INCLUDE INSPECTION OF THE PROTECTIVE MEASURES OR THE PROCEDURES.
8. ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW AND OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS AND IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ANY AND ALL SUBSTITUTIONS MUST BE PROPERLY APPROVED AND AUTHORIZED IN WRITING BY THE OWNER AND ENGINEER PRIOR TO INSTALLATION. THE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF THE MATERIALS AND EQUIPMENT BEING SUBSTITUTED.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR INSURING THAT THIS PROJECT AND RELATED WORK COMPLIES WITH ALL APPLICABLE LOCAL, PROVINCIAL, AND FEDERAL SAFETY CODES AND REGULATIONS GOVERNING THIS WORK.
10. ACCESS TO THE PROPOSED WORK SITE MAY BE RESTRICTED. THE CONTRACTOR SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULE AND MATERIALS ACCESS, WITH THE SBA PROJECT MANAGER.
11. BILL OF MATERIALS AND PART NUMBERS LISTED ON CONSTRUCTION DRAWINGS ARE INTENDED TO AID CONTRACTOR/OWNER. CONTRACTOR/OWNER SHALL VERIFY PARTS AND QUANTITIES WITH MANUFACTURER PRIOR TO BIDDING AND/OR ORDERING MATERIALS.
12. THE CONTRACTOR SHALL REWORK (DRY, SCARIFY, ETC.) ALL MATERIAL NOT SUITABLE FOR SUBGRADE IN ITS PRESENT STATE. AFTER REWORKING, IF THE MATERIAL REMAINS UNSUITABLE, THE CONTRACTOR SHALL UNDERCUT THIS MATERIAL AND REPLACE WITH APPROVED MATERIAL. ALL SUBGRADES SHALL BE PROOF-ROLLED WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK PRIOR TO PAVING. ANY SOFT MATERIAL SHALL BE REWORKED OR REPLACED.
13. THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL PIPES, DITCHES, AND OTHER DRAINAGE STRUCTURES FREE FROM OBSTRUCTION UNTIL WORK IS ACCEPTED BY THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES CAUSED BY FAILURE TO MAINTAIN DRAINAGE STRUCTURE IN OPERABLE CONDITION.
14. ALL MATERIALS AND WORKMANSHIP SHALL BE WARRANTED FOR ONE YEAR FROM ACCEPTANCE DATE.
15. ALL BUILDING/TOWER DIMENSIONS SHALL BE VERIFIED WITH THE PLANS (LATEST REVISION) PRIOR TO COMMENCING CONSTRUCTION. NOTIFY THE ENGINEER IMMEDIATELY IF ANY DISCREPANCIES ARE DISCOVERED. THE OWNER SHALL HAVE A SET OF APPROVED PLANS AVAILABLE AT THE SITE AT ALL TIMES WHILE WORK IS BEING PERFORMED. A DESIGNATED RESPONSIBLE EMPLOYEE SHALL BE AVAILABLE FOR CONTACT BY GOVERNING AGENCY INSPECTORS.
16. ANY BUILDINGS ON THIS SITE ARE INTENDED TO SHELTER EQUIPMENT WHICH WILL ONLY BE PERIODICALLY MAINTAINED, AND ARE NOT INTENDED FOR HUMAN OCCUPANCY.
17. TEMPORARY FACILITIES FOR PROTECTION OF TOOLS AND EQUIPMENT SHALL CONFORM TO LOCAL REGULATIONS AND SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
18. RENTAL CHARGES, SAFETY, PROTECTION AND MAINTENANCE OF RENTED EQUIPMENT SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
19. THE CONTRACTOR AND ITS SUBCONTRACTORS SHALL CARRY LIABILITY INSURANCE IN THE AMOUNTS AND FORM IN ACCORDANCE WITH GLOBALIVE SPECIFICATIONS. CERTIFICATES DEMONSTRATING PROOF OF COVERAGE SHALL BE PROVIDED TO GLOBALIVE PRIOR TO THE START OF THE WORK ON THE PROJECT.
20. THESE DOCUMENTS DO NOT INCLUDE THE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. SAFETY, CARE OF ADJACENT PROPERTIES, AND COMPLIANCE WITH PROVINCIAL AND FEDERAL REGULATIONS REGARDING SAFETY, SHALL BE THE CONTRACTOR'S RESPONSIBILITY, AND THIS, PER THE INTERNATIONAL CODE - REGULATORS RESPECTING OCCUPATIONAL SAFETY & HEALTH THE SUCCESSFUL CONTRACTOR WILL SUBMIT HIT SAFETY MANUAL AT THE PROJECT SITE.
21. THE CONTRACTOR SHALL CONTACT ALL APPLICABLE UTILITY SERVICES TO VERIFY LOCATIONS OF EXISTING UTILITIES AND REQUIREMENTS FOR NEW UTILITY CONNECTIONS PRIOR TO EXCAVATING.
22. THE CONTRACTOR SHALL MAINTAIN THE JOB CLEAR OF TRASH AND DEBRIS. ALL WASTE MATERIALS SHALL BE REMOVED FROM THE SITE PRIOR TO SUBSTANTIAL COMPLETION AND PRIOR TO FINAL ACCEPTANCE. THE CONTRACTOR SHALL FURNISH ONE 55 GALLON BARREL, AND TRASH BAGS, AND SHALL REMOVE TRASH, DEBRIS, ETC., ON A DAILY BASIS.
23. COSTS FOR BUILDING PERMITS, LANDFILL TAXES, USE TAXES, SALES TAXES AND OTHER CHARGES RELATIVE TO CONSTRUCTION OF THIS PROJECT SHALL BE INCLUDED IN THE CONTRACT PRICE.
24. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH ALL CONDITIONS PRIOR TO SUBMITTING HIS PROPOSAL. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS SHOWN ON THESE DRAWINGS WITH THOSE AT THE SITE. ANY VARIATION WHICH REQUIRES PHYSICAL CHANGE SHALL BE BROUGHT TO THE ATTENTION OF THE SBA PROJECT ENGINEER FOR FACILITIES/CONSTRUCTION.
25. THE CONTRACTOR SHALL GUARANTEE THE WORK PERFORMED ON THE PROJECT BY THE CONTRACTOR AND ANY OR ALL OF THE SUBCONTRACTORS WHO PERFORMED WORK FOR THE CONTRACTOR ON THIS PROJECT. THE GUARANTEE SHALL BE FOR A FULL YEAR FOLLOWING ISSUANCE OF THE FINAL PAYMENT OF HOLDBACK.
26. AWARDED CONTRACTOR WILL BE REQUIRED TO SIGN AND RETURN A COPY OF AN AWARD LETTER FOR SBA'S FILE.
27. CONTRACTOR WILL BE REQUIRED TO PROVIDE PROOF OF LICENSE TO PERFORM WORK IN JURISDICTION AT TIME OF BID AWARD.
28. CONTRACTOR WILL PROVIDE A CONSTRUCTION SCHEDULE PRIOR TO CONSTRUCTION STARTING AND WILL PROVIDE UPDATE/CHANGES (WITH EXPLANATIONS) TO THAT SCHEDULE WHEN/IF ITEMS ARE DELAYED OR PUSHED OUT.
29. CONTRACTOR WILL BE RESPONSIBLE TO PROVIDE SBA PROJECT MANAGERS WITH PHOTOS OF THE MAJOR CONSTRUCTION MILESTONES AS THEY OCCUR.
30. CONTRACTOR WILL BE RESPONSIBLE TO ASSIST IN COORDINATING AND OBTAINING PRIMARY POWER TO THE SITE PRIOR TO TOWER ERECTION BEFORE PROJECT COMPLETION. (ON SITE VISITS WITH UTILITY COMPANY REPRESENTATIVES AS NECESSARY, ETC...)
31. CONTRACTOR SHOULD BE PREPARED FOR RANDOM SBA SAFETY INSPECTIONS AT ALL TIMES.
32. CONTRACTOR IS EXPECTED TO MAINTAIN PROPER WORKING CONDITIONS AND PROCEDURES PER CONNECTICUT STANDARDS AT ALL TIMES.
33. CONTRACTOR WILL BE REQUIRED TO OBTAIN THE NECESSARY ELECTRICAL PERMITS AND INSPECTIONS AS REQUIRED BY JURISDICTION.
34. CONTRACTOR IS EXPECTED TO CLOSE-OUT THE JOB SITE AS QUICKLY AS POSSIBLE (OBTAINING A CERTIFICATE OF OCCUPANCY AS REQUIRED BY LOCAL MUNICIPALITY AND GETTING SBA'S REGIONAL SITE MANAGER'S SIGN-OFF/CHECKLIST APPROVAL ON THE SITE).
35. CONTRACTOR WILL PROVIDE A COMPLETED TOWER HEIGHT VERIFICATION FORM AND TAPE DROP WITHIN 24 HOURS OF REACHING OVERALL HEIGHT.
36. CONTRACTOR WILL UTILIZE ALL OF THE SBA PROVIDED DOCUMENTATION INCLUDING BUT NOT LIMITED TO: TOWER CONSTRUCTION ACCEPTANCE CHECKLIST, CONSTRUCTION SCHEDULE, CONSTRUCTION CLOSE-OUT LIST & TOWER HEIGHT VERIFICATION.
37. CONTRACTOR IS RESPONSIBLE FOR CONCRETE COMPRESSION TESTING.
38. CONTRACTOR IS RESPONSIBLE FOR GROUND MEG TESTING AND PROVIDING PROOF OF RESULT.
39. WHEN REQUESTED, PROVIDE 3 COPIES OF FABRICATION AND ERECTION DRAWINGS PRIOR TO FABRICATION. ALLOW UP TO 1 WEEK FOR REVIEW BY CONSULTANT.
40. IN ADDITION TO CONTRACTOR'S QUALITY CONTROL PROGRAM, INDEPENDENT TESTING AND INSPECTION MAY BE PERFORMED BY OWNER OR OWNER'S REPRESENTATIVE.
41. SUBMIT RED-LINES COPY OF CONSTRUCTION DRAWINGS UPON COMPLETION OF CONSTRUCTION HIGHLIGHTING CHANGES IN THE STAMPED AND SIGNED AS-BUILT CONDITION FROM SHOWN ON THE DRAWINGS.
42. CONTRACTOR WILL BE RESPONSIBLE FOR ALL GRADING AND FILL COMPACTION TESTING REQUIRED AS SET FORTH IN THE GEO TECHNOLOGICAL REPORT PROVIDED BY OWNER.

CONCRETE:

1. ALL CONCRETE AND CONCRETE MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF INTERNATIONAL BUILDING CODE, 2015 EDITION.
2. THE CONTRACTOR SHALL TAKE SAMPLES OF THE CONCRETE POURED UNDER THE CONDITIONS OUTLINED IN THE INTERNATIONAL BUILDING CODE, 2015 EDITION.
3. ANY FAILURE OF A CONCRETE TEST CYLINDER TO MEET THE SPECIFIED STRENGTH REQUIREMENTS MUST BE REPORTED TO THE DESIGN ENGINEER IMMEDIATELY. CORRECTIVE ACTION MUST BE APPROVED BY THE ENGINEER AND ALL RELATED COSTS SHALL BE AT THE CONTRACTOR'S EXPENSE.

APPLICANT/LESSEE:

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487-1307
OFFICE: (561) 226-9457

PROJECT INFORMATION:

SITE NAME: SOUTH LEDYARD
SITE ID: CT46142A

130 WELLES ROAD
GROTON, CT 06340
(NEW LONDON COUNTY)

PLANS PREPARED BY:

TOWER ENGINEERING PROFESSIONALS
326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net

SEAL:

May 26, 2022

REV	DATE	ISSUED FOR:
5	05-26-22	CONSTRUCTION
4	10-26-21	CONSTRUCTION
3	10-26-21	CONSTRUCTION
2	07-27-21	CONSTRUCTION

DRAWN BY: THD | CHECKED BY: ANG

SHEET TITLE:

GENERAL NOTES I

SHEET NUMBER: **N-2**

REVISION: **5**

TEP #: 255888

CONCRETE (CONTINUED):

4. THE MINIMUM 28-DAY COMPRESSIVE STRENGTH OF THE CONCRETE SHALL BE A MINIMUM OF 30 MPA, EXCEPT AS NOTED OR DIRECTED IN THE SOIL REPORT. THE CONCRETE, WHEN POURED, SHALL CONTAIN 7% AIR ENTRAINMENT WITH AN ALLOWABLE VARIATION OF +2%.

5. CONTRACTOR MUST TAKE SLUMP TEST AT LEAST ONCE FROM EACH TRANSIT MIXER AFTER A MINIMUM OF 5% CONCRETE LOAD HAD BEEN DISCHARGED. SLUMP, UNLESS NOTED OTHERWISE ON THE DRAWINGS, SHALL BE 75 MM.

6. MIXED CONCRETE ON SITE (REMOTE AREAS) WITH THE CORRECT PROPORTION OF CEMENT, SAND, GRAVEL, AND AIR-ENTRAINING AGENT ALREADY ADDED, THE DRY PREMIX IS TO BE MIXED IN A CONCRETE BATCHER IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

7. BEFORE POURING CONCRETE, THE TRANPORTING EQUIPMENT AND FORMS SHALL BE CLEANED AND ALL DEBRIS AND ICE SHALL BE REMOVED FROM PLACES TO BE OCCUPIED BY THE CONCRETE. ANY WATER THAT HAS ACCUMALATED IN THE FORMS SHALL BE REMOVED.

8. ALL CONCRETE SHALL BE VIBRATED AND WORKED AROUND THE REINFORCEMENTS, EMBEDDED FIXTURES AND INTO THE CORNERS OF THE FORMS. ANY EXCESS WATER THAT ACCUMALATES WHILE THE CONCRETE IS BEING POURED SHALL BE REMOVED.

9. THE DESIGN ENGINEER SHALL RECEIVE A MINIMUM OF 24 HOURS NOTICE OF EVERY POUR.

10. THE CONCRETE IN FOUNDATIONS MUST BE POURED IN CONTINOUS POURS BETWEEN CONSTRUCTION JOINTS. NO CONSTRUCTION JOINTS OTHER THAN THOSE SHOWN ON SITE SPECIFIC DRAWINGS WILL BE PERMITTED. THE CONTRACTOR SHALL PROVIDE EFFICIENT EQUIPMENT TO COMPLETE THE POURING OF EACH SECTION IN ONE CONTINOUS POUR.

11. ALL FRAMEWORK SHALL BE BUILT IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE SHALL BE THOROUGHLY BRACED AND PLUMBED SO THAT THE FINISHED CONCRETE WILL CONFORM TO THE SHAPES, LINES, GRADES, AND DIMENSIONS INDICATED ON THE SITE DRAWINGS.

12. FORMS AND SHORING SHALL NOT BE REMOVED UNTIL THE CONCRETE IS ADEQUATELY SET. THEIR REMOVAL SHALL BE DONE IN SUCH A MANNER AS TO ENSURE THE COMPLETE SAFETY OF THE STRUCTURE.

13. FORMS WHICH SUPPORT THE WEIGHT OF THE CONCRETE, OR OF SUPERIMPOSED LOADS, SHALL NOT BE REMOVED UNTIL THE CONCRETE IS STRONG ENOUGH TO CARRY ITS OWN WEIGHT, AND SUCH SUPERIMPOSED LOADS AS MAY BE PLACED UPON IT.

14. THE CONCRETE SHALL BE MAINTAINED IN A MOIST CONDITION FOR AT LEAST 5 DAYS AFTER IT HAS BEEN POURED.

15. ALL SURFACES WHICH ARE NOT PROTECTED BY FORMS OR A SEALED WATERPROOF COATING SHALL BE KEPT MOIST BY CONTINOUS SPRINKLING, OR OTHER MEANS SUCH AS COVERING WITH MOIST SAND, SAWDUST, OR BURLAP.

16. WHERE NECESSARY, THE CONCRETE SHALL BE PROTECTED AGAINST THE WEATHER BY A FRAMED HOUSING, TARPAULINS, OR OTHER SUITABLE COVERING.

REINFORCING STEEL (REBAR):

1. REINFORCING STEEL SHALL MEET CODE AND BE PLACED ACCORDING TO THE APPLICABLE DRAWINGS. THE MINIMUM THICKNESS OF CONCRETE OVER THE STEEL SHALL BE AT LEAST 3".

2. ALL REINFORCEMENTS THAT ARE REQUIRED FOR A DAYS POUR ON CONCRETE SHALL BE SECURELY FIXED IN PLACE IN SUFFICIENT TIME TO PERMIT INSPECTION BEFORE CONCRETING BEGINS.

3. THE DESIGN ENGINEER SHALL BE GIVEN 24 HOURS NOTICE BEFORE THE CONCRETE IS TO BE POURED. FAILURE TO COMPLY MAY NECESSITATE, BUT NOT BE LIMITED TO, THE REMOVAL OF THE POURED CONCRETE AT THE CONTRACTOR'S EXPENSE.

GROUTING:

1. WHERE GROUT IS INDICATED ON THE DRAWINGS UNDER STRUCTURAL BASE PLATES, THIS SHALL BE A NON-SHRINK, NON-FERROUS TYPE. METHODS OF MIXING AND PLACING MUST BE IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

COLD WEATHER CONCRETING:

1. THE CONTRACTOR SHALL PROVIDE AND HAVE ON THE SITE READY FOR USE, ADEQUATE EQUIPMENT FOR HEATING CONCRETE MATERIALS AND PROTECTING FRESH CONCRETE DURING FREEZING OR NEAR FREEZING WEATHER CONDITIONS, ACCORDING TO THE KENTUCKY BUILDING CODE, 2013 EDITION.

2. ALL CONCRETE MATERIALS, REBAR, FORMS, FILLERS, AND THE EARTH WITH WHICH THE CONCRETE IS TO COME INTO CONTACT WITH, SHALL BE FREE FROM FROST AND ICE.

3. WHENEVER THE SURROUNDING TEMPERATURE IS BELOW 39°F, ALL CONCRETE POURED IN THE FORMS SHALL HAVE A TEMPERATURE OF 68°F FOR 4 DAYS.

4. THE HOUSING, COVERING, OR OTHER PROTECTION USED FOR THE CURING SHALL REMAIN IN PLACE AND INTACT FOR AT LEAST 24 HOURS AFTER THE ARTIFICIAL HEATING IS DISCONTINUED.

5. SALT, CALCIUM CHLORIDE, OR OTHER CHEMICALS SHALL NOT BE USED IN THE CONCRETE MIX TO PREVENT THE WATER CONTENT FROM FREEZING.

UTILITIES:

1. CONTRACTOR SHALL CONTACT A SUBSURFACE UTILITY LOCATOR FOR LOCATION OF EXISTING UTILITIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. LOCATION OF EXISTING SEWER, WATER LINES, GAS LINES, CONDUITS OR OTHER STRUCTURES ACROSS, UNDERNEATH, OR OTHERWISE ALONG THE LINE OF PROPOSED WORK ARE NOT NECESSARILY SHOWN ON THE PLANS, AND IF SHOWN ARE ONLY APPROXIMATELY CORRECT. CONTRACTOR ASSUMES SOLE RESPONSIBILITY FOR VERIFYING LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES (INCLUDING TEST PITS BY HAND IF NECESSARY) IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. CONTACT ENGINEER IMMEDIATELY IF LOCATION OF ELEVATION IS DIFFERENT FROM THAT SHOWN ON THE PLANS, OR IF THERE APPEARS TO BE A CONFLICT.

2. CONTRACTOR SHALL COORDINATE ALL UTILITY CONNECTIONS WITH APPROPRIATE UTILITY OWNERS AND CONSTRUCTION MANAGER.

3. DAMAGE BY THE CONTRACTOR TO UTILITIES OR PROPERTY OF OTHERS, INCLUDING EXISTING PAVEMENT AND OTHER SURFACES DISTURBED BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE REPAIRED TO PRE-CONSTRUCTION CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CLIENT. FOR GRASSES AREAS, SEED AND MULCH SHALL BE ACCEPTABLE.

4. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER THE REQUIREMENTS FOR AND LIMITS OF OVERHEAD AND/OR UNDERGROUND ELECTRICAL SERVICE.

5. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF NEW UNDERGROUND TELEPHONE SERVICE WITH THE TELEPHONE UTILITY AND THE OWNER'S REQUIREMENTS.

6. ALL UNDERGROUND UTILITIES SHALL BE INSTALLED AND TESTED SATISFACTORY PRIOR TO COMMENCING ANY PAVING OPERATIONS WHERE SUCH UTILITIES ARE WITHIN THE LIMITS OF PAVEMENT.

GRADING:

1. THE CONTRACTOR SHALL REWORK (DRY, SCARIFY, ETC...) ALL MATERIAL NOT SUITABLE FOR SUB GRADE IN ITS PRESENT STATE. IF THE MATERIAL, AFTER REWORKING, REMAINS UNSUITABLE THEN THE CONTRACTOR SHALL UNDERCUT THIS MATERIAL AND REPLACE WITH APPROVED MATERIAL AT HIS EXPENSE. ALL SUB GRADES SHALL BE PROOF ROLLED WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK PRIOR TO PAVING. ANY SOFT MATERIAL SHALL BE REWORKED OR REPLACED.

2. THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL DITCHES, PIPES, AND OTHER DRAINAGE STRUCTURES FREE FROM OBSTRUCTION UNTIL WORK IS ACCEPTABLE BY THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES CAUSED BY FAILURE TO MAINTAIN DRAINAGE STRUCTURES IN OPERABLE CONDITION.

3. ALL MATERIALS AND WORKMANSHIP SHALL BE WARRANTED FOR ONE (1) YEAR FROM DATE OF ACCEPTANCE.

GROUNDING:

1. CONTRACTOR SHALL VERIFY THAT GROUNDING ELECTRODES SHALL BE CONNECTED IN A RING USING #2 SOLID TINNED COPPER WIRE. THE TOP OF THE GROUND RODS AND THE RING CONDUCTOR SHALL BE 2 FEET BELOW FINISHED GRADE. GROUNDING ELECTRODES SHALL BE DRIVEN ON 15'-0" CENTERS (PROVIDE AND INSTALL AS REQUIRED PER TYPICAL GROUNDING PLAN ON SHEET E-3).

2. BONDING OF THE GROUNDING CONDUCTOR (NEUTRAL) AND THE GROUNDING CONDUCTOR SHALL BE AT THE SERVICE DISCONNECTING MEANS. BONDING JUMPER SHALL BE INSTALLED PER CSA.

3. GROUND RING CONNECTION CONDUCTORS SHALL BE OF EQUAL LENGTH, MATERIAL, AND BONDING TECHNIQUE.

4. CONTRACTOR SHALL ENSURE GROUND RING IS WITHIN 12 TO 36 INCHES OF THE EQUIPMENT PAD. PROVIDE AND INSTALL GROUNDING CONNECTIONS SHOWN IN DETAILS AS NEEDED PER EXISTING SITE GROUNDING SYSTEM. CONTRACTOR SHALL VERIFY ALL EXISTING SITE GROUNDING CONDITIONS BEFORE STARTING WORK OR PURCHASING EQUIPMENT.

5. BOND CIGBE TO EXTERNAL GROUND RING WITH 2 RUNS OF #2 SOLID TINNED COPPER CONDUCTOR IN PVC. CONNECT BAR END WITH 2 HOLE LUG, AND "CADWELD" THE OTHER END TO THE EXTERNAL GROUND ROD.

6. THE PREFERRED LOCATION FOR COAX GROUNDING IS AT THE BASE OF THE TOWER PRIOR TO THE COAX BEND. BONDING IS SHOWN ON THE ICE BRIDGE DUE TO DIFFICULTY WITH WELDING OR ATTACHING TO TOWER LEGS. CONTRACTOR SHALL ADVISE CONSTRUCTION MANAGER PRIOR TO PLACING CIGBE ON ICE BRIDGE IF MOUNTING TO TOWER LEG IS POSSIBLE.

7. CONTRACTOR SHALL VERIFY EXISTING GROUNDING BOND TO THE FENCE POST OR EXTERNAL GROUND RING IN AT (2) PLACES. PROVIDE AND INSTALL GROUNDING CONNECTIONS AS REQUIRED TO MEET THESE CONDITIONS.

APPLICANT/LESSEE:

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487-1307
OFFICE: (561) 226-9457

PROJECT INFORMATION:

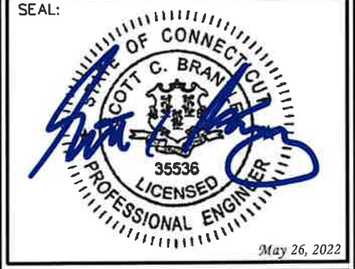
SITE NAME: SOUTH LEDYARD
SITE ID: CT46142A

130 WELLES ROAD
GROTON, CT 06340
(NEW LONDON COUNTY)

PLANS PREPARED BY:

TOWER ENGINEERING PROFESSIONALS
326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net

SEAL:



May 26, 2022

REV	DATE	ISSUED FOR:
5	05-26-22	CONSTRUCTION
4	10-26-21	CONSTRUCTION
3	10-26-21	CONSTRUCTION
2	07-27-21	CONSTRUCTION

DRAWN BY: THD | CHECKED BY: ANG

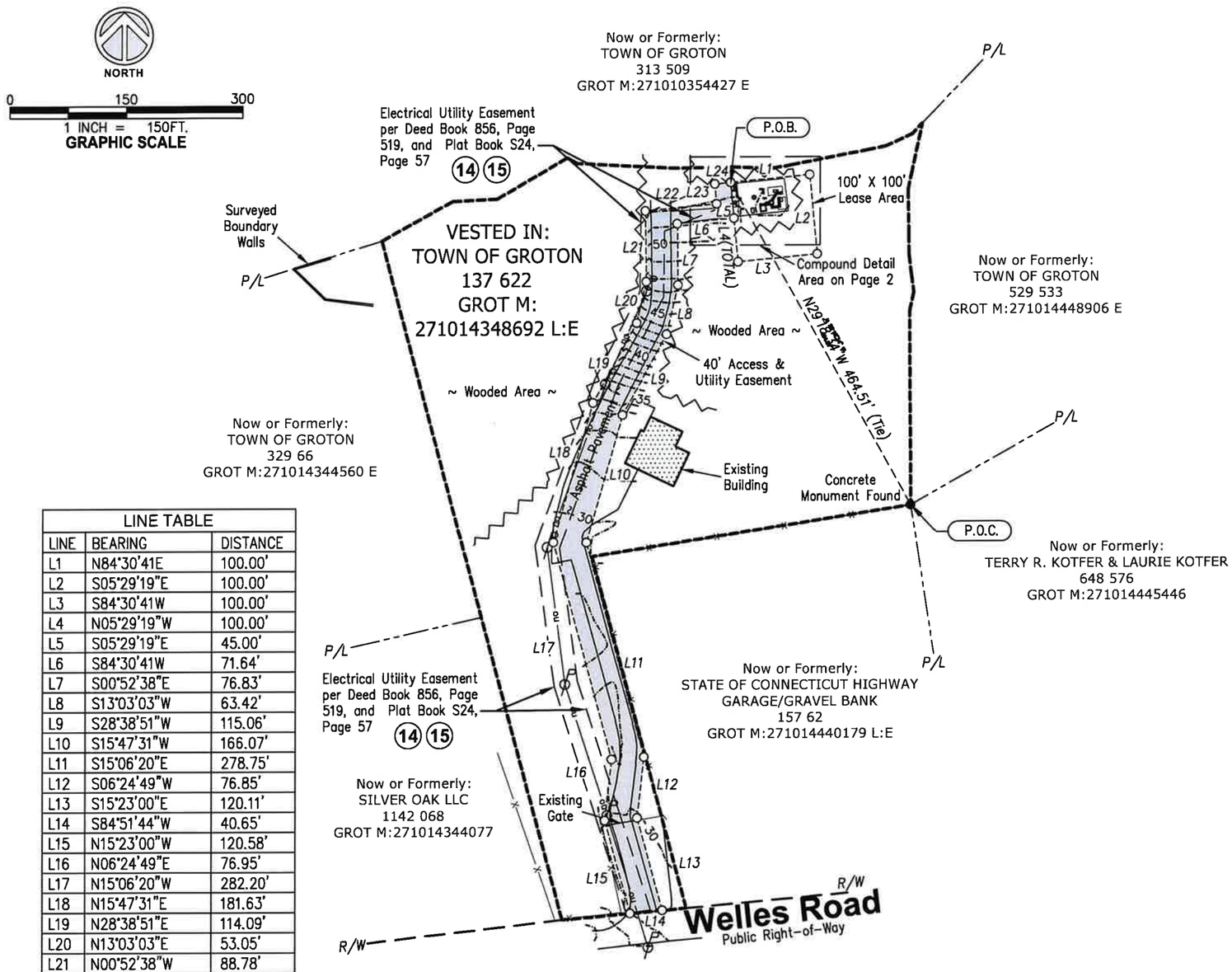
SHEET TITLE:

GENERAL NOTES II

SHEET NUMBER: **N-3**

REVISION: 5

TEP #: 255888



LINE TABLE		
LINE	BEARING	DISTANCE
L1	N84°30'41E	100.00'
L2	S05°29'19"E	100.00'
L3	S84°30'41W	100.00'
L4	N05°29'19"W	100.00'
L5	S05°29'19"E	45.00'
L6	S84°30'41W	71.64'
L7	S00°52'38"E	76.83'
L8	S13°03'03"W	63.42'
L9	S28°38'51"W	115.06'
L10	S15°47'31"W	166.07'
L11	S15°06'20"E	278.75'
L12	S06°24'49"W	76.85'
L13	S15°23'00"E	120.11'
L14	S84°51'44"W	40.65'
L15	N15°23'00"W	120.58'
L16	N06°24'49"E	76.95'
L17	N15°06'20"W	282.20'
L18	N15°47'31"E	181.63'
L19	N28°38'51"E	114.09'
L20	N13°03'03"E	53.05'
L21	N00°52'38"W	88.78'
L22	N84°30'41"E	90.15'
L23	N05°29'19"W	25.00'
L24	N84°30'41"E	20.00'

COORDINATE TABLE		
POINT	NORTHING	EASTING
P.O.C.	704,439.28'	1,214,212.52'
P.O.B.	704,844.32'	1,213,985.13'

SYMBOL LEGEND

- R/W – Right-of-Way
- P/L – Adjoiner Property Line
- ● – Monumentation Found as Noted
- —ou— – Overhead Utilities
- ϕ – Utility Pole
- Building Area
- Treeline
- —X— – Chain Link Fence
- ○ – Lease and Easement Node
- 40' Access & Utility Easement

NOTES:

1. This is a specific purpose survey for the stated purpose of surveying an existing telecommunication tower compound as requested by the client.
2. This is not a Boundary survey. Property lines are approximated due to poor deed description and lack of existing monumentation.
3. This survey was prepared without the benefit of a current title commitment.
4. The locations of all utilities shown on the survey are from visible surface evidence only.
5. No Wetlands Areas have been investigated by the Survey.
6. The bearings and geodetic coordinated shown hereon are in the North American Datum of 1983 (2011 Adjustment), based upon a GNSS static session on October 13, 2020.
7. The Property surveyed and shown hereon is the same property described in Schedule A of Old Republic National Title Insurance Company Title Commitment No. 01-21011828-01T with an effective date of February 9, 2021.

FLOOD ZONE:

By scaled map location and graphic plotting only, the subject property appears to lie entirely in Zone X (Areas of minimal flood hazard) according to the Flood Insurance Rate Map for the County of New London County, Community Panel No. 09011C0388J, Effective Date August 5, 2013.

CERTIFICATION:

By: _____
William F. Orsine, PLS
Connecticut Professional Land Surveyor No. 10045
For and on behalf of Millman Surveying, Inc.

PROPOSED TOWER 1A:

Latitude: 41° 23' 34.193" North (41.392831° NAD 83)
Longitude: 71° 58' 12.031" West (-71.970009° NAD 83)
Ground Elevation: 52.8' A.M.S.L.

SPECIFIC PURPOSE SURVEY
130 Welles Road, Groton, Connecticut
Site Name: CT46142-A SOUTH LEDYARD

millman
National Land Services

Millman Surveying, Inc.
Corporate Headquarters
4111 Bradley Circle NW, Suite 240
Canton, Ohio 44718
Phone: 800-520-1010
www.millmanland.com

Drawn By: JK	PM: JMK PC: AFM
Date: 02/23/21	Scale: 1:150
Checked: WFO	Sheet: 1 of 4
MSI Project No. 47163	

Prepared For:
TOWER ENGINEERING PROFESSIONALS, INC.

Now or Formerly:
TOWN OF GROTON
313 509
GROT M:271010354427 E

100' X 100'
Lease Area

P.O.B.

Existing
Teleco Vault

52.39'

Existing Teleco
Pedestal

Existing
Teleco Vault

Electric Meters
on H-Frame

Proposed Monopole Tower
Latitude: 41° 23' 34.193
Longitude: 71° 58' 12.031"
Elevation: 52.8' A.M.S.L.
NAD83

20.0'

±37'

52.46'

Electric Meters
on H-Frame

±43'

Existing Electrical
Cabinet on Conc. Pad

28.7'

Existing Monopole Tower
Latitude: 41° 23' 34.136"
Longitude: 71° 58' 11.743"
Elevation: 53.19' A.M.S.L.
NAD83

Electrical Utility Easement
per Deed Book 856, Page
519, and Plat Book S24,
Page 57
(14) (15)

20.0'

+53.19'

Existing Electrical
transformer

51.72'

41.1'

53.52'

19.7'

Existing Ice
Bridge (Typ.)

Existing
Teleco
Shelter

Existing
Electrical
Cabinet on
Conc. Pad

12.8'

+52.08'

Existing
Generator on
Conc. Pad

40' Access &
Utility Easement

VESTED IN:
TOWN OF GROTON
137 622
GROT M:
271014348692 L:E

N29°18'34"W 464.51' (Tie)

Concrete
Monument Found

P.O.C.

NORTH

0 10 20
1 INCH = 10 FT.
GRAPHIC SCALE

SPECIFIC PURPOSE SURVEY
130 Welles Road, Groton, Connecticut

Site Name: CT46142-A SOUTH LEDYARD

millman
National Land Services

Millman Surveying, Inc.
Corporate Headquarters
4111 Bradley Circle NW, Suite 240
Canton, Ohio 44718
Phone: 800-520-1010
www.millmanland.com

Drawn By: JK	PM: JMK PC: AFM
Date: 02/23/21	Scale: 1:10
Checked: WFO	Sheet: 2 of 4
MSI Project No. 48163	

Prepared For:
TOWER ENGINEERING
PROFESSIONALS, INC.

LEGAL DESCRIPTION OF 100' X 100' LEASE AREA

ALL THAT CERTAIN LEASE AREA, SITUATE, LYING, AND BEING IN NEW LONDON COUNTY, CONECTICUT, BEING A PORTION OF THE PROPERTY DESCRIBED BY BOOK 137, PAGE 622, AND PARCEL NUMBER 27101434892, OF THE NEW LONDON COUNTY RECORDS AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT A CONCRETE MONUMENT WITH A CUT IN IT ON AN EASTERN CORNER OF THE PARCEL DESCRIBED BY BOOK 137, PAGE 622, AND PARCEL NUMBER 27101434892, SAID MONUMENT HAVING CONECTICUT STATE PLANE COORDINATES OF NORTHING: 704,439.28', AND EASTING: 1,214,212.52'; THENCE, FROM THE POINT OF COMMENCEMENT, NORTH 29° 18' 34"WEST, A DISTANCE OF 464.51 FEET TO THE NORTHWEST CORNER OF THE HEREIN DESCRIBED 100' X 100' LEASE AREA, BEING THE TRUE POINT OF BEGINNING, HAVING CONECTICUT STATE PLANE COORDINATES OF NORTHING: 704,844.32', AND EASTING: 1,213,985.13'. THENCE, FROM SAID POINT OF BEGINNING, NORTH 84° 30' 41"EAST, A DISTANCE OF 100.00 FEET TO A POINT; THENCE SOUTH 05° 29' 19"EAST, A DISTANCE OF 100.00 FEET TO A POINT; THENCE SOUTH 84° 30' 41"WEST, A DISTANCE OF 100.00 FEET TO A POINT; THENCE NORTH 05° 29' 19"WEST, A DISTANCE OF 100.00 FEET TO THE POINT OF BEGINNING.

SAID LEASE PARCEL CONTAINING 10,000 SQUARE FEET OR 0.229 ACRES MORE OR LESS.

LEGAL DESCRIPTION OF 30' ACCESS & UTILITY EASEMENT

ALL THAT CERTAIN EASEMENT AREA, SITUATE, LYING, AND BEING IN NEW LONDON COUNTY, CONECTICUT, BEING A PORTION OF THE PROPERTY DESCRIBED BY BOOK 137, PAGE 622, AND PARCEL NUMBER 27101434892, OF THE NEW LONDON COUNTY RECORDS AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT A CONCRETE MONUMENT WITH A CUT IN IT ON AN EASTERN CORNER OF THE PARCEL DESCRIBED BY BOOK 137, PAGE 622, AND PARCEL NUMBER 27101434892, SAID MONUMENT HAVING CONECTICUT STATE PLANE COORDINATES OF NORTHING: 704,439.28', AND EASTING: 1,214,212.52'; THENCE, FROM THE POINT OF COMMENCEMENT, NORTH 29° 18' 34"WEST, A DISTANCE OF 464.51 FEET TO THE NORTHEAST CORNER OF THE HEREIN DESCRIBED 40' ACCESS & UTILITY EASEMENT, AND ON THE NORTHWEST CORNER OF THE AFORE DESCRIBED 100' X 100' LEASE AREA, BEING THE TRUE POINT OF BEGINNING, HAVING CONECTICUT STATE PLANE COORDINATES OF NORTHING: 704,844.32', AND EASTING: 1,213,985.13'. THENCE, FROM SAID POINT OF BEGINNING, AND ALONG SAID LEASE AREA LIMITS, SOUTH 05° 29' 19"EAST, A DISTANCE OF 45.00 FEET TO A POINT; THENCE. LEAVING SAID LIMITS, SOUTH 84° 30' 41"WEST, A DISTANCE OF 71.64 FEET TO A POINT; THENCE SOUTH 00° 52' 38"EAST, A DISTANCE OF 76.83 FEET TO A POINT; THENCE SOUTH 13° 03' 03"WEST, A DISTANCE OF 63.42 FEET TO A POINT; THENCE SOUTH 28° 38' 51"WEST, A DISTANCE OF 115.06 FEET TO A POINT; THENCE SOUTH 15° 47' 31"WEST, A DISTANCE OF 166.07 FEET TO A POINT; THENCE SOUTH 15° 06' 20"EAST, A DISTANCE OF 278.75 FEET TO A POINT; THENCE SOUTH 06° 24' 49"WEST, A DISTANCE OF 76.85 FEET TO A POINT; THENCE SOUTH 15° 23' 00"EAST, A DISTANCE OF 120.11 FEET TO A POINT ON THE NORTHERN RIGHT-OF-WAY OF WELLWS ROAD; THENCE, ALONG SAID RIGHT-OF-WAY, SOUTH 84° 51' 44"WEST, A DISTANCE OF 40.65 FEET TO A POINT; THENCE, LEAVING SAID RIGHT-OF-WAY, NORTH 15° 23' 00"WEST, A DISTANCE OF 120.58 FEET TO A POINT; THENCE NORTH 06° 24' 49"WEST, A DISTANCE OF 76.95 FEET TO A POINT; THENCE NORTH 15° 06' 20"WEST, A DISTANCE OF 282.20 FEET TO A POINT; THENCE NORTH 15° 47' 31"EAST, A DISTANCE OF 181.63 FEET TO A POINT; THENCE NORTH 28° 38' 51"EAST, A DISTANCE OF 114.09 FEET TO A POINT; THENCE NORTH 13° 03' 03"EAST, A DISTANCE OF 53.05 FEET TO A POINT; THENCE NORTH 00° 52' 38"WEST, A DISTANCE OF 88.78 FEET TO A POINT; THENCE NORTH 84° 30' 41"WEST, A DISTANCE OF 90.15 FEET TO A POINT; THENCE NORTH 05° 29' 19"WEST, A DISTANCE OF 25.00 FEET TO A POINT; THENCE NORTH 84° 30' 41"WEST, A DISTANCE OF 20.00 FEET TO THE POITN OF BEGINNING.

SAID EASEMENT AREA CONTAINING 38,605 SQUARE FEET OR 0.886 ACRES MORE OR LESS.

OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY COMMITMENT NO. 01-21011828-01T - SCHEDULE A:

SITUATE IN THE TOWN OF GROTON, COUNTY OF NEW LONDON, STATE OF CONNECTICUT:

SITUATED ON THE NORTHERLY SIDE OF THE GROTON-OLD MYSTIC ROAD, BEING OLD ROUTE #84, SO CALLED, AT A STATE HIGHWAY DEPARTMENT MERESTONE AT THE SOUTHWESTERLY CORNER OF LAND FORMERLY OF DORA WELLES AND LATER OF WILLIAM P. WELLES; THENCE RUNNING WESTERLY ALONG THE NORTHERLY SIDE OF SAID HIGHWAY ONE HUNDRED SEVENTY-SIX AND FIFTY SIX HUNDREDTHS (176.56) FEET, TO OTHER LAND OF LEONARD J. HUTCHINS THENCE RUNNING NORTHERLY ON A LINE WHICH MAKES AN INTERIOR ANGLE OF 99° 49' WITH THE LAST DESCRIBED LINE EIGHT HUNDRED EIGHTY ONE AND FORTY SIX (881.46) FEET TO A STONE WALL, BOUNDED WESTERLY BY OTHER LAND OF LEONARD J. HUTCHINS; THENCE IN A GENERAL EASTERLY DIRECTION BOUNDED NORTHERLY BY SAID HUTCHINS LAND FOLLOWING A STONE WALL SEVEN HUNDRED TWENTY-FIVE (725) FEET, MORE OR LESS, TO LAND OF EDWARD R. WELLES; THENCE SOUTHWESTERLY WITH SAID LAND OF EDWARD R. WELLES AND WITH A STONE WALL FIVE HUNDRED FIFTY FIVE (555) FEET; MORE OR LESS, TO A WALL CORNER AND SAID WILLIAM P. WELLES AND THENCE RUNNING WESTERLY BY AND WITH A STONE WALL BOUNDED SOUTHERLY BY SAID WILLIAM P. WELLES LAND FOUR HUNDRED SEVEN AND THIRTY HUNDREDTHS (407.30) FEET TO A CORNER; THENCE SOUTHERLY IN A STRAIGHT LINE BY AND WITH A STONE WALL, BOUNDED EASTERLY BY SAID WILLIAM P. WELLES, LAND FOUR HUNDRED FIFTY (450) FEET, MORE OR LESS, TO THE AFOREMENTIONED MERESTONE IN THE NORTHERLY LINE OF SAID HIGHWAY MARKING THE POINT AND PLACE OF BEGINNING.

FOR A MORE PARTICULAR DESCRIPTION OF SAID PREMISES, REFERENCE IS HEREBY MADE TO "SURVEY INDICATING PORTION OF LEONARD J. HUTCHINS FARM TOWN OF GROTON CONNECTICUT, SCALE 1" – 40, JULY 15, 1952, WHICH PLAN IS ON FILE IN THE GROTON LAND RECORDS.

Tax ID: 271014348692 E

BEING THE SAME PROPERTY CONVEYED TO TOWN OF GROTON, GRANTEE, FROM LEONARD J. HUTCHINS, GRANTOR, BY
DEED RECORDED 08/29/1952, AS BOOK 137, PAGE 622 OF THE COUNTY RECORDS.

SPECIFIC PURPOSE SURVEY
130 Welles Road, Groton, Connecticut

Site Name: CT46142-A SOUTH LEDYARD

millman
National Land Services

Millman Surveying, Inc.
Corporate Headquarters
4111 Bradley Circle NW, Suite 240
Canton, Ohio 44718
Phone: 800-520-1010
www.millmanland.com

Drawn By: JK	PM: JMK PC: AFM
Date: 02/23/21	Scale: N/A
Checked: WFO	Sheet: 3 of 4
MSI Project No. 48163	

Prepared For:
TOWER ENGINEERING PROFESSIONALS, INC.

OLD REPUBLIC NATIONAL TITLE INSURANCE COMPANY COMMITMENT NO. 01-21011828-01T - SCHEDULE B, SECTION II:

Numbers correspond with survey-related Schedule B exception items contained in the above referenced Title Commitment.

9. PERMIT TO THE TOWN OF GROTON, CONNECTICUT FOR ESTABLISHING AND OPERATING A BULKY WASTE DISPOSAL AREA IN GROTON CONNECTICUT, RECORDED 02/15/1978, IN BOOK 316, PAGE 85 OF THE NEW LONDON COUNTY RECORDS.
(AFFECTS SUBJECT PROPERTY – CONTAINS NO PLOTTABLE ITEMS)

10. PERMIT TO THE TOWN OF GROTON, CONNECTICUT FOR ESTABLISHING AND OPERATING A BULKY WASTE DISPOSAL AREA IN GROTON CONNECTICUT, RECORDED 04/07/1978, IN BOOK 317, PAGE 365 OF THE NEW LONDON COUNTY RECORDS.
(AFFECTS SUBJECT PROPERTY – CONTAINS NO PLOTTABLE ITEMS)

11. CONSENT ORDER NO. SW-390 STATE OF CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION, RECORDED 09/30/1997, IN BOOK 651, PAGE 034 OF THE NEW LONDON COUNTY RECORDS.
(AFFECTS SUBJECT PROPERTY – CONTAINS NO PLOTTABLE ITEMS)

12. STANDARD LICENSE AGREEMENT BETWEEN SPRINT SPECTRUM L.P., A DELAWARE LIMITED PARTNERSHIP AND THE TOWN OF GROTON, A CONNECTICUT MUNICIPAL CORPORATION, LICENSOR, RECORDED 08/09/2001, IN BOOK 744, PAGE 186 OF THE NEW LONDON COUNTY RECORDS.

NOTE: MEMORANDUM OF STANDARD LICENSE AGREEMENT BETWEEN THE TOWN OF GROTON, OWNER, A CONNECTICUT MUNICIPAL CORPORATION, AND SPRINT SPECTRUM L.P., A DELAWARE LIMITED PARTNERSHIP, RECORDED 10/12/2001, IN BOOK 749, PAGE 102 OF THE NEW LONDON COUNTY RECORDS.

NOTE: AMENDMENT TO STANDARD LICENSE AGREEMENT BY AND BETWEEN THE TOWN OF GROTON, A CONNECTICUT MUNICIPAL CORPORATION, OWNER, AND SPRINT SPECTRUM L.P., A DELAWARE LIMITED PARTNERSHIP, RECORDED 07/15/2002, IN BOOK 777, PAGE 156 OF THE NEW LONDON COUNTY RECORDS.

NOTE: ASSIGNMENT AND ASSUMPTION OF LEASE BY AND BETWEEN SPRINT SPECTRUM REALTY COMPANY, L.P., A DELAWARE LIMITED PARTNERSHIP, SPRINT SPECTRUM L.P., A DELAWARE LIMITED PARTNERSHIP, AND SPRINT SPECTRUM EQUIPMENT COMPANY, L.P., A DELAWARE LIMITED PARTNERSHIP, ASSIGNORS, AND TOWER ENTITY 2 LLC, A DELAWARE LIMITED LIABILITY COMPANY, ASSIGNEE, RECORDED 11/12/2008, IN BOOK 1020, PAGE 766 OF THE NEW LONDON COUNTY RECORDS.

NOTE: RIGHT OF FIRST REFUSAL AGREEMENT BY TOWN OF GROTON, A MUNICIPAL CORPORATION, GRANTOR AND TOWERCO ASSETS LLC, A DELAWARE LIMITED LIABILITY COMPANY, GRANTEE, RECORDED 02/12/2012, IN BOOK 1087, PAGE 487 OF THE NEW LONDON COUNTY RECORDS.

NOTE: AMENDMENT TO STANDARD LICENSE AGREEMENT BY AND BETWEEN THE TOWN OF GROTON, A CONNECTICUT MUNICIPAL CORPORATION, LICENSOR, AND SBA 2012 TC ASSETS, LLC, A DELAWARE LIMITED LIABILITY COMPANY, RECORDED 03/10/2014, IN BOOK 1129, PAGE 829 OF THE NEW LONDON COUNTY RECORDS.

13. TOWN OF GROTON ZONING COMMISSION NOTICE OF GRANT OF SPECIAL PERMIT #267, RECORDED 07/07/2003, IN BOOK 826, PAGE 876 OF THE NEW LONDON COUNTY RECORDS.
(AFFECTS SUBJECT PROPERTY – CONTAINS NO PLOTTABLE ITEMS)

14. SUBJECT TO COVENANTS, RESTRICTIONS, RESERVATIONS, EASEMENTS, AND RIGHTS OF WAY AND BUILDING SETBACKS, IF ANY, AS SHOWN ON THE MAP SHOWING EASEMENT TO THE CONNECTICUT LIGHT AND POWER COMPANY ACROSS THE PROPERTY OF THE TOWN OF GROTON, AS RECORDED 02/09/2004 IN BOOK S24, PAGE 57, IN NEW LONDON COUNTY RECORDS.
(AFFECTS SUBJECT PROPERTY – PLOTTED AND SHOWN HEREON)

15. ELECTRIC DISTRIBUTION EASEMENT BY THE TOWN OF GROTON AND SPRINT SPECTRUM L.P., GRANTOR, TO THE CONNECTICUT LIGHT AND POWER COMPANY, A SPECIALLY CHARTERED CONNECTICUT CORPORATION, GRANTEE, RECORDED 02/09/2004, IN BOOK 856, PAGE 519 OF THE NEW LONDON COUNTY RECORDS.
(AFFECTS SUBJECT PROPERTY – PLOTTED AND SHOWN HEREON)

16. MEMORANDUM OF AGREEMENT BY AND BETWEEN TOWERCO ASSETS LLC, A DELAWARE LIMITED LIABILITY COMPANY, LICENSOR, AND METRO PCS MASSACHUSETTS LLC, A DELAWARE LIMITED LIABILITY COMPANY, LICENSEE, RECORDED 07/10/2009, IN BOOK 1035, PAGE 36 OF THE NEW LONDON COUNTY RECORDS.
(AFFECTS SUBJECT PROPERTY – CONTAINS NO PLOTTABLE ITEMS)

17. OPEN-END MORTGAGE DEED, FIXTURE FILING AND ASSIGNMENT OF LEASES AND RENTS TO SECURE AN INDEBTEDNESS OF THE AMOUNT STATED BELOW AND ANY OTHER AMOUNTS PAYABLE UNDER THE TERMS HEREOF,
AMOUNT: $3,170,000,000.00
MORTGAGOR: SBA 2012 TC ASSETS, LLC, A DELAWARE LIMITED LIABILITY COMPANY, F/K/A TOWERCO ASSETS LLC
MORTGAGEE: DEUTSCHE BANK TRUST COMPANY AMERICAS
DATED: 04/18/2013
RECORDED: 07/08/2013
BOOK-PAGE: 1117-1152

NOTE: AMENDMENT TO AMENDED AND RESTATED MORTGAGE, FIXTURE FILING AND ASSIGNMENT OF LEASES AND RENTS BY AND BETWEEN SBA 2012 TC ASSETS, LLC, A DELAWARE LIMITED LIABILITY COMPANY, MORTGAGOR, AND DEUTSCHE BANK TRUST COMPANY AMERICAS, AS TRUSTEE, AS LENDER UNDER THE LOAN AGREEMENT REFERRED TO BELOW, MORTGAGEE, RECORDED 12/18/2014, AS BOOK 1142, PAGE 943 OF THE NEW LONDON COUNTY RECORDS.

NOTE: AMENDMENT TO AMENDED AND RESTATED MORTGAGE FIXTURE FILING, AND ASSIGNMENT OF LEASES AND RENTS BY AND BETWEEN SBA 2012 TC ASSETS, LLC, A DELAWARE LIMITED LIABILITY COMPANY, MORTGAGOR, AND DEUTSCHE BANK TRUST COMPANY AMERICAS, AS TRUSTEE, MORTGAGEE RECORDED 12/21/2015, AS BOOK 1158, PAGE 1125 OF THE NEW LONDON COUNTY RECORDS.

NOTE: AMENDMENT TO AMENDED MORTGAGE FIXTURE FILING, AND ASSIGNMENT OF LEASES AND RENTS, AS AMENDED BY AND BETWEEN SBA 2012 TC ASSETS, LLC, A DELAWARE LIMITED LIABILITY COMPANY, MORTGAGOR AND DEUTSCHE BANK TRUST COMPANY AMERICAS, AS TRUSTEE, MORTGAGEE RECORDED 08/16/2016, AS BOOK 1169, PAGE 1083 OF THE NEW LONDON COUNTY RECORDS.

NOTE: AMENDMENT TO AMENDED MORTGAGE FIXTURE FILING, AND ASSIGNMENT OF LEASES AND RENTS, AS AMENDED BY AND BETWEEN SBA 2012 TC ASSETS, LLC, A DELAWARE LIMITED LIABILITY COMPANY, MORTGAGOR, AND DEUTSCHE BANK TRUST COMPANY AMERICAS, AS TRUSTEE, MORTGAGEE RECORDED 06/09/2017, AS BOOK 1184, PAGE 570 OF THE NEW LONDON COUNTY RECORDS.

NOTE: AMENDMENT TO MORTGAGE, FIXTURE FILING, AND ASSIGNMENT OF LEASES AND RENTS BY AND BETWEEN SBA 2012 TC ASSETS, LLC, A DELAWARE LIMITED LIABILITY COMPANY, MORTGAGOR, AND DEUTSCHE BANK TRUST COMPANY AMERICAS, AS TRUSTEE, MORTGAGEE, RECORDED 12/13/2019, IN BOOK 1225, PAGE 246 OF THE NEW LONDON COUNTY RECORDS.
(AFFECTS SUBJECT PROPERTY – CONTAINS NO PLOTTABLE ITEMS)

18. MEMORANDUM OF ANTENNA SITE AGREEMENT BETWEEN SBA 2012 TC ASSETS, LLC, A DELAWARE LIMITED LIABILITY COMPANY, OWNER, AND NEW CINGULAR WIRELESS PCS, LLC, A DELAWARE LIMITED LIABILITY COMPANY, TENANT, RECORDED 03/26/2019, IN BOOK 1212, PAGE 768 OF THE NEW LONDON COUNTY RECORDS.
(AFFECTS SUBJECT PROPERTY – CONTAINS NO PLOTTABLE ITEMS)

SPECIFIC PURPOSE SURVEY
130 Welles Road, Groton, Connecticut
Site Name: CT46142-A SOUTH LEDYARD

millman
National Land Services

Millman Surveying, Inc.
Corporate Headquarters
4111 Bradley Circle NW, Suite 240
Canton, Ohio 44718
Phone: 800-520-1010
www.millmanland.com

Drawn By: JK	PM: JMK PC: AFM
Date: 02/23/21	Scale: N/A
Checked: WFO	Sheet: 4 of 4
MSI Project No. 48163	

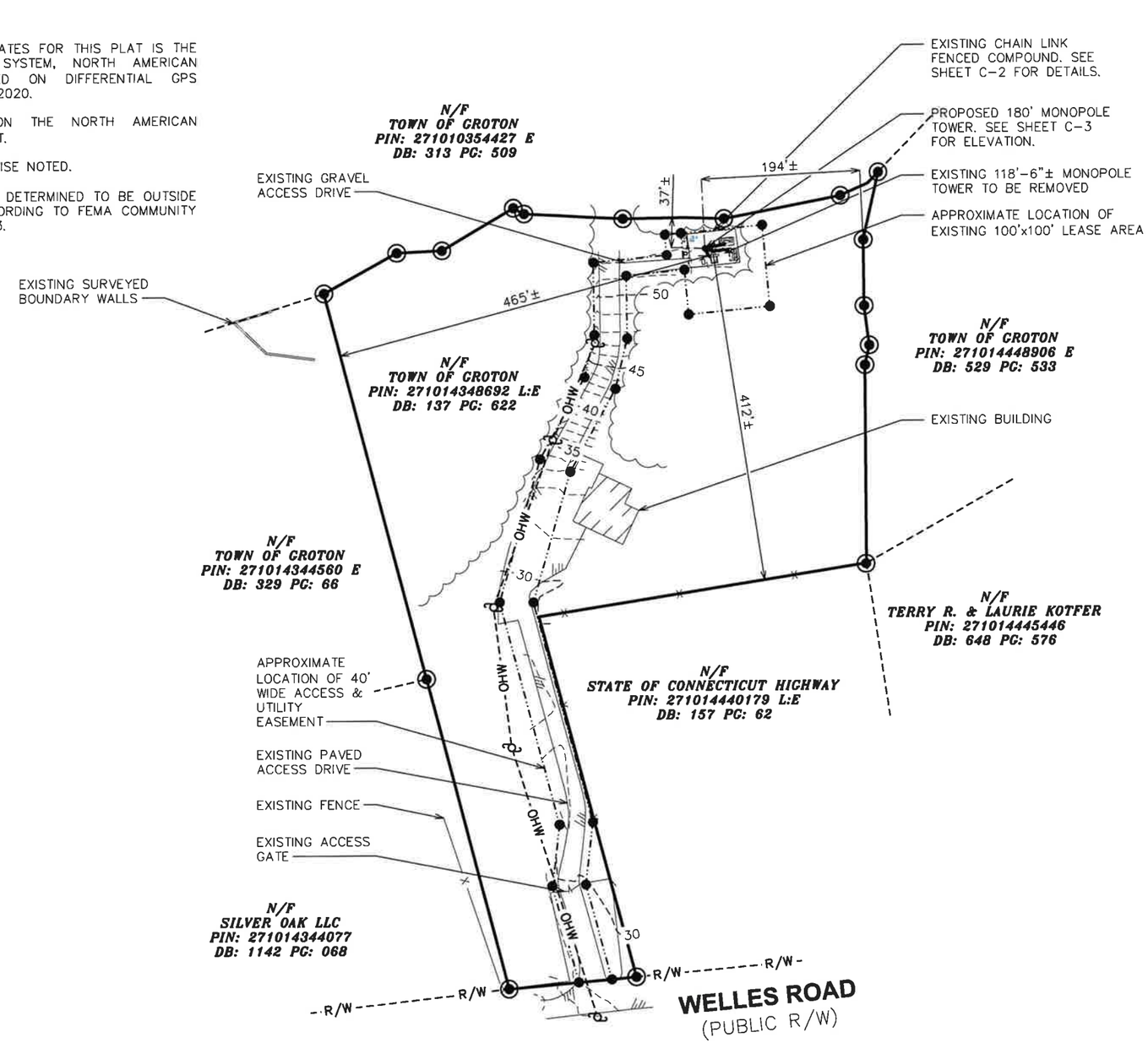
Prepared For:
TOWER ENGINEERING PROFESSIONALS, INC.

NOTES:

1. THE BASIS OF THE MERIDIANS AND COORDINATES FOR THIS PLAT IS THE CONNECTICUT STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM 1983 (CTSPCS NAD 83), BASED ON DIFFERENTIAL GPS OBSERVATIONS PERFORMED ON OCTOBER 13, 2020.
2. VERTICAL INFORMATION SHOWN, BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD '88) IN FEET.
3. ALL DISTANCES ARE GROUND UNLESS OTHERWISE NOTED.
4. THE TOWER IS LOCATED IN ZONE "X." AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN ACCORDING TO FEMA COMMUNITY PANEL #09011C0388J, DATED AUGUST 5, 2013.

LEGEND

- EXIST. PROPERTY LINE
- ADJ. PROPERTY LINE
- EXIST. UTILITY POLE
- EXIST. LIGHT POLE
- EXIST. HYDRANT
- EXIST. TELCO PEDESTAL
- PROPERTY CORNER
- LEASE/EASE. CORNER
- ---200--- EXIST. CONTOUR LINE
- EDGE OF PAVEMENT
- ---OHW--- OVERHEAD WIRE
- ---R/W--- RIGHT-OF-WAY
- —— X —— CHAIN LINK FENCE
- EXISTING TREE LINE



SITE PLAN
SCALE: 1" = 150'

0 150 300
SCALE IN FEET

APPLICANT/LESSEE:

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487-1307
OFFICE: (561) 226-9457

PROJECT INFORMATION:

SITE NAME: SOUTH LEDYARD
SITE ID: CT46142A

130 WELLES ROAD
GROTON, CT 06340
(NEW LONDON COUNTY)

PLANS PREPARED BY:

TOWER ENGINEERING PROFESSIONALS
326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net

SEAL:

STATE OF CONNECTICUT · SCOTT C. BRANT · 35536 · LICENSED PROFESSIONAL ENGINEER

May 26, 2022

REV	DATE	ISSUED FOR:
5	05-26-22	CONSTRUCTION
4	10-26-21	CONSTRUCTION
3	10-26-21	CONSTRUCTION
2	07-27-21	CONSTRUCTION

DRAWN BY: THD | CHECKED BY: ANG

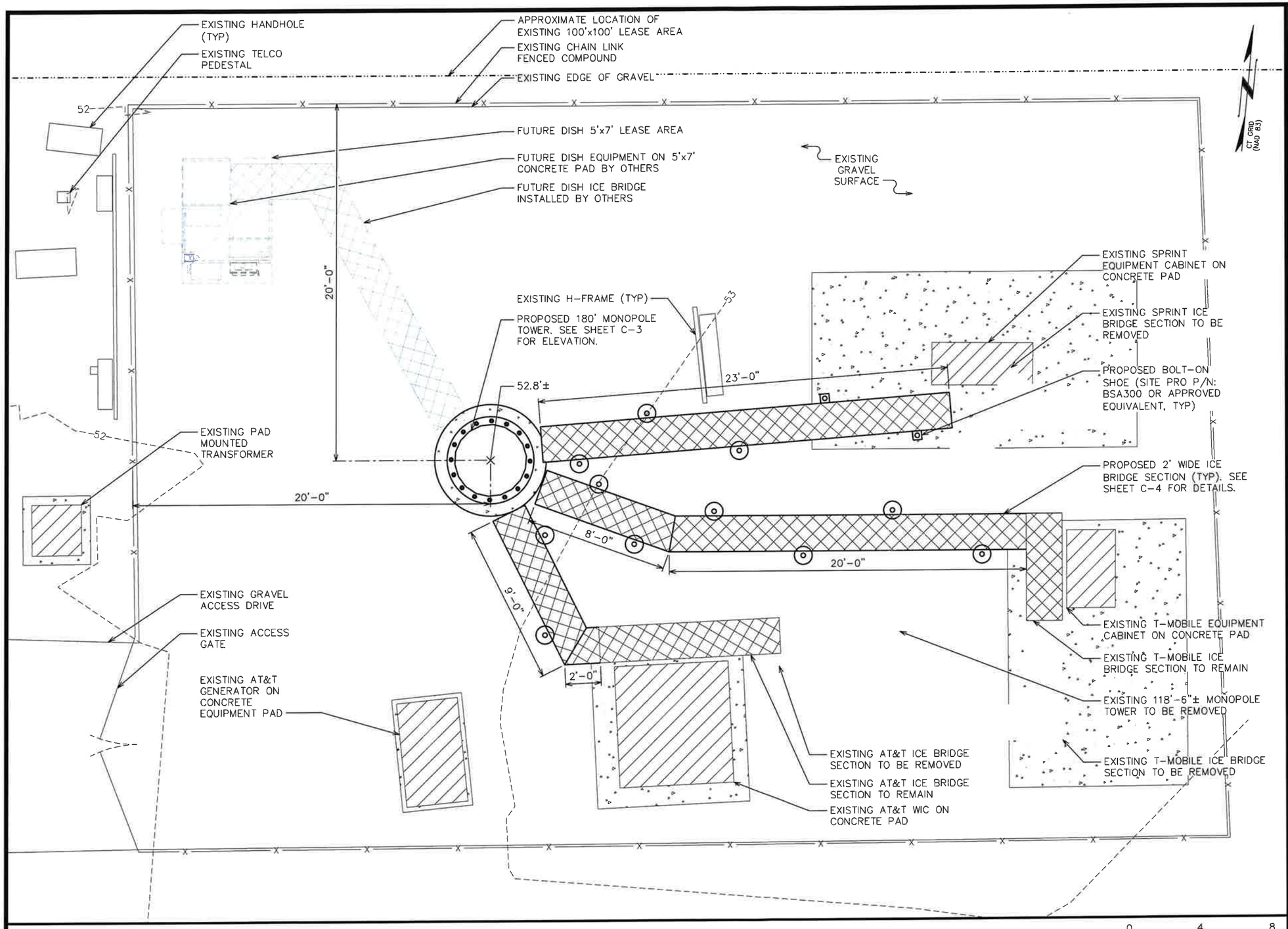
SHEET TITLE:

SITE PLAN

SHEET NUMBER: **C-1**

REVISION: 5

TEP #: 255888



COMPOUND DETAIL

SCALE: 3/16" = 1'-0"

0 4 8

SCALE IN FEET

APPLICANT/LESSEE:

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487-1307
OFFICE: (561) 226-9457

PROJECT INFORMATION:

SITE NAME: SOUTH LEDYARD
SITE ID: CT46142A

130 WELLES ROAD
GROTON, CT 06340
(NEW LONDON COUNTY)

PLANS PREPARED BY:

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326 TRYON ROAD
RALEIGH, NC 27603-3530
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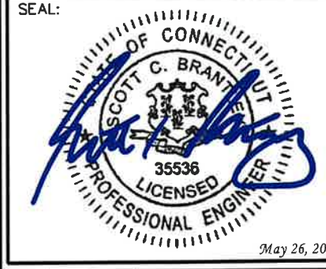
www.tepgroup.net

SEAL:



May 26, 2022

REV	DATE	ISSUED FOR:
5	05-26-22	CONSTRUCTION
4	10-26-21	CONSTRUCTION
3	10-26-21	CONSTRUCTION
2	07-27-21	CONSTRUCTION

DRAWN BY: THD | CHECKED BY: ANG

SHEET TITLE:

COMPOUND DETAIL

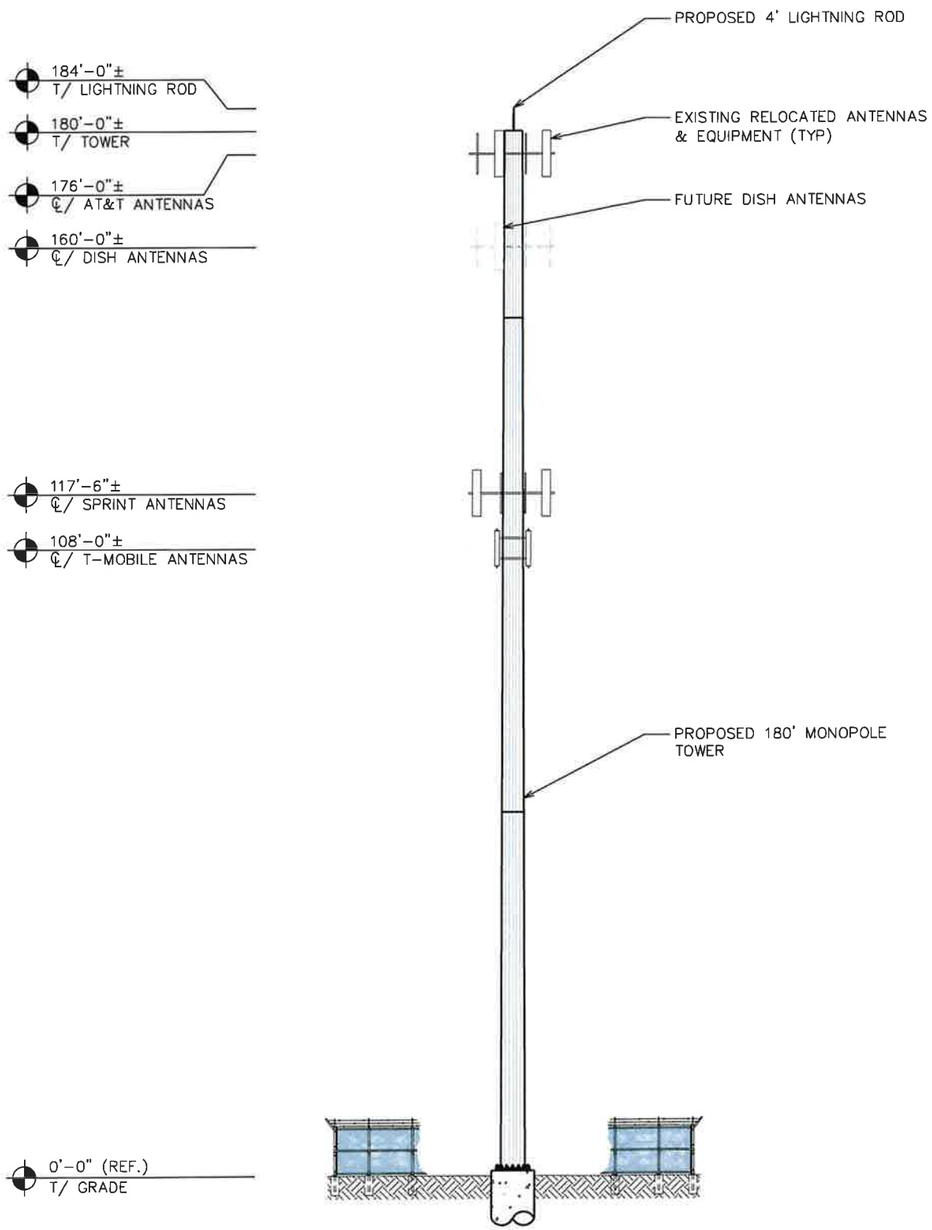
SHEET NUMBER: **C-2**

REVISION: **5**

TEP #: 255888

NOTES:

1. PROPOSED CABLES TO BE RUN PER SPECIFICATIONS OF PASSING STRUCTURAL ANALYSIS.
2. TOWER SHALL BE CONSTRUCTED OF GALVANIZED STEEL OR PAINTED PER APPLICABLE STANDARDS OF THE FAA OR OTHER APPLICABLE FEDERAL OR STATE AGENCY.
3. TOWER ELEVATION SHOWN FOR REFERENCE ONLY. VERIFY ACTUAL TOWER DESIGN & LOADING WITH TOWER DRAWINGS FROM MANUFACTURER AND/OR PASSING STRUCTURAL ANALYSIS PRIOR TO CONSTRUCTION.



TOWER ELEVATION

SCALE: 1" = 25'-0"

0 25 50

SCALE IN FEET

APPLICANT/LESSEE:

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487-1307
OFFICE: (561) 226-9457

PROJECT INFORMATION:

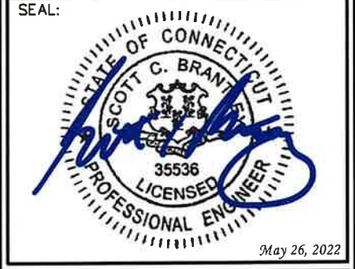
SITE NAME: SOUTH LEDYARD
SITE ID: CT46142A

130 WELLES ROAD
GROTON, CT 06340
(NEW LONDON COUNTY)

PLANS PREPARED BY:

TOWER ENGINEERING PROFESSIONALS
326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net

SEAL:



May 26, 2022

REV	DATE	ISSUED FOR:
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3	10-26-21	CONSTRUCTION
2	07-27-21	CONSTRUCTION

DRAWN BY: THD | CHECKED BY: ANG

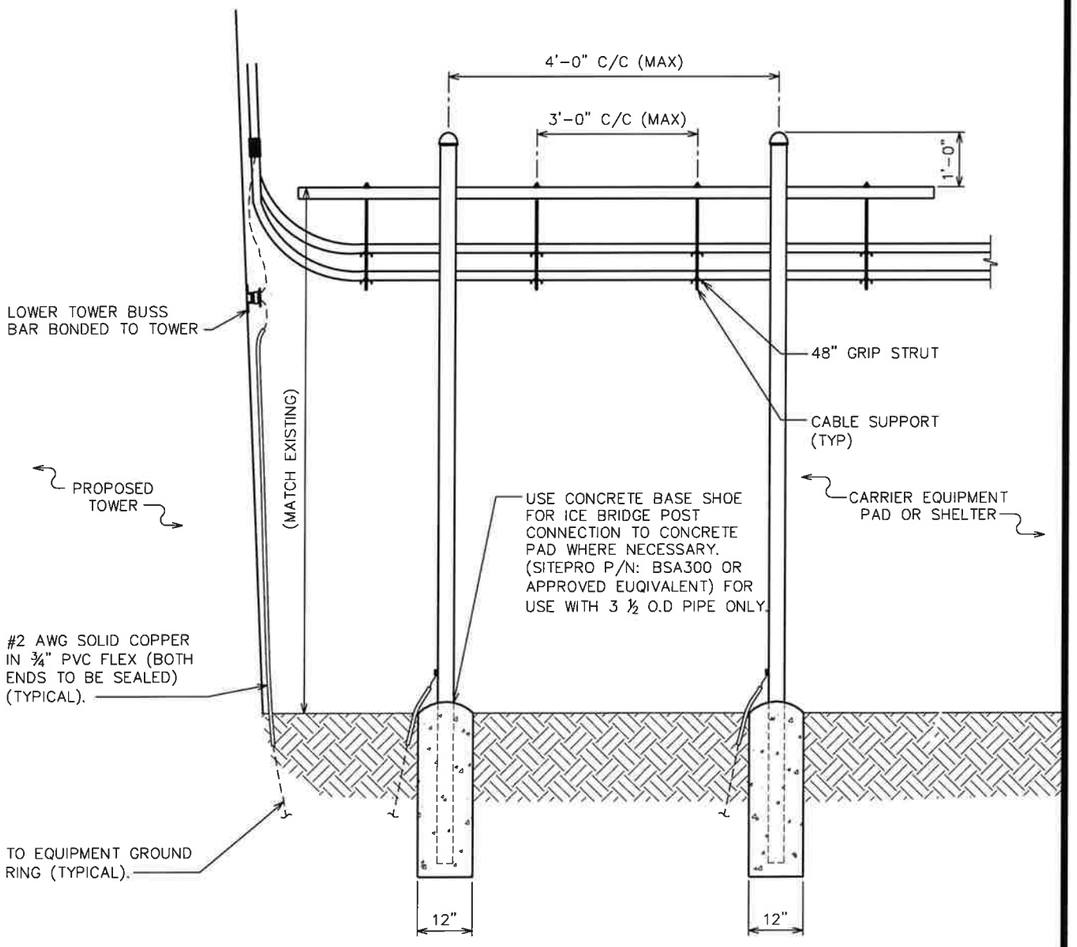
SHEET TITLE:

TOWER ELEVATION

SHEET NUMBER: **C-3**

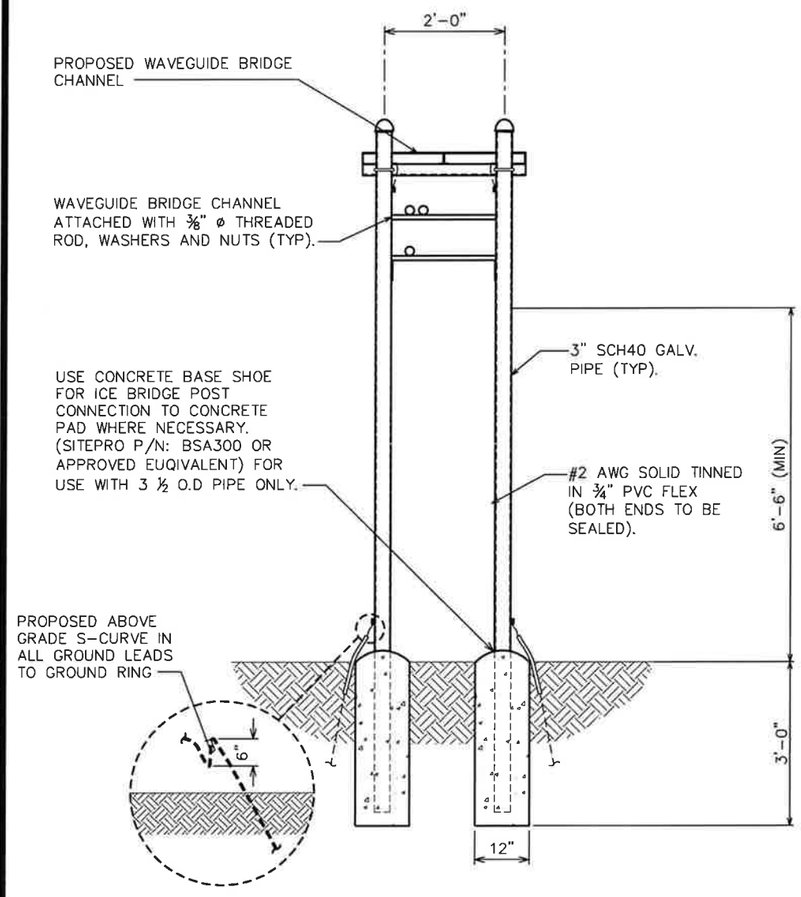
REVISION: **5**

TEP #: 255888



ICE BRIDGE DETAIL (SIDE VIEW)

SCALE: N.T.S



ICE BRIDGE DETAIL (FRONT VIEW)

SCALE: N.T.S

APPLICANT/LESSEE:

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487-1307
OFFICE: (561) 226-9457

PROJECT INFORMATION:

SITE NAME: SOUTH LEDYARD
SITE ID: CT46142A

130 WELLES ROAD
GROTON, CT 06340
(NEW LONDON COUNTY)

PLANS PREPARED BY:

TOWER ENGINEERING PROFESSIONALS
326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net

SEAL:

STATE OF CONNECTICUT
SCOTT C. BRANT
25576
LICENSED PROFESSIONAL ENGINEER

May 26, 2022

REV	DATE	ISSUED FOR:
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3	10-26-21	CONSTRUCTION
2	07-27-21	CONSTRUCTION

DRAWN BY: THD | CHECKED BY: ANG

SHEET TITLE:

ICE BRIDGE DETAILS

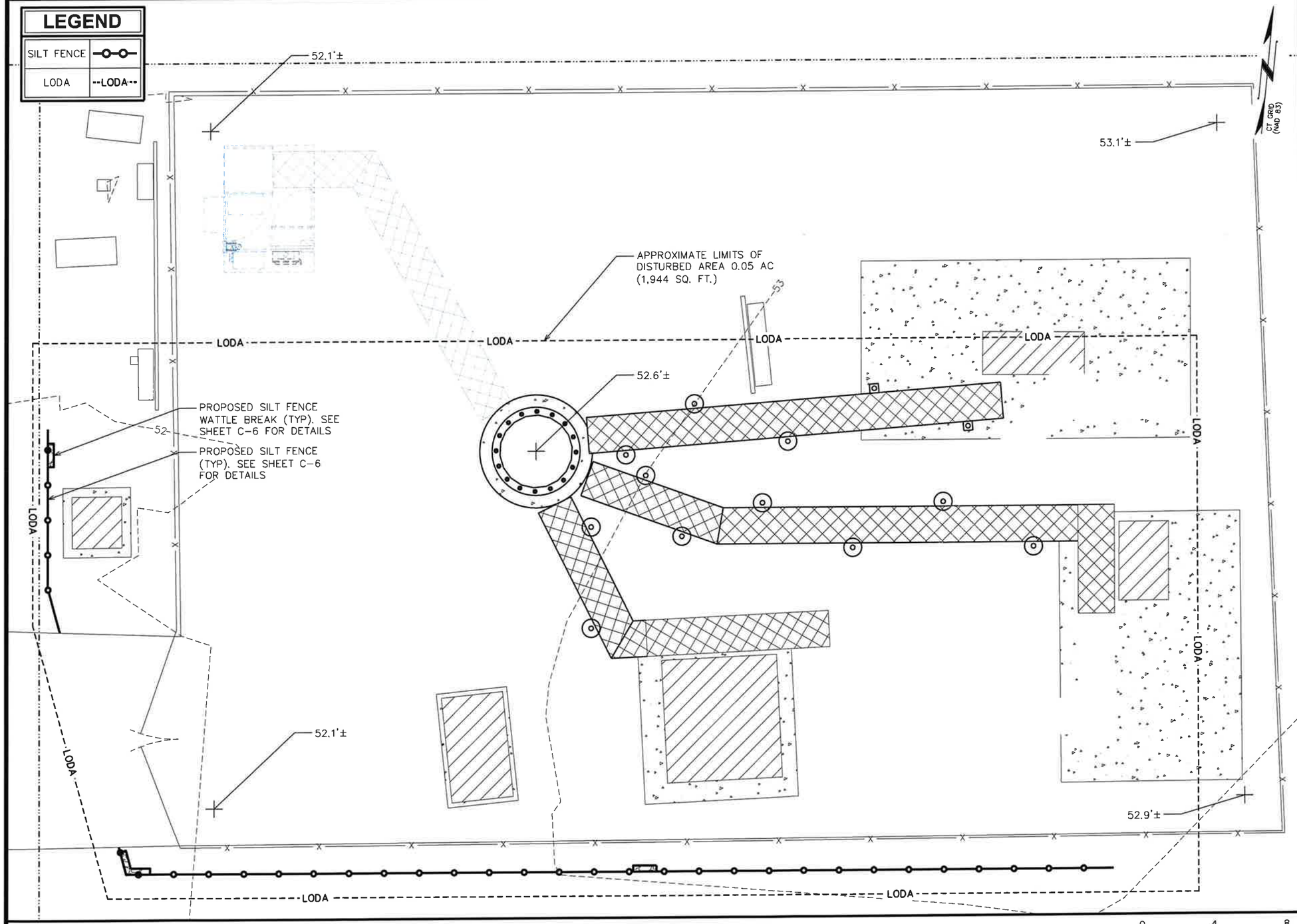
SHEET NUMBER: **C-4**

REVISION: **5**

TEP #: 255888

LEGEND

SILT FENCE	-o-o-
LODA	--LODA--



COMPOUND DETAIL

SCALE: 3/16" = 1'-0"

0 4 8

SCALE IN FEET

APPLICANT/LESSEE:

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487-1307
OFFICE: (561) 226-9457

PROJECT INFORMATION:

SITE NAME: SOUTH LEDYARD
SITE ID: CT46142A

130 WELLES ROAD
GROTON, CT 06340
(NEW LONDON COUNTY)

PLANS PREPARED BY:

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326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net

SEAL:

STATE OF CONNECTICUT
SCOTT C. BRANTLEY
35536
LICENSED PROFESSIONAL ENGINEER

May 26, 2022

REV	DATE	ISSUED FOR:
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4	10-26-21	CONSTRUCTION
3	10-26-21	CONSTRUCTION
2	07-27-21	CONSTRUCTION

DRAWN BY: THD | CHECKED BY: ANG

SHEET TITLE:

SOIL AND EROSION CONTROL PLAN

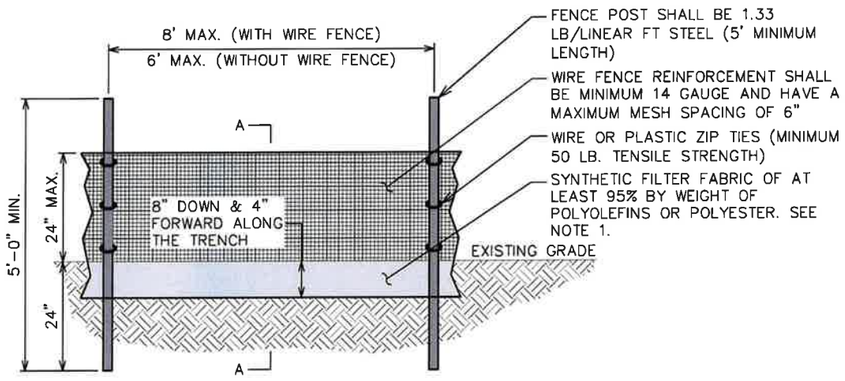
SHEET NUMBER: **C-5**

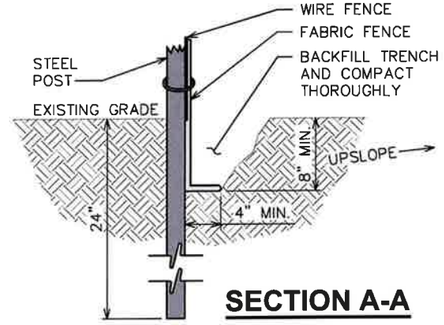
REVISION: **5**

TEP #: 255888

NOTES:

1. FILTER FABRIC SHALL CONFORM TO THE REQUIREMENTS LISTED IN ASTM D 6461.
2. ENDS OF INDIVIDUAL FILTER FABRIC SHALL BE SECURELY FASTENED AT A SUPPORT POST WITH 4 FEET MINIMUM OVERLAP TO THE NEXT POST.
3. PLACE 12 INCHES OF FABRIC ALONG THE BOTTOM AND SIDE OF THE TRENCH.
4. INSPECT SEDIMENT FENCE(S) AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL.
5. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE.
6. AFTER CONSTRUCTION IS COMPLETE, THE CONTRACTOR SHALL REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS, BRING THE AREA TO GRADE AND PROPERLY STABILIZE THE SITE.



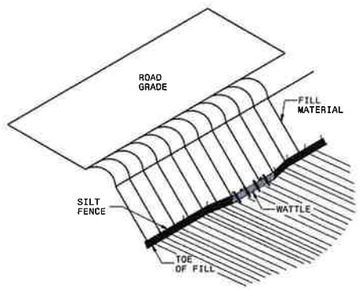


SECTION A-A

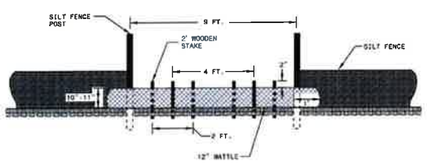
SLOPE SILT FENCE

SCALE: N.T.S.

SILT FENCE WATTLE BREAK DETAIL



ISOMETRIC VIEW



VIEW FROM SLOPE

NOTES:

USE MINIMUM 12 IN. DIAMETER EXCELSIOR WATTLE AND LENGTH OF 10 FT.

EXCAVATE A 1 TO 2 INCH TRENCH FOR WATTLE TO BE PLACED.

DO NOT PLACE WATTLE ON TOE OF SLOPE.

USE 2 FT. WOODEN STAKES WITH A 2 IN. BY 2 IN. NOMINAL CROSS SECTION.

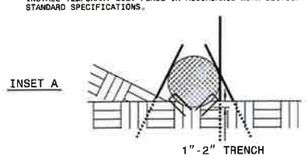
INSTALL A MINIMUM OF 2 UPSLOPE STAKES AND 4 DOWNSLOPE STAKES AT AN ANGLE TO WEDGE WATTLE TO GROUND.

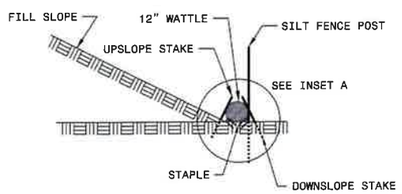
PROVIDE STAPLES MADE OF 0.125 IN. DIAMETER STEEL WIRE FORMED INTO A U SHAPE NOT LESS THAN 12" IN LENGTH.

INSTALL STAPLES APPROXIMATELY EVERY 1 LINEAR FOOT ON BOTH SIDES OF WATTLE AND AT EACH END TO SECURE IT TO THE SOIL.

WATTLE INSTALLATION CAN BE ON OUTSIDE OF THE SILT FENCE AS DIRECTED.

INSTALL TEMPORARY SILT FENCE IN ACCORDANCE WITH SECTION 1605 OF THE STANDARD SPECIFICATIONS.





SIDE VIEW

SILT FENCE OUTLET DETAIL

SCALE: N.T.S.

APPLICANT/LESSEE:

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487-1307
OFFICE: (561) 226-9457

PROJECT INFORMATION:

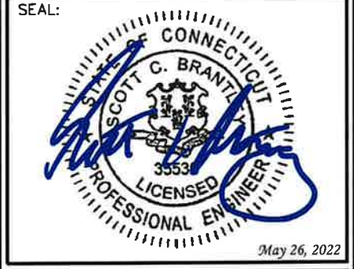
SITE NAME: SOUTH LEDYARD
SITE ID: CT46142A

130 WELLES ROAD
GROTON, CT 06340
(NEW LONDON COUNTY)

PLANS PREPARED BY:

TOWER ENGINEERING PROFESSIONALS
326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net

SEAL:



May 26, 2022

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2	07-27-21	CONSTRUCTION

DRAWN BY: THD | CHECKED BY: ANG

SHEET TITLE:

SILT FENCE DETAILS

SHEET NUMBER: **C-6**

REVISION: **5**

TEP #: 255888

SCOPE:

1. PROVIDE LABOR, MATERIALS, INSPECTION, AND TESTING TO PROVIDE CODE COMPLIANCE FOR ELECTRIC, TELEPHONE, AND GROUNDING/LIGHTNING SYSTEMS.

CODES:

1. THE INSTALLATION SHALL COMPLY WITH APPLICABLE LAWS AND CODES. THESE INCLUDE BUT ARE NOT LIMITED TO THE LATEST ADOPTED EDITIONS OF:
   A. THE NATIONAL ELECTRICAL SAFETY CODE
   B. THE NATIONAL ELECTRIC CODE – NFPA–70
   C. REGULATIONS OF THE SERVING UTILITY COMPANY
   D. LOCAL AND STATE AMENDMENTS
   E. THE INTERNATIONAL ELECTRIC CODE – IEC (WHERE APPLICABLE)
2. PERMITS REQUIRED SHALL BE OBTAINED BY THE CONTRACTOR.
3. AFTER COMPLETION AND FINAL INSPECTION OF THE WORK, THE OWNER SHALL BE FURNISHED A CERTIFICATE OF COMPLETION AND APPROVAL.

TESTING:

1. UPON COMPLETION OF THE INSTALLATION, OPERATE AND ADJUST THE EQUIPMENT AND SYSTEMS TO MEET SPECIFIED PERFORMANCE REQUIREMENTS. THE TESTING SHALL BE DONE BY QUALIFIED PERSONNEL.

GUARANTEE:

1. IN ADDITION TO THE GUARANTEE OF THE EQUIPMENT BY THE MANUFACTURER, EACH PIECE OF EQUIPMENT SPECIFIED HEREIN SHALL ALSO BE GUARANTEED FOR DEFECTS OF MATERIAL OR WORKMANSHIP OCCURRING DURING A PERIOD OF ONE (1) YEAR FROM FINAL ACCEPTANCE OF THE WORK BY THE OWNER AND WITHOUT EXPENSE TO THE OWNER.
2. THE WARRANTEE CERTIFICATES & GUARANTEES FURNISHED BY THE MANUFACTURERS SHALL BE TURNED OVER TO THE OWNER.

UTILITY CO-ORDINATION:

1. CONTRACTOR SHALL COORDINATE WORK WITH THE POWER AND TELEPHONE COMPANIES AND SHALL COMPLY WITH THE SERVICE REQUIREMENTS OF EACH UTILITY COMPANY.

EXAMINATION OF SITE:

1. PRIOR TO BEGINNING WORK, THE CONTRACTOR SHALL VISIT THE SITE OF THE JOB AND SHALL FAMILIARIZE HIMSELF WITH THE CONDITIONS AFFECTING THE PROPOSED ELECTRICAL INSTALLATION AND SHALL MAKE PROVISIONS AS TO THE COST THEREOF. FAILURE TO COMPLY WITH THE INTENT OF THIS SECTION WILL IN NO WAY RELIEVE THE CONTRACTOR OF PERFORMING THE WORK NECESSARY FOR A COMPLETE AND WORKING SYSTEM OR SYSTEMS.

CUTTING, PATCHING AND EXCAVATION:

1. COORDINATION OF SLEEVES, CHASES, ETC., BETWEEN SUBCONTRACTORS WILL BE REQUIRED PRIOR TO THE CONSTRUCTION OF ANY PORTION OF THE WORK. CUTTING AND PATCHING OF WALLS, PARTITIONS, FLOORS, AND CHASES IN CONCRETE, WOOD, STEEL OR MASONRY SHALL BE DONE AS PROVIDED ON THE DRAWINGS.
2. NECESSARY EXCAVATIONS AND BACKFILLING INCIDENTAL TO THE ELECTRICAL WORK SHALL BE PROVIDED BY THE ELECTRICAL CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWING.
3. SEAL PENETRATIONS THROUGH RATED WALLS, FLOORS, ETC., WITH APPROVED METHOD AS LISTED BY UL.

RACEWAYS / CONDUITS GENERAL:

1. CONDUCTORS SHALL BE INSTALLED IN LISTED RACEWAYS. CONDUIT SHALL BE RIGID STEEL, EMT, SCH40 PVC, OR SCH80PVC AS INDICATED ON THE DRAWINGS. THE RACEWAY SYSTEM SHALL BE COMPLETE COMPLETE BEFORE INSTALLING CONDUCTORS.
2. EXTERIOR RACEWAYS AND GROUNDING SLEEVES SHALL BE SEALED AT POINTS OF ENTRANCE AND EXIT. THE RACEWAY SYSTEM SHALL BE BONDED PER NEC.

EXTERIOR CONDUIT:

1. EXPOSED CONDUIT SHALL BE NEATLY INSTALLED AND RUN PARALLEL OR PERPENDICULAR TO STRUCTURAL ELEMENTS. SUPPORTS AND MOUNTING HARDWARE SHALL BE HOT DIPPED GALVANIZED STEEL.
2. THE CONDUIT SHALL BE RIGID STEEL AT GRADE TRANSITIONS OR WHERE EXPOSED TO DAMAGE.
3. UNDERGROUND CONDUITS SHALL BE RIGID STEEL, SCH40 PVC, OR SCH80 PVC AS INDICATED ON THE DRAWINGS.
4. BURIAL DEPTH OF CONDUITS SHALL BE AS REQUIRED BY CODE FOR EACH SPECIFIC CONDUIT TYPE AND APPLICATION, BUT SHALL NOT BE LESS THAN THE FROST DEPTH AT THE SITE.
5. CONDUIT ROUTES ARE SCHEMATIC. CONTRACTOR SHALL FIELD VERIFY ROUTES BEFORE BID. COORDINATE ROUTE WITH WIRELESS CARRIER AND/OR BUILDING OWNER.

INTERIOR CONDUIT:

1. CONCEALED CONDUIT IN WALLS OR INTERIOR SPACES ABOVE GRADE MAY BE EMT OR PVC.
2. CONDUIT RUNS SHALL USE APPROVED COUPLINGS AND CONNECTORS. PROVIDE INSULATED BUSHING FOR ALL CONDUIT TERMINATIONS. CONDUIT RUNS IN A WET LOCATION SHALL HAVE WATERPROOF FITTINGS.
3. PROVIDE SUPPORTS FOR CONDUITS IN ACCORDANCE WITH NEC REQUIREMENTS. CONDUITS SHALL BE SIZED AS REQUIRED BY NEC.

EQUIPMENT:

1. DISCONNECT SWITCHES SHALL BE SERVICE ENTRANCE RATED, HEAVY DUTY TYPE.
2. CONTRACTOR SHALL VERIFY MAXIMUM AVAILABLE FAULT CURRENT AND COORDINATE INSTALLATION WITH T WORK. CONTRACTOR WILL VERIFY THAT EXISTING CIRCUIT BREAKERS ARE RATED FOR MORE THAN AVAILABL NECESSARY.
3. NEW CIRCUIT BREAKERS SHALL BE RATED TO WITHSTAND THE MAXIMUM AVAILABLE FAULT CURRENT AS DETE

CONDUCTORS:

1. FURNISH AND INSTALL CONDUCTORS SPECIFIED IN THE DRAWINGS. CONDUCTORS SHALL BE COPPER AND SHALL HAVE TYPE THWN (MIN) (75° C) INSULATION, RATED FOR 600 VOLTS.
2. THE USE OF ALUMINUM CONDUCTORS SHALL BE LIMITED TO THE SERVICE FEEDERS INSTALLED BY THE UTILITY.
3. CONDUCTORS SHALL BE PROVIDED AND INSTALLED AS FOLLOWS:
   A. MINIMUM WIRE SIZE SHALL BE #12 AWG.
   B. CONDUCTORS SIZE #8 AND LARGER SHALL BE STRANDED. CONDUCTORS SIZED #10 AND #12 MAY BE SOLID OR STRANDED.
   C. CONNECTION FOR #10 AWG #12 AWG SHALL BE BY TWISTING TIGHT AND INSTALLING INSULATED PRESSURE OR WIRE NUT CONNECTIONS.
   D. CONNECTION FOR #8 AWG AND LARGER SHALL BE BY USE OF STEEL CRIMP–ON SLEEVES WITH NYLON INSULATOR.
3. CONDUCTORS SHALL BE COLOR CODED IN ACCORDANCE WITH NEC STANDARDS.

UL COMPLIANCE:

1. ELECTRICAL MATERIALS, DEVICES, CONDUCTORS, APPLIANCES, AND EQUIPMENT SHALL BE LABELED/LISTED BY UL OR ACCEPTED BY JURISDICTION (I.E., LOCAL COUNTY OR STATE) APPROVED THIRD PARTY TESTING AGENCY.

GROUNDING:

1. ELECTRICAL NEUTRALS, RACEWAYS AND NON–CURRENT CARRYING PARTS OF ELECTRICAL EQUIPMENT AND ASSOCIATED ENCLOSURES SHALL BE GROUNDED IN ACCORDANCE WITH NEC ARTICLE 250. THIS SHALL INCLUDE NEUTRAL CONDUCTORS, CONDUITS, SUPPORTS, CABINETS, BOXES, GROUND BUSSES, ETC. THE NEUTRAL CONDUCTOR FOR EACH SYSTEM SHALL BE GROUNDED AT A SINGLE POINT.
2. PROVIDE GROUND CONDUCTOR IN RACEWAYS PER NEC.
3. PROVIDE BONDING AND GROUND TO MEET NFPA 780 – "LIGHTNING PROTECTION" AS A MINIMUM.
4. PROVIDE GROUNDING SYSTEM AS INDICATED ON THE DRAWINGS, AS REQUIRED BY THE NATIONAL ELECTRIC CODE, RADIO EQUIPMENT MANUFACTURERS, AND MOTOROLA R56 (AS APPLICABLE).

ABBREVIATIONS AND LEGEND

A	–	AMPERE
AFG	–	ABOVE FINISHED GRADE
ATS	–	AUTOMATIC TRANSFER SWITCH
AWG	–	AMERICAN WIRE GAUGE
BCW	–	BARE COPPER WIRE
BFG	–	BELOW FINISHED GRADE
BKR	–	BREAKER
C	–	CONDUIT
CKT	–	CIRCUIT
DISC	–	DISCONNECT
EGR	–	EXTERNAL GROUND RING
EMT	–	ELECTRIC METALLIC TUBING
FSC	–	FLEXIBLE STEEL CONDUIT
GEN	–	GENERATOR
GPS	–	GLOBAL POSITIONING SYSTEM
GRD	–	GROUND
IGB	–	ISOLATED GROUND BAR
IGR	–	INTERIOR GROUND RING (HALO)
KW	–	KILOWATTS
NEC	–	NATIONAL ELECTRIC CODE
PCS	–	PERSONAL COMMUNICATION SYSTEM
PH	–	PHASE
PNL	–	PANEL
PNLBD	–	PANELBOARD
PVC	–	RIGID NON–METALLIC CONDUIT
RGS	–	RIGID GALVANIZED STEEL CONDUIT
SW	–	SWITCH
TGB	–	TOWER GROUND BAR
UL	–	UNDERWRITERS LABORATORIES
V	–	VOLTAGE
W	–	WATTS
XFMR	–	TRANSFORMER
XMTR	–	TRANSMITTER

——E——	UNDERGROUND ELECTRICAL CONDUIT
——T——	UNDERGROUND TELEPHONE CONDUIT
	KILOWATT–HOUR METER
	UNDERGROUND BONDING AND GROUNDING CONDUCTOR.
⌀	GROUND ROD
●	CADWELD
⊠	GROUND ROD WITH INSPECTION WELL

APPLICANT/LESSEE:

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487–1307
OFFICE: (561) 226–9457

PROJECT INFORMATION:

SITE NAME: SOUTH LEDYARD
SITE ID: CT46142A

130 WELLES ROAD
GROTON, CT 06340
(NEW LONDON COUNTY)

PLANS PREPARED BY:

TOWER ENGINEERING PROFESSIONALS
326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
www.tepgroup.net

SEAL:

STATE OF CONNECTICUT · SCOTT C. BRANT · 35536 · LICENSED PROFESSIONAL ENGINEER

May 26, 2022

REV	DATE	ISSUED FOR:
5	05-26-22	CONSTRUCTION
4	10-26-21	CONSTRUCTION
3	10-26-21	CONSTRUCTION
2	07-27-21	CONSTRUCTION

DRAWN BY: THD | CHECKED BY: ANG

SHEET TITLE:

ELECTRICAL NOTES

SHEET NUMBER: **E-1**

REVISION: 5

TEP #: 255888

ELECTRICAL LEGEND:

ABBREVIATIONS:

A	–	AMPERE
AFG	–	ABOVE FINISHED GRADE
ATS	–	AUTOMATIC TRANSFER SWITCH
AWG	–	AMERICAN WIRE GAUGE
BCW	–	BARE COPPER WIRE
BFG	–	BELOW FINISHED GRADE
BKR	–	BREAKER
BTS	–	BASE TRANSCEIVER STATION
C	–	CONDUIT
C/W	–	COMPLETE WITH
CKT	–	CIRCUIT
DISC	–	DISCONNECT
EC	–	EMPTY CONDUIT
EGR	–	EXTERNAL GROUND RING
EMT	–	ELECTRIC METALLIC TUBING
F/A	–	FIRE ALARM
FSC	–	FLEXIBLE STEEL CONDUIT
GEN	–	GENERATOR
GPS	–	GLOBAL POSITIONING SYSTEM
GRD	–	GROUND
IGB	–	ISOLATED GROUND BAR
IGR	–	INTERIOR GROUND RING (HALO)
KW	–	KILOWATTS
MGB	–	MAIN GROUND BAR
CEC	–	CANADIAN ELECTRIC CODE
PCS	–	PERSONAL COMMUNICATION SYSTEM
PH	–	PHASE
PNL	–	PANEL
PNLBD	–	PANELBOARD
PVC	–	SCH40 RIGID NON-METALLIC CONDUIT
RBS	–	RADIO BASE STATION
REL	–	RELOCATED
RGS	–	RIGID GALVANIZED STEEL CONDUIT
S/C	–	SEPERATE CONDUIT
SES	–	SITE ENGINEERING SPECIFICATIONS
SW	–	SWITCH
TGB	–	TOWER GROUND BAR
U/F	–	UNFUSED
ULC	–	UNDERWRITERS LABORATORIES, CANADA
V	–	VOLTAGE
W	–	WATTS
WP	–	WEATHERPROOF
XFMR	–	TRANSFORMER
XMTR	–	TRANSMITTER

-----E-----	UNDERGROUND ELECTRICAL CONDUIT
-----T-----	UNDERGROUND TELEPHONE CONDUIT
	KILOWATT-HOUR METER
----------	UNDERGROUND BONDING AND GROUNDING CONDUCTOR
	CADWELD
	GROUND ROD WITH INSPECTION WELL
	EXISTING M/W DISH ANTENNA
	FUTURE M/W DISH ANTENNA
	EXISTING ROOF DRAIN
	EXISTING ROOF HATCH
$	15A 120V SPST SWITCH
	15A 120V DUPLEX RECEPTACLE
	120V. 1Ø DIRECT CONNECTION TO EQUIPMENT SUPPLIED BY OTHER DIVISIONS
	208V. 1Ø DIRECT CONNECTION TO EQUIPMENT SUPPLIED BY OTHER DIVISIONS
	CIRCUIT BREAKER
	DISCONNECT SWITCH. F DENOTES FUSED
	SURFACE MOUNTED PANELBOARD
T	TRANSFORMER
	CHECK METER
	DENOTES CABLE OR CONDUITTURNING UP IN PLAN VIEW
	CHANGE IN ELEVATION OF CABLE OR CONDUIT IN PLAN VIEW
	DENOTES CABLE OR CONDUITTURNING DOWN IN PLAN VIEW
	GROUND ROD
	LIGHTNING PROTECTION AIR TERMINAL
—EC—	ETHERNET CABLE
—F—	FIBRE CABLE
—DC—	DC CABLE

ELECTRICAL LEGEND

SCALE: N.T.S.

APPLICANT/LESSEE:

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487-1307
OFFICE: (561) 226-9457

PROJECT INFORMATION:

SITE NAME: SOUTH LEDYARD
SITE ID: CT46142A

130 WELLES ROAD
GROTON, CT 06340
(NEW LONDON COUNTY)

PLANS PREPARED BY:

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326 TRYON ROAD
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OFFICE: (919) 661-6351
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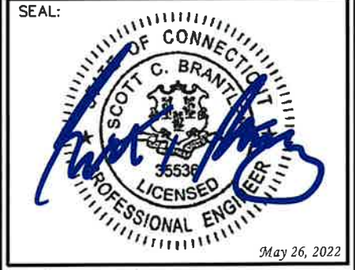
SEAL:



May 26, 2022

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DRAWN BY: THD | CHECKED BY: ANG

SHEET TITLE:

ELECTRICAL LEGEND

SHEET NUMBER: **E-2**

REVISION: 5

TEP #: 255888

GROUNDING NOTES:

1. GROUNDING ELECTRODES SHALL BE CONNECTED IN A RING USING #2 AWG BARE TINNED COPPER WIRE. THE TOP OF THE GROUND RODS AND THE RING CONDUCTOR SHALL BE 30" BELOW FINISHED GRADE. GROUNDING ELECTRODES SHALL BE DRIVEN ON 15'-0" CENTERS (MAX).
2. BONDING OF THE GROUNDED CONDUCTOR (NEUTRAL) AND THE GROUNDING CONDUCTOR SHALL BE AT THE SERVICE DISCONNECTING MEANS. BONDING JUMPER SHALL BE INSTALLED PER N.E.C. ARTICLE 250.30.
3. CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER WHEN THE GROUNDING SYSTEM IS COMPLETE. THE CONSTRUCTION MANAGER SHALL INSPECT THE GROUNDING SYSTEM PRIOR TO BACKFILLING.
4. CONTRACTOR SHALL VERIFY EXISTENCE AND LOCATION OF EXISTING SHELTER GROUND RINGS, FENCE GROUNDING AND GATEPOST GROUNDING.

DRAWING NOTES:

(1) PROPOSED TOWER GROUND RING

(2) PROPOSED GROUND ROD (TYP)

(3) PROPOSED GROUND ROD WITH INSPECTION WELL

(4) #2 GROUND LEAD FROM TOWER TO TOWER GROUND RING (TYP)

(5) PROPOSED CADWELD (TYP)

(6) PROPOSED TOWER GROUND BAR (TYP)

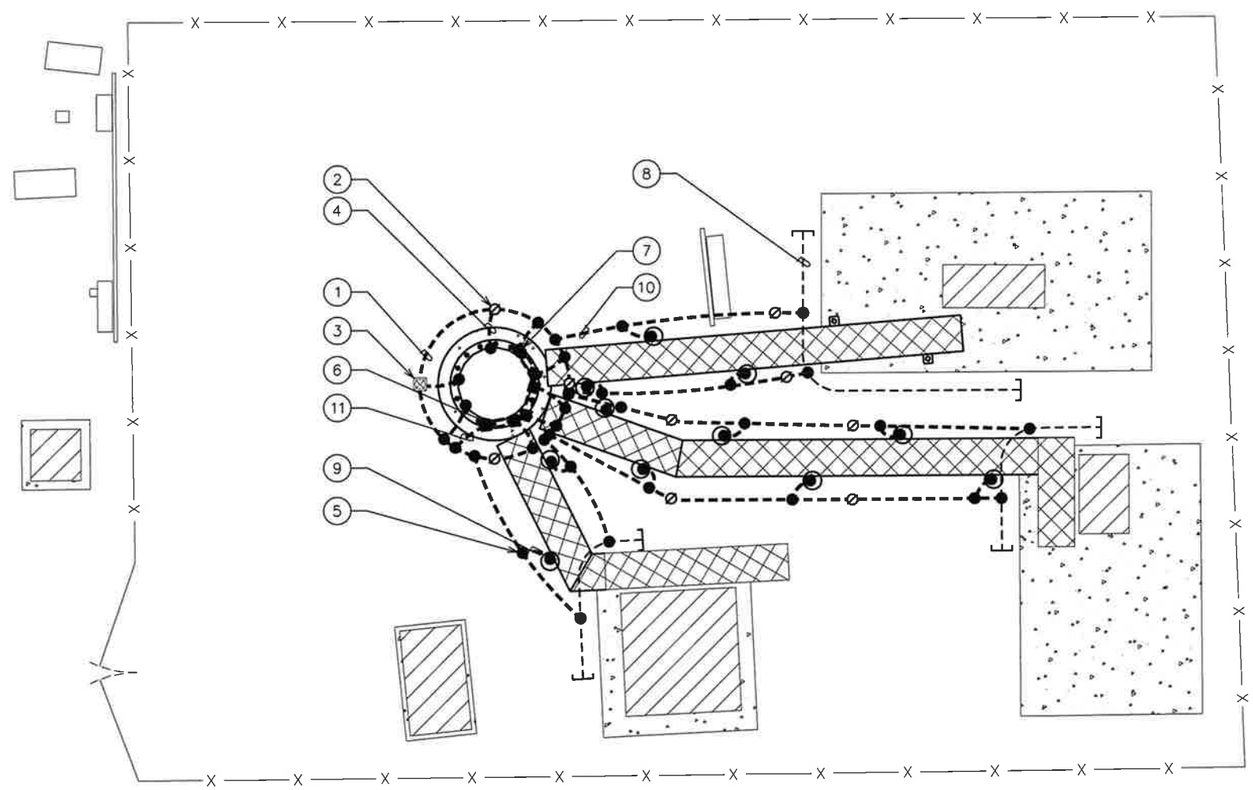
(7) PROPOSED 2-HOLE MECHANICAL LUG CONNECTION (TYP)

(8) EXISTING EQUIPMENT GROUND RING (TYP). CONTRACTOR TO VERIFY LOCATION AND EXISTENCE, AND REPLACE IF MISSING.

(9) #2 ICE BRIDGE POST GROUND LEAD (TYP)

(10) #2 GROUND LEAD FROM EXISTING GROUND RING TO PROPOSED GROUND RING (TYP OF 2)

(11) #2 GROUND LEAD FROM GROUND BAR TO TOWER GROUND RING (TYP)



GROUNDING PLAN

SCALE: 1/8" = 1'-0"

0 8 16

SCALE IN FEET

APPLICANT/LESSEE:

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487-1307
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SEAL:

STATE OF CONNECTICUT
SCOTT C. BRANTLY
3553
LICENSED
PROFESSIONAL ENGINEER

May 26, 2022

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DRAWN BY: THD | CHECKED BY: ANG

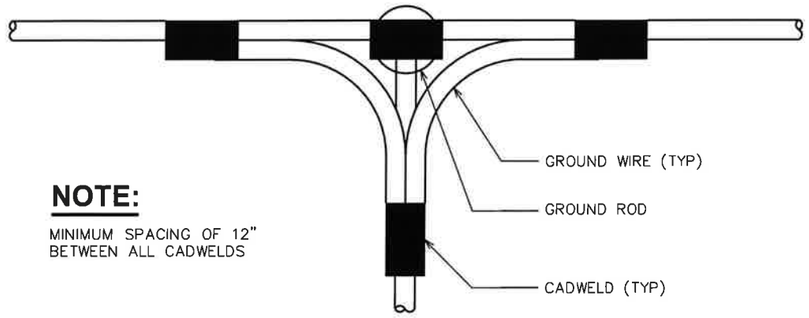
SHEET TITLE:

GROUNDING PLAN

SHEET NUMBER: **E-3**

REVISION: **5**

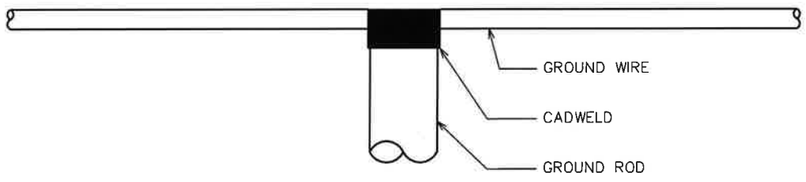
TEP #: 255888



NOTE:

MINIMUM SPACING OF 12" BETWEEN ALL CADWELDS

TOP VIEW



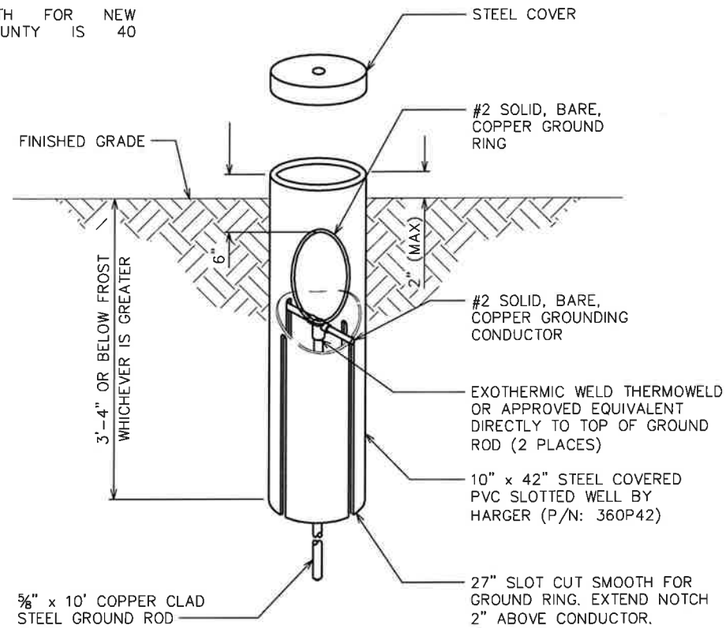
SIDE VIEW

CADWELD GROUNDING DETAIL

SCALE: N.T.S.

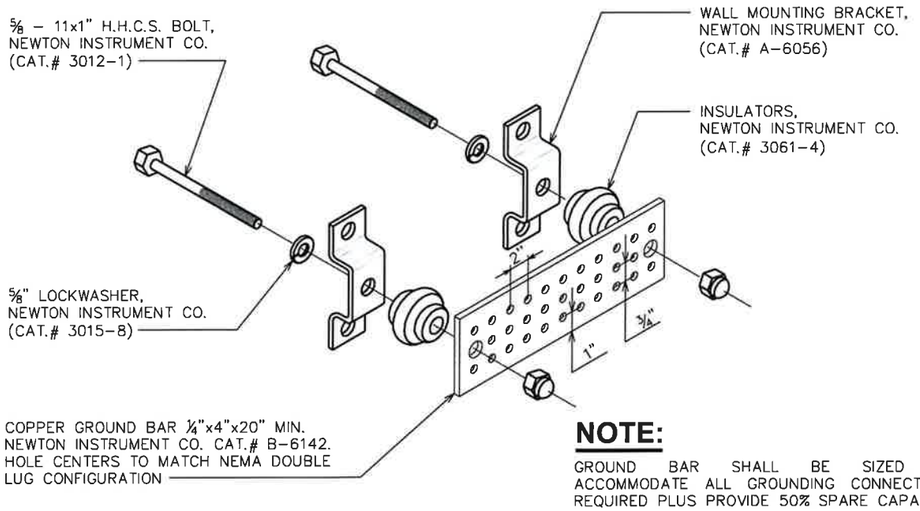
NOTE:

FROST DEPTH FOR NEW LONDON COUNTY IS 40 INCHES.



GROUND ROD WITH INSPECTION WELL DETAIL

SCALE: N.T.S.



NOTE:

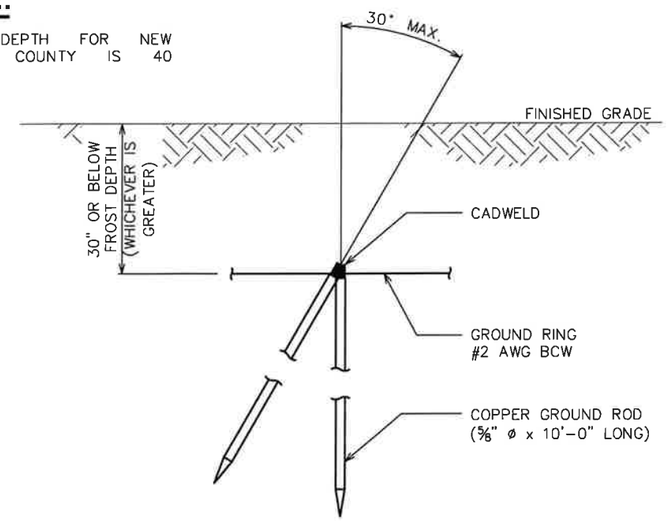
GROUND BAR SHALL BE SIZED TO ACCOMMODATE ALL GROUNDING CONNECTIONS REQUIRED PLUS PROVIDE 50% SPARE CAPACITY

STANDARD GROUND BAR DETAIL

SCALE: N.T.S.

NOTE:

FROST DEPTH FOR NEW LONDON COUNTY IS 40 INCHES.



COPPER-CLAD STEEL GROUND ROD DETAIL

SCALE: N.T.S.

APPLICANT/LESSEE:

SBA

8051 CONGRESS AVENUE
BOCA RATON, FL 33487-1307
OFFICE: (561) 226-9457

PROJECT INFORMATION:

SITE NAME: SOUTH LEDYARD
SITE ID: CT46142A

130 WELLES ROAD
GROTON, CT 06340
(NEW LONDON COUNTY)

PLANS PREPARED BY:

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RALEIGH, NC 27603-3530
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DRAWN BY: THD | CHECKED BY: ANG

SHEET TITLE:

GROUNDING DETAILS I

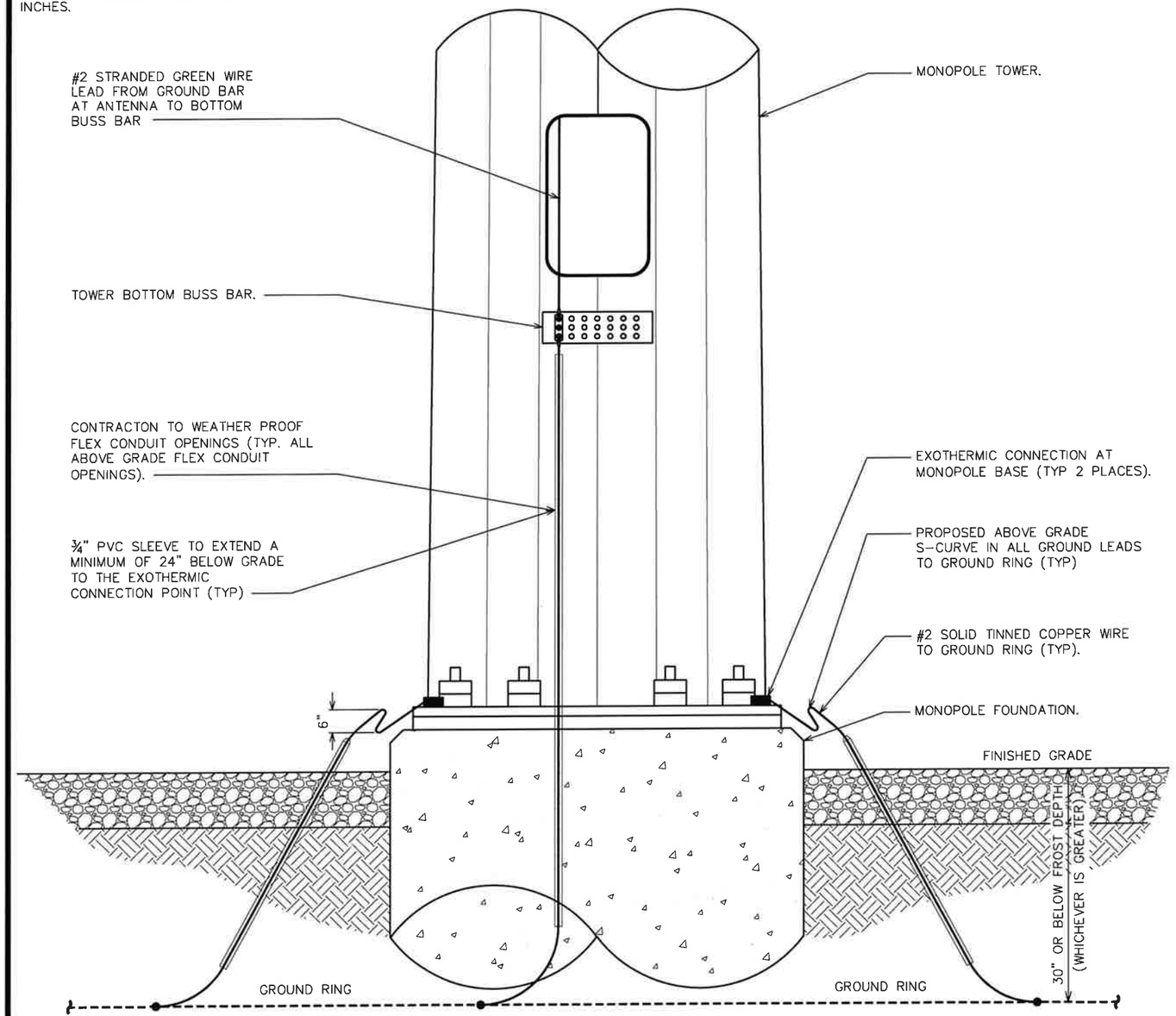
SHEET NUMBER: **E-4**

REVISION: 5

TEP #: 255888

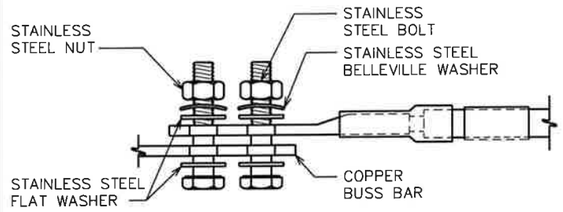
NOTE:

FROST DEPTH FOR NEW LONDON COUNTY IS 40 INCHES.



TOWER GROUNDING DETAIL

SCALE: N.T.S.



NOTES:

1. ALL HARDWARE SHALL BE 18-8 STAINLESS STEEL, INCLUDING THE BELLEVILLE WASHERS. COAT ALL SURFACES WITH KOPR-SHIELD BEFORE MATING.
2. FOR GROUND BOND TO STEEL ONLY: INSERT A DRAGON TOOTH WASHER BETWEEN THE LUG AND STEEL. COAT ALL SURFACES WITH KOPR-SHIELD.

LUG DETAILS

SCALE: N.T.S.

APPLICANT/LESSEE:

SBA

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BOCA RATON, FL 33487-1307
OFFICE: (561) 226-9457

PROJECT INFORMATION:

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SITE ID: CT46142A

130 WELLES ROAD
GROTON, CT 06340
(NEW LONDON COUNTY)

PLANS PREPARED BY:

TOWER ENGINEERING PROFESSIONALS
326 TRYON ROAD
RALEIGH, NC 27603-3530
OFFICE: (919) 661-6351
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SEAL:

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DRAWN BY: THD | CHECKED BY: ANG

SHEET TITLE:

GROUNDING DETAILS II

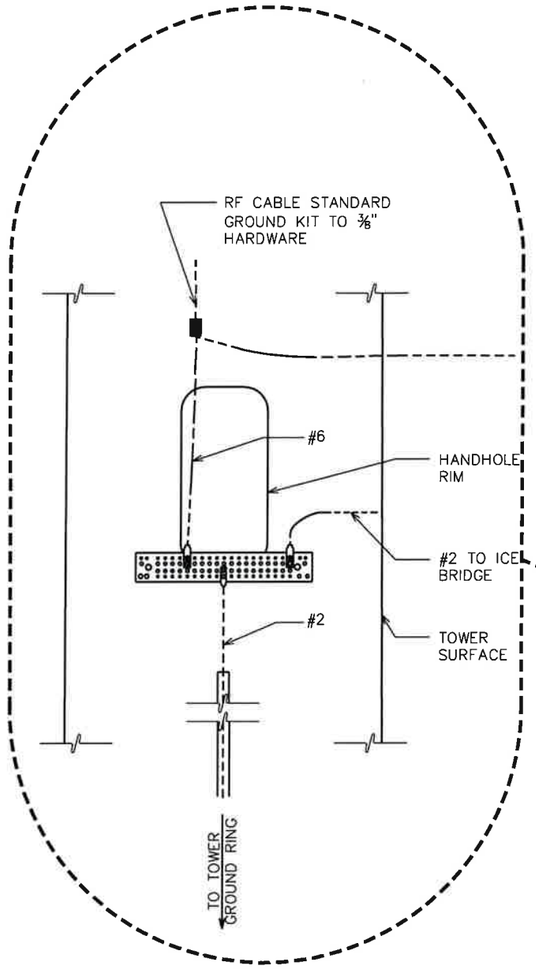
SHEET NUMBER: **E-5**

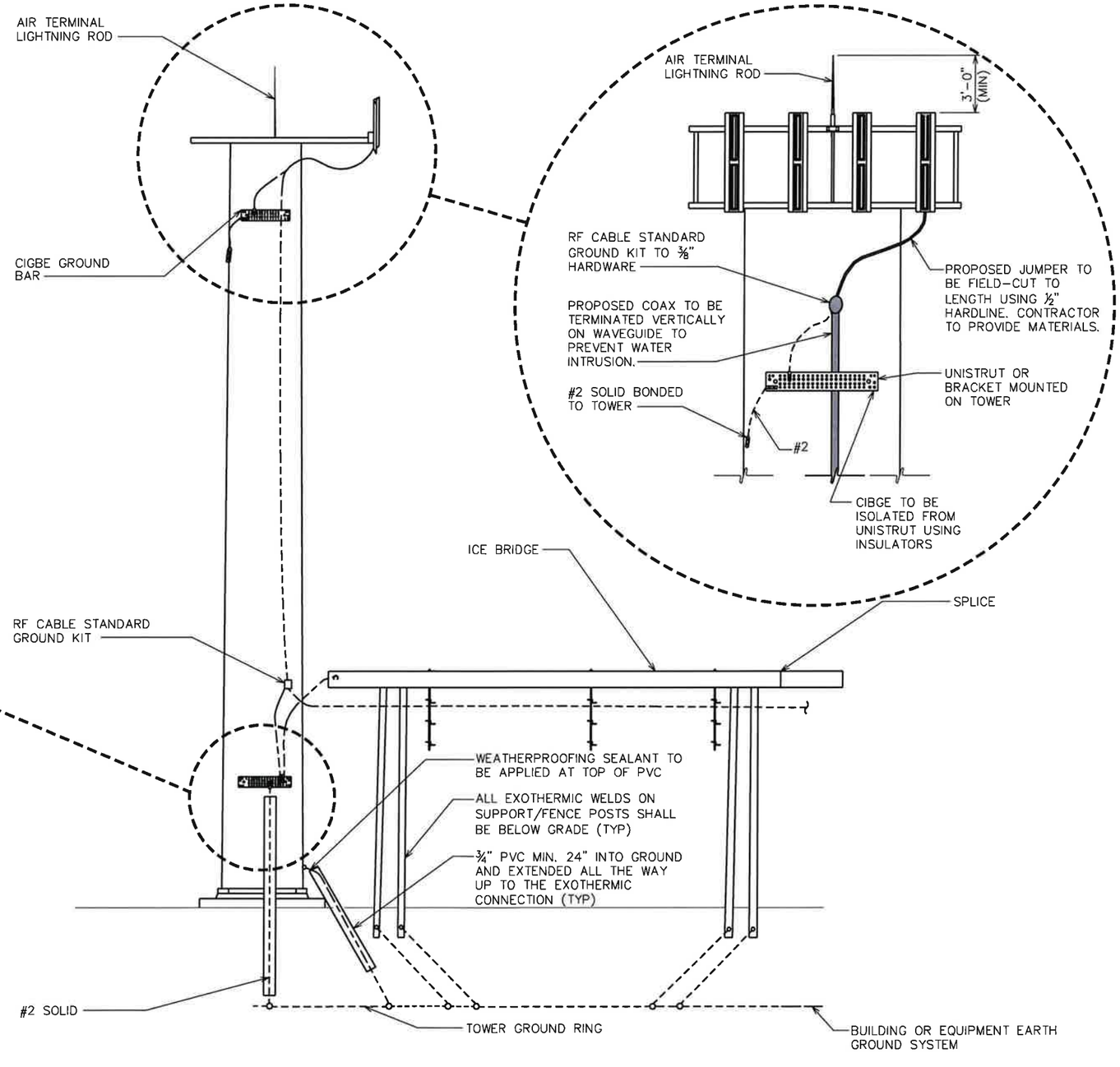
REVISION: **5**

TEP #: 255888

NOTES:

1. MINIMUM BEND RADIUS OF #2 SOLID CONDUCTOR IS 12".
2. ALL GROUND BARS SHALL BE INSTALLED WITH TAMPER RESISTANT MOUTING HARDWARE.





ICE BRIDGE, COAX, STANCHION, AND TOWER GROUNDING DETAIL

SCALE: N.T.S.

APPLICANT/LESSEE:

SBA

8051 CONGRESS AVENUE
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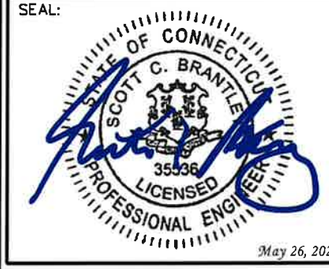
SEAL:



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DRAWN BY: THD | CHECKED BY: ANG

SHEET TITLE:

SBA GROUNDING DETAILS III

SHEET NUMBER: **E-6**

REVISION: 5

TEP #: 255888

NEW FOUNDATION DESIGN
DRAWINGS FOR A 180' SABRE MONOPOLE TOWER

SITE: CT46142-A-SBA / SOUTH LEDYARD - TOWN DUMP

COORDINATES (LATITUDE: 41.392666°, LONGITUDE: -71.969805°)

SHEET	SHEET TITLE	REV
T-1	TITLE SHEET	1
BOM	BILL OF MATERIALS	0
GN-1	GENERAL NOTES	0
FND-1	NEW DRILLED PIER FOUNDATION DETAILS	1
RBL-1	REBAR CHART	1
F-C	FOUNDATION COATING	0

TES
Tower Engineering Solutions
1320 GREENWAY DRIVE, SUITE 600
IRVING, TX 75038
PHONE: (972) 483-0607

SBA
5900 BROKEN SOUND PARKWAY, NW
BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
128650

CUSTOMER SITE NO:
CT46142-A-SBA
CUSTOMER SITE NAME:
SOUTH LEDYARD - TOWN DUMP
130 WELLES ROAD
GROTON, CT 06340

STATE OF CONNECTICUT
JARRYD TIBBETTS
No. 34170
LICENSED
PROFESSIONAL ENGINEER

DRAWN BY: LC | CHECKED BY: AD/SH

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	LC	05/10/22
1	REVISED	LC	05/31/22

SHEET TITLE:

TITLE SHEET

SHEET NUMBER: T-1 | REV #: 1

BILL OF MATERIALS

QUANTITY COUNTED	QUANTITY PROVIDED	PART NUMBER	DESCRIPTIONS	LENGTH	SHEET LIST (INSTALLATION)	SHEET LIST (FABRICATE)	PIECE WEIGHT (LBS)	WEIGHT (LB)	NOTES
			MATERIAL & HARDWARE						
			Following Items are Non-standard Parts						
---	---	---	SEE SHEET RBL-1 FOR ALL REBAR REQUIREMENTS	---	RBL-1	---	---	---	PROVIDED BY CONTRACTOR
3	3	---	LANCO/HENRY 287 WHITE ACRYLIC ELASTOMERIC COATING AND SEALER OR EQUIV (GALLON)	---	FC-1	---	---	---	PROVIDED BY CONTRACTOR
			ALL APLXXXX, LPXXXX AND RLPXXXX ARE PATENTED PRODUCTS AND CANNOT BE FABRICATED BY THIRD PARTIES. THESE PARTS ARE AVAILABLE FROM: **METROSITE, LLC.** **180 IND PARK BLVD COMMERCE, GA 30529** **OFFICE: (706) 335-7045** **FAX: (706) 335-7056**						
			NOTE: ALL MATERIALS, WHICH WEREN'T LISTED IN THIS SHEET, ARE ASSUMED TO BE PROVIDED BY THE CONTRACTOR.						
						TOTAL WEIGHT (LBS) =		**0.0**	

Tower Engineering Solutions
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IRVING, TX 75038
PHONE: (972) 483-0607

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BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO:
128650

CUSTOMER SITE NO:
CT46142-A-SBA
CUSTOMER SITE NAME:
SOUTH LEDYARD - TOWN DUMP
130 WELLES ROAD
GROTON, CT 06340

DRAWN BY: LC | CHECKED BY: AD/SH

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	LC	05/10/22

SHEET TITLE:
BILL OF MATERIALS

SHEET NUMBER: BOM
REV #: 0

GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH THE ANSI/TIA-222-G, ANSI/ASSP A10.48, 2018 CONNECTICUT STATE BUILDING CODE, AND ANY OTHER GOVERNING BUILDING CODES AND OSHA SAFETY REGULATIONS.
2. ALL WORK INDICATED ON THE DRAWINGS SHALL BE PERFORMED BY QUALIFIED CONTRACTORS EXPERIENCED IN TELECOMMUNICATIONS TOWER, POLE AND FOUNDATION CONSTRUCTION.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND FABRICATION OF ALL MISCELLANEOUS PARTS (SUCH AS SHIMS), TEMPORARY SUPPORTS, AND GUYINGS, ETC., PER ANSI/ASSP A10.48, TO COMPLETE THE ASSEMBLY AS SHOWN IN THE DRAWINGS.
4. CONTRACTOR SHALL PROCEED WITH THE INSTALLATION WORK CAREFULLY SO THE WORK WILL NOT DAMAGE ANY EXISTING CABLE, EQUIPMENT OR THE STRUCTURE.
5. THE USE OF GAS TORCH OR WELDER, ARE NOT ALLOWED ON ANY TOWER STRUCTURE WITHOUT THE CONSENT OF THE TOWER OWNER.
6. GENERALLY THE CONTRACTOR IS RESPONSIBLE TO CONDUCT AN ONSITE VISIT SURVEY OF THE JOB SITE AFTER AWARD, AND REPORT ANY ISSUES WITH THE SITE TO **TES** BEFORE PROCEEDING CONSTRUCTION.

FABRICATION

1. ALL STEEL SHALL MEET OR EXCEED THE MINIMUM STRENGTH AS SPECIFIED IN THE DRAWINGS. IF YIELD STRENGTH WAS NOT NOTED IN THE DRAWINGS, CONTRACTORS SHALL CONTACT TES FOR DIRECTION.
2. ALL FIELD CUT EDGES SHALL BE GROUND SMOOTH. ALL FIELD CUT AND DRILLED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

WELDING

1. ALL WELDING SHALL BE PERFORMED BY AWS CERTIFIED WELDERS AND IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNO. (E70XX UNLESS NOTED OTHERWISE).
2. PRIOR TO FIELD WELDING GALVANIZED MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING APPROX. 0.5" BEYOND THE PROPOSED FIELD WELD SURFACES.
3. ALL WELDS SHALL BE INSPECTED VISUALLY. A MINIMUM OF 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. 100% OF WELDS SHALL BE INSPECTED IF DEFECTS ARE FOUND.
4. WELD INSPECTIONS SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
5. AFTER INSPECTION, ALL FIELD WELDED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

BOLTED ASSEMBLIES AND TIGHTENING OF CONNECTIONS

1. ALL HIGH STRENGTH BOLTS SHALL CONFORM TO THE PROVISIONS OF THE SPECIFICATIONS FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS AS APPROVED BY THE RCSC.
2. FLANGE BOLTS SHALL BE TIGHTENED BY THE AISC "TURN-OF-THE-NUT" METHOD. THE FOLLOWING TABLE SHOULD BE USED FOR THE "TURN-OF-THE-NUT" TIGHTENING.
3. SPLICE BOLTS AND ALL OTHER BOLTS IN BEARING TYPE CONNECTIONS SHALL BE TIGHTENED TO A SNUG-TIGHT CONDITION.
4. THE SNUG-TIGHT CONDITION IS DEFINED AS THE TIGHTNESS ATTAINED BY EITHER A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF AN IRONWORKER WITH AN ORDINARY SPUD WRENCH TO BRING THE CONNECTED PLIES INTO FIRM CONTACT.
5. HB HOLLO-BOLT SHALL BE INSTALLED PER ICC ESR-3330 INSTRUCTIONS.

VERIFICATION AND INSPECTION

1. IF APPLICABLE, VERIFICATION INSPECTION TO BE PERFORMED SHALL BE IN ACCORDANCE TO IBC-2015 SECTION 1705 - FOR STEEL CONSTRUCTION & TABLE 1705.3 FOR CONCRETE CONSTRUCTION.

POST INSTALLED EPOXY INJECTED ANCHOR BOLTS:

1. CONCRETE MUST BE A MINIMUM OF 28 DAYS OLD.
2. FOLLOW MANUFACTURER'S REQUIREMENTS FOR CURE TIME VS. AMBIENT TEMPERATURE.
3. DRILL HOLE TO REQUIRED DIAMETER AND DEPTH. ALL WATER, DIRT, OIL, DEBRIS, GREASE OR DUST MUST BE REMOVED FROM EACH CORE HOLE. FOLLOW MANUFACTURER'S RECOMMENDATION FOR CORRECT TYPE OF CORE BIT. AVOID DAMAGING EXISTING REINFORCING STEEL OR OTHER EMBEDDED ITEMS. NOTIFY TES ENGINEERING IF VOIDS IN THE CONCRETE, REINFORCING STEEL OR OTHER EMBEDDED ITEMS ARE ENCOUNTERED. STOP CORING IMMEDIATELY IF THIS OCCURS.
4. A HOLE ROUGHENING DEVICE FROM EITHER HILTI OR ALLFASTENERS SHALL BE USED WITH ALL HOLES. FOLLOW ALL MANUFACTURER'S RECOMMENDED CORING AND INSTALLATION INSTRUCTIONS.
5. AFTER CORING AND ROUGHENING, FLUSH EACH HOLE WITH RUNNING WATER TO REMOVE ANY SLURRY OR DEBRIS. REMOVE ALL WATER FROM THE HOLE BY MECHANICAL PUMPING.
6. BRUSH EACH HOLE WITH AN APPROPRIATE SIZED NYLON BRUSH AND FLUSH WITH RUNNING WATER A SECOND TIME. REMOVE ALL WATER FROM THE HOLE.
7. AFTER THE SECOND WATER FLUSH BRUSH THE HOLE AGAIN WITH THE APPROPRIATE SIZED NYLON BRUSH.
8. BLOW EACH HOLE WITH COMPRESSED AIR TWO TIMES MINIMUM.
9. CONFIRM THAT EACH HOLE IS PROPERLY ROUGHED AND DRY.
10. NO EPOXY INJECTION SHALL TAKE PLACE IN RAINY CONDITIONS.
11. EPOXY SHOULD BE VISIBLE AT THE TOP OF THE CORE HOLE AFTER INSTALLATION.
12. CONTRACTOR TO SUPPLY ONE PHOTO OF EACH ROUGHED AND CLEANED HOLE IN CLOSEOUT PHOTO PACKAGE.

STATEMENT OF SPECIAL INSPECTION:

1705.8 CAST-IN-PLACE DEEP FOUNDATIONS:
SPECIAL INSPECTIONS AND TEST SHALL BE PERFORMED DURING INSTALLATION OF CAST-IN-PLACE DEEP FOUNDATION ELEMENTS AS SPECIFIED IN TABLE 1705.8. THE APPROVED GEOTECHNICAL REPORT AND THE CONSTRUCTION DOCUMENTS PREPARED BY THE REGISTERED DESIGN PROFESSIONALS SHALL BE USED TO DETERMINE COMPLIANCE.

TABLE 1705.8: REQUIRED SPECIAL INSPECTIONS AND TESTS OF CAST-IN-PLACE DEEP FOUNDATION ELEMENTS

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
1. INSPECT DRILLING OPERATIONS AND MAINTAIN COMPLETE AND ACCURATE RECORDS FOR EACH ELEMENT.	X	---
2. VERIFY PLACEMENT LOCATIONS AND PLUMBNESS, CONFIRM ELEMENT DIAMETERS, BELL DIAMETERS (IF APPLICABLE), LENGTHS, EMBEDMENT INTO BEDROCK (IF APPLICABLE) AND ADEQUATE END-BEARING STRATA CAPACITY. RECORD CONCRETE OR GROUT VOLUMES.	X	---
3. FOR CONCRETE ELEMENTS, PERFORM TEST AND ADDITIONAL SPECIAL INSPECTIONS IN ACCORDANCE WITH SECTION 1705.3.	---	---

TABLE 1705.3: REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION	REFERENCED STANDARD	IBC REFERENCE
1. INSPECT REINFORCEMENT AND VERIFY PLACEMENT	---	X	ACI 318: CH. 20, 25.2, 25.3, 26.6.1-26.6.3	1908.4
2. INSPECT ANCHORS CAST IN CONCRETE	---	X	ACI 318: 17.8.2	---
3. VERIFY USE OF REQUIRED DESIGN MIX.	---	X	ACI 318: CH. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
4. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	---	ASTM C172, ASTM C31, ACI 318: 26.5, 26.12	1908.10
5. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	---	ACI 318: 26.5	1908.6, 1908.7, 1908.8
6. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	---	X	ACI 318: 26.5.3-26.5.5	1908.9
7. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	---	X	ACI 318: 26.11.1.2(b)	---

FIELD HOT WORK PLAN NOTES:

FOLLOWING GUIDELINES SHALL BE COMPLIED WITH:

1. CONTRACTOR'S RESPONSIBILITY TO COMPLETE A HOT WORK PLAN IF AWARDED PER CUSTOMER SPECIFICATIONS GUIDELINES FOR WELDING, CUTTING & SPARK PRODUCING WORK.
2. HAVE A FIRE PLAN APPROVED BY THE CUSTOMER AND THEIR SAFETY MANAGEMENT DEPT.
3. CONTRACTOR MUST OBTAIN THE CONTACT INFO OF THE LOCAL FIRE DEPARTMENT AND THE 911 ADDRESS OF THE TOWER SITE BEFORE CONSTRUCTION.
4. CONTRACTOR SHALL MAKE SURE THAT CELL PHONE COVERAGE IS AVAILABLE IN THE TOWER SITE. IF CELL COVERAGE IS NOT AVAILABLE, AN IMMEDIATE AVAILABLE MEANS OF DIRECT COMMUNICATION WITH THE FIRE DEPARTMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION START.
5. ALL CONSTRUCTION SHALL BE PERFORMED UNDER WIND SPEED LESS THAN 10 MPH ON THE GROUND LEVEL. IF WIND SPEED INCREASE, CONTRACTOR MUST DETERMINE IF CONSTRUCTION SHALL BE DISCONTINUED.
6. FIRE SUPPRESSION EQUIPMENT MUST BE MADE AVAILABLE ON SITE AND READY TO USE.
7. CONTRACTOR SHALL ASSIGN A FIRE WATCHER TO PERFORM FIRE-FIGHTING DUTIES.
8. ALL WELDERS SHALL BE AWS OR STATE CERTIFIED. THEY MUST ALSO BE EXPERIENCED IN WELDING ON GALVANIZED MATERIALS.
9. IF IT IS POSSIBLE, ALL EXISTING COAX NEAR WELDING AREA SHALL BE TEMPORARILY MOVED AWAY FROM THE WELDING AREA BEFORE WELDING THE PLATES.
10. PLEASE REPORT ANY FIELD ISSUE TO TES @ 972-483-0607.

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(800)-487-SITE

TES JOB NO:
128650

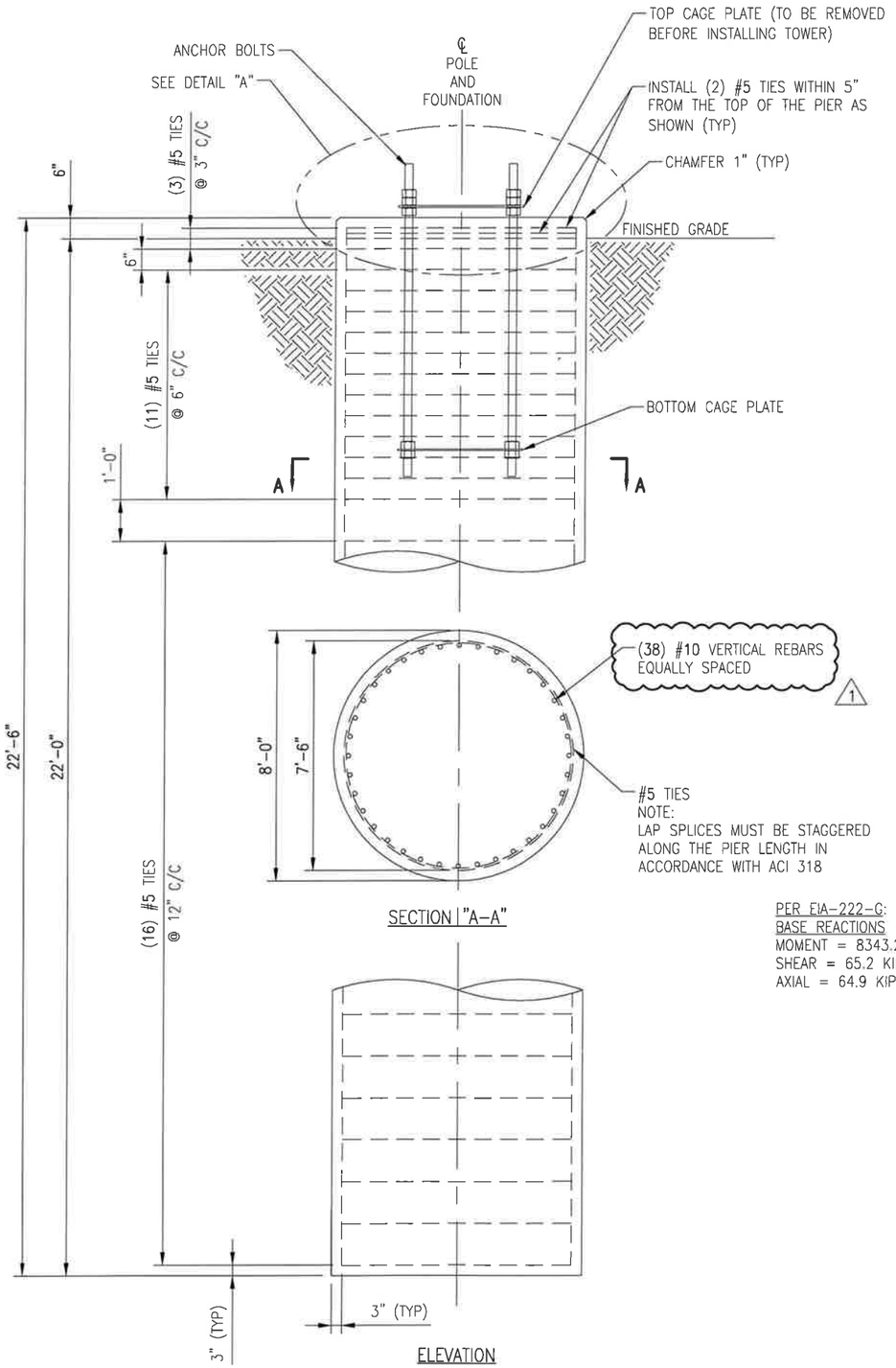
CUSTOMER SITE NO:
CT46142-A-SBA
CUSTOMER SITE NAME:
SOUTH LEDYARD - TOWN DUMP
130 WELLES ROAD
GROTON, CT 06340

DRAWN BY: LC | CHECKED BY: AD/SH

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	LC	05/10/22

SHEET TITLE:
GENERAL NOTES

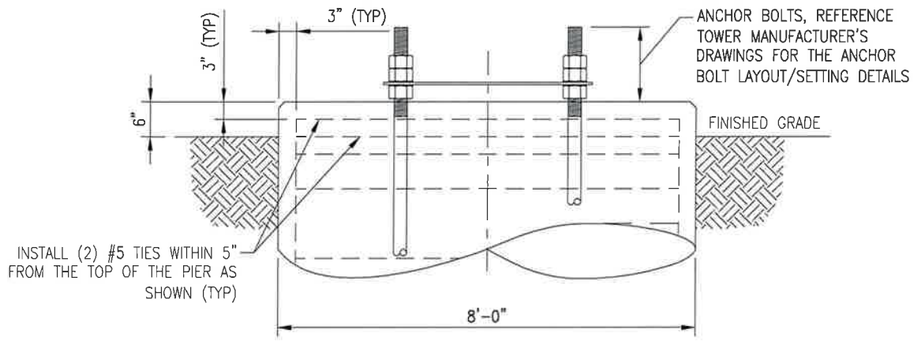
SHEET NUMBER: GN-1
REV #: 0



SECTION "A-A"

ELEVATION

PER EIA-222-G:
BASE REACTIONS
MOMENT = 8343.2 KIPS-FT
SHEAR = 65.2 KIPS
AXIAL = 64.9 KIPS



DETAIL "A"

NOTES:

1. PROPOSED FOUNDATION WAS DESIGNED FOR A 180' MONOPOLE TOWER (SABRE JOB # 497165, DATED 01/28/2022).
2. THE DESIGN REACTIONS FOR THE FOUNDATION WERE OBTAINED FROM SABRE (JOB # 497165, DATED 01/28/2022).
3. PROPOSED FOUNDATION DESIGN WAS BASED ON THE GEO SOIL REPORT PROVIDED BY TOWER ENGINEERING PROFESSIONALS, INC., (PROJECT# 255888.447786, DATED 02/10/2021).
4. CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4500 PSI AT 28 DAYS AND A MAXIMUM W/CM RATIO NOT EXCEEDING 0.45.
5. TEST CYLINDERS SHALL BE MOLDED AND LABORATORY CURED IN ACCORDANCE WITH ASTM C31. THREE PAIRS OF CONCRETE COMPRESSION TEST CYLINDERS SHALL BE MADE FROM EACH TRUCK LOAD OF CONCRETE. TWO CYLINDERS SHALL BE TESTED AT 7 DAYS AND TWO CYLINDERS SHALL BE TESTED AT 28 DAYS. (REMAINING PAIR OF CYLINDERS ARE FOR REDUNDANCY).
6. REINFORCED CONCRETE CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH ACI STANDARDS 318.
7. ALL REBAR SHALL BE SECURELY WIRE TIED TO PREVENT DISPLACEMENT DURING POURING OF CONCRETE.
8. VERTICAL EMBEDMENTS OUT OF PLUMB: 1.0 DEGREE.
9. DEPTH OF FOUNDATION: PLUS 3" OR MINUS 0".
10. CONCRETE DIMENSIONS: PLUS OR MINUS 1/2".
11. REINFORCING STEEL PLACEMENT: PLUS OR MINUS 1/2" INCLUDING CONCRETE COVER.
12. CONCRETE VOLUME: 41.89 CUBIC YARDS.
13. MATERIALS FOR REINFORCING SHALL BE IN ACCORDANCE WITH ASTM SPECIFICATION A615-85.
14. ALL REBAR TO BE GRADE 60 (UNLESS NOTED OTHERWISE). REBAR MILL TEST REPORT IS REQUIRED AS PART OF THE PROJECT CLOSEOUT DOCUMENTATION.
15. CONCRETE SLUMP: 2" ~ 4".
16. FOUNDATION BASE SHOULD REST ON FIRM AND LEVELED SURFACE.
17. FILL MATERIALS SHALL BE COMPACTED USING LAYERS OF NO MORE THAN 6". FINAL COMPACTION MUST BE A MINIMUM OF 95% DENSITY (THE MAXIMUM DRY UNIT OF WEIGHT). BACKFILL MATERIALS SHALL BE SANDY SILT (ML), SILT SAND (SM), CLAYED SAND (SC). NO ORGANIC MATERIALS, ROOTS, PLASTIC SILTS OR CLAYS, DELETERIOUS MATERIALS AND STONES SHALL BE USED. IF ROCK/SOIL MIXTURE IS USED AS BACKFILL, THE ROCK SIZE SHOULD BE LESS THAN 4" IN GREATEST DIMENSION AND NOT MORE THAN 15% BY WEIGHT SHALL BE LARGER THAN 2" IN GREATEST DIMENSION.

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TES JOB NO:
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CUSTOMER SITE NAME:
SOUTH LEDYARD - TOWN DUMP
130 WELLES ROAD
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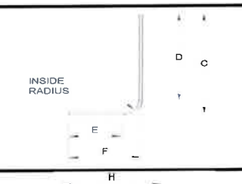
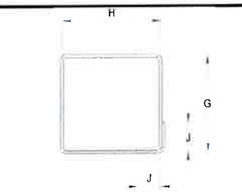
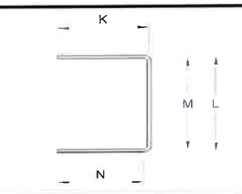
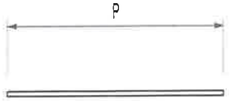
DRAWN BY: LC | CHECKED BY: AD/SH

REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	LC	05/10/22
1	REVISED	LC	05/31/22

SHEET TITLE:
NEW DRILLED PIER FOUNDATION DETAILS

SHEET NUMBER: FND-1
REV #: 1

REBAR CHART

TYPE OF REBAR DIAGRAM	ITEMS	QTY. REQ'D	REBAR SIZE	LENGTH REQ'D (FT.)	TOTAL WEIGHT (LBS)	DETAILS OF BAR DIMENSIONS							REBAR DIAGRAM
ROUND TIE		-	-		-	A (FT.)	A	B	B (FT.)				
	1	31	5	25'-8 5/16"	830.8	7.50	7'-6 "	2'-1 5/8"	2.1326				
90° BEND VERTICAL BAR		-	-	-	-	C (FT.)	C	D (ft)	D	E	F	RADIUS	
SQUARE OR RETANGULAR TIE		-	-	-	-	G (FT.)	G	H (ft)	H	J	RADIUS		
U-SHAPE 90° BEND		-	-	-	-	K (FT.)	K	L (ft)	L	M	N	RADIUS	
STRAIGHT	2	- 38	10 (1)	- 22'-0 "	- 3597.3	P (FT.) 22.000	P 22'-0 "						

MINIMUM SPLICE LENGTHS REQUIRED

BAR SIZE	LENGTH REQ'D
#6	3'-7/8"
#7	4'-4 1/2"
#8	5'-1 1/2"
#9	5'-9"
#10	6'-6"
#11	7'-1 1/2"

BILL OF MATERIALS

TYPES OF REBAR CONFIGURATIONS	QTY. REQ'D	REBAR SIZE	LENGTH REQ'D (FT.)	TOTAL WEIGHT (LBS)
ROUND TIE	31	5	25'-8 5/16"	830.8
STRAIGHT	38	10 (1)	22'-0 "	3597.3

TOTAL STEEL WEIGHT (LBS): 4428.1

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REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	LC	05/10/22
1	REVISED	LC	05/31/22

SHEET TITLE: REBAR CHART

SHEET NUMBER: RBL-1 | REV #: 1

EXAMPLE OF FOUNDATION COATING
(REFERENCE ONLY)

FOUNDATION COATING NOTES:

1. THE COATING MATERIALS SHALL BE LANCO WHITE ACRYLIC ELASTOMERIC COATING AND SEALER, OR HYDRO ARMOR COATING.
2. THE COATING CAN BE PLACED AT LEAST (2) DAYS AFTER THE PLACEMENT OF THE CONCRETE FOR FOUNDATION REINFORCEMENT, AND MINIMUM (4) DAYS FOR NEW FOUNDATION CONSTRUCTION.
3. THE CONCRETE SURFACE SHALL BE CLEAN AND DRY PRIOR TO THE APPLICATION OF THE COATING.
4. THE COATING SHALL BE APPLIED TO ALL THE SURFACES OF THE CONCRETE ABOVE THE GROUND AND 6" BELOW THE GRADE SURFACE IF APPLICABLE.
5. MINIMUM 30 MILS COATING IS REQUIRED.

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REV.	DESCRIPTION	BY	DATE
0	FIRST ISSUE	LC	05/10/22

SHEET TITLE:
FOUNDATION COATING

SHEET NUMBER: FC-1
REV #: 0

ATTACHMENT 2

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2021-ANE-5857-OE

Issued Date: 11/09/2021

Clinton Papenfuss
SBA Towers
8051 Congress Avenue
Boca Raton, FL 33487-1310

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Antenna Tower CT46142-A
Location:	Groton, CT
Latitude:	41-23-34.19N NAD 83
Longitude:	71-58-12.03W
Heights:	53 feet site elevation (SE)
	184 feet above ground level (AGL)
	237 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/ lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 05/09/2023 unless:

(a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
(b) extended, revised, or terminated by the issuing office.
(c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Communications Commission (FCC) because the structure is subject to their licensing authority.

If we can be of further assistance, please contact our office at (404) 305-6582, or Stephanie.Kimmel@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2021-ANE-5857-OE.

Signature Control No: 494352539-500555836 (DNE)
Stephanie Kimmel
Specialist

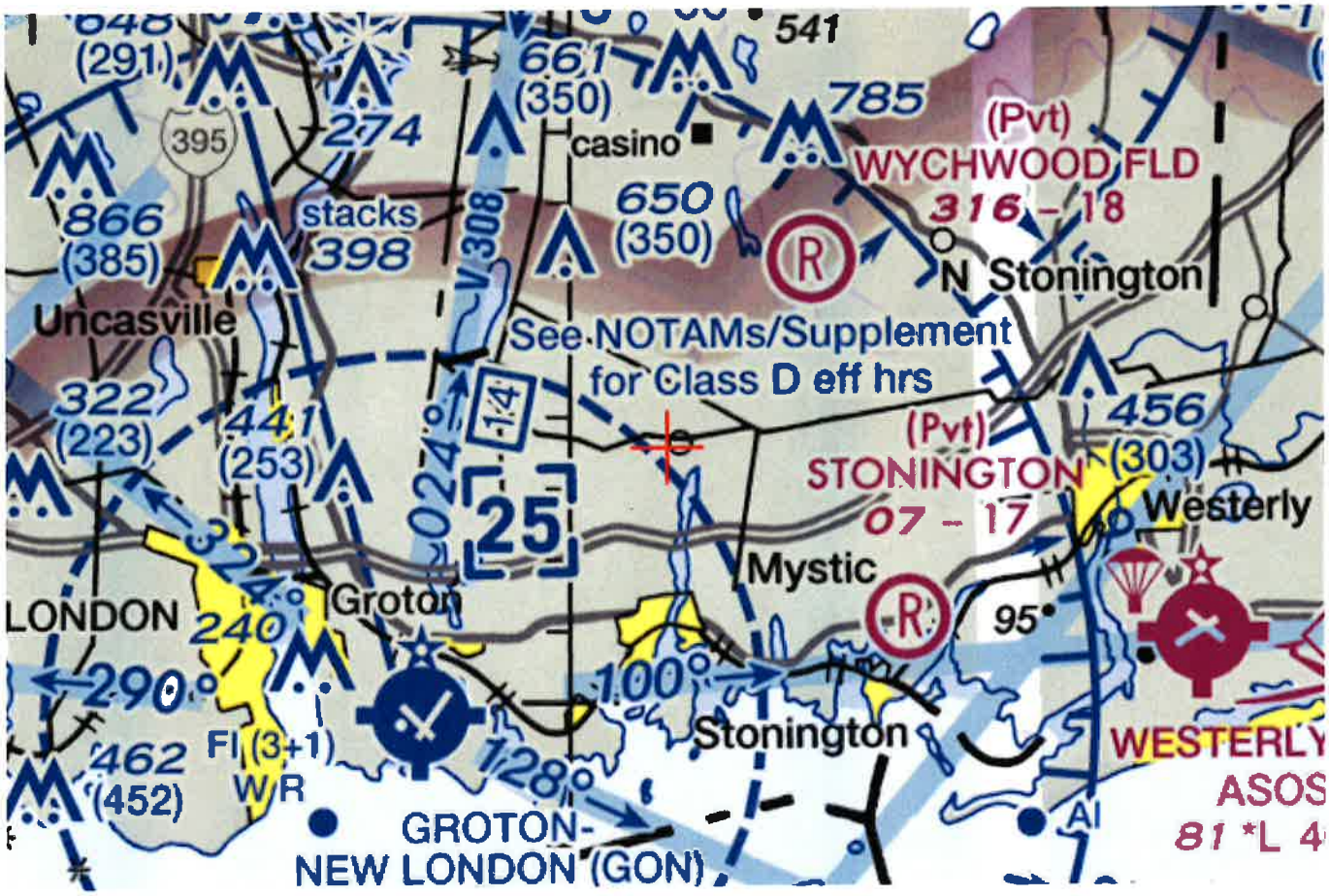
Attachment(s)
Frequency Data
Map(s)

cc: FCC

Frequency Data for ASN 2021-ANE-5857-OE

LOW FREQUENCY	HIGH FREQUENCY	FREQUENCY UNIT	ERP	ERP UNIT
6	7	GHz	55	dBW
6	7	GHz	42	dBW
10	11.7	GHz	55	dBW
10	11.7	GHz	42	dBW
17.7	19.7	GHz	55	dBW
17.7	19.7	GHz	42	dBW
21.2	23.6	GHz	55	dBW
21.2	23.6	GHz	42	dBW
614	698	MHz	1000	W
614	698	MHz	2000	W
698	806	MHz	1000	W
806	901	MHz	500	W
806	824	MHz	500	W
824	849	MHz	500	W
851	866	MHz	500	W
869	894	MHz	500	W
896	901	MHz	500	W
901	902	MHz	7	W
929	932	MHz	3500	W
930	931	MHz	3500	W
931	932	MHz	3500	W
932	932.5	MHz	17	dBW
935	940	MHz	1000	W
940	941	MHz	3500	W
1670	1675	MHz	500	W
1710	1755	MHz	500	W
1850	1910	MHz	1640	W
1850	1990	MHz	1640	W
1930	1990	MHz	1640	W
1990	2025	MHz	500	W
2110	2200	MHz	500	W
2305	2360	MHz	2000	W
2305	2310	MHz	2000	W
2345	2360	MHz	2000	W
2496	2690	MHz	500	W

Sectional Map for ASN 2021-ANE-5857-OE



ATTACHMENT 3

Sabre Industries™
INNOVATION DELIVERED

Structural Design Report

181' Monopole
Site: South Ledyard, CT
Site Number: CT46142-A

Prepared for: SBA NETWORK SERVICES INC
by: Sabre Industries ™

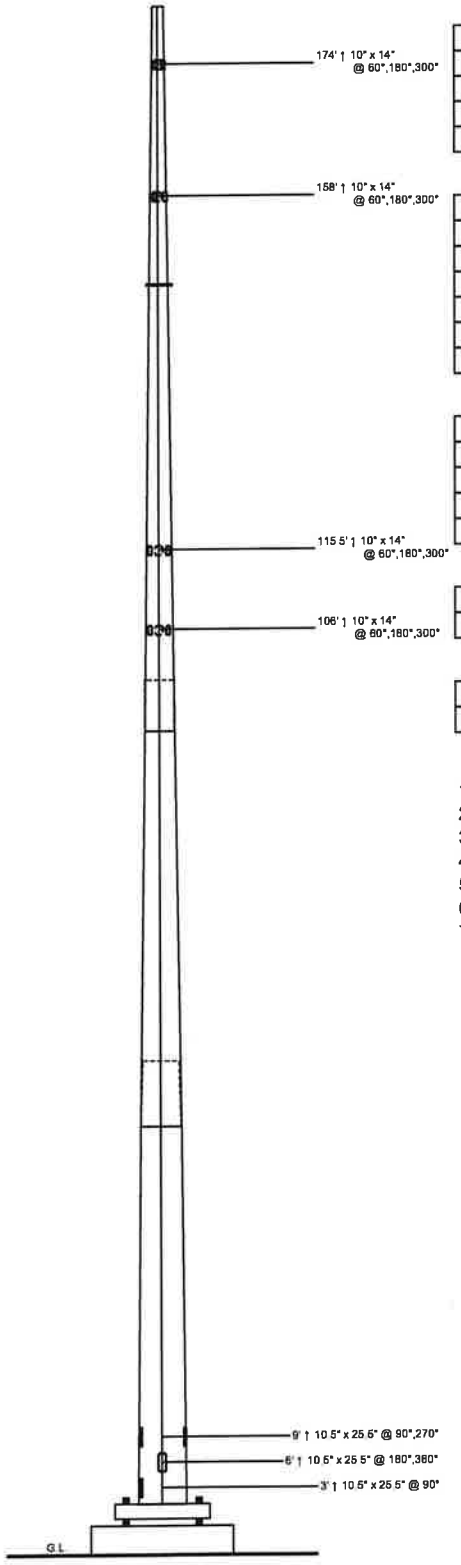
Job Number: 497165
Revision C

August 19, 2022

STATE OF CONNECTICUT
KEITH J. TINDALL
No. 21551
LICENSED PROFESSIONAL ENGINEER
8/19/22

Digitally Signed By Keith Tindall
DN: c=US, st=Texas, l=Alvarado, o=SABRE INDUSTRIES, INC., cn=Keith Tindall, email=kjtindall@sabreindustries.com Date: 2022.08.19 13:09:35

Length (ft)	53'-3"	53'-6"	53'-6"	33'-6"
Number Of Sides	18			
Thickness (in)	7/16"	3/8"	1/4"	
Lap Splice (ft)	7' - 9"	6' - 0"		18"
Top Diameter (in)	52.95"	40.44"	27.3"	27.8"
Bottom Diameter (in)	68.52"	56.09"	42.95"	
Taper (in/ft)	0.2925			
Grade	A572-65			
Weight (lbs)	18417	12815	8568	2736
Overall Steel Height (ft)	180			



Designed Appurtenance Loading

Elev	Description	Tx-Line
176	(1) 225 sq.ft. EPA (no ice) 250 sq.ft. EPA (ice)	(12) 1 5/8"
160	(1) 175 Sq. Ft. EPA (2500 lbs)	(12) 1 5/8"
117.5	(1) 125 Sq. Ft. EPA (2,000 lbs)	(12) 1 5/8"
108	(1) 125 Sq. Ft. EPA (2,000 lbs)	(12) 1 5/8"

Design Criteria - ANSI/TIA-222-G

Ultimate Wind Speed (No Ice)	135 mph
Wind Speed (Ice)	50 mph
Design Ice Thickness	0.75 in
Structure Class	II
Risk Category	II
Exposure Category	C
Topographic Category	1

Limit State Load Combination Reactions

Load Combination	Axial (kips)	Shear (kips)	Moment (ft-k)	Deflection (ft)	Sway (deg)
1.2 D + 1.0 Wo	84.49	65.05	8321.33	15.26	9.95
0.9 D + 1.0 Wo	48.37	65.11	8246.15	15.06	9.8
1.2 D + 1.0 Di + 1.0 Wi	95.14	15.95	2037.9	3.77	2.39
1.0 D + 1.0 Wo (Service @ 60 mph)	53.8	11.9	1522.09	2.85	1.84

Base Plate Dimensions

Shape	Diameter	Thickness	Bolt Circle	Bolt Qty	Bolt Diameter
Round	81.5"	2.5"	75.75"	22	2.25"

Anchor Bolt Dimensions

Length	Diameter	Hole Diameter	Weight	Type	Finish
84"	2.25"	2.625"	2664.2	A615-75	Galv

Notes

1) Antenna Feed Lines Run Inside Pole
2) All dimensions are above ground level, unless otherwise specified.
3) Weights shown are estimates. Final weights may vary.
4) Full Height Step Bolts
5) Anchor Bolts to be a minimum 1/2" thick 50 ksi.
6) Tower Rating: 99.7%
7) This tower design and, if applicable, the foundation design(s) shown on the following page(s) also meet or exceed the requirements of the 2018 Connecticut Building Code.

Sabre Industries
INNOVATION DELIVERED

Sabre Industries
7101 Southbridge Drive
P.O. Box 658
Sioux City, IA 51102-0658
Phone: (712) 258 8690
Fax: (712) 279 0814

Job:	497165C
Customer:	SBA NETWORK SERVICES INC
Site Name:	South Ledyard, CT CT46142-A
Description:	181' Monopole
Date:	8/19/2022 By: KJT

181' Monopole / South Ledyard, CT

* All pole diameters shown on the following pages are across corners.
See profile drawing for widths across flats.

POLE GEOMETRY

ELEV ft	SECTION NAME	No. SIDE	OUTSIDE DIAM in	THICK -NESS in	RESISTANCES ϕ*Pn kip	ϕ*Mn ft-kip	SPLICE TYPE	...OVERLAP... LENGTH ft	RATIO	w/t
180.0										
			18.28	0.250	1046.4	379.8				
	A	18								10.9
			28.23	0.250	1582.0	895.4				
146.5										
			27.72	0.375	2380.9	1310.8				
	B	18								11.1
			41.82	0.375	3527.5	2956.9				
99.0										
			41.82	0.375	3527.5	2956.9				
	B/C	18					SLIP	6.00	1.71	
			42.86	0.438	4309.4	3693.3				
93.0										
			42.86	0.438	4309.4	3693.3				
	C	18								15.2
			54.64	0.438	5200.6	5707.5				
53.2										
			54.64	0.438	5200.6	5707.5				
	C/D	18					SLIP	7.75	1.68	
			56.08	0.438	5292.8	5964.4				
45.5										
			56.08	0.438	5292.8	5964.4				
	D	18								20.5
			69.58	0.438	6040.8	8471.9				
0.0										

POLE ASSEMBLY

SECTION NAME	BASE ELEV ft	.....BOLTS AT BASE OF SECTION..... NUMBER	TYPE	DIAM in	STRENGTH ksi	THREADS IN SHEAR PLANE	CALC BASE ELEV ft
A	146.500	0	A325	0.00	92.0	0	146.500
B	93.000	0	A325	0.00	92.0	0	93.000
C	45.500	0	A325	0.00	92.0	0	45.500
D	0.000	0	A325	0.00	92.0	0	0.000

POLE SECTIONS

SECTION NAME	No.of SIDES	LENGTH	OUTSIDE.DIAMETER BOT *	TOP *	BEND RAD	MAT-ERIAL ID	FLANGE.ID BOT	TOP	FLANGE.WELD ..GROUP.ID.. BOT	TOP

		ft	in	in	in					
A	18	33.50	28.23	18.28	0.000	1	0	0	0	0
B	18	53.50	43.61	27.72	0.000	2	0	0	0	0
C	18	53.50	56.96	41.07	0.000	3	0	0	0	0
D	18	53.25	69.58	53.77	0.000	4	0	0	0	0

* - Diameter of circumscribed circle

MATERIAL TYPES
==========

TYPE OF SHAPE	TYPE NO	NO OF ELEM.	ORIENT & deg	HEIGHT in	WIDTH in	.THICKNESS. WEB in	FLANGE in	IRREGULARITY .PROJECTION. % OF AREA	ORIENT deg
PL	1	1	0.0	28.23	0.25	0.250	0.250	0.00	0.0
PL	2	1	0.0	43.61	0.38	0.375	0.375	0.00	0.0
PL	3	1	0.0	56.96	0.44	0.438	0.438	0.00	0.0
PL	4	1	0.0	69.58	0.44	0.438	0.438	0.00	0.0

& - With respect to vertical

MATERIAL PROPERTIES
==========

MATERIAL TYPE NO.	ELASTIC MODULUS ksi	UNIT WEIGHT pcf	.. STRENGTH .. Fu ksi	Fy ksi	THERMAL COEFFICIENT /deg
1	29000.0	490.0	80.0	65.0	0.00001170
2	29000.0	490.0	80.0	65.0	0.00001170
3	29000.0	490.0	80.0	65.0	0.00001170
4	29000.0	490.0	80.0	65.0	0.00001170

* Only 3 condition(s) shown in full
* Some concentrated wind loads may have been derived from full-scale wind tunnel testing

==========

LOADING CONDITION A ==========

135 mph Ultimate wind with no ice. Wind Azimuth: 0◆ (1.2 D + 1.0 Wo)

LOADS ON POLE
==========

LOAD TYPE	ELEV ft	APPLY..LOAD..AT RADIUS ft	AZI	LOAD AZI	.....FORCES..... HORIZ kip	DOWN kip	.....MOMENTS..... VERTICAL ft-kip	TORSNAL ft-kip
C	175.000	0.00	0.0	0.0	0.0000	2.6208	0.0000	0.0000
C	175.000	0.00	0.0	0.0	15.1366	4.2000	0.0000	0.0000
C	159.000	0.00	0.0	0.0	0.0000	2.3812	0.0000	0.0000
C	159.000	0.00	0.0	0.0	11.5390	3.0000	0.0000	0.0000
C	116.500	0.00	0.0	0.0	0.0000	1.7447	0.0000	0.0000
C	116.500	0.00	0.0	0.0	7.7235	2.4000	0.0000	0.0000
C	107.000	0.00	0.0	0.0	0.0000	1.6024	0.0000	0.0000
C	107.000	0.00	0.0	0.0	7.5876	2.4000	0.0000	0.0000

D	180.000	0.00	180.0	0.0	0.0713	0.0616	0.0000	0.0000
D	146.500	0.00	180.0	0.0	0.0954	0.0852	0.0000	0.0000
D	146.500	0.00	180.0	0.0	0.1044	0.1424	0.0000	0.0000
D	130.667	0.00	180.0	0.0	0.1044	0.1424	0.0000	0.0000
D	130.667	0.00	180.0	0.0	0.1177	0.1647	0.0000	0.0000
D	114.833	0.00	180.0	0.0	0.1177	0.1647	0.0000	0.0000
D	114.833	0.00	180.0	0.0	0.1298	0.1870	0.0000	0.0000
D	99.000	0.00	180.0	0.0	0.1298	0.1870	0.0000	0.0000
D	99.000	0.00	180.0	0.0	0.1373	0.4345	0.0000	0.0000
D	93.000	0.00	180.0	0.0	0.1373	0.4345	0.0000	0.0000
D	93.000	0.00	180.0	0.0	0.1409	0.2480	0.0000	0.0000
D	79.750	0.00	180.0	0.0	0.1409	0.2480	0.0000	0.0000
D	79.750	0.00	180.0	0.0	0.1481	0.2698	0.0000	0.0000
D	66.500	0.00	180.0	0.0	0.1481	0.2698	0.0000	0.0000
D	66.500	0.00	180.0	0.0	0.1535	0.2916	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.1535	0.2916	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.1563	0.6133	0.0000	0.0000
D	45.500	0.00	180.0	0.0	0.1563	0.6133	0.0000	0.0000
D	45.500	0.00	180.0	0.0	0.1547	0.3202	0.0000	0.0000
D	34.125	0.00	180.0	0.0	0.1547	0.3202	0.0000	0.0000
D	34.125	0.00	180.0	0.0	0.1529	0.3390	0.0000	0.0000
D	22.750	0.00	180.0	0.0	0.1529	0.3390	0.0000	0.0000
D	22.750	0.00	180.0	0.0	0.1456	0.3577	0.0000	0.0000
D	11.375	0.00	180.0	0.0	0.1456	0.3577	0.0000	0.0000
D	11.375	0.00	180.0	0.0	0.1475	0.3764	0.0000	0.0000
D	0.000	0.00	180.0	0.0	0.1475	0.3764	0.0000	0.0000

LOADING CONDITION M

135 mph Ultimate wind with no ice. Wind Azimuth: 0◆ (0.9 D + 1.0 Wo)

LOADS ON POLE

LOAD TYPE	ELEV	APPLY..LOAD..AT RADIUS	AZI	LOAD AZI	.....FORCES..... HORIZ	DOWN	.....MOMENTS..... VERTICAL	TORSNAL
	ft	ft			kip	kip	ft-kip	ft-kip
C	175.000	0.00	0.0	0.0	0.0000	1.9656	0.0000	0.0000
C	175.000	0.00	0.0	0.0	15.1366	3.1500	0.0000	0.0000
C	159.000	0.00	0.0	0.0	0.0000	1.7859	0.0000	0.0000
C	159.000	0.00	0.0	0.0	11.5390	2.2500	0.0000	0.0000
C	116.500	0.00	0.0	0.0	0.0000	1.3085	0.0000	0.0000
C	116.500	0.00	0.0	0.0	7.7235	1.8000	0.0000	0.0000
C	107.000	0.00	0.0	0.0	0.0000	1.2018	0.0000	0.0000
C	107.000	0.00	0.0	0.0	7.5876	1.8000	0.0000	0.0000
D	180.000	0.00	180.0	0.0	0.0713	0.0462	0.0000	0.0000
D	146.500	0.00	180.0	0.0	0.0954	0.0639	0.0000	0.0000
D	146.500	0.00	180.0	0.0	0.1044	0.1068	0.0000	0.0000
D	130.667	0.00	180.0	0.0	0.1044	0.1068	0.0000	0.0000
D	130.667	0.00	180.0	0.0	0.1177	0.1235	0.0000	0.0000
D	114.833	0.00	180.0	0.0	0.1177	0.1235	0.0000	0.0000
D	114.833	0.00	180.0	0.0	0.1298	0.1402	0.0000	0.0000
D	99.000	0.00	180.0	0.0	0.1298	0.1402	0.0000	0.0000
D	99.000	0.00	180.0	0.0	0.1373	0.3259	0.0000	0.0000
D	93.000	0.00	180.0	0.0	0.1373	0.3259	0.0000	0.0000
D	93.000	0.00	180.0	0.0	0.1409	0.1860	0.0000	0.0000
D	79.750	0.00	180.0	0.0	0.1409	0.1860	0.0000	0.0000
D	79.750	0.00	180.0	0.0	0.1481	0.2023	0.0000	0.0000
D	66.500	0.00	180.0	0.0	0.1481	0.2023	0.0000	0.0000
D	66.500	0.00	180.0	0.0	0.1535	0.2187	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.1535	0.2187	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.1563	0.4600	0.0000	0.0000
D	45.500	0.00	180.0	0.0	0.1563	0.4600	0.0000	0.0000

D	45.500	0.00	180.0	0.0	0.1547	0.2402	0.0000	0.0000
D	34.125	0.00	180.0	0.0	0.1547	0.2402	0.0000	0.0000
D	34.125	0.00	180.0	0.0	0.1529	0.2542	0.0000	0.0000
D	22.750	0.00	180.0	0.0	0.1529	0.2542	0.0000	0.0000
D	22.750	0.00	180.0	0.0	0.1456	0.2683	0.0000	0.0000
D	11.375	0.00	180.0	0.0	0.1456	0.2683	0.0000	0.0000
D	11.375	0.00	180.0	0.0	0.1475	0.2823	0.0000	0.0000
D	0.000	0.00	180.0	0.0	0.1475	0.2823	0.0000	0.0000

LOADING CONDITION Y

50 mph wind with 0.75 ice. Wind Azimuth: 0◆ (1.2 D + 1.0 Di + 1.0 Wi)

LOADS ON POLE

LOAD TYPE	ELEV ft	APPLY..LOAD..AT RADIUS ft	AZI	LOAD AZI	.....FORCES..... HORIZ kip	DOWN kip	.....MOMENTS..... VERTICAL ft-kip	TORSNAL ft-kip
C	175.000	0.00	0.0	0.0	0.0000	2.6208	0.0000	0.0000
C	175.000	0.00	0.0	0.0	2.9906	7.7467	0.0000	0.0000
C	159.000	0.00	0.0	0.0	0.0000	2.3812	0.0000	0.0000
C	159.000	0.00	0.0	0.0	2.7844	7.3913	0.0000	0.0000
C	116.500	0.00	0.0	0.0	0.0000	1.7447	0.0000	0.0000
C	116.500	0.00	0.0	0.0	1.8403	5.8062	0.0000	0.0000
C	107.000	0.00	0.0	0.0	0.0000	1.6024	0.0000	0.0000
C	107.000	0.00	0.0	0.0	1.8018	5.7776	0.0000	0.0000
D	180.000	0.00	180.0	0.0	0.0220	0.1078	0.0000	0.0000
D	171.625	0.00	180.0	0.0	0.0220	0.1078	0.0000	0.0000
D	171.625	0.00	180.0	0.0	0.0241	0.1208	0.0000	0.0000
D	163.250	0.00	180.0	0.0	0.0241	0.1208	0.0000	0.0000
D	163.250	0.00	180.0	0.0	0.0262	0.1337	0.0000	0.0000
D	154.875	0.00	180.0	0.0	0.0262	0.1337	0.0000	0.0000
D	154.875	0.00	180.0	0.0	0.0282	0.1465	0.0000	0.0000
D	146.500	0.00	180.0	0.0	0.0282	0.1465	0.0000	0.0000
D	146.500	0.00	180.0	0.0	0.0305	0.2097	0.0000	0.0000
D	130.667	0.00	180.0	0.0	0.0305	0.2097	0.0000	0.0000
D	130.667	0.00	180.0	0.0	0.0338	0.2410	0.0000	0.0000
D	114.833	0.00	180.0	0.0	0.0338	0.2410	0.0000	0.0000
D	114.833	0.00	180.0	0.0	0.0369	0.2719	0.0000	0.0000
D	99.000	0.00	180.0	0.0	0.0369	0.2719	0.0000	0.0000
D	99.000	0.00	180.0	0.0	0.0387	0.5251	0.0000	0.0000
D	93.000	0.00	180.0	0.0	0.0387	0.5251	0.0000	0.0000
D	93.000	0.00	180.0	0.0	0.0396	0.3419	0.0000	0.0000
D	79.750	0.00	180.0	0.0	0.0396	0.3419	0.0000	0.0000
D	79.750	0.00	180.0	0.0	0.0413	0.3699	0.0000	0.0000
D	66.500	0.00	180.0	0.0	0.0413	0.3699	0.0000	0.0000
D	66.500	0.00	180.0	0.0	0.0426	0.3973	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.0426	0.3973	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.0432	0.7230	0.0000	0.0000
D	45.500	0.00	180.0	0.0	0.0432	0.7230	0.0000	0.0000
D	45.500	0.00	180.0	0.0	0.0429	0.4316	0.0000	0.0000
D	11.375	0.00	180.0	0.0	0.0400	0.4718	0.0000	0.0000
D	11.375	0.00	180.0	0.0	0.0400	0.4845	0.0000	0.0000
D	0.000	0.00	180.0	0.0	0.0400	0.4845	0.0000	0.0000

Processed under license at:

Sabre Towers and Poles on: 19 aug 2022 at: 13:02:43

181' Monopole / South Ledyard, CT

MAXIMUM POLE DEFORMATIONS CALCULATED(w.r.t. wind direction)

MAST ELEV ft	DEFLECTIONS (ft) HORIZONTAL ALONG	HORIZONTAL ACROSS	DOWN	ROTATIONS (deg) TILT ALONG	TILT ACROSS	TWIST
180.0	15.26A	0.01Q	1.83B	9.95A	0.01Q	0.00I
171.6	13.85A	0.01Q	1.59B	9.91A	0.01Q	0.00I
163.2	12.46A	0.01Q	1.35B	9.62A	0.01Q	0.00I
154.9	11.12A	0.01Q	1.13B	9.14A	0.01Q	0.00I
146.5	9.86A	0.01Q	0.94B	8.47A	0.01Q	0.00I
130.7	7.71A	0.01Q	0.64B	7.41A	0.01Q	0.00I
114.8	5.84A	0.01Q	0.41B	6.33A	0.01Q	0.00I
99.0	4.26A	0.00Q	0.25B	5.25A	0.00Q	0.00I
93.0	3.73A	0.00Q	0.21B	4.90A	0.00Q	0.00I
79.7	2.69A	0.00K	0.13B	4.10A	0.00Q	0.00I
66.5	1.84A	0.00K	0.07B	3.33A	0.00K	0.00I
53.2	1.16A	0.00K	0.04B	2.60A	0.00K	0.00I
45.5	0.84A	0.00K	0.02B	2.19A	0.00K	0.00I
34.1	0.46A	0.00K	0.01B	1.59A	0.00K	0.00I
22.7	0.20A	0.00K	0.00F	1.03A	0.00K	0.00I
11.4	0.05A	0.00K	0.00F	0.50A	0.00K	0.00I
0.0	0.00A	0.00A	0.00A	0.00A	0.00A	0.00A

MAXIMUM POLE FORCES CALCULATED(w.r.t. to wind direction)

MAST ELEV ft	TOTAL AXIAL kip	SHEAR.w.r.t.WIND.DIR ALONG kip	SHEAR.w.r.t.WIND.DIR ACROSS kip	MOMENT.w.r.t.WIND.DIR ALONG ft-kip	MOMENT.w.r.t.WIND.DIR ACROSS ft-kip	TORSION ft-kip
180.0	0.01 O	0.01 C	0.00 O	0.02 Q	0.01 O	0.00 C
	11.27 AB	15.76 C	0.00 O	-56.32 C	0.02 K	0.01 I
171.6	11.27 AD	15.77 P	-0.01 X	-56.31 L	-0.03 O	0.01 I
	12.28 AD	16.43 P	-0.01 X	-197.75 E	0.07 X	0.03 K
163.2						

	12.28 AF	16.44 M	0.03 I	-197.76 K	0.09 I	0.03 K
	23.17 AF	28.69 M	0.03 I	-395.46 E	0.20 H	0.08 I
154.9	.....					
	23.17 AD	28.71 A	0.03 Q	-395.42 B	0.22 O	0.08 I
	24.40 AD	29.47 A	0.03 Q	-651.10 A	0.28 H	0.13 I
146.5	.....					
	24.40 AD	29.48 Q	0.03 Q	-651.06 B	0.27 H	0.13 I
	27.72 AD	31.11 Q	0.03 Q	-1155.19 A	-0.65 Q	0.22 I
130.7	.....					
	27.72 AD	31.12 A	0.03 B	-1155.17 A	-0.66 Q	0.22 I
	39.09 AD	40.70 A	0.03 B	-1702.82 A	-1.05 Q	0.32 I
114.8	.....					
	39.08 AD	40.70 Q	-0.04 O	-1702.80 A	-1.05 Q	0.32 I
	50.77 AD	50.33 Q	-0.04 O	-2459.51 A	-1.58 Q	0.40 I
99.0	.....					
	50.77 AD	50.35 M	0.05 E	-2459.72 A	-1.65 Q	0.41 I
	53.92 AD	51.18 M	0.05 E	-2777.77 A	-1.72 Q	0.43 I
93.0	.....					
	53.92 AD	51.25 M	-0.09 K	-2778.22 A	-1.82 Q	0.43 I
	58.45 AD	53.11 M	-0.09 K	-3499.45 A	-2.48 Q	0.56 I
79.7	.....					
	58.45 AD	53.11 M	-0.11 K	-3499.46 A	-2.50 Q	0.56 I
	63.35 AD	55.07 M	-0.11 K	-4244.35 A	-3.44 Q	0.67 I
66.5	.....					
	63.35 AD	55.07 M	-0.11 K	-4244.31 A	-3.47 Q	0.67 I
	68.61 AD	57.10 M	-0.11 K	-5012.43 A	-4.54 Q	0.76 I
53.2	.....					
	68.61 AD	57.11 M	0.09 I	-5012.45 A	-4.55 Q	0.76 I
	74.21 AD	58.32 M	0.09 I	-5472.87 A	-5.15 Q	0.82 I
45.5	.....					
	74.21 AD	58.29 M	-0.10 K	-5472.88 A	-5.16 Q	0.82 I
	79.20 AD	60.05 M	-0.10 K	-6162.83 A	6.23 K	0.89 I
34.1	.....					
	79.20 AD	60.04 M	-0.11 K	-6162.81 A	6.24 K	0.89 I
	84.34 AD	61.78 M	-0.11 K	-6868.34 A	7.47 K	0.93 I
22.7	.....					
	84.34 AD	61.79 M	-0.10 K	-6868.34 A	7.47 K	0.93 I
	89.63 AD	63.44 M	-0.10 K	-7588.13 A	8.58 K	0.96 I
11.4	.....					
	89.63 AD	63.43 M	-0.10 K	-7588.13 A	8.57 K	0.96 I
	95.14 AD	65.11 M	-0.10 K	-8321.33 A	9.66 K	0.97 I
base reaction	95.14 AD	-65.11 M	0.10 K	8321.33 A	-9.66 K	-0.97 I

COMPLIANCE WITH 4.8.2 & 4.5.4

ELEV	AXIAL	BENDING	SHEAR + TORSIONAL	TOTAL	SATISFIED	D/t(w/t)	MAX ALLOWED
ft							
180.00	.....						

	0.00O	0.00Q	0.00C	0.00C	YES	10.93A	45.2
	0.01AB	0.11C	0.03C	0.12C	YES	12.66A	45.2
171.62	.....						
	0.01AD	0.11L	0.03P	0.12L	YES	12.66A	45.2
	0.01AD	0.32E	0.02P	0.33E	YES	14.39A	45.2
163.25	.....						
	0.01AF	0.32K	0.02M	0.33K	YES	14.39A	45.2
	0.02AF	0.52E	0.04M	0.53E	YES	16.12A	45.2
154.87	.....						
	0.02AD	0.52B	0.04A	0.53E	YES	16.12A	45.2
	0.02AD	0.73A	0.04A	0.74A	YES	17.84A	45.2
146.50	.....						
	0.01AD	0.50B	0.02Q	0.50A	YES	11.07A	45.2
	0.01AD	0.64A	0.02Q	0.65A	YES	13.25A	45.2
130.67	.....						
	0.01AD	0.64A	0.02A	0.65A	YES	13.25A	45.2
	0.01AD	0.72A	0.03A	0.72A	YES	15.43A	45.2
114.83	.....						
	0.01AD	0.72A	0.03Q	0.72A	YES	15.43A	45.2
	0.01AD	0.83A	0.03Q	0.84A	YES	17.61A	45.2
99.00	.....						
	0.01AD	0.70A	0.02M	0.71A	YES	14.84A	45.2
	0.01AD	0.73A	0.02M	0.73A	YES	15.55A	45.2
93.00	.....						
	0.01AD	0.75A	0.02M	0.76A	YES	15.24A	45.2
	0.01AD	0.80A	0.02M	0.81A	YES	16.81A	45.2
79.75	.....						
	0.01AD	0.80A	0.02M	0.81A	YES	16.81A	45.2
	0.01AD	0.84A	0.02M	0.85A	YES	18.37A	45.2
66.50	.....						
	0.01AD	0.84A	0.02M	0.85A	YES	18.37A	45.2
	0.01AD	0.88A	0.02M	0.89A	YES	19.93A	45.2
53.25	.....						
	0.01AD	0.88A	0.02M	0.89A	YES	19.93A	45.2
	0.01AD	0.89A	0.02M	0.90A	YES	20.84A	45.2
45.50	.....						
	0.01AD	0.92A	0.02M	0.93A	YES	20.49A	45.2
	0.01AD	0.94A	0.02M	0.95A	YES	21.83A	45.2
34.12	.....						
	0.01AD	0.94A	0.02M	0.95A	YES	21.83A	45.2
	0.01AD	0.95A	0.02M	0.96A	YES	23.17A	45.2
22.75	.....						
	0.01AD	0.95A	0.02M	0.96A	YES	23.17A	45.2
	0.02AD	0.97A	0.02M	0.98A	YES	24.51A	45.2
11.37	.....						
	0.02AD	0.97A	0.02T	0.98A	YES	24.51A	45.2
	0.02AD	0.98A	0.02T	0.99A	YES	25.86A	45.2
0.00	.....						

MAXIMUM LOADS ONTO FOUNDATION(w.r.t. wind direction)
==========

DOWN	SHEAR.w.r.t.WIND.DIR	MOMENT.w.r.t.WIND.DIR	TORSION

kip	ALONG kip	ACROSS kip	ALONG ft-kip	ACROSS ft-kip	ft-kip
95.14	65.11	-0.10	-8321.33	9.66	0.97
AD	M	K	A	K	I

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(USA 222-G) - Monopole Spatial Analysis (c)2015 Guymast Inc.

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181' Monopole / South Ledyard, CT

****
********** Service Load Condition **********
****

* Only 1 condition(s) shown in full
* Some concentrated wind loads may have been derived from full-scale wind tunnel testing

LOADING CONDITION A ==========

60 mph wind with no ice. Wind Azimuth: 0◆ (1.0 D + 1.0 Wo)

LOADS ON POLE
==========

LOAD TYPE	ELEV ft	APPLY..LOAD..AT RADIUS ft	AZI	LOAD AZI	.....FORCES..... HORIZ kip	DOWN kip	.....MOMENTS..... VERTICAL ft-kip	TORSNAL ft-kip
C	175.000	0.00	0.0	0.0	0.0000	2.1840	0.0000	0.0000
C	175.000	0.00	0.0	0.0	2.7639	3.5000	0.0000	0.0000
C	159.000	0.00	0.0	0.0	0.0000	1.9843	0.0000	0.0000
C	159.000	0.00	0.0	0.0	2.1070	2.5000	0.0000	0.0000
C	116.500	0.00	0.0	0.0	0.0000	1.4539	0.0000	0.0000
C	116.500	0.00	0.0	0.0	1.4103	2.0000	0.0000	0.0000
C	107.000	0.00	0.0	0.0	0.0000	1.3354	0.0000	0.0000
C	107.000	0.00	0.0	0.0	1.3855	2.0000	0.0000	0.0000
D	180.000	0.00	180.0	0.0	0.0130	0.0513	0.0000	0.0000
D	146.500	0.00	180.0	0.0	0.0174	0.0710	0.0000	0.0000
D	146.500	0.00	180.0	0.0	0.0191	0.1187	0.0000	0.0000
D	130.667	0.00	180.0	0.0	0.0191	0.1187	0.0000	0.0000
D	130.667	0.00	180.0	0.0	0.0215	0.1372	0.0000	0.0000
D	114.833	0.00	180.0	0.0	0.0215	0.1372	0.0000	0.0000
D	114.833	0.00	180.0	0.0	0.0237	0.1558	0.0000	0.0000
D	99.000	0.00	180.0	0.0	0.0237	0.1558	0.0000	0.0000
D	99.000	0.00	180.0	0.0	0.0251	0.3621	0.0000	0.0000
D	93.000	0.00	180.0	0.0	0.0251	0.3621	0.0000	0.0000
D	93.000	0.00	180.0	0.0	0.0257	0.2067	0.0000	0.0000
D	79.750	0.00	180.0	0.0	0.0257	0.2067	0.0000	0.0000
D	79.750	0.00	180.0	0.0	0.0270	0.2248	0.0000	0.0000
D	66.500	0.00	180.0	0.0	0.0270	0.2248	0.0000	0.0000

D	66.500	0.00	180.0	0.0	0.0280	0.2430	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.0280	0.2430	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.0285	0.5111	0.0000	0.0000
D	45.500	0.00	180.0	0.0	0.0285	0.5111	0.0000	0.0000
D	45.500	0.00	180.0	0.0	0.0283	0.2669	0.0000	0.0000
D	34.125	0.00	180.0	0.0	0.0283	0.2669	0.0000	0.0000
D	34.125	0.00	180.0	0.0	0.0279	0.2825	0.0000	0.0000
D	22.750	0.00	180.0	0.0	0.0279	0.2825	0.0000	0.0000
D	22.750	0.00	180.0	0.0	0.0266	0.2981	0.0000	0.0000
D	11.375	0.00	180.0	0.0	0.0266	0.2981	0.0000	0.0000
D	11.375	0.00	180.0	0.0	0.0269	0.3137	0.0000	0.0000
D	0.000	0.00	180.0	0.0	0.0269	0.3137	0.0000	0.0000

MAXIMUM POLE DEFORMATIONS CALCULATED(w.r.t. wind direction)

MAST ELEV ft	.....DEFLECTIONS (ft)..... HORIZONTAL ..... ALONG	ACROSS	DOWN	.....ROTATIONS (deg)..... TILT ..... ALONG	ACROSS	TWIST
180.0	2.85H	0.00E	0.07H	1.84H	0.00E	0.00E
171.6	2.58H	0.00E	0.06H	1.83H	0.00E	0.00E
163.2	2.32H	0.00E	0.05H	1.78H	0.00E	0.00E
154.9	2.07H	0.00E	0.04H	1.69H	0.00E	0.00E
146.5	1.83H	0.00E	0.03H	1.56H	0.00E	0.00E
130.7	1.42H	0.00E	0.02H	1.36H	0.00E	0.00E
114.8	1.08H	0.00E	0.02H	1.16H	0.00E	0.00E
99.0	0.78H	0.00E	0.01H	0.96H	0.00E	0.00E
93.0	0.69H	0.00E	0.01H	0.90H	0.00E	0.00E
79.7	0.49H	0.00E	0.01H	0.75H	0.00E	0.00E
66.5	0.34H	0.00E	0.00H	0.61H	0.00E	0.00E
53.2	0.21H	0.00E	0.00H	0.48H	0.00E	0.00E
45.5	0.15H	0.00E	0.00F	0.40H	0.00E	0.00E
34.1	0.08H	0.00E	0.00F	0.29H	0.00E	0.00E
22.7	0.04H	0.00E	0.00F	0.19H	0.00E	0.00E
11.4	0.01H	0.00E	0.00K	0.09H	0.00E	0.00E
0.0	0.00A	0.00A	0.00A	0.00A	0.00A	0.00A

MAXIMUM POLE FORCES CALCULATED(w.r.t. to wind direction)

MAST ELEV ft	TOTAL AXIAL kip	SHEAR.w.r.t.WIND.DIR ALONG kip	ACROSS kip	MOMENT.w.r.t.WIND.DIR ALONG ft-kip	ACROSS ft-kip	TORSION ft-kip
180.0	0.00 L	0.00 F	0.00 H	0.00 F	0.00 H	0.00 H

	6.13 B	2.88 D	0.00 H	-10.46 D	0.00 H	0.00 C
171.6						
	6.14 K	2.88 A	0.00 I	-10.46 C	0.00 L	0.00 C
	6.63 K	3.00 A	0.00 I	-36.74 B	-0.01 I	0.00 C
163.2						
	6.63 K	3.00 B	0.00 K	-36.73 A	0.01 F	0.00 C
	11.64 K	5.24 B	0.00 K	-73.38 B	-0.02 I	0.00 C
154.9						
	11.65 K	5.24 A	0.00 L	-73.38 A	-0.02 I	0.00 K
	12.22 K	5.38 A	0.00 L	-120.66 A	-0.03 I	0.00 C
146.5						
	12.22 K	5.38 H	0.00 L	-120.67 A	-0.03 I	0.00 C
	14.10 K	5.68 H	0.00 L	-213.49 A	-0.06 I	0.00 K
130.7						
	14.10 K	5.68 A	0.00 L	-213.49 A	-0.06 I	0.00 K
	19.73 K	7.43 A	0.00 L	-313.89 A	-0.09 L	0.00 K
114.8						
	19.73 K	7.44 H	0.00 L	-313.90 A	-0.09 L	0.00 K
	25.53 K	9.20 H	0.00 L	-452.26 H	-0.14 L	0.00 K
99.0						
	25.53 K	9.21 K	-0.01 L	-452.30 A	-0.14 L	0.00 K
	27.70 K	9.36 K	-0.01 L	-510.50 A	0.15 E	-0.01 K
93.0						
	27.70 K	9.35 L	-0.02 E	-510.50 H	0.17 E	-0.01 K
	30.44 K	9.69 L	-0.02 E	-642.12 H	0.50 E	-0.01 E
79.7						
	30.44 K	9.70 H	-0.03 E	-642.13 H	0.50 E	-0.01 E
	33.42 K	10.05 H	-0.03 E	-777.96 H	0.88 E	-0.01 E
66.5						
	33.42 K	10.05 H	-0.03 E	-777.96 H	0.87 E	-0.01 E
	36.64 K	10.43 H	-0.03 E	-918.01 H	1.22 E	-0.02 E
53.2						
	36.64 K	10.42 H	-0.03 E	-918.01 H	1.22 E	-0.02 E
	40.60 K	10.64 H	-0.03 E	-1001.93 H	1.43 E	-0.02 E
45.5						
	40.60 K	10.65 H	-0.03 E	-1001.92 H	1.44 E	-0.02 E
	43.63 K	10.97 H	-0.03 E	-1127.77 H	1.73 E	-0.02 E
34.1						
	43.63 K	10.97 H	-0.03 E	-1127.77 H	1.73 E	-0.02 E
	46.85 K	11.29 H	-0.03 E	-1256.51 H	2.07 E	-0.02 E
22.7						
	46.85 K	11.29 H	-0.03 E	-1256.51 H	2.07 E	-0.02 E
	50.24 K	11.59 H	-0.03 E	-1388.00 H	2.40 E	-0.02 E
11.4						
	50.24 K	11.59 H	-0.03 E	-1387.99 H	2.40 E	-0.02 E
	53.80 K	11.90 H	-0.03 E	-1522.09 H	2.73 E	-0.02 E
base reaction	53.80 K	-11.90 H	0.03 E	1522.09 H	-2.73 E	0.02 E

COMPLIANCE WITH 4.8.2 & 4.5.4

ELEV ft	AXIAL	BENDING	SHEAR + TORSIONAL	TOTAL	SATISFIED	D/t(w/t)	MAX ALLOWED
180.00							
	0.00L	0.00F	0.00F	0.00F	YES	10.93A	45.2
	0.01B	0.02D	0.00D	0.03D	YES	12.66A	45.2
171.62							
	0.01K	0.02C	0.00A	0.03C	YES	12.66A	45.2
	0.00K	0.06B	0.00A	0.06B	YES	14.39A	45.2
163.25							
	0.00K	0.06A	0.00B	0.06A	YES	14.39A	45.2
	0.01K	0.10B	0.01B	0.10B	YES	16.12A	45.2
154.87							
	0.01K	0.10A	0.01A	0.10A	YES	16.12A	45.2
	0.01K	0.13A	0.01A	0.14A	YES	17.84A	45.2
146.50							
	0.01K	0.09A	0.00H	0.10A	YES	11.07A	45.2
	0.01K	0.12A	0.00H	0.12A	YES	13.25A	45.2
130.67							
	0.01K	0.12A	0.00A	0.12A	YES	13.25A	45.2
	0.01K	0.13A	0.00A	0.14A	YES	15.43A	45.2
114.83							
	0.01K	0.13A	0.00H	0.14A	YES	15.43A	45.2
	0.01K	0.15H	0.01H	0.16H	YES	17.61A	45.2
99.00							
	0.01K	0.13A	0.00K	0.13A	YES	14.84A	45.2
	0.01K	0.13A	0.00K	0.14A	YES	15.55A	45.2
93.00							
	0.01K	0.14H	0.00L	0.14H	YES	15.24A	45.2
	0.01K	0.15H	0.00L	0.15H	YES	16.81A	45.2
79.75							
	0.01K	0.15H	0.00H	0.15H	YES	16.81A	45.2
	0.01K	0.15H	0.00H	0.16H	YES	18.37A	45.2
66.50							
	0.01K	0.15H	0.00H	0.16H	YES	18.37A	45.2
	0.01K	0.16H	0.00H	0.17H	YES	19.93A	45.2
53.25							
	0.01K	0.16H	0.00H	0.17H	YES	19.93A	45.2
	0.01K	0.16H	0.00H	0.17H	YES	20.84A	45.2
45.50							
	0.01K	0.17H	0.00H	0.18H	YES	20.49A	45.2
	0.01K	0.17H	0.00H	0.18H	YES	21.83A	45.2
34.12							
	0.01K	0.17H	0.00H	0.18H	YES	21.83A	45.2
	0.01K	0.17H	0.00H	0.18H	YES	23.17A	45.2
22.75							
	0.01K	0.17H	0.00H	0.18H	YES	23.17A	45.2
	0.01K	0.18H	0.00H	0.19H	YES	24.51A	45.2
11.37							
	0.01K	0.18H	0.00H	0.19H	YES	24.51A	45.2
	0.01K	0.18H	0.00H	0.19H	YES	25.86A	45.2

0.00 .....

MAXIMUM LOADS ONTO FOUNDATION(w.r.t. wind direction)
==========

DOWN	SHEAR.w.r.t.WIND.DIR ALONG	ACROSS	MOMENT.w.r.t.WIND.DIR ALONG	ACROSS	TORSION
kip	kip	kip	ft-kip	ft-kip	ft-kip
53.80	11.90	-0.03	-1522.09	2.73	-0.02
K	H	E	H	E	E

==========

Sabre Industries
INNOVATION DELIVERED

SO#: 497165C
Site Name: South Ledyard, CT
Date: 8/19/2022

Round Flange Plate and Bolts per ANSI/TIA 222-G
Elevation = 147 feet

Pole Data

Diameter:	27.8	in
Thickness:	0.25	in
Yield (Fy):	65	ksi
# of Sides:	18	"0" IF Round
Strength (Fu):	80	ksi

Reactions

Moment, Mu:	651.1	ft-kips
Axial, Pu:	14.67	kips
Shear, Vu:	29.47	kips

Bolt Data

Quantity:	18		
Diameter:	1	in	
Bolt Material:	A325		
Strength (Fu):	120	ksi	
Yield (Fy):	92	ksi	
BC Diam. (in):	31.5	BC Override:	

Flange Bolt Results

Allowable Φ*Rnt:	54.54 kips
Adjusted Φ*Rnt (due to shear):	54.49 kips
Maximum Bolt Tension:	54.30 kips
Bolt Interaction Ratio:	**99.7%** Pass

Plate Data

Diameter (in):	34	Dia. Override:	
Thickness:	1.5	in	
Center Hole Diam.:	18	in	
Yield (Fy):	50	ksi	
Single-Rod B-eff:	4.90	in	
Drain Hole:	1	in. diameter	
Drain Location:	12.75	in. center of pole to center of drain hole	

Flange Plate Results

Compression Side Plate (Mu/Z):	23.8 ksi
Allowable Φ*Fy:	45.0 ksi
Compr. Plate Interaction Ratio:	**52.9%** Pass

Sabre Industries
INNOVATION DELIVERED

SO#: 497165C
Site Name: South Ledyard, CT
Date: 8/19/2022

Round Base Plate and Anchor Rods, per ANSI/TIA 222-G

Pole Data

Diameter:	68.520	in (flat to flat)
Thickness:	0.4375	in
Yield (Fy):	65	ksi
# of Sides:	18	"0" IF Round
Strength (Fu):	80	ksi

Reactions

Moment, Mu:	8321.33	ft-kips
Axial, Pu:	64.49	kips
Shear, Vu:	65.05	kips

Anchor Rod Data

Quantity:	22		
Diameter:	2.25	in	
Rod Material:	A615		
Strength (Fu):	100	ksi	
Yield (Fy):	75	ksi	
BC Diam. (in):	75.75	BC Override:	75.75

Anchor Rod Results

Maximum Rod (Pu+ Vu/η):	248.5 Kips	
Allowable Φ*Rnt:	260.0 Kips	(per 4.9.9)
Anchor Rod Interaction Ratio:	**95.6%** Pass	

Plate Data

Diameter (in):	81.5	Dia. Override:	81.5
Thickness:	2.5	in	
Yield (Fy):	50	ksi	
Eff Width/Rod:	9.89	in	
Drain Hole:	2.625	in. diameter	
Drain Location:	32.25	in. center of pole to center of drain hole	
Center Hole:	56.5	in. diameter	

Base Plate Results

Base Plate (Mu/Z):	36.6 ksi	
Allowable Φ*Fy:	45.0 ksi	(per AISC)
Base Plate Interaction Ratio:	**81.3%** Pass	

NEW FOUNDATION DESIGN
DRAWINGS FOR A 180' SABRE MONOPOLE TOWER

SITE: CT46142-A-SBA / SOUTH LEDYARD - TOWN DUMP

COORDINATES (LATITUDE: 41.392666°, LONGITUDE: -71.969805°)

SHEET	SHEET TITLE	REV
T-1	TITLE SHEET	1
BOM	BILL OF MATERIALS	0
GN-1	GENERAL NOTES	0
FND-1	NEW DRILLED PIER FOUNDATION DETAILS	1
RBL-1	REBAR CHART	1
F-C	FOUNDATION COATING	0

TES
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SBA

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BOCA RATON, FL 33487
(800)-487-SITE

TES JOB NO
128650

CUSTOMER SITE NO
CT46142-A-SBA
CUSTOMER SITE NAME:
SOUTH LEDYARD - TOWN DUMP
130 WELLES ROAD
GROTON, CT 06340

STATE OF CONNECTICUT
JARRYD TIBBETTS
No. 34170
LICENSED
PROFESSIONAL ENGINEER

DRAWN BY: LC	CHECKED BY: AD/SH

REV	DESCRIPTION	BY	DATE
1	FIRST ISSUE	LC	05/10/22
1	REVISED	LC	05/31/22

SHEET TITLE:
TITLE SHEET

SHEET NUMBER: T-1
REV #: 1

BILL OF MATERIALS

QUANTITY COUNTED	QUANTITY PROVIDED	PART NUMBER	DESCRIPTIONS	LENGTH	SHEET LIST (INSTALLATION)	SHEET LIST (FABRICATE)	PIECE WEIGHT (LBS)	WEIGHT (LB)	NOTES
			MATERIAL & HARDWARE						
			Following Items are Non-standard Parts						
---	---	---	SEE SHEET RBL-1 FOR ALL REBAR REQUIREMENTS	---	RBL-1	---	---	---	PROVIDED BY CONTRACTOR
3	3	---	LANCO/HENRY 287 WHITE ACRYLIC ELASTOMERIC COATING AND SEALER OR EQUIV (GALLON)	---	FC-1	---	---	---	PROVIDED BY CONTRACTOR

ALL APLXXXX, LPXXXX AND RLPXXXX ARE PATENTED PRODUCTS AND CANNOT BE FABRICATED BY THIRD PARTIES. THESE PARTS ARE AVAILABLE FROM:

METROSITE, LLC.
180 IND PARK BLVD COMMERCE, GA 30529
OFFICE: (706) 335-7045
FAX: (706) 335-7056

NOTE: ALL MATERIALS, WHICH WEREN'T LISTED IN THIS SHEET, ARE ASSUMED TO BE PROVIDED BY THE CONTRACTOR.

TOTAL WEIGHT (LBS) = **0.0**

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GROTON, CT 06340

DRAWN BY: LC | CHECKED BY: AD/SH

REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	LC	05/10/22

SHEET TITLE:
BILL OF MATERIALS

SHEET NUMBER: BOM
REV #: 0

GENERAL NOTES

1. ALL WORK SHALL COMPLY WITH THE ANSI/TIA-222-G, ANSI/ASSP A10.48, 2018 CONNECTICUT STATE BUILDING CODE, AND ANY OTHER GOVERNING BUILDING CODES AND OSHA SAFETY REGULATIONS.
2. ALL WORK INDICATED ON THE DRAWINGS SHALL BE PERFORMED BY QUALIFIED CONTRACTORS EXPERIENCED IN TELECOMMUNICATIONS TOWER, POLE AND FOUNDATION CONSTRUCTION.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND FABRICATION OF ALL MISCELLANEOUS PARTS (SUCH AS SHIMS), TEMPORARY SUPPORTS, AND GUYINGS, ETC., PER ANSI/ASSP A10.48, TO COMPLETE THE ASSEMBLY AS SHOWN IN THE DRAWINGS.
4. CONTRACTOR SHALL PROCEED WITH THE INSTALLATION WORK CAREFULLY SO THE WORK WILL NOT DAMAGE ANY EXISTING CABLE, EQUIPMENT OR THE STRUCTURE.
5. THE USE OF GAS TORCH OR WELDER, ARE NOT ALLOWED ON ANY TOWER STRUCTURE WITHOUT THE CONSENT OF THE TOWER OWNER.
6. GENERALLY THE CONTRACTOR IS RESPONSIBLE TO CONDUCT AN ONSITE VISIT SURVEY OF THE JOB SITE AFTER AWARD, AND REPORT ANY ISSUES WITH THE SITE TO **TES** BEFORE PROCEEDING CONSTRUCTION.

FABRICATION

1. ALL STEEL SHALL MEET OR EXCEED THE MINIMUM STRENGTH AS SPECIFIED IN THE DRAWINGS. IF YIELD STRENGTH WAS NOT NOTED IN THE DRAWINGS, CONTRACTORS SHALL CONTACT TES FOR DIRECTION.
2. ALL FIELD CUT EDGES SHALL BE GROUND SMOOTH. ALL FIELD CUT AND DRILLED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

WELDING

1. ALL WELDING SHALL BE PERFORMED BY AWS CERTIFIED WELDERS AND IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1. ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNO. (E70XX UNLESS NOTED OTHERWISE).
2. PRIOR TO FIELD WELDING GALVANIZED MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING APPROX. 0.5" BEYOND THE PROPOSED FIELD WELD SURFACES.
3. ALL WELDS SHALL BE INSPECTED VISUALLY. A MINIMUM OF 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. 100% OF WELDS SHALL BE INSPECTED IF DEFECTS ARE FOUND.
4. WELD INSPECTIONS SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
5. AFTER INSPECTION, ALL FIELD WELDED SURFACES SHALL BE REPAIRED WITH A MINIMUM OF TWO COATS OF ZINGA COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURER'S RECOMMENDATIONS.

BOLTED ASSEMBLIES AND TIGHTENING OF CONNECTIONS

1. ALL HIGH STRENGTH BOLTS SHALL CONFORM TO THE PROVISIONS OF THE SPECIFICATIONS FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS AS APPROVED BY THE RCSC.
2. FLANGE BOLTS SHALL BE TIGHTENED BY THE AISC "TURN-OF-THE-NUT" METHOD. THE FOLLOWING TABLE SHOULD BE USED FOR THE "TURN-OF-THE-NUT" TIGHTENING.
3. SPLICE BOLTS AND ALL OTHER BOLTS IN BEARING TYPE CONNECTIONS SHALL BE TIGHTENED TO A SNUG-TIGHT CONDITION.
4. THE SNUG-TIGHT CONDITION IS DEFINED AS THE TIGHTNESS ATTAINED BY EITHER A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF AN IRONWORKER WITH AN ORDINARY SPUD WRENCH TO BRING THE CONNECTED PLIES INTO FIRM CONTACT.
5. HB HOLLO-BOLT SHALL BE INSTALLED PER ICC ESR-3330 INSTRUCTIONS.

VERIFICATION AND INSPECTION

1. IF APPLICABLE, VERIFICATION INSPECTION TO BE PERFORMED SHALL BE IN ACCORDANCE TO IBC-2015 SECTION 1705 - FOR STEEL CONSTRUCTION & TABLE 1705.3 FOR CONCRETE CONSTRUCTION.

POST INSTALLED EPOXY INJECTED ANCHOR BOLTS:

1. CONCRETE MUST BE A MINIMUM OF 28 DAYS OLD.
2. FOLLOW MANUFACTURER'S REQUIREMENTS FOR CURE TIME VS. AMBIENT TEMPERATURE.
3. DRILL HOLE TO REQUIRED DIAMETER AND DEPTH. ALL WATER, DIRT, OIL, DEBRIS, GREASE OR DUST MUST BE REMOVED FROM EACH CORE HOLE. FOLLOW MANUFACTURER'S RECOMMENDATION FOR CORRECT TYPE OF CORE BIT. AVOID DAMAGING EXISTING REINFORCING STEEL OR OTHER EMBEDDED ITEMS. NOTIFY TES ENGINEERING IF VOIDS IN THE CONCRETE, REINFORCING STEEL OR OTHER EMBEDDED ITEMS ARE ENCOUNTERED. STOP CORING IMMEDIATELY IF THIS OCCURS.
4. A HOLE ROUGHENING DEVICE FROM EITHER HILTI OR ALLFASTENERS SHALL BE USED WITH ALL HOLES. FOLLOW ALL MANUFACTURER'S RECOMMENDED CORING AND INSTALLATION INSTRUCTIONS.
5. AFTER CORING AND ROUGHENING, FLUSH EACH HOLE WITH RUNNING WATER TO REMOVE ANY SLURRY OR DEBRIS. REMOVE ALL WATER FROM THE HOLE BY MECHANICAL PUMPING.
6. BRUSH EACH HOLE WITH AN APPROPRIATE SIZED NYLON BRUSH AND FLUSH WITH RUNNING WATER A SECOND TIME. REMOVE ALL WATER FROM THE HOLE.
7. AFTER THE SECOND WATER FLUSH BRUSH THE HOLE AGAIN WITH THE APPROPRIATE SIZED NYLON BRUSH.
8. BLOW EACH HOLE WITH COMPRESSED AIR TWO TIMES MINIMUM.
9. CONFIRM THAT EACH HOLE IS PROPERLY ROUGHED AND DRY.
10. NO EPOXY INJECTION SHALL TAKE PLACE IN RAINY CONDITIONS.
11. EPOXY SHOULD BE VISIBLE AT THE TOP OF THE CORE HOLE AFTER INSTALLATION.
12. CONTRACTOR TO SUPPLY ONE PHOTO OF EACH ROUGHED AND CLEANED HOLE IN CLOSEOUT PHOTO PACKAGE.

STATEMENT OF SPECIAL INSPECTION:

1705.8 CAST-IN-PLACE DEEP FOUNDATIONS:
SPECIAL INSPECTIONS AND TEST SHALL BE PERFORMED DURING INSTALLATION OF CAST-IN-PLACE DEEP FOUNDATION ELEMENTS AS SPECIFIED IN TABLE 1705.8. THE APPROVED GEOTECHNICAL REPORT AND THE CONSTRUCTION DOCUMENTS PREPARED BY THE REGISTERED DESIGN PROFESSIONALS SHALL BE USED TO DETERMINE COMPLIANCE.

TABLE 1705.8: REQUIRED SPECIAL INSPECTIONS AND TESTS OF CAST-IN-PLACE DEEP FOUNDATION ELEMENTS

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
1. INSPECT DRILLING OPERATIONS AND MAINTAIN COMPLETE AND ACCURATE RECORDS FOR EACH ELEMENT.	X	---
2. VERIFY PLACEMENT LOCATIONS AND PLUMBNESS, CONFIRM ELEMENT DIAMETERS, BELL DIAMETERS (IF APPLICABLE), LENGTHS, EMBEDMENT INTO BEDROCK (IF APPLICABLE) AND ADEQUATE END-BEARING STRATA CAPACITY. RECORD CONCRETE OR GROUT VOLUMES.	X	---
3. FOR CONCRETE ELEMENTS, PERFORM TEST AND ADDITIONAL SPECIAL INSPECTIONS IN ACCORDANCE WITH SECTION 1705.3.	---	---

TABLE 1705.3: REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION	REFERENCED STANDARD	IBC REFERENCE
1. INSPECT REINFORCEMENT AND VERIFY PLACEMENT	---	X	ACI 318: CH. 20, 25.2, 25.3, 26.6.1-26.6.3	1908.4
2. INSPECT ANCHORS CAST IN CONCRETE	---	X	ACI 318: 17.8.2	---
3. VERIFY USE OF REQUIRED DESIGN MIX.	---	X	ACI 318: CH. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
4. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	---	ASTM C172, ASTM C31, ACI 318: 26.5, 26.12	1908.10
5. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	---	ACI 318: 26.5	1908.6, 1908.7, 1908.8
6. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	---	X	ACI 318: 26.5.3-26.5.5	1908.9
7. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	---	X	ACI 318: 26.11.1.2(b)	---

FIELD HOT WORK PLAN NOTES:

FOLLOWING GUIDELINES SHALL BE COMPLIED WITH:

1. CONTRACTOR'S RESPONSIBILITY TO COMPLETE A HOT WORK PLAN IF AWARDED PER CUSTOMER SPECIFICATIONS GUIDELINES FOR WELDING, CUTTING & SPARK PRODUCING WORK.
2. HAVE A FIRE PLAN APPROVED BY THE CUSTOMER AND THEIR SAFETY MANAGEMENT DEPT.
3. CONTRACTOR MUST OBTAIN THE CONTACT INFO OF THE LOCAL FIRE DEPARTMENT AND THE 911 ADDRESS OF THE TOWER SITE BEFORE CONSTRUCTION.
4. CONTRACTOR SHALL MAKE SURE THAT CELL PHONE COVERAGE IS AVAILABLE IN THE TOWER SITE. IF CELL COVERAGE IS NOT AVAILABLE, AN IMMEDIATE AVAILABLE MEANS OF DIRECT COMMUNICATION WITH THE FIRE DEPARTMENT SHALL BE DETERMINED PRIOR TO CONSTRUCTION START.
5. ALL CONSTRUCTION SHALL BE PERFORMED UNDER WIND SPEED LESS THAN 10 MPH ON THE GROUND LEVEL. IF WIND SPEED INCREASE, CONTRACTOR MUST DETERMINE IF CONSTRUCTION SHALL BE DISCONTINUED.
6. FIRE SUPPRESSION EQUIPMENT MUST BE MADE AVAILABLE ON SITE AND READY TO USE.
7. CONTRACTOR SHALL ASSIGN A FIRE WATCHER TO PERFORM FIRE-FIGHTING DUTIES.
8. ALL WELDERS SHALL BE AWS OR STATE CERTIFIED. THEY MUST ALSO BE EXPERIENCED IN WELDING ON GALVANIZED MATERIALS.
9. IF IT IS POSSIBLE, ALL EXISTING COAX NEAR WELDING AREA SHALL BE TEMPORARILY MOVED AWAY FROM THE WELDING AREA BEFORE WELDING THE PLATES.
10. PLEASE REPORT ANY FIELD ISSUE TO TES @ 972-483-0607.

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TES JOB NO:
128650

CUSTOMER SITE NO:
CT46142-A-SBA

CUSTOMER SITE NAME:
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130 WELLES ROAD
GROTON, CT 06340

DRAWN BY: LC | CHECKED BY: AD/SH

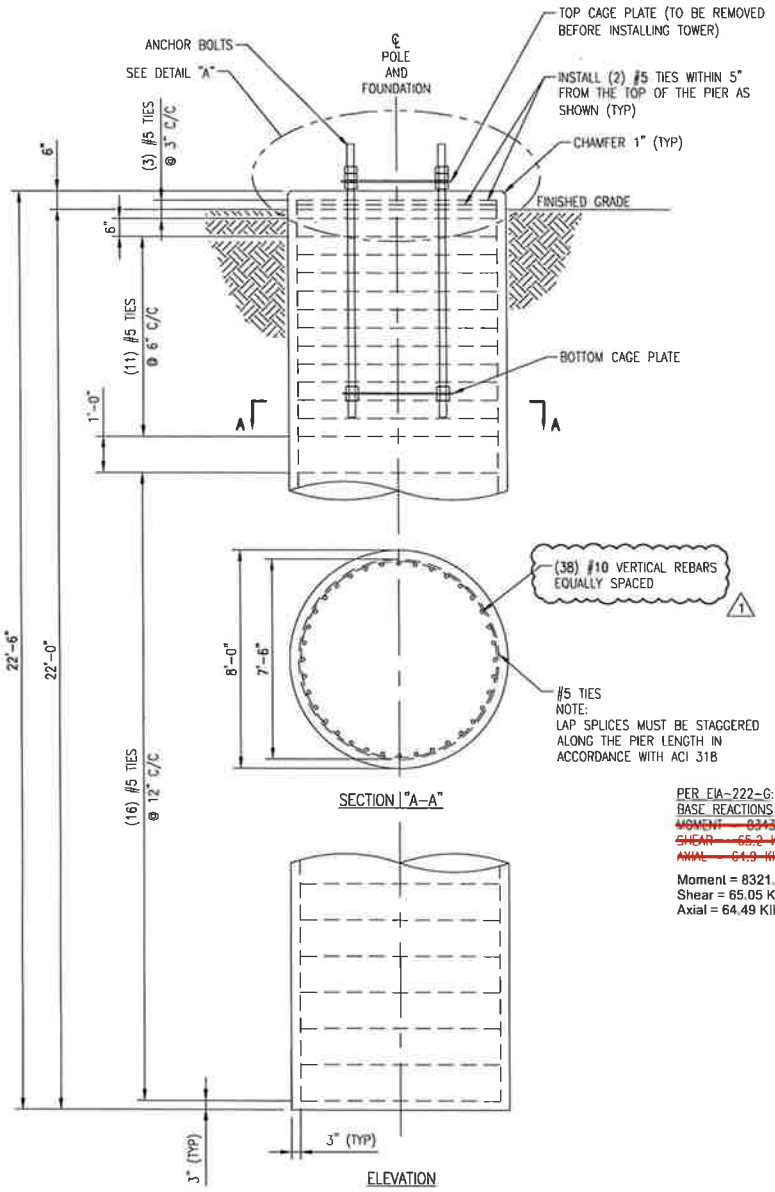
REV.	DESCRIPTION	BY	DATE
1	FIRST ISSUE	LC	05/10/22

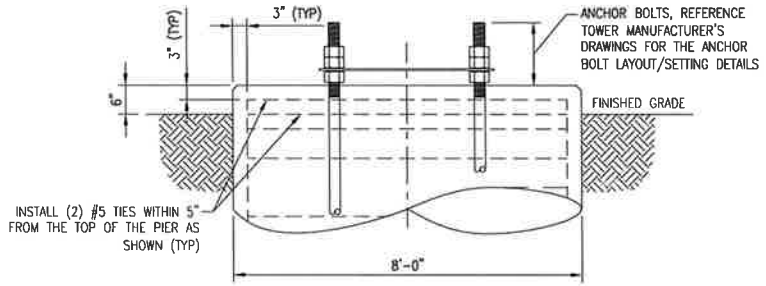
SHEET TITLE:

GENERAL NOTES

SHEET NUMBER: GN-1

REV #: 0





DETAIL "A"

PER EIA-222-G:
BASE REACTIONS
~~MOMENT = 8313.2 KIPS-FT~~
~~SHEAR = 65.2 KIPS~~
~~AXIAL = 64.9 KIPS~~

Moment = 8321.33 KIPS-FT
Shear = 65.05 KIPS
Axial = 64.49 KIPS

NOTES:

1. PROPOSED FOUNDATION WAS DESIGNED FOR A 180' MONOPOLE TOWER ~~(SABRE JOB # 497165, DATED 01/28/2022)~~. **Sabre Job # 497165C, Dated (08/19/2022)**
2. THE DESIGN REACTIONS FOR THE FOUNDATION WERE OBTAINED FROM ~~SABRE (JOB # 497165, DATED 01/28/2022)~~. **Sabre Job # 497165C, Dated (08/19/2022)**
3. PROPOSED FOUNDATION DESIGN WAS BASED ON THE GEO SOIL REPORT PROVIDED BY TOWER ENGINEERING PROFESSIONALS, INC., (PROJECT# 255888.447786, DATED 02/10/2021).
4. CONCRETE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4500 PSI AT 28 DAYS AND A MAXIMUM W/CM RATIO NOT EXCEEDING 0.45.
5. TEST CYLINDERS SHALL BE MOLDED AND LABORATORY CURED IN ACCORDANCE WITH ASTM C31. THREE PAIRS OF CONCRETE COMPRESSION TEST CYLINDERS SHALL BE MADE FROM EACH TRUCK LOAD OF CONCRETE. TWO CYLINDERS SHALL BE TESTED AT 7 DAYS AND TWO CYLINDERS SHALL BE TESTED AT 28 DAYS. (REMAINING PAIR OF CYLINDERS ARE FOR REDUNDANCY).
6. REINFORCED CONCRETE CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH ACI STANDARDS 318.
7. ALL REBAR SHALL BE SECURELY WIRE TIED TO PREVENT DISPLACEMENT DURING POURING OF CONCRETE.
8. VERTICAL EMBEDMENTS OUT OF PLUMB: 1.0 DEGREE.
9. DEPTH OF FOUNDATION: PLUS 3" OR MINUS 0".
10. CONCRETE DIMENSIONS: PLUS OR MINUS 1/2".
11. REINFORCING STEEL PLACEMENT: PLUS OR MINUS 1/2" INCLUDING CONCRETE COVER.
12. CONCRETE VOLUME: 41.89 CUBIC YARDS.
13. MATERIALS FOR REINFORCING SHALL BE IN ACCORDANCE WITH ASTM SPECIFICATION A615-85.
14. ALL REBAR TO BE GRADE 60 (UNLESS NOTED OTHERWISE). REBAR MILL TEST REPORT IS REQUIRED AS PART OF THE PROJECT CLOSEOUT DOCUMENTATION.
15. CONCRETE SLUMP: 2" ~ 4".
16. FOUNDATION BASE SHOULD REST ON FIRM AND LEVELED SURFACE.
17. FILL MATERIALS SHALL BE COMPACTED USING LAYERS OF NO MORE THAN 6". FINAL COMPACTION MUST BE A MINIMUM OF 95% DENSITY (THE MAXIMUM DRY UNIT OF WEIGHT). BACKFILL MATERIALS SHALL BE SANDY SILT (ML), SILT SAND (SM), CLAYED SAND (SC). NO ORGANIC MATERIALS, ROOTS, PLASTIC SILTS OR CLAYS, DELETERIOUS MATERIALS AND STONES SHALL BE USED. IF ROCK/SOIL MIXTURE IS USED AS BACKFILL, THE ROCK SIZE SHOULD BE LESS THAN 4" IN GREATEST DIMENSION AND NOT MORE THAN 15% BY WEIGHT SHALL BE LARGER THAN 2" IN GREATEST DIMENSION.

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1	REVISED	LC	05/31/22

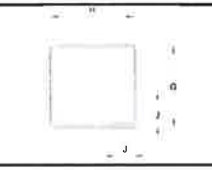
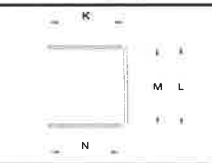
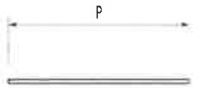
SHEET TITLE:

NEW DRILLED PIER FOUNDATION DETAILS

SHEET NUMBER: FND-1

REV #: 1

REBAR CHART

TYPE OF REBAR DIAGRAM	ITEMS	QTY. REQ'D	REBAR SIZE	LENGTH REQ'D (FT.)	TOTAL WEIGHT (LBS)	DETAILS OF BAR DIMENSIONS							REBAR DIAGRAM
ROUND TIE		-	-		-	A (FT.)	A	B	B (FT.)				
	1	31	5	25'-8 5/16"	830.8	7.50	7'-6"	2'-1 5/8"	2.1326				
90° BEND VERTICAL BAR		-	-	-	-	C (FT.)	C	D (ft)	D	E	F	RADIUS	
SQUARE OR RETANGULAR TIE		-	-	-	-	G (FT.)	G	H (ft)	H	J	RADIUS		
U-SHAPE 90° BEND		-	-	-	-	K (FT.)	K	L (ft)	L	M	N	RADIUS	
STRAIGHT		-	-	-	-	P (FT.)	P						
	2	38	10	22'-0"	3597.3	22.000	22'-0"						

MINIMUM SPLICE LENGTHS REQUIRED

BAR SIZE	LENGTH REQ'D
#6	3'-7/8"
#7	4'-4 1/2"
#8	5'-1 1/2"
#9	5'-9"
#10	6'-6"
#11	7'-1 1/2"

BILL OF MATERIALS

TYPES OF REBAR CONFIGURATIONS	QTY. REQ'D	REBAR SIZE	LENGTH REQ'D (FT.)	TOTAL WEIGHT (LBS)
ROUND TIE	31	5	25'-8 5/16"	830.8
STRAIGHT	38	10	22'-0"	3597.3
TOTAL STEEL WEIGHT (LBS):	4428.1			

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SHEET TITLE:
REBAR CHART

SHEET NUMBER: RBL-1
REV #: 1

EXAMPLE OF FOUNDATION COATING
(REFERENCE ONLY)

FOUNDATION COATING NOTES:

1. THE COATING MATERIALS SHALL BE LANCO WHITE ACRYLIC ELASTOMERIC COATING AND SEALER, OR HYDRO ARMOR COATING.
2. THE COATING CAN BE PLACED AT LEAST (2) DAYS AFTER THE PLACEMENT OF THE CONCRETE FOR FOUNDATION REINFORCEMENT, AND MINIMUM (4) DAYS FOR NEW FOUNDATION CONSTRUCTION.
3. THE CONCRETE SURFACE SHALL BE CLEAN AND DRY PRIOR TO THE APPLICATION OF THE COATING.
4. THE COATING SHALL BE APPLIED TO ALL THE SURFACES OF THE CONCRETE ABOVE THE GROUND AND 6" BELOW THE GRADE SURFACE IF APPLICABLE.
5. MINIMUM 30 MILS COATING IS REQUIRED.

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SHEET TITLE:

FOUNDATION COATING

SHEET NUMBER: FC-1

REV #: 0

Sabre Industries™
INNOVATION DELIVERED

August 22, 2022

Ms. Andrea Gassner
SBA Network Services, Inc.
8051 Congress Avenue
Boca Raton, FL 33487

RE: 181' Monopole at #CT46142-A South Ledyard, CT (Sabre #497165)

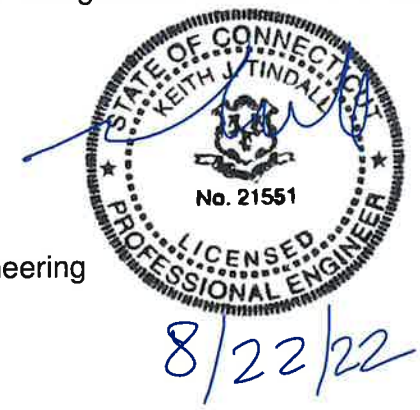
Dear Ms. Gassner,

As shown in our Structural Design Report #497165 Revision C dated August 19, 2022, the above referenced monopole has been designed for an Ultimate Wind Speed of 135 mph with no ice and 50 mph with 3/4" radial ice, Structure Class II, Exposure Category C and Topographic Category 1 in accordance with the Telecommunications Industry Association Standard ANSI/TIA-222-G, "Structural Standard for Antenna Supporting Structures and Antennas".

When designed according to this standard, the wind pressures and steel strength capacities include several safety factors. Therefore, it is highly unlikely that the monopole will fail structurally in a wind event where the design wind speed is exceeded within the range of the built-in safety factors.

Should the wind speed increase beyond the capacity of the built-in safety factors, to the point of failure of one or more structural elements, the most likely location of the failure would be within the flanged connection at the 147.5' level. Assuming that the wind pressure profile is similar to that used to design the monopole, the monopole will yield at the location of the highest combined stress ratio within the flanged connection. *Please note that this letter only applies to the above referenced monopole designed and manufactured by Sabre Industries.* The fall radius for the monopole design described above is less than 37 feet.

Sincerely,



8/22/22

Keith J. Tindall, P.E., S.E.
Vice President, Telecom Engineering