Draft Environmental Impact Statement Addendum
May 2017

Proposed Wireless Communications Facility

AT&T Site LI-061
100-106 Long Lane
Hamlet of East Hampton
Town of East Hampton
Suffolk County, New York

PREPARED FOR

New Cingular Wireless, PCS, LLC (AT&T)
c/o John Huber, Esq.
Re, Nielsen, Huber & Coughlin, LLP
36 North New York Avenue
Huntington, NY 11743

PREPARED BY

100 Motor Parkway, Suite 135
Hauppauge, NY 11788
(631) 787-3400

RÉ, NIELSEN, HUBER & COUGHLIN, LLP

ATTORNEYS AT LAW

36 NORTH NEW YORK AVENUE
HUNTINGTON, NEW YORK 11743

TELEPHONE: (631) 425-4100
FACSIMILE: (631) 425-4104

May 19, 2017

Planning Board
Town of East Hampton
300 Pantigo Place, Suite 103
East Hampton, New York 11937

RE: AT&T at Iacono Farm Site Plan/PWSF; S.C.T.M. # Section 159, Block 1, Lot 10.1

Dear Planning Board:

Ré, Nielsen, Huber & Coughlin, LLP represents New Cingular Wireless PCS, LLC ("AT&T") in connection with a proposed telecommunications facility at/on the existing wind turbine lattice tower at 100 Long Lane, East Hampton. In response to Chairman Potter's March 9, 2017 correspondence, a copy of which is enclosed:

- Please be advised that, according to information provided by Bergey WindPower, manufacturer of the Iacono Farm Wind Turbine Structure, and Dewberry Engineers, the engineering firm that has designed AT&T's proposed facility at Iacono Farm, the wind turbine blades are 10 feet 2 inches long and 11 inches at their widest. They are curved, and taper, similar to an airplane wing. A copy of the "Installation Manual" for the wind turbine and self supporting lattice tower is enclosed.

  For purposes of comparison, as indicated at Detail 3 on Sheet Z06 in the plans (Rev. I dated 12/4/15) submitted by AT&T in support of its application, AT&T's proposed antennas are 55 inches tall, 11.85 inches wide, and 7.1 inches deep.

- Enclosed please find maps depicting the alternative parcel locations identified in Chapter/Section 7 of AT&T's Draft Environmental Impact Statement

- Enclosed please find the "Second Affidavit of AT&T Radio Frequency Performance Manager" regarding evaluation of a theoretical personal wireless service facility at the Town-owned property (i.e. Former Brush Dump) between Bull Path and Old Northwest Road

- Enclosed please find copies of the signage to be installed at AT&T's proposed Iacono Farm facility

- Enclosed please find a copy of the November 11, 2015 "Rigorous Structural Analysis Report" prepared on AT&T's behalf in connection with AT&T's Planning Board application for the proposed telecommunications facility at Iacono Farm. This Rigorous Structural Analysis Report was submitted originally to the Planning Board on/about December 8, 2015 but is being resubmitted herewith for consistency. The Analysis concludes that, with the structural reinforcement proposed by AT&T for its installation, the Iacono Farm wind turbine lattice tower will be at 95.7% of its load bearing capacity and passes, and the tower's foundation will be at 75.6% of its load bearing capacity, and passes. This establishes that there is, indeed, some available load bearing capacity for another wireless service provider to collocate on the Iacono Farm wind turbine lattice tower, but that additional structural reinforcement may be required to accommodate that project. Insofar as the specific loading associated with a future collocation project cannot be known at this time, it would be wholly speculative to determine how much, if any, additional structural reinforcement would be required for such a project.

Based on the foregoing, we believe that we have responded fully, and in good faith, to Chairman Potter's March 9, 2017 request for supplemental DEIS information. If you would be so kind, please immediately determine that AT&T's DEIS is now adequate for public review, and initiate the public comment period.

Thank you for your consideration.

Respectfully,

RÉ, NIELSEN, HUBER & COUGHLIN, LLP

John Huber

Enclosure(s)

Chairman Potter's March 9, 2017 Correspondence

RECD 3/15/17

TOWN OF EAST HAMPTON

300 Pantigo Place - Suite 103
East Hampton, New York 11937-2684

Planning Board

(631) 324-2696

March 9, 2017

John Huber
Ré, Nielsen, Huber & Coughlin, LLP
36 North New York Avenue
Huntington, NY 11743

Re: AT&T at Iacono Farm Site Plan/PWSF
SCTM #300-159-1-10.1

Dear Mr. Huber:

The East Hampton Town Planning Board reviewed your application at its March 8, 2017 meeting.

Attached is a copy of the planning department's review of the information submitted for your application. The planning board had the following additional comments:

- The planning department will review the additional information submitted to the planning board at the meeting pertaining to the anticipated disparity in emergency services communication capabilities within the projected coverage area of the proposed facility versus that of a series of antennas mounted to public right-of-way utility poles, including telephone poles, utility-distribution poles, streetlights and/or traffic signal stanchions within this same area, and the additional visual information for a series of antennas mounted to public right-of-way utility poles, including telephone poles, utility-distribution poles, streetlights and/or traffic signal stanchions
- The following information is required before the Planning Board can deem the Draft Environmental Impact Statement (DEIS) complete:
    - The applicants will clarify the size of the wind turbine blades as compared to that of the antennas, as requested by the Board
    - A map depicting the alternative parcel locations should be included.
    - Additional information regarding the feasibility of a new Personal Wireless Service Facility at the Town-owned property between Bull Path and Old Northwest Road (SCTM#300-135-2-15.2 & 34.2) should be submitted for this opportunity site. Visual simulations for various designs should be included.
    - The exact language on the sign at the base of the windmill regarding electromagnetic radiation should be submitted.
    - Information about the capability of the existing lattice tower's structural capability to support Personal Wireless Service Facilities for other carriers in addition to the applicants should be submitted.

Please address the issues outlined in the planning department memo as modified by the planning board. If you have any questions or concerns, please contact the planning board committee member for your project, Ian Calder-Piedmonte, or contact the planner assigned to the project.

Please respond within three (3) months of the date of this letter with the required information or with a written reason why the required information cannot be submitted within that timeframe. If we have not received a response by June 6, 2017, your application will be considered to be withdrawn and a new application will need to be filed before review of your project can proceed.

Sincerely,

Joseph B. Potter
Chairman

REJ/jtw
Enc.
cc: Planning Department

Anthony Iacono
P.O. Box 214
East Hampton, NY 11937

TOWN OF EAST HAMPTON

300 Pantigo Place – Suite 105
East Hampton, New York 11937-2684

Planning Department
Marguerite Wolffsohn
Director

Telephone (631) 324-2178
Fax (631) 324-1476

March 2, 2017

TO: Planning Board

FROM: Eric Schantz
Senior Planner ES, MW

RE: AT & T @ Iacono Farms Personal Wireless Service Facility (PWSF) – Site Plan/Special Permit
SCTM# 300-159-1-10.1

Last Review Date: September 21, 2016

Items and Date Received: Draft Environmental Impact Statement (DEIS) prepared by VHB dated January 2017

Background Information: Application was originally made to construct a new Personal Wireless Service Facility (PWSF) consisting of: twelve (12) panel antennas, six (6) remote radio heads and associated cabling to be mounted on three (3) separate support arms (or "sectors") to be situated at 95' AGL on an existing 120' tall lattice tower which contains a wind turbine and GPS antenna.

This design has now been modified to propose a total of nine (9) antennas with three (3) mounted at 95' AGL, three (3) mounted at 85' AGL and three (3) mounted at 75' AGL. Also proposed (still) is a 12' X 28' (336 sq. ft.) equipment shelter with a 39' X 18' (702 sq. ft.) 8' tall chain link fence enclosure, cable bridge, roof-mounted GPS unit and generator.

The parcel is zoned A5: Residence and is situated within the Agricultural Overlay District. The parcel is 100% cleared and has been both historically and presently used for agriculture. It is situated on the north side of Long Lane in East Hampton and is surrounded by a mixture of agricultural and residential uses.

Issues for Discussion:

Draft Environmental Impact Statement (DEIS)
The applicants have submitted a Draft Environmental Impact Statement (DEIS) prepared by VHB dated January 2017. The Planning Department offers the following comments:

Generally speaking, the Planning Department finds that the layout and content of the DEIS is acceptable and in keeping with SEQRA-mandated requirements for such a document as well as the Planning Board's adopted scope of review. However, the Planning Board is directed to pay particular attention to two parts of the document, as outlined below.

Probable Impacts of the Proposed Action (Part 4)
Part 4 (see Page 34) outlines the probable impacts of the proposed action. This evaluates the proposed project with regard to a number of applicable standards, including the general site plan and special permit standards as well as the specific special permit standards for a Personal Wireless Service Facility (PWSF). The Board is reminded that it will ultimately need to determine that the standards can indeed be complied with if the application is to be granted approval. Part 4.2 analyses the proposed project's impacts on aesthetic resources, which was a primary reasoning behind the Board's positive declaration. The DEIS concedes that the facility will be visible to numerous properties and areas within the range of the conducted visual study but argues that the visual impacts will be minimal primarily due to the flush-mounted antenna array and the fact that the turbine atop the lattice tower is the most prominent aspect of the structure.

The Board should determine whether or not the DEIS contains sufficient information to evaluate the visual impacts of the proposed project.

Alternatives (Part 7)
Part 7 of the DEIS (see Page 65) analyses the alternatives requested in the DEIS scope, as accepted by the Planning Board. These alternatives to the applicant's proposal (nine (9) flush-mounted antennas) include:

1. No action
2. The originally-proposed twelve (12) antenna arm-mounted array
3. Complete concealment of the facility:
    a. Within the lattice tower
    b. Concealment of the antennas still mounted to the exterior of the lattice tower
    c. New wind turbine support structure/tower
4. Alternative Opportunity Sites:
    a. Public right-of-way utility poles, including telephone poles, utility-distribution poles, streetlights and traffic signal stanchions
    b. Religious institutions
    c. Rooftops
    d. Tree masses
    e. Town-owned properties (except designated open space)

With respect to 3.a above, the DEIS concludes that it is not feasible to conceal the antennas within the legs of the existing lattice tower due to RF engineering physical limitations (transmission interference).

With respect to 3.b above, the Board should review the visual simulation in Appendix L (second image) which, as stated in the DEIS, does appear to be visually more obtrusive than the proposed project.

With respect to 4.e above, the DEIS notes that all of the Town-owned properties within the vicinity of the subject parcel are either similarly unconcealed by vegetation or have specific use restrictions which preclude the construction of a Personal Wireless Service Facility (PWSF). It is also noted that the recently-approved New Cingular Wireless (AT&T) facility at 260 Springs – Fireplace Road will not impact coverage in this area of Town.

With respect to 4.a above, the DEIS first notes that the Town cannot impose specific technical requirements on wireless services and that, therefore, a utility pole-mounted facility such as a Distributed Antenna System (DAS) cannot be required by the Board. However, the DEIS does analyze this option and states that, among other reasons, this is not feasible due to the fact that such systems are not as capable as traditional single-source facilities at helping emergency services responders. No visualizations of such facilities were included in the DEIS.

The Planning Department requests additional information at this time regarding the feasibility of a Distributed Antenna System, small cell system, or any other similar form of antenna network which can be mounted to "...public right-of-way utility poles, including telephone poles, utility-distribution poles, streetlights and traffic signal stanchions..." as previously requested in the adopted scope for the DEIS. In particular, we request that the following additional information in the form of a supplement to the DEIS be submitted:

1. Additional information pertaining to the anticipated discrepancies in emergency services communication capabilities within the projected coverage area of the proposed facility versus that of a series of antennas mounted to public right-of-way utility poles, including telephone poles, utility-distribution poles, streetlights and/or traffic signal stanchions within this same area

2. Additional visual information for a series of antennas mounted to public right-of-way utility poles, including telephone poles, utility-distribution poles, streetlights and/or traffic signal stanchions

Although the Board may wish to consult with Counsel, the Planning Department encourages the Planning Board to require this additional information not to impose specific technical requirements on the applicants, but to fully determine if reasonably feasible alternatives are present.

Conclusion
In conclusion, the Board should discuss the aforementioned issues and form a consensus as to the Planning Department's analysis of the DEIS and whether or not the requested supplemental information should be submitted at this time.

ES

Planning Board Consensus

Does the Board agree with the Planning Department that the supplemental information to the Draft Environmental Impact Statement (DEIS) as outlined above, must be submitted at this time?

Additional comments: _____
_____

Additional Board Comments:

_____
_____
_____

Blade Information and "Installation Manual" for Iacono Farm Wind Turbine and Self- Supporting Lattice Tower

John Huber

From: Slaman, Joanne [jslaman@Dewberry.com]
Sent: Thursday, March 16, 2017 11:33 AM
To: John Huber; Timothy Ball; MCMAHON, PATRICIA; Echevarria, Erin; Ellsworth, John; Singer, Sarah; Neil Arceo; MOUCHA, JOHN E
Subject: LI-061 turbine information
Attachments: excel-10-self-supporting-lattice-tower-installation-manual-2.pdf

Team:
I was able to speak with Bergey WindPower. They provided information on the blades and an installation manual which may help with any other questions. Please see attached. The blade is 10'-2" long and 11" at its widest. They are curved and taper similar to an airplane wing.
Thanks,
Joanne

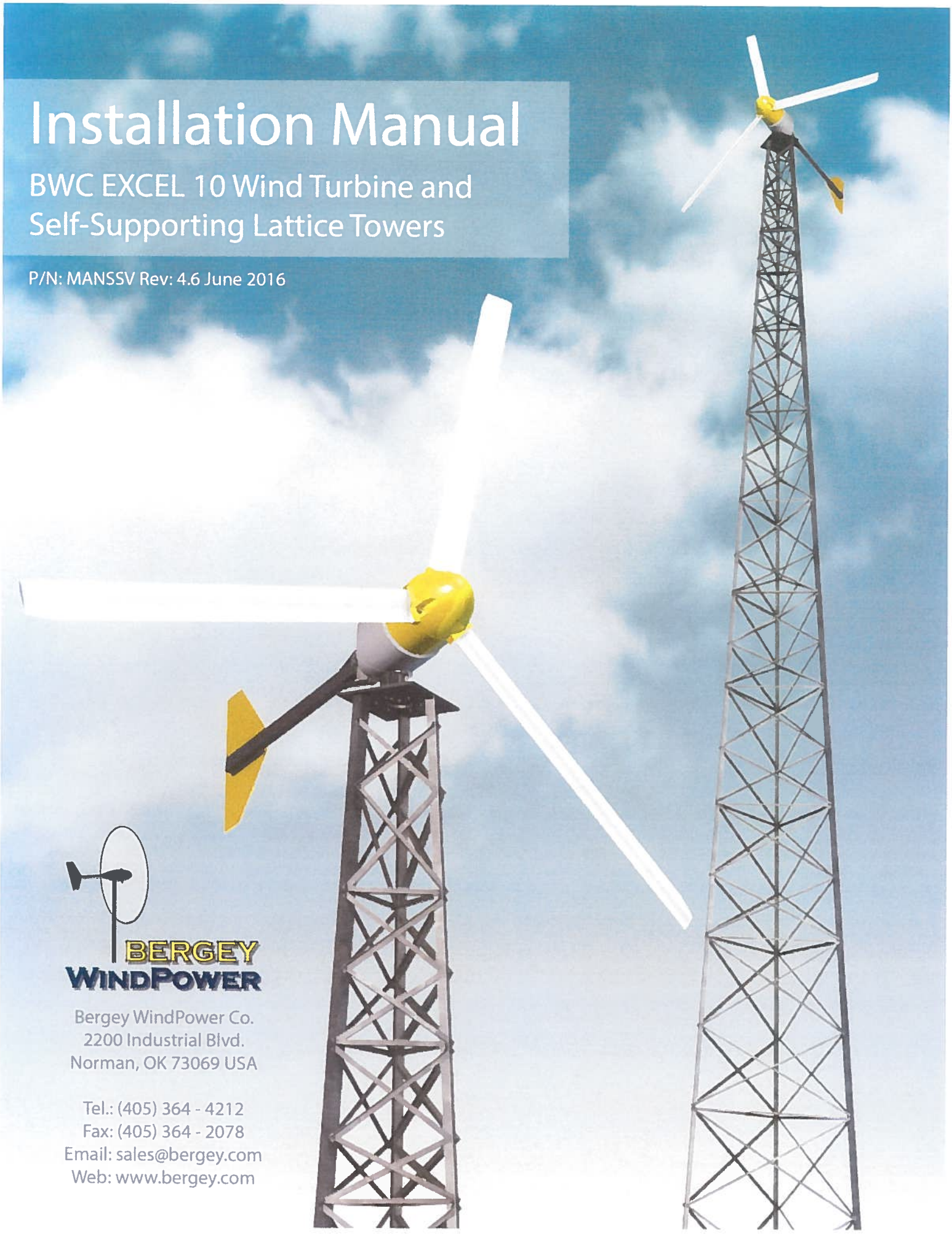
Joanne W Slaman, RA
Assistant Dept. Manager/Sr. Project Manager
Dewberry
600 Parsippany Road, Suite 301
Parsippany, NJ 07054-3715
973.576.9674 direct
973.739.9400 office
973.739.9710 fax
www.dewberry.com

Licensed in NJ and NY

Installation Manual

BWC EXCEL 10 Wind Turbine and Self-Supporting Lattice Towers

P/N: MANSSV Rev: 4.6 June 2016



BERGEY WINDPOWER

Bergey WindPower Co.
2200 Industrial Blvd.
Norman, OK 73069 USA

Tel.: (405) 364 - 4212
Fax: (405) 364 - 2078
Email: sales@bergey.com
Web: www.bergey.com

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I. Important Safety Instructions

This manual contains important information concerning the installation of your Rohn Self Supporting Lattice tower. We strongly recommend that you read and familiarize yourself with its contents.

Please note that the wind tower is to be installed in accordance to the National Electrical Code (NEC), ANSI/NFPA 70.

At several points in this manual, items of special interest or significant impact are highlighted by one of the following symbols:

 **DANGER:** Hazard or unsafe practice that could cause personal injury or death.

 **WARNING:** Hazard or unsafe practice which could cause product damage.
NOTE: Significant point of interest.

In addition, the following symbols are important to note when dealing with the electrical components of the wind turbine:

- "**~**" represents the alternating current
- "**3Φ**" represents a three phase power system
- "**I**" states the equipment is "ON"
- "**O**" states the equipment is "OFF"
-  represents the ground symbol

Finally, the following points are important safety notes to be familiar with before installing the tower and wind turbine:

1. All persons not directly involved in the tower work should stay clear of the area.
2. All persons on or near the tower should wear OSHA-approved hardhats.
3. Tower work should be done by trained personnel.
4. Tower should not be constructed near utility lines. **Injury or death may result.**
5. Climb the tower with proper safety equipment.
6. When working on the tower, use a safety harness and tool belt.
7. Never carry tools or parts in your hands while climbing the tower.
8. Keep the amount of work to be done on the tower to a minimum.
9. Never stand directly below someone who is working on the tower.
10. Never work on the tower it alone onsite.
11. Never climb tower unless alternator is shorted and blades are barely rotating.
12. Stay clear of the tower in the presence of possibility of severe weather of any kind.

II. Receiving, Handling and Identification

A. BWC Wind Turbine

BWC turbines are shipped in three pieces: two crates plus the tail boom as an unpackaged assembly. Additionally, the controller/inverter is typically shipped within the Powerhead crate but may be shipped in a separate container. The contents, weights and dimensions of these pieces are as follows:

1. Powerhead Skid: 1022 lb., 53" x 74" x 36" (HxWxD)
    a. Mainframe/alternator assembly with tower adapter
    b. Spinner (nose cone)
    c. Tail Fin
    d. Blade, Spinner, Tail Fin attachment hardware
    e. Controller/inverter

2. Blade Carton: 180 lbs., 16" x 131" x 14" (HxWxD)
    a. Three rotor blades

3. Tail Boom: 145 lbs., 13" x 114" x 24" (HxWxD)

4. Controller/Inverter Skid: 240 lb., 20" x 48" x 40" (HxWxD)
(It's typically shipped in the Powerhead crate but, may be shipped separately.)

Upon delivery, the boxes and contents should be checked for parts and signs of damage. If any damage is found its extent should be noted as precisely as possible. Digital photographs can be helpful in verifying claims against the carrier. BWC should be notified as soon as possible so that the necessary replacement parts can be sent. When reporting a damaged or malfunctioning component of the system, include the item's part number. Do not dispose of damaged goods until they have been inspected by the carrier's claims department.

The blade box, electronics box and powerhead shipping pallet should be retained in storage in case component shipping is required at some later date.

B. SSL Tower Kit

The SSL Tower Kit is comprised of material from Rohn and BWC. The kit from Rohn will include a number of 20 ft. welded tower legs, a bundle of grounding rods, a large bundle of tower diagonal "braces" and one or more boxes/pallets of hardware and miscellaneous materials. Tower legs and braces are typically shipped directly from Rohn, and these will usually be banded together as a single bulky, heavy mass on a large pallet. The Rohn drawings showing the individual tower section assembly details (See Appendix) are the best source for information concerning the Rohn-supplied tower components.
The master hardware kit parts list for the SSL Tower is shown in **Table 1** to assist you in determining that all auxiliary material from BWC has been received. Specific packing lists are also provided with each shipment. All major items should be properly inspected before delivery is accepted.

The Rohn tower components are very heavy; section weights progress from 850 lb. for the VG65 top section to 2700 lb. for the 12N203 base section for a 160 ft. tower. Individual leg components vary from 150 lb. for the VG65W to 600 lb. for the 12N203. Handling these large components by hand is not recommended because of the risk of back injury. If you must move major tower parts by hand always use several helpers. The best way to move SSL tower components is with a forklift, tractor (with a front end loader), or crane.

C. Tower Wiring Kits

Most people choose to purchase a Tower Wiring Kit along with the Tower Kit. The Tower Wiring Kit consists of the down-tower armored cable, connectors and fasteners, a fused disconnect switch that mounts to the tower, and a surge arrestor. The specific packing list is provided with each shipment (See **Table 2**). All major items should be properly inspected before delivery is accepted.

D. Packing Lists

Table 1: SSL Tower Hardware Kit Master Parts List

No.	Description	BOM QTY						Comments
	HK0021-	60 (XLSS18-TWK)	80 (XLSS24-TWK)	100 (XLSS30-TWK)	120 (XLSS37-TWK)	140 (XLSS43-TWK)	160 (XLSS49-TWK)	
MANSSV	MANUAL	1	1	1	1	1	1	Installation Instructions
CAB011	CABLE #2 BARE STRANDED COPPER							
HBA011	BOLT 5/8"-11 x 2-1/2" HH A325	9	9	9	9	9	9	Attach turbine to top tower section
HNA003	WASHER 5/8" HARDENED FLAT	18	18	18	18	18	18	Attach turbine to top tower section
HNA008	NUT, 5/8"-11 HEX A563-DH HDG	9	9	9	9	9	9	Attach turbine to top tower section
HNA004	PAL NUT, 5/8" HDG	9	9	9	9	9	9	Attach turbine to top tower section
11508-1	FURL CABLE ASSY, 3/16" x 60' SS	1						Cable from turbine to furling winch
11508-2	FURL CABLE ASSY, 3/16" x 80' SS		1					Cable from turbine to furling winch
11508-3	FURL CABLE ASSY, 3/16" x 100' SS			1				Cable from turbine to furling winch
11508-4	FURL CABLE ASSY, 3/16" x 120' SS				1			Cable from turbine to furling winch
11508-5	FURL CABLE ASSY, 3/16" x 140' SS					1		Cable from turbine to furling winch
11508-6	FURL CABLE ASSY, 3/16" x 160' SS						1	Cable from turbine to furling winch
HM3003	THIMBLE 3/16" SS	1	1	1	1	1	1	Attach furl cable to turbine cable
HM3002-B	CLIP MALLEABLE 3/16" - SS	2	2	2	2	2	2	Attach furl cable to turbine cable
11155	LANYARD, SSV FURLING CABLE	1	1	1	1	1	1	Center furl cable in top section
11119GALV	PLATE WINCH MOUNT SSV TOWER	1	1	1	1	1	1	Attach furling winch
HW8003	WASHER 1/2" SPLIT LOCK ZPS	4	4	4	4	4	4	Attach winch plate to tower leg
HN8003	NUT 1/2"-13 HEX, ZPS	4	4	4	4	4	4	Attach winch plate to tower leg
HB8031	U-BOLT 1/2"-13 x 3" x 4-1/2" ZPS	2						Attach winch plate to tower leg
HB8004	U-BOLT 1/2"-13 x 3-1/2" x 5" ZPS		2					Attach winch plate to tower leg
HB8008	U-BOLT 1/2"-13 x 4" x 5-1/2" ZPS			2	2			Attach winch plate to tower leg
HB8013	U-BOLT 1/2"-13 x 4-1/2" x 6" ZPS					2		Attach winch plate to tower leg
HB8042	U-BOLT 1/2"-13 x 5-5/8" x 7-1/4" ZPS						2	Attach winch plate to tower leg
HB6002	BOLT 3/8"-16 x 1" HH, SS	3	3	3	3	3	3	Attach furling winch to mounting plate
HW6004	WASHER 3/8" SAE FLAT SS	6	6	6	6	6	6	Attach furling winch to mounting plate

No.	Description	BOM QTY						Comments
	HK0021-	60 (XLSS18-TWK)	80 (XLSS24-TWK)	100 (XLSS30-TWK)	120 (XLSS37-TWK)	140 (XLSS43-TWK)	160 (XLSS49-TWK)	
HW6002	WASHER 3/8" SPLIT LOCK SS	3	3	3	3	3	3	Attach furling winch to mounting plate
HN6001	NUT 3/8"-16 HEX SS	3	3	3	3	3	3	Attach furling winch to mounting plate
HM0008	ROD GROUNDING 3/8" x 8' COPPER CL	3	3	3	3	3	3	Ground rod at each pad
HM0042	CLAMP GROUNDING DIRECT BURIAL	3	3	3	3	3	3	Attach tower leg to grounding rod
11471-1	GROUNDING CABLE ASSM 72"	3	3	3	3	3	3	Attach tower leg to grounding rod
HB8035	BOLT 1/2"-13 x 1-1/4" A325HDG	3	3	3	3	3	3	Attach ground wires to anchor pads
HM8007	LUG #2AWG x 1/2"							
HN8004	NUT 1/2"-13 HEAVY HEX HDG	3	3	3	3	3	3	Attach ground wires to anchor pads
HN8005	NUT 1/2" PAL HDG	3	3	3	3	3	3	Attach ground wires to anchor pads

Table 2: SSL Tower Wiring Master Parts List

No.	Description	BOM QTY						Unit	Comments
	XLSSxx-TWK	18 (60 ft.)	24 (80 ft.)	30 (100 ft.)	37 (120 ft.)	43 (140 ft.)	49 (160 ft.)		
AXA009	SWITCH DISCONNECT - 600V 60A	1	1	1	1	1	1	EA	Turbine disconnect
AXA013	HUB 3/4" N3R - SQD DISCONNECT	1	1	1	1	1	1	EA	Hub for disconnect
AFA016	FUSE FRS-R-45 (BUS)	3	3	3	3	3	3	EA	Fuses for disconnect
CAB006	CABLE ARMOR MC 3x#6AWG 600V	60	80	100	120	140	160	FT	Down tower cable
EC0152	CONNECTOR, ARMORED CABLE 3/4"	2	2	2	2	2	2	EA	Turbine & Disconnect connector
HNB002	LOCKNUT 3/4 ELECTRICAL	1	1	1	1	1	1	EA	Turbine side connector
HMB006	BUSHING 3/4 PLASTIC INSULATING	1	1	1	1	1	1	EA	Turbine side connector
HM0012	CABLE TIE 13.4" NYLON BLACK HD	50	50	50	50	50	50	EA	Attach cable to tower leg
EC0184	GROUNDING BAR KIT, SQD GTK0610	1	1	1	1	1	1	EA	Grounding bar for disconnect
HB6025	U-BOLT GUILLOTINE 2.75" ZPS	2						EA	Attach disconnect to tower
HB6021	U-BOLT GUILLOTINE 3.5" ZPS		2					EA	Attach disconnect to tower
HB6024	U-BOLT GUILLOTINE 4" ZPS			2	2			EA	Attach disconnect to tower
HB6029	U-BOLT GUILLOTINE 4.5" ZPS					2		EA	Attach disconnect to tower
HB6030	U-BOLT GUILLOTINE 5.5" ZPS						2	EA	Attach disconnect to tower
HN6003	NUT 3/8-16 HEX NYLOC ZPS	4	4	4	4	4	4	EA	Attach disconnect to U-Bolt
HW6001	WASHER 3/8 SAE FLAT ZPS	4	4	4	4	4	4	EA	Attach disconnect to U-Bolt
ARR003	ARRESTOR LIGHTNING LA603v	1	1	1	1	1	1	EA	Install on disconnect

III. Tower Foundations

A. Layout of Foundations

The required anchor bolt layout is shown in **Figure** . Tower height is increased in 20 foot increments by adding new sections to the base of the tower structure. Each additional section is stronger and heavier, with a larger spread between the tower legs. Foundation size also increases with tower height.

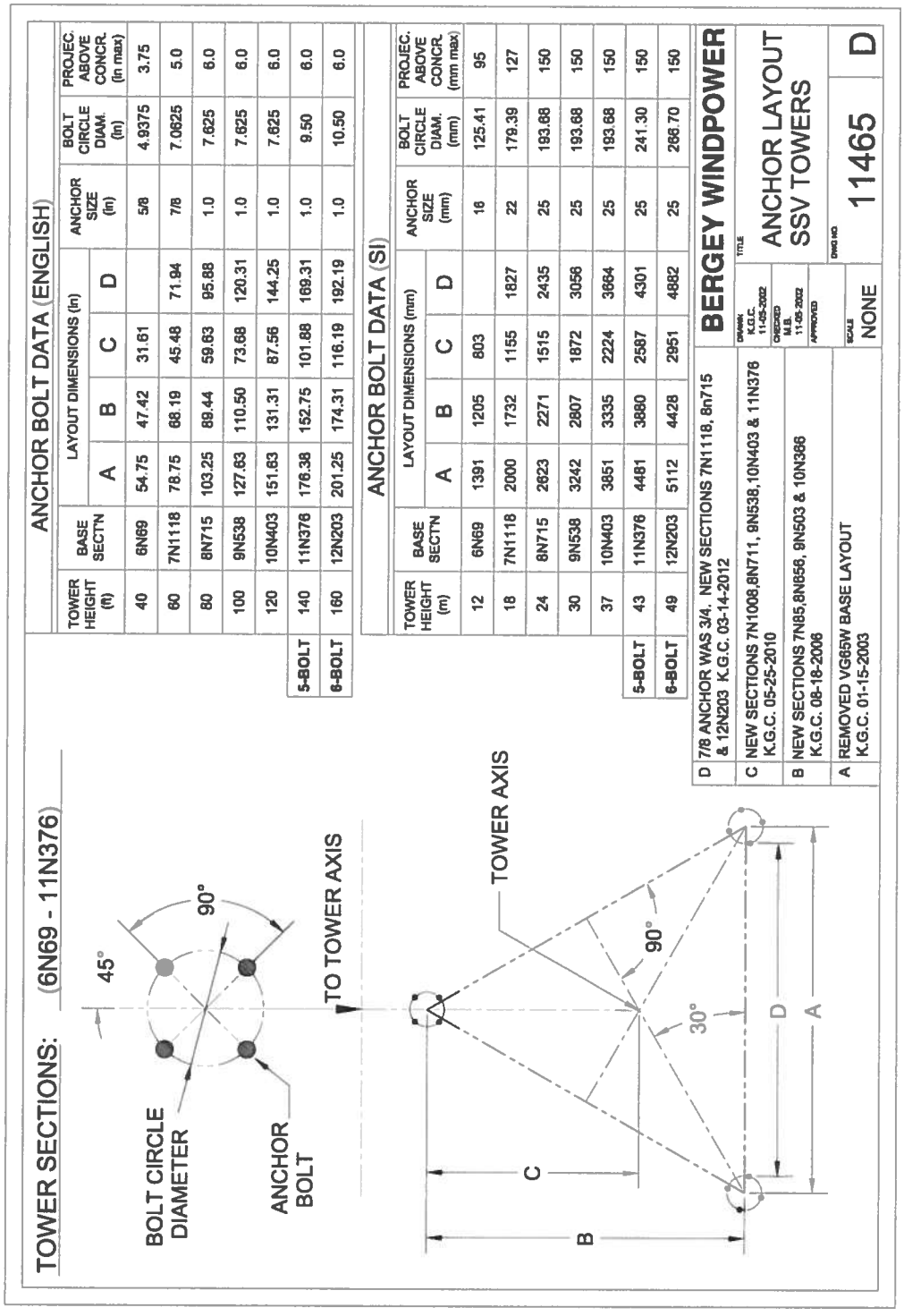
The most common foundation consists of a single large, square concrete pad with three anchor groups, illustrated in **Figure 3**. *The pad must be deep enough to extend below maximum frost depth*. The actual size of every foundation depends on wind conditions at the turbine site, local frost depth and soil conditions at the tower site.

Other foundations may be used where deep frost occurs; drilled-and-bell piers, hybrid pier-pads, and thick pads are available options. For deep frost areas, the standard Bergey design is the pad-with-piers layout, shown in **Figure 4**. Consult local codes, soil data summaries and excavation contractors to develop a practical and economical plan for a tower foundation.

Assembly of the anchor studs and templates is shown in **Figure 5** for 80-120 ft. towers or **Figure 6** for 140-160 ft. towers. Construction and use of a triangular fixture to properly locate and orient groups of anchor bolts is shown in **Figure 7**. Each anchor kit includes 18 thin, metal template patterns that are used to control the arrangement of bolts in the anchor groups. (These patterns may also be used as guides when drilling the triangular placement fixture.) Each anchor stud is first fitted with a nut that is threaded 12" onto the upper thread section. One template with small center hole is then double-nutted in place near the top of the anchor group. A second template with large center hole is double-nutted on the lower threads of the anchor group, and it will remain embedded in the finished concrete. The large hole in the center of these lower plates allows proper movement of concrete into the interior of the anchor "cage" formed when the templates

Tower Height (ft.)	Top Section	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8	Tower Weight (lb.)
60	VG65	6N69	7N1118						2,340
80	VG65	6N69	7N29	8N715					3,475
100	VG65	6N69	7N29	8N111	9N538				5,175
120	VG65	6N69	7N29	8N111	9N182	10N403			6,985
140	VG65	6N69	7N29	8N111	9N182	10N7	11N376		9,295
160	VG65	6N231	7N29	8N111	9N242	10N415	11N381	12N203	11,995
Weight	750	670	920	1135	1700	1810	2310	2700	

Figure 1: SSL Tower Section Schedule



ANCHOR BOLT DATA (ENGLISH)

TOWER HEIGHT (ft)	BASE SECTN	LAYOUT DIMENSIONS (in) A	B	C	D	ANCHOR SIZE (in)	BOLT CIRCLE DIAM. (in)	PROJEC. ABOVE CONCR. (in max)
40	6N69	54.75	47.42	31.61		5/8	4.9375	3.75
60	7N1118	78.75	68.19	45.48	71.94	7/8	7.0625	5.0
80	8N715	103.25	89.44	59.63	95.88	1.0	7.625	6.0
100	9N538	127.63	110.50	73.68	120.31	1.0	7.625	6.0
120	10N403	151.83	131.31	87.56	144.25	1.0	7.625	6.0
5-BOLT 140	11N376	176.38	152.75	101.88	169.31	1.0	9.50	6.0
6-BOLT 160	12N203	201.25	174.31	116.19	192.19	1.0	10.50	6.0

ANCHOR BOLT DATA (SI)

TOWER HEIGHT (m)	BASE SECTN	LAYOUT DIMENSIONS (mm) A	B	C	D	ANCHOR SIZE (mm)	BOLT CIRCLE DIAM. (mm)	PROJEC. ABOVE CONCR. (mm max)
12	6N69	1391	1205	803		16	125.41	95
18	7N1118	2000	1732	1155	1827	22	179.39	127
24	8N715	2623	2271	1515	2435	25	193.68	150
30	9N538	3242	2807	1872	3056	25	193.68	150
37	10N403	3851	3335	2224	3664	25	193.68	150
5-BOLT 43	11N376	4481	3880	2587	4301	25	241.30	150
6-BOLT 49	12N203	5112	4428	2951	4882	25	266.70	150

D 7/8 ANCHOR WAS 3/4. NEW SECTIONS 7N1118, 8n715 & 12N203 K.G.C. 03-14-2012

C NEW SECTIONS 7N1008,8N711, 9N538,10N403 & 11N378 K.G.C. 05-25-2010

B NEW SECTIONS 7N85,8N856, 9N503 & 10N386 K.G.C. 08-18-2006

A REMOVED VG65W BASE LAYOUT K.G.C. 01-15-2003

DRAWN K.G.C. 11-05-2002
CHECKED M.B. 11-05-2002
APPROVED
SCALE NONE

BERGEY WINDPOWER

TITLE ANCHOR LAYOUT SSV TOWERS

DWG NO 11465 D

Figure 2: Layout of Anchor Bolts. NOTE: See Appendix, Figure and Figure 42, for five bolt and six bolt layouts.

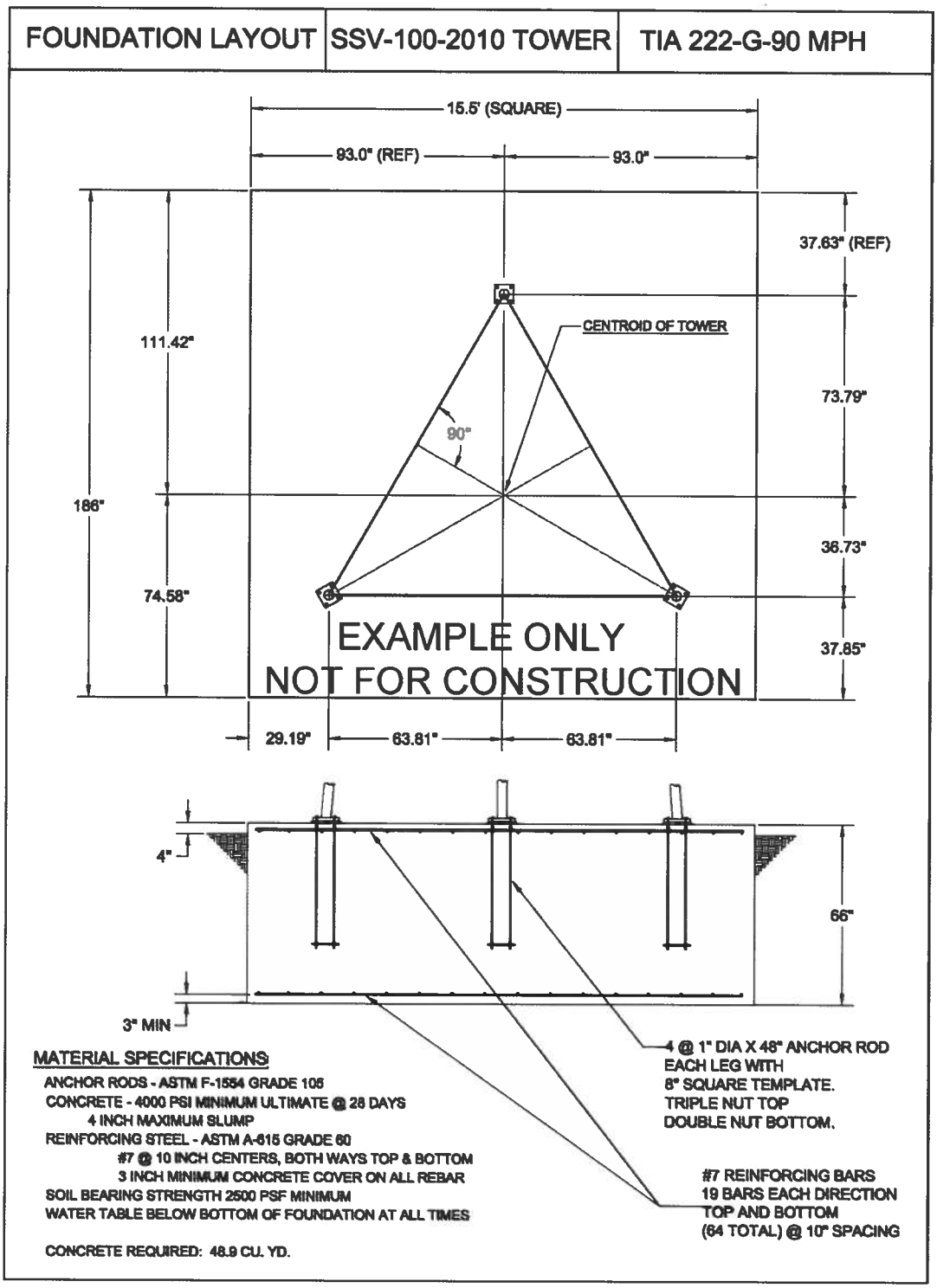


Figure 3: Typical Slab Foundation

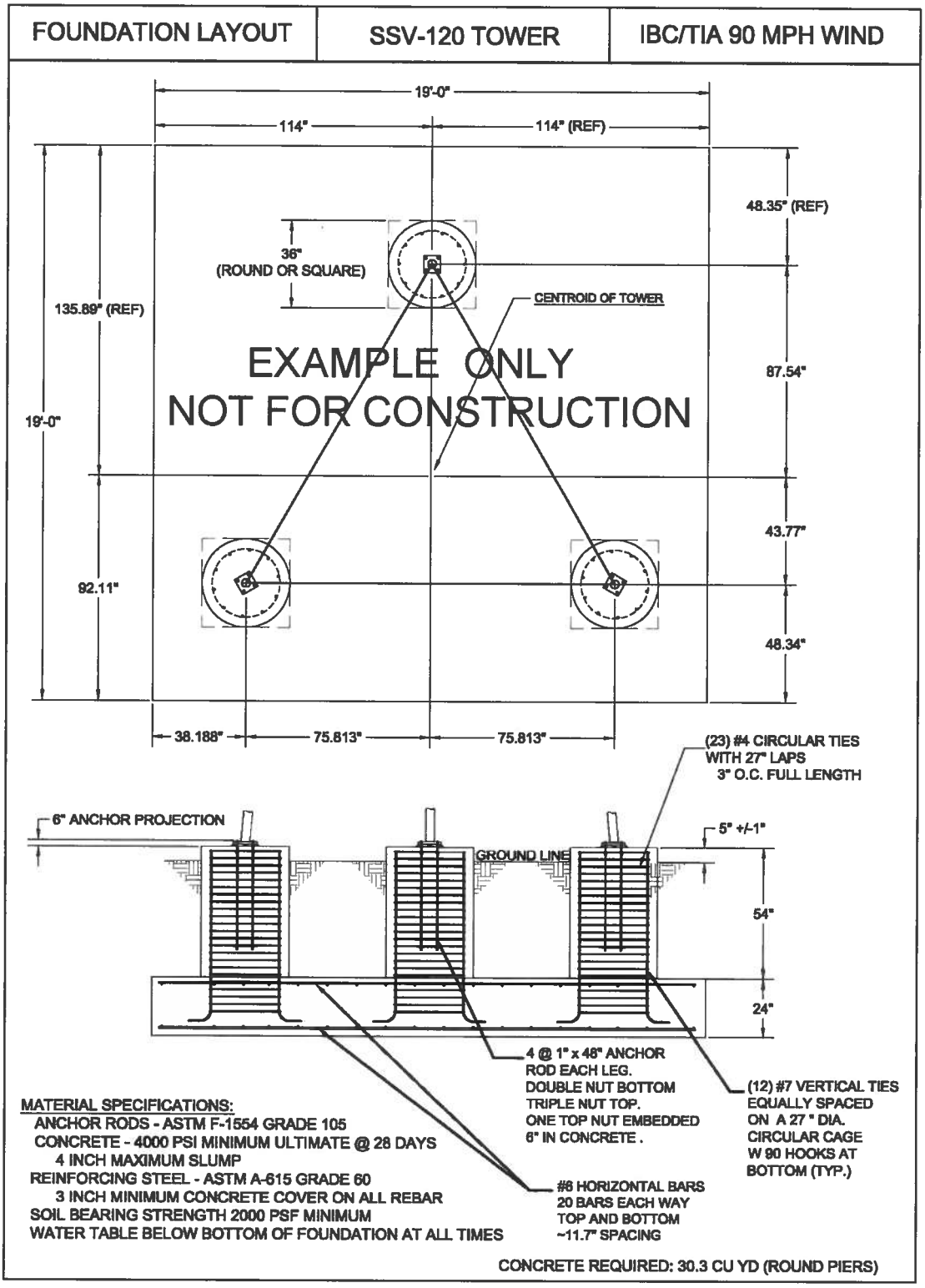


Figure 4: Typical Pad-with-Piers Foundation

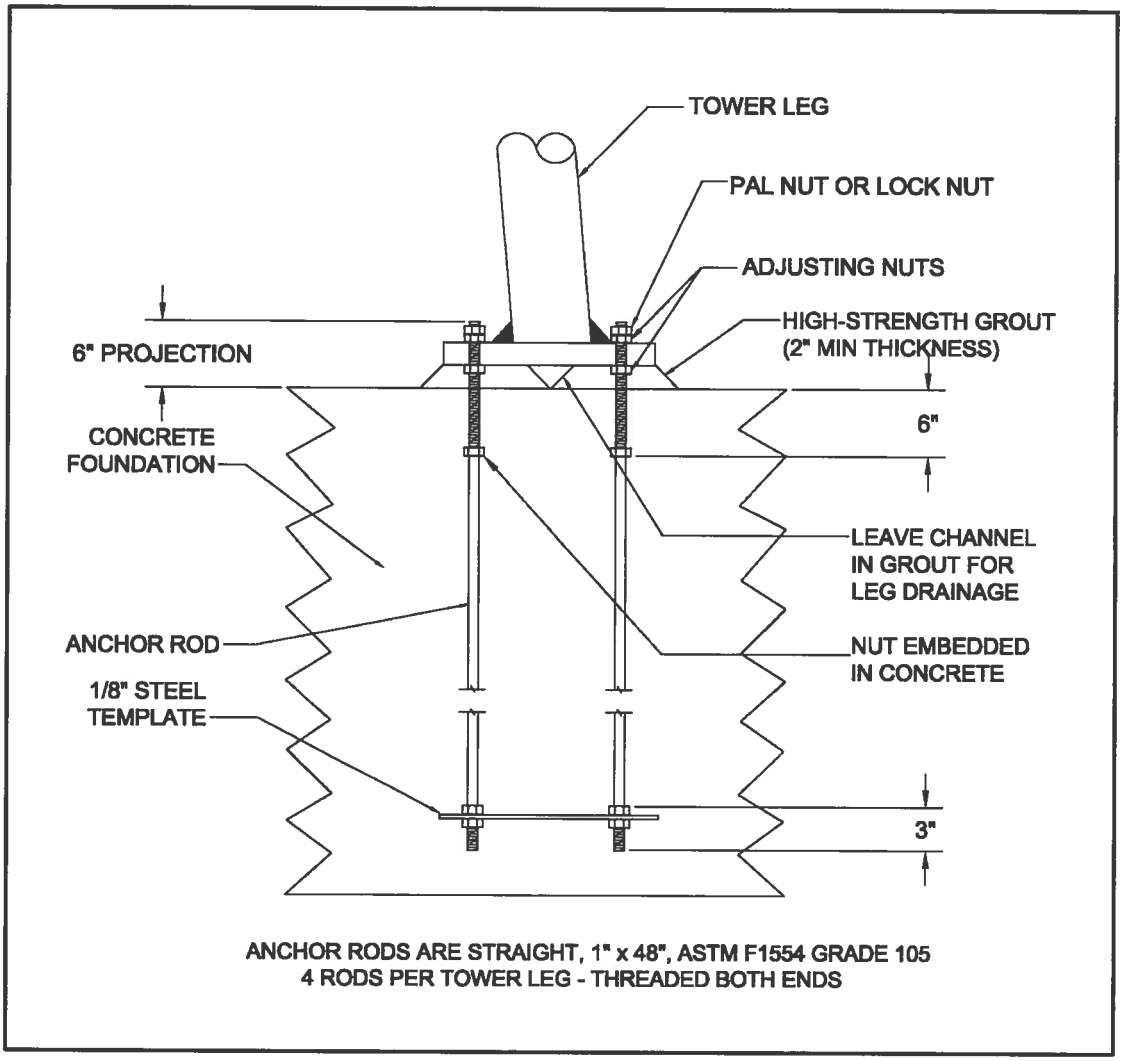


Figure 5: Anchor Rods and Template in Concrete (80-120 ft.)

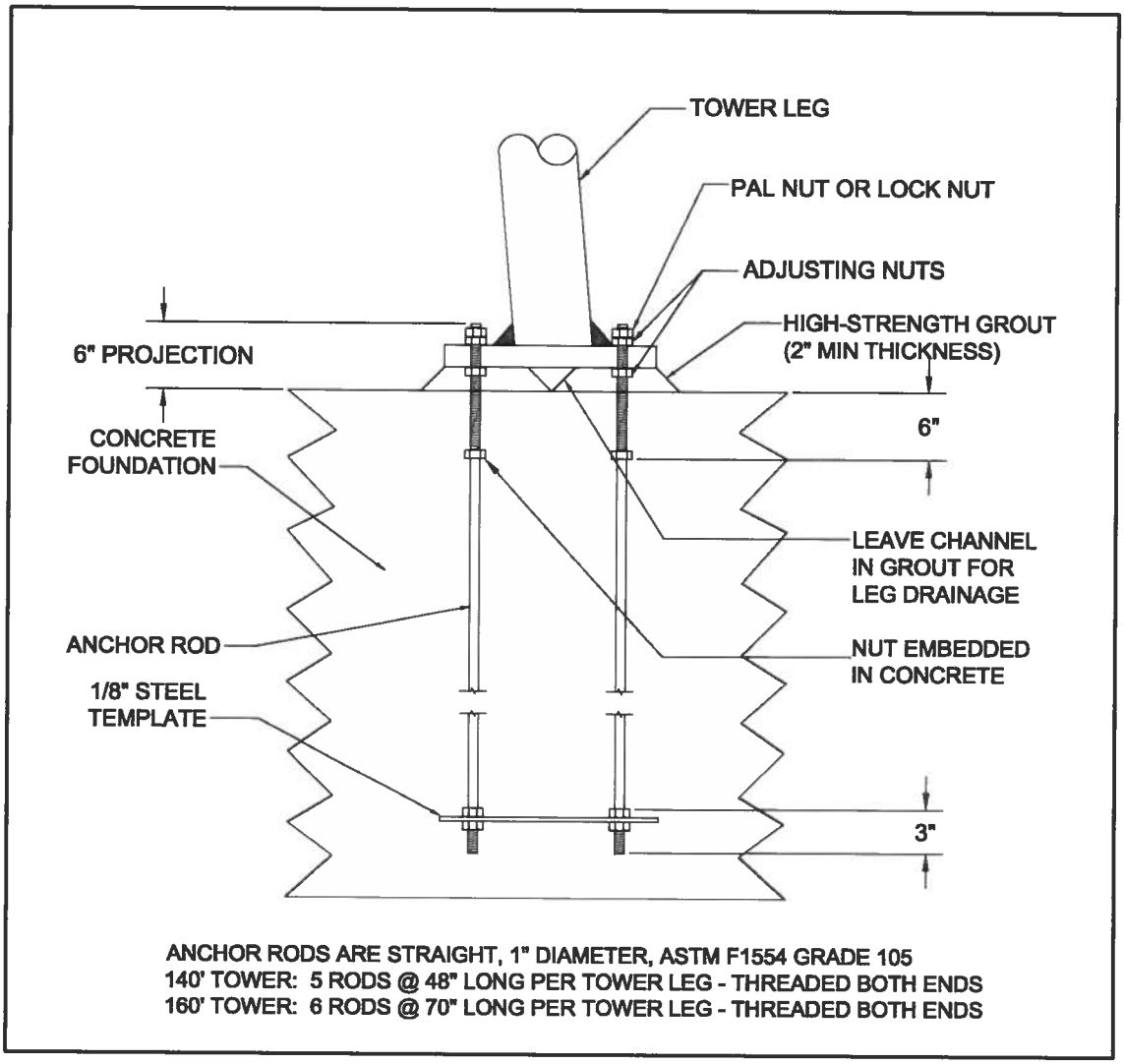


Figure 6: Anchor Rods and Template in Concrete (140-160 ft.)

The sequence for construction of the foundations is described below:
Excavate soil and build forms as required.

Install rebar, anchor bolts, conduit and any other required accessories that are to be placed in the foundation(s).

NOTE: IT IS IMPERATIVE THAT ANCHOR BOLTS BE ACCURATELY LOCATED AND LEVELED! Use an accurate fixture, as shown in **Figure 7**, to locate anchor bolts. Install template with clearance above top surface plane of foundation to allow for proper finishing of foundation top surface. Tie anchor bolts firmly to avoid movement when concrete is poured. Assure proper concrete cover over all rebar.

NOTE: Grease upper threads on studs and J-bolts to facilitate removal of concrete that is splashed onto the threads.

NOTE: Be sure to follow the anchor bolt layout shown in **Figure 7**. The EDGE of the tower leg flange faces toward the center axis of the tower.

NOTE: Anchor bolts that extend too far above the concrete surface will interfere with brace bolts used to assemble the tower base section. If the pad is properly poured and level, 4.5 - 5" of bolt extension should be sufficient.

NOTE: The electrical disconnect switch for the turbine will be attached to one of the tower legs. Be sure to install electrical conduit to carry an underground wire run to the tower leg where the disconnect box will be installed. Keep this conduit at least 6" away from any anchor bolts.

NOTE: Do NOT install grounding rods so that they pass through the concrete foundation(s). Rods that pass through concrete will damage the foundation in normal service. It is best to drive ground rods AFTER the foundation(s) have cured. Ground cable clamp connections should be ABOVE ground level for inspection and maintenance.

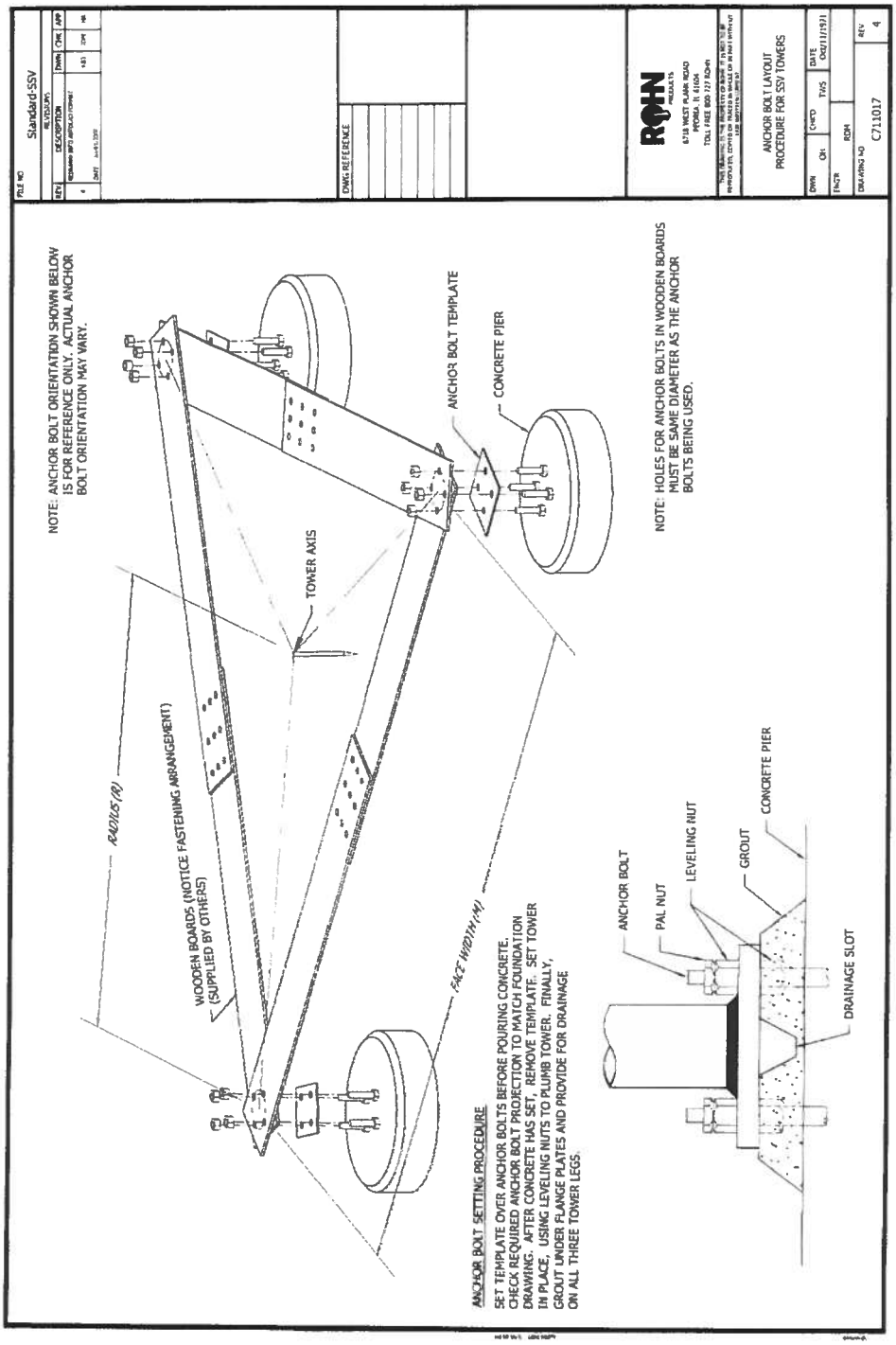


Figure 7: Triangular Anchor Bolt Fixture

Order the concrete. When ordering concrete, refer to the specifications given on blueprints or drawings. Let the supplier determine the proper mix of cement, sand, gravel, etc. to meet the strength and stiffness requirements.

Pour concrete. **Vibrate concrete during the pour** to assure that it fills properly around rebar and anchor bolts. Finish the foundation, making sure it is level with a slight top surface crown to provide drainage.

NOTE: Do not remove templates or forms until concrete is cured and hard. Any attempt to do so may disturb the anchor bolts and reduce their effectiveness.

Minimum cure time for pads is 14 days, but for maximum strength 28 days is recommended. For both strength and surface finish quality, it is important to control the cure process. In hot conditions pad tops should be covered with burlap or similar material and watered down several times a day, at least for the first 3-4 days. In cold conditions the concrete should be covered and insulated to prevent freezing. For specific recommendations refer to a standard construction manual for concrete techniques.

Remove templates and forms after at least 1 week of cure, and backfill if necessary. Backfill with cohesive soil compacted to at least 100 lb. /cu ft.

Clean concrete from anchor bolt threads.

Drive ground rods into the ground near each tower leg location. Rods should be driven until the top of the rod is at least 3" above ground level. (This operation can be done at any time before the tower is raised. If rods are set now, it is recommended that they be marked with wooden stakes and/or flagging so they may be easily located later.)

IV. Tower Assembly

Assembly drawings and instructions are shipped by the manufacturer with each tower. Study these carefully before starting any assembly. Standard procedure is to assemble the tower and turbine completely on the ground, then lift the entire EXCEL-and-tower structure into place on the anchor bolts. This will require a crane with lifting capacity to handle the combined weight of turbine and tower (See **Table 3** on pg. 28), and a convenient area of reasonably level ground for assembly of the tower-turbine combination.

NOTE: Use of standard wrenches to lightly snug the brace bolts is recommended. Use of a torque-controlled impact wrench to accomplish final tightening of all fasteners is highly recommended, and will speed the assembly process immeasurably.

A. Assemble Tower Sections

Figure 8 shows a list of tools required or recommended for assembly of the SSL towers and attachment of the BWC EXCEL turbine. **Figure 9A and 9B** shows a summary of torque recommendations for hot-dip galvanized bolts. All tower bolts are coarse-thread, hot-dipped ASTM A325 bolts.

When fully assembled, the tower should be lying on the ground next to the foundation(s), on the opposite side of the foundation from where the crane will be stationed. The point on the tower where the crane sling will attach should be aligned with the central axis of the foundation (See **Table 3** on pg. 29 for lift points).

Lay out ALL tower legs and cross pieces ("braces") on the ground in their approximate assembled positions. Be sure that all step legs are aligned on the tower.

NOTE: Each tower leg has a part number stamped into one of the flanges at the end of the leg. The leg MUST be installed with this stamped flange AT THE BOTTOM. The tower cannot be properly assembled if any of the legs are upside-down!

NOTE: Documentation delivered with the tower includes Assembly Detail drawings for each tower section. Braces are used in each tower section in the same top-to-bottom order given in the bill of material shown on these drawings.

NOTE: All cross braces have a hole near the center. This hole is NOT in the center. Cross braces can only be installed in one orientation (short hole-hole distance upward). Proper orientation may be checked by balancing at "middle" hole; long section will rotate downward.

No. Reqd.	Description	Application
2	7/16" Wrench/Socket	3/16" Malleable clips
2	1/2" Wrench/Socket	Grounding hardware
2	9/16" Wrench/Socket	Winch attachment hardware
2	3/4" Wrench/Socket	Winch plate U-bolts
1	Wench, 7/8"	Tower brace bolts, 1/2"
1	Wrench, 1-1/16"	Tower flange bolts, 5/8"
1	Wrench, 1-1/4"	Tower flange bolts, 3/4"
2	Wrench, 1-5/8" (or two channel lock pliers)	Armored cable connectors
1	Wrench, 1-5/8"	Anchor Bolts, 1"
1	Wrench, 1-7/16"	Tower flange bolts, 7/8"
1	Socket, 7/8"	Tower brace bolts, 1/2"
1	Socket, 1-16"	Tower flange bolts, 5/8"
1	Socket, 1-14"	Tower flange bolts, 3/4"
1	Socket, 1-7/16"	Tower flange bolts, 7/8"
1	Deep socket, 1-1/8"	Turbine blade attachment nuts
1	Ratchet to fit sockets above	
1	Torque wrench to fit sockets above	
2	Nylon sling, double eye, 5-ton work load	Lift tower-turbine combination
1	Torque-calibrated portable driver for sockets	
2	Drift pins (Bull pins)	Align section flanges
2	Vice-grip pliers, large	Align section flanges
1	Hack saw	Cut armored cable
1	Tool for armored cable prep	Armored cable connections
1	Channel-lock pliers	Electrical nut & grommet
1	Jack or chain hoist, 500 lb. capacity	Support upper tower leg
1	5/32" hex or allen key, preferably long	Terminal block cover screws

Figure 8: Tool List for SSL Tower Installation

Torque Specifications for Bolts

NOTE: All bolts are ASTM A325 Hot-dip Galvanized Torque is reduced 15% due to HDG finish.

Diameter (in)	Pitch (threads per inch)	Torque (ft-lbs)
1	14	585
1	8	495
7/8	14	405
7/8	9	350
3/4	16	250
3/4	10	205
5/8	18	145
5/8	11	120
9/16	18	95
9/16	12	80
1/2	20	75
1/2	13	60
7/16	20	50
7/16	14	40
3/8	24	30
3/8	16	25
5/16	24	14
5/16	18	12
1/4	28	7
1/4	20	6

These values are calculated to provide bolt pre-load tension with a 25% safety factor below bolt yield stress.

Figure 9A: Torque Recommendations for SSL

		Bolt HSB A325 HDG						Step Bolt
		1/2 x 1-1/4	5/8 x 1-1/2	5/8 x 2-1/2	3/4 x 2-3/4	7/8 x 3-1/2	1 x 4-1/4	5/8 x 7
		60 ft-lb	*120 ft-lb*	*120 ft-lb*	*205 ft-lb*	*350 ft-lb*	*495 ft-lb*	*120 ft-lb*
Tower Section	*Location / Associated Towers*	*Qty's*	*Qty's*	*Qty's*	*Qty's*	*Qty's*	*Qty's*	*Qty's*
VG65	Top section / All towers	126		12				16
6N69	2nd section / 60ft - 140ft towers	75		12				16
6N231	2nd section / 160ft tower	75		12				16
7N29	3rd section / 80ft - 160ft towers	75			12			16
7N1118	Base section / 60ft tower	75						16
8N111	4th section / 100ft - 160ft towers	60				12		16
8N711	Base section / 80ft tower	60						16
9N182	5th section / 120ft - 140ft towers	45				12		16
9N242	5th section / 160ft tower	45				12		16
9N538	Base section / 100ft tower	45						16
10N7	6th section / 140ft tower	45				12		16
10N415	6th section / 160ft tower	45				12		16
10N403	Base section/ 120ft tower	45						16
11N381	7th section / 160ft tower	45					12	16
11N376	Base section / 140ft tower	45						16
12N203	Base section / 160ft tower		30					48

Figure 9B: Torque Recommendations for SSL

Start with the top section. Tower legs are usually bowed due to the manufacturing weld process. This bow will be pulled out as the section is assembled, but force will be required. Use of jacks, a scaffold or an A-frame to hold the upper leg in place will be required. This can require a support over 10 ft. high for the bottom section of a 120 ft. tower! Support the two lower legs with blocks at each end and in the middle to level them and keep them from bowing. Once you have bolted the braces to the tower leg, place a bolt through the hole in the middle of each brace, bolting two crossing braces together. Bolts used for all brace connections are 1/2" x 1-1/4" A325. These will require 7/8" wrenches.

Install the braces.

NOTE: Insert the bolts for the braces so that all nuts will go on the outside of the tower. The end of the brace stamped with a part number is oriented toward the top of the tower. (The hole is NOT in the middle!)

NOTE: Do not torque any of the hardware until the tower is erected and securely anchored.

Leave all brace hardware finger-tight until the tower is erected.

Attach the sections to each other.

NOTE: Flange bolts should be tightened to final torque specification.

We suggest that all PAL nuts be installed after the tower is installed on the foundations; install PAL nuts only after a nut has been tightened to final torque specification.

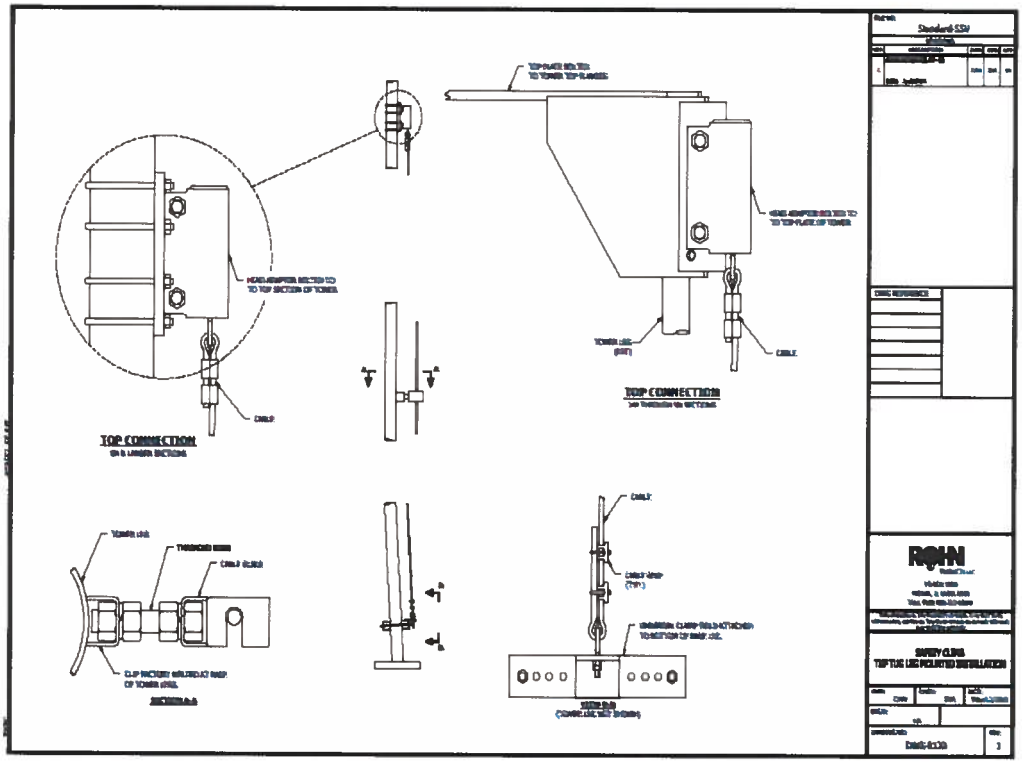
Drift pins and vice grips will be required to align flanges before bolts can be inserted. A jack, bumper crane, come-along, or a 4x4 post may be needed to push or pull legs into position when the drift pins can't be started.

Bolts used for the flange joints on the VG65 and 6N69 sections are 5/8" x 2-1/2" A325, requiring 1-1/16" wrenches. The 3/4" bolts for the 7N99 lower flange joint require 1-1/4" wrenches. The lowest tower sections (8N64W, 9N84W and 10N58W for 80, 100, and 120 ft. towers) use 7/8" bolts in their bottom flange connections. These bolts require 1-7/16" wrenches.

NOTE: Install flange connection bolts with nuts on the top, as shown below. This allows detection of loose or missing bolts in a quick ground-level inspection. Twelve bolts are required at each tower joint level.

B. Install safety climb

Determine which tower leg contains the climbing pegs, and install the safety climb mechanism. Refer to the following instructions provided by Rohn.



C. Install furling lanyard, cable and winch

Determine which tower leg will support the electrical fused disconnect switch. (The electrical conduit stubs out of the concrete near the base of this leg.) The winch cannot be attached to this leg.

Attach the winch mounting plate, included with the tower hardware kit, to one of the bottom tower legs using two U-bolts provided in hardware kit HK0019. Be sure to orient the winch plate properly. Refer to **Figure 10**. Locate the plate so it will be at a convenient height above ground when the tower is installed. The recommended mounting height for the furling winch is 4 - 5 ft.

Figure 10: Winch Mounting on SSL Towers

BWC P/N	Description	Qty.
See Table 1	Large U-Bolt	2
HWB003	Lock Washer, 1/2"	4
HNB003	Nut, 1/2"-13 Hex	4
11119GALV	Winch Mounting Plate	1
HB8002	Bolt, 3/8"-16x1" SS	3
HW6004	Flat Washer, 3/8" SS	3
HN6001	Lock Washer,3/8" SS	3
HN6002	Nut, 3/8"-16 SS	3
HA0001	Winch, Furling	1

Mount the winch to the plate using three 3/8" x 1" hex bolts with flat washers, lock washers and hex nuts.

NOTE: The winch is mounted INSIDE the tower, so the winch drum is oriented toward the center of the tower.

Before tightening the U-bolts that fasten the mounting plate it is advisable to turn the handle on the winch and check that it rotates freely (i.e. that it does not hit the braces or brace clips of the tower).

Attach the furling cable lanyard as shown in **Figure 11, Detail A**. The lanyard is required to assure that the furling cable remains centered in the upper tower section, then angles properly to the winch drum. The lanyard attachment eye-bolt replaces the standard 1/2" bolt at the crossing of the two VG58 braces on the tower face OPPOSITE TO the winch. These are the lowest brace pair in the top (VG65W) section.

Feed the furling cable through the tower, starting from the tower base section. Run the cable through the lanyard pulley, and then attach the end to the heavy stainless swivel provided in the tower kit. Use a thimble loop in the furling cable as shown in **Figure 11, Detail B.** The swivel will later be connected to the turbine furling cable; for now it will hold the down-tower furling cable secure in the lanyard pulley.

Item	BWC P/N	Description
1	11155	Lanyard, SSL Furling
2	HWB003	Lock Washer, 1/2"
3	HB8003	Nut, 1/2"-13 Hex
4	HM3001	Thimble, 3/16"
5	HM3002	Malleable Clip, 3/16"
6	HM6003	Swivel, 3/8" Stainless
7	11508-xx	Furl Cable Assy.

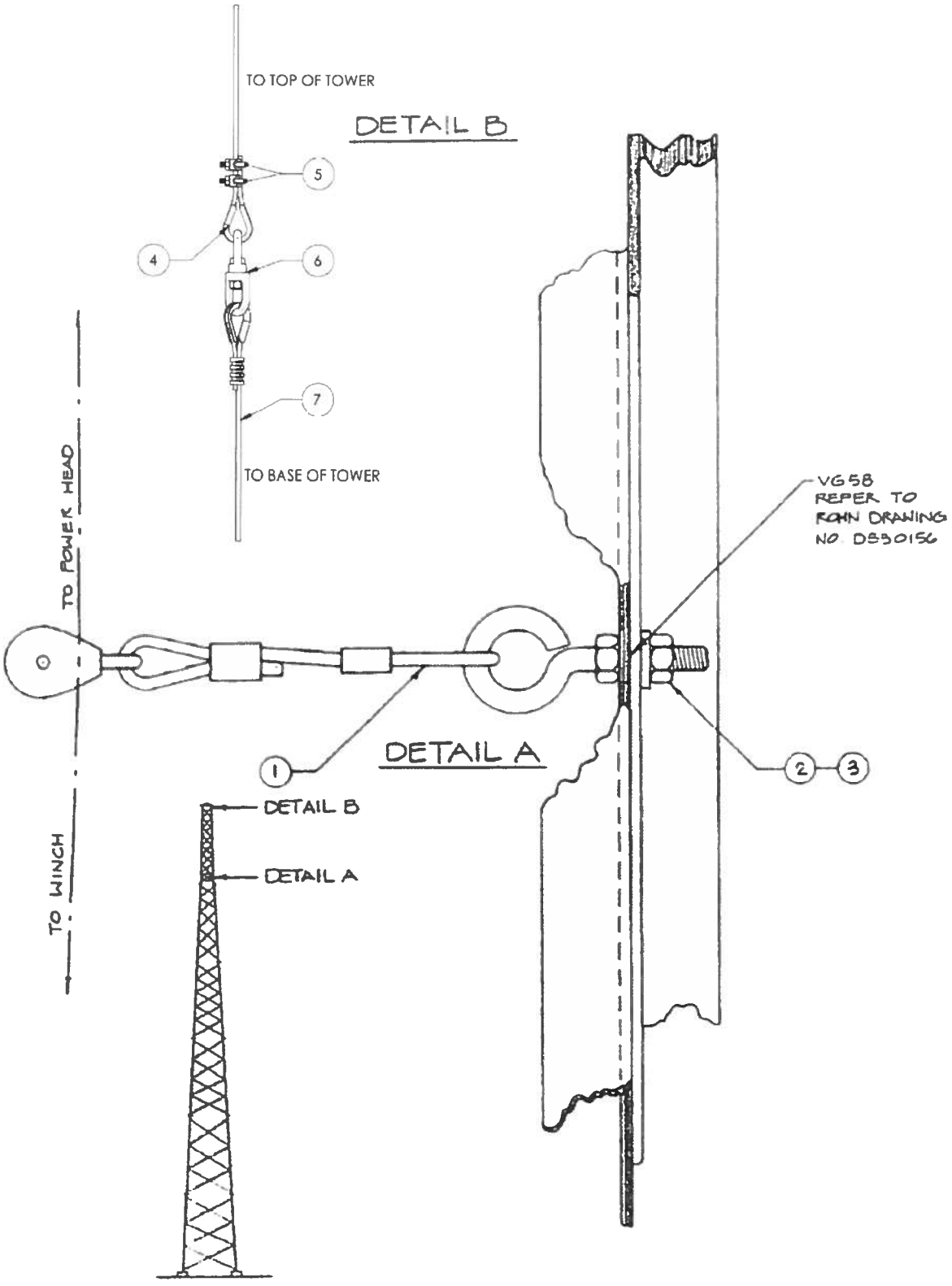


Figure 11: Furling Cable and Lanyard Details

Attach the lower end of the furling cable to the winch by threading the cable through the long slot in the side of the cable drum and securing the cable end as shown in **Figure 12.**

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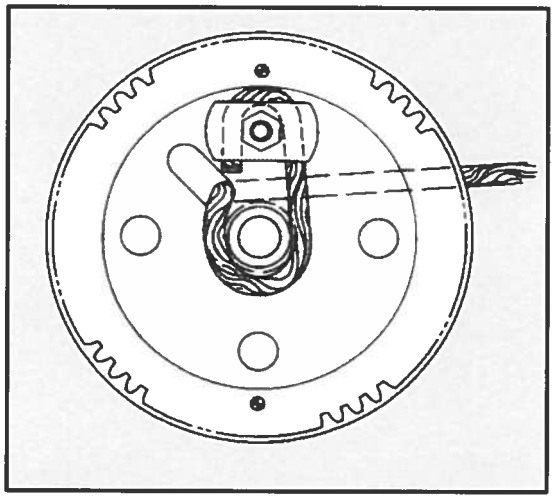


Figure 12: Attachment of Furling Cable to Winch

D. Install Tower Wiring and Disconnect Switch

1. Pull the armored electrical cable (or other customer-supplied electrical cable) through the center of the tower, starting from the base section.
   Optional: Tie the armored cable with provided nylon cable ties to secure.

NOTE: Do not use conduit for tower wiring unless internal strain relief is provided for the conductors.

2. Attach the disconnect switch to the appropriate tower leg using the two U-bolts supplied with the tower wiring kit. If a wiring kit was not purchased from BWC, the customer must supply the appropriate switch, and all hardware required to make mechanical and electrical connections (Refer to **Table 1 and 2**). The switch box must be drilled to accommodate appropriate U-bolts. Locate the disconnect at a height suitable to the customer. **Figure 13** shows typical attachment of the disconnect switch.
3. Using the installation instructions included in the tower wiring kit, install the Grounding Bar.
4. A 3-phase surge arrestor such as a Delta LA-603 (included in the tower wiring kit) should be connected to the system at this time. The three wires of the arrestor should be connected to the upper (line) set of switch box terminals, along with the wire run to the controller. There is no polarity or required phase rotation in these connections; all three wires are equal. Ground the arrestor. Leads need to be as straight and short as possible; no service loops or pigtails.

BWC P/N	Description
AXA009	Switch, 60A Fused
See Table 2	U-Bolt Guillotine
HW6001	Flat Washer, 3/8"
HN6003	Nylon Lock Nut, 3/8"
AXA013	Hub, 3/8"
EC0152	Electrical Connector
CAB006	Cable, 3 x #6 Armored

Figure 13: Attachment of Disconnect Switch

NOTE: The tower is now ready for attachment of the EXCEL turbine at ground level. Crane rental cost can be minimized if all possible preparation work is done before the crane arrives on-site.

If some of steps C (winch mounting) and D (disconnect mounting) above could not be accomplished, because of the tower position on the ground, they can be completed after the crane has raised the tower top to allow attachment of the turbine.

V. Wind Turbine Assembly and System Erection

The recommended procedure for completing the tower installation is to attach the wind turbine to the tower, complete the tower wiring, attach the furling cable, and then raise the tower/turbine as a complete assembly. This procedure requires a light duty crane with a lifting capacity of at least 3,600 kg (8,000 lbs. or 4 tons) at a working height equal to or greater than the tower height. This section assumes that the optional BWC Tower Wiring Kit is purchased with the tower.

NOTE: If tower wiring is not compete to the installed upper legs of disconnect, wires will be energized later hook up while turbine is spinning.

The recommended method is as follows:

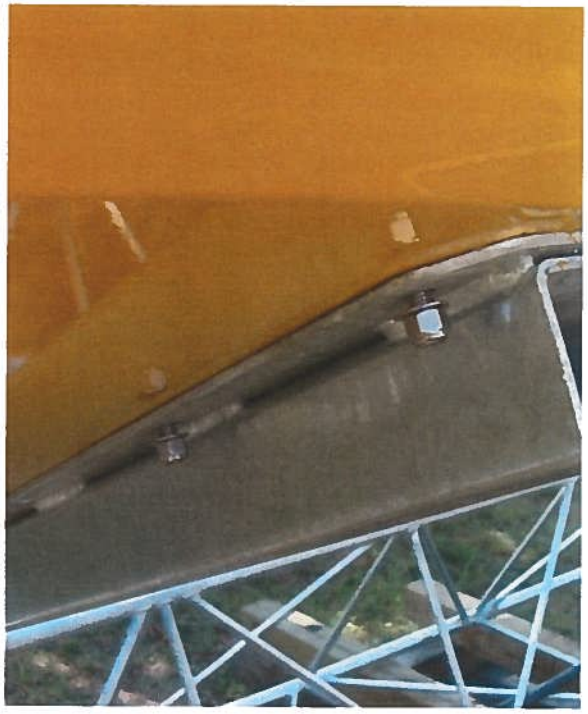
1. Order a crane to arrive at the construction site. When ordering a crane, there are three things the crane company needs to be told:
    a. The lift weight of the tower (shown in **Table 3**).
    b. The working radius of the lift (measured from the pivot point of the crane to the center axis of the foundation. This value shall be measured on site as the shortest distance to the base pin the crane pivot point can access. The ideal radius for tower installation is approximately 30'.
    c. The tower height. The crane ordered must have a working height equal to or greater than the tower height.

Table 3: Lift Weight and Lift Point for SSL Towers

Tower Height	60 ft.	80 ft.	100 ft.	120 ft.	140 ft.	160 ft.
Lift Weight	3700 lb.	4850 lb.	6600 lb.	8350 lb.	10,650 lb.	13,450 lb.
Lift Between	40' and 48'	60' and 68'	70' and 80'	90' and 100'	110' and 120'	130' and 140'
Suggested Min. Crane Height	60'	80'	100'	120'	140'	160'
Max. Boom Height During Lift **	49'	69'	89'	109'	129'	149'

** **NOTE:** The head of the crane boom should never be level with the bottom of the rotor. Rotor blade damage can occur if this boom height is exceeded! Blades extend down 10' below tower height.

A. Assemble and Attach the Tail Boom and Fin

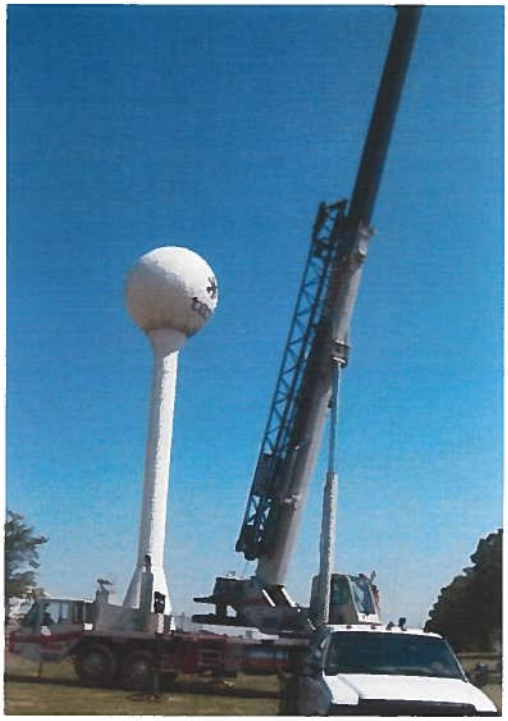


1. Shortly before the crane is scheduled to arrive, attach the tail fin to the tail boom using the hardware provided in the Tail Assembly Hardware Kit. Lay the tail boom on a work surface with the fin mounting plate upward. Position the tail fin on the mounting plate, with the trailing edge bend upward. Eight bolts (3/8"-16 x 1"), 16 flat washers and 8 nylon lock nuts are used. Recommended torque is **20 ft-lb**. Set the tail assembly aside for later use.

WARNING: Anti-seize MUST be used on all stainless steel fasteners.

	TAIL ASSEMBLY HDWR KIT 10kW		
HM5006	CLEVIS PIN 5/16" x 1" SS	EA	2
HM2005	COTTER PIN 1/8x3/4" SS	EA	2
HB6002	BOLT 3/8-16x1 HH,SS	EA	8
HW6004	WASHER 3/8 SAE FLAT SS 13/16OD	EA	16
HN6008	NUT 3/8-16 HH NYLOCK SS	EA	8
HBM106	BOLT M10-1.5x65MM HHCS SS	EA	1
HNM101	NUT M10-1.5 NYLOC SS	EA	1
HM0040	ANTISEIZE COMPOUND - 2mL	EA	1

2. Position the crane so it will be **DOWNWIND** of the tower during the lift. (The tail will orient toward the crane boom, keeping the rotor blades away from the cable.) The boom should lean outward to make initial contact with the tower lifting point; boom movement must then be TOWARD the crane's center of gravity as the lift and tower placement occurs. (During the lift, the base of the tower will skid across the ground as it moves toward the foundation.)



3. Have the crane attach its lifting cable to the tower at a point in accordance with **Table 3**. The rigging can be done with either a strap or a sling, but it should be routed to catch two legs of the tower. The rigging point is well below the top of the tower so that the crane boom will not catch the blades during erection.

DANGER: Never use an open hook when rigging the lifting cable and always ensure that all cables and slings are in good condition prior to use.

DANGER: Do not operate the crane in any way that will introduce a bounce to the tower structure. This will create excessive loading, and may fail the tower.

4. Lift the tower until the top is chest high; support it with a scaffold, jack stands or a strong, stable stack of timbers. The support structure should be located near the bottom of the top tower section. After the tower is SECURELY supported, remove the crane line.

5. Use the crane to lift the powerhead, still attached to the shipping skid, clear of the ground using a double-eye nylon strap. Slip one eye over each end of the tail pivot pin and onto the mainframe; hook the crane line to the center of the strap and lift. The shipping nuts can now be removed from the blade studs so the skid can be pulled off and set aside.

6. Direct the crane to move the powerhead until the tower adapter plate meets the tower top plate.

7. Use one or two spud wrenches to line up the nine attachment holes on the two plates. Bolt the turbine in place using (9) 5/8" bolts, with washers, hex nuts and PAL nuts. Remember - **nuts go on top!** This hardware is included in the tower hardware kit. Torque the hex nuts to **120 ft-lb**. PAL nuts are tightened to 1/4 turn past contact. Disconnect the turbine from the crane after the turbine is bolted securely in place.

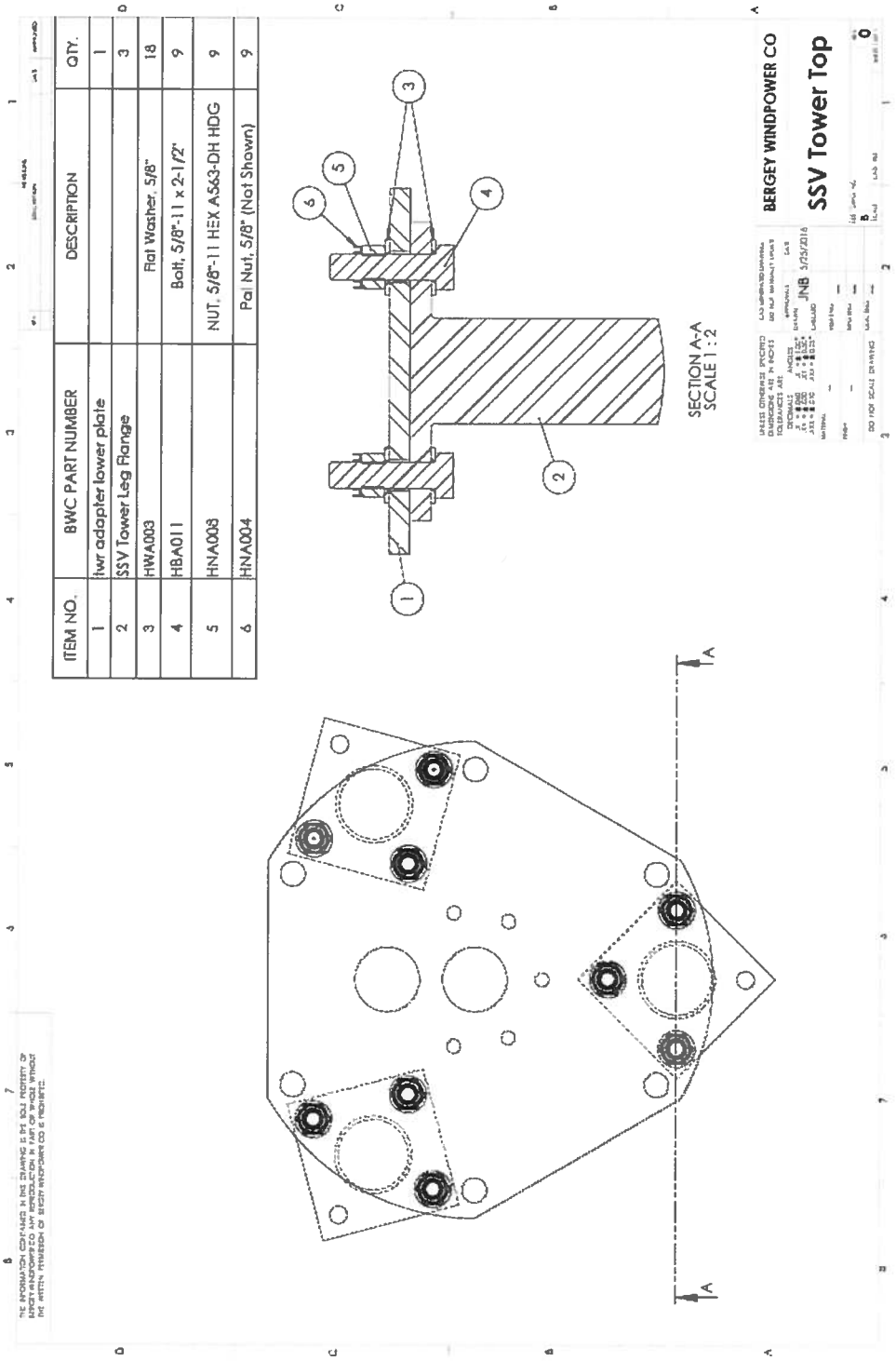


Figure 14: Attachment of Excel Turbine to SSL Tower

B. Complete Turbine & Tower Wiring Connections

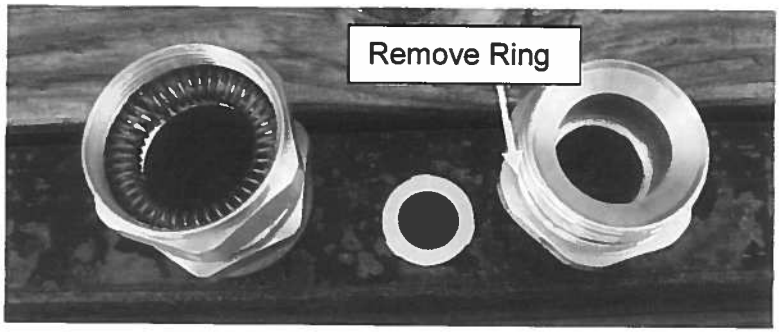
Make electrical connections to the turbine as follows:

1. Remove the stainless steel cover of the terminal block housing.

a. Strip the tower top end of the armored cable as shown, being very careful not to cut the insulation on the three conductors. A special tool may be purchased for this task at most electrical supply distributors. Cut off bare ground wire at both ends of the cable. It is not needed for this installation.

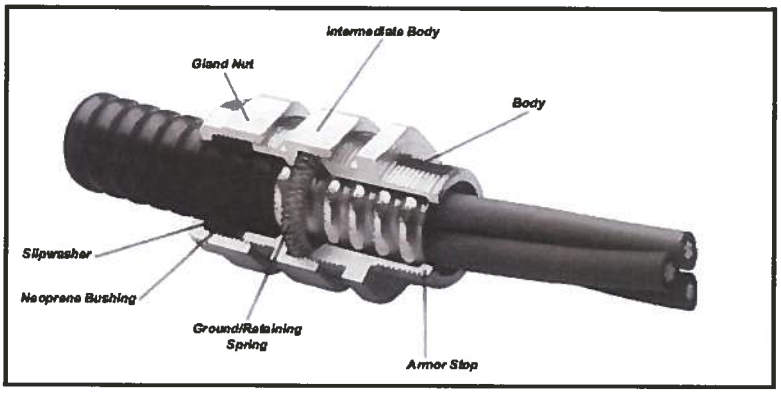
NOTE: Leave at least 8" of conductor exposed beyond the armor.

NOTE: Cut off grounding wire at both ends of the cable. It is not needed for this installation.

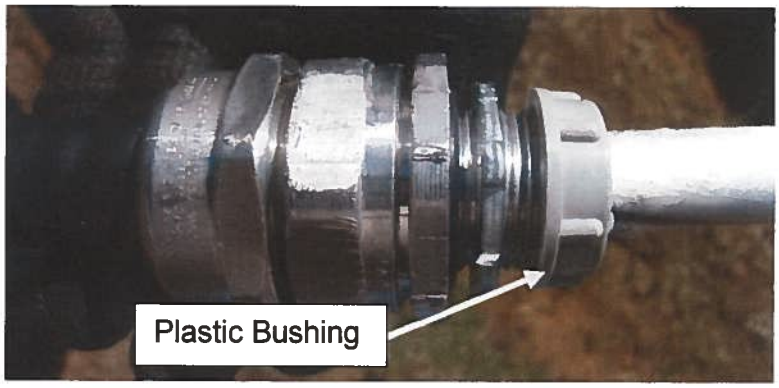


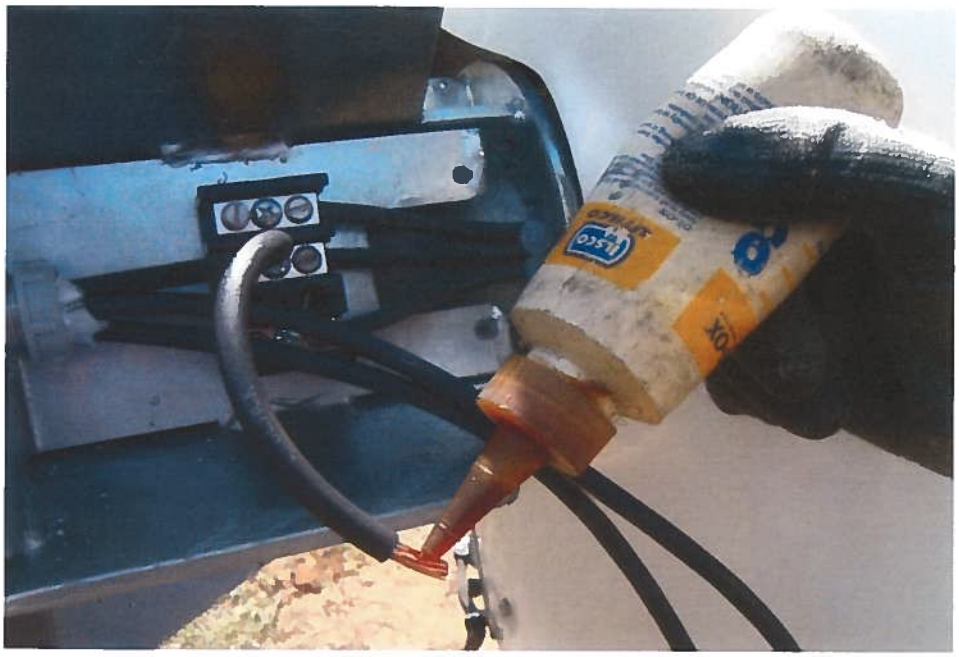
b. It is best to install the connector on the cable before installing the assembly into the junction box. Disassemble the fitting, and remove the plastic ring. Reassemble the fitting.

c. Insert the prepared cable into the fitting until the armor rests against the armor stop. Tighten both the intermediate body and the nut to **42 ft-lb**. Insert the fitting, through the large off-center hole in the tower top plate, into the bottom of the terminal block area. Add the electrical locknut and tighten securely. Install the plastic bushing. The bushing is required to avoid chafing and, eventually, short circuits in the tower wiring.



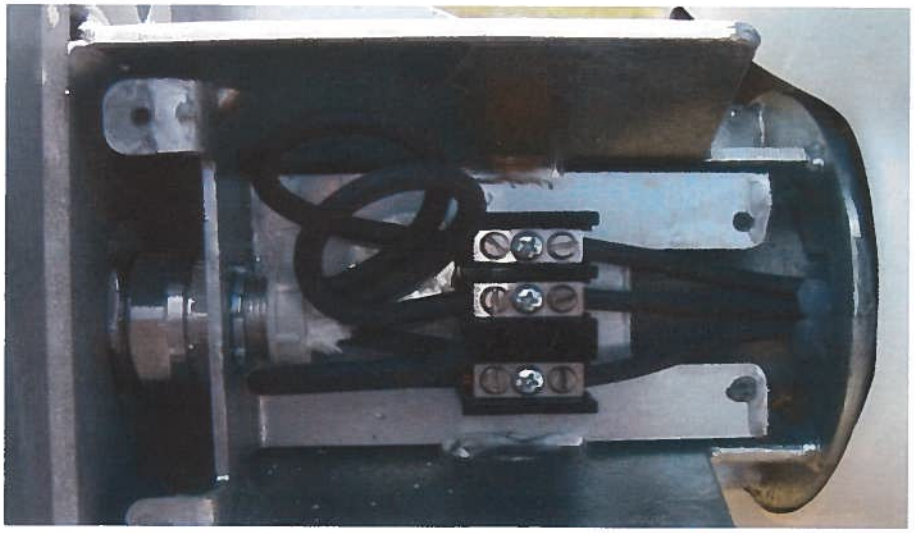
NOTE: The metallic armor must not go beyond the armor stop.





d. Trim each of the conductors to a length that will allow formation of full 360° strain relief loops to each terminal connection. Strip each of the three conductor wires back 3/4" (2 cm), apply anti-oxidation compound to the bare copper and make connections to the terminal block. All three wires are equivalent; there is no polarity or required phase rotation.

NOTE: 45 in. lbs. for the 6AWG wire supplied in wiring kit.



e. Perform tests for continuity, ground faults, etc. Correct any problems.

f. Replace the terminal block cover.

2. Form a gentle S-bend in armored cable so that it rests along one of the tower legs that is close to the disconnect switch.

3. Starting from a point 4 ft. below the tower top, use plastic zip ties every 4 ft. to secure the cable to the tower leg. Shape the cables around flanges to avoid chafing; use a zip tie immediately above and below each flange joint. Continue this process until the cable has been shaped around the lowest flange joint.

4. Prepare the lower end of the armored cable as shown for the connection to the turbine, leaving enough free conductor to make the electrical connections to the upper (line) set of terminals in the disconnect box, and connect tower wiring to the disconnect switch. The armored cable connector screws into the hub provided in the tower wiring kit; an insulating grommet is not required.

5. Install jumpers between the three lower (load) terminals on the switch box, to provide a short circuit, as later described in **Special Topics**. Put the switch in the "ON" position, effectively short-circuiting the tower wiring and alternator. Confirm fuses in place.

****NOTE**** At this point, all installation procedures for electrical components from turbine to disconnect are completed.

 **WARNING:** Do not leave the alternator shorted for an extended period of time. Doing so may cause damage to the turbine, and void the warranty.

C. Attach Tail Boom to Turbine

Attaching the tail boom to the powerhead is a job that requires at least three people. The best approach is to use the crane to lift and position the tail boom.

1. Work the pin part of the way in to the tail boom. Once the boom is properly aligned, it should move easily, but a spud wrench and hammer can be used if necessary. The pivot pin must not protrude into the space between the bronze tail pivot bushings.

2. Get the tail boom orientation correct by making sure that the furling cable and damper attachment brackets on the tail boom are aligned with the damper and furling cable on the powerhead. The fin will be on TOP.

3. Hold the tail boom in a position so the end with the fin is angled up ~ 15˚ and align the tail bushings with those of the powerhead, then insert the tail pivot pin as shown in **Figure 15**. The pin may need tapping through, but keep in mind that the stainless steel pin can be damaged if it is handled incorrectly. Use a block of wood or rubber mallet on the pin.

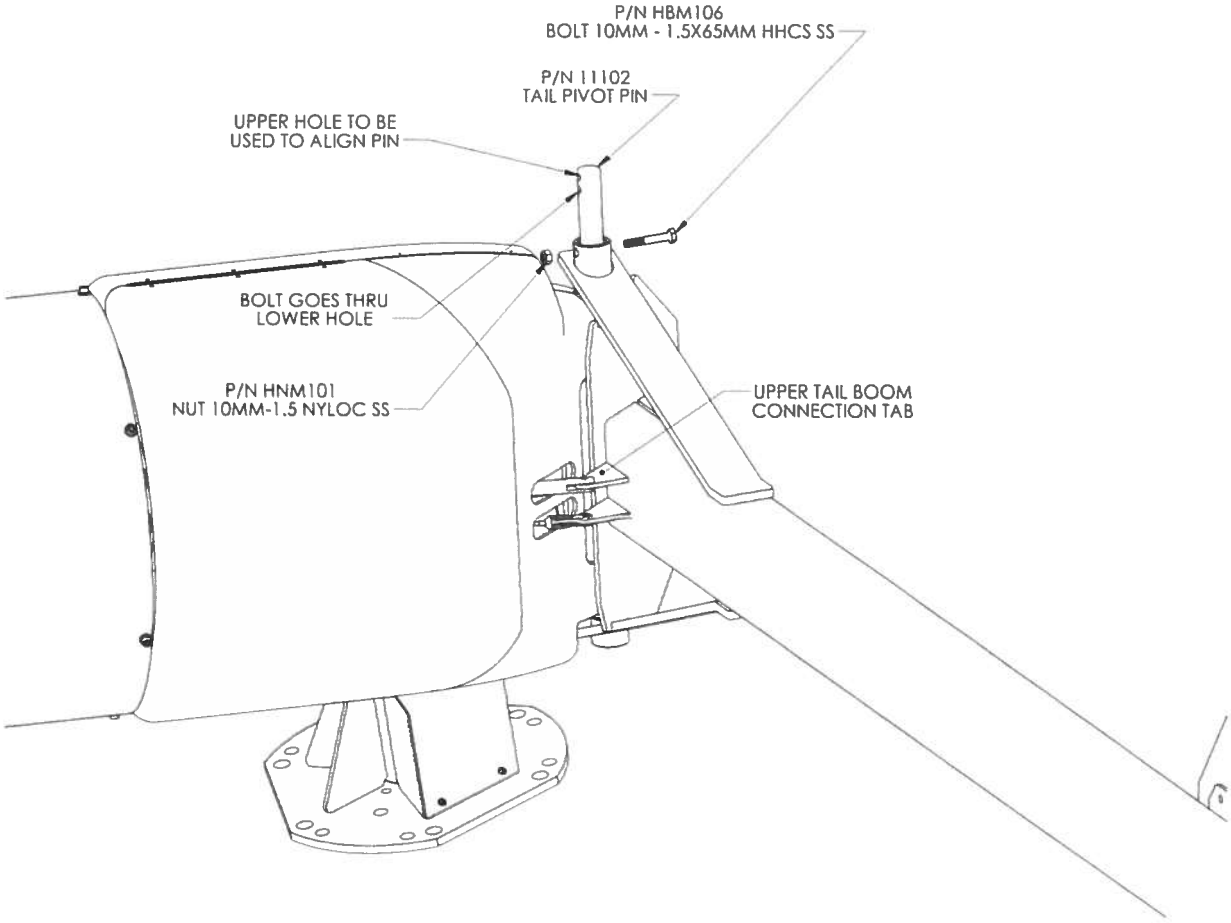


Figure 15: Excel Tail boom and Pivot Pin

WARNING: Anti-seize MUST be used on all stainless steel fasteners.

4. After the pin is in place, install the M10 retaining bolt and Nylock nut. Recommended torque is **20 ft-lb**.

5. Release the tail boom and allow it to swing down (about 45º). It may be necessary to put cardboard on the ground to avoid scraping the paint on the fin. (A piece of 2x4 or a pipe inserted into the end of the tail boom will also work to keep the fin off the ground).

6. Make sure the fork on the damper strut is centered on the "upper" tail boom connection tab. Adjust the tail boom tab by slightly bending if necessary (this

should not be required unless the tail boom is damaged in shipping). Attach the damper strut and furling cable to the tail boom using clevis pins and cotter pins provided in Tail Assembly Hardware Kit HK0002. If there appears to be a clearance issue between the damper and the nacelle, it is permissible to file the nacelle to create proper clearance.

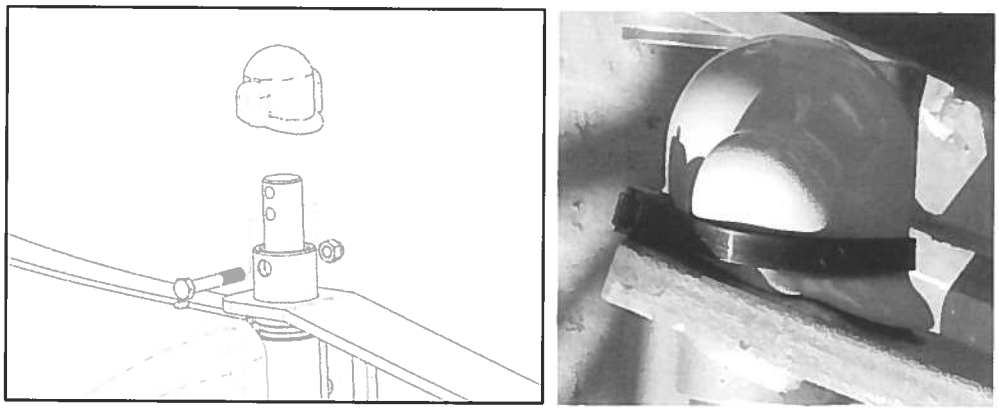


Figure 16: Tail Pivot Pin Cap

7. Place the tail pivot pin cap (P/N 11285) on the pivot pin and use a zip tie (P/N HM0012) to secure it in place, as shown in **Figure 16**.

D. Install Turbine Blades and Spinner

1. Attach the crane lifting line at the final lifting position, as specified in **Table 3**. Use two equal length chokers attached to the top leg and one other leg. **TWO LEGS MUST SHARE THE LIFTING LOAD!**

DANGER: Never use an open hook when rigging this lift, and assure that all cables and slings are in good condition. Each sling should be rated individually for the lift weight.

2. Raise the tower top to a height of approximately 2.5 m (8 ft.), then insert a length of 2" x 4" lumber into the open end of the tail boom, allowing it to protrude about 18-36" to prop up the end of the tail boom and keep the fin off the ground. The powerhead will hang down to allow turbine blades to be set in place on the alternator.

3. Attach the three blades to the powerhead as show in **Figure 17** with the hardware provided in the Blade and Spinner Hardware Kit.

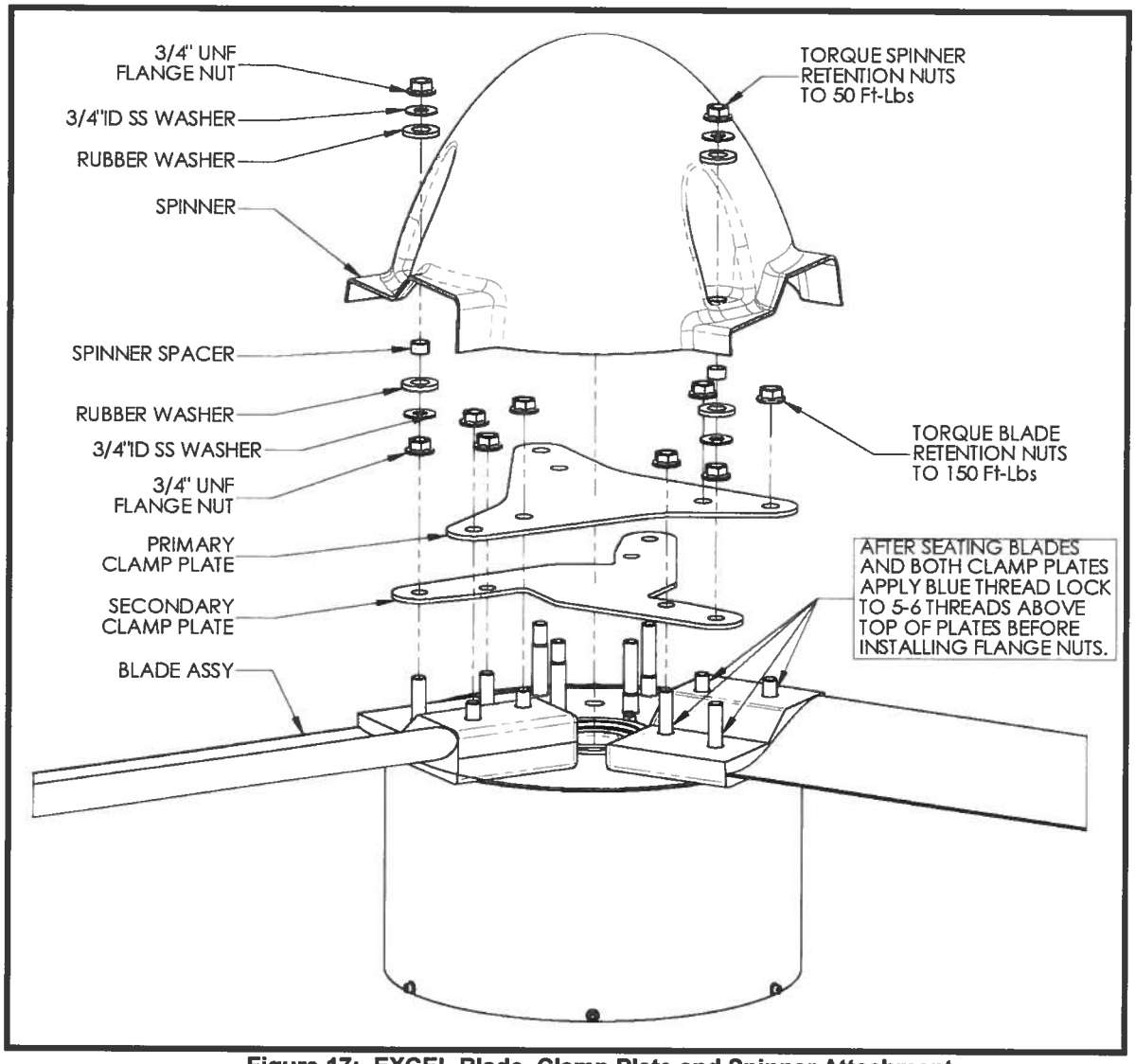


Figure 17: EXCEL Blade, Clamp Plate and Spinner Attachment

Table 2: Contents of Blade & Spinner Hardware Kit

P/N	BLADE HARDWARE KIT	Qty
HNB016PLT	NUT EXCEL BLADE 3/4"X16 PLATED	12
SF0064	THREAD LOCK - BLUE - 2mL	1

	SPINNER HARDWARE KIT	
HNB016PLT	NUT EXCEL BLADE 3/4"X16 PLATED	3
HWB008	WASHER 3/4" x 1.75"OD FLAT, SS	6
11306	WASHER, SILICON 2"OD RED	6
11305	SPACER SPINNER,SPLIT SEAM 1"OD	3

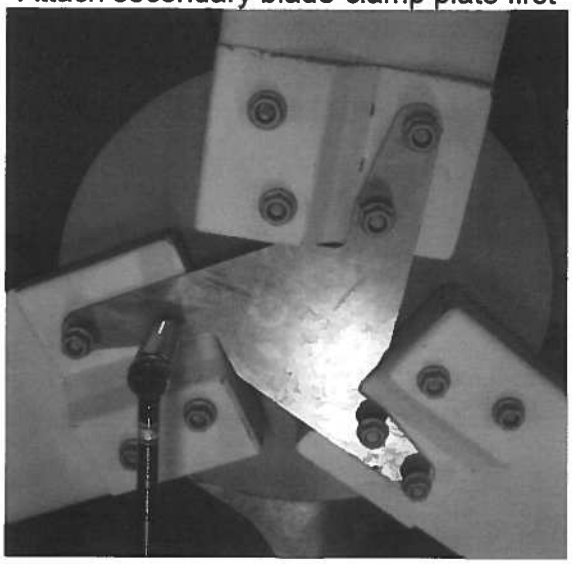
4. A 1-1/8" deep socket and **torque wrench will be required**. Follow the sequence of steps below. Note that at least two workers are needed.

WARNING: **DO NOT USE** anti-seize compound on the blades studs or blade nuts. Doing so will cause the nuts to loosen over time and cause damage to the turbine, and void the warranty.
ALWAYS USE blue thread lock to prevent loosening of the nuts.

a. Rotate the alternator until one of the blades can be held horizontal by two workers and set onto the four mounting studs in the alternator. Push the blade onto the studs; it will stay in place on the studs, but the outboard end will need to be supported. **Make sure the blade is properly seated**. Install two flanged Spiralock nut on the studs in the **thick** section of the root pad, and finger tighten. **Leave the thin section unfastened until later**.

b. Rotate the alternator so another blade can be set in place. Be careful to avoid damaging the first blade; a third worker may be needed to hold the tip of the first blade off the ground. Hold the blade in place with Spiralock nuts on the thick root pad section. Repeat this process for the third blade.

Attach secondary blade-clamp plate first



Attach primary blade-clamp plate second

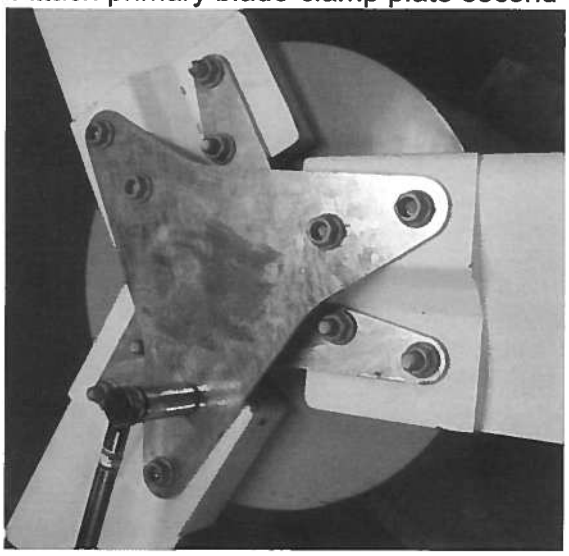


Figure 18: Clamp Plate Attachment

c. Attach the secondary (inner) blade clamp plate so it fits over the six studs in the **thin** sections of the blade root pads. Only one blade clamp orientation will allow this placement, as shown in **Figure 18**. Apply blue thread lock on 5-6 bolt threads near the clamp plate on all six bolts then secure the clamp plate on the blade roots using six Spiralock nuts, **torqued to 150 ft-lb (210 N-m)**.

d. Remove the nuts on the thick sections of the blade roots and attach the main (outer) blade clamp plate so it fits over the six studs in the **thick** section of the root pads. Only one blade clamp orientation will allow this placement, as shown in **Figure 18**. Apply blue thread lock on 5-6 bolt threads near the plate on all six bolts then secure the clamp plate on the blade roots using six Spiralock nuts, **torqued to 150 ft-lb (210 N-m)**.

5. Attach the spinner to the powerhead as shown in **Figure 17**, making sure that all hardware is ordered and positioned properly. The recommended procedure is as follows:
   a. Pre-assemble a stainless washer, rubber washer and spacer in proper configuration (shown in **Figure 17**), fastened together with a small amount of silicone caulk. **Be sure the spacer is *inside* the rubber washer and against the stainless washer.** Be sure the inner diameters of the stainless washer and spacer are properly aligned. Do this ahead of time for three separate assemblies, and use these assemblies when you are ready to attach the spinner.

   b. Use a dab of silicone caulk to position a spacer assembly in place on each of the three attachment studs. The stainless washer is glued to the blade nut, and the bronze spacer is directed outward along the blade stud.

   c. Set the spinner in position on the studs, carefully positioning the spinner attachment holes over the split seam stainless spacers. Add the outer rubber washer, surrounding the spacer, and stainless washer resting against the spacer, and then snug the stack with the upper blade nut. Make sure the spacer rests against the upper stainless washer, not against the rubber washer.

   d. Repeat steps (b.) and (c.) for the other spinner attachment studs. Be sure that all three split seam stainless spacers are properly positioned *within* the rubber washers, resting against the stainless washers above and below.

   e. Tighten the three spinner attachment nuts to **50 ft-lb**.

NOTE: Do not be alarmed by a bit of cracking noise when the spinner attachment nuts are tightened. This is caused by flattening and deformation of the spinner material, and is to be expected. **Torque the nuts to the full 50 ft-lb value**. If you have properly positioned the spacers inside the rubber washers you will not harm the spinner.

6. Prepare the EXCEL wind turbine for tower rising by winching in the furling cable until it is just snug. **DO NOT OVER-TIGHTEN THE FURLING CABLE.**

   The electrical short-circuit previously established in the disconnect switch, together with the furled tail held by the snug cable, will prevent rotation of the turbine blades during the tower raising process.

WARNING: Do not leave the alternator shorted for an extended period of time. Doing so may cause damage to the turbine, and void the warranty.

E. Raising the Tower

Put an adjusting nut on each anchor bolt. Nuts on the 6 inner anchor bolts will determine initial tower position, because the base flanges tilt slightly toward the center of the tower. Try to get all six of them level at a height approximately 1" above the concrete surface. Screw the outboard nuts down until they are slightly below the inner nuts.

Raise the tower slowly and carefully to the vertical position. Be careful to avoid fouling rotor blades with the crane cable. Rotate the tower so the disconnect switch is properly oriented, and then guide the base flanges onto the anchor bolts. Secure the tower with 6 (2 per flange) upper adjusting nuts, but do not add PAL nuts at this time.

NOTE: If all legs do not align properly with the bolts, start one or two legs onto the bolts then use a chain hoist or come-along to pull the remaining leg(s) into place. The hoist can be attached to a truck tow ring for support. DO NOT HAMMER THE ANCHOR BOLTS INTO ALIGNMENT!

NOTE: The turbine should be short-circuited and fully furled; the rotor should not be free to rotate at this time, but the turbine will yaw to allow the tail to be downwind.

Level the tower as required, using the adjusting nuts closest to the center of the tower. When the tower is perfectly plumbed, raise the remaining lower adjusting nuts to firmly contact the bottom surface of the base flanges. Add the remaining upper adjusting nuts. Torque the upper adjusting nuts to 100 ft-lb and add PAL nuts to all anchors.

Put one of the grounding brackets on the lowest brace bolts of each tower leg as shown in **Figure 19**.

F. Secure and Ground the Tower

Climb the tower to detach the lifting slings. The crane is no longer required.

NOTE: WHILE WORKING ANYWHERE ON THE UPPER TOWER SECTION, EXERCISE CAUTION AT ALL TIMES TO AVOID CONTACT WITH THE TURBINE ROTOR BLADES.

Starting at the top of the tower, inspect ALL connections and hardware; tighten as needed using an accurate torque wrench. Assure that all locking hardware and PAL nuts are in place.

Remove the step bolts from the upper and lower 15 feet of the tower. Leave the bolts with the owner, to be stored in a location that is both safe and accessible. Make a

note of the location to be included with the installation record.

Ground each tower leg by connecting the grounding cable assembly to the tower leg and the grounding clamp attached to the ground rod. Avoid sharp bends in the grounding cable. Note that all clamp connections should be above ground level for inspection and future service.

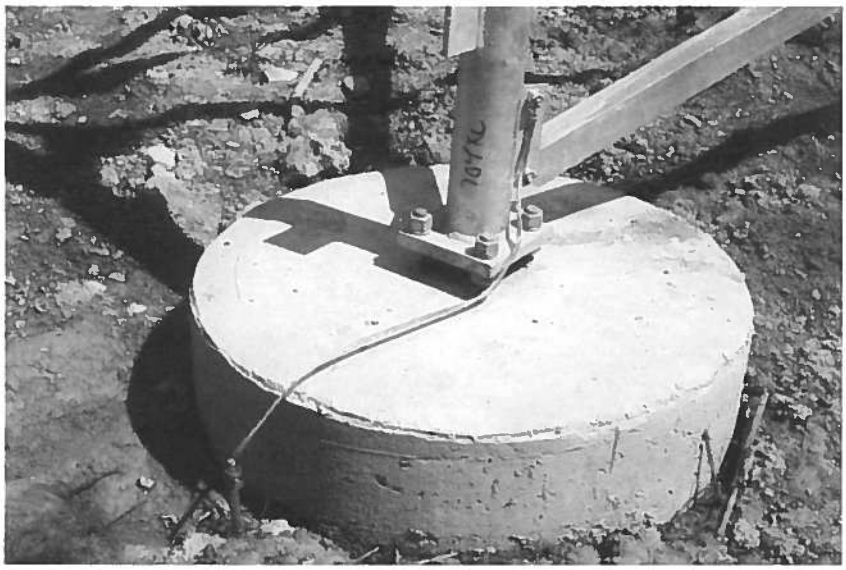


Figure 19: Tower Leg Grounding (Grout NOT Shown)

WARNING: Before starting the next operation, be sure the turbine rotor is not spinning. The voltage in a spinning alternator can get very high in "open-circuit" operation. Handling the alternator output wires poses a serious shock hazard. BWC does NOT recommend tying blades to the tower except in an emergency.

Grout the spaces between the concrete surface and the base flanges with high-strength grout in accordance with the manufacturer's specifications (**Figure 5**).

Ground the switch box with a length of bare copper wire. The disconnect switch has a small hole on the back panel to attach the ground bus bar supplied with the tower wiring kit. Connect a bare copper ground wire between one of the lugs on the bus bar and the clamp on the nearest ground rod.

VI. Electrical Connection

The electrical output of the wind turbine is a three-phase alternating current (AC). We strongly recommend the installation of a fused three-phase AC disconnect switch between the wind turbine and the Powersync II, as shown in the one-line drawings in the Appendix. This switch is commonly referred to as an Accessible Disconnect Switch (ADC). A 60A weather-tight switch box with 45A fuses for the 240 VAC, 60Hz or 220VAC, 50Hz system is recommended. The fuses will help protect the alternator in the event of a wiring, controller, or load short circuit. The fused disconnect switch is normally installed at the base of the tower.

WARNING: Do not install a "short circuiting switch" that will provide dynamic braking of the alternator. These switches can be easily misused, leading to serious damage to the alternator. Such damage is not covered by the BWC warranty.

Please refer to the **Appendix** for recommended wire sizes for the tower-to-Powersync II wire run. Please refer to Powersync II Operator's Manual & Installation Instructions for specific instructions and torque requirements. The Powersync II inverter must be installed indoors, near the main breaker enclosure if possible. The Powersync II is designed to operate in a clean environment and should never be installed outdoors as it is not weatherproof and will be damaged by rain. A minimum of six inches of clearance on the top and sides, and a minimum of twelve inches on the bottom of the Powersync II is required to ensure adequate air flow through the enclosure.

WARNING: For enclosure mounting, see the "Location" section of the Powersync II Inverter Operator's Manual & Installation Instructions.

The Powersync II should be connected to a dedicated breaker installed in the main breaker box, in accordance with NEC 694. System grounding is accomplished by attaching a wire, # 8 AWG minimum, from the grounding lug inside the Powersync II enclosure to the panel ground inside the main breaker box. Additionally, the tower "bond" ground wire should be connected to the grounding lug inside the Powersync II enclosure. The three AC connections from the wind turbine can be connected to the Powersync II terminals in any order; there is no required phase orientation.

DANGER: Do not attempt to make the Powersync II connections with energized leads. Always have the wind turbine fully disconnected and the circuit breaker switched to "off" before making the Powersync II connections.

All wiring should conform to the National Electric Code or other governing local electrical code. The use of electrical conduit for wiring between components is highly recommended. All terminations should be coated with an anti-oxidation compound to prevent corrosion.

WARNING: All loads should be equipped with fuses or circuit breakers to avoid hazards from accidental short circuits.

VII. Commissioning

Before the EXCEL wind turbine system is allowed to operate, a number of system checks must be made:

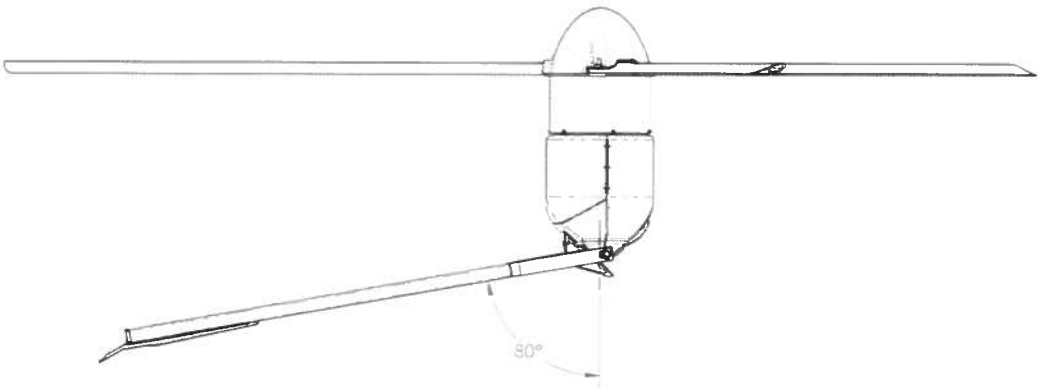
A. Furling Winch and Damper Operation

Purpose: Determines whether the manual furling system, including the tail damper, is operating properly.

Tools and Equipment Required:
None

Procedure:

1. Furl the turbine using the procedure outlined in the turbine Owner's Manual. Use caution when operating the winch - proper control of the handle must be maintained at all times. Crank the winch until the tail ***JUST BARELY*** makes contact with the bumper ***BY VISUAL CONFIRMATION***. The tail will not rotate around to 90 degrees, so it will not be parallel with the blades at its stopping point.



WARNING: Do not over-tighten the furling cable. The tail will not make a 90° angle with the turbine when it is fully furled. Over tightening will damage the furling system. Stop cranking the winch as soon as the tail boom just makes contact with the bumper.

2. While firmly grasping the furling winch handle, rapidly unwind the furling cable. This should cause the furling cable to go slack for a few seconds. If you do not see the cable go slack, there may be a problem with the damper. With a functioning damper, it may take over a minute for the tail to return to the straight, unfurled position.

B. Alternator Output Check

Purpose: Determines whether the output of the turbine at the base of the tower is balanced on all three electrical phases.
Tools and Equipment Required:
- Volt-ohm meter

NOTE: This test requires that the turbine run unloaded (with no electrical load). It will not harm or endanger the turbine to allow it to spin without a load, regardless of wind speed.

 **DANGER:** The output voltage of the turbine can be very high and poses a shock hazard.

 **DANGER:** Make sure the disconnect box is not connected to the inverter/controller when testing alternator output. Or if the inverter/controller is connected, ensure the inverter/controller is de-energized.

Procedure:
1. Set volt-ohm meter to the AC voltage scale.

2. Switch the disconnect box at the base of the tower to the "OFF" position. Make sure the disconnect box is not hooked up to the grid. Open the switch box cover.

3. Use the volt-ohm meter to measure the AC voltage between each of the three phases on the turbine side of the disconnect. The three phase-to-phase readings should be within a few volts of each other, though they will not be the same. Do not measure phase to ground. Typical phase-to-phase voltage is approximately 1volt per rpm.

C. Power Wiring Check

Purpose: Determines whether the wiring from the turbine to the controller has continuity and is adequately insulated.
Tools and Equipment Required:
- 500 V Meggar (insulation breakdown tester)

Procedure:

1. Stop the wind turbine, using the procedure outlined in **Special Topics**.
2. Using a 500 V Meggar (insulation breakdown tester) check the resistance between the shorted turbine and ground. Consult Meggar manufacturer manual for detailed instructions on the use of a Meggar. If the reading is below 50 MΩ the fault must

be traced and corrected. The most likely problems are an inadequately insulated connection or a cut in the insulation of the wire.

3. Check the resistance from wire to ground of each of the three power wires that lead from the disconnect box to the inverter. If any of the readings are below 50 MΩ the fault must be traced and corrected. The most likely problems are an inadequately insulated connection or a cut in the insulation of the wire.

4. Turn disconnect switch off. Remove shorting wires.

DANGER: When removing shorting wires, make sure the disconnect switch is turned to the "OFF" position. Leaving the switch in the "ON" position poses a shock hazard.

5. Reconnect the inverter/controller wires to the disconnect box, if they were removed to stop the turbine.

Additional commissioning tests may be required for the controller and its output wiring, please refer to the Owner's Manual for a list of these tests.

D. Damper Clearance Check

Purpose: To make sure the damper rod is not rubbing against the nacelle.
Tools and equipment required:
- File (if necessary to improve clearance)

Procedure:
1. Stop the wind turbine, using the procedure outlined in **Special Topics**.

2. Climb the tower and inspect the damper rod, specifically where it comes out of the nacelle.

3. If there is inadequate clearance (it looks like the damper will rub against the nacelle), use a file to clear the nacelle away from the damper rod.

4. Turn disconnect switch off. Remove shorting wires.

DANGER: When removing shorting wires, make sure the disconnect switch is turned to the "OFF" position. Leaving the switch in the "ON" position poses a shock hazard.

5. Reconnect the grid side wires to the disconnect box.

E. Special Topics

Purpose: Procedure for Stopping the Wind Turbine Prior to Climbing the Tower
Tools and Equipment Required:

- Two 6" pieces of #10 AWG insulated copper wire, stripped 3/4" at each end.
- Flat bladed screwdriver.

Procedure:

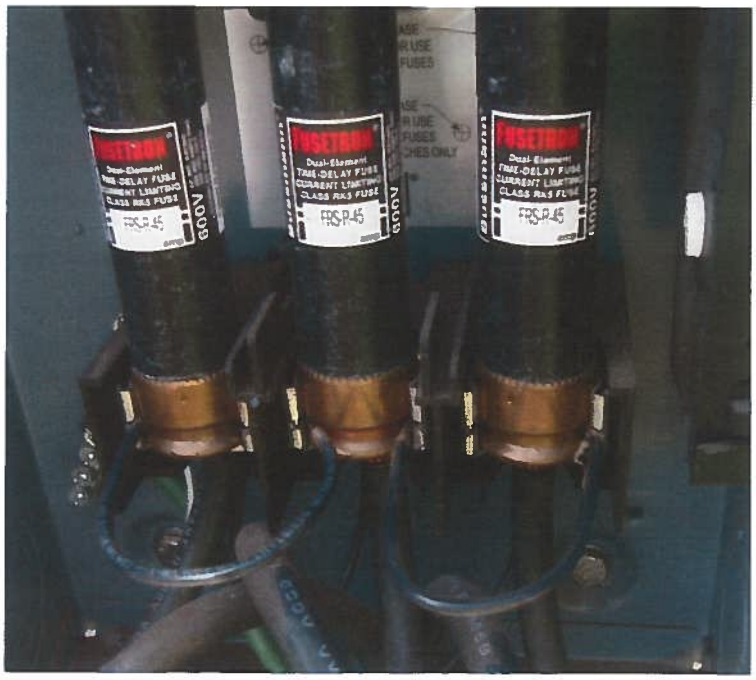
1. Furl the wind turbine.

2. Switch the tower disconnect switch to "OFF."

3. Switch the inverter grid-tie breaker to "OFF".

DANGER: Failure to turn the grid-tie breaker to the "OFF" position may result in electrocution, causing serious injury and death.

4. Ensure the inverter/controller is de-energized. Remove all three inverter conductors from the lower side of the tower disconnect box. Bridge the connections in the box using the #10 AWG wire (i.e. jumper the left phase to middle phase and jumper the right phase to middle phase). This will create a short circuit for the tower when the disconnect switch is turned "ON."



WARNING: Do not leave the alternator shorted for an extended period of time. Doing so may cause damage to the turbine, and void the warranty.

WARNING: Failure to disconnect the power cable from the disconnect box may result in serious damage to equipment.

DANGER: Failure to disconnect the power cable from the disconnect box may cause danger of electrocution, leading to serious injury and death.

5. Stand at the base of the tower and wait for a lull in the wind. When the rotor has slowed, turn the disconnect switch to the "ON" position. The alternator should come to a smooth stop with no loud, intense "growling". If the alternator does not come to a stop within 1 minute, turn the disconnect switch to the "OFF" position, wait for the wind speed to drop further and try again.

WARNING: You must turn the disconnect switch to the "OFF" position if the rotor does not stop turning within 1 minute or makes excessive growling noise to avoid serious alternator damage. Never let a short-circuited alternator run for a period of longer than 1 minute at rpm greater than 10.

WARNING: Do not leave the alternator shorted for an extended period of time. Doing so may cause damage to the turbine, and void the warranty.

VIII. Inspections and Maintenance

The BWC EXCEL installation should be inspected 30 days and then again 180 days after installation. Following these two inspections the installation should be inspected every two years and after any particularly severe weather. Inspection should be done on days when the wind is below 7 m/s (16 mph). **Take pictures of inspected items.** A service inspection checklist is covered in the section below. .

Check List for Inspections

1. Inspect each of the anchor bolt connections. Ensure that all hardware is secure and all drain holes are open. Check condition of grout under base flanges.

2. Furl the wind turbine and check that the damper restricts the tail's unfurling to a period of at least five (5) seconds when the winch cable is rapidly released.

3. Furl the turbine and short the alternator using the procedure given in the "Special Topics" section of **Chapter 6**. Climb the tower. Always use proper safety belts and lanyards.

4. Inspect the blades for:
    a. Cracks near the hub.
    b. Condition of the leading edge protection tape.
    c. Tip, leading edge or trailing edge damage.

5. Remove the spinner and hang it from the machine with bungie or rope.
    a. Check the torque on the blade nuts (value should be **150 ft-lbs**).
    b. Check the front bearing for seal integrity and grease loss.
    c. Reattach the spinner, adding hardware as described in **Chapter 4, Section 4.16**, and torque spinner nuts to **50 ft-lb** (Be sure to get rubber washers and metal spacers properly positioned).

6. Open the hatch on the nacelle. Use a small rope to lash the hatch open.

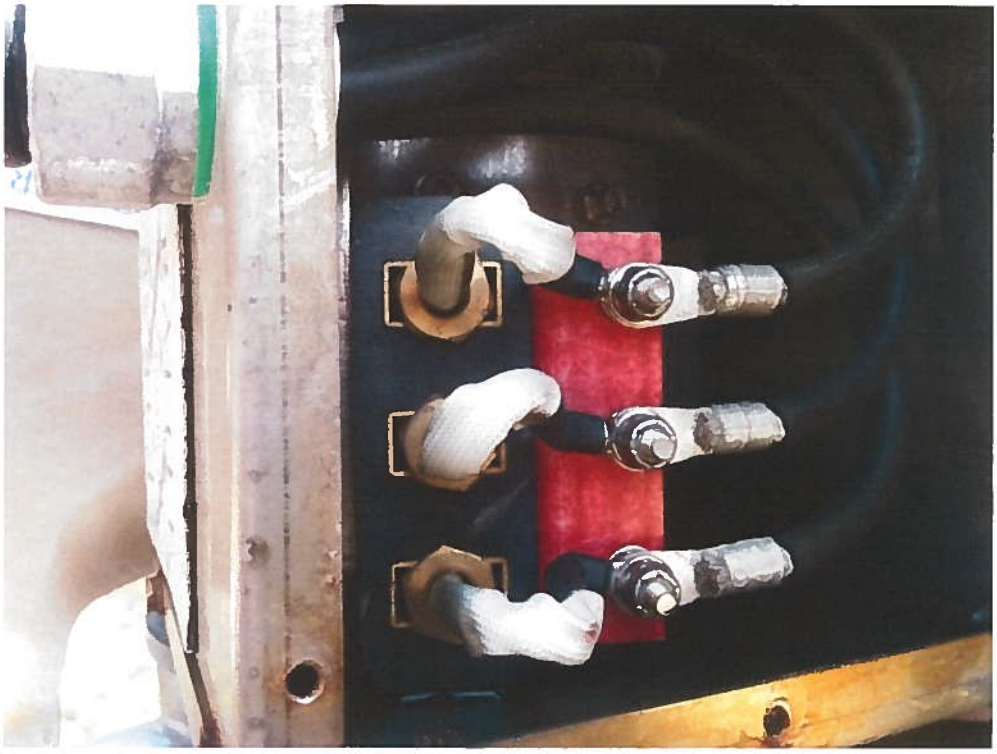
7. Inspect the flange connection between the mainframe and alternator. Check the torque on each of the bolts; the recommended value is **100 ft.-lbs.**

8. Check the rear alternator bearing for seal integrity and grease loss.

9. Inspect the mainframe welds for cracks.

10. Remove the slip-ring cover plate. Make the following inspections:
    a. Check brushes for ease of movement in the brush holder.
    b. Check slip rings for signs of arcing damage.
    c. Clean excessive grease from the slip-rings where the yaw bearing has leaked onto them.

Ensure brush leads comes straight out of brush block as shown in the following image:



11. Inspect damper. Minor leakage around the front seal is acceptable.

12. Inspect the furling cable (particularly at the ball end/fork attachment to the tail boom) and furling cable conduit. Be alert for fraying where the cable enters the conduit.

13. Check for cracks or loose hardware on the tail boom and fin.

14. Check the tail pivot pin, pin retainer bolts, and tail pivot bushings. Outside diameters of bushings should be concentric.

15. Close the nacelle and check that all of its fasteners are secure.

16. While descending the tower, inspect the following:
    a. Check that the tower wiring is properly secure.
    b. Check all fasteners. Replace missing PAL nuts.
    c. Look for any cracks in the tower structure.
    d. Check the furling cable and associated lanyard.

17. Check the furling winch and make sure that the furling cable is not twisted. If the cable is twisted, check the swivel.

18. Check the connections on all ground rods and hardware. Be sure all contact surfaces are clean and free of oxidation.

19. Inspect the surge arrestor(s). Any sign of scorching or heat should trigger replacement.

20. Megger turbine and underground run on 500V scale. Note value on inspection sheet.

21. Remove the alternator shorting connection. Check the disconnect switch.

22. Switch the disconnect switch to "OFF" and unfurl the wind turbine. Listen to the sound of the machine as it speeds up. No mechanical sounds, such as a "clunking" or "banging," should be heard. Also watch for any new or significant vibration or any bounce to the bail boom. The turbine operation should be very smooth.

23. Inspect the wire run, particularly all electrical connections.

24. Check the controller per the instructions provided in the Owner's Manual.

IX. Trouble-Shooting Problems

Refer to the Owner's Manual for the specific model of turbine you own for a guide to the causes and remedies for operational problems.

For special assistance please contact the Service Department at Bergey Windpower Company:

Telephone: 405-364-4212
FAX: 405-364-2078
Email: service@bergey.com

X. Appendix

A. Tower Sections

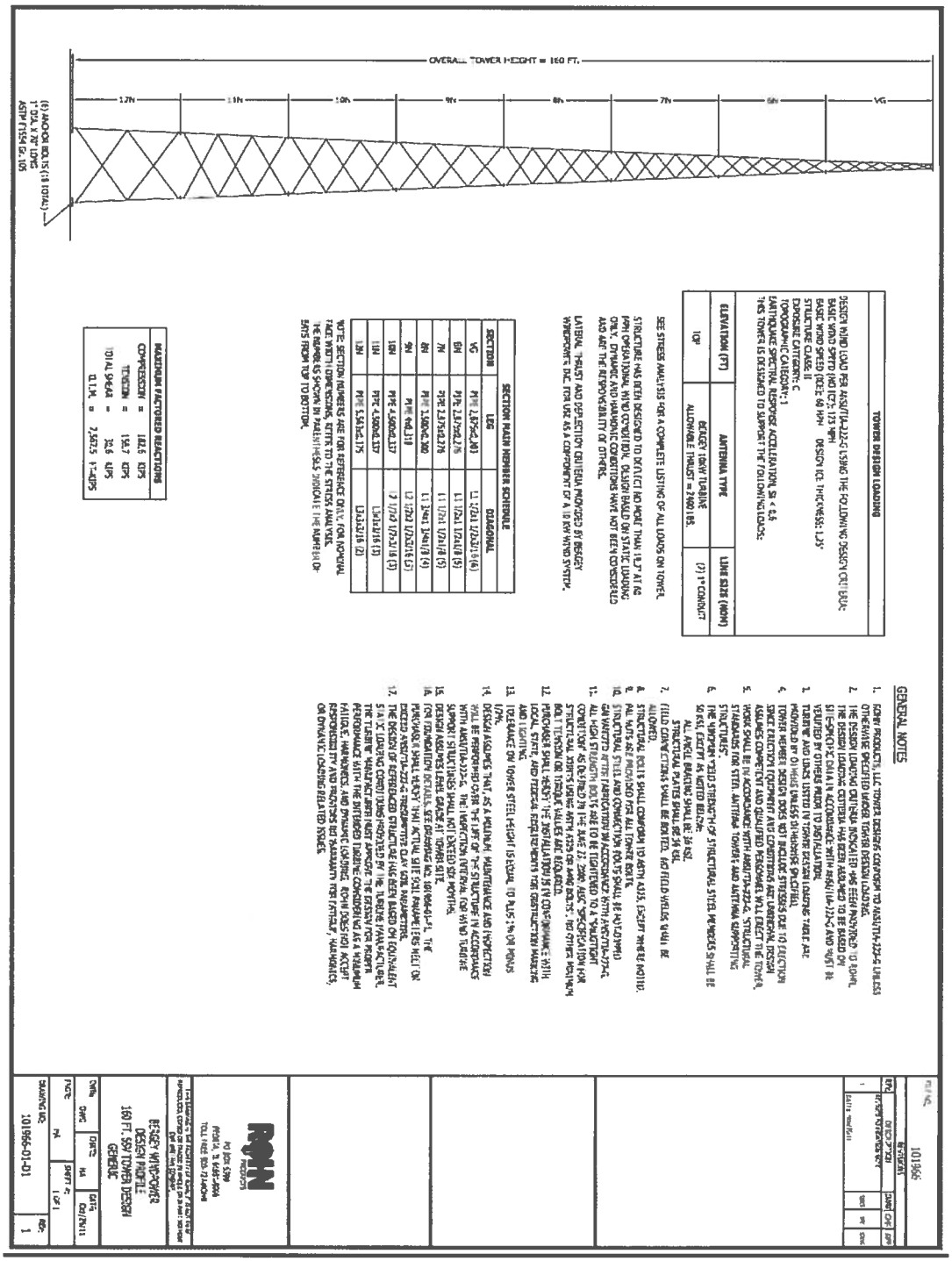


Figure 20: Tower Elevation and Schedule

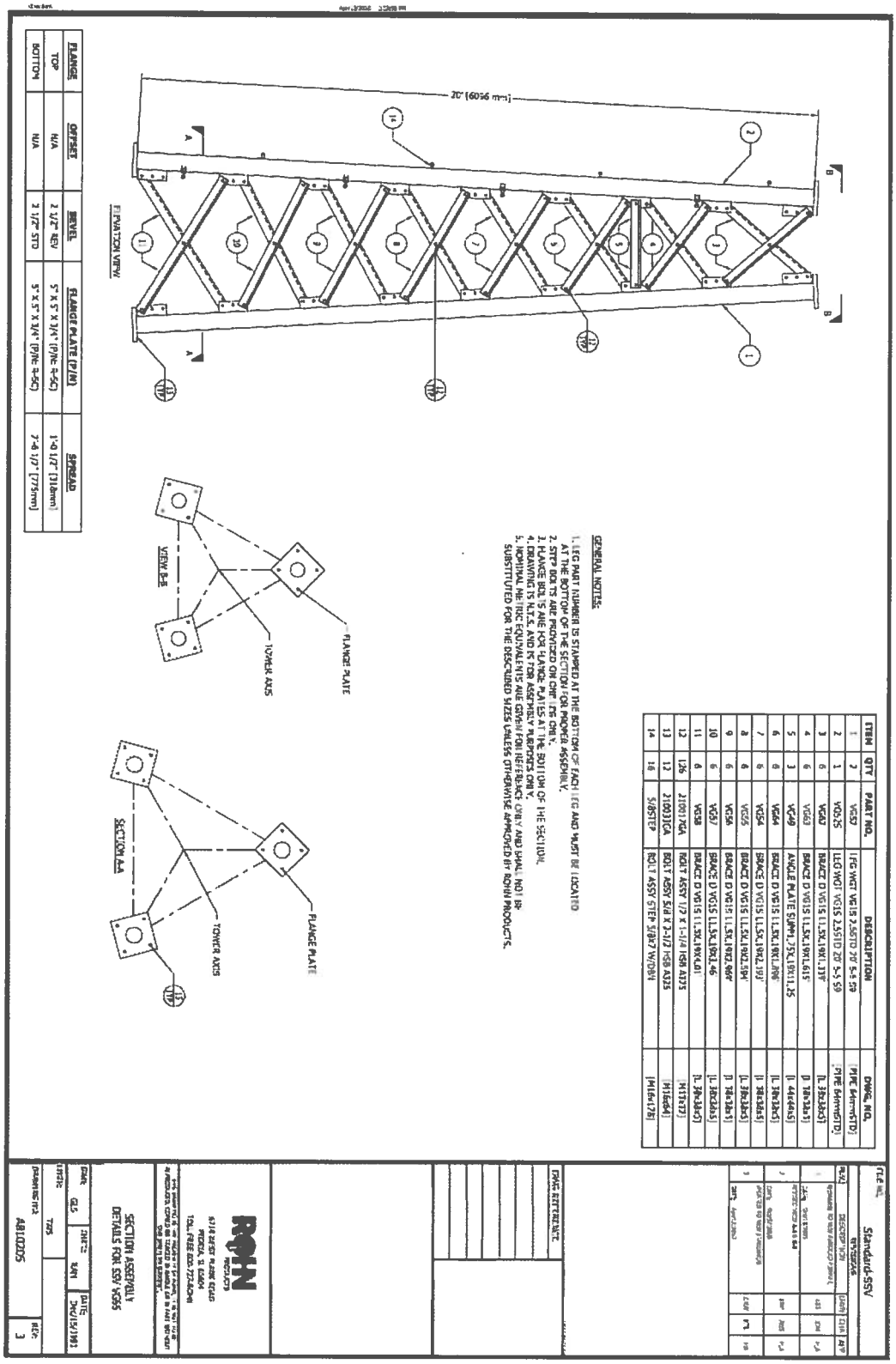


Figure 21: Top Section - VG65

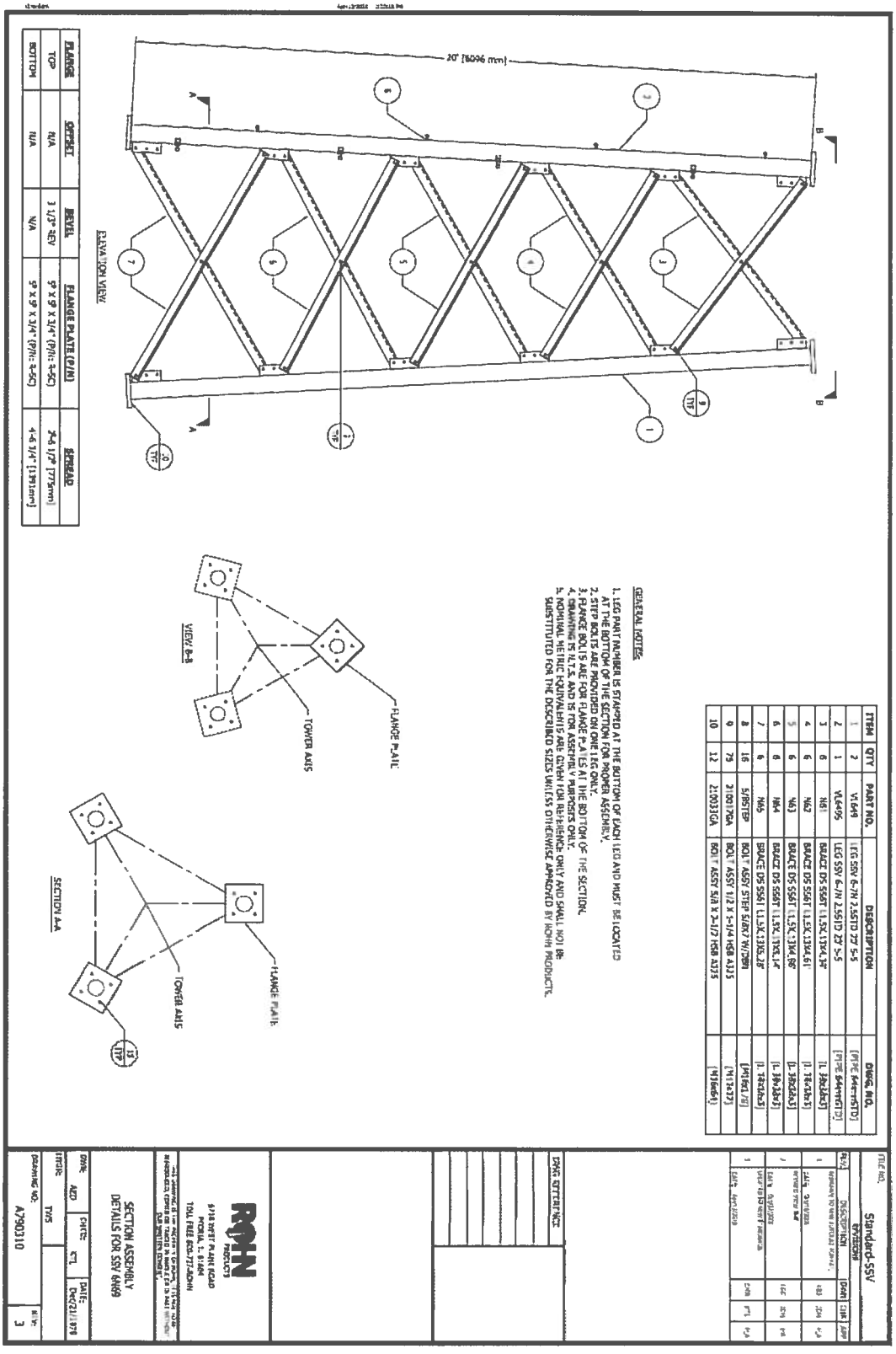


Figure 22: Second Section - 6N69

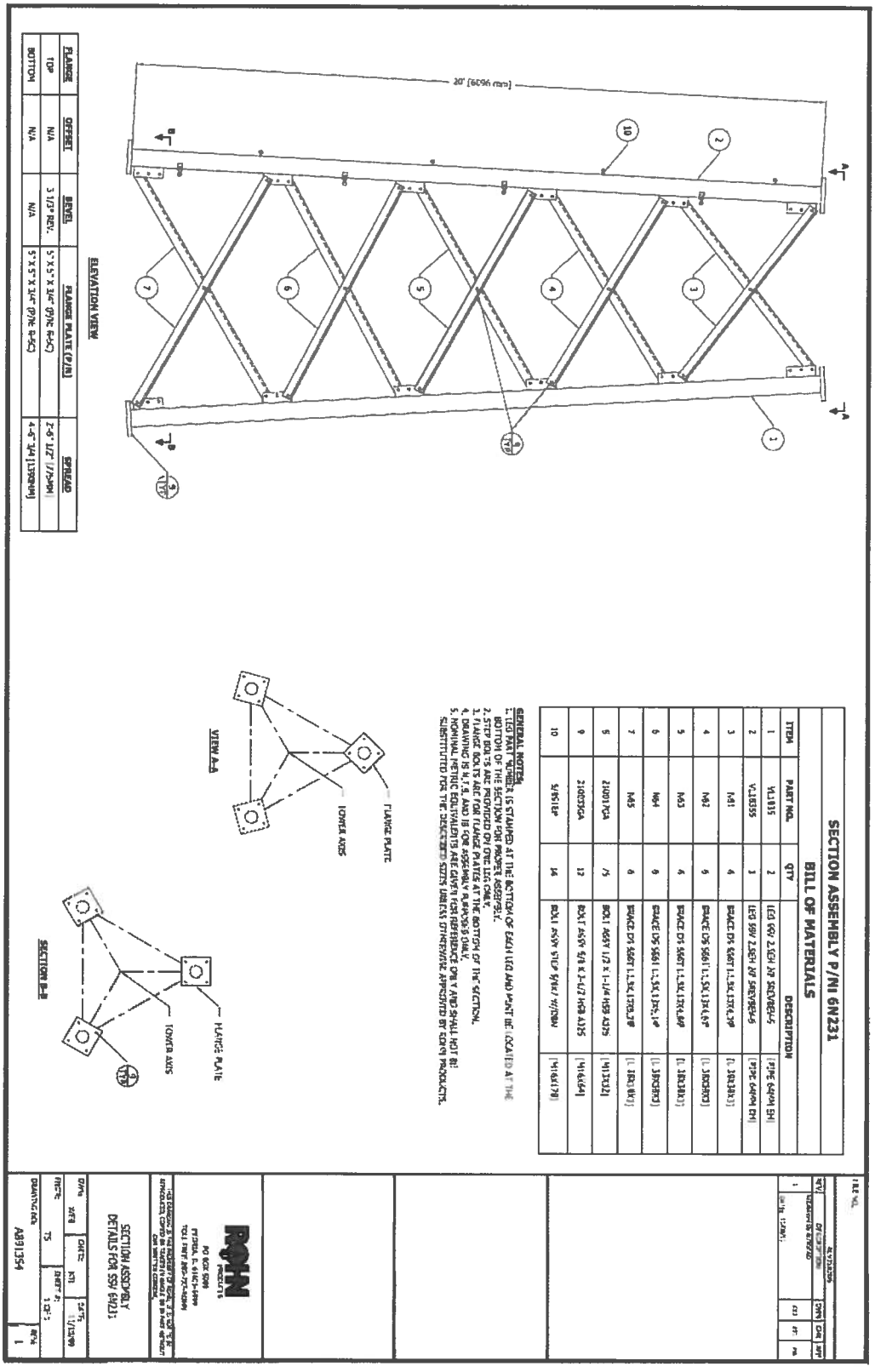


Figure 23: Second Section - 6N231 (160 ft.)

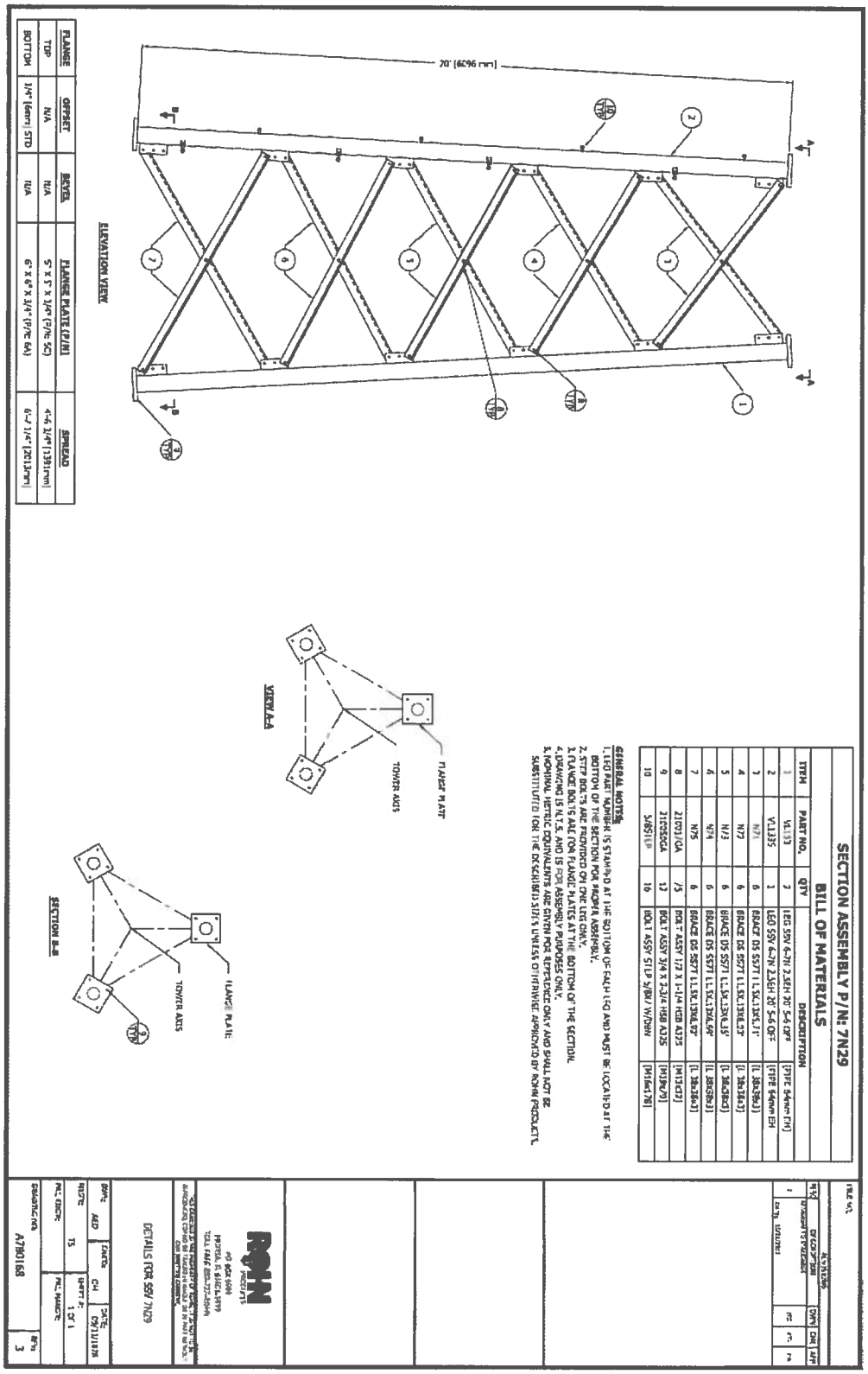


Figure 24: Third Section – 7N29

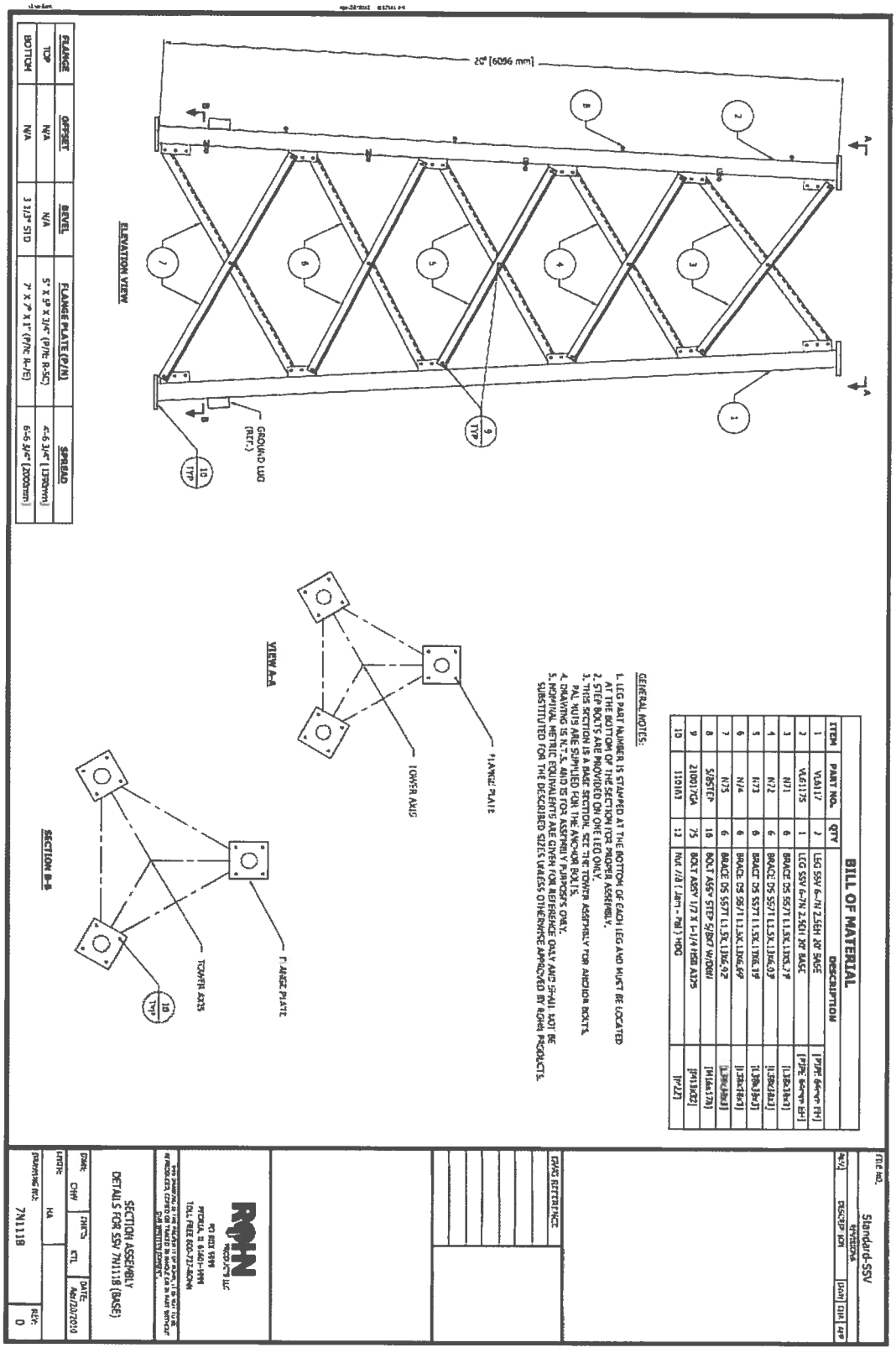


Figure 25: Third Section – 7N1118 (Base of 60 ft. Tower)

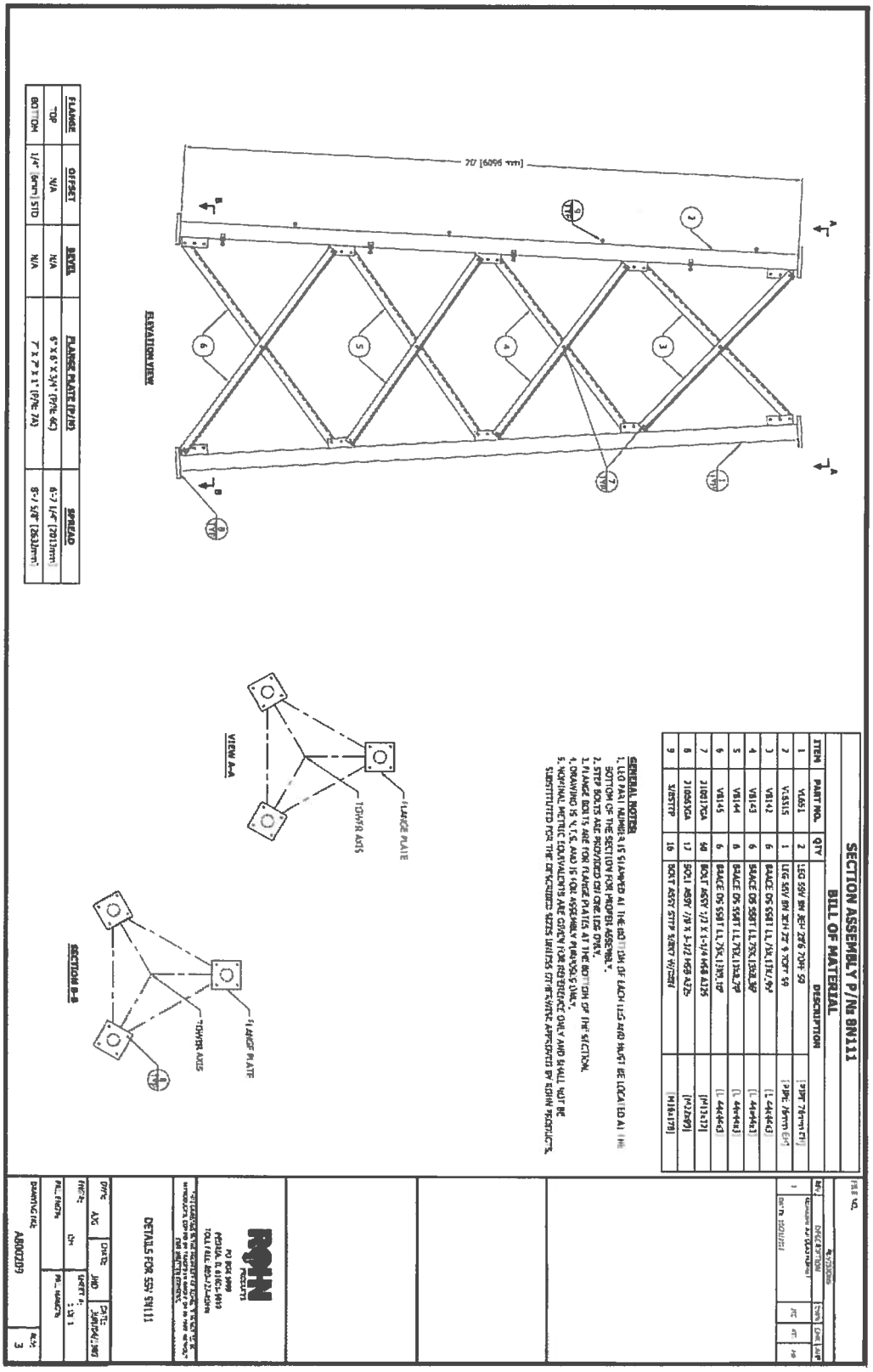


Figure 26: Fourth Section - 8N111

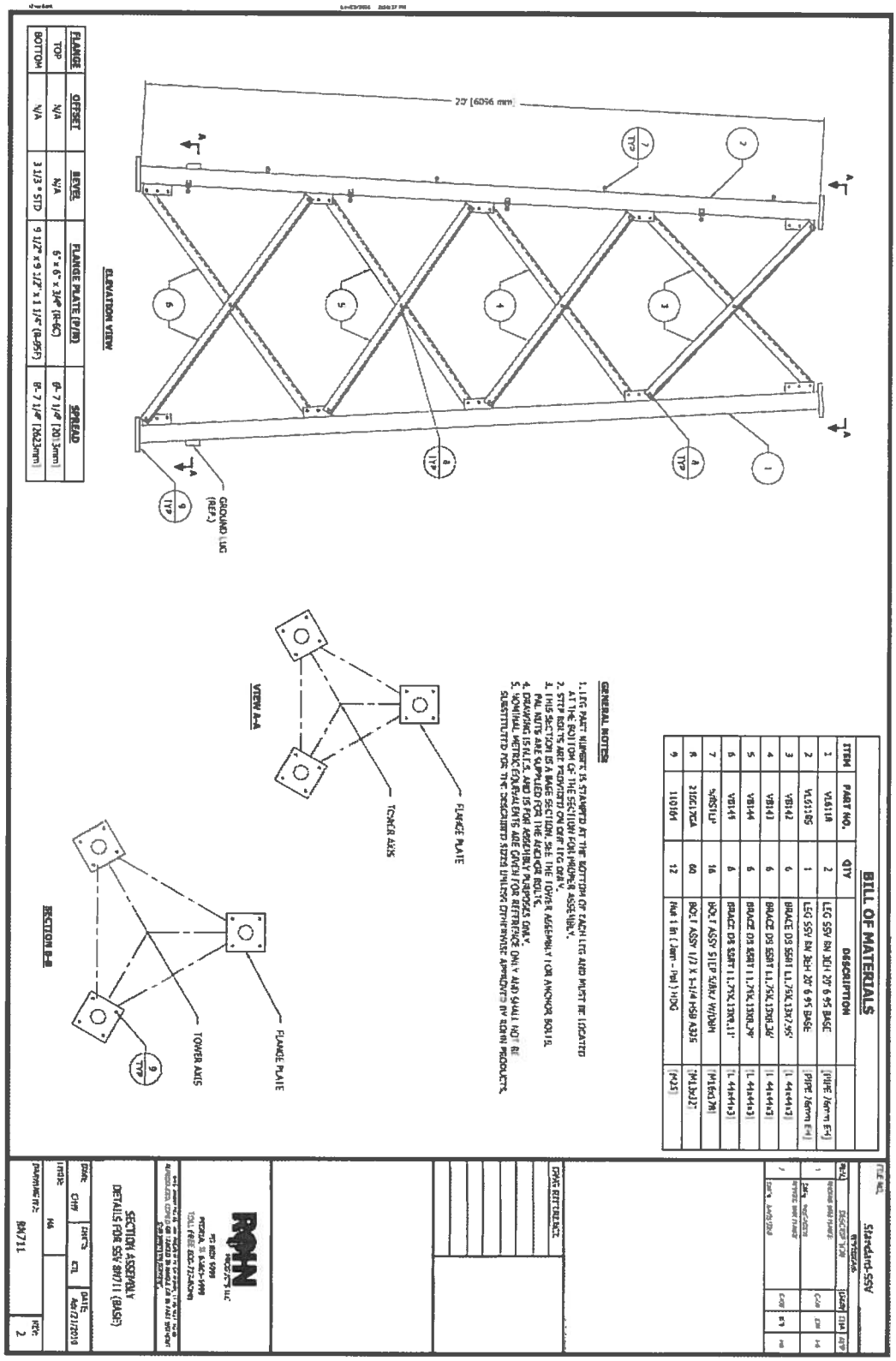


Figure 27: Fourth Section - 8N711 (Base of 80 ft. Tower)

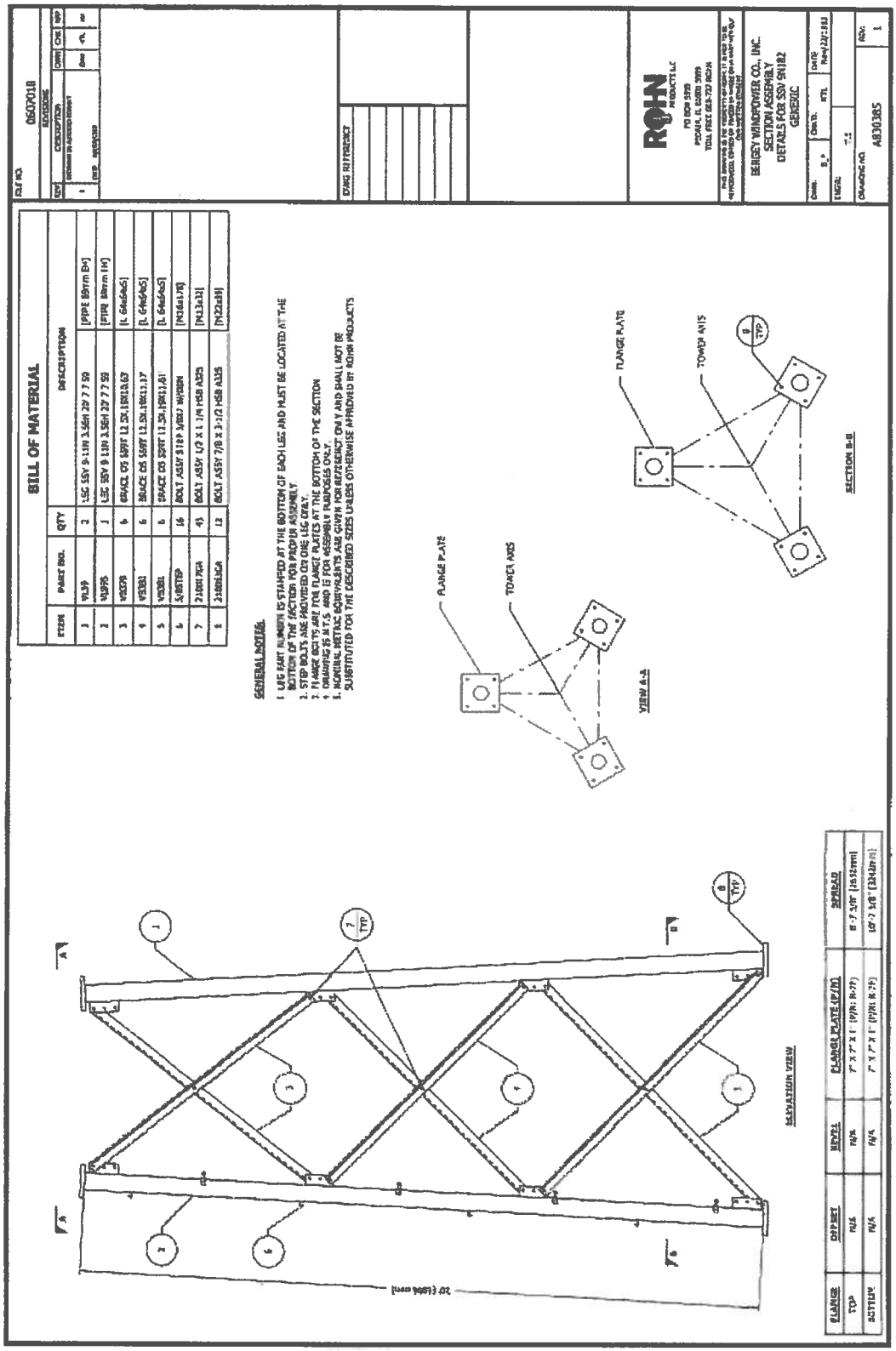


Figure 28: Fifth Section - 9N182

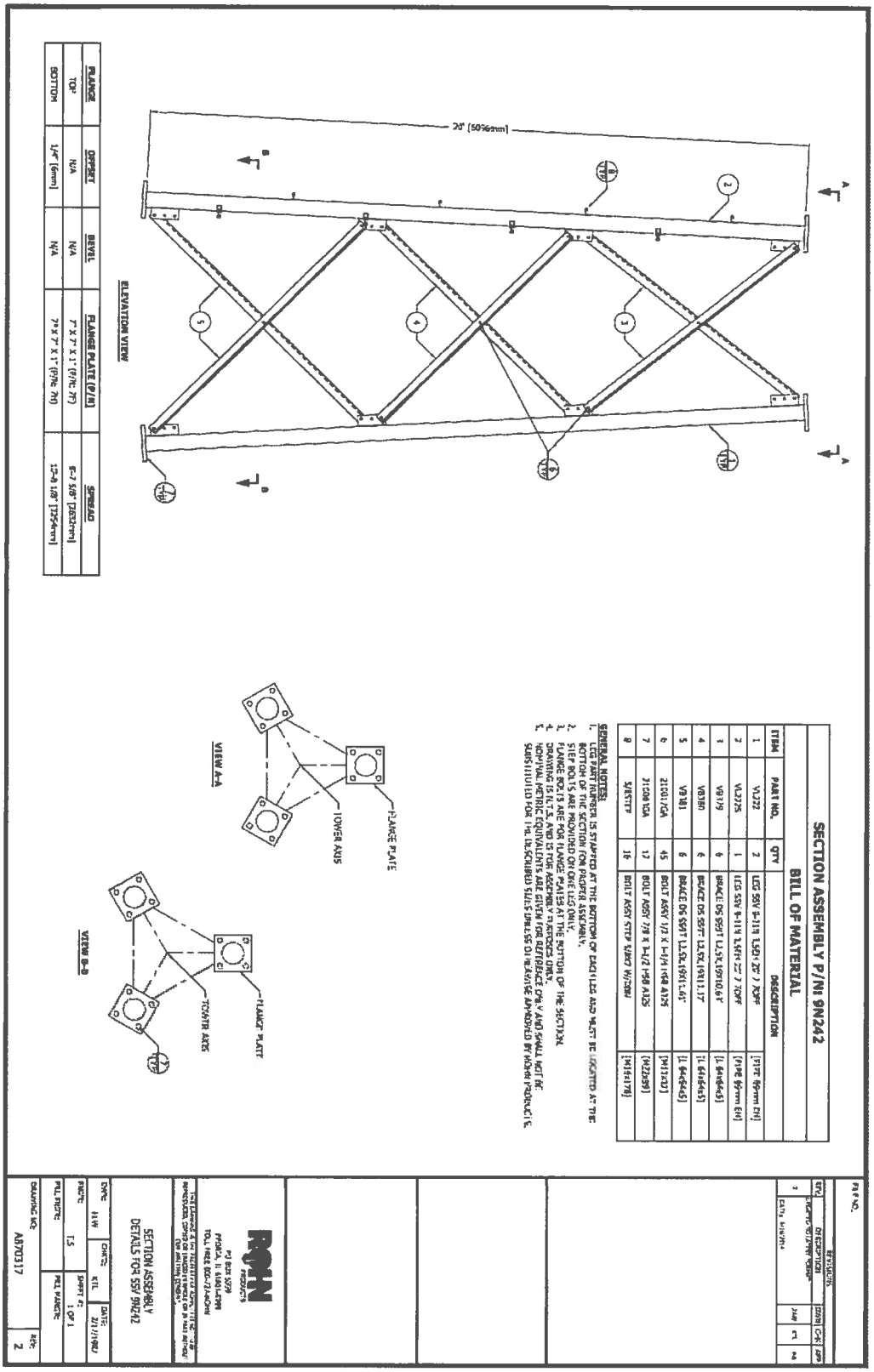


Figure 29: Fifth Section - 9N242 (160 ft.)

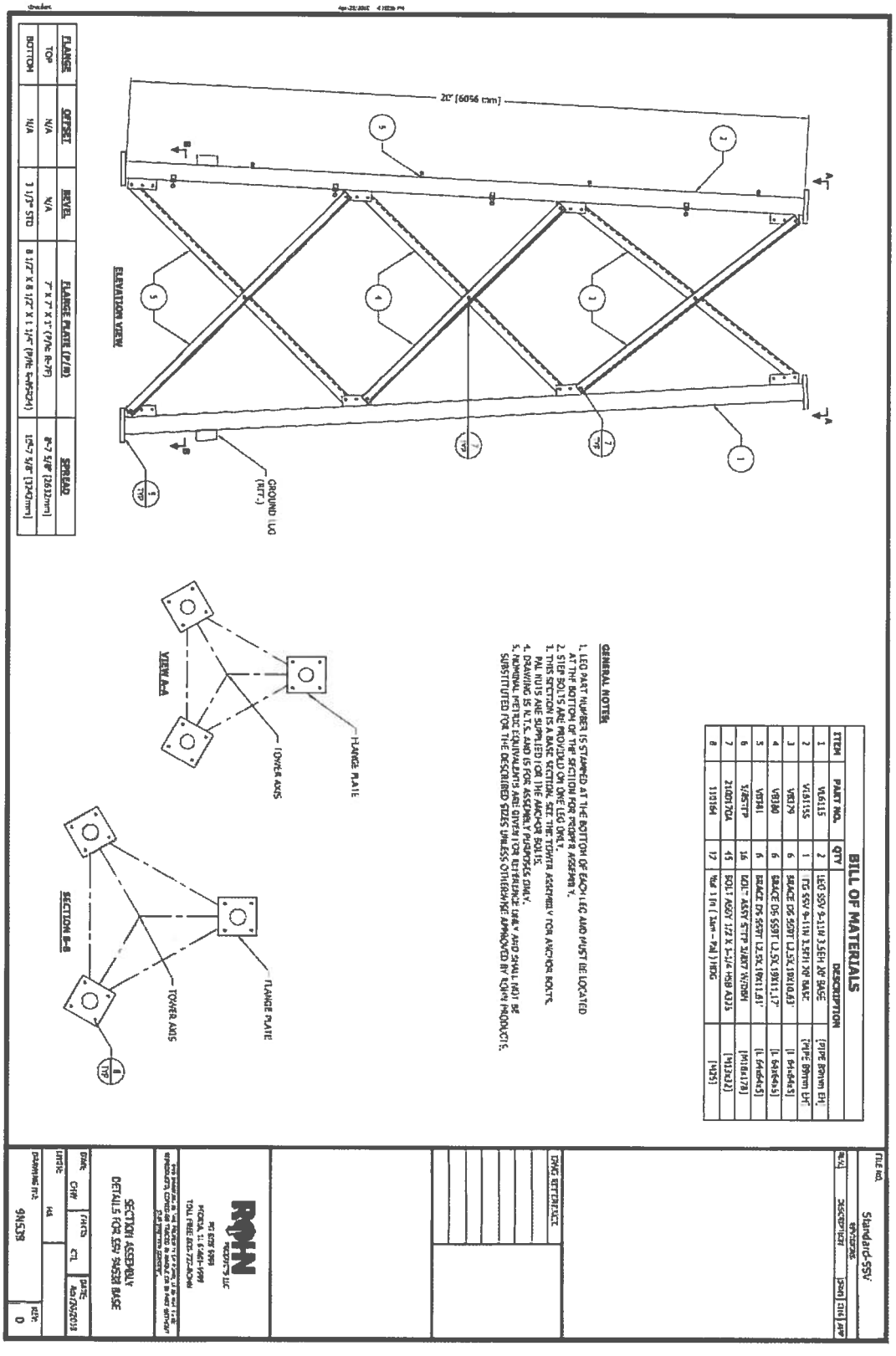


Figure 30: Fifth Section - 9N538 (Base of 100 ft. Tower)

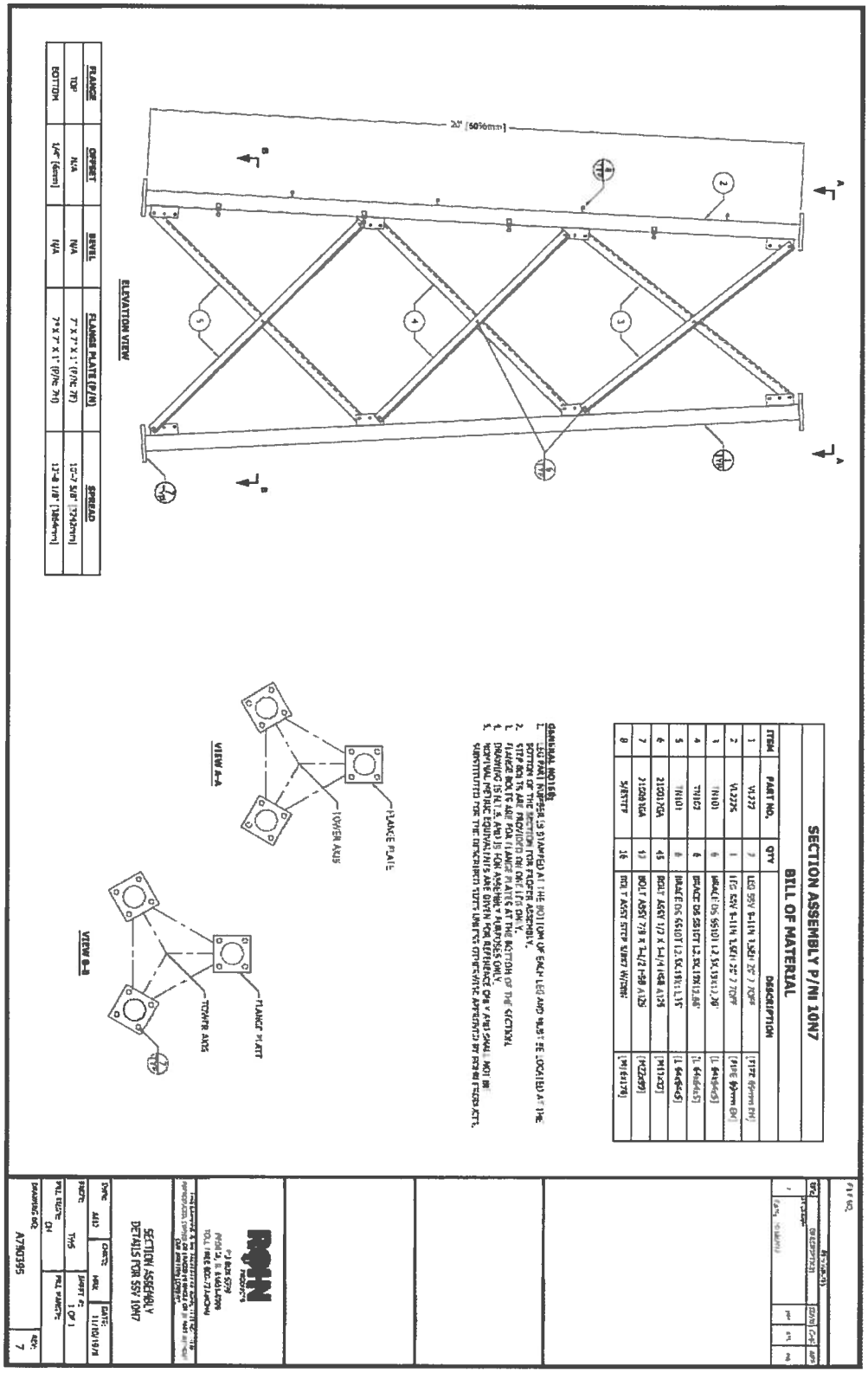


Figure 31: Sixth Section - 10N7

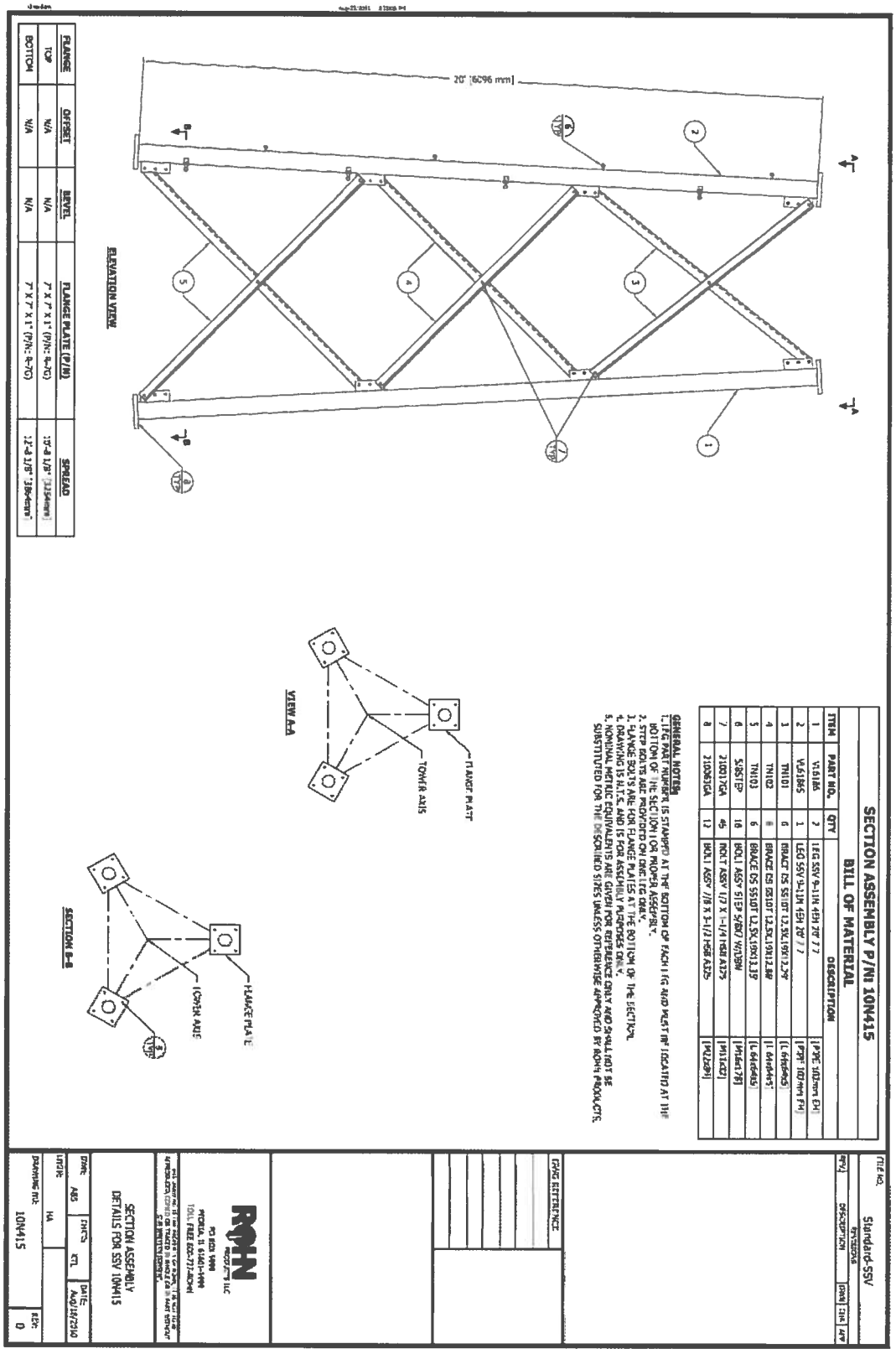


Figure 32: Sixth Section - 10N415 (160 ft.)

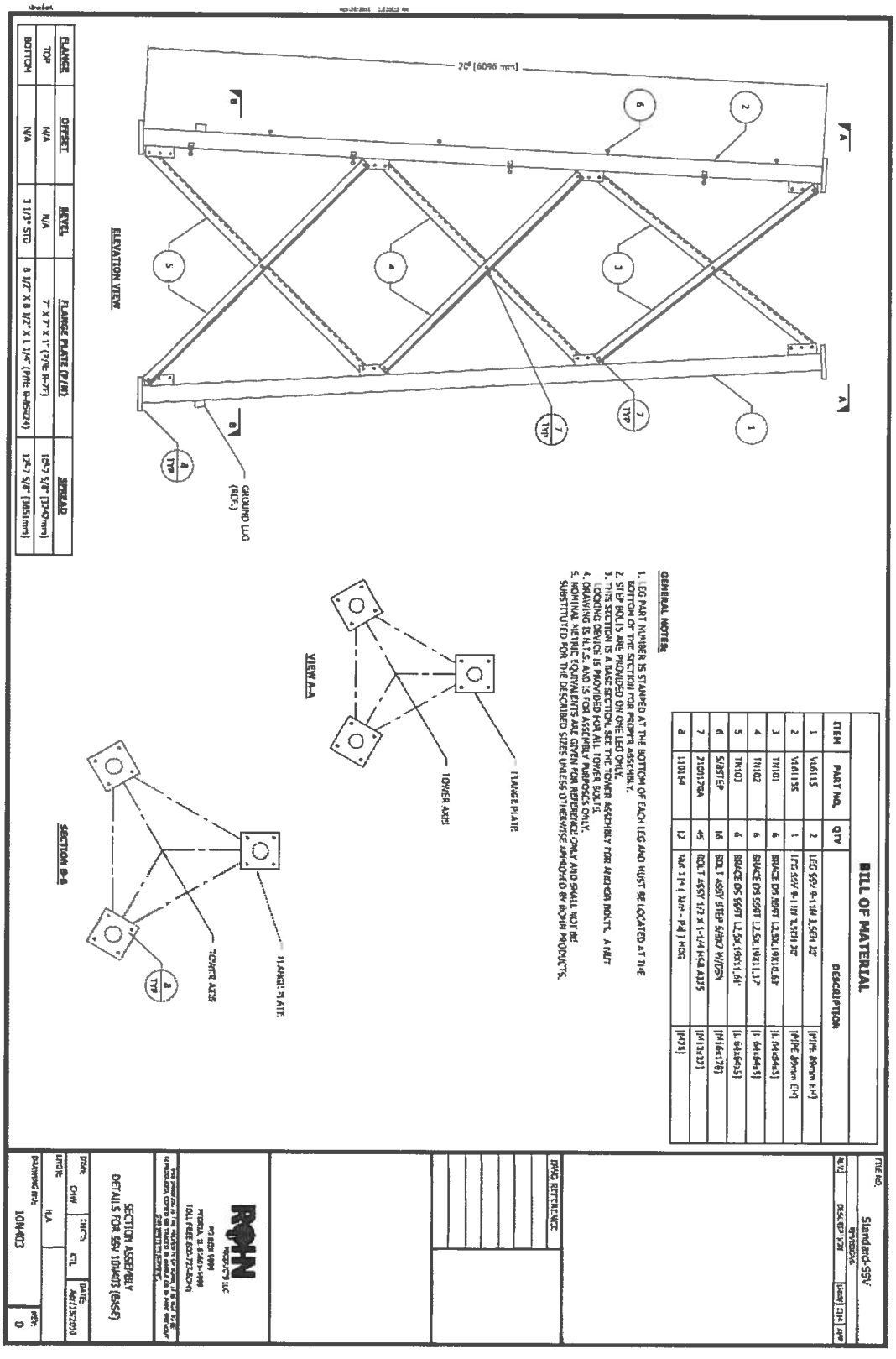


Figure 33: Sixth Section - 10N403 (Base of 120 ft. Tower)

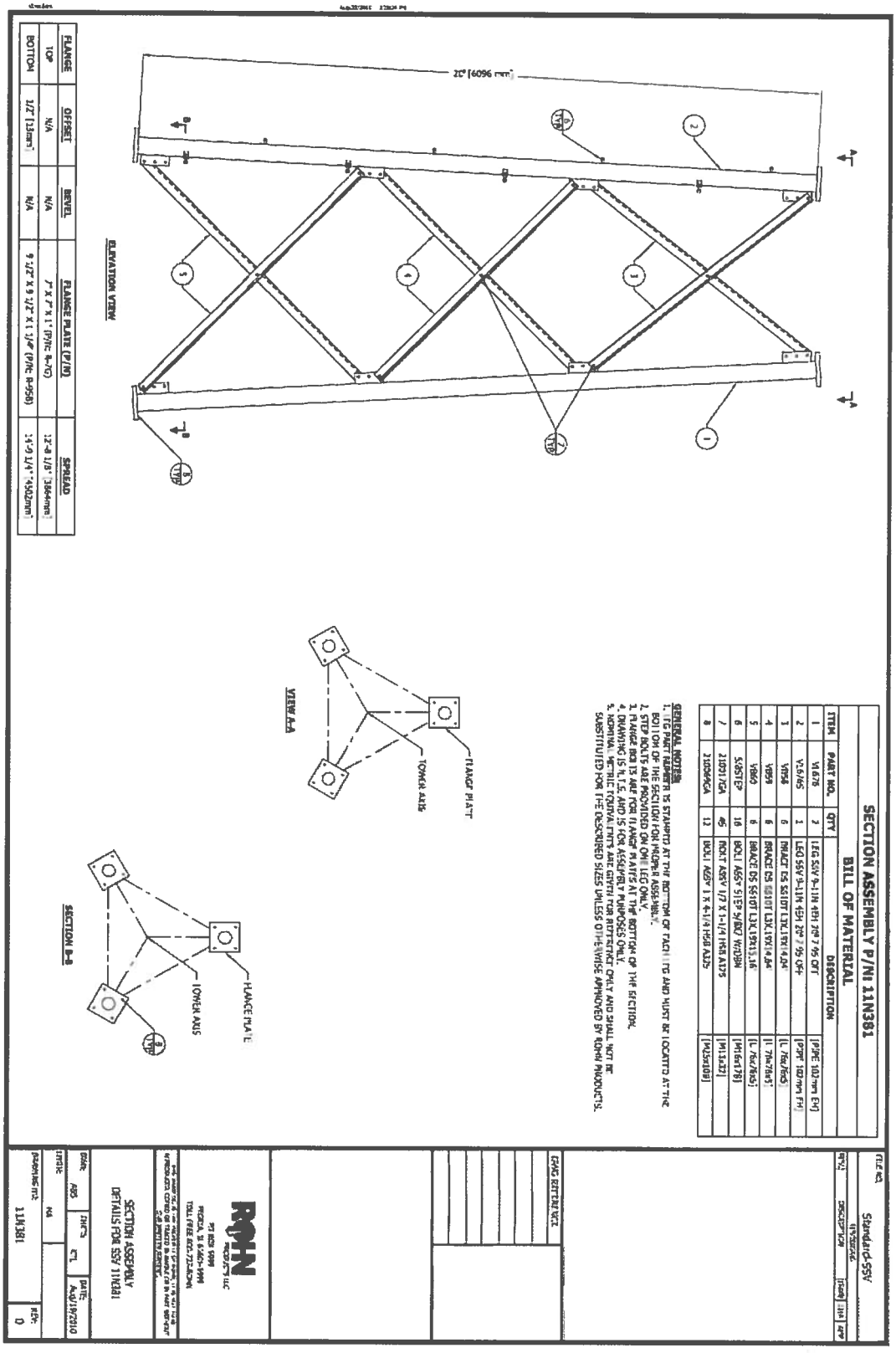


Figure 34: Seventh Section – 11N381

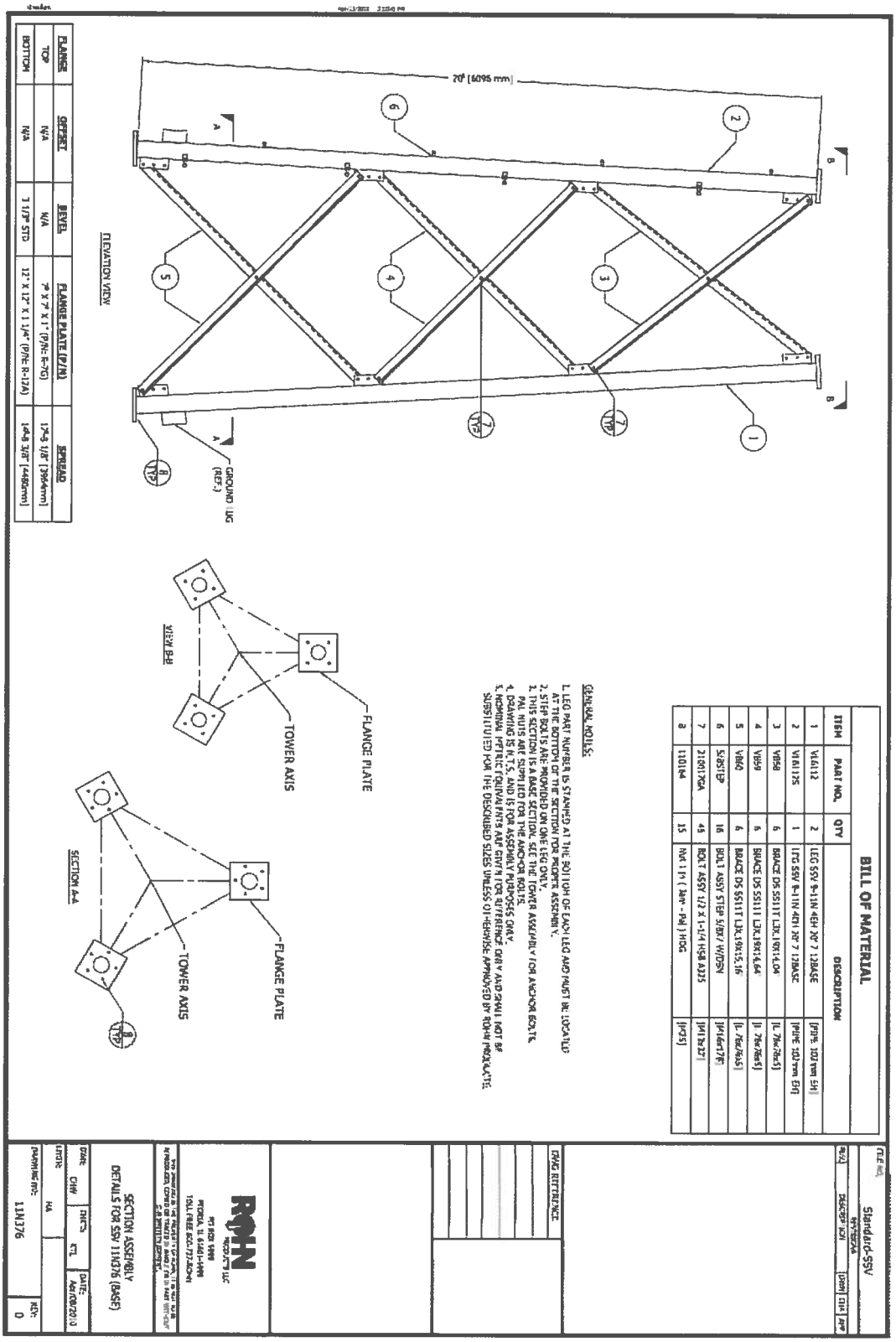


Figure 35: Seventh Section – 11N376 (Base of 140 ft. Tower)

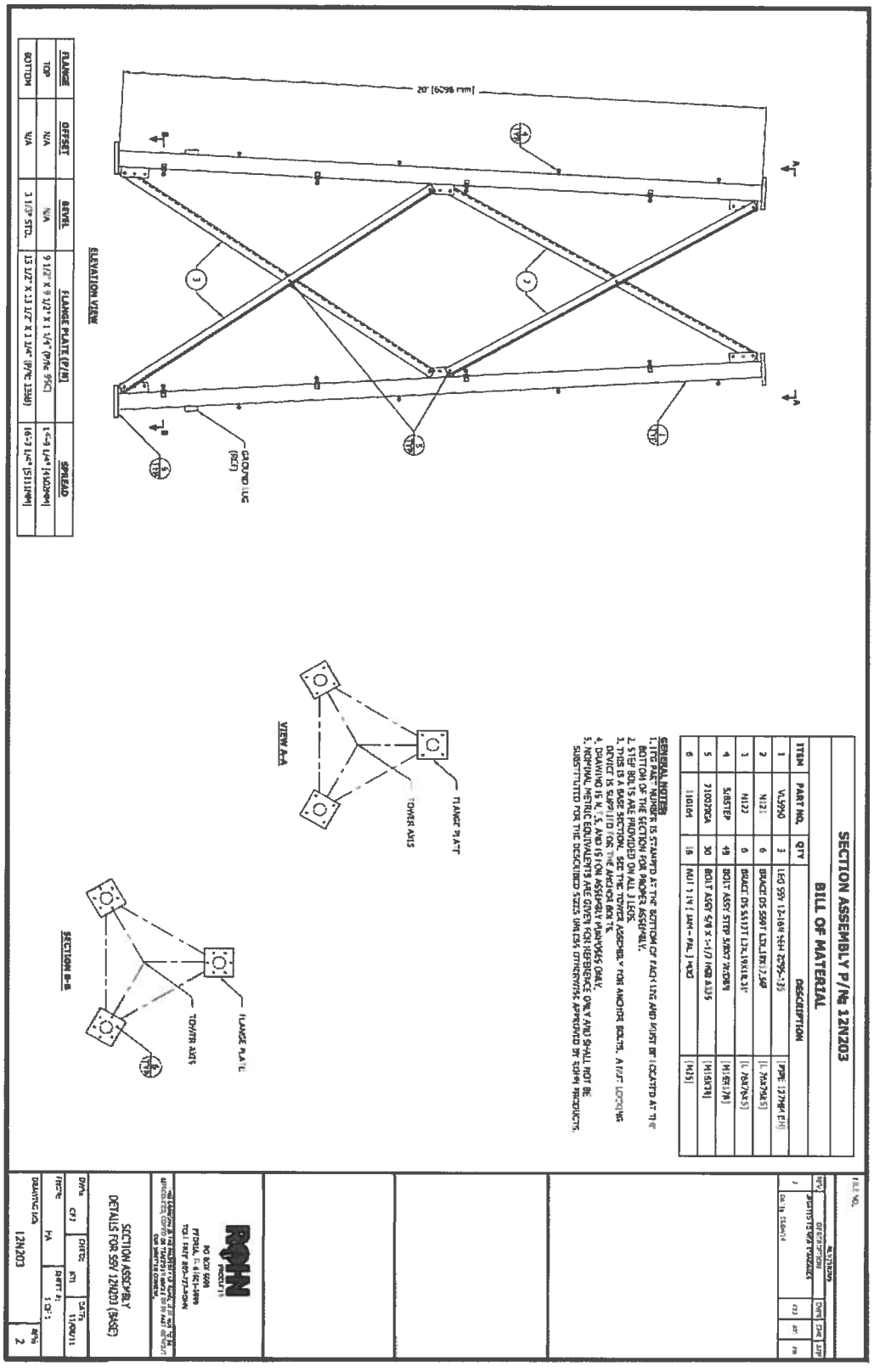


Figure 36: Eighth Section – 12N203 (Base of 160 ft. Tower)

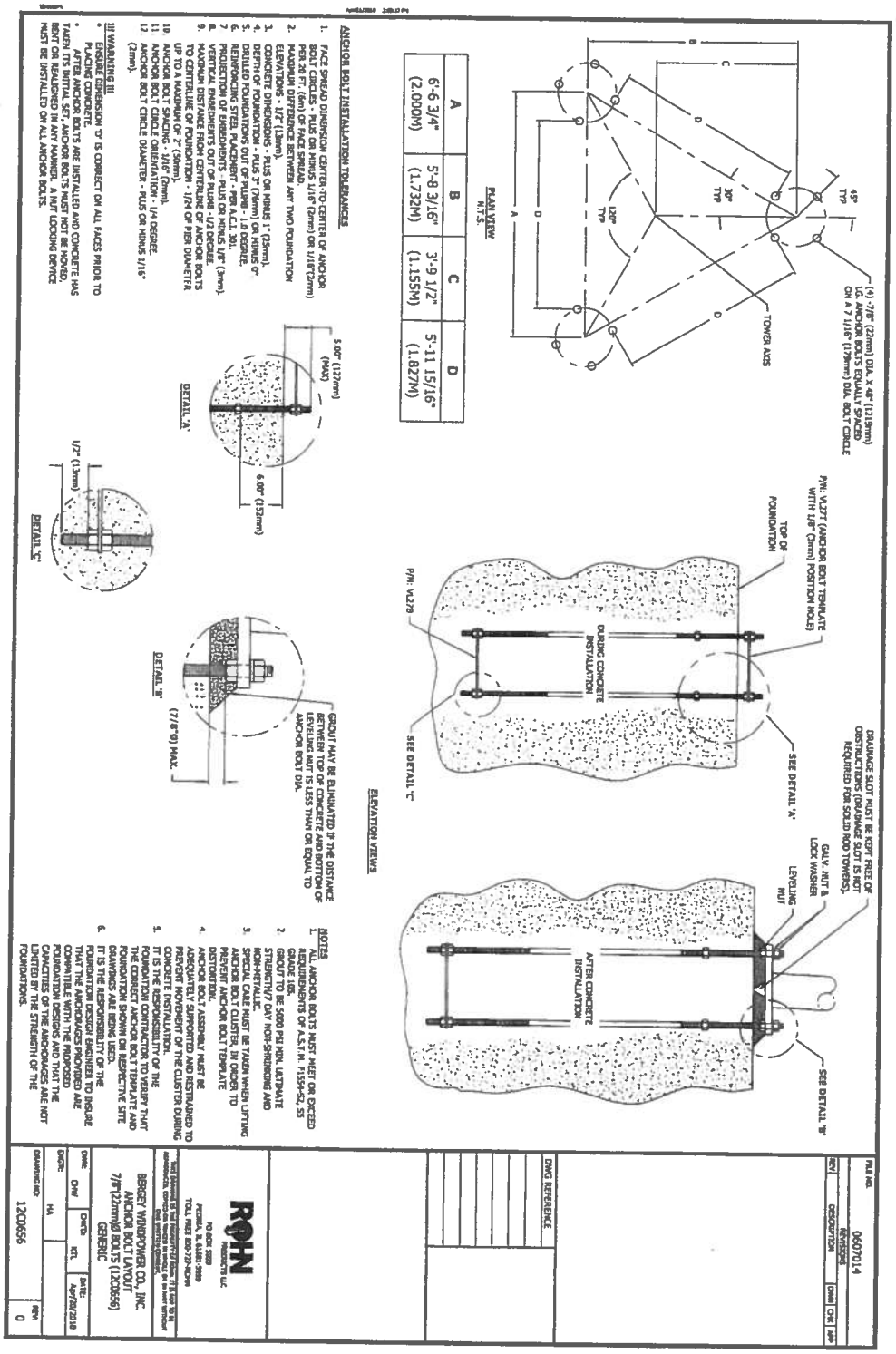
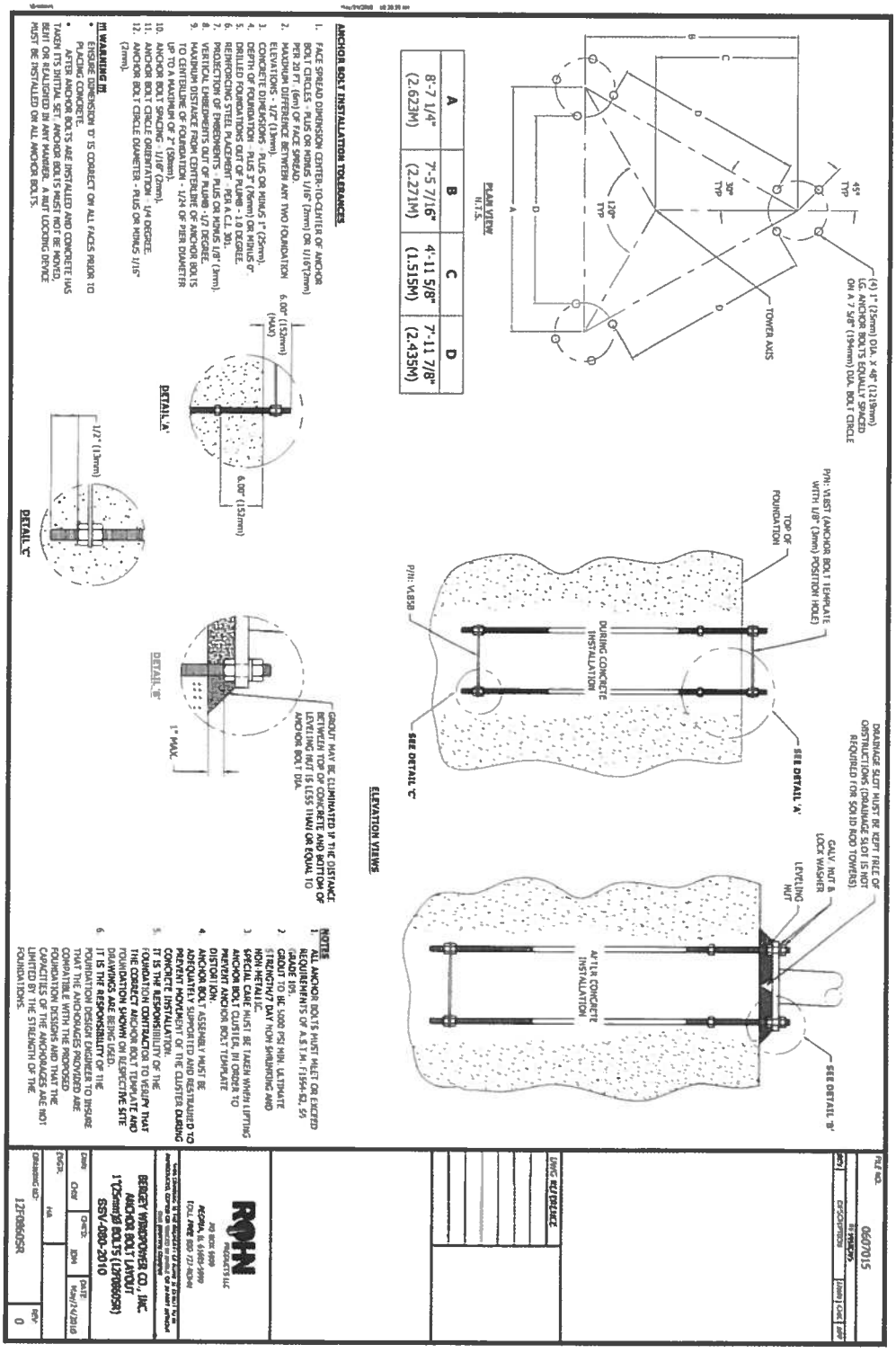


Figure 37: Anchor Layout for SSL-60 Tower



A	B	C	D
8'-7 1/4" (2.623M)	7'-5 7/16" (2.271M)	4'-11 5/8" (1.515M)	7'-11 7/8" (2.435M)

Figure 38: Anchor Layout for SSL-80 Tower

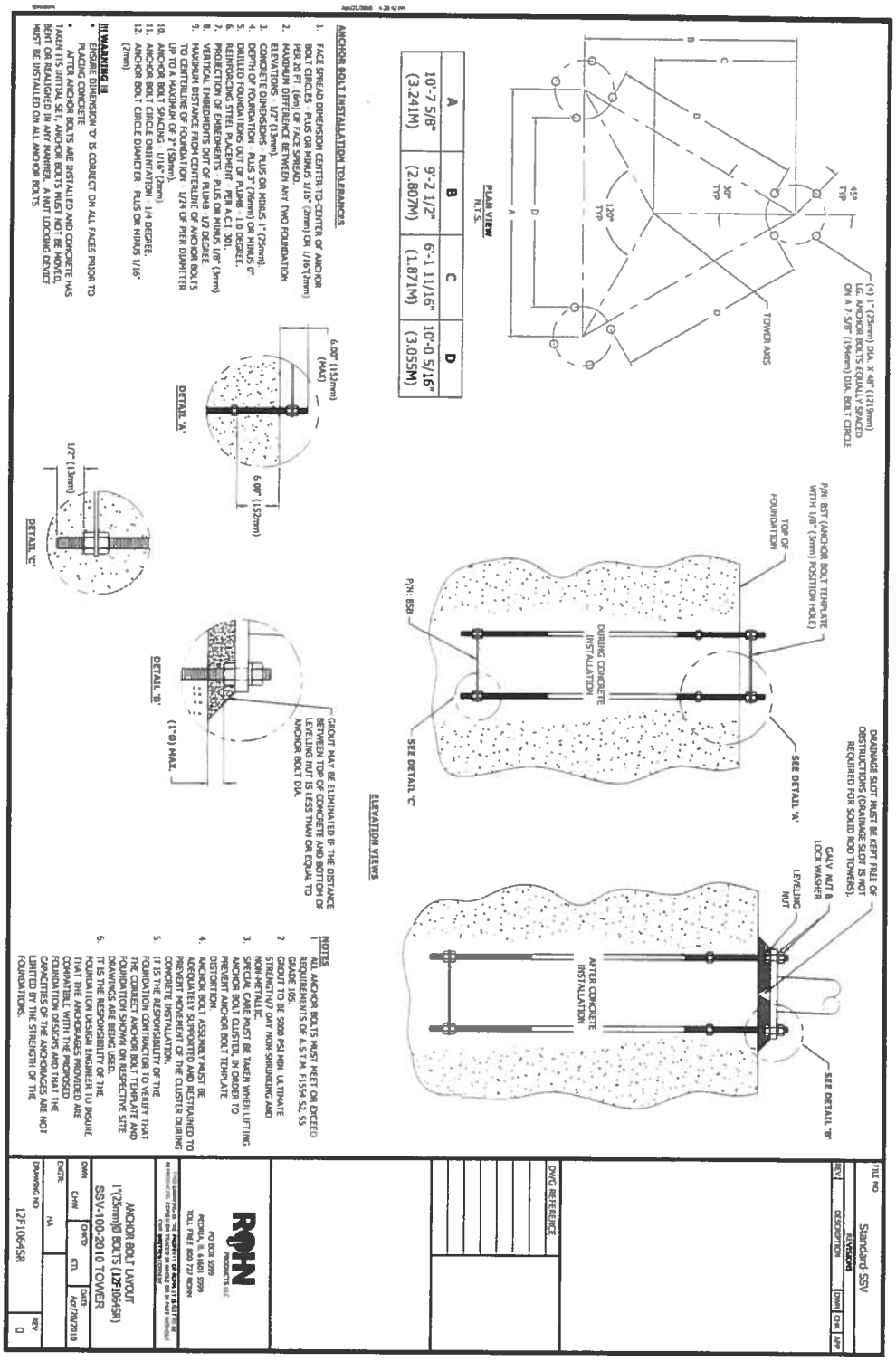


Figure 39: Anchor Layout for SSL-100 Tower

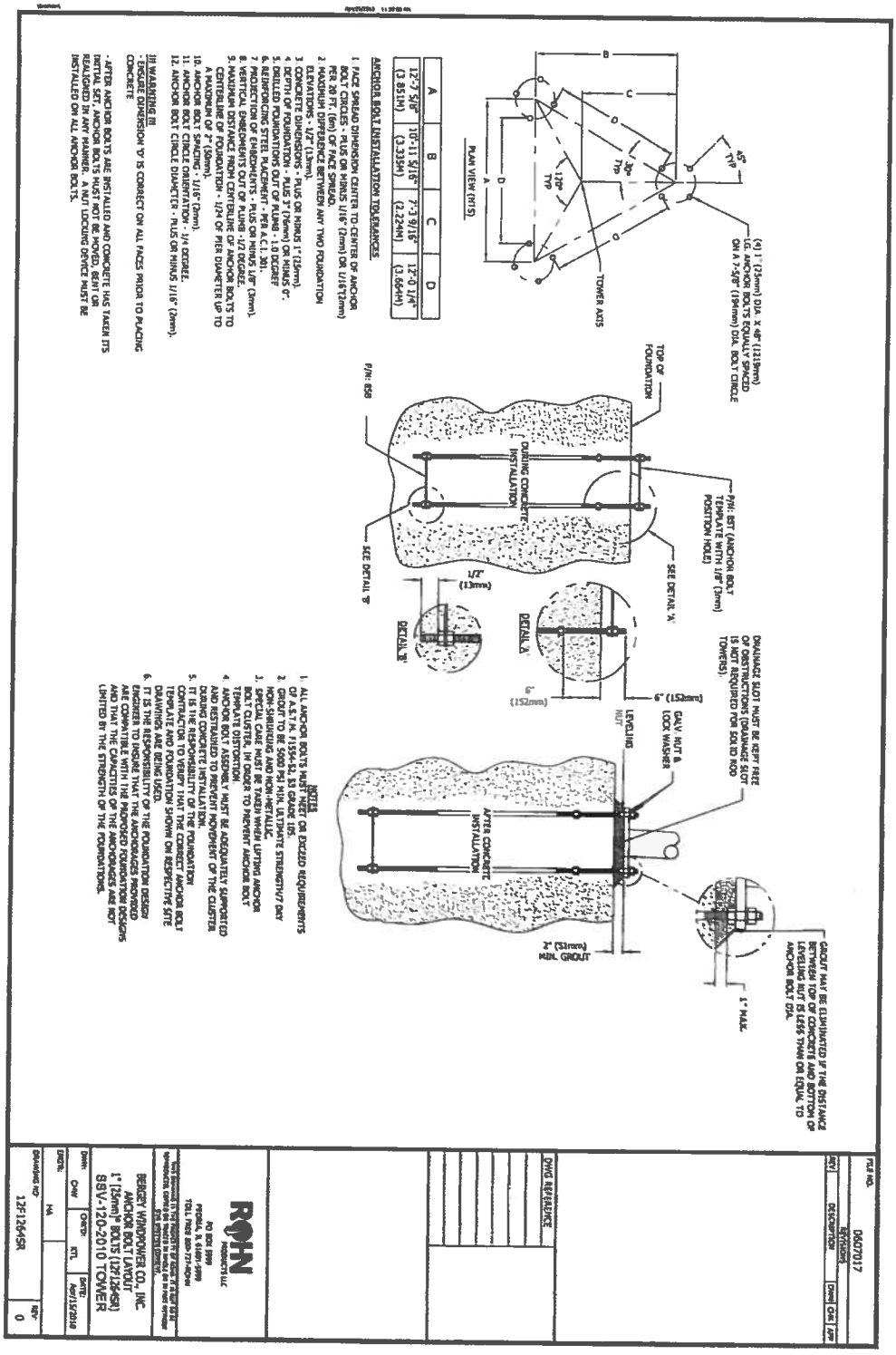


Figure 40: Anchor Layout for SSL-120 Tower

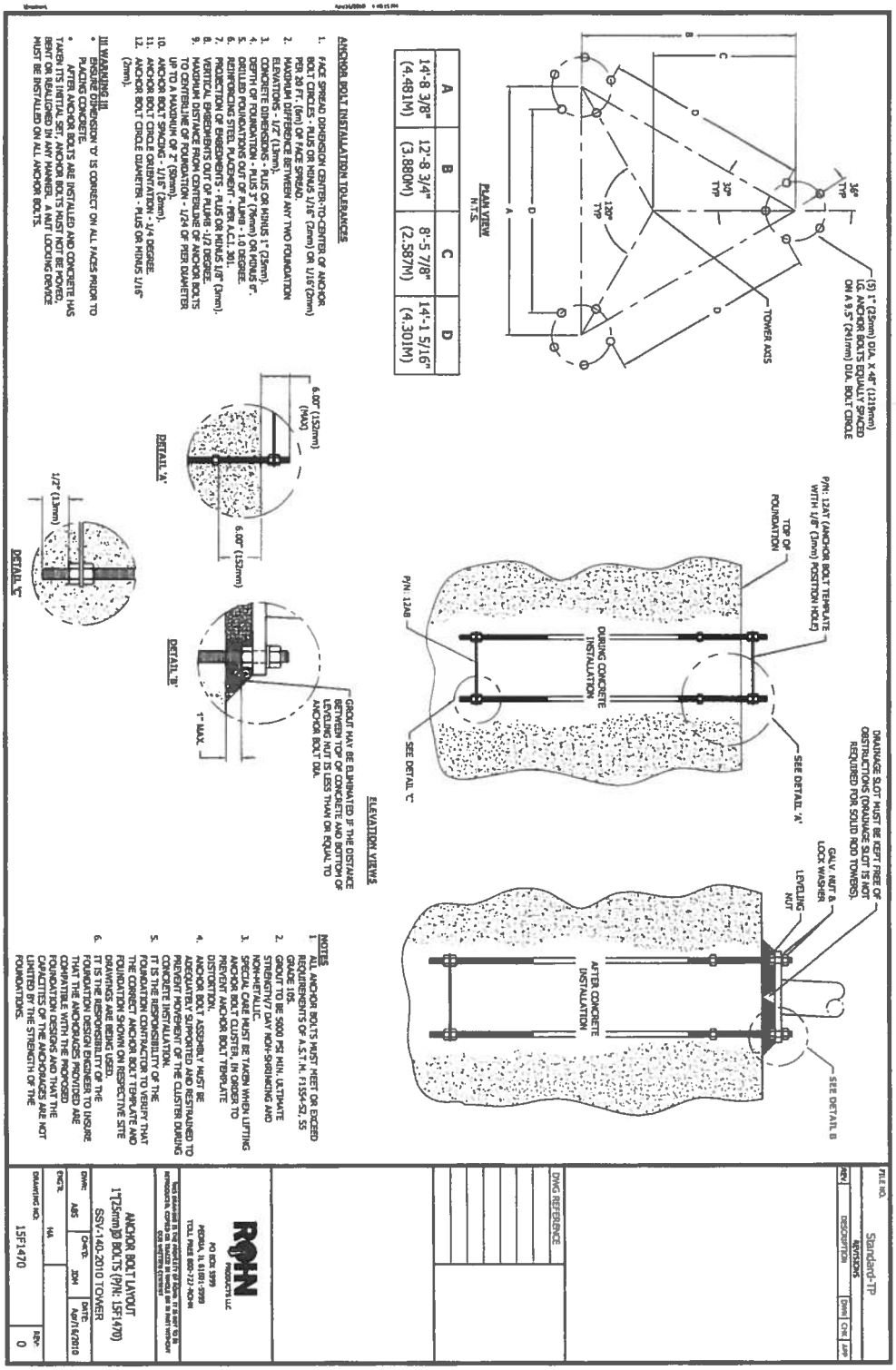


Figure 41: Anchor Layout for SSL-140 Tower

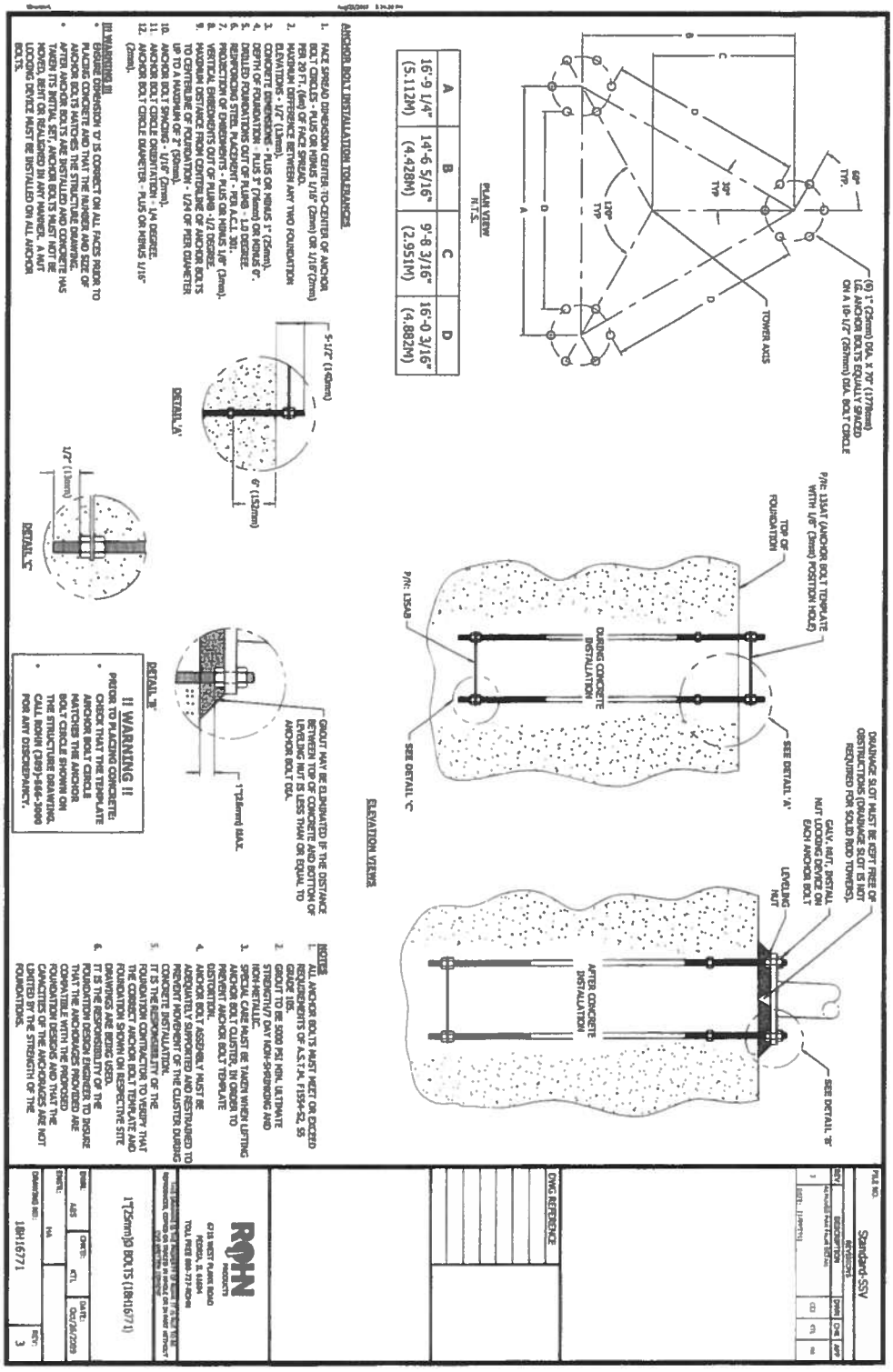
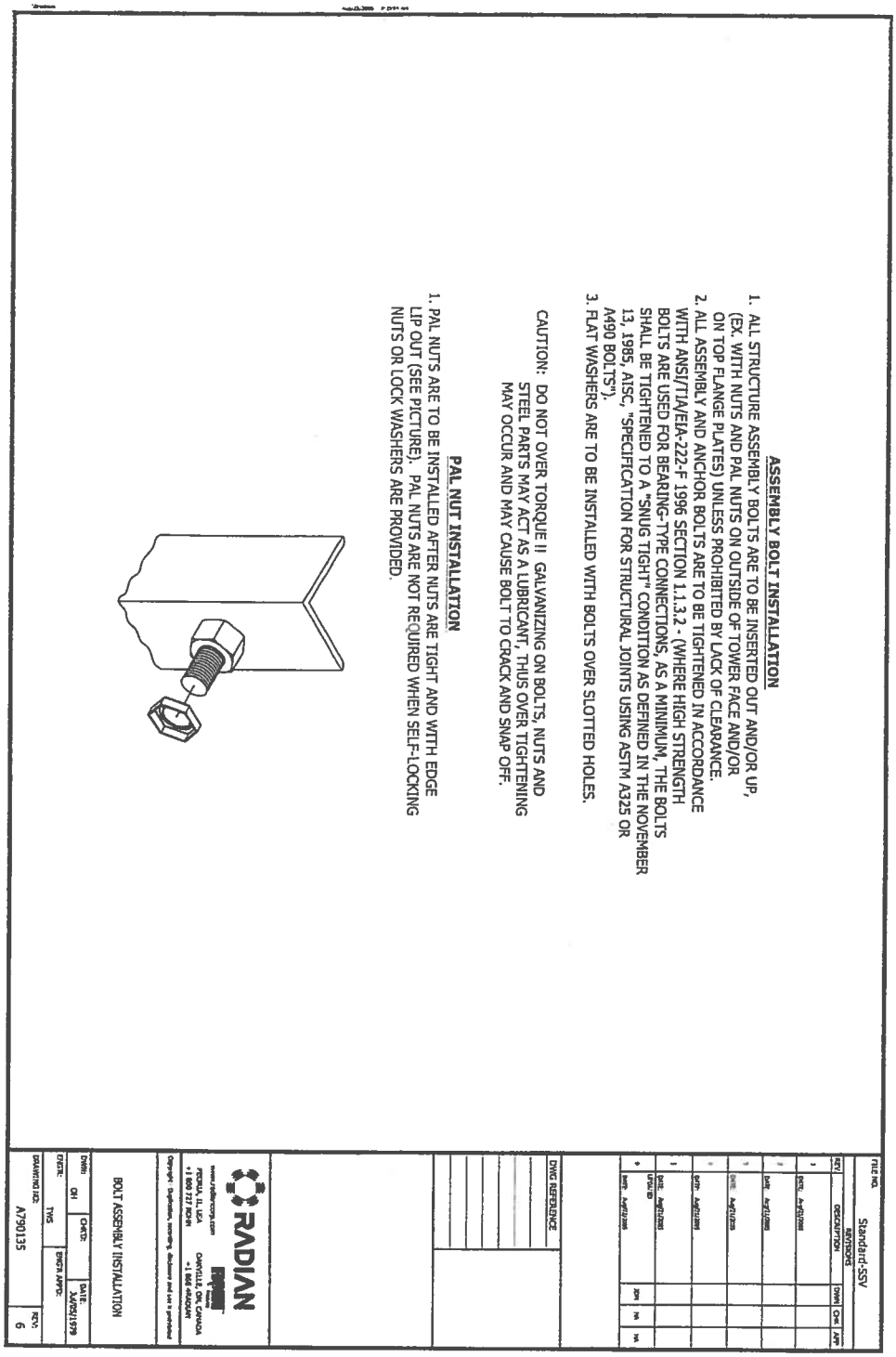


Figure 42: Anchor Layout for **SSL-160 Tower**



ASSEMBLY BOLT INSTALLATION

1. ALL STRUCTURE ASSEMBLY BOLTS ARE TO BE INSERTED OUT AND/OR UP, (EX. WITH NUTS AND PAL NUTS ON OUTSIDE OF TOWER FACE AND/OR ON TOP FLANGE PLATES) UNLESS PROHIBITED BY LACK OF CLEARANCE.
2. ALL ASSEMBLY AND ANCHOR BOLTS ARE TO BE TIGHTENED IN ACCORDANCE WITH ANSI/TIA/EIA-222-F 1996 SECTION 1.1.3.2 - (WHERE HIGH STRENGTH BOLTS ARE USED FOR BEARING-TYPE CONNECTIONS, AS A MINIMUM, THE BOLTS SHALL BE TIGHTENED TO A "SNUG TIGHT" CONDITION AS DEFINED IN THE NOVEMBER 13, 1985, AISC, "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS").
3. FLAT WASHERS ARE TO BE INSTALLED WITH BOLTS OVER SLOTTED HOLES.

CAUTION: DO NOT OVER TORQUE !! GALVANIZING ON BOLTS, NUTS AND STEEL PARTS MAY ACT AS A LUBRICANT, THUS OVER TIGHTENING MAY OCCUR AND MAY CAUSE BOLT TO CRACK AND SNAP OFF.

PAL NUT INSTALLATION

1. PAL NUTS ARE TO BE INSTALLED AFTER NUTS ARE TIGHT AND WITH EDGE LIP OUT (SEE PICTURE). PAL NUTS ARE NOT REQUIRED WHEN SELF-LOCKING NUTS OR LOCK WASHERS ARE PROVIDED.

FILE NO. Standard-SSV

REVISIONS

REV	DESCRIPTION	DWN	CHK	APP
1	INITIAL RELEASE 04/01/2008			
2	UPDATE 04/01/2008			
3	UPDATE 04/01/2008			
4	UPDATE 04/01/2008			
5	UPDATE 04/01/2008			
6	UPDATE 04/01/2008	JDH	MK	MK

DWG REFERENCE

RADIAN

www.radiancorp.com
PEORIA, IL USA +1 800 727 RDN
OAKVILLE, ON, CANADA +1 866 4RADIAN

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BOLT ASSEMBLY INSTALLATION

DWN: GH CHK'D: DATE: 3/4/2013

ENG'R: TMS ENG'R APP'D:

DRAWING NO: A790135 REV: 6

Figure 43: Application of PAL Nuts

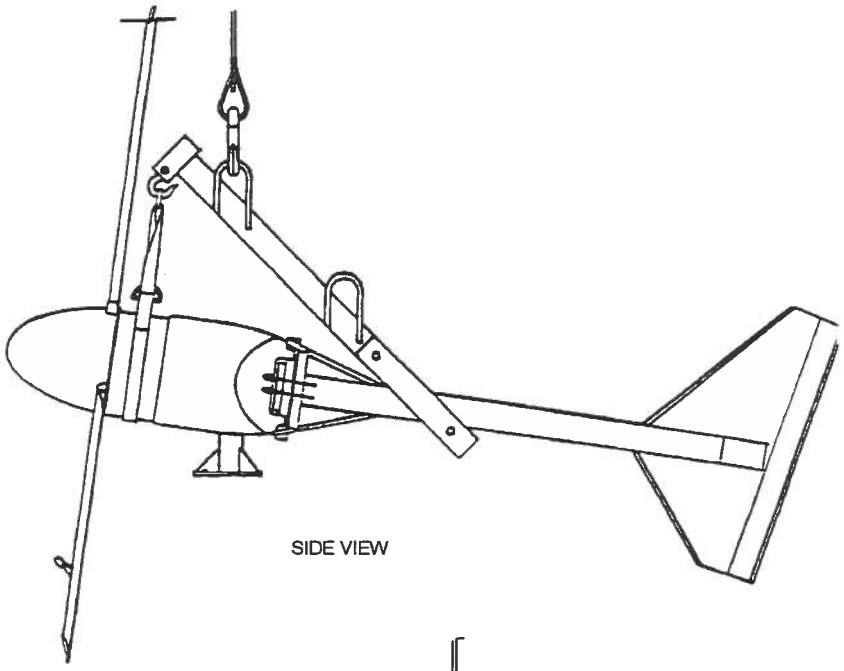
B. Wire sizing

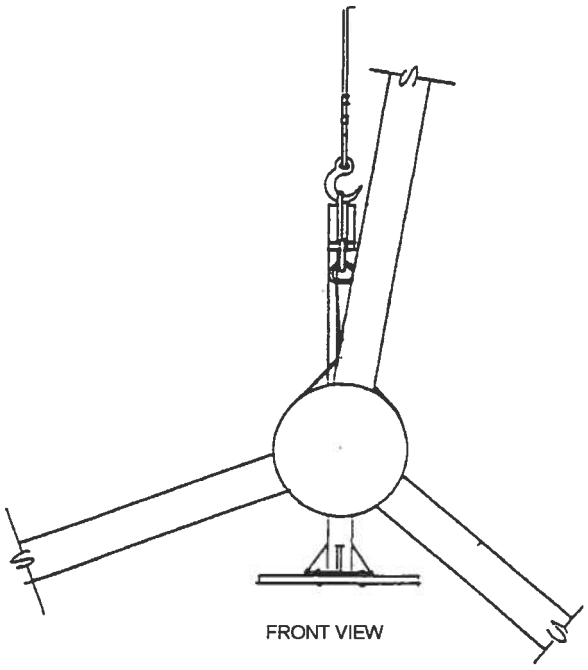
Wire run limit for performance equal to WindCAD estimation						
	Tower Height (in feet)					
	60	80	100	120	140	160
	wire run distance to base of tower (feet)					
6 AWG	210	190	170	150	130	110
4 AWG	340	300	270	240	210	180
3 AWG	420	380	340	300	260	220
2 AWG	530	480	430	380	330	280
0 AWG	850	771	690	610	529	449
00 AWG	1080	980	880	780	670	560
000 AWG	1370	1240	1110	980	850	720

Recommended Wire Size for BWC EXCEL Installations

Note that wire run lengths correspond to performance values estimated by WindCAD. Annual Energy Output losses of 4.5% were factored into the WindCAD model to account for energy losses due to wire sizing.

C. Lifting with Strongback Fixture





STRONGBACK FIXTURE FOR LIFTING BWC EXCEL (CRANE REQUIRED)

Figure 44: Strongback Illustration

D. Excel-S Systems One-line Electrical Diagram

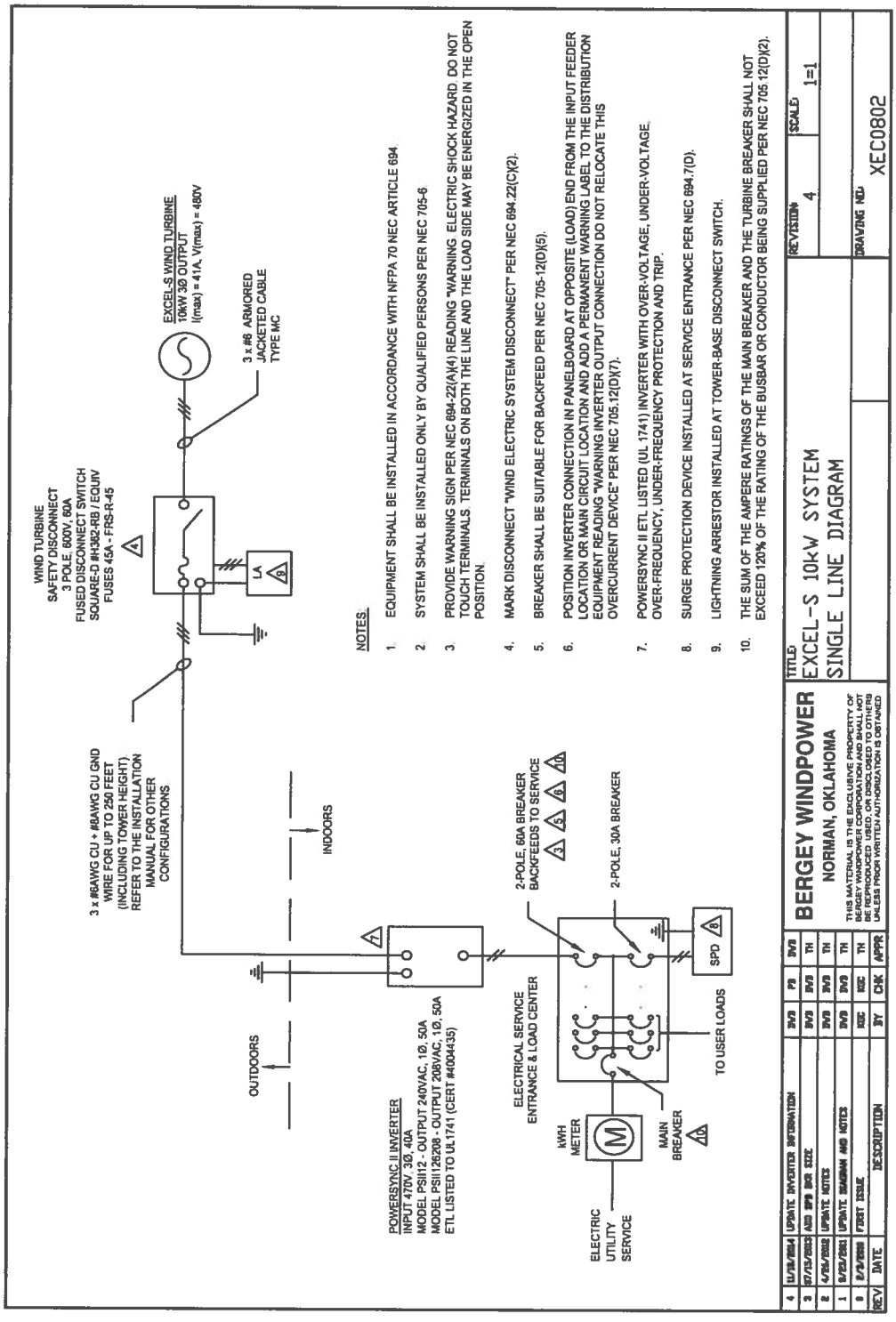


Figure 45: Excel-S Systems One-line Electrical Diagram

Maps Depicting Alternative Parcel Locations
Indentified in Chapter/Section 7 of AT&T's
Draft Environmental Impact Statement

John Huber

From: Singer, Sarah [SSinger@VHB.com]
Sent: Wednesday, May 17, 2017 12:17 PM
To: John Huber
Cc: Ellsworth, John
Subject: Alternative Parcel Maps for AT&T DEIS
Attachments: Alternative parcel locations 2.pdf; Alternative parcel locations.pdf

Hi John,

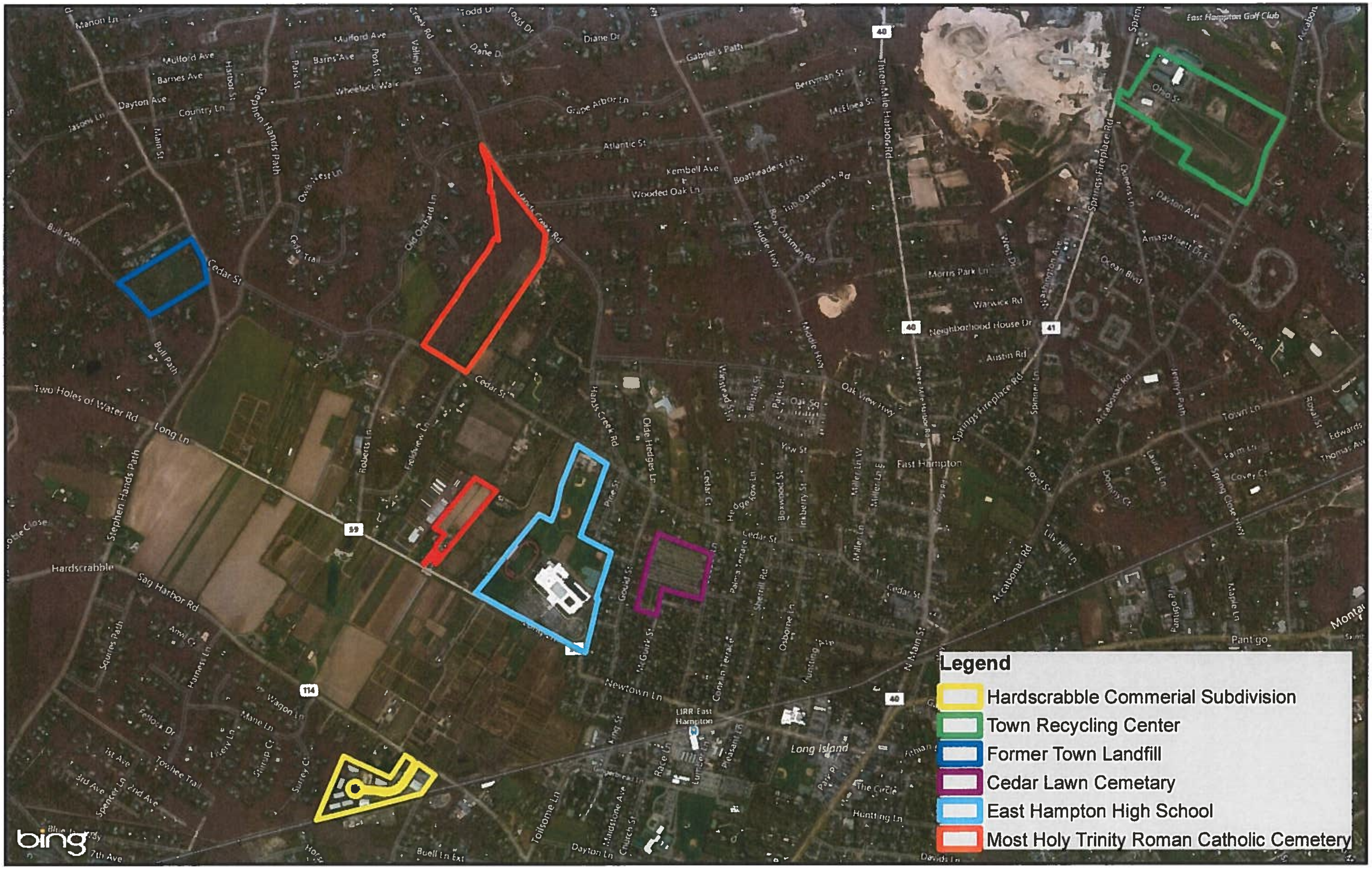
As discussed, here are the two maps depicting alternative parcel locations. Please let me know if you have any changes/comments. Thank you.

Regards,

Sarah Singer
Environmental Planner

100 Motor Parkway
Suite 135
Hauppauge, NY 11788
P | **F** 631.813.2545
ssinger@vhb.com

Engineers | Scientists | Planners | Designers
www.vhb.com



Alternative Parcel Locations 2

AT&T Amagansett III - Iacono Farms
100-106 Long Lane
Town of East Hampton
Suffolk County, NY 11937

VHB Ref. 29849.00

N W E S

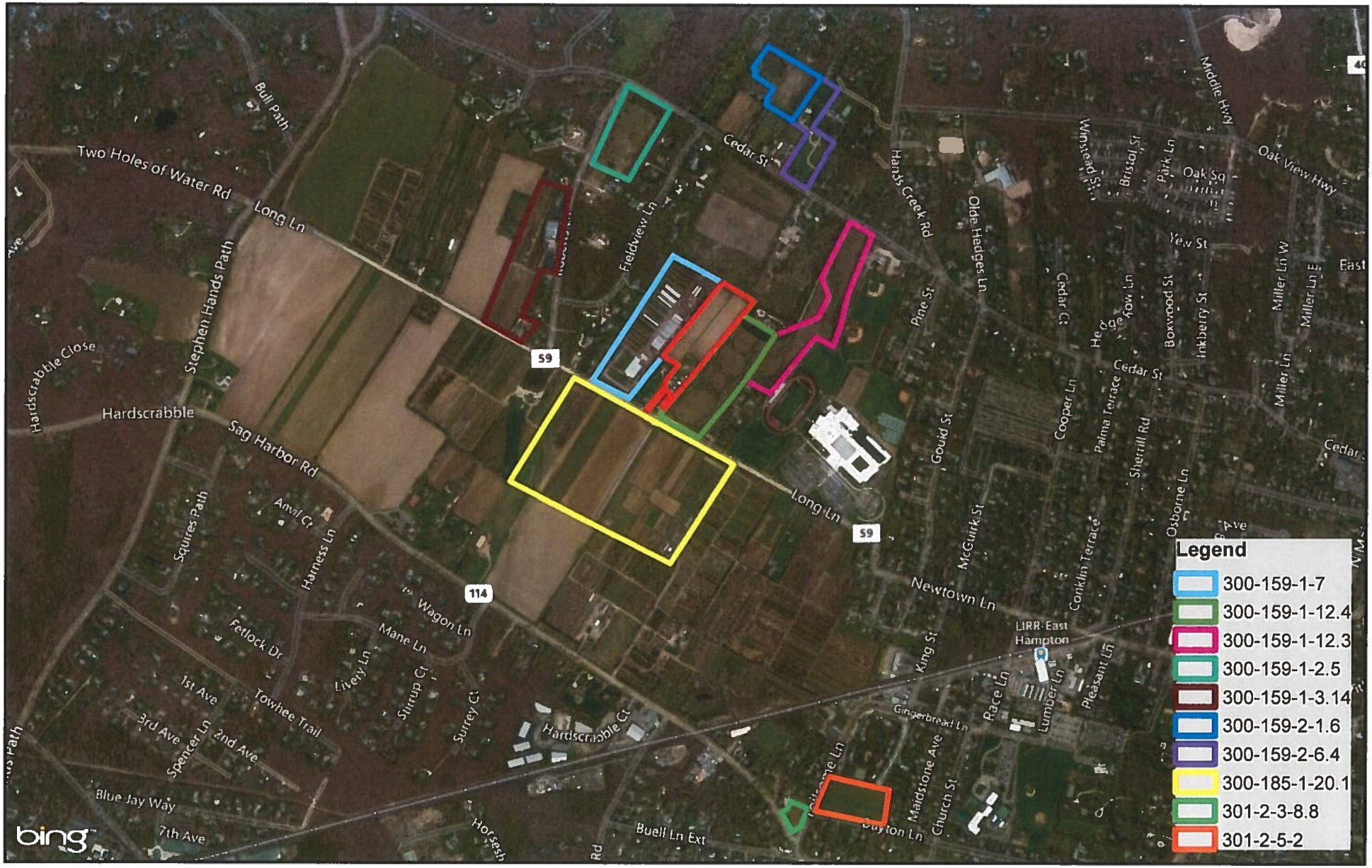
1 inch = 1,833 feet

0 1,300 2,600 Feet

Subject Property

vhb

Source: Aerial and Streets: Bing Maps, Microsoft, 2010.



Alternative Parcel Locations

AT&T Amagansett III - Iacono Farms
100-106 Long Lane
Town of East Hampton
Suffolk County, NY 11937

VHB Ref. 29849.00

N
W E
S

1 inch = 1,250 feet

0 950 1,900 Feet

Subject Property

vhb

Source: Aerial and Streets: Bing Maps, Microsoft, 2010.

Second Affidavit of AT&T Radio Frequency Performance Manager

PLANNING BOARD
TOWN OF EAST HAMPTON
COUNTY OF SUFFOLK, STATE OF NEW YORK
----------X

In the Matter of the Application of
NEW CINGULAR WIRELESS PCS, LLC
(a.k.a. AT&T, hereinafter "AT&T")

For approval to install a public utility wireless telecommunications facility at

Iacono Farm
100 Long Lane
East Hampton, New York 11937
S.C.T.M. District 300, Section 159, Block 1, Lot 10.1
(a.k.a. AT&T Site LI 061, hereinafter "Premises")
----------X

SECOND AFFIDAVIT OF AT&T RADIO FREQUENCY PERFORMANCE MANAGER

Supplemental Material for AT&T's Draft Environmental Impact Statement

STATE OF NEW YORK)
) SS.:
COUNTY OF SUFFOLK)

John Moucha, being duly sworn, deposes and says:

1. I am AT&T's Radio Frequency Performance Manager for the geographic area that includes Long Island, New York. My duties include managing development of AT&T's wireless network in order to provide reliable service to AT&T's customers.

2. I submit this Affidavit to the Town of East Hampton Planning Board in further support of AT&T's Draft Environmental Impact Statement ("DEIS") dated January, 2017, as amended. I also submit this Affidavit to respond, in part, to the March 9, 2017 letter correspondence of Joseph B. Potter, Chairman, Town of East Hampton Planning Board, pursuant to which Chairman Potter requested, among other things, "additional information regarding the feasibility of a new Personal Wireless Service Facility at the Town-owned property between Bull Path and Old Northwest Road (SCTM#300-135-2-15.2 & 34.2) . . ."

Additional Information Regarding Wireless Signal Propagation

3. In response to Chairman Potter's request, wireless signal propagation material relating to the Town-owned property between Bull Path and Old Northwest Road (hereinafter "Town Property" or "Former Brush Dump") has been prepared, and is attached to this Affidavit as Attachment A. In summary, this material concludes that the Town Property is not viable for purposes of eliminating AT&T's need for the proposed telecommunications facility at Iacono Farm, 100 Long Lane, East Hampton.

4. The wireless signal propagation material comprising Attachment A consists of eight pages, summarized as follows:

> Page 1: "Aerial View with AT&T Sites" – depicts (i) the location of AT&T's existing sites in the vicinity which are indicated by yellow/orange triangles; (ii) AT&T's proposed Iacono Farm site which is indicated by a red triangle below/right of center, labeled NYL04061; and (iii) the Town's Former Brush Dump which is indicated by a red triangle above/left of center, labeled LI_061_ B.
>
> Page 2: "AT&T Site Info" – identifies each AT&T site's name (LTE and UMTS), latitude, longitude, address, antenna height, structure type, and technology deployed at that site.
>
> Page 3: "850 MHz Coverage of Neighbor Sites Only" – a wireless signal coverage map for all existing AT&T sites in the vicinity. Signal coverage for the proposed Iacono Farm site, or the Town Property, is not depicted on this map. The "Legend" near the lower right corner of this map defines green areas as receiving wireless signal strength of -75 dBm to 0 dBm which is required for reliable in-building coverage. Reliable in-building coverage is AT&T's coverage objective. The "Legend" also defines yellow areas as receiving wireless signal strength of -85 dBm to -75 dBm which is required for reliable in-vehicle coverage. Finally, the "Legend" defines dark blue areas as receiving wireless signal strength of -95 dBm to -85 dBm which is required for reliable outdoor coverage. White areas, not specified in the Legend, receive signal strengths that are even weaker than -95 dBm which deemed to be insufficient for even reliable outdoor coverage. These signal strength values remain constant/consistent for all subsequent maps provided in the set.
>
> Page 4: "850 MHz Coverage With Proposed Site LI-061 at Antenna Rad Center = 95 ft" - a wireless signal coverage map for all existing AT&T sites in the vicinity, plus coverage from the proposed Iacono Farm site with AT&T's antennas at the proposed height of 95 feet above ground level. Coverage from the Town Property is not depicted on this map.

The caption near the bottom of Page 4 states "Proposed Site LI-061 (NYNYU0061 – Iacono Farm), at antenna rad center of 95ft, provides approx. 2.26 sq miles or 1446 acres of non-overlapping -75dBm coverage (GREEN) and 2.52 sq miles or 1613 acres of non-overlapping -85dBm coverage (YELLOW)."

Page 5: "850 MHz Coverage With Site LI-061_B at Antenna Rad Center = 95 ft" - a wireless signal coverage map for all existing AT&T sites in the vicinity, plus coverage from the Town Property with AT&T's antennas at a height of 95 feet above ground level. Coverage from the proposed Iacono Farm site is not depicted on this map. The caption near the bottom of Page 5 states "Site LI-061_B (Old Northwest Road), at antenna rad center of 95ft, provides approx. 0.84 sq miles or 536 acres of non-overlapping -75dBm coverage (GREEN) and 1.94 sq miles or 1244 acres of non-overlapping -85dBm coverage (YELLOW)."

Page 6: "850 MHz Standalone Coverage of Proposed Site LI-061 at Antenna Rad Center = 95 ft" - a wireless signal coverage map for AT&T proposed Iacono Farm site only. The caption near the bottom of Page 6 states "Proposed Site LI-061 (NYNYU0061 – Iacono Farm), at antenna rad center of 95ft, provides approx. 2.41 sq miles or 1542 acres of standalone -75dBm coverage (GREEN) and 3.89 sq miles or 2490 acres of standalone -85dBm coverage (YELLOW)."

Page 7: "850 MHz Standalone Coverage of Site LI-061_B at Antenna Rad Center = 95 ft" - a wireless signal coverage map for the Town Property only. The caption near the bottom of Page 7 states "Site LI-061_B (Old Northwest Road), at antenna rad center of 95ft, provides approx. 0.84 sq mile or 536 acres of standalone -75dBm coverage (GREEN) and 2.93 sq miles or 1877 acres of standalone -85dBm coverage (YELLOW)."

Page 8: "Coverage Summary Table" - this Table summarizes the substantial signal coverage disparities between AT&T's proposed site at Iacono Farm, and a site at the Town Property. Stated otherwise, the signal coverage from AT&T's proposed site at Iacono Farm would be far superior to the signal coverage from a site at the Town Property. In particular, a site at the Town Property would provide 30% less non-overlapping -85 dBm or better (green and yellow) coverage, and would provide 33% less standalone -85 dBm or better (green and yellow) coverage. Moreover, a site at the Town Property would provide 170% less non-overlapping -75 dBm (green) coverage, and would provide 188% less standalone -75 dBm (green) coverage.

5. Insofar as AT&T's proposal for the Iacono Farm site involves flush mounting visually unobtrusive antennas to the framework of an existing wind turbine lattice tower, and would provide signal coverage substantially superior to coverage from a new antenna support structure that would need to be erected at the Town property, AT&T has demonstrated that the Iacono

Farm proposal is clearly the more feasible option. During the course of the application process before the this Board, AT&T has also established that there are gaps in service in the vicinity of Iacono Farm, that the proposed Iacono Farm facility would remedy those gaps, and that the proposed facility would not pose an intrusion on the community.

6. Moreover, insofar as Iacono Farm and the Town Property are located 1 mile apart, a telecommunications facility at each site would provide signal coverage to distinct geographic areas. This is confirmed by AT&T's attached signal coverage maps. As a result, the proposed AT&T facility at Iacono Farm could ultimately work with a facility at the Town Property as a "neighbor" or "hand-off" site rather than one facility eliminating the need for the other.

Additional Visual Information

7. In further response to Chairman Potter's March 9, 2017 correspondence, AT&T has prepared a visual impact study, attached hereto as Attachment B, for a simulated 100 foot brown concealment pole at the Town's Former Brush Dump. In summary, the visual study indicates that a 100 foot brown concealment pole at the Former Brush Dump would impart a limited visual impact on viewpoints from publicly accessible/adjacent roadways.

8. It is important to note, however, that although visibility of the simulated 100 foot concealment pole would be limited from publicly accessible/adjacent roadways, it is possible that such a structure would be significantly visible from across the "open sky" Town Property at one or more of the adjacent residential properties at 8 Old Northwest Road, 28 Old Northwest Road, 201 Bull Path, or 203 Bull Path. Depending upon their locations, these residences would be between 350 feet and 500 feet from the location of an antenna support structure at the Former Brush Dump.

9. An alternative design, such as a conventional antenna support monopole, similar to that which exists at the Town's Highway Department, 258 Springs Fireplace Road, would be expected to impart a visual impact more obtrusive than the simulated 100 foot brown concealment pole depicted at Attachment B.

Conclusion

10. Based on the foregoing, I respectfully request that the Town of East Hampton Planning Board approve AT&T's application to install the proposed telecommunications facility at Iacono Farm.

John Moucha

John Moucha
Radio Frequency Performance Manager

Sworn to before me this 19th day
of May, 2017.

NOTARY PUBLIC

JOHN P. HUBER
Notary Public, State of New York
No. 02HU5074365
Qualified in Suffolk County
Commission Expires March 10, 2019

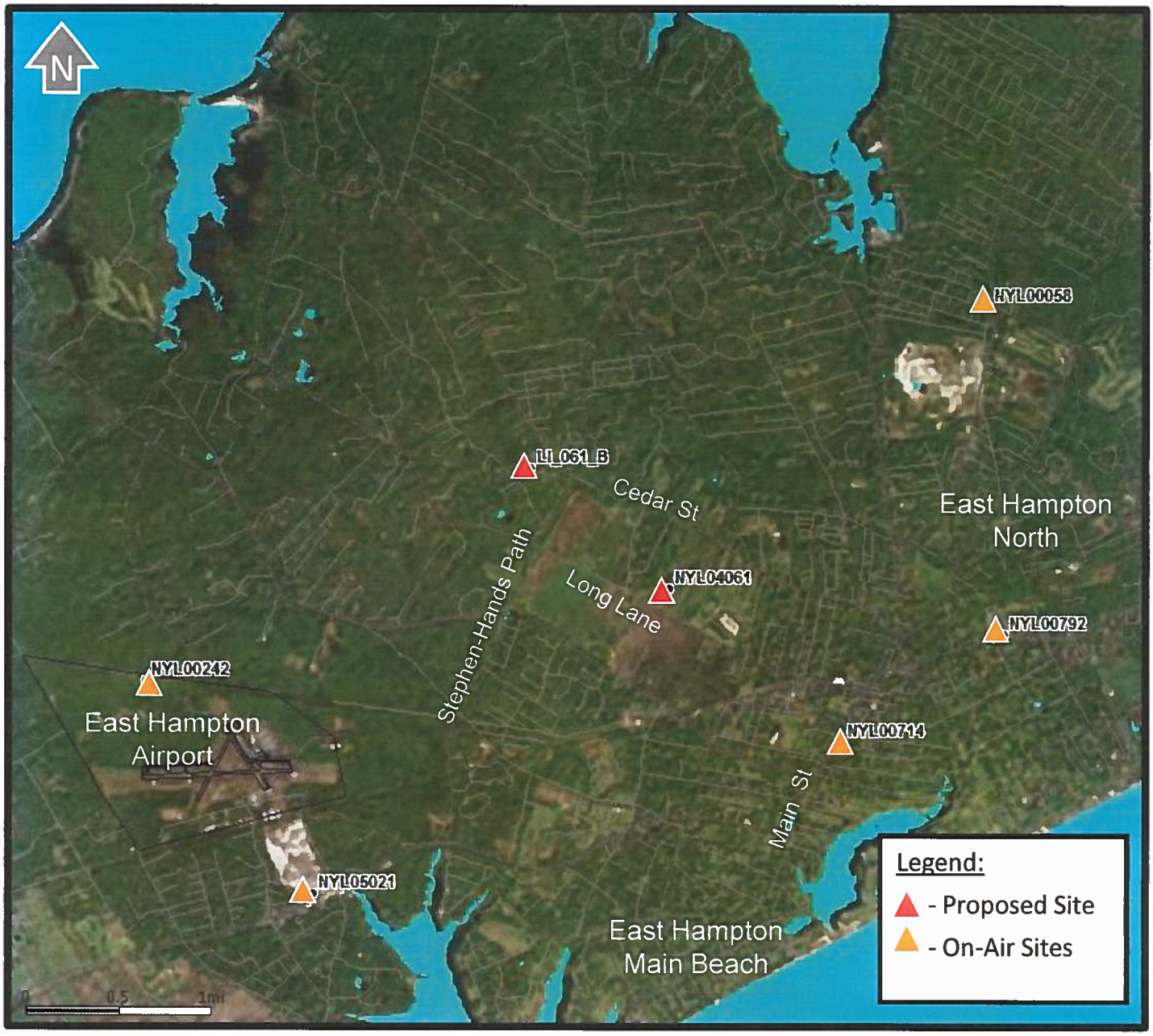
John Moucha, Second Affidavit, Attachment A:

Wireless Signal Propagation Materials
Relating to Town-owned property located between Bull Path and Old Northwest Road (S.C.T.M. # 300-135-2-15.2 & 34.2)

AT&T LI-061_B

FORMER BRUSH DUMP
Old Northwest Road, East Hampton, NY 11937
(Latitude = 40.982341, Longitude = -72.219222)

Aerial View with AT&T Sites



AT&T LI-061_B

FORMER BRUSH DUMP
Old Northwest Road, East Hampton, NY 11937
(Latitude = 40.982341, Longitude = -72.219222)

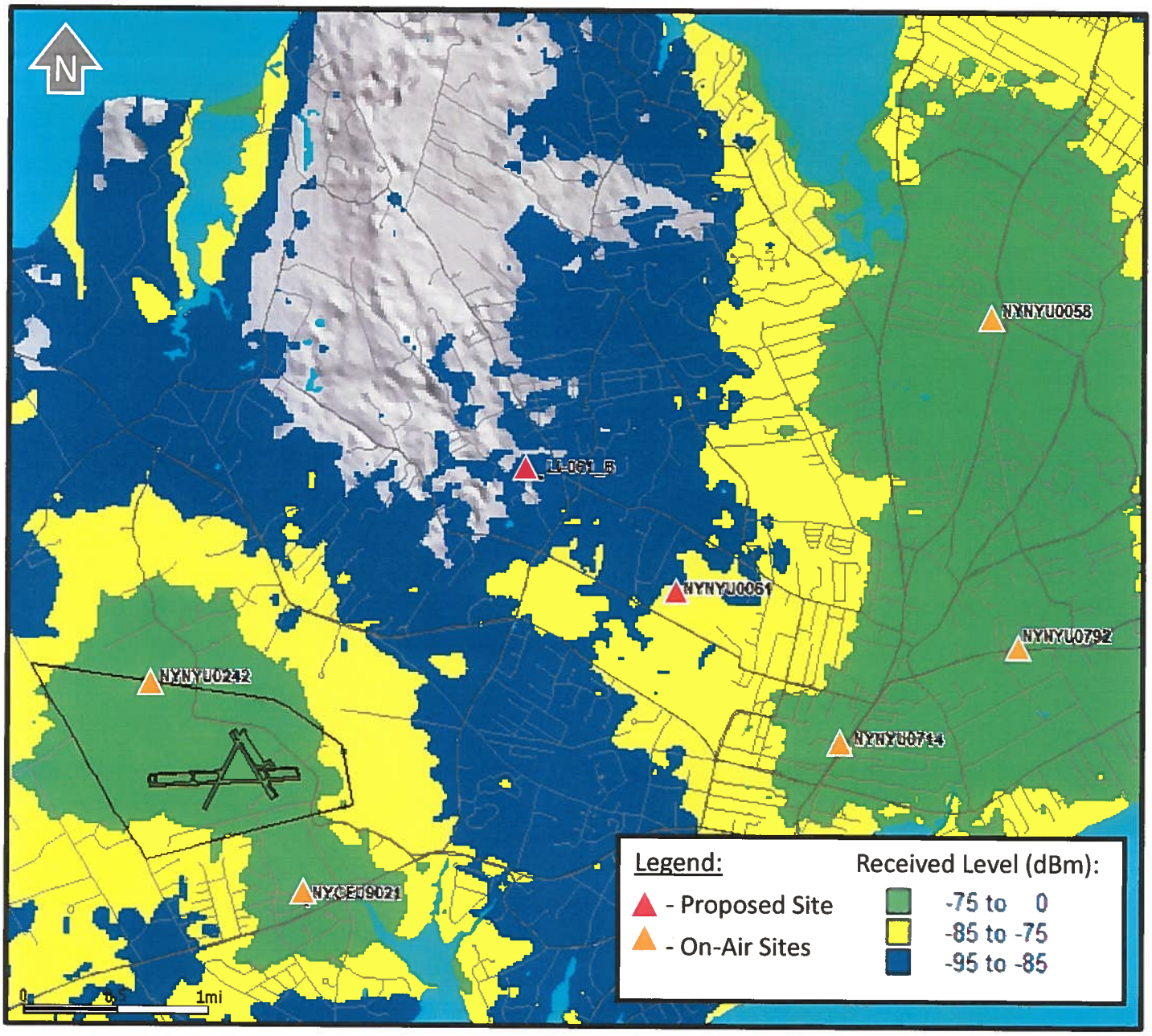
AT&T Site Info

LTE NAME	UMTS NAME	LAT	LONG	ADDRESS	CITY	STATE	ZIP	ANTENNA RAD CENTER (FT)	STRUCTURE TYPE	TECHNOLOGY
NYL04061 (LI-061)	NYNYU0061	40.972474	-72.205283	106 LONG LANE	EAST HAMPTON	NY	11937	95	SELF SUPPORT (WIND TURBINE)	UMTS850/LTE700/LTE1900
LI_061_B	NYNYU0061	40.982341	-72.219222	OLD NORTHWEST ROAD	EAST HAMPTON	NY	11937	95	MONOPOLE	UMTS850/LTE700/LTE1900
NYL00058	NYNYU0058	40.993805	-72.171201	SPRING FIRE PLACE AND ABRAHMS ROAD	EAST HAMPTON	NY	11937	278	SELF SUPPORT	UMTS850/1900
NYL00242	NYNYU0242	40.966626	-72.259566	DANIELS HOLE ROAD	EAST HAMPTON	NY	11937	128	SELF SUPPORT	UMTS850/LTE700/LTE1900
NYL00714	NYNYU0714	40.960092	-72.187859	120 MAIN STREET	EAST HAMPTON	NY	11937	68	STEEPLE	UMTS850/LTE700/LTE1900
NYL00792	NYNYU0792	40.968056	-72.170833	159 PANTIGO ROAD	EAST HAMPTON	NY	11937	151	SELF SUPPORT	UMTS850/LTE700/LTE1900
NYL05021	NYCEU9021	40.949500	-72.243000	342 MONTAUK HIGHWAY	EAST HAMPTON	NY	11937	43	ROOFTOP	UMTS850/LTE700/LTE1900

AT&T LI-061_B

FORMER BRUSH DUMP
Old Northwest Road, East Hampton, NY 11937
(Latitude = 40.982341, Longitude = -72.219222)

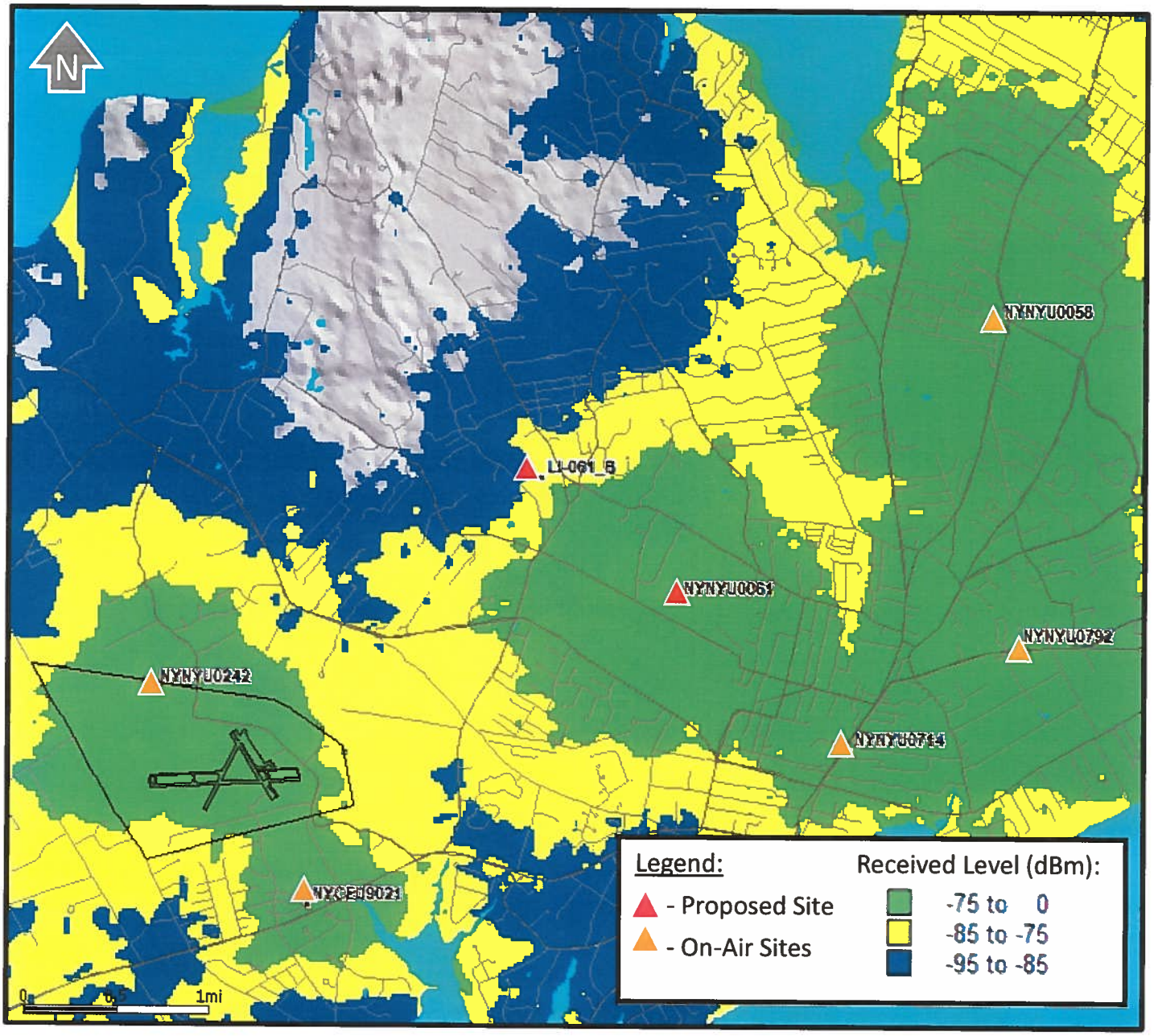
850MHz Coverage of Neighbor Sites Only



AT&T LI-061

IACONO FARM
106 Long Lane, East Hampton, NY 11937
(Latitude = 40.972474, Longitude = -72.205283)

850MHz Coverage With Proposed Site LI-061 at Antenna Rad Center=95ft

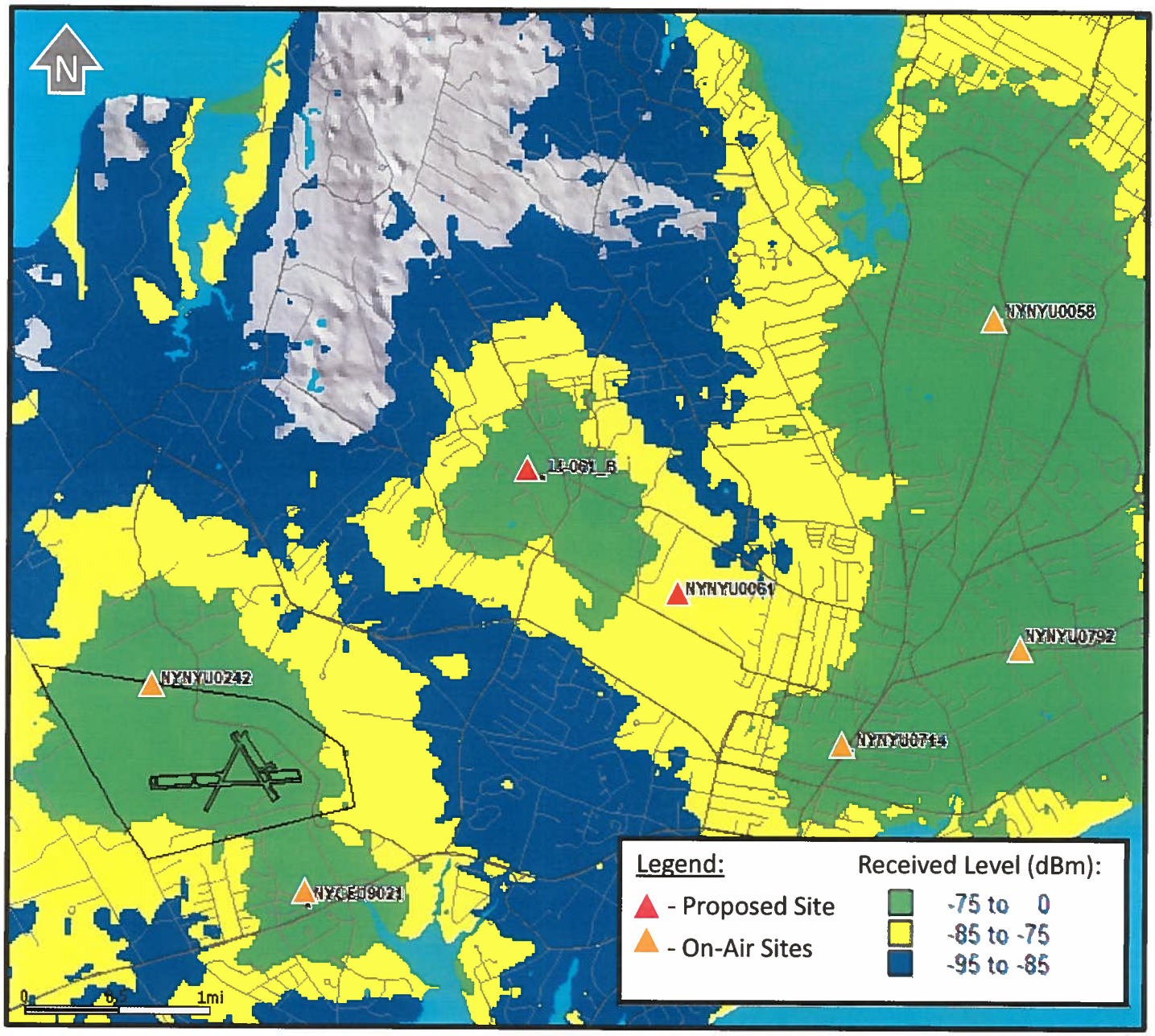


Proposed Site LI-061 (NYNYU0061 – Iacono Farm), at antenna rad center of 95ft, provides approx. 2.26 sq miles or 1446 acres of non-overlapping -75dBm coverage (GREEN) and 2.52 sq miles or 1613 acres of non-overlapping -85dBm coverage (YELLOW).

AT&T LI-061_B

FORMER BRUSH DUMP
Old Northwest Road, East Hampton, NY 11937
(Latitude = 40.982341, Longitude = -72.219222)

850MHz Coverage With Site LI-061_B at Antenna Rad Center=95ft

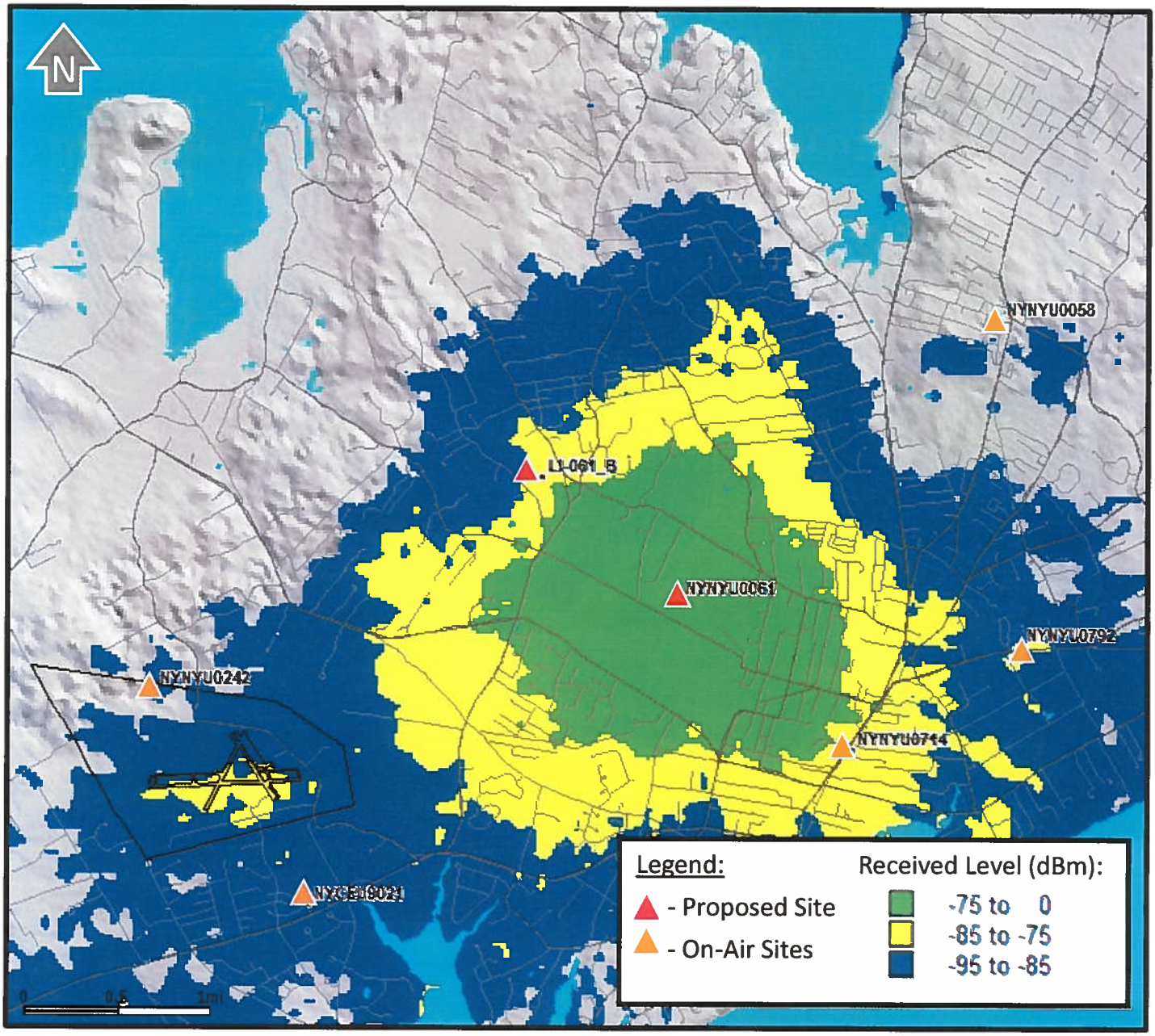


Site LI-061_B (Old Northwest Road), at antenna rad center of 95ft, provides approx. 0.84 sq miles or 536 acres of non-overlapping -75dBm coverage (GREEN) and 1.94 sq miles or 1244 acres of non-overlapping -85dBm coverage (YELLOW).

AT&T LI-061

IACONO FARM
106 Long Lane, East Hampton, NY 11937
(Latitude = 40.972474, Longitude = -72.205283)

850MHz Standalone Coverage of Proposed Site LI-061 at Antenna Rad Center=95ft

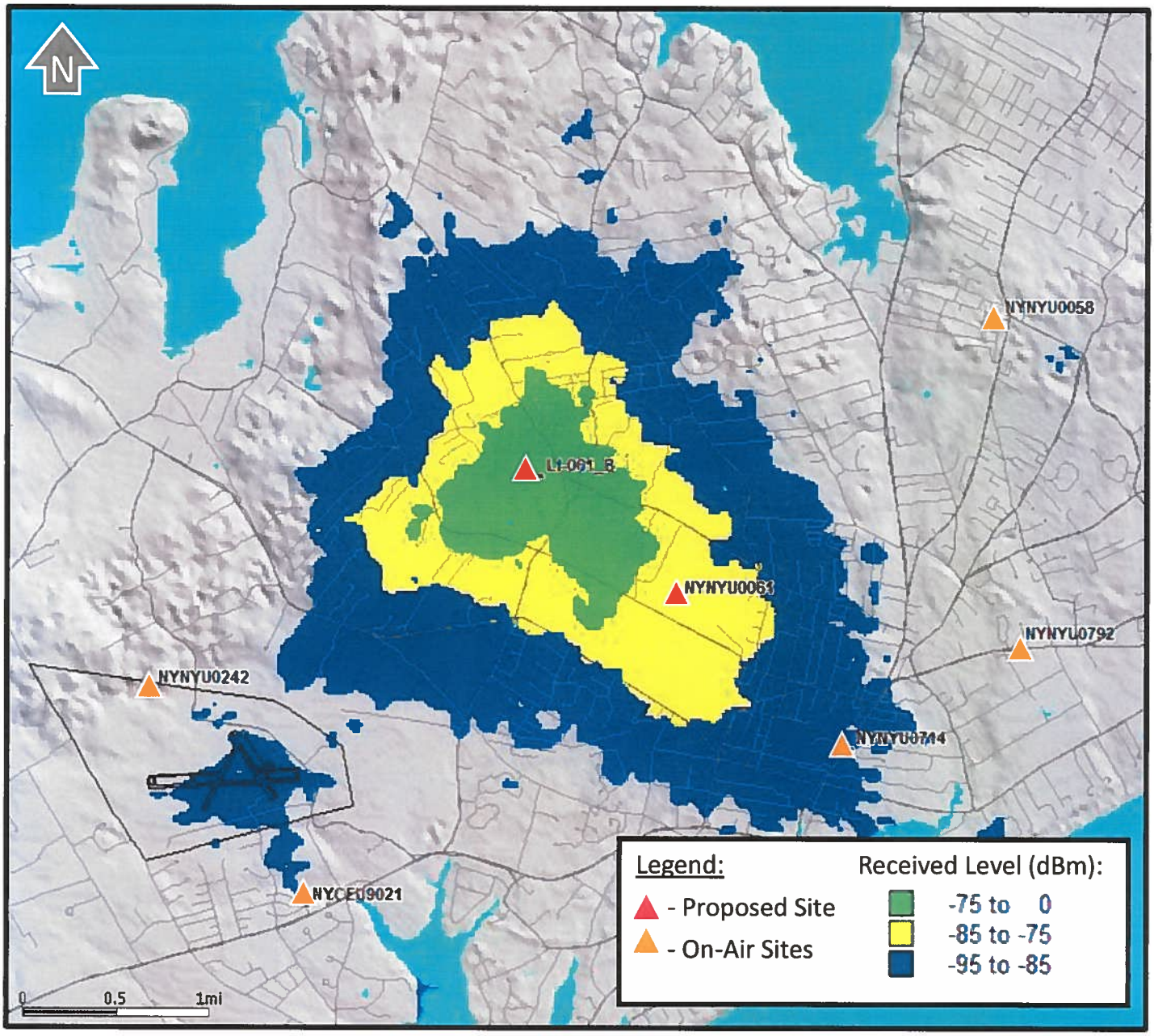


Proposed Site LI-061 (NYNYU0061 – Iacono Farm), at antenna rad center of 95ft, provides approx. 2.41 sq miles or 1542 acres of standalone -75dBm coverage (GREEN) and 3.89 sq miles or 2490 acres of standalone -85dBm coverage (YELLOW).

AT&T LI-061_B

FORMER BRUSH DUMP
Old Northwest Road, East Hampton, NY 11937
(Latitude = 40.982341, Longitude = -72.219222)

850MHz Standalone Coverage of Site LI-061_B at Antenna Rad Center=95ft



Site LI-061_B (Old Northwest Road), at antenna rad center of 95ft, provides approx. 0.84 sq mile or 536 acres of standalone -75dBm coverage (GREEN) and 2.93 sq miles or 1877 acres of standalone -85dBm coverage (YELLOW).

AT&T LI-061_B

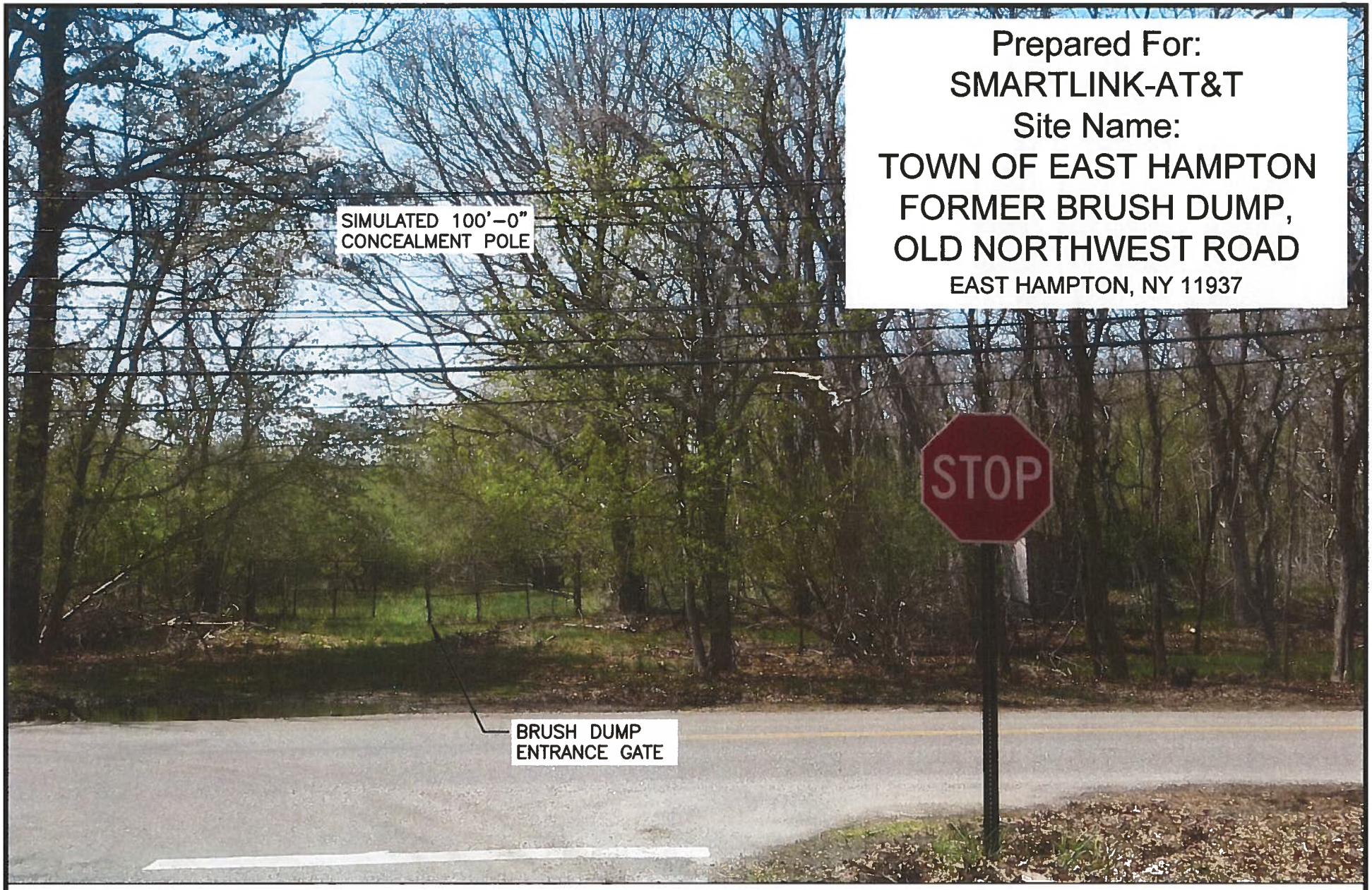
FORMER BRUSH DUMP
Old Northwest Road, East Hampton, NY 11937
(Latitude = 40.982341, Longitude = -72.219222)

Coverage
Summary Table

-75dBm Coverage	Frequency Band	Antenna Height AGL	Ground Elevation AMSL	Effective Height	Non-Overlapping -75dBm Coverage		Difference Compared To LI-061 (Iacono Farm Site)		
	(MHz)	(ft)	(ft)	(ft)	(sq miles)	(acres)	(%)	(sq miles)	(acres)
LI-061 (NYNYU0061) with Neighbors	850	95	59	154	2.26	1446	-	-	-
LI-061_B with Neighbors	850	95	72	167	0.84	536	-170%	-1.42	-910
LI-061 (NYNYU0061) Standalone	850	95	59	154	2.41	1542	-	-	-
LI-061_B Standalone	850	95	72	167	0.84	536	-188%	-1.57	-1006
-85dBm Coverage	**Frequency Band**	**Antenna Height AGL**	**Ground Elevation AMSL**	**Effective Height**	**Non-Overlapping -85dBm Coverage**		**Difference Compared To LI-061 (Iacono Farm Site)**		
	(MHz)	(ft)	(ft)	(ft)	(sq miles)	(acres)	(%)	(sq miles)	(acres)
LI-061 (NYNYU0061) with Neighbors	850	95	59	154	2.52	1613	-	-	-
LI-061_B with Neighbors	850	95	72	167	1.94	1244	-30%	-0.58	-369
LI-061 (NYNYU0061) Standalone	850	95	59	154	3.89	2490	-	-	-
LI-061_B Standalone	850	95	72	167	2.93	1877	-33%	-0.96	-613

John Moucha, Second Affidavit, Attachment B:

Visual Study Materials
Relating to Town-owned property located between Bull Path and Old Northwest Road (S.C.T.M. # 300-135-2-15.2 & 34.2)



Prepared For:
SMARTLINK-AT&T
Site Name:
TOWN OF EAST HAMPTON
FORMER BRUSH DUMP,
OLD NORTHWEST ROAD
EAST HAMPTON, NY 11937

SITE NAME: TOWN OF EAST HAMPTON
FORMER BRUSH DUMP,
OLD NORTHWEST ROAD

ADDRESS: EAST HAMPTON, NY 11937

at&t
5841 BRIDGE STREET
EAST SYRACUSE, NY 13057

PREPARED FOR:
smartlink
1997 ANNAPOLIS EXCHANGE PKWY
SUITE 200
ANNAPOLIS, MD 21401

Hudson design Group LLC
29 HAMM ROAD
HUDSON, NY 12534
TEL: (978) 557-5553
FAX: (978) 336-5586

SITE TYPE: UNIPOLE

DATE: 05/18/2017 | REV: 3

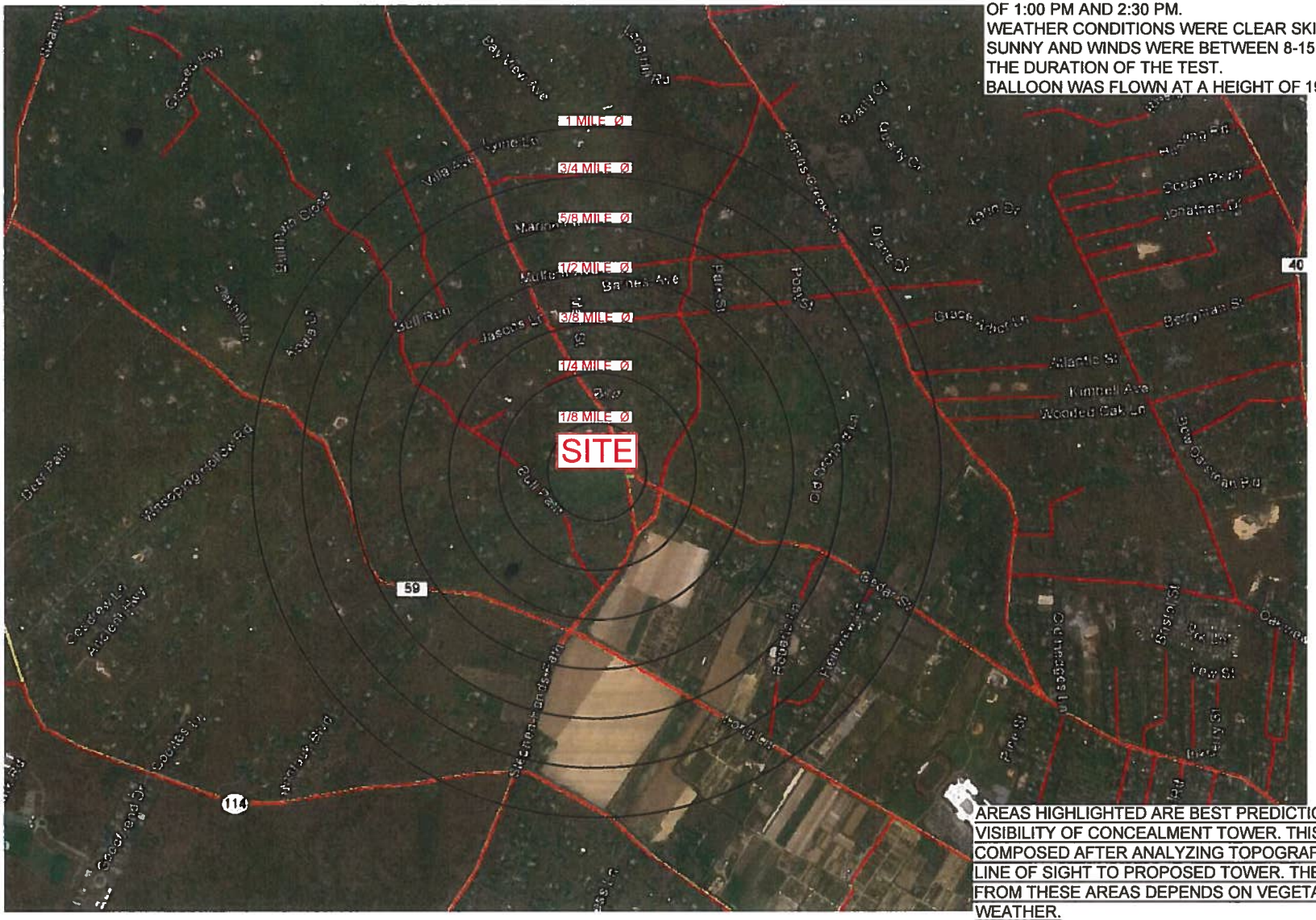
DRAWN BY: FM

SCALE: N.T.S.

THIS STUDY DOES NOT CLAIM IN ANY WAY TO SHOW THE ONLY AREAS OF VISIBILITY. IT IS MEANT TO SHOW A BROAD REPRESENTATION OF AREAS WHERE THE PROPOSED INSTALLATION MAY BE VISIBLE BASED UPON THE BEST INFORMATION FOR TOPOGRAPHY AND VEGETATION LOCATIONS AVAILABLE TO DATE.

PREDICTED AREA OF VISIBILITY FROM PUBLICLY ACCESSIBLE/ADJACENT ROADWAYS

GENERAL INFORMATION:
BALLOON TEST FOR THESE SIMULATIONS WAS COMPLETED FRIDAY 04/28/2017 BETWEEN THE HOURS OF 1:00 PM AND 2:30 PM.
WEATHER CONDITIONS WERE CLEAR SKIES, MOSTLY SUNNY AND WINDS WERE BETWEEN 8-15 MPH FOR THE DURATION OF THE TEST.
BALLOON WAS FLOWN AT A HEIGHT OF 195' AGL.



AREAS HIGHLIGHTED ARE BEST PREDICTIONS OF VISIBILITY OF CONCEALMENT TOWER. THIS WAS COMPOSED AFTER ANALYZING TOPOGRAPHY AND LINE OF SIGHT TO PROPOSED TOWER. THE VISIBILITY FROM THESE AREAS DEPENDS ON VEGETATION AND WEATHER.

TOWER VISIBLE
TOWER NOT VISIBLE

13°50'
MAGNETIC NORTH
TRUE NORTH

SITE NAME: TOWN OF EAST HAMPTON
FORMER BRUSH DUMP,
OLD NORTHWEST ROAD

ADDRESS: EAST HAMPTON, NY 11937

at&t
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LOCUS MAP

TAKEN FROM GOOGLE.COM ON 05-02-17

13°50'
MAGNETIC NORTH
TRUE NORTH
N

PHOTO LOCATION

SITE NAME: TOWN OF EAST HAMPTON
FORMER BRUSH DUMP,
OLD NORTHWEST ROAD

ADDRESS: EAST HAMPTON, NY 11937

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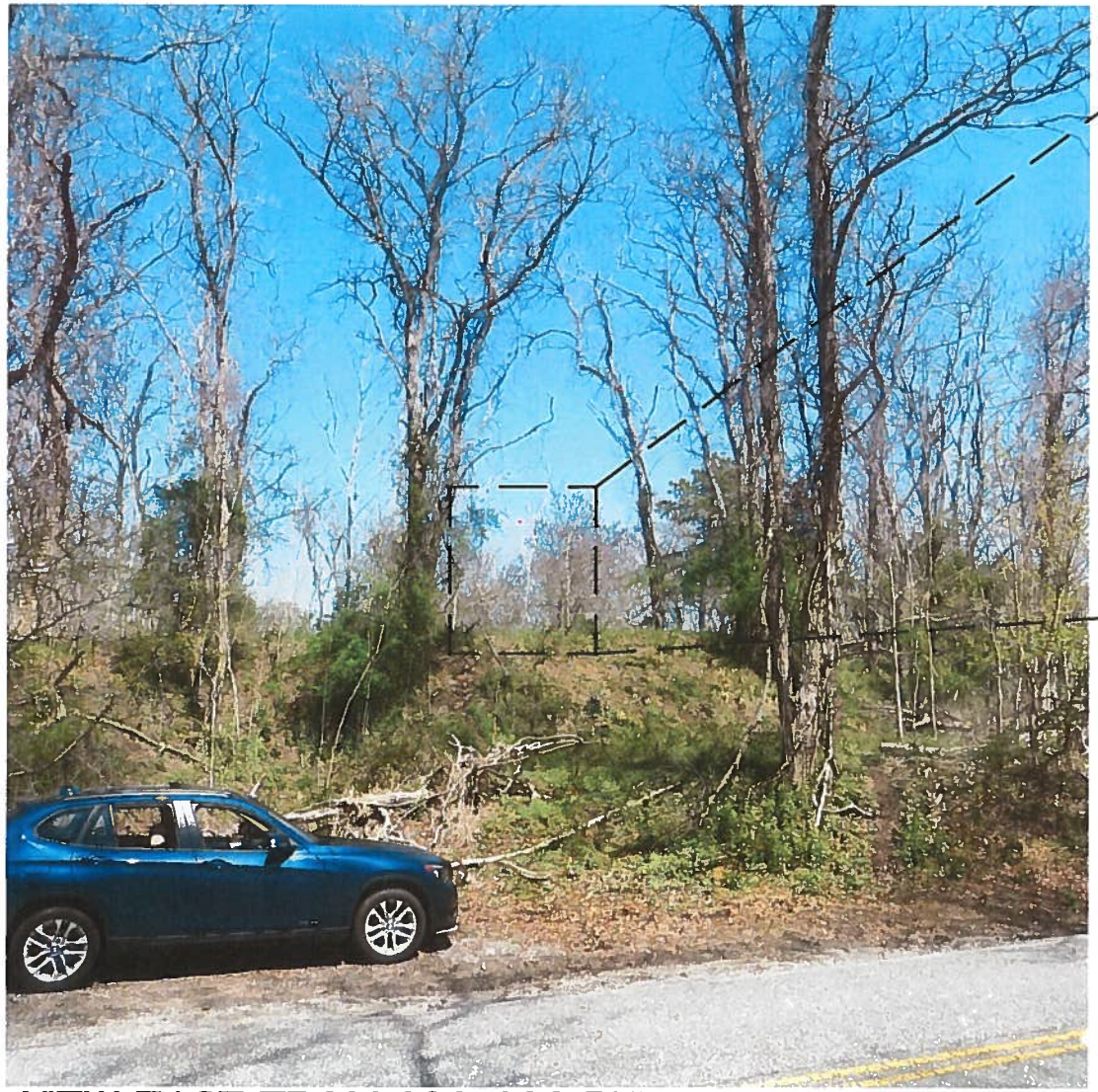
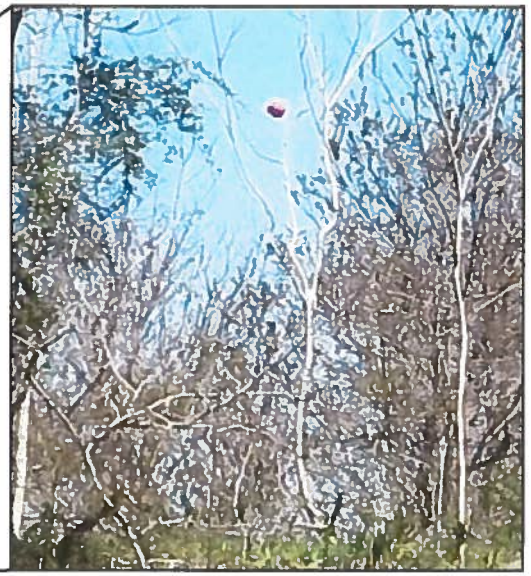
EXISTING CONDITIONS

LOCATION # 1

DATE OF PHOTO: 04/28/2017





ENLARGED DETAIL OF TEST BALLOON

VIEW EAST FROM 202-206 BULL PATH DRIVEWAYS

SITE NAME: TOWN OF EAST HAMPTON
FORMER BRUSH DUMP,
OLD NORTHWEST ROAD

ADDRESS: EAST HAMPTON, NY 11937

at&t
5841 BRIDGE STREET
EAST SYRACUSE, NY 13057

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FAX: (978) 336-5596

SITE TYPE: UNIPOLE

DATE: 05/18/2017 | REV: 3

DRAWN BY: FM

SCALE: N.T.S.

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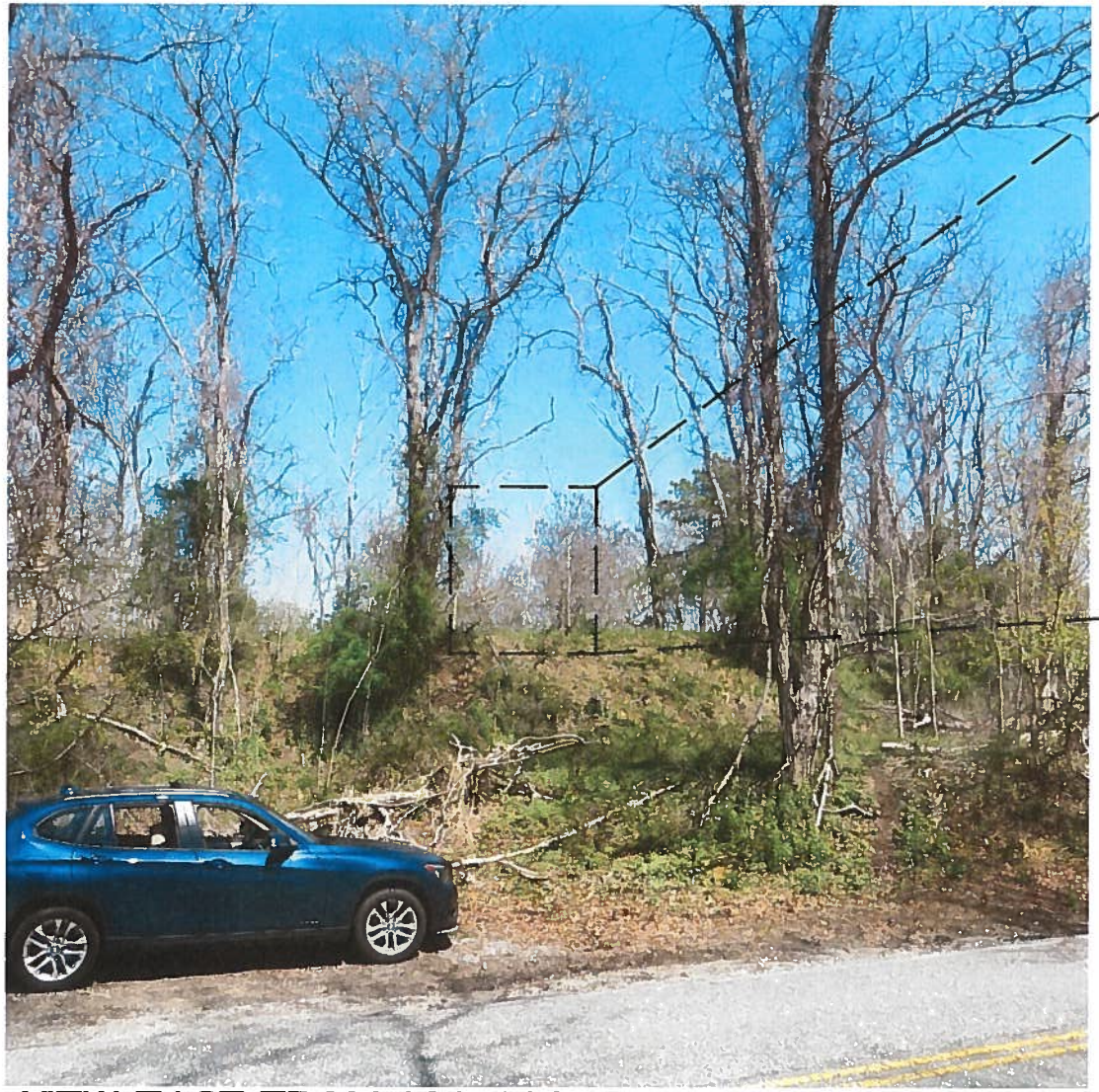
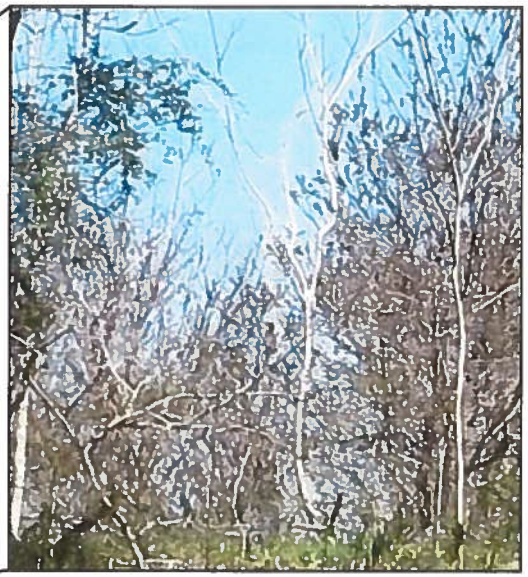
SIMULATED CONDITIONS

LOCATION # 1

DATE OF PHOTO: 04/28/2017





ENLARGED DETAIL OF SIMULATED CONCEALMENT POLE

VIEW EAST FROM 202-206 BULL PATH DRIVEWAYS

SITE NAME: TOWN OF EAST HAMPTON
FORMER BRUSH DUMP,
OLD NORTHWEST ROAD

ADDRESS: EAST HAMPTON, NY 11937

at&t
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EAST SYRACUSE, NY 13057

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TEL: (978) 557-5553
FAX: (978) 336-5596

SITE TYPE: UNIPOLE	
DATE: 05/18/2017	REV: 3
DRAWN BY: FM	
SCALE: N.T.S.	

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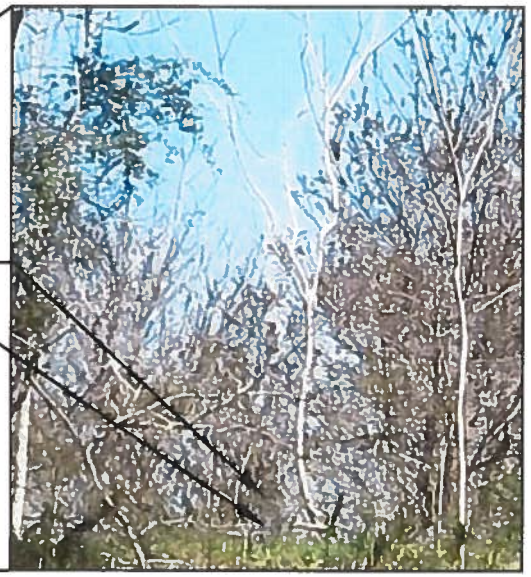
SIMULATED CONDITIONS

LOCATION # 1

DATE OF PHOTO: 04/28/2017

VIEW EAST FROM 202-206 BULL PATH DRIVEWAYS



ENLARGED DETAIL OF SIMULATED CONCEALMENT POLE

SITE NAME: TOWN OF EAST HAMPTON
FORMER BRUSH DUMP,
OLD NORTHWEST ROAD

ADDRESS: EAST HAMPTON, NY 11937

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DATE: 05/18/2017 | REV: 3

DRAWN BY: FM

SCALE: N.T.S.

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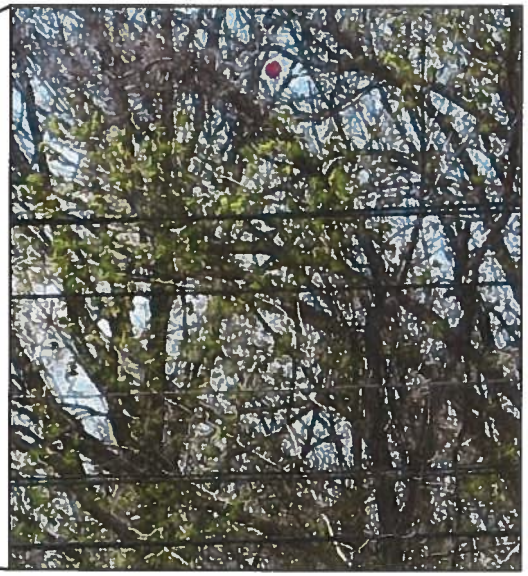
EXISTING CONDITIONS

LOCATION # 2

DATE OF PHOTO: 04/28/2017



ENLARGED DETAIL OF TEST BALLOON

VIEW WEST FROM INTERSECTION OF OLD NORTHWEST ROAD AND CEDAR STREET

SITE NAME: TOWN OF EAST HAMPTON
FORMER BRUSH DUMP,
OLD NORTHWEST ROAD

ADDRESS: EAST HAMPTON, NY 11937

at&t
5841 BRIDGE STREET
EAST SYRACUSE, NY 13057

PREPARED FOR:
smartlink
1997 ANNAPOLIS EXCHANGE PKWY
SUITE 200
ANNAPOLIS, MD 21401

Hudson Design Group LLC
29 HAMM ROAD
HUDSON, NY 12534
TEL: (978) 557-5553
FAX: (978) 336-5586

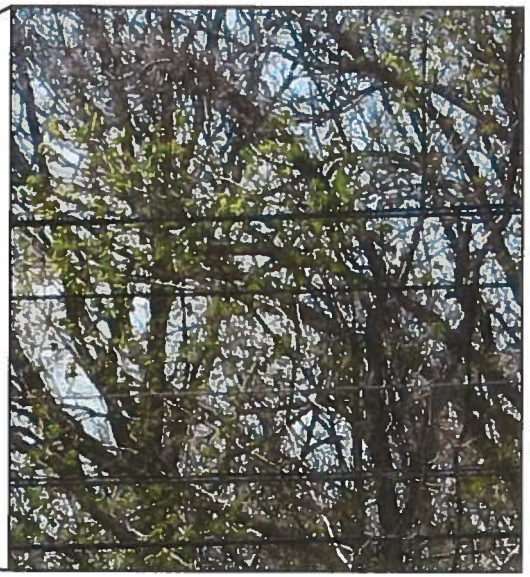
SITE TYPE: UNIPOLE
DATE: 05/18/2017 | REV: 3
DRAWN BY: FM
SCALE: N.T.S.

THIS STUDY DOES NOT CLAIM IN ANY WAY TO SHOW THE ONLY AREAS OF VISIBILITY. IT IS MEANT TO SHOW A BROAD REPRESENTATION OF AREAS WHERE THE PROPOSED INSTALLATION MAY BE VISIBLE BASED UPON THE BEST INFORMATION FOR TOPOGRAPHY AND VEGETATION LOCATIONS AVAILABLE TO DATE.

SIMULATED CONDITIONS

LOCATION # 2

DATE OF PHOTO: 04/28/2017



ENLARGED DETAIL OF SIMULATED CONCEALMENT POLE

VIEW WEST FROM INTERSECTION OF OLD NORTHWEST ROAD AND CEDAR STREET

SITE NAME: TOWN OF EAST HAMPTON
FORMER BRUSH DUMP,
OLD NORTHWEST ROAD

ADDRESS: EAST HAMPTON, NY 11937

at&t
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FAX: (978) 336-5586

SITE TYPE: UNIPOLE

DATE: 05/18/2017 | REV: 3

DRAWN BY: FM

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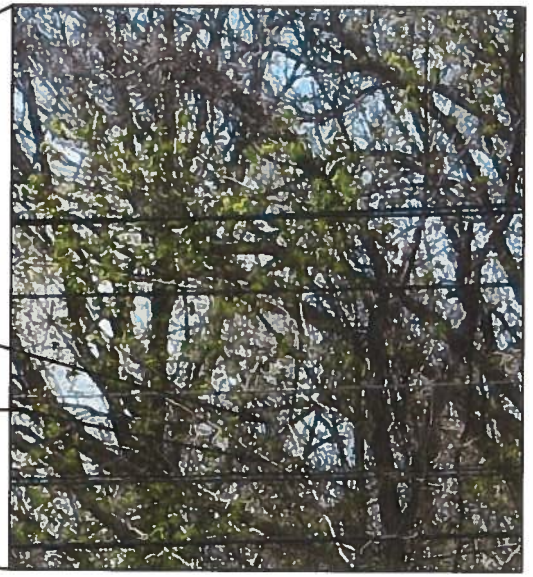
SIMULATED CONDITIONS

LOCATION # 2

DATE OF PHOTO: 04/28/2017



ENLARGED DETAIL OF SIMULATED CONCEALMENT POLE

VIEW WEST FROM INTERSECTION OF OLD NORTHWEST ROAD AND CEDAR STREET

SITE NAME: TOWN OF EAST HAMPTON
FORMER BRUSH DUMP,
OLD NORTHWEST ROAD

ADDRESS: EAST HAMPTON, NY 11937

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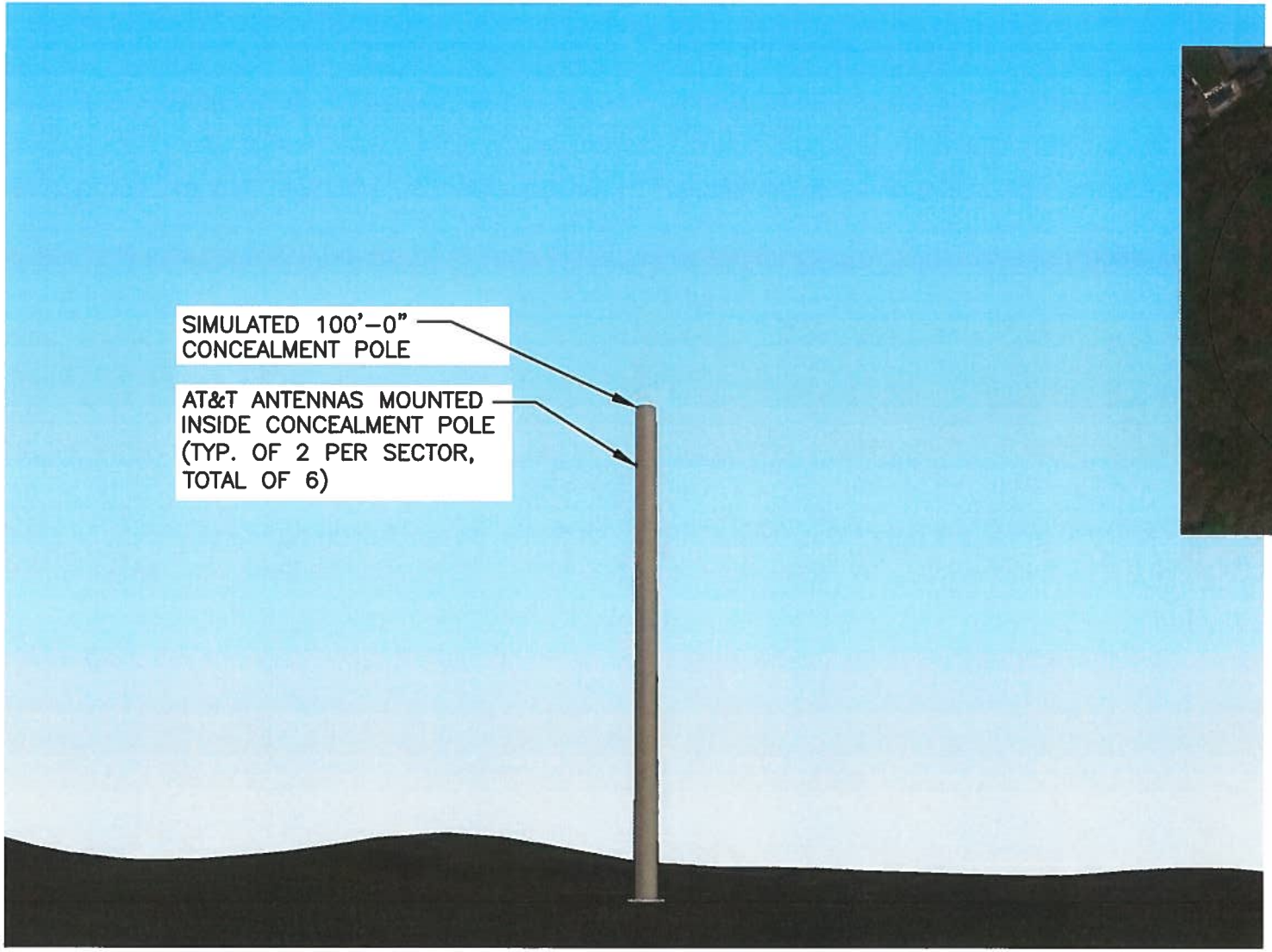
SIMULATED CONDITIONS

LOCATION # 3

DATE OF PHOTO: 04/28/2017



KEY MAP

VIEW EAST FROM 300' AWAY FROM POLE LOCATION

SITE NAME: TOWN OF EAST HAMPTON
FORMER BRUSH DUMP,
OLD NORTHWEST ROAD

ADDRESS: EAST HAMPTON, NY 11937

at&t
5841 BRIDGE STREET
EAST SYRACUSE, NY 13057

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SITE TYPE: UNIPOLE

DATE: 05/18/2017 | REV: 3

DRAWN BY: FM

SCALE: N.T.S.

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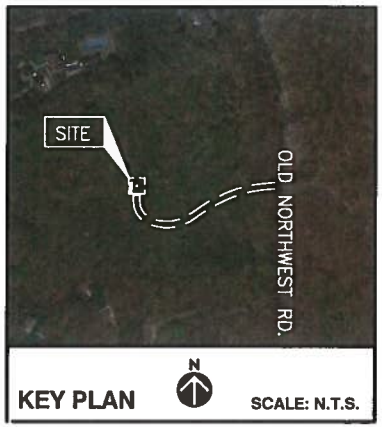
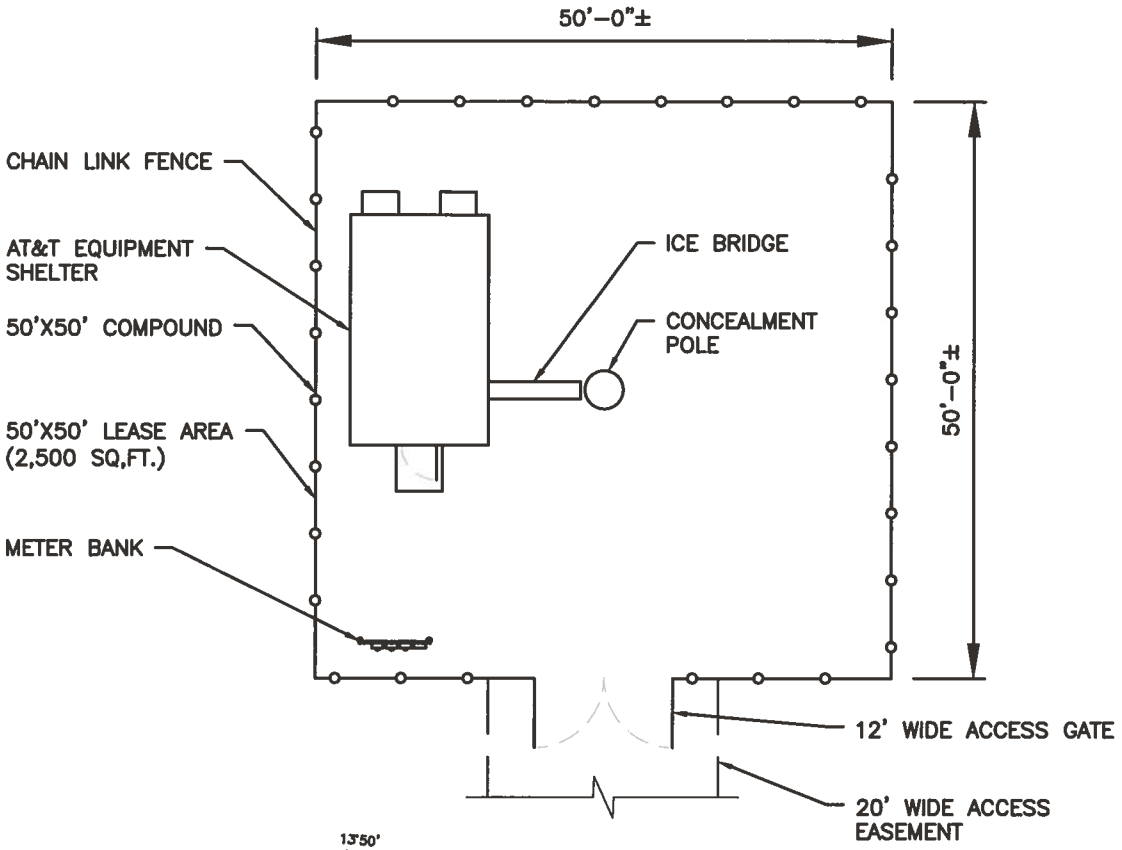


KEY PLAN SCALE: N.T.S.



COMPOUND PLAN (SAMPLE)

N.T.S.

LATITUDE:	40° 58' 55.05" N
LONGITUDE:	72° 13' 06.45" W

SITE NAME: TOWN OF EAST HAMPTON
FORMER BRUSH DUMP,
OLD NORTHWEST ROAD

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SITE TYPE: UNIPOLE
DATE: 05/18/2017 REV: 3
DRAWN BY: FM
SCALE: N.T.S.

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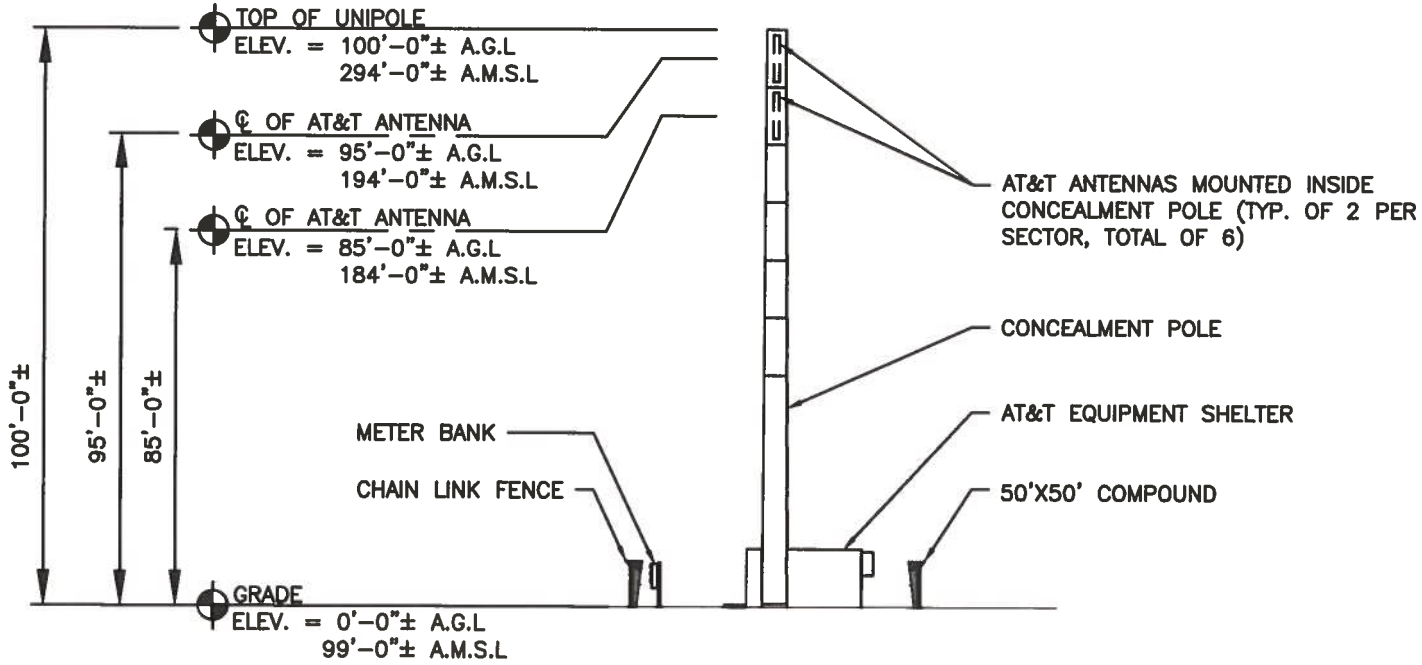

EAST ELEVATION (SAMPLE)

N.T.S.

SITE NAME: TOWN OF EAST HAMPTON
FORMER BRUSH DUMP,
OLD NORTHWEST ROAD

ADDRESS: EAST HAMPTON, NY 11937

at&t
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AT&T's Proposed Facility Signage

CAUTION

Beyond This Point you are entering a controlled area where radio frequency emissions *may exceed* the FCC Occupational Exposure Limits.

Obey all posted signs and site guidelines for working in a radio frequency environment.

Ref: FCC 47CFR 1.1307(b)

AT&T Mobility

Scan this QR code with your smartphone to reorder
SKU 8X12ATTRFC

INFORMATION

AT&T Mobility operates telecommunications antennas at this location. Remain at least 3 feet away from any antenna and obey all posted signs.

Contact the owner(s) of the antenna(s) before working closer than 3 feet from the antenna(s).

Contact AT&T Mobility at 800-638-2822 prior to performing any maintenance or repairs near AT&T antennas.

This is AT&T Mobility Site # _____

Contact the management office if this door/hatch/gate is found unlocked.

INFORMACIÓN

En esta propiedad se ubican antenas de telecomunicaciones operadas por AT&T Mobility. Favor mantener una distancia de no menos de 3 pies y obedecer todos los avisos.

Comuníquese con el propietario o los propietarios de las antenas antes de trabajar o caminar a una distancia de menos de 3 pies de la antena.

Comuníquese con AT&T Mobility 800-638-2822 antes de realizar cualquier mantenimiento o reparaciones cerca de las antenas de AT&T.

Esta es la estación base número _____

Favor comunícarse con la oficina de la administración del edificio si esta puerta o compuerta se encuentra sin candado.

Sign 1

AT&T Mobility

Scan this QR code with your smartphone to reorder
SKU 8X12ATTI1

AT&T's Rigorous Structural Analysis Report
Dated November 11, 2015

(submitted originally to the Planning Board on/about December 8, 2015)

Dewberry
600 Parsippany Road, Suite 301
Parsippany, NJ 07054-3715
(973) 576-9674

GPD Engineering and Architecture
Professional Corporation
Chris Scheks
520 South Main St, Suite 2531
Akron OH, 44311
(614) 588-8973
cscheks@gpdgroup.com

GPD# 2015707.38 Rev A
November 11, 2015

RIGOROUS STRUCTURAL ANALYSIS REPORT

AT&T DESIGNATION:	**Site FA:**	**11631254**
	Site Name:	**AMAGANSETT III**
ANALYSIS CRITERIA:	**Codes:**	**TIA-222-G, 2009 IBC & 2010 NYBC** **120-mph (3-second gust) with 0" ice** **50-mph (3-second gust) with ¾" ice**
SITE DATA:		**100-106 Long Lane, East Hampton, NY 11937, Suffolk County** **Latitude 40° 58' 20.88" N, Longitude 72° 12' 19.08" W** **Market: NYC/NNJ** **120' Rohn Self Support Tower**

Ms. Joanne Slaman,

GPD is pleased to submit this Rigorous Structural Analysis Report to determine the structural integrity of the aforementioned tower. The purpose of the analysis is to determine the suitability of the tower with the existing and proposed loading configuration detailed in the analysis report.

Analysis Results

Tower Stress Level with Proposed Equipment:	95.7%	Pass
Foundation Ratio with Proposed Equipment:	75.6%	Pass

Note: In order for this analysis results to be valid for the proposed, existing, and reserved loading in Appendix A the modifications referenced in the design drawings by GPD (Project #: 2015707.38 Rev A, dated 11/11/2015) must be installed.

We at GPD appreciate the opportunity of providing our continuing professional services to you and Dewberry. If you have any questions or need further assistance on this or any other projects please do not hesitate to call.

Respectfully submitted,

Christopher J. Scheks, P.E.
New York #: 093566

SUMMARY & RESULTS

The purpose of this analysis was to verify whether the existing structure is capable of carrying the proposed loading configuration as specified by AT&T Mobility to Dewberry. This report was commissioned by Ms. Joanne Slaman of Dewberry.

The proposed coax shall be stacked together forming a 12 on 12 configuration on Face C in order for the analysis results to be valid. See Appendix C for the coax layout.

Modifications by GPD (Project #: 2015707.38 Rev A, dated 11/11/2015) were considered in the analysis.

TOWER SUMMARY AND RESULTS

Member	Capacity	Results
Legs	94.1%	Pass
Diagonals	95.7%	Pass
Member Bolts	92.6%	Pass
Anchor Rods	88.3%	Pass
Foundation	75.6%	Pass

ANALYSIS METHOD

tnxTower (Version 6.1.4.1), a commercially available software program, was used to create a three-dimensional model of the tower and calculate primary member stresses for various dead, live, wind and ice load cases. Selected output from the analysis is included in Appendix B. The following table details the information provided to complete this structural analysis. This analysis is solely based on this information and is being completed without the benefit of a detailed site visit.

DOCUMENTS PROVIDED

Document	Remarks	Source
RF Data Sheet	Amagansett III RFDS (LTE_NSB_2x2 Hexport RRH on the ground)	Dewberry
Tower Design	Rohn File #: 0607017, dated 4/26/10	Dewberry
Foundation Design	Bergey Windpower Job #: SSV-120-IBC-120-40, dated 9/21/2010	Dewberry
Geotechnical Report	GPD Job #: 2014737.01, dated 12/19/2014	GPD
Previous Structural Analysis	GPD Job #: 2014707.76, dated 9/30/2014	GPD
Modification Drawings	GPD Project #: 2015707.38 Rev A, dated 11/11/2015	GDP

ASSUMPTIONS

This rigorous structural analysis is based on the theoretical capacity of the members and is not a condition assessment of the tower. This analysis is from information supplied, and therefore, its results are based on and are as accurate as that supplied data. GPD has made no independent determination, nor is it required to, of its accuracy. The following assumptions were made for this structural analysis.

1. The tower member sizes and shapes are considered accurate as supplied. The material grade is as per data supplied and/or as assumed and as stated in the materials section.
2. The antenna configuration is as supplied and/or as modeled in the analysis. It is assumed to be complete and accurate. All antennas, mounts, coax and waveguides are assumed to be properly installed and supported as per manufacturer requirements.
3. Some assumptions are made regarding antennas and mount sizes and their projected areas based on best interpretation of data supplied and of best knowledge of antenna type and industry practice.
4. All mounts, if applicable, are considered adequate to support the loading. No actual analysis of the mount(s) is performed. This analysis is limited to analyzing the tower only.
5. The soil parameters are as per data supplied or as assumed and stated in the calculations.
6. Foundations are properly designed and constructed to resist the original design loads indicated in the documents provided.
7. The tower and structures have been properly maintained in accordance with TIA Standards and/or with manufacturer's specifications.
8. All welds and connections are assumed to develop at least the member capacity unless determined otherwise and explicitly stated in this report.
9. All prior structural modifications are assumed to be as per data supplied/available and to have been properly installed.
10. Loading interpreted from photos is accurate to $\pm 5'$ AGL, antenna size accurate to ± 3.3 sf, and coax equal to the number of existing antennas without reserve.
11. All existing loading was obtained from site photos, the previous structural analysis by GPD (Job #: 2014707.76, dated 9/30/2014), and the provided RF Data Sheet and is assumed to be accurate.
12. The proposed coax shall be stacked together forming a 12 on 12 configuration on Face C in order for the analysis results to be valid. See Appendix C for the coax layout.
13. Tower Leg A is assumed to be at an azimuth of 330° based on satellite imagery.
14. The proposed antenna mount models and specifications were provided by Dewberry.
15. The wind turbine forces considered within the analysis was obtained from the original design calculations.

If any of these assumptions are not valid or have been made in error, this analysis may be affected, and GPD should be allowed to review any new information to determine its effect on the structural integrity of the tower.

DISCLAIMER OF WARRANTIES

GPD has not performed a site visit to the tower to verify the member sizes or antenna/coax loading. If the existing conditions are not as represented on the tower elevation contained in this report, we should be contacted immediately to evaluate the significance of the discrepancy. This is not a condition assessment of the tower or foundation. This report does not replace a full tower inspection. The tower and foundations are assumed to have been properly fabricated, erected, maintained, in good condition, twist free, and plumb.

The engineering services rendered by GPD in connection with this Rigorous Structural Analysis are limited to a computer analysis of the tower structure and theoretical capacity of its main structural members. No allowance was made for any damaged, bent, missing, loose, or rusted members (above and below ground). No allowance was made for loose bolts or cracked welds.

This analysis is limited to the designated maximum wind and seismic conditions per the governing tower standards and code. Wind forces resulting in tower vibrations near the structure's resonant frequencies were not considered in this analysis and are outside the scope of this analysis. Lateral loading from any dynamic response was not evaluated under a time-domain based fatigue analysis.

GPD does not analyze the fabrication of the structure (including welding). It is not possible to have all the very detailed information needed to perform a thorough analysis of every structural sub-component and connection of an existing tower. GPD provides a limited scope of service in that we cannot verify the adequacy of every weld, plate connection detail, etc. The purpose of this report is to assess the capability of adding appurtenances usually accompanied by transmission lines to the structure.

It is the owner's responsibility to determine the amount of ice accumulation in excess of the code specified amount, if any, that should be considered in the structural analysis.

The attached sketches are a schematic representation of the analyzed tower. If any material is fabricated from these sketches, the contractor shall be responsible for field verifying the existing conditions, proper fit, and clearance in the field. Any mentions of structural modifications are reasonable estimates and should not be used as a precise construction document. Precise modification drawings are obtainable from GPD, but are beyond the scope of this report.

Miscellaneous items such as antenna mounts, etc., have not been designed or detailed as a part of our work. We recommend that material of adequate size and strength be purchased from a reputable tower manufacturer.

Towers are designed to carry gravity, wind, and ice loads. All members, legs, diagonals, struts, and redundant members provide structural stability to the tower with little redundancy. Absence or removal of a member can trigger catastrophic failure unless a substitute is provided before any removal. Legs carry axial loads and derive their strength from shorter unbraced lengths by the presence of redundant members and their connection to the diagonals with bolts or welds. If the bolts or welds are removed without providing any substitute to the frame, the leg is subjected to a higher unbraced length that immediately reduces its load carrying capacity. If a diagonal is also removed in addition to the connection, the unbraced length of the leg is greatly increased, jeopardizing its load carrying capacity. Failure of one leg can result in a tower collapse because there is no redundancy. Redundant members and diagonals are critical to the stability of the tower.

GPD makes no warranties, expressed and/or implied, in connection with this report and disclaims any liability arising from material, fabrication, and erection of this tower. GPD will not be responsible whatsoever for, or on account of, consequential or incidental damages sustained by any person, firm, or organization as a result of any data or conclusions contained in this report. The maximum liability of GPD pursuant to this report will be limited to the total fee received for preparation of this report.

APPENDIX A

Tower Analysis Summary Form

Tower Analysis Summary Form

General Info

Site Name	AMAGANSETT
Site Number	n/a
FA Number	11631254
Date of Analysis	11/11/2015
Company Performing Analysis	GPD

The information contained in this summary report is not to be used independently from the PE stamped tower analysis.

Tower Info	Description	Date
Tower Type (G, SST, MP)	SST	
Tower Height (top of steel AGL)	120	
Tower Manufacturer	Rohn	
Tower Model	SSV	
Tower Design	Rohn File #: 0607017	4/26/2010
Foundation Design	Bergey Windpower Job #: SSV-120-IBC-120-40	9/21/2010
Geotech Report	GPD Job #: 2014737.01	12/19/2014
Tower Mapping	n/a	
Previous Structural Analysis	GPD Job #: 2014707.76	9/30/2014
Foundation Mapping	n/a	

Design Parameters

Design Code Used	TIA-222-G, 2010 NYBC & 2009 IBC
Location of Tower (County, State)	Suffolk, NY
Basic Wind Speed (mph)	120 (3 second gust)
Ice Thickness (in)	0.75
Structure Classification (I, II, III)	II
Exposure Category (B, C, D)	C
Topographic Category (1 to 5)	1

Analysis Results (% Maximum Usage)

Existing/Reserved + Future + Proposed Condition	
Tower (%)	95.7%
Anchor Rods (%)	88.3%
Foundation (%)	75.6%
Foundation Adequate?	Yes

Steel Yield Strength (ksi)

Legs	50
Bracing	36
Member Bolts	A325
Anchor Rods	F1554

Modifications by GPD (Project #: 2015707.38 Rev A, dated 11/11/2015) were considered in the analysis.

Existing / Reserved Loading

Antenna								Mount			Transmission Line			
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Attachment Leg/Face
Unknown	120	122	1	Turbine	EXCEL	Wind Turbine				Tower Mounted	1	Armored	3 x #6	Leg C
Unknown	104	104						1	Unknown	Turbine Device				

Note: All existing loading shall remain. The existing turbine device is to be relocated from the 94' CL.

Proposed Loading

Antenna								Mount			Transmission Line			
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Attachment Leg/Face
AT&T Mobility	95	95	3	Panel	Andrew	SBNHH-1D65A	0/120/240	3	Site Pro 1	ADP238-U	6	Unknown	7/8"	Face C
AT&T Mobility	95	95	3	Triplexer	Commscope	E11F01P78		3	Site Pro 1	TAP-472				
AT&T Mobility	95	95	3	Diplexer	Andrew	E15V95P50				on the same mounts				
AT&T Mobility	85	85	3	Panel	Andrew	SBNHH-1D65A	0/120/240	3	Site Pro 1	ADP238-U	6	Unknown	7/8"	Face C
AT&T Mobility	85	85	3	Triplexer	Commscope	E11F01P78		3	Site Pro 1	TAP-472				
AT&T Mobility	85	85	3	Diplexer	Andrew	E15V95P50				on the same mounts				
AT&T Mobility	75	75	3	Panel	Andrew	SBNHH-1D65A	0/120/240	3	Site Pro 1	ADP238-U	6	Unknown	7/8"	Face C
AT&T Mobility	75	75	3	Triplexer	Commscope	E11F01P78		3	Site Pro 1	TAP-472				
AT&T Mobility	75	75	3	Diplexer	Andrew	E15V95P50				on the same mounts				

Note: The proposed coax shall be stacked together forming a 12 on 12 configuration on Face C in order for the analysis results to be valid. See Appendix C for the coax layout.

Future Loading

Antenna								Mount			Transmission Line			
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Attachment Leg/Face

APPENDIX B

tnxTower Output File

tnxTower	Job	Page
	AMAGANSETT III	1 of 9
GPD 520 South Main St Suite 2531 Akron, Ohio 44311 Phone: (330) 572-2100 FAX: (330) 572-2103	Project 2015707.38	Date 14:32:00 11/11/15
	Client Dewberry	Designed by jnine

Tower Input Data

The main tower is a 3x free standing tower with an overall height of 120.00 ft above the ground line.
The base of the tower is set at an elevation of 0.00 ft above the ground line.
The face width of the tower is 1.04 ft at the top and 12.64 ft at the base.
This tower is designed using the TIA-222-G standard.
The following design criteria apply:

Tower is located in Suffolk County, New York.
Basic wind speed of 120 mph.
Structure Class II.
Exposure Category C.
Topographic Category 1.
Crest Height 0.00 ft.
Nominal ice thickness of 0.7500 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in tower member design is 1.
Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
3 x #6 Armored	C	No	Ar (CaAa)	120.00 - 8.00	0.0000	0.5	1	1	0.5000	1.5000		0.66
Feedline Ladder (Af)	C	No	Af (CaAa)	120.00 - 8.00	0.0000	0	1	1	3.0000	3.0000		8.40
LDF5-50A (7/8 FOAM)	C	No	Ar (CaAa)	75.00 - 8.00	0.0000	0	24	12	0.5000	1.0900		0.33
LDF5-50A (7/8 FOAM)	C	No	Ar (CaAa)	85.00 - 75.00	0.0000	0	16	12	0.5000	1.0900		0.33
LDF5-50A (7/8 FOAM)	C	No	Ar (CaAa)	95.00 - 85.00	0.0000	0	8	8	0.5000	1.0900		0.33
Step Pegs	C	No	Ar (CaAa)	120.00 - 8.00	0.0000	0.5	1	1	0.8000	0.8000		2.72
Safety Line (3/8")	C	No	Ar (CaAa)	120.00 - 8.00	0.0000	0.5	1	1	0.3750	0.3750		0.22

Force Couples At Top Of Tower *EXCEL Wind Turbine*

Description	Shear K	Vertical K	Moment kip-ft	Torque kip-ft
No Ice	2.40	1.20	4.80	0.00
With Ice	1.50	1.75	3.00	0.00

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Turbine Device	B	From Face	0.50	0.0000	104.00	No Ice	3.26	2.33	0.23
			-4.00			1/2" Ice	4.24	2.96	0.28
			0.00			1" Ice	5.22	3.60	0.33
ADP238-U	A	From Leg	0.50	0.0000	95.00	No Ice	3.00	0.90	0.07
			0.00			1/2" Ice	3.74	1.12	0.08
			0.00			1" Ice	4.48	1.34	0.09
ADP238-U	B	From Leg	0.50	0.0000	95.00	No Ice	3.00	0.90	0.07
			0.00			1/2" Ice	3.74	1.12	0.08
			0.00			1" Ice	4.48	1.34	0.09
ADP238-U	C	From Leg	0.50	0.0000	95.00	No Ice	3.00	0.90	0.07
			0.00			1/2" Ice	3.74	1.12	0.08
			0.00			1" Ice	4.48	1.34	0.09
TAP-472	A	From Face	1.00	0.0000	95.00	No Ice	5.55	0.17	0.07
			0.00			1/2" Ice	7.87	0.34	0.09
			0.00			1" Ice	10.19	0.51	0.11
TAP-472	B	From Face	1.00	0.0000	95.00	No Ice	5.55	0.17	0.07
			0.00			1/2" Ice	7.87	0.34	0.09
			0.00			1" Ice	10.19	0.51	0.11
TAP-472	C	From Face	1.00	0.0000	95.00	No Ice	5.55	0.17	0.07
			0.00			1/2" Ice	7.87	0.34	0.09
			0.00			1" Ice	10.19	0.51	0.11
SBNHH-1D65A w/ Mount Pipe	A	From Face	2.00	-30.0000	95.00	No Ice	6.57	5.19	0.06
			0.00			1/2" Ice	7.09	5.96	0.12
			0.00			1" Ice	7.59	6.70	0.18
SBNHH-1D65A w/ Mount Pipe	B	From Face	2.00	-30.0000	95.00	No Ice	6.57	5.19	0.06
			0.00			1/2" Ice	7.09	5.96	0.12
			0.00			1" Ice	7.59	6.70	0.18
SBNHH-1D65A w/ Mount Pipe	C	From Face	2.00	-30.0000	95.00	No Ice	6.57	5.19	0.06
			0.00			1/2" Ice	7.09	5.96	0.12
			0.00			1" Ice	7.59	6.70	0.18
E15V95P50	A	From Face	2.00	-30.0000	95.00	No Ice	0.33	0.20	0.00
			0.00			1/2" Ice	0.41	0.28	0.01
			0.00			1" Ice	0.50	0.36	0.01
E15V95P50	B	From Face	2.00	-30.0000	95.00	No Ice	0.33	0.20	0.00
			1.50			1/2" Ice	0.41	0.28	0.01
			0.00			1" Ice	0.50	0.36	0.01
E15V95P50	C	From Face	2.00	-30.0000	95.00	No Ice	0.33	0.20	0.00
			0.00			1/2" Ice	0.41	0.28	0.01
			0.00			1" Ice	0.50	0.36	0.01
E11F01P78	A	From Face	2.00	-30.0000	95.00	No Ice	0.43	0.29	0.01
			0.00			1/2" Ice	0.52	0.37	0.01
			0.00			1" Ice	0.62	0.46	0.02
E11F01P78	B	From Face	2.00	-30.0000	95.00	No Ice	0.43	0.29	0.01
			0.00			1/2" Ice	0.52	0.37	0.01
			0.00			1" Ice	0.62	0.46	0.02
E11F01P78	C	From Face	2.00	-30.0000	95.00	No Ice	0.43	0.29	0.01
			0.00			1/2" Ice	0.52	0.37	0.01
			0.00			1" Ice	0.62	0.46	0.02
ADP238-U	A	From Leg	0.50	0.0000	85.00	No Ice	3.00	0.90	0.07
			0.00			1/2" Ice	3.74	1.12	0.08
			0.00			1" Ice	4.48	1.34	0.09

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
ADP238-U	B	From Leg	0.50	0.0000	85.00	No Ice	3.00	0.90	0.07
			0.00			1/2" Ice	3.74	1.12	0.08
			0.00			1" Ice	4.48	1.34	0.09
ADP238-U	C	From Leg	0.50	0.0000	85.00	No Ice	3.00	0.90	0.07
			0.00			1/2" Ice	3.74	1.12	0.08
			0.00			1" Ice	4.48	1.34	0.09
TAP-472	A	From Face	1.00	0.0000	85.00	No Ice	5.55	0.17	0.07
			0.00			1/2" Ice	7.87	0.34	0.09
			0.00			1" Ice	10.19	0.51	0.11
TAP-472	B	From Face	1.00	0.0000	85.00	No Ice	5.55	0.17	0.07
			0.00			1/2" Ice	7.87	0.34	0.09
			0.00			1" Ice	10.19	0.51	0.11
TAP-472	C	From Face	1.00	0.0000	85.00	No Ice	5.55	0.17	0.07
			0.00			1/2" Ice	7.87	0.34	0.09
			0.00			1" Ice	10.19	0.51	0.11
SBNHH-1D65A w/ Mount Pipe	A	From Face	2.00	-30.0000	85.00	No Ice	6.57	5.19	0.06
			0.00			1/2" Ice	7.09	5.96	0.12
			0.00			1" Ice	7.59	6.70	0.18
SBNHH-1D65A w/ Mount Pipe	B	From Face	2.00	-30.0000	85.00	No Ice	6.57	5.19	0.06
			0.00			1/2" Ice	7.09	5.96	0.12
			0.00			1" Ice	7.59	6.70	0.18
SBNHH-1D65A w/ Mount Pipe	C	From Face	2.00	-30.0000	85.00	No Ice	6.57	5.19	0.06
			0.00			1/2" Ice	7.09	5.96	0.12
			0.00			1" Ice	7.59	6.70	0.18
E15V95P50	A	From Face	2.00	-30.0000	85.00	No Ice	0.33	0.20	0.00
			0.00			1/2" Ice	0.41	0.28	0.01
			0.00			1" Ice	0.50	0.36	0.01
E15V95P50	B	From Face	2.00	-30.0000	85.00	No Ice	0.33	0.20	0.00
			1.50			1/2" Ice	0.41	0.28	0.01
			0.00			1" Ice	0.50	0.36	0.01
E15V95P50	C	From Face	2.00	-30.0000	85.00	No Ice	0.33	0.20	0.00
			0.00			1/2" Ice	0.41	0.28	0.01
			0.00			1" Ice	0.50	0.36	0.01
E11F01P78	A	From Face	2.00	-30.0000	85.00	No Ice	0.43	0.29	0.01
			0.00			1/2" Ice	0.52	0.37	0.01
			0.00			1" Ice	0.62	0.46	0.02
E11F01P78	B	From Face	2.00	-30.0000	85.00	No Ice	0.43	0.29	0.01
			0.00			1/2" Ice	0.52	0.37	0.01
			0.00			1" Ice	0.62	0.46	0.02
E11F01P78	C	From Face	2.00	-30.0000	85.00	No Ice	0.43	0.29	0.01
			0.00			1/2" Ice	0.52	0.37	0.01
			0.00			1" Ice	0.62	0.46	0.02
ADP238-U	A	From Leg	0.50	0.0000	75.00	No Ice	3.00	0.90	0.07
			0.00			1/2" Ice	3.74	1.12	0.08
			0.00			1" Ice	4.48	1.34	0.09
ADP238-U	B	From Leg	0.50	0.0000	75.00	No Ice	3.00	0.90	0.07
			0.00			1/2" Ice	3.74	1.12	0.08
			0.00			1" Ice	4.48	1.34	0.09
ADP238-U	C	From Leg	0.50	0.0000	75.00	No Ice	3.00	0.90	0.07
			0.00			1/2" Ice	3.74	1.12	0.08
			0.00			1" Ice	4.48	1.34	0.09
TAP-472	A	From Face	1.00	0.0000	75.00	No Ice	5.55	0.17	0.07
			0.00			1/2" Ice	7.87	0.34	0.09
			0.00			1" Ice	10.19	0.51	0.11
TAP-472	B	From Face	1.00	0.0000	75.00	No Ice	5.55	0.17	0.07
			0.00			1/2" Ice	7.87	0.34	0.09
			0.00			1" Ice	10.19	0.51	0.11

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
TAP-472	C	From Face	1.00	0.0000	75.00	No Ice	5.55	0.17	0.07
			0.00			1/2" Ice	7.87	0.34	0.09
			0.00			1" Ice	10.19	0.51	0.11
SBNHH-1D65A w/ Mount Pipe	A	From Face	2.00	-30.0000	75.00	No Ice	6.57	5.19	0.06
			0.00			1/2" Ice	7.09	5.96	0.12
			0.00			1" Ice	7.59	6.70	0.18
SBNHH-1D65A w/ Mount Pipe	B	From Face	2.00	-30.0000	75.00	No Ice	6.57	5.19	0.06
			0.00			1/2" Ice	7.09	5.96	0.12
			0.00			1" Ice	7.59	6.70	0.18
SBNHH-1D65A w/ Mount Pipe	C	From Face	2.00	-30.0000	75.00	No Ice	6.57	5.19	0.06
			0.00			1/2" Ice	7.09	5.96	0.12
			0.00			1" Ice	7.59	6.70	0.18
E15V95P50	A	From Face	2.00	-30.0000	75.00	No Ice	0.33	0.20	0.00
			0.00			1/2" Ice	0.41	0.28	0.01
			0.00			1" Ice	0.50	0.36	0.01
E15V95P50	B	From Face	2.00	-30.0000	75.00	No Ice	0.33	0.20	0.00
			1.50			1/2" Ice	0.41	0.28	0.01
			0.00			1" Ice	0.50	0.36	0.01
E15V95P50	C	From Face	2.00	-30.0000	75.00	No Ice	0.33	0.20	0.00
			0.00			1/2" Ice	0.41	0.28	0.01
			0.00			1" Ice	0.50	0.36	0.01
E11F01P78	A	From Face	2.00	-30.0000	75.00	No Ice	0.43	0.29	0.01
			0.00			1/2" Ice	0.52	0.37	0.01
			0.00			1" Ice	0.62	0.46	0.02
E11F01P78	B	From Face	2.00	-30.0000	75.00	No Ice	0.43	0.29	0.01
			0.00			1/2" Ice	0.52	0.37	0.01
			0.00			1" Ice	0.62	0.46	0.02
E11F01P78	C	From Face	2.00	-30.0000	75.00	No Ice	0.43	0.29	0.01
			0.00			1/2" Ice	0.52	0.37	0.01
			0.00			1" Ice	0.62	0.46	0.02

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
104.00	Turbine Device	47	3.902	0.6847	0.0063	2375
95.00	ADP238-U	47	2.810	0.4834	0.0057	3006
85.00	ADP238-U	47	1.968	0.3120	0.0054	4507
75.00	ADP238-U	47	1.392	0.2077	0.0054	7177

Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load K	Ratio Load / Allowable	Allowable Ratio	Criteria
T1	120	Diagonal	A325N	0.5000	1	2.36	4.69	0.503 ✔	1	Member Block Shear
		Top Girt	A325N	0.5000	1	0.53	5.71	0.093 ✔	1	Member Block Shear
T2	115	Leg	A325N	0.6250	4	11.06	20.71	0.534 ✔	1	Bolt Tension
		Diagonal	A325N	0.5000	1	1.92	4.69	0.410 ✔	1	Member Block Shear
		Top Girt	A325N	0.5000	1	1.10	5.71	0.192 ✔	1	Member Block Shear
T3	100	Leg	A325N	0.6250	4	15.93	20.71	0.769 ✔	1	Bolt Tension
		Diagonal	A325N	0.5000	1	2.57	3.13	0.822 ✔	1	Member Block Shear
		Secondary Horizontal	A325N	0.6250	1	1.18	9.11	0.130 ✔	1	Member Block Shear
T4	80	Leg	A325N	0.7500	4	22.84	29.82	0.766 ✔	1	Bolt Tension
		Diagonal	A325N	0.5000	1	2.90	3.13	0.926 ✔	1	Member Block Shear
T5	60	Leg	A325N	0.8750	4	28.87	40.59	0.711 ✔	1	Bolt Tension
		Diagonal	A325N	0.5000	1	3.34	3.81	0.878 ✔	1	Member Block Shear
T6	40	Leg	A325N	0.8750	4	34.44	40.59	0.849 ✔	1	Bolt Tension
		Diagonal	A325N	0.5000	1	4.16	6.20	0.672 ✔	1	Member Bearing
T7	20	Diagonal	A325N	0.5000	1	4.52	6.20	0.729 ✔	1	Member Bearing

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	120 - 115	Rohn 2.5 STD	5.00	2.50	31.7 K=1.00	1.7040	-19.26	71.25	0.270 ¹ ✔
T2	115 - 100	Rohn 2.5 STD	15.01	2.50	31.7 K=1.00	1.7040	-46.43	71.25	0.652 ¹ ✔
T3	100 - 80	Rohn 2.5 STD	20.03	2.15	27.2 K=1.00	1.7040	-68.32	72.63	0.941 ¹ ✔
T4	80 - 60	P 2-1/2 X-STR w/ Split HSS3.5x0.300 (GPD)	20.03	4.01	60.1 K=1.16	3.7615	-98.77	122.15	0.809 ¹ ✔
T5	60 - 40	P 3 X-STR w/ Split HSS4.5x0.375 (GPD)	20.03	5.01	58.6 K=1.09	5.4458	-125.47	178.90	0.701 ¹ ✔
T6	40 - 20	P 3-1/2 X-STR w/ Split HSS5x0.5 (GPD)	20.03	6.68	66.3 K=1.06	7.2127	-150.81	222.17	0.679 ¹ ✔
T7	20 - 0	P 3-1/2 X-STR w/ Split HSS5x0.5 (GPD)	20.03	6.68	66.3 K=1.06	7.2127	-175.89	222.17	0.792 ¹ ✔

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	

[1] $P_u / \phi P_n$ controls

Diagonal Design Data (Compression)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T1	120 - 115	L1 1/2x1 1/2x3/16	2.75	1.13	64.6 K=1.40	0.5273	-2.41	13.72	0.176 [1] ✔
T2	115 - 100	L1 1/2x1 1/2x3/16	2.92	1.28	69.1 K=1.32	0.5273	-2.02	13.28	0.152 [1] ✔
T3	100 - 80	L1 1/2x1 1/2x1/8	5.92	2.93	118.9 K=1.00	0.3594	-2.76	5.53	0.498 [1] ✔
T4	80 - 60	L1 1/2x1 1/2x1/8	7.55	3.62	146.6 K=1.00	0.3594	-2.96	3.78	0.784 [1] ✔
T5	60 - 40	L1 3/4x1 3/4x1/8	9.76	4.71	162.8 K=1.00	0.4219	-3.44	3.60	0.957 [1] ✔
T6	40 - 20	L2 1/2x2 1/2x3/16	12.27	5.98	145.0 K=1.00	0.9020	-4.30	9.69	0.444 [1] ✔
T7	20 - 0	L2 1/2x2 1/2x3/16	13.99	6.85	165.9 K=1.00	0.9020	-4.84	7.40	0.654 [1] ✔

[1] $P_u / \phi P_n$ controls

Secondary Horizontal Design Data (Compression)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T3	100 - 80	L2x2x1/4	4.35	4.11	63.1 K=0.50	0.9375	-1.18	24.64	0.048 [1] ✔

[1] $P_u / \phi P_n$ controls

Top Girt Design Data (Compression)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
T1	120 - 115	L1 3/4x1 3/4x3/16	1.04	0.59	70.4 K=3.39	0.6211	-0.69	15.51	0.045 [1] ✔
T2	115 - 100	L1 3/4x1 3/4x3/16	1.42	0.97	76.9 K=2.27	0.6211	-1.05	14.74	0.071 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$

[1] $P_u / \phi P_n$ controls

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	120 - 115	Rohn 2.5 STD	5.00	2.50	31.7	1.7040	18.37	76.68	0.240 [1]
T2	115 - 100	Rohn 2.5 STD	15.01	2.50	31.7	1.7040	44.22	76.68	0.577 [1]
T3	100 - 80	Rohn 2.5 STD	20.03	2.15	27.2	1.7040	63.78	76.68	0.832 [1]
T4	80 - 60	P 2-1/2 X-STR w/ Split HSS3.5x0.300 (GPD)	20.03	4.01	52.0	3.7615	91.35	155.73	0.587 [1]
T5	60 - 40	P 3 X-STR w/ Split HSS4.5x0.375 (GPD)	20.03	5.01	53.8	5.4458	115.46	225.45	0.512 [1]
T6	40 - 20	P 3-1/2 X-STR w/ Split HSS5x0.5 (GPD)	20.03	6.68	62.8	7.2127	137.77	298.61	0.461 [1]
T7	20 - 0	P 3-1/2 X-STR w/ Split HSS5x0.5 (GPD)	20.03	6.68	62.8	7.2127	159.58	298.61	0.534 [1]

[1] $P_u / \phi P_n$ controls

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	120 - 115	L1 1/2x1 1/2x3/16	2.75	1.13	32.3	0.3076	2.36	13.38	0.176 [1]
T2	115 - 100	L1 1/2x1 1/2x3/16	2.92	1.28	36.3	0.3076	1.92	13.38	0.144 [1]
T3	100 - 80	L1 1/2x1 1/2x1/8	5.92	2.93	75.7	0.2109	2.57	9.18	0.280 [1]
T4	80 - 60	L1 1/2x1 1/2x1/8	6.87	3.28	87.4	0.2109	2.90	9.18	0.316 [1]
T5	60 - 40	L1 3/4x1 3/4x1/8	9.33	4.49	101.1	0.2578	3.34	11.21	0.298 [1]
T6	40 - 20	L2 1/2x2 1/2x3/16	12.27	5.98	93.9	0.5886	4.16	25.60	0.163 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T7	20 - 0	L2 1/2x2 1/2x3/16	13.99	6.85	107.2	0.5886	4.52	25.60	0.176 [1] ✔

[1] $P_u / \phi P_n$ controls

Secondary Horizontal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T3	100 - 80	L2x2x1/4	4.35	4.11	81.0	0.5625	1.18	24.47	0.048 [1] ✔

[1] $P_u / \phi P_n$ controls

Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	120 - 115	L1 3/4x1 3/4x3/16	1.04	0.59	17.9	0.3779	0.53	16.44	0.032 [1] ✔
T2	115 - 100	L1 3/4x1 3/4x3/16	1.42	0.97	26.3	0.3779	1.10	16.44	0.067 [1] ✔

[1] $P_u / \phi P_n$ controls

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T1	120 - 115	Leg	Rohn 2.5 STD	1	-19.26	71.25	27.0	Pass
T2	115 - 100	Leg	Rohn 2.5 STD	21	-46.43	71.25	65.2	Pass
T3	100 - 80	Leg	Rohn 2.5 STD	61	-68.32	72.63	94.1	Pass
T4	80 - 60	Leg	P 2-1/2 X-STR w/ Split HSS3.5x0.300 (GPD)	109	-98.77	122.15	80.9	Pass
T5	60 - 40	Leg	P 3 X-STR w/ Split HSS4.5x0.375 (GPD)	142	-125.47	178.90	70.1	Pass
T6	40 - 20	Leg	P 3-1/2 X-STR w/ Split HSS5x0.5 (GPD)	169	-150.81	222.17	67.9	Pass
T7	20 - 0	Leg	P 3-1/2 X-STR w/ Split HSS5x0.5 (GPD)	190	-175.89	222.17	79.2	Pass
T1	120 - 115	Diagonal	L1 1/2x1 1/2x3/16	13	2.36	13.38	17.6	Pass
T2	115 - 100	Diagonal	L1 1/2x1 1/2x3/16	56	-2.02	13.28	15.2	Pass
T3	100 - 80	Diagonal	L1 1/2x1 1/2x1/8	68	-2.76	5.53	49.8	Pass

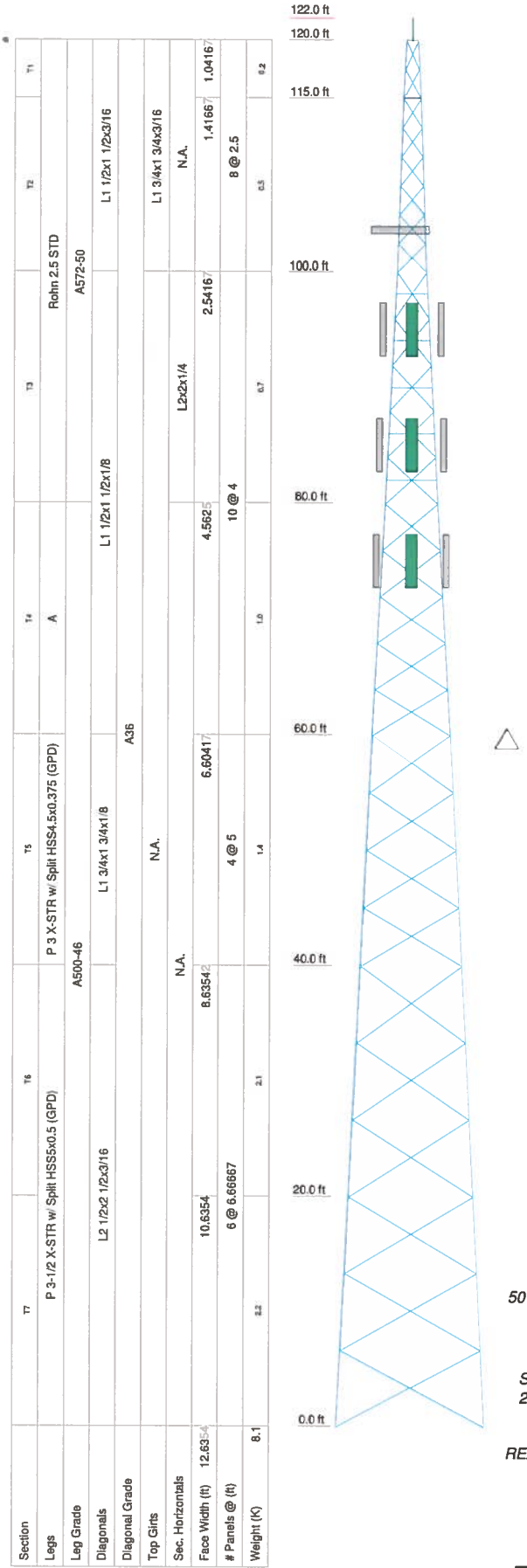
tnxTower	Job	Page
	AMAGANSETT III	9 of 9
GPD 520 South Main St Suite 2531 Akron, Ohio 44311 Phone: (330) 572-2100 FAX: (330) 572-2103	Project 2015707.38	Date 14:32:00 11/11/15
	Client Dewberry	Designed by jnine

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T4	80 - 60	Diagonal	L1 1/2x1 1/2x1/8	113	-2.96	3.78	78.4	Pass
T5	60 - 40	Diagonal	L1 3/4x1 3/4x1/8	146	-3.44	3.60	95.7	Pass
T6	40 - 20	Diagonal	L2 1/2x2 1/2x3/16	173	-4.30	9.69	44.4	Pass
T7	20 - 0	Diagonal	L2 1/2x2 1/2x3/16	194	-4.84	7.40	65.4	Pass
T3	100 - 80	Secondary Horizontal	L2x2x1/4	70	1.18	24.47	4.8	Pass
T1	120 - 115	Top Girt	L1 3/4x1 3/4x3/16	6	-0.69	15.51	4.5	Pass
T2	115 - 100	Top Girt	L1 3/4x1 3/4x3/16	23	-1.05	14.74	7.1	Pass

Summary	ELC:	Existing + Proposed
Leg (T3)	94.1	Pass
Diagonal (T5)	95.7	Pass
Secondary Horizontal (T3)	4.8	Pass
Top Girt (T2)	7.1	Pass
Bolt Checks	92.6	Pass
Rating =	95.7	Pass

APPENDIX C

Tower Elevation Drawing



Section	T7	T6	T5	T4	T3	T2	T1
Legs	P 3-1/2 X-STR w/ Split HSS5x0.5 (GPD)		P 3 X-STR w/ Split HSS4.5x0.375 (GPD)	A	Rohn 2.5 STD		
Leg Grade	A500-46				A572-50		
Diagonals	L2 1/2x2 1/2x3/16		L1 3/4x1 3/4x1/8		L1 1/2x1 1/2x1/8		L1 1/2x1 1/2x3/16
Diagonal Grade	A36						
Top Girts	N.A.				L1 3/4x1 3/4x3/16		
Sec. Horizontals	N.A.				L2x2x1/4	N.A.	
Face Width (ft)	12.6354	10.6354	8.6354	6.6041	4.5625	2.5416	1.4166	1.0416
# Panels @ (ft)	6 @ 6.66667		4 @ 5		10 @ 4	8 @ 2.5		
Weight (K)	8.1	2.2	2.1	1.4	1.0	0.7	0.5	0.2

DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Turbine Device	104	SBNHH-1D65A w/ Mount Pipe	85
ADP238-U	95	SBNHH-1D65A w/ Mount Pipe	85
ADP238-U	95	E15V95P50	85
ADP238-U	95	E15V95P50	85
TAP-472	95	E15V95P50	85
TAP-472	95	E11F01P78	85
TAP-472	95	E11F01P78	85
SBNHH-1D65A w/ Mount Pipe	95	E11F01P78	85
SBNHH-1D65A w/ Mount Pipe	95	ADP238-U	75
SBNHH-1D65A w/ Mount Pipe	95	ADP238-U	75
E15V95P50	95	ADP238-U	75
E15V95P50	95	TAP-472	75
E15V95P50	95	TAP-472	75
E11F01P78	95	TAP-472	75
E11F01P78	95	SBNHH-1D65A w/ Mount Pipe	75
E11F01P78	95	SBNHH-1D65A w/ Mount Pipe	75
ADP238-U	85	SBNHH-1D65A w/ Mount Pipe	75
ADP238-U	85	E15V95P50	75
ADP238-U	85	E15V95P50	75
TAP-472	85	E15V95P50	75
TAP-472	85	E11F01P78	75
TAP-472	85	E11F01P78	75
SBNHH-1D65A w/ Mount Pipe	85	E11F01P78	75

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	P 2-1/2 X-STR w/ Split HSS3.5x0.300 (GPD)		

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A500-46	46 ksi	62 ksi
A36	36 ksi	58 ksi			

TOWER DESIGN NOTES

1. Tower is located in Suffolk County, New York.
2. Tower designed for Exposure C to the TIA-222-G Standard.
3. Tower designed for a 120 mph basic wind in accordance with the TIA-222-G Standard.
4. Tower is also designed for a 50 mph basic wind with 0.75 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Structure Class II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. Force Couples (top of tower)
   EXCEL Wind Turbine
   A: 1.20 K, H: 2.40 K, M: 4.80 kip-ft
   Ice-A: 1.75 K, H: 1.50 K, M: 3.00 kip-ft
   Service-A: 1.20 K, H: 2.40 K, M: 10.80 kip-ft
9. TOWER RATING: 95.7%

ALL REACTIONS ARE FACTORED

MAX. CORNER REACTIONS AT BASE:
DOWN: 180 K
SHEAR: 17 K

UPLIFT: -163 K
SHEAR: 16 K

AXIAL 39 K
SHEAR 6 K
MOMENT 480 kip-ft

TORQUE 1 kip-ft
50 mph WIND - 0.7500 in ICE

AXIAL 16 K
SHEAR 28 K
MOMENT 1911 kip-ft

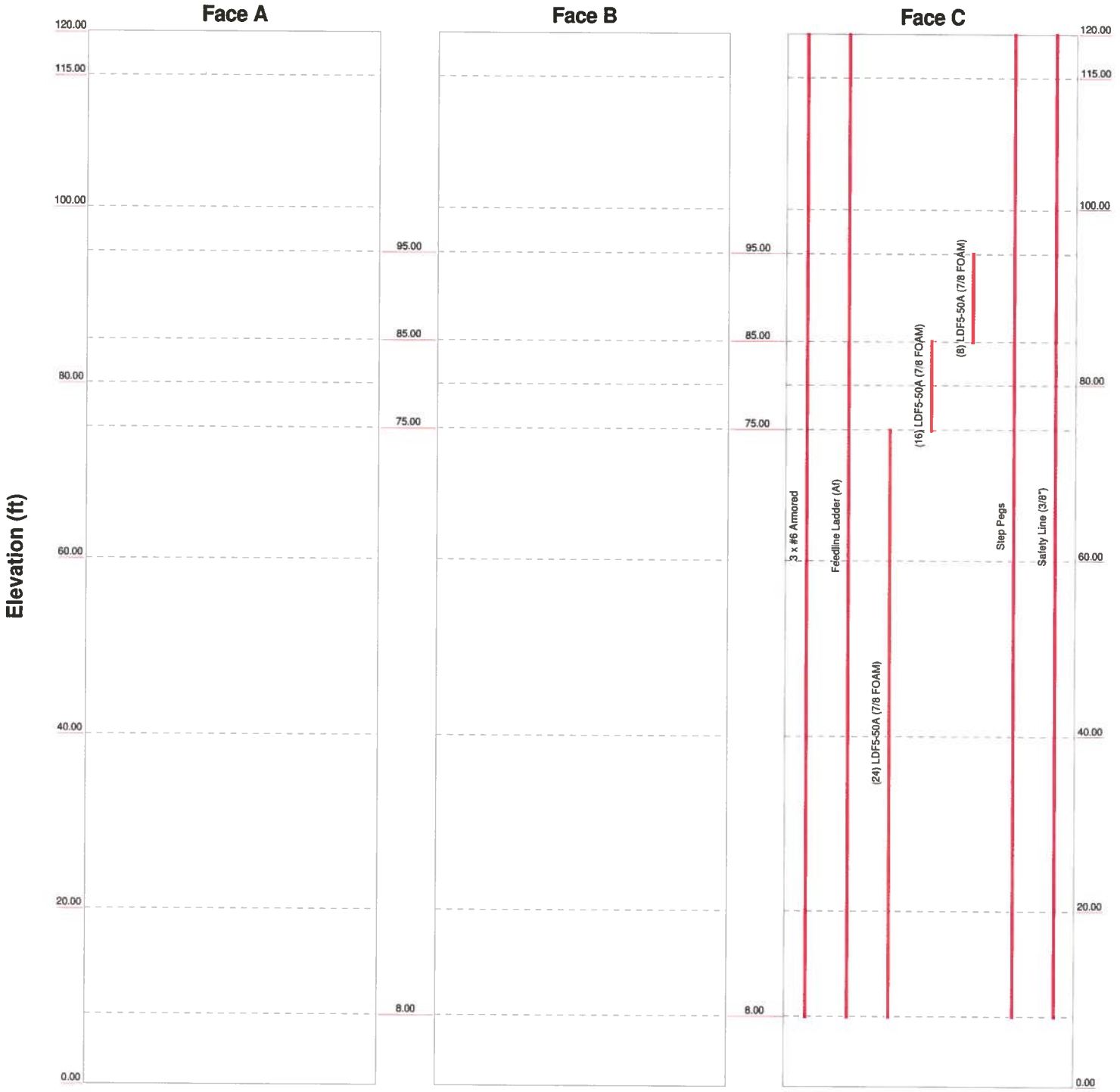
TORQUE 5 kip-ft
REACTIONS - 120 mph WIND

GPD
520 South Main St Suite 2531
Akron, Ohio 44311
Phone: (330) 572-2100
FAX: (330) 572-2103

Job: AMAGANSETT III			
Project: 2015707.38			
Client: Dewberry	Drawn by: jnine		App'd:
Code: TIA-222-G	Date: 11/11/15		Scale: NTS
Path: C:\2015\2015707\38 Amagansett III\Mods\05 2015707.38 SA Mods\TNX\Amagansett Modified Rev A.eri			Dwg No. E-1

Feed Line Distribution Chart
0' - 120'

Round | Flat | App In Face | App Out Face | Truss Leg



GPD
520 South Main St Suite 2531
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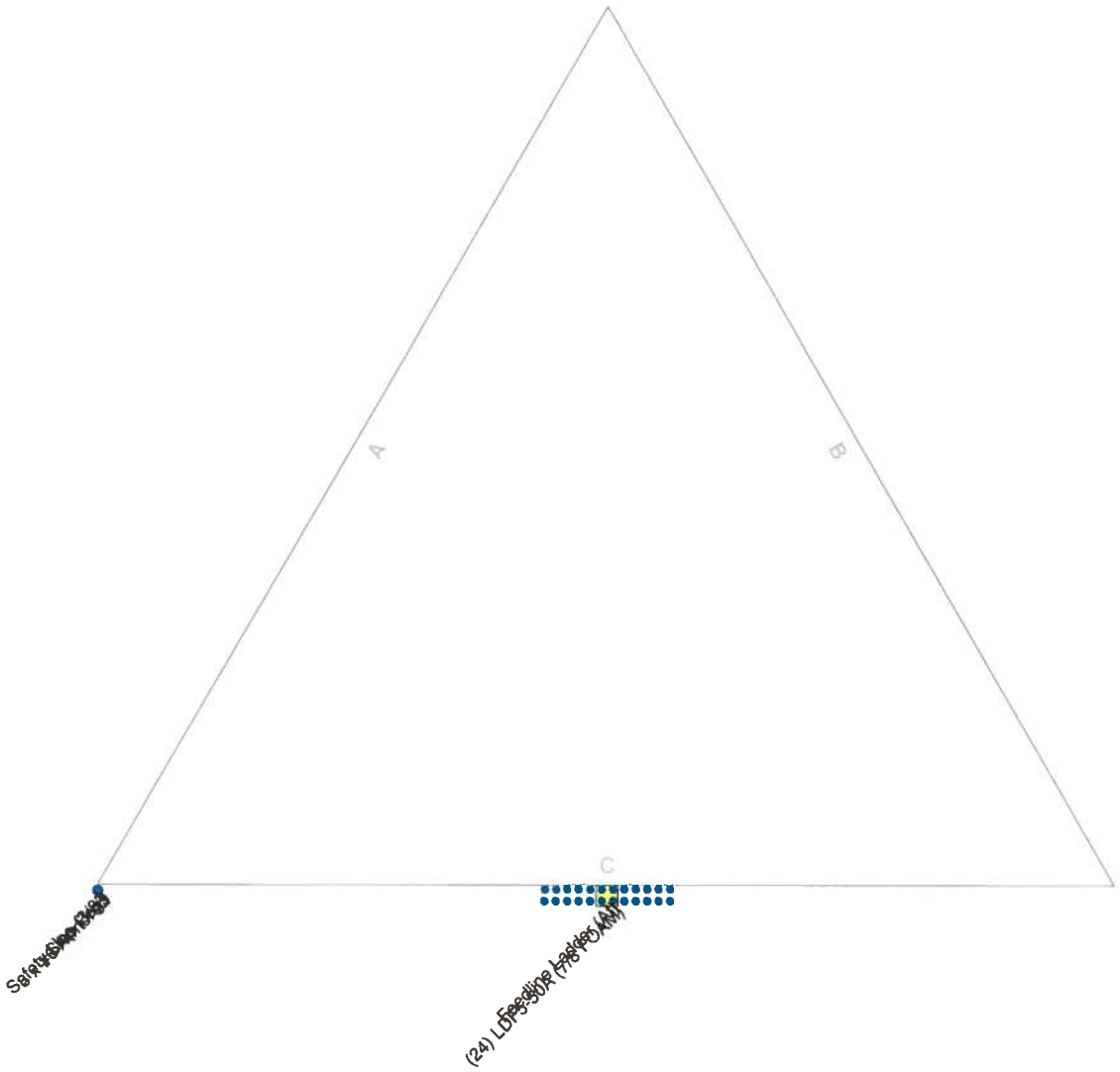
Job: AMAGANSETT III			
Project: 2015707.38			
Client: Dewberry	Drawn by: jnine	App'd:	
Code: TIA-222-G	Date: 11/11/15	Scale: NTS	
Path: O:\2015\2015707.38 Amagansett III\Mods\05 2015707.38 SA Mods\TNX\Amagansett Modified Rev A.eri		Dwg No. E-7	

Feed Line Plan

Round Flat App In Face App Out Face



GPD 520 South Main St Suite 2531 Akron, Ohio 44311 Phone: (330) 572-2100 FAX: (330) 572-2103	Job: AMAGANSETT III		
	Project: 2015707.38		
	Client: Dewberry	Drawn by: jnine	App'd:
	Code: TIA-222-G	Date: 11/11/15	Scale: NTS
	Path: O:\2015\2015707\36 Amagansett III Mods\05 2015707.38 SA Mods\TNX\Amagansett Modified Rev A.eri		Dwg No. E-7

APPENDIX D

Anchor Rod Analysis

520 South Main Street • Suite 2531 • Akron, Ohio 44311• PHONE 330-572-2100 • FAX 330-572-2101

GPD GROUP

Engineers • Architects • Planners

Job: 2015707.33

Calculated By: TW Dated: #########

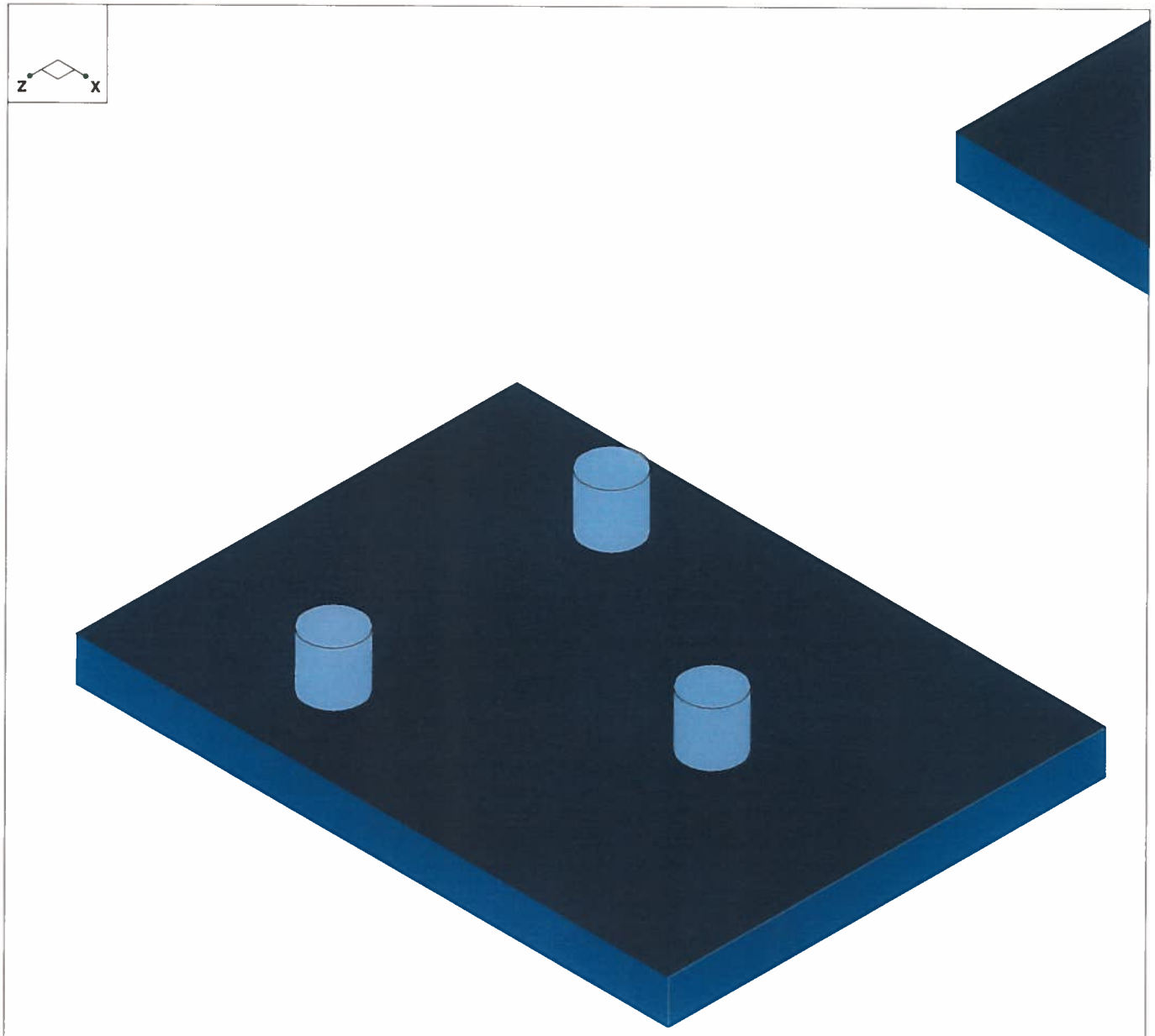
Checked By: _____ Dated: _____

Anchor Rod Shear Check per Section 4.9.9 of TIA-222-G

Number of Anchor Rods=	4		
Diameter of Anchor Rod=	1	in	
V_u=	17	k	
P_u=	180	k	
F_{ub}=	125	ksi	
A_n=	0.6060	in^2	
R_{nt}=	75.75	k	
ϕ=	0.8		
n=	0.5		**TIA-222-G Figure 4-4 & section 4.9.9**
Interaction=	0.8828		
Percent Capacity=	88.3	%	**OK**

APPENDIX E

Foundation Analysis



Results for LC 1, LC1 Dead Only

GPD	AMAGANSETT III	SK - 1
JN		Nov 11, 2015 at 2:51 PM
2015707.38		Amagansett Modified.fnd

Global

Display Sections for Member Calcs	5
Max Internal Sections for Member Calcs	100
Mesh Size (in)	12
Subgrade Modulus (k/ft^3)	172.8
Allowable Bearing (ksf) (Net Allowable)	4.83
Max Interations	10
Merge Tolerance (in)	.12
Solver	Sparse Accelerated
Coefficient of Friction	.3

No. of Shear Regions	4
Shear Region Spacing Increment (in)	4
Min 1 Bar Dia Spacing for Beams?	No
Optimize footings for OTM / Sliding?	Yes
Parme Beta Factor	.65
Concrete Stress Block	Rectangular
Concrete Rebar Set	ASTM A615
Concrete Code	ACI 318-11

Pedestals

	Label	Shape	Material	Design Rules	Angle(deg)	Height[in]
1	N5	CRND30	Conc4000NW	Original	0	30
2	N7	CRND30	Conc4000NW	Original	0	30
3	N6	CRND30	Conc4000NW	Original	0	30
4	N12	CRND30	Conc4000NW	Original	0	30
5	N13	CRND30	Conc4000NW	Original	0	30
6	N14	CRND30	Conc4000NW	Original	0	30
7	N19	CRND30	Conc4000NW	Original	0	30
8	N20	CRND30	Conc4000NW	Original	0	30
9	N21	CRND30	Conc4000NW	Original	0	30

Slabs

	Label	Thickness[in]	Material
1	S1	24	Conc4000NW
2	S2	24	Conc4000NW
3	S3	24	Conc4000NW

General Design Parameters

	Label	Max Bending Chk	Max Shear Chk	Top Cover[in]	Bottom Cover[in]
1	Original	2	2	3	3
2	Extension	2	2	3	3
3	Dowels	2	2	6	6

Slab Rebar Parameters

	Label	Top Bar	Bottom..	Max Top Bar ...	Min Top Ba...	Max Bot Bar S..	Min Bot Bar Spa...	Spacing Increm...	Side Co...	Rebar Options
1	Original	#6	#6	12	12	12	12	3	3	Optimize
2	Extensi..	#8	#8	12	12	12	12	3	3	Optimize
3	Dowels	#6	#6	12	12	12	12	3	6	Optimize

Load Combinations

	Label	Solve	Service	ABIF	SF	Cat..	Fa...	Category	Fa...	Cat..	Fa...	Cat..	Fa...	Cat..	Fa...	Cat..	Fa...	Cat..	Fa...	Cat..	Fa...
1	LC1 Dead Only	Yes	Yes			DL	1.4	LL	1												
2	LC2 1.2 Dead+1.6 ...	Yes	Yes			DL	1.2	EL	1												
3	LC3 0.9 Dead+1.6 ...	Yes	Yes			DL	.9	WL	1												

Load Combinations (Continued)

	Label	Solve	Service	ABIF	SF	Cat...	Fa...	Category	Fa...	Cat...	Fa...	Cat...	Fa...	Cat...	Fa...	Cat...	Fa...	Cat...	Fa...	Cat...	Fa...
4	LC4 1.2 Dead+1.6 ...	Yes	Yes			DL	1.2	SL	1												
5	LC5 0.9 Dead+1.6 ...	Yes	Yes			DL	.9	RLL	1												
6	LC6 1.2 Dead+1.6 ...	Yes	Yes			DL	1.2	LLS	1												
7	LC7 0.9 Dead+1.6 ...	Yes	Yes			DL	.9	TL	1												
8	LC8 1.2 Dead+1.6 ...	Yes	Yes			DL	1.2	SLN	1												
9	LC9 0.9 Dead+1.6 ...	Yes	Yes			DL	.9	HL	1												
10	LC10 1.2 Dead+1.6 ...	Yes	Yes			DL	1.2	FL	1												
11	LC11 0.9 Dead+1.6 ...	Yes	Yes			DL	.9	RL	1												
12	LC12 1.2 Dead+1.6 ...	Yes	Yes			DL	1.2	PL	1												
13	LC13 0.9 Dead+1.6 ...	Yes	Yes			DL	.9	EPL	1												
14	LC14 1.2 Dead+1.6 ...	Yes	Yes			DL	1.2	IL	1												
15	LC15 0.9 Dead+1.6 ...	Yes	Yes			DL	.9	OL1	1												
16	LC16 1.2 Dead+1.6 ...	Yes	Yes			DL	1.2	OL2	1												
17	LC17 0.9 Dead+1.6 ...	Yes	Yes			DL	.9	OL3	1												
18	LC18 1.2 Dead+1.6 ...	Yes	Yes			DL	1.2	OL4	1												
19	LC19 0.9 Dead+1.6 ...	Yes	Yes			DL	.9	OL5	1												
20	LC20 1.2 Dead+1.6 ...	Yes	Yes			DL	1.2	OL6	1												
21	LC21 0.9 Dead+1.6 ...	Yes	Yes			DL	.9	OL7	1												
22	LC22 1.2 Dead+1.6 ...	Yes	Yes			DL	1.2	OL8	1												
23	LC23 0.9 Dead+1.6 ...	Yes	Yes			DL	.9	OL9	1												
24	LC24 1.2 Dead+1.6 ...	Yes	Yes			DL	1.2	OL10	1												
25	LC25 0.9 Dead+1.6 ...	Yes	Yes			DL	.9	ELX	1												
26	LC26 1.2 Dead+1.0 ...	Yes	Yes			DL	1.2	ELY	1												
27	LC27 1.2 Dead+1.0 ...	Yes	Yes			DL	1.2	ELZ	1												
28	LC28 1.2 Dead+1.0 ...	Yes	Yes			DL	1.2	WLX	1												
29	LC29 1.2 Dead+1.0 ...	Yes	Yes			DL	1.2	WLY	1												
30	LC30 1.2 Dead+1.0 ...	Yes	Yes			DL	1.2	WLZ	1												
31	LC31 1.2 Dead+1.0 ...	Yes	Yes			DL	1.2	WL+X	1												
32	LC32 1.2 Dead+1.0 ...	Yes	Yes			DL	1.2	WL+Y	1												
33	LC33 1.2 Dead+1.0 ...	Yes	Yes			DL	1.2	WL+Z	1												
34	LC34 1.2 Dead+1.0 ...	Yes	Yes			DL	1.2	WL-X	1												
35	LC35 1.2 Dead+1.0 ...	Yes	Yes			DL	1.2	WL-Y	1												
36	LC36 1.2 Dead+1.0 ...	Yes	Yes			DL	1.2	WL-Z	1												
37	LC37 1.2 Dead+1.0 ...	Yes	Yes			DL	1.2	WLXP1	1												
38	LC38 1.2 Dead+1.0 ...	Yes	Yes			DL	1.2	WLXP2	1												
39	LC1 Dead Only	Yes				DL	1.4	LL	1												
40	LC2 1.2 Dead+1.6 ...	Yes				DL	1.2	EL	1												
41	LC3 0.9 Dead+1.6 ...	Yes				DL	.9	WL	1												
42	LC4 1.2 Dead+1.6 ...	Yes				DL	1.2	SL	1												
43	LC5 0.9 Dead+1.6 ...	Yes				DL	.9	RLL	1												
44	LC6 1.2 Dead+1.6 ...	Yes				DL	1.2	LLS	1												
45	LC7 0.9 Dead+1.6 ...	Yes				DL	.9	TL	1												
46	LC8 1.2 Dead+1.6 ...	Yes				DL	1.2	SLN	1												
47	LC9 0.9 Dead+1.6 ...	Yes				DL	.9	HL	1												
48	LC10 1.2 Dead+1.6 ...	Yes				DL	1.2	FL	1												
49	LC11 0.9 Dead+1.6 ...	Yes				DL	.9	RL	1												
50	LC12 1.2 Dead+1.6 ...	Yes				DL	1.2	PL	1												
51	LC13 0.9 Dead+1.6 ...	Yes				DL	.9	EPL	1												
52	LC14 1.2 Dead+1.6 ...	Yes				DL	1.2	IL	1												
53	LC15 0.9 Dead+1.6 ...	Yes				DL	.9	OL1	1												
54	LC16 1.2 Dead+1.6 ...	Yes				DL	1.2	OL2	1												
55	LC17 0.9 Dead+1.6 ...	Yes				DL	.9	OL3	1												
56	LC18 1.2 Dead+1.6 ...	Yes				DL	1.2	OL4	1												
57	LC19 0.9 Dead+1.6 ...	Yes				DL	.9	OL5	1												
58	LC20 1.2 Dead+1.6 ...	Yes				DL	1.2	OL6	1												
59	LC21 0.9 Dead+1.6 ...	Yes				DL	.9	OL7	1												
60	LC22 1.2 Dead+1.6 ...	Yes				DL	1.2	OL8	1												

Load Combinations (Continued)

	Label	Solve	Service	ABIF	SF	Cat...	Fa...	Category	Fa...	Cat...	Fa...	Cat...	Fa...	Cat...	Fa...	Cat...	Fa...	Cat...	Fa...	Cat...	Fa...
61	LC23 0.9 Dead+1.6 ...	Yes				DL	.9	OL9	1												
62	LC24 1.2 Dead+1.6 ...	Yes				DL	1.2	OL10	1												
63	LC25 0.9 Dead+1.6 ...	Yes				DL	.9	ELX	1												
64	LC26 1.2 Dead+1.0 ...	Yes				DL	1.2	ELY	1												
65	LC27 1.2 Dead+1.0 ...	Yes				DL	1.2	ELZ	1												
66	LC28 1.2 Dead+1.0 ...	Yes				DL	1.2	WLX	1												
67	LC29 1.2 Dead+1.0 ...	Yes				DL	1.2	WLY	1												
68	LC30 1.2 Dead+1.0 ...	Yes				DL	1.2	WLZ	1												
69	LC31 1.2 Dead+1.0 ...	Yes				DL	1.2	WL+X	1												
70	LC32 1.2 Dead+1.0 ...	Yes				DL	1.2	WL+Y	1												
71	LC33 1.2 Dead+1.0 ...	Yes				DL	1.2	WL+Z	1												
72	LC34 1.2 Dead+1.0 ...	Yes				DL	1.2	WL-X	1												
73	LC35 1.2 Dead+1.0 ...	Yes				DL	1.2	WL-Y	1												
74	LC36 1.2 Dead+1.0 ...	Yes				DL	1.2	WL-Z	1												
75	LC37 1.2 Dead+1.0 ...	Yes				DL	1.2	WLXP1	1												
76	LC38 1.2 Dead+1.0 ...	Yes				DL	1.2	WLXP2	1												

Slab Soil Pressures (By Combination)

	LC	Label	UC	Soil Pressure[ksf]	Allowable Bearing[ksf]	Point
1	1	S1	.16	.774	4.83	N327
2	1	S2	.16	.775	4.83	N765
3	1	S3	.161	.776	4.83	N1737
4	2	S1	.441	2.13	4.83	N1494
5	2	S2	.291	1.408	4.83	N1624
6	2	S3	.482	2.329	4.83	N16
7	3	S1	.452	2.182	4.83	N22
8	3	S2	.273	1.318	4.83	N1624
9	3	S3	.546	2.638	4.83	N31
10	4	S1	.384	1.853	4.83	N22
11	4	S2	.283	1.368	4.83	N28
12	4	S3	.463	2.235	4.83	N1795
13	5	S1	.371	1.792	4.83	N22
14	5	S2	.298	1.439	4.83	N28
15	5	S3	.519	2.506	4.83	N1795
16	6	S1	.294	1.422	4.83	N23
17	6	S2	.357	1.725	4.83	N1581
18	6	S3	.375	1.809	4.83	N1691
19	7	S1	.285	1.377	4.83	N23
20	7	S2	.379	1.831	4.83	N28
21	7	S3	.417	2.014	4.83	N33
22	8	S1	.404	1.95	4.83	N23
23	8	S2	.45	2.171	4.83	N578
24	8	S3	.289	1.394	4.83	N33
25	9	S1	.4	1.932	4.83	N23
26	9	S2	.484	2.336	4.83	N578
27	9	S3	.307	1.483	4.83	N33
28	10	S1	.464	2.239	4.83	N23
29	10	S2	.484	2.338	4.83	N26
30	10	S3	.283	1.365	4.83	N1767
31	11	S1	.493	2.382	4.83	N23
32	11	S2	.542	2.618	4.83	N26
33	11	S3	.259	1.25	4.83	N1119
34	12	S1	.43	2.077	4.83	N1482
35	12	S2	.413	1.995	4.83	N26
36	12	S3	.306	1.477	4.83	N32
37	13	S1	.447	2.158	4.83	N1483
38	13	S2	.411	1.985	4.83	N26

Slab Soil Pressures (By Combination) (Continued)

	LC	Label	UC	Soil Pressure[ksf]	Allowable Bearing[ksf]	Point
39	13	S3	.335	1.618	4.83	N32
40	14	S1	.346	1.673	4.83	N1379
41	14	S2	.295	1.426	4.83	N26
42	14	S3	.385	1.858	4.83	N1736
43	15	S1	.378	1.824	4.83	N25
44	15	S2	.28	1.352	4.83	N26
45	15	S3	.458	2.211	4.83	N32
46	16	S1	.295	1.426	4.83	N25
47	16	S2	.377	1.819	4.83	N27
48	16	S3	.459	2.219	4.83	N1015
49	17	S1	.316	1.527	4.83	N25
50	17	S2	.357	1.726	4.83	N27
51	17	S3	.517	2.496	4.83	N1725
52	18	S1	.301	1.452	4.83	N1455
53	18	S2	.445	2.148	4.83	N1643
54	18	S3	.465	2.248	4.83	N1807
55	19	S1	.289	1.396	4.83	N243
56	19	S2	.458	2.212	4.83	N9
57	19	S3	.503	2.429	4.83	N30
58	20	S1	.312	1.506	4.83	N24
59	20	S2	.438	2.117	4.83	N1639
60	20	S3	.386	1.866	4.83	N30
61	21	S1	.344	1.66	4.83	N24
62	21	S2	.474	2.288	4.83	N1534
63	21	S3	.368	1.776	4.83	N30
64	22	S1	.354	1.708	4.83	N1424
65	22	S2	.374	1.808	4.83	N1641
66	22	S3	.284	1.371	4.83	N31
67	23	S1	.41	1.98	4.83	N24
68	23	S2	.451	2.178	4.83	N29
69	23	S3	.261	1.263	4.83	N31
70	24	S1	.422	2.04	4.83	N139
71	24	S2	.317	1.531	4.83	N29
72	24	S3	.403	1.948	4.83	N31
73	25	S1	.44	2.123	4.83	N139
74	25	S2	.353	1.705	4.83	N29
75	25	S3	.393	1.896	4.83	N31
76	26	S1	.152	.736	4.83	N1379
77	26	S2	.153	.741	4.83	N1534
78	26	S3	.154	.742	4.83	N1725
79	27	S1	.221	1.068	4.83	N140
80	27	S2	.174	.838	4.83	N1525
81	27	S3	.228	1.099	4.83	N1794
82	28	S1	.206	.996	4.83	N1
83	28	S2	.169	.815	4.83	N487
84	28	S3	.221	1.065	4.83	N1795
85	29	S1	.184	.891	4.83	N23
86	29	S2	.198	.955	4.83	N1569
87	29	S3	.197	.954	4.83	N1690
88	30	S1	.212	1.026	4.83	N4
89	30	S2	.221	1.069	4.83	N577
90	30	S3	.17	.82	4.83	N1159
91	31	S1	.227	1.097	4.83	N1482
92	31	S2	.23	1.11	4.83	N1651
93	31	S3	.174	.841	4.83	N1681
94	32	S1	.219	1.058	4.83	N1483
95	32	S2	.214	1.034	4.83	N8

Slab Soil Pressures (By Combination) (Continued)

	LC	Label	UC	Soil Pressure[ksf]	Allowable Bearing[ksf]	Point
96	32	S3	.172	.832	4.83	N1821
97	33	S1	.196	.949	4.83	N1379
98	33	S2	.184	.891	4.83	N26
99	33	S3	.203	.98	4.83	N1737
100	34	S1	.172	.83	4.83	N449
101	34	S2	.21	1.014	4.83	N1643
102	34	S3	.224	1.083	4.83	N1015
103	35	S1	.176	.85	4.83	N1369
104	35	S2	.226	1.093	4.83	N1638
105	35	S3	.23	1.111	4.83	N1016
106	36	S1	.172	.833	4.83	N48
107	36	S2	.221	1.066	4.83	N1639
108	36	S3	.213	1.027	4.83	N1807
109	37	S1	.194	.937	4.83	N1425
110	37	S2	.201	.968	4.83	N1535
111	37	S3	.182	.88	4.83	N30
112	38	S1	.215	1.036	4.83	N139
113	38	S2	.172	.83	4.83	N1678
114	38	S3	.211	1.017	4.83	N1799

Slab Overturning Safety Factors (By Combination)

	LC	Slab	Mo-XX[k-ft]	Ms-XX[k-ft]	Mo-ZZ[k-ft]	Ms-ZZ[k-ft]	Ms-XX/Mo-XX	Ms-ZZ/Mo-ZZ
1	1	S1	1.457	4097.176	1.305	5497.317	9.999+	9.999+
2	1	S2	1.457	4097.62	1.305	5491.408	9.999+	9.999+
3	1	S3	1.457	4095.692	1.305	5494.748	9.999+	9.999+
4	2	S1	2135.872	4178.781	2219.695	6034.662	1.956	2.719
5	2	S2	1747.614	5181.627	3107.631	6059.072	2.965	1.95
6	2	S3	2260.778	4054.144	2219.228	6034.662	1.793	2.719
7	3	S1	2172.158	3324.892	2257.922	4881.47	1.531	2.162
8	3	S2	1774.913	4319.776	3160.654	4899.835	2.434	1.55
9	3	S3	2297.508	3200.256	2256.685	4881.47	1.393	2.163
10	4	S1	1371.98	4132.496	2660.709	5804.882	3.012	2.182
11	4	S2	2238.757	4995.189	2602.879	5948.35	2.231	2.285
12	4	S3	2338.935	3996.969	2602.879	7503.804	1.709	2.883
13	5	S1	1386.204	3256.547	2687.693	4640.448	2.349	1.727
14	5	S2	2261.967	4128.36	2629.865	4763.075	1.825	1.811
15	5	S3	2362.146	3129.561	2629.865	6319.531	1.325	2.403
16	6	S1	1682.718	5179.753	3157.628	5996.426	3.078	1.899
17	6	S2	2641.195	4680.205	3055.516	7094.483	1.772	2.322
18	6	S3	2700.225	4623.489	3055.516	7090.474	1.712	2.321
19	7	S1	1696.726	4304.745	3184.612	4831.991	2.537	1.517
20	7	S2	2664.19	3813.16	3082.501	5909.207	1.431	1.917
21	7	S3	2723.22	3755.865	3082.501	5906.201	1.379	1.916
22	8	S1	1399.907	4055.529	2718.496	5804.882	2.897	2.135
23	8	S2	2266.595	4022.582	2602.879	7565.598	1.775	2.907
24	8	S3	2266.683	4925.163	2602.879	6002.129	2.173	2.306
25	9	S1	1413.915	3180.521	2745.48	4640.448	2.249	1.69
26	9	S2	2289.59	3155.537	2629.865	6380.323	1.378	2.426
27	9	S3	2289.678	4057.539	2629.865	4817.856	1.772	1.832
28	10	S1	2153.509	4129.396	2302.474	6009.547	1.918	2.61
29	10	S2	2213.707	4067.154	2306.014	6009.547	1.837	2.606
30	10	S3	1702.856	5196.95	3086.523	6141.851	3.052	1.99
31	11	S1	2188.521	3275.392	2339.577	4855.232	1.497	2.075
32	11	S2	2249.742	3213.15	2341.344	4855.232	1.428	2.074
33	11	S3	1728.881	4334.406	3137.42	4981.491	2.507	1.588
34	12	S1	2243.217	4098.662	2608.064	7507.802	1.827	2.879
35	12	S2	1474.803	4034.517	2665.74	5807.077	2.736	2.178

Slab Overturning Safety Factors (By Combination) (Continued)

	LC	Slab	Mo-XX[k-ft]	Ms-XX[k-ft]	Mo-ZZ[k-ft]	Ms-ZZ[k-ft]	Ms-XX/Mo-XX	Ms-ZZ/Mo-ZZ
36	12	S3	2343.306	4897.148	2608.064	5951.423	2.09	2.282
37	13	S1	2263.783	3230.212	2631.976	6321.226	1.427	2.402
38	13	S2	1487.406	3157.081	2689.651	4641.341	2.123	1.726
39	13	S3	2363.873	4029.143	2631.976	4764.077	1.704	1.81
40	14	S1	2633.352	4731.243	3091.46	7021.005	1.797	2.271
41	14	S2	1731.706	5176.01	3091.241	6028.83	2.989	1.95
42	14	S3	2751.258	4609.508	3091.46	7027.639	1.675	2.273
43	15	S1	2653.919	3862.794	3114.984	5834.041	1.456	1.873
44	15	S2	1744.31	4298.574	3114.764	4862.707	2.464	1.561
45	15	S3	2771.825	3741.503	3114.984	5839.904	1.35	1.875
46	16	S1	2246.273	5002.163	2669.558	5890.009	2.227	2.206
47	16	S2	1376.586	4129.46	2611.506	5866.522	3	2.246
48	16	S3	2346.451	3996.299	2669.558	7458.703	1.703	2.794
49	17	S1	2266.84	4133.714	2693.47	4703.433	1.824	1.746
50	17	S2	1389.19	3252.914	2635.417	4700.787	2.342	1.784
51	17	S3	2367.018	3128.294	2693.47	6271.357	1.322	2.328
52	18	S1	1704.915	5203.214	3206.095	6038.736	3.052	1.884
53	18	S2	2159.509	4131.983	2206.449	6122.485	1.913	2.775
54	18	S3	2224.218	4069.588	2202.441	6122.485	1.83	2.78
55	19	S1	1731.833	4339.959	3255.657	4877.809	2.506	1.498
56	19	S2	2194.39	3277.714	2241.214	4967.605	1.494	2.216
57	19	S3	2258.52	3215.319	2238.208	4967.605	1.424	2.219
58	20	S1	2268.187	4928.438	2720.398	5883.062	2.173	2.163
59	20	S2	2268.099	4020.527	2720.398	7455.763	1.773	2.741
60	20	S3	1400.814	4051.107	2604.559	5921.368	2.892	2.273
61	21	S1	2290.028	4060.103	2746.047	4698.222	1.773	1.711
62	21	S2	2289.938	3153.216	2746.047	6269.151	1.377	2.283
63	21	S3	1414.113	3175.832	2630.208	4756.368	2.246	1.808
64	22	S1	2640.355	4683.844	3156.86	6984.339	1.774	2.212
65	22	S2	2699.231	4618.824	3156.86	6994.98	1.711	2.216
66	22	S3	1681.993	5187.64	3054.575	6098.237	3.084	1.996
67	23	S1	2662.193	3815.511	3182.507	5799.501	1.433	1.822
68	23	S2	2721.07	3751.514	3182.507	5808.369	1.379	1.825
69	23	S3	1695.291	4310.32	3080.222	4933.237	2.543	1.602
70	24	S1	2237.241	4097.313	2658.904	7443.068	1.831	2.799
71	24	S2	2337.331	4893.486	2658.904	5890.696	2.094	2.215
72	24	S3	1471.141	4033.169	2601.006	5861.923	2.742	2.254
73	25	S1	2259.303	3229.201	2684.553	6258.23	1.429	2.331
74	25	S2	2359.392	4026.397	2684.553	4704.085	1.707	1.752
75	25	S3	1484.661	3156.07	2626.655	4696.924	2.126	1.788
76	26	S1	1.971	3777.522	1.541	5042.396	9.999+	9.999+
77	26	S2	1.971	3780.836	1.541	5013.692	9.999+	9.999+
78	26	S3	1.971	3770.893	1.541	5030.914	9.999+	9.999+
79	27	S1	198.9	3621.456	203.848	5013.459	9.999+	9.999+
80	27	S2	181.56	3934.319	290.572	5037.7	9.999+	9.999+
81	27	S3	219.377	3594.849	214.464	5013.459	9.999+	9.999+
82	28	S1	215.758	3808.128	423.136	5059.941	9.999+	9.999+
83	28	S2	352.068	3940.257	410.303	5241.139	9.999+	9.999+
84	28	S3	374.281	3702.705	410.303	5614.116	9.893	9.999+
85	29	S1	290.22	4052.742	544.433	5106.599	9.999+	9.38
86	29	S2	450.984	3861.122	521.889	5525.079	8.562	9.999+
87	29	S3	464.013	3858.038	521.889	5507.856	8.315	9.999+
88	30	S1	223.035	3773.281	434.975	5058.967	9.999+	9.999+
89	30	S2	359.323	3700.037	409.33	5643.177	9.999+	9.999+
90	30	S3	359.344	3935.242	409.33	5235.754	9.999+	9.999+
91	31	S1	228.624	3617.97	231.287	5017.867	9.999+	9.999+
92	31	S2	225.836	3604.686	259.126	5017.867	9.999+	9.999+

Slab Overturning Safety Factors (By Combination) (Continued)

	LC	Slab	Mo-XX[k-ft]	Ms-XX[k-ft]	Mo-ZZ[k-ft]	Ms-ZZ[k-ft]	Ms-XX/Mo-XX	Ms-ZZ/Mo-ZZ
93	31	S3	197.962	3954.099	312.204	5065.141	9.999+	9.999+
94	32	S1	393.382	3740.56	457.364	5650.156	9.509	9.999+
95	32	S2	263.269	3807.918	470.157	5079.293	9.999+	9.999+
96	32	S3	415.574	3937.021	457.364	5271.438	9.474	9.999+
97	33	S1	490.394	3897.952	575.197	5527.094	7.949	9.609
98	33	S2	326.549	4093.153	575.151	5132.066	9.999+	8.923
99	33	S3	516.414	3864.802	575.197	5539.443	7.484	9.631
100	34	S1	394.2	3966.681	471.081	5247.011	9.999+	9.999+
101	34	S2	241.606	3816.536	458.212	5092.51	9.999+	9.999+
102	34	S3	416.413	3711.69	471.081	5650.193	8.913	9.999+
103	35	S1	189.987	3978.86	356.688	5051.149	9.999+	9.999+
104	35	S2	230.619	3622.317	246	5050.001	9.999+	9.999+
105	35	S3	253.885	3608.995	269.088	5668.7	9.999+	9.999+
106	36	S1	375.816	3945.951	454.032	5217.151	9.999+	9.999+
107	36	S2	375.795	3703.252	454.032	5637.556	9.854	9.999+
108	36	S3	233.166	3775.919	428.351	5092.687	9.999+	9.999+
109	37	S1	466.828	3881.243	562.84	5492.213	8.314	9.758
110	37	S2	479.819	3851.179	562.84	5521.785	8.026	9.811
111	37	S3	299.897	4089.473	540.272	5136.932	9.999+	9.508
112	38	S1	367.698	3734.764	441.179	5608.347	9.999+	9.999+
113	38	S2	389.89	3921.282	441.179	5246.852	9.999+	9.999+
114	38	S3	247.528	3802.123	428.348	5080.334	9.999+	9.999+

Strip Reinforcing (Envelope)

	Label	UC Top	Top Bars	Governing Design Cut f...	UC Bot	Bot Bars/Mid ...	Governing ...	UC Shear	Govern...
1	DS1	.481	#6@12in	DS1-X25	.516	#6@12in	DS1-X25	.225	DS1-X13
2	DS2	.515	#6@12in	DS2-X26	.549	#6@12in	DS2-X26	.224	DS2-X38
3	DS3	.515	#6@12in	DS3-X25	.549	#6@12in	DS3-X25	.221	DS3-X13
4	DS4	.411	#6@12in	DS4-X40	.522	#6@12in	DS4-X40	.213	DS4-X40
5	DS5	.398	#6@12in	DS5-X39	.486	#6@12in	DS5-X39	.197	DS5-X40
6	DS6	.416	#6@12in	DS6-X39	.489	#6@12in	DS6-X39	.184	DS6-X40
7	DS7	.258	#8@12in	DS7-X25	.254	#8@12in	DS7-X25	.224	DS7-X21
8	DS8	.113	#8@12in	DS8-X26	.254	#8@12in	DS8-X16	.159	DS8-X32
9	DS9	.249	#8@12in	DS9-X26	.26	#8@12in	DS9-X21	.247	DS9-X32
10	DS10	.238	#8@12in	DS10-X25	.271	#8@12in	DS10-X30	.253	DS10-...
11	DS11	.125	#8@12in	DS11-X25	.268	#8@12in	DS11-X35	.163	DS11-...
12	DS12	.137	#8@12in	DS12-X26	.261	#8@12in	DS12-X16	.149	DS12-...
13	DS13	.051	#8@12in	DS13-X2	.068	#8@12in	DS13-X2	.109	DS13-X9
14	DS14	.051	#8@12in	DS14-X49	.065	#8@12in	DS14-X49	.105	DS14-...
15	DS15	.05	#8@12in	DS15-X2	.062	#8@12in	DS15-X2	.099	DS15-X9
16	DS16	.049	#8@12in	DS16-X49	.06	#8@12in	DS16-X49	.097	DS16-...
17	DS17	.048	#8@12in	DS17-X2	.057	#8@12in	DS17-X2	.092	DS17-X9
18	DS18	.047	#8@12in	DS18-X49	.055	#8@12in	DS18-X49	.09	DS18-...
19	DS19	.53	#6@12in	DS19-X25	.52	#6@12in	DS19-X25	.261	DS19-...
20	DS20	.232	#6@12in	DS20-X26	.52	#6@12in	DS20-X16	.185	DS20-...
21	DS21	.511	#6@12in	DS21-X26	.532	#6@12in	DS21-X21	.287	DS21-...
22	DS22	.257	#6@12in	DS22-X25	.549	#6@12in	DS22-X35	.189	DS22-...
23	DS23	.487	#6@12in	DS23-X25	.556	#6@12in	DS23-X30	.294	DS23-...
24	DS24	.28	#6@12in	DS24-X26	.535	#6@12in	DS24-X16	.174	DS24-...

Moment Capacity of Drilled Concrete Shaft (Caisson) for TIA Rev F or G

Note: Shaft assumed to have ties, not spiral, transverse reinforcing

Site Data

Site #:

Site Name: *AMAGANSETT III*

Loads Already Factored		
For M (WL)	1.3	<----Disregard
For P (DL)	1.3	<----Disregard

Pier Properties

Concrete:

Pier Diameter =	2.5	ft
Concrete Area =	706.9	in^2

Reinforcement:

Clear Cover to **Tie**=	3.00	in
Horiz. **Tie** Bar Size=	4	
Vert. Cage Diameter =	1.85	ft
Vert. Cage Diameter =	22.25	in
Vertical Bar Size =	6	
Bar Diameter =	0.75	in
Bar Area =	0.44	in^2
Number of Bars =	12	
As Total=	5.28	in^2
A s/ Aconc, Rho:	0.0075	0.75%

ACI 10.5 , ACI 21.10.4, and IBC 1810.

Min As for Flexural, Tension Controlled, Shafts:

(3)*(Sqrt(f'c)/Fy:	0.0032
200 / Fy:	0.0033

Minimum Rho Check:

Actual Req'd Min. Rho:	0.33%	Flexural
Provided Rho:	0.75%	OK

Ref. Shaft Max Axial Capacities, ϕ Max(Pn or Tn):		
Max Pu = (φ=0.65) Pn.		
Pn per ACI 318 (10-2)	1405.13	kips
at Mu=(ϕ=0.65)Mn=	293.42	ft-kips
Max Tu, (φ=0.9) Tn =	285.12	kips
at Mu=ϕ=(0.90)Mn=	0.00	ft-kips

Maximum Shaft Superimposed Forces

TIA Revision:	G	
Max. Factored Shaft Mu:	42.5	ft-kips (* **Note**)
Max. Factored Shaft Pu:	180	kips
Max Axial Force Type:	Tension	

(*) **Note:** Max Shaft Superimposed Moment does not necessarily equal to the shaft top reaction moment

Load Factor	**Shaft Factored Loads**		
1.00	Mu:	42.5	ft-kips
1.00	Pu:	180	kips

Material Properties

Concrete Comp. strength, f'c =	4000	psi
Reinforcement yield strength, Fy =	60	ksi
Reinforcing Modulus of Elasticity, E =	29000	ksi
Reinforcement yield strain =	0.00207	
Limiting compressive strain =	0.003	

ACI 318 Code

Select Analysis ACI Code= 2008

Seismic Properties

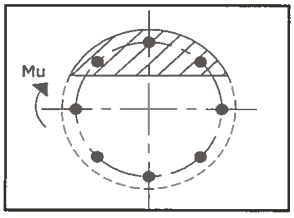
Seismic Design Category = C

Seismic Risk = **Moderate**

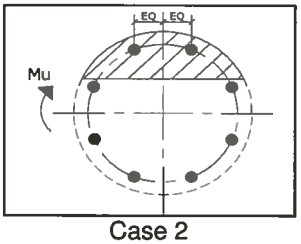
Solve (Run) <-- Press Upon Completing All Input

Results:

Governing Orientation Case: **2**



Case 1



Case 2

Dist. From Edge to Neutral Axis:	**2.97**	in
Extreme Steel Strain, εt:	**0.0230**	
	εt > 0.0050, Tension Controlled	
Reduction Factor,φ:	**0.900**	

Output Note: Negative Pu=Tension

For Axial Compression, φ Pn = Pu:	-180.00	kips
Drilled Shaft Moment Capacity, φMn:	**114.13**	ft-kips
Drilled Shaft Superimposed Mu:	**42.50**	ft-kips

(Mu/φMn, Drilled Shaft Flexure CSR:	**37.2%**

APPENDIX F

Modification Design Drawings

AMAGANSETT III

SITE FA #: 11631254

at&t

TOWER INFORMATION:

TOWER DOCUMENTS:	ROHN/FILE #: 0607017
TOWER HEIGHT/TYPE:	120' SELF SUPPORT TOWER
TOWER LOCATION:	
LAT.:	40° 58' 20.88"
LONG.:	-72° 12' 19.08"
STREET ADDRESS:	100-106 LONG LANE
CITY, STATE ZIP:	EAST HAMPTON, NY 11937
COUNTY:	SUFFOLK
REFERENCED ANALYSIS:	GPD/PROJ. #: 2015707.33
ANALYSIS DATE:	05/28/15

CODE COMPLIANCE:

GOVERNING CODES:	TIA-222-G, 2009 IBC, & 2010 NYBC
WIND SPEEDS:	120 MPH 3 SECOND GUST 50 MPH 3 SECOND GUST (W/ ICE)
ICE THICKNESS:	3/4"
STRUCTURE CLASS:	II
EXPOSURE CATEGORY:	C
TOPO CATEGORY:	1

SITE MAP:

CLIENT CONTACT:

MS. JOANNE SLAMAN
600 PARSIPPANY ROAD, SUITE 301
PARSIPPANY, NJ 07054
(973) 576-9674

GPD CONTACT:

520 SOUTH MAIN STREET, SUITE 2531
AKRON, OH 44311
FOR QUESTIONS PLEASE EMAIL:
GPDMODS@GPDGROUP.COM

STATE OF NEW YORK
CHRISTOPHER J. SCHEKS
PROFESSIONAL ENGINEER
11/11/15

WARNING - IT IS A VIOLATION OF LAW FOR ANY PERSON TO ALTER THIS DOCUMENT UNLESS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER

SHEET INDEX:

T-01:	TITLE SHEET
N-01:	PROJECT NOTES
N-02:	ADDITIONAL PROJECT NOTES
S-01:	TOWER ELEVATION & MODIFICATION SCHEDULE
S-02:	MODIFICATION DETAILS & SECTIONS
S-03:	ADDITIONAL DETAILS
S-04:	ADDITIONAL DETAILS & SECTIONS
S-05:	STEP PEG DETAILS
F-01:	FOUNDATION SECTIONS & PARTIAL SITE PLAN
SI-01:	SPECIAL INSPECTION CHECKLIST
MI-01:	MODIFICATION INSPECTION CHECKLIST

GPD GROUP, INC.
520 South Main Street
Akron, Ohio 44311
Tel: 330.572.2100 Fax: 330.572.2101

at&t
AMAGANSETT III
SITE FA #: 11631254
DESIGN DRAWINGS PREPARED FOR:
Dewberry

REV	DATE	DESCRIPTION
A	11/11/15	REVISED PER NEW LOADING

AMAGANSETT III
100-106 LONG LANE
EAST HAMPTON, NY 11937

TITLE SHEET

ISSUED FOR:	
PER MIT	11/11/2015
BID	-
CONSTRUCTION	-
RECORD	-

DRAWN BY	DESIGNED BY
JN	MJS
PROJECT MANAGER	APPROVED BY
BPS	CJS

JOB NO. 2015707.38

T-01

GENERAL NOTES

1. THESE MODIFICATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF TIA/EIA-222, AWS, TIA-1019-A, AND AISC. MATERIALS, FABRICATION, INSTALLATION, AND ALL OTHER SERVICES PROVIDED BY THE CONTRACTOR SHALL CONFORM TO THE ABOVE MENTIONED CODES AND THE CONTRACT SPECIFICATIONS.
2. THIS DESIGN ASSUMES THE TOWER AND FOUNDATIONS HAVE BEEN WELL MAINTAINED, IN GOOD CONDITION, AND ARE WITHOUT DEFECT. BENT MEMBERS, CORRODED MEMBERS, LOOSE BOLTS, CRACKED WELDS AND OTHER MEMBER DEFECTS HAVE NOT BEEN CONSIDERED. THE TOWER IS ASSUMED TO BE PLUMB AND THE SITE IS ASSUMED TO BE LEVEL. THIS DESIGN IS BEING PROVIDED WITHOUT THE BENEFIT OF A CONDITION ASSESSMENT BY GPD GROUP. CONTRACTOR SHALL COMMISSION A COMPLETE CONDITION ASSESSMENT PRIOR TO ORDERING ANY REINFORCING MATERIALS AND SUPPLY CONDITION ASSESSMENT TO ENGINEER FOR REVIEW, SEE CONTRACTOR NOTES.
3. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING. ANY PROBLEMS WITH ACCESS, INTERFERENCE, ETC. SHALL BE RESOLVED PRIOR TO MOBILIZATION. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND NOTE ANY EXISTING CONDITIONS THAT ARE NOT REPRESENTED ON THESE DRAWINGS OR THAT INTERFERE WITH THE CONTINUOUS INSTALLATION OF THE MODIFICATIONS. CONTRACTOR SHALL NOTE ALL ATTACHMENT POINTS, ANTENNAS, MOUNTS, COAX, LIGHTING, CLIMBING SUPPORTS, STEP BOLTS, PORT HOLES, AND ANY OTHER TOWER APPURTENANCES IN THE REGION OF THE MODIFICATIONS. GPD GROUP SHALL BE CONTACTED IMMEDIATELY TO EVALUATE THE SIGNIFICANCE OF ANY DEVIATION PRIOR TO ORDERING MATERIAL.
4. ALL EXISTING PAINTED/GALVANIZED SURFACES DAMAGED DURING REHAB SHALL BE WIRE BRUSHED CLEAN, REPAIRED BY COLD GALVANIZING BRUSH APPLIED PAINT (ZRC OR EQUAL), AND REPAINTED TO MATCH THE EXISTING FINISH (IF APPLICABLE).
5. ALL MATERIAL SPECIFIED FOR THIS PROJECT MUST BE NEW AND FREE OF ANY DEFECTS. ANY MATERIAL SUBSTITUTIONS, INCLUDING BUT NOT LIMITED TO ALTERED SIZES AND/OR STRENGTHS, MUST BE APPROVED BY THE OWNER AND ENGINEER IN WRITING. CONTRACTOR SHALL PROVIDE DOCUMENTATION TO ENGINEER FOR DETERMINING IF SUBSTITUTE IS SUITABLE FOR USE AND MEETS THE ORIGINAL DESIGN CRITERIA. DIFFERENCES FROM THE ORIGINAL DESIGN, INCLUDING MAINTENANCE, REPAIR AND REPLACEMENT, SHALL BE NOTED. ESTIMATES OF COST/CREDITS ASSOCIATED WITH THE SUBSTITUTION (INCLUDING RE-DESIGN COSTS AND COSTS TO SUB-CONTRACTORS) SHALL BE PROVIDED TO THE ENGINEER.
6. CONTRACTOR IS RESPONSIBLE FOR ENGAGING A MODIFICATION INSPECTOR AT THE TIME OF AWARD TO COORDINATE AN INSPECTION SCHEDULE AND ENSURE PROPER DOCUMENTATION IS RETAINED THROUGHOUT THE PROJECT. FOUNDATION WORK REQUIRES INSPECTION PRIOR TO THE CONCRETE POUR AND MAY INVOLVE A SEPARATE INSPECTION VISIT. REFER TO SHEET M-01 FOR MODIFICATION INSPECTION CHECKLIST. REFERENCE THE GPD CONTACT INFORMATION ON THE TITLE SHEET TO OBTAIN PRICING TO COMPLETE FINAL AND/OR FOUNDATION INSPECTION SERVICES, IF NOT ALREADY COORDINATED WITH THE TOWER OWNER / PROGRAM MANAGER / CARRIER. INSTALLATION OF PROPOSED LOADING PRIOR TO COMPLETION OF POST MODIFICATION INSPECTION IS PROHIBITED WITHOUT PRIOR APPROVAL FROM TOWER OWNER AND ENGINEER OF RECORD. INSTALLATION OF THE PROPOSED LOADING IS BY OTHERS AND IS BEYOND THE SCOPE OF THESE DRAWINGS.
7. ALL CONTRACTORS AND LOWER TIER CONTRACTORS MUST ACKNOWLEDGE IN WRITING TO TOWER OWNER AND GPD GROUP THAT THEY HAVE OBTAINED, UNDERSTAND, AND WILL FOLLOW TOWER OWNER STANDARDS OF PRACTICE, CONSTRUCTION GUIDELINES, ALL SITE AND TOWER SAFETY PROCEDURES, ALL PRODUCT LIMITATIONS AND INSTALLATION PROCEDURES USED ON SITE, AND PROPOSED MODIFICATIONS DESCRIBED. RECEIPT OF ACKNOWLEDGMENT MUST OCCUR PRIOR TO BEGINNING CONSTRUCTION OR CLIMBING. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO PROVIDE THIS DOCUMENTATION FOR TOWER OWNER AND GPD GROUP ON COMPANY LETTERHEAD AND THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO OBTAIN THIS DOCUMENTATION FROM LOWER TIER SUBCONTRACTORS (ON SUBCONTRACTOR LETTERHEAD) AND DELIVER IT TO TOWER OWNER AND GPD GROUP.
8. IT IS ASSUMED THAT ANY STRUCTURAL MODIFICATION WORK SPECIFIED ON THESE PLANS WILL BE ACCOMPLISHED BY KNOWLEDGEABLE WORKMEN WITH TOWER CONSTRUCTION EXPERIENCE. THIS INCLUDES PROVIDING THE NECESSARY CERTIFICATIONS TO THE TOWER OWNER AND ENGINEER.
9. THESE DRAWINGS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS, MEANS, TECHNIQUES, SEQUENCES, AND PROCEDURES.
10. CONSTRUCTION WORK PRESENTS UNIQUE THREATS TO HEALTH AND SAFETY. THE CONTRACTOR IS RESPONSIBLE TO EDUCATE THEIR WORK FORCE OF THESE DANGERS AND LIMIT THEIR EXPOSURE TO HAZARDS. THIS EDUCATION SHALL INCLUDE BUT NOT BE LIMITED TO APPLICABLE TRAINING COURSES AND CERTIFICATIONS, PROPER PERSONAL PROTECTIVE EQUIPMENT USAGE, DAILY TAILGATE MEETINGS AND ANY OTHER PREVENTATIVE MEASURES WHICH MAY BE REASONABLY EXPECTED. THE CONTRACTOR AND ALL SUB-CONTRACTORS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE WORK AREA, ADJACENT AREAS AND ANY PROPERTY OCCUPANTS WHO MAY BE AFFECTED BY THE WORK UNDER CONTRACT. THE CONTRACTOR SHALL REVIEW ALL LANDOWNER, PRIME CONTRACTOR, CARRIER, OSHA, AND LOCAL SAFETY GUIDELINES AND AT ALL TIMES SHALL CONFORM TO THE MOST RESTRICTIVE OF THESE STANDARDS TO ENSURE A SAFE WORKPLACE.
11. TOWER WORK PRESENTS ADDITIONAL THREATS TO HEALTH AND SAFETY. ALL TOWER WORKERS WORKING ON A TOWER MUST BE ADEQUATELY TRAINED AND MONITORED TO ENSURE THAT SAFE WORK PRACTICES ARE LEARNED AND FOLLOWED. AS REQUIRED BY OSHA, WHEN WORKING ON EXISTING COMMUNICATION TOWERS, EMPLOYEES MUST BE PROVIDED WITH APPROPRIATE FALL PROTECTION, TRAINED TO USE THIS FALL PROTECTION PROPERLY, AND THE USE OF FALL PROTECTION MUST BE CONSISTENTLY SUPERVISED AND ENFORCED BY THE CONTRACTOR.
12. ALL SAFETY EQUIPMENT SHALL BE INSPECTED ACCORDING TO ALL OSHA AND INDUSTRY SCHEDULED INTERVALS AND ALL INSPECTIONS SHALL BE DOCUMENTED PER APPLICABLE CODES AND STANDARDS.
13. CONTRACTOR IS RESPONSIBLE FOR TEMPORARILY REMOVING ALL COAX, T-BRACKETS, ANTENNA MOUNTS, AND ANY OTHER TOWER APPURTENANCE THAT MAY INTERFERE WITH THE TOWER MODIFICATIONS. ALL TOWER APPURTENANCES MUST BE REPLACED AND/OR RESTORED TO ITS ORIGINAL LOCATION. SOME ATTACHMENTS MAY REQUIRE CUSTOM MODIFICATIONS TO PROPERLY FIT THE MODIFIED REGION OF THE STRUCTURE. THESE CUSTOMIZATIONS ARE DESIGNED BY OTHERS AND MUST BE APPROVED BY THE ENGINEER PRIOR TO REMOVING SUCH ATTACHMENTS. ANY CARRIER DOWNTIME MUST BE COORDINATED WITH THE TOWER OWNER IN WRITING.

GENERAL NOTES CONTINUED

14. CONTRACTOR SHALL ONLY WORK WITHIN THE LIMITS OF THE TOWER OWNER'S PROPERTY OR LEASE AREA AND APPROVED EASEMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY WORK IS WITHIN THESE BOUNDARIES. CONTRACTOR SHALL EMPLOY A SURVEYOR AS REQUIRED. ANY WORK OUTSIDE THESE BOUNDARIES SHALL BE APPROVED IN WRITING BY THE LAND OWNER PRIOR TO MOBILIZATION. CONSTRUCTION STAKING AND BOUNDARY MARKING IS THE RESPONSIBILITY OF THE CONTRACTOR.
15. TOWERS ARE DESIGNED TO CARRY GRAVITY, WIND, AND ICE LOADS. ALL MEMBERS, LEGS, DIAGONALS, STRUTS, AND REDUNDANT MEMBERS PROVIDE STRUCTURAL STABILITY TO THE TOWER WITH LITTLE REDUNDANCY. ABSENCE OR REMOVAL OF A MEMBER CAN TRIGGER CATASTROPHIC FAILURE UNLESS A SUBSTITUTE IS PROVIDED BEFORE ANY REMOVAL. LEGS CARRY AXIAL LOADS AND DERIVE THEIR STRENGTH FROM SHORTER UN-BRACED LENGTHS BY THE PRESENCE OF REDUNDANT MEMBERS AND THEIR CONNECTION TO THE DIAGONALS WITH BOLTS OR WELDS. IF THE BOLTS OR WELDS ARE REMOVED WITHOUT PROVIDING ANY SUBSTITUTE TO THE FRAME, THE LEG IS SUBJECTED TO A HIGHER UN-BRACED LENGTH THAT IMMEDIATELY REDUCES ITS LOAD CARRYING CAPACITY. IF A DIAGONAL IS ALSO REMOVED IN ADDITION TO THE CONNECTION, THE UN-BRACED LENGTH OF THE LEG IS GREATLY INCREASED, JEOPARDIZING ITS LOAD CARRYING CAPACITY. FAILURE OF ONE LEG CAN RESULT IN A TOWER COLLAPSE BECAUSE THERE IS NO REDUNDANCY. REDUNDANT MEMBERS AND DIAGONALS ARE CRITICAL TO THE STABILITY OF THE TOWER.
16. WORK SHALL ONLY BE PERFORMED DURING CALM DRY DAYS (WINDS LESS THAN 10-MPH). CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY LOCAL TOWER SHORING. TEMPORARY GLOBAL TOWER SHORING, AND ALL SHORING OF SURROUNDING BUILDINGS, PADS, AND OTHER OUTDOOR SITE OBSTRUCTIONS. ALL SHORING, TEMPORARY BRACING, AND TEMPORARY SUPPORTS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
17. MODIFICATIONS SHOWN SHALL BE INSTALLED ON ALL THREE (3) TOWER LEGS/FACES.
18. ABSOLUTELY NO WELDING, TORCH CUTTING, OR OPEN FLAME OF ANY TYPE IS PERMITTED ON THIS STRUCTURE AND ON THIS CONSTRUCTION SITE UNLESS DIRECTLY SPECIFIED WITHIN THESE DRAWINGS.
19. FAA/FCC FILING AND LIGHTING MAY BE REQUIRED. ALL GOVERNMENTAL REGULATORY DETERMINATIONS AND FILINGS BY OTHERS, NOT GPD.
20. VERIFY IF THIS STRUCTURE IS AN FM TOWER AND TAKE NECESSARY ACTIONS TO PROVIDE SAFE WORKING CONDITIONS INCLUDING, BUT NOT LIMITED TO, HAVING FM SIGNAL TURNED OFF. CONTRACTOR SHALL HAVE PROPER RADMAN FOR NOTIFICATION OF EXCESSIVE RF EXPOSURE FOR ALL INDIVIDUALS WORKING ON SITE IF FM ANTENNAS ARE PRESENT.
21. ALL MANUFACTURERS HARDWARE AND ASSEMBLY INSTRUCTIONS SHALL BE FOLLOWED EXACTLY. DEVIATION FROM THE INSTRUCTIONS IS UNACCEPTABLE AND REQUIRES WRITTEN APPROVAL FROM ENGINEER.
22. DO NOT SCALE DRAWINGS.
23. THE CLIMBING FACILITIES, SAFETY CLIMB AND ALL ASSOCIATED HARDWARE SHALL NOT BE IMPEDED OR MODIFIED WITHOUT THE WRITTEN CONSENT OF THE GPD GROUP.

STRUCTURAL STEEL NOTES

1. ALL NEW STEEL SHALL BE HOT-DIPPED GALVANIZED PER ASTM A123, ASTM A153/A153M, OR ASTM A653 G90, AS APPLICABLE FOR FULL WEATHER PROTECTION. FOR HIGH STRENGTH STEEL FASTENERS WHERE HOT-DIPPED GALVANIZING IS NOT PERMITTED DACROMET F1136 GRADE 3 COATING (OR ENGINEER APPROVED EQUIVALENT) SHALL BE USED. IN ADDITION ALL NEW STEEL SHALL BE PAINTED TO MATCH EXISTING TOWER STEEL. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
2. ALL EXISTING PAINTED/GALVANIZED SURFACES DAMAGED DURING REHAB SHALL BE WIRE BRUSHED CLEAN, REPAIRED BY COLD GALVANIZING BRUSH APPLIED PAINT (ZRC OR EQUAL), AND REPAINTED TO MATCH THE EXISTING FINISH (IF APPLICABLE).
3. CAULKING SHALL BE PROVIDED AROUND PERIMETER OF ANY AND ALL MODIFICATION MEMBERS TO ENSURE COMPLETE SEAL BETWEEN EXISTING STRUCTURE AND REINFORCING MEMBERS IN FULL CONTACT WITH EXISTING STEEL. SEALANT IS TO BE EXTERIOR GRADE, PAINTABLE SILICONE CAULKING AS MANUFACTURED BY DOW AND ACCEPTABLE TO GPD.
4. ALL STRUCTURAL STEEL SHALL CONFORM TO THE LISTED REQUIREMENTS U.N.O. IN THESE DRAWINGS:

ANGLE (SECONDARY HORIZONTALS)	ASTM A36 (GR 36) ⚠
TUBE	ASTM A500 (GR 46)
U-BOLTS	ASTM A307 (GR A)
PLATE	ASTM A572 (GR 50)
BOLTS	ASTM A325
NUTS	ASTM A563 (GR DH)
WASHERS	ASTM F436
LOCKING DEVICES	SPLIT WASHER/ PAL NUT

5. ALL BOLT ASSEMBLIES FOR STRUCTURAL MEMBERS REPRESENTED IN THIS DRAWING REQUIRE LOCKING DEVICES TO BE INSTALLED IN ACCORDANCE WITH THE GOVERNING PROVISIONS OF TIA/EIA-222 REQUIREMENTS.
6. ALL SUBSTITUTES PROPOSED BY THE CONTRACTOR SHALL BE APPROVED IN WRITING BY THE ENGINEER. CONTRACTOR SHALL PROVIDE DOCUMENTATION TO ENGINEER FOR DETERMINING IF SUBSTITUTE IS SUITABLE FOR USE AND MEETS THE ORIGINAL DESIGN CRITERIA. DIFFERENCES FROM THE ORIGINAL DESIGN, INCLUDING MAINTENANCE, REPAIR AND REPLACEMENT, SHALL BE NOTED. ESTIMATES OF COSTS/CREDITS ASSOCIATED WITH THE SUBSTITUTION (INCLUDING RE-DESIGN COSTS AND COSTS TO SUB-CONTRACTORS) SHALL BE PROVIDED TO THE ENGINEER AS REQUESTED.
7. STRUCTURAL STEEL SHOP DRAWINGS SHALL BE PROVIDED TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION.
8. UNLESS NOTED OTHERWISE, ALL NEW MEMBERS SHALL MAINTAIN THE EXISTING MEMBER WORK LINES AND NOT INTRODUCE ECCENTRICITIES INTO THE STRUCTURE
9. FOR ALL SHOP WELDING, USE E70XX ELECTRODES FOR SMAW PROCESS AND E7XT-XX ELECTRODES FOR FCAW PROCESS, UNO.

WELD NOTES

1. PRIOR TO COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL PERFORM A NONDESTRUCTIVE TEST ON THE EXISTING BASE PERIMETER WELD TO INSURE ITS STRUCTURAL INTEGRITY IN ACCORDANCE WITH AWS D1.1/D1.1M, "STRUCTURAL WELDING CODE-STEEL". IF ANY FLAWS ARE DISCOVERED, THE PROJECT SHALL BE PUT ON HOLD UNTIL REMEDIES TO CORRECT THE DEFICIENCIES ARE DESIGNED AND INSTALLED. THE TOWER OWNER AND THE ENGINEER SHALL BE CONTACTED IMMEDIATELY UPON A FAILING NONDESTRUCTIVE TESTING RESULT.
2. ALL WELDING SHALL BE DONE IN ACCORDANCE WITH AWS D1.1/D1.1M, "STRUCTURAL WELDING CODE-STEEL" (LATEST EDITION).
3. CONTRACTOR IS RESPONSIBLE FOR COMMISSIONING A THIRD PARTY CERTIFIED WELD INSPECTOR (CWI) THROUGHOUT THE ENTIRETY OF THE PROJECT. A PASSING CWI REPORT SHALL BE PROVIDED TO THE ENGINEER UPON COMPLETION OF THE PROJECT.
4. WELDING CERTIFICATES MUST BE PROVIDED TO CWI AND GPD GROUP PRIOR TO WELDING CONTRACTOR BEGINNING WORK ON SITE. CERTIFICATE WILL BE ASKED FOR AS PART OF INSPECTION PROCESS. ALL WELDING SHOULD BE PERFORMED BY AN AWS QUALIFIED WELDER WHO HAS EXPERIENCE WITH GALVANIZED SURFACES AND IN ACCORDANCE WITH ANSI/AWS D1.1 AND ANSI Z 49.1 OR LATEST EDITIONS.
5. FOR ALL WELDING, USE E70XX ELECTRODES FOR SMAW PROCESS AND E7XT-XX ELECTRODES FOR FCAW PROCESS, UNO.
6. OXY FUEL GAS WELDING OR BRAZING IS STRICTLY PROHIBITED. SPECIFICALLY, NO TORCH CUTTING IS PERMITTED ON SITE. ALL HOLES SHALL BE CUT WITH A GRINDER.
7. INSTALL 3000° (NFPA 701) FIRE BLANKET AROUND ALL COAX AT AND BELOW EACH WELDING PROCEDURE AND ELEVATION. COAX IS FLAMMABLE AND CAN CATCH FIRE IF PROPER PRECAUTIONS ARE NOT MADE TO SHIELD COAX FROM ALL WELDING PROCEDURES. IN ADDITION, COAX SHALL BE PUSHED AWAY FROM TOWER FACE WHERE WELDING IS BEING PERFORMED.
8. CONTRACTOR SHALL EXERCISE CAUTION WHEN WELDING ON A GALVANIZED SURFACE. ADDITIONAL SPLATTER AND SPARKS SHALL BE ANTICIPATED GIVEN THE PREVIOUSLY GALV. SURFACE. IF THE WELD MATERIAL IS CONTAMINATED WITH ZINC IT DOES NOT PROVIDE A STRUCTURAL WELD. FUMES CREATED FROM WELDING ON A PREVIOUSLY GALV. SURFACE CAN BE HAZARDOUS. PRIOR TO WELDING, ALL SURFACES SHALL BE PROPERLY GROUND TO REMOVE GALVANIZING, SCALE, SLAG, RUST OR ANY OTHER MATERIAL TO PREVENT PROPER WELDING.
9. ALL FIELD WELDS SHALL BE TOUCHED UP WITH TWO COATS OF COLD GALVANIZED PAINT (ZRC OR APPROVED EQUIVALENT), INCLUDING THE INTERIOR OF MONOPOLE SHAFTS. WHERE ACCESS PERMITS, IN ANY AREAS AFFECTED BY ANY WELDING. PHOTO DOCUMENTATION IS REQUIRED TO BE SUBMITTED TO THE PMI INSPECTOR.
10. WATER SHALL BE ON SITE, OF ADEQUATE AMOUNT, AND AVAILABLE AT SHORT NOTICE AT ALL TIMES DURING WELDING ACTIVITY. A MINIMUM OF 500 GAL OF WATER SHALL BE PROVIDED. WATER SHALL BE CAPABLE OF REACHING HEIGHT WHERE WELDING IS BEING PERFORMED. IN ADDITION, A MINIMUM OF SIX (6) 10 LB. CLASS ABC MULTIPURPOSE FIRE EXTINGUISHERS FULLY CHARGED AND CAPABLE OF DISCHARGE WITHIN 30 SECONDS OF DETECTING A FIRE SHALL BE PROVIDED. FIRE EXTINGUISHERS SHALL BE STRATEGICALLY LOCATED AROUND COMPOUND AND IN THE AIR (I.E. ON THE MAN LIFT WHERE WELDING IS BEING PERFORMED).
11. CLEAN OUT ALL DEBRIS THROUGHOUT TOWER AND STRUCTURE BASE PRIOR TO WELDING.
12. THE CONTRACTOR SHALL TAKE COOLING EFFECTS OF THE WELDED MATERIAL INTO CONSIDERATION (I.E. EXPANSION OF HOT MATERIAL AND CONTRACTION OF COOLED MATERIAL).

11/11/15

GPD GROUP, INC.
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AMAGANSETT III
SITE FA #: 11631254
DESIGN DRAWINGS PREPARED FOR:
Dewberry

REV.	DATE	DESCRIPTION
A	11/11/15	REVISED PER NEW LOADING

AMAGANSETT III
100-106 LONG LANE
EAST HAMPTON, NY 11937

PROJECT NOTES

ISSUED FOR:	
PERMIT	11/11/2015
BID	-
CONSTRUCTION	-
RECORD	-

ENGINEER	DESIGNER
JN	MJS
PROJECT MANAGER	APPROVED BY
EPS	CJS

JOB NO. 2015707.38

N-01

FOUNDATION NOTES

1. CONTRACTOR IS RESPONSIBLE FOR ENGAGING A MODIFICATION INSPECTOR AT THE TIME OF AWARD TO COORDINATE AN INSPECTION SCHEDULE AND ENSURE PROPER DOCUMENTATION IS RETAINED THROUGHOUT THE PROJECT. FOUNDATION WORK REQUIRES INSPECTION PRIOR TO THE CONCRETE POUR. CONTRACTOR SHALL NOTIFY THE PREVIOUSLY ENGAGED MODIFICATION INSPECTOR A MINIMUM OF 5 BUSINESS DAYS, PREFERABLY 10, PRIOR FOUNDATION CONSTRUCTION IN ORDER TO COORDINATE INSPECTION. REFER TO SHEET MI-01 FOR MODIFICATION INSPECTION CHECKLIST. REFERENCE THE GPD CONTACT INFORMATION ON THE TITLE SHEET TO OBTAIN PRICING TO COMPLETE FINAL AND/OR FOUNDATION INSPECTION SERVICES, IF NOT ALREADY COORDINATED WITH THE TOWER OWNER / PROGRAM MANAGER / CARRIER.
2. EXISTING FOUNDATION INFORMATION BASED UPON A FOUNDATION DESIGN BY BERGEY WINDPOWER (JOB #: SSV-120-IBC-120-40, DATED SEPTEMBER 21, 2010). CONTRACTOR SHALL OBTAIN AND BECOME FAMILIAR WITH THE REFERENCED FOUNDATION DOCUMENT. IF EXISTING FOUNDATION CONDITIONS DIFFER FROM THE REFERENCED DOCUMENT, CONTACT ENGINEER AND TOWER OWNER IMMEDIATELY.
3. CONCRETE WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES, SAFETY REGULATIONS AND UNLESS OTHERWISE NOTED, THE LATEST REVISION OF ACI 318, "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE". PROCEDURES FOR THE PROTECTION OF EXCAVATIONS, EXISTING CONSTRUCTION AND UTILITIES SHALL BE ESTABLISHED PRIOR TO FOUNDATION INSTALLATION.
4. MAXIMUM SIZE OF AGGREGATE SHALL NOT EXCEED SIZE SUITABLE FOR INSTALLATION METHOD UTILIZED OR 1/3 CLEAR DISTANCE BEHIND OR BETWEEN REINFORCING. MAXIMUM SIZE MAY BE INCREASED TO 2/3 CLEAR DISTANCE PROVIDED WORKABILITY AND METHODS OF CONSOLIDATION SUCH AS VIBRATING WILL PREVENT HONEYCOMBS OR VOIDS.
5. WELDING IS PROHIBITED ON REINFORCING STEEL AND EMBEDMENTS.
6. CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 4500 PSI IN 28 DAYS.
7. ALL FOUNDATIONS SHALL REST ON AND AGAINST FIRM UNDISTURBED SOIL FREE FROM WATER, ORGANIC MATTER, AND FORM WORK. CONTRACTOR SHALL COMPACT SUBGRADE AS REQUIRED.
8. REINFORCEMENT SHALL BE DEFORMED AND CONFORM TO THE REQUIREMENTS OF ASTM A615 GRADE 60 UNLESS OTHERWISE NOTED. SPLICES IN REINFORCEMENT SHALL NOT BE ALLOWED UNLESS OTHERWISE INDICATED.WELDING IS PROHIBITED ON REINFORCING STEEL AND EMBEDMENTS.
9. MINIMUM CONCRETE COVER FOR REINFORCEMENT SHALL BE 3 INCHES UNLESS OTHERWISE NOTED. APPROVED SPACERS SHALL BE USED TO ENSURE A 3 INCH MINIMUM COVER OF REINFORCEMENT. ALL REINFORCING SHALL BE EQUALLY SPACED UNLESS NOTED OTHERWISE.
10. PROVIDE #8 2'-6" X 2'-6" CORNER BARS AT ALL PLACES WHERE DIRECTION OF REINFORCEMENT CHANGES.
11. SOIL INFORMATION IS BASED ON A GEOTECHNICAL REPORT BY GPD (JOB #: 2014737.01, DATED DECEMBER 19, 2014). CONTRACTOR SHALL OBTAIN AND IMPLEMENT ALL RECOMMENDATIONS CONTAINED IN THE REFERENCED GEOTECHNICAL REPORT. IF SOIL CONDITIONS ENCOUNTERED ARE DIFFERENT FROM REFERENCED GEOTECHNICAL REPORT, NOTIFY ENGINEER IMMEDIATELY.
    A. ULTIMATE BEARING = 6 KSF AT 4 FT BGL
    B. UNIT WEIGHT OF SOIL = 110 PCF
    C. GROUNDWATER = NOT ENCOUNTERED
12. BACKFILL SHALL BE CLEAN, FREE OF DEBRIS, AND ORGANIC FREE. CONTRACTOR SHALL UTILIZE CLEAN FILL AS REQUIRED, (MIN. UNIT WEIGHT = 120 PCF). ALL BACKFILL SHALL BE CONTROLLED-COMPACTED, PLACED IN A MAXIMUM OF 8" LIFTS, MOISTURE CONDITIONED TO WITHIN THREE PERCENT OF OPTIMUM MOISTURE, AND COMPACTED TO 95% OF STANDARD PROCTOR MAXIMUM DRY DENSITY PER ASTM D698.
13. CARE SHALL BE TAKEN DURING INSTALLATION OF DOWELS SO THAT EXISTING REINFORCING STEEL AND ANCHOR BOLTS ARE NOT DAMAGED. CONTRACTOR SHALL USE X-RAY OR OTHER ENGINEER APPROVED NON-DESTRUCTIVE MEANS TO LOCATE EXISTING REINFORCING STEEL AND ANCHOR BOLTS. CONTACT ENGINEER IMMEDIATELY IF EXISTING STEEL IS ENCOUNTERED.
14. CONTRACTOR SHALL OBTAIN AND BECOME FAMILIAR WITH REFERENCED EPOXY AND BONDING AGENT INSTALLATION PROCEDURES AND RECOMMENDATIONS. PRIOR TO APPLICATION OF BONDING AGENT, CLEAN FACE OF EXISTING FOUNDATION SUCH THAT IT IS FREE FROM ALL DIRT, DEBRIS, AND FOREIGN MATTER.
15. CONTRACTOR SHALL SECURE SITE BACK TO EXISTING CONDITION UNDER SUPERVISION OF OWNER. ALL FENCE, STONE, GEOFABRIC, GROUNDING, AND SURROUNDING GRADE SHALL BE REPLACED AND REPAIRED AS REQUIRED TO ACHIEVE OWNER APPROVAL. POSITIVE DRAINAGE AWAY FROM TOWER SITE SHALL BE MAINTAINED.
16. ALL GROUNDING SHALL ACHIEVE 5Ω OR LESS RESISTANCE UPON COMPLETION. ALL GROUNDING ENCOUNTERED SHALL BE RELOCATED 3'-0" BEYOND FOUNDATION. ALL GROUNDING SHALL BE CONTINUOUS AND COORDINATED WITH OWNER. GROUNDING DESIGN AND ENGINEERING IS BEYOND THE SCOPE OF THESE DESIGN DRAWINGS AND IS THE RESPONSIBILITY OF THE CONTRACTOR TO COMMISSION.
17. CONTRACTOR TO VERIFY LOCATION OF ALL EXISTING PUBLIC AND PRIVATE UTILITIES PRIOR TO EXCAVATION. IF NECESSARY UTILITIES SHALL BE RELOCATED PRIOR TO FOUNDATION MODIFICATION. CONSENT FROM THE TOWER OWNER AND EOR MUST BE OBTAINED TO ENCASE UTILITIES IN CONCRETE.
18. EQUIPMENT PAD, SHELTER, AND ICE BRIDGE SUPPORT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COMMISSION. CONTRACTOR SHALL TAKE GREAT CARE AND ALL NECESSARY PROVISIONS WHEN SHORING IS REQUIRED.
19. ALL FOUNDATION UPGRADES REQUIRE A PRETEST ON THE EXISTING GROUNDING SYSTEM. IF THE RESULTS OF THE TESTING IS ABOVE 5Ω A CALL TO THE TOWER OWNER IS REQUIRED BEFORE FURTHER CONSTRUCTION CAN BE DONE.
20. A POST OHMS TEST OF THE GROUNDING SHALL BE CONDUCTED. THE RESULTS OF THE TESTING SHALL BE AT OR BELOW THE PRE-CONSTRUCTION TEST RESULTS.
21. THE ADHESIVE ANCHOR SYSTEM USED FOR POST-INSTALLED DOWELS TO CONCRETE SHALL CONFORM TO THE MOST RECENTLY PUBLISHED ACI 355.4, ACCEPTANCE CRITERIA FOR QUALIFICATION OF POST-INSTALLED ADHESIVE ANCHORS IN CONCRETE AND COMMENTARY. THE ANCHOR SYSTEM SHALL BE ONE OF THE FOLLOWING:

    A. HILTI HIT-RE 500-SD EPOXY (ICC #: ESR-2322)

    B. AN ENGINEER APPROVED EQUAL MEETING ACI 355.4 AND THE MINIMUM BOND STRESS VALUES BELOW. BULK MIXED ADHESIVES ARE NOT PERMITTED.
22. DOWEL DESIGN IS IN ACCORDANCE WITH ACI 318. FOR DOWELS, THE FOLLOWING MINIMUM VALUES FOR BOND STRESS WERE ASSUMED FOR THE DESIGN:

    A. UNCRACKED CONCRETE BOND STRESS (BASED ON CORE DRILLING):
    Tuncr = 1010 PSI

⚠

WORKABLE GAGES

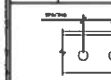
LEG	4	3-1/2	3	2-1/2	2	1-3/4
G	2-1/2	2	1-3/4	1-3/8	1-1/8	1

-DIMENSIONS GIVEN IN INCHES

-MATCH EXISTING WHEN APPLICABLE

BOLT SCHEDULE

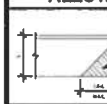
BOLT DIAMETER	STANDARD HOLE	SHORT SLOT	MIN. EDGE DISTANCE	SPACING
1/2	9/16	9/16x11/16	7/8	1-1/2
5/8	11/16	11/16x7/8	1-1/8	1-7/8
3/4	13/16	13/16x1	1-1/4	2-1/4
7/8	15/16	15/16x1-1/8	1-1/2	2-5/8
1	1-1/16	1-1/16x1-5/16	1-3/4	3



-DIMENSIONS GIVEN IN INCHES

-SHORT SLOT HOLES SHALL ONLY BE USED WHEN DEPICTED ON THE PLANS

ALLOWABLE ANGLE COPE



1. ALL DIMENSIONS REPRESENTED IN THE ABOVE TABLES ARE AISC MINIMUM REQUIREMENTS. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN FIELD AND NOTIFY ENGINEER IF DISTANCES ARE LESS THAN THOSE PROVIDED.
2. THE DIMENSIONS PROVIDED ARE MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS OF PROPOSED MEMBERS WITHIN THESE DRAWINGS MAY VARY FROM THE AISC MINIMUM REQUIREMENTS.

11/11/15

GPD GROUP, INC.
520 South Main Street
Akron, Ohio 44311
Tel 330.572.2100 Fax 330.572.2101

at&t

AMAGANSETT III
SITE FA #: 11631254

DESIGN DRAWINGS PREPARED FOR:

Dewberry

REV	DATE	DESCRIPTION
A	10/01/15	REVISED PER NEW LOADING

AMAGANSETT III
100-106 LONG LANE
EAST HAMPTON, NY 11937

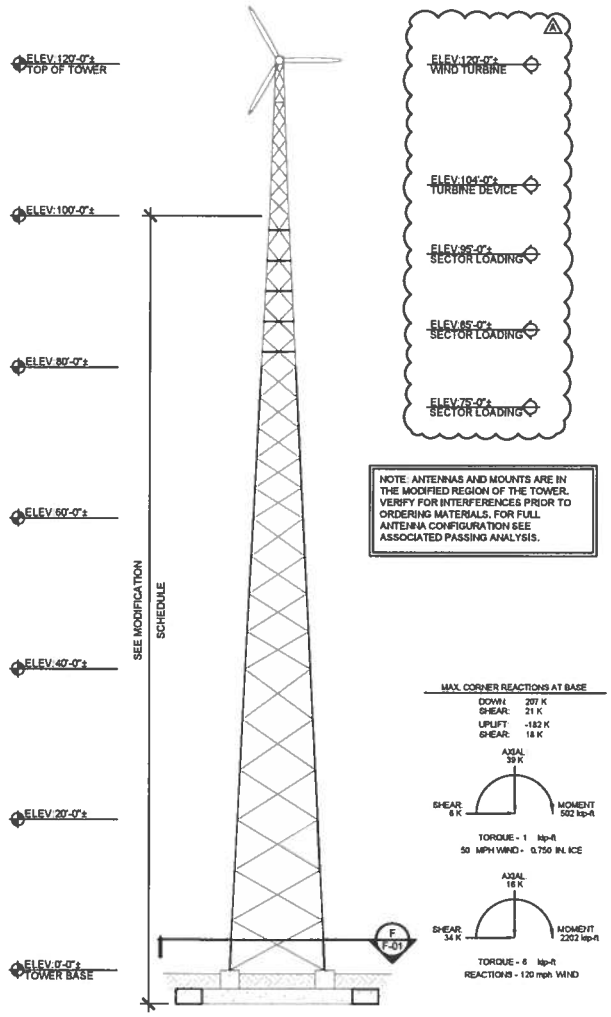
ADDITIONAL PROJECT NOTES

ISSUED FOR:	
PERMIT	11/11/2015
BID	-
CONSTRUCTION	-
RECORD	-

ENGINEER	DESIGNER
JN	MJS
PROJECT MANAGER	APPROVED BY
BPS	CJS

JOB NO.
2015707.38

N-02



TOWER ELEVATION

1/16"=1'-0"

ELEV. 120'-0"±
WIND TURBINE

ELEV. 104'-0"±
TURBINE DEVICE

ELEV. 95'-0"±
SECTOR LOADING

ELEV. 85'-0"±
SECTOR LOADING

ELEV. 75'-0"±
SECTOR LOADING

NOTE: ANTENNAS AND MOUNTS ARE IN THE MODIFIED REGION OF THE TOWER. VERIFY FOR INTERFERENCES PRIOR TO ORDERING MATERIALS. FOR FULL ANTENNA CONFIGURATION SEE ASSOCIATED PASSING ANALYSIS.

MAX. CORNER REACTIONS AT BASE

DOWN: 207 K
SHEAR: 21 K
UPLIFT: -182 K
SHEAR: 18 K

AXIAL 39 K
SHEAR 6 K
MOMENT 502 kip-ft
TORQUE - 1 kip-ft
50 MPH WIND - 0.750 IN. ICE

AXIAL 16 K
SHEAR 34 K
MOMENT 2202 kip-ft
TORQUE - 6 kip-ft
REACTIONS - 120 mph WIND

MODIFICATION SCHEDULE

MEMBER TYPE	ELEVATION	EXISTING MEMBER	NEW MEMBER	REFERENCE DETAILS	NOTES
SECONDARY HORIZONTALS	80'-0"± TO 100'-0"±	-	L2x2x1/4	SHEET S-04	INSTALL SECONDARY HORIZONTALS TO THE EXISTING TOWER LEGS.
LEGS	60'-0"± TO 80'-0"±	P2-1/2 EH	HSS 3.5x0.300	4/S-04	INSTALL SPLIT TUBE REINFORCEMENT TO THE EXISTING TOWER LEGS.
	40'-0"± TO 60'-0"±	P3 EH	HSS 4.5x0.375	2/S-03 & 3/S-03	
	0'-0"± TO 40'-0"±	P3-1/2 EH	HSS 5x0.500	1/S-02 & 2/S-03	
FOUNDATION	GRADE	PAD & PIER FOUNDATION	PAD EXTENSIONS	SHEET F-01	INSTALL PAD EXTENSIONS ON (2) SIDES OF EXISTING FOUNDATION.

LEG A

(EXISTING)
(1) 3x#6 ARMORED CABLE TO 120 FT LEVEL

LEG C

LEG B

(PROPOSED)
(6) 7/8" COAX TO 95 FT LEVEL
(6) 7/8" COAX TO 85 FT LEVEL
(6) 7/8" COAX TO 75 FT LEVEL

NORTH

COAX LAYOUT

N.T.S

STATE OF NEW YORK
CHRISTOPHER J. SCHERB
LICENSED PROFESSIONAL ENGINEER
11/11/15

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GPD GROUP, INC.
520 South Main Street
Akron, Ohio 44311
Ph: 330.572.2100 Fax: 330.572.2101

at&t

AMAGANSETT III
SITE PA #: 114313254

DESIGN DRAWINGS PREPARED FOR:

Dewberry

REV	DATE	DESCRIPTION
A	10/19/15	REVISED PER NEW LOADING

AMAGANSETT III
100-106 LONG LANE
EAST HAMPTON, NY 11937

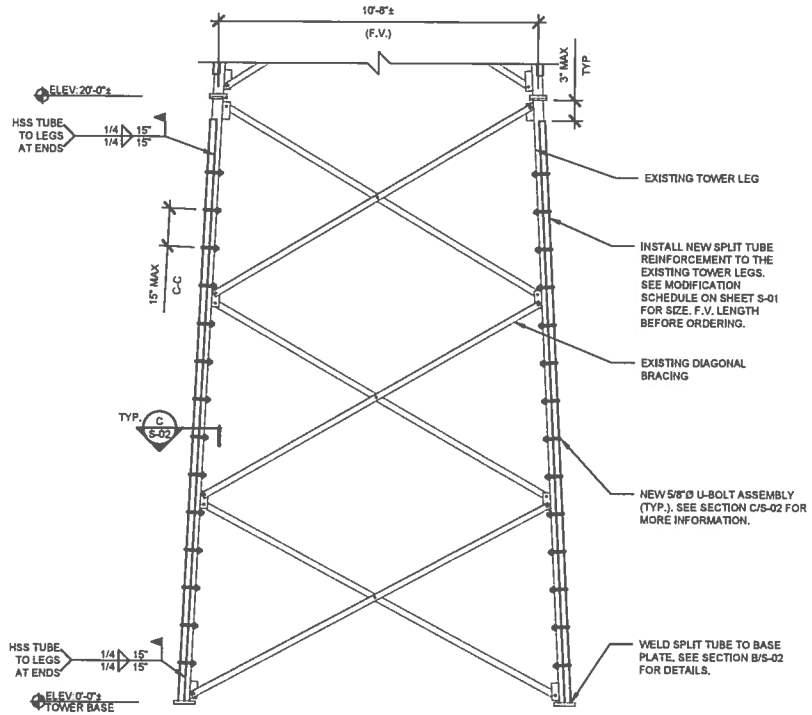
TOWER ELEVATION & MODIFICATION SCHEDULE

ISSUED FOR:	
PERMIT	11/11/2015
BID	-
CONSTRUCTION	-
RECORD	-

ENGINEER	DESIGNER
JH	MJS
PROJECT MANAGER	APPROVED BY
BPS	CJS

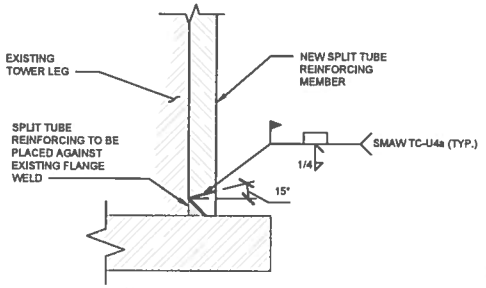
JOB NO.
2015707.38

S-01

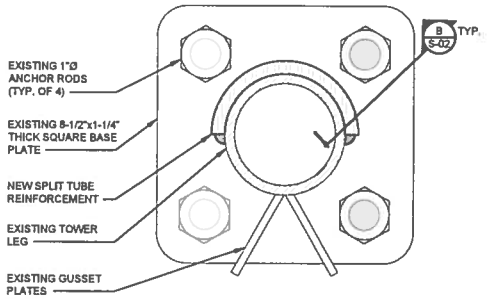


1 ELEVATION
S-02 SCALE 1/4"=1'-0"

NOTE
1. REMOVE AND REPLACE EXISTING STEP PEGS AND SAFETY CLIMB AS REQUIRED. SEE SHEET S-05 FOR MORE INFORMATION.

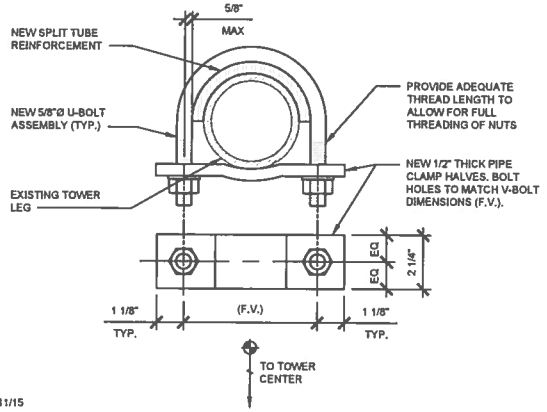


B SECTION
S-02 SCALE N.T.S.



A SECTION
S-02 SCALE 1/4"=1'-0"

NOTE
1. COPE EXISTING DIAGONAL BRACING AS REQUIRED WITHIN ALLOWABLE LIMITS. SEE SHEET N-02 FOR MORE INFORMATION.



C SECTION
S-02 SCALE: N.T.S.

STATE OF NEW YORK
THEODORE J. SCHICKS
056
PROFESSIONAL ENGINEER
11/11/15

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520 South Main Street
Akron, Ohio 44311
330.572.2100 Fax 330.572.2101

AMAGANSETT III
SITE PA #: 11431254

DESIGN DRAWINGS PREPARED FOR:
Dewberry

REV	DATE	DESCRIPTION
A	10/1/15	REVISED PER NEW LOADING

AMAGANSETT III
100-106 LONG LANE
EAST HAMPTON, NY 11937

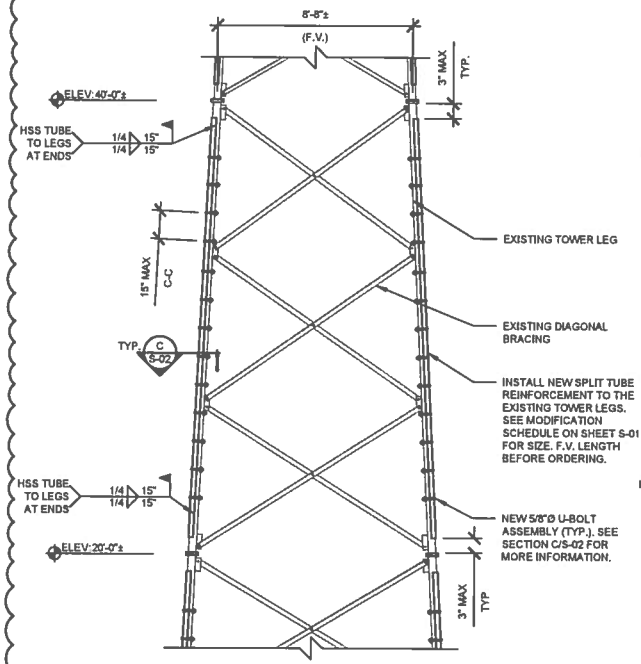
MODIFICATION DETAILS & SECTIONS

ISSUED FOR:	
PERMIT	11/11/2015
BID	-
CONSTRUCTION	-
RECORD	-

ENGINEER	DESIGNER
JH	MJS
PROJECT MANAGER	APPROVED BY
BPS	CJS

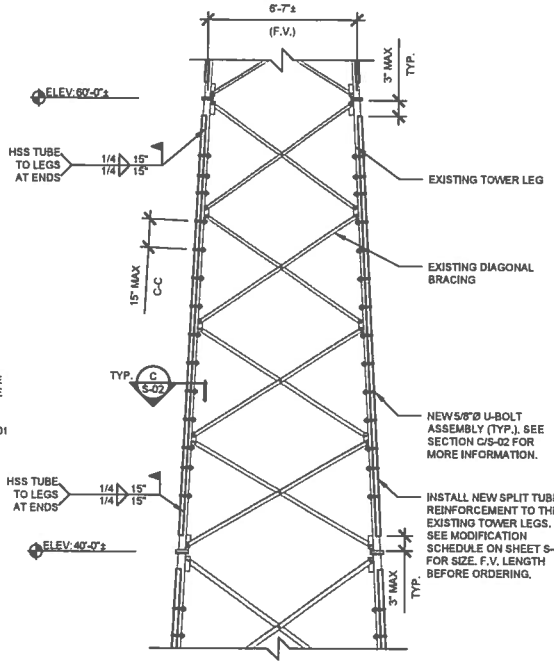
JOB NO.
2015707.38

S-02



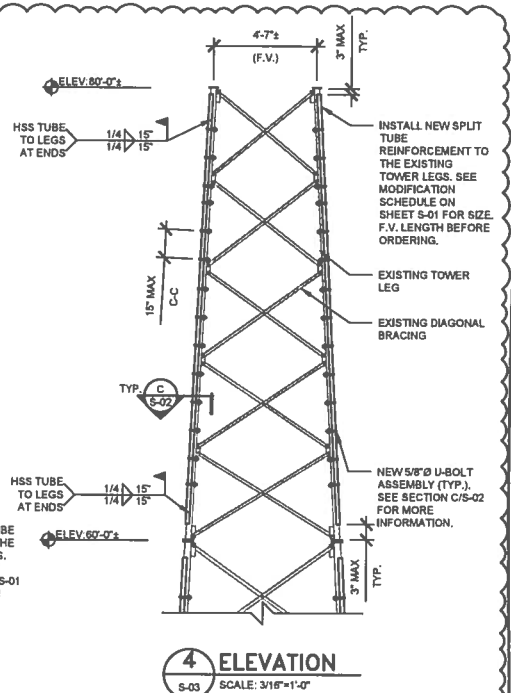
2 ELEVATION S-03
SCALE: 3/16"=1'-0"

NOTE:
1. REMOVE AND REPLACE EXISTING STEP PEGS AND SAFETY CLIMB AS REQUIRED. SEE SHEET S-05 FOR MORE INFORMATION.



3 ELEVATION S-03
SCALE: 3/16"=1'-0"

NOTE:
1. REMOVE AND REPLACE EXISTING STEP PEGS AND SAFETY CLIMB AS REQUIRED. SEE SHEET S-05 FOR MORE INFORMATION.



4 ELEVATION S-03
SCALE: 3/16"=1'-0"

1. REMOVE AND REPLACE EXISTING STEP PEGS AND SAFETY CLIMB AS REQUIRED. SEE SHEET S-05 FOR MORE INFORMATION.

GPD GROUP, INC.
520 South Main Street
Akron, Ohio 44311
330.572.2100 Fax 330.572.2101

at&t

AMAGANSETT III
SITE FA #: 11631254

DESIGN DRAWINGS PREPARED FOR:

Dewberry

REV.	DATE	DESCRIPTION
A	11/11/15	REVISED PER NEW LOADING

AMAGANSETT III
100-106 LONG LANE
EAST HAMPTON, NY 11937

ADDITIONAL DETAILS

ISSUED FOR:	
PERMIT	11/11/2015
BID	-
CONSTRUCTION	-
RECORD	-

ENGINEER	DESIGNER
JN	MJS
PROJECT MANAGER	APPROVED BY
BPS	CJS

JOB NO. 2015707.38

S-03

STATE OF NEW YORK
CHRISTOPHER J SCHEKS
LICENSED PROFESSIONAL ENGINEER
11/11/15

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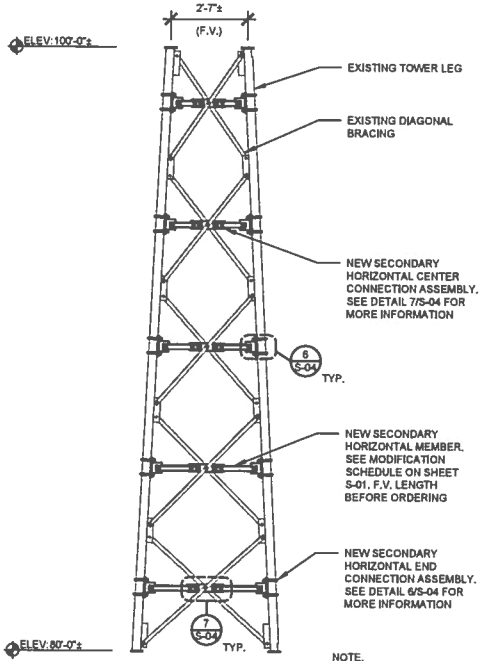
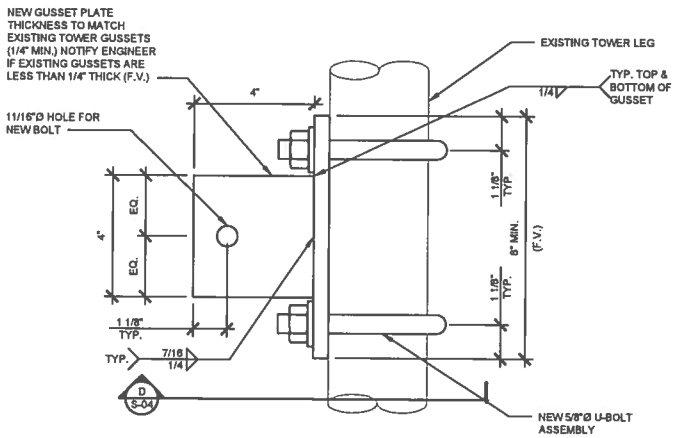
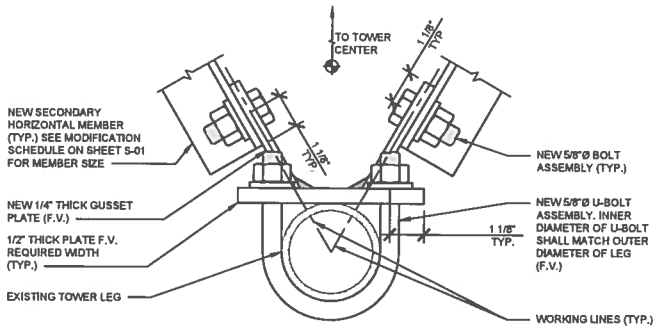


5 ELEVATION
S-04 SCALE 3/16"=1'-0"

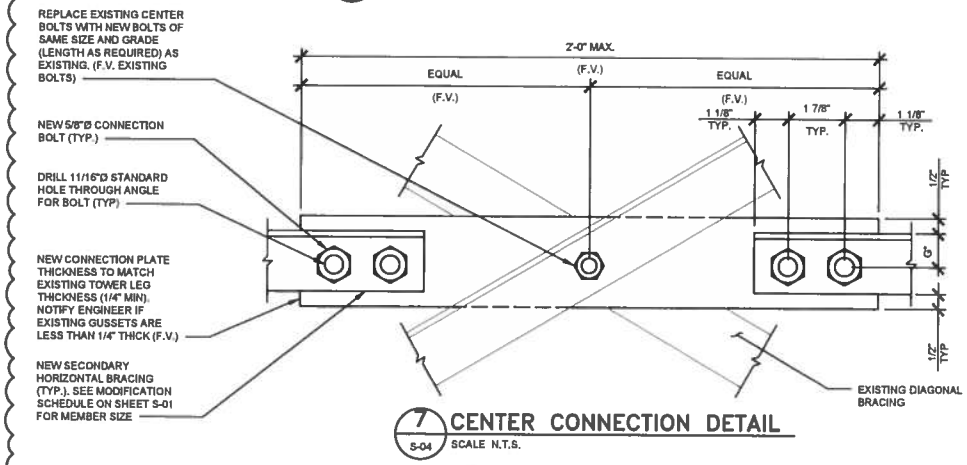
NOTE.
1. REMOVE AND REPLACE EXISTING STEP PEGS AND SAFETY CLIMB AS REQUIRED. SEE SHEET S-05 FOR MORE INFORMATION.



6 END CONNECTION
S-04 N.T.S.



D SECTION
S-04 N.T.S.



7 CENTER CONNECTION DETAIL
S-04 SCALE N.T.S.

NOTE.
1. SEE WORKABLE GAGES SCHEDULE ON SHEET N-01.

STATE OF NEW YORK
CHRISTOPHER J SCHEKS
PROFESSIONAL ENGINEER
11/11/15

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GPD GROUP, INC.
520 South Main Street
Akron, Ohio 44311
330.572.2100 Fax 330.572.2101

at&t

AMAGANSETT III
SITE FA #: 11631254

DESIGN DRAWINGS PREPARED FOR:

Dewberry

REV.	DATE	DESCRIPTION
A	10/13/15	REVISED PER NEW LOADING

AMAGANSETT III
100-108 LONG LANE
EAST HAMPTON, NY 11937

ADDITIONAL DETAILS & SECTIONS

ISSUED FOR:	
PERMIT	11/11/2015
BID	-
CONSTRUCTION	-
RECORD	-

ENGINEER	DESIGNER
JH	MJS
PROJECT MANAGER	APPROVED BY
BPS	CJS

JOB NO. 2015707.38

S-04

STEP PEG CONNECTION NOTES

1. THREAD AND SHANK DIMENSIONS AND TOLERANCES TO BE IN ACCORDANCE WITH ANSI B.18.2.1 FOR HEAVY HEX STRUCTURAL BOLTS. OVERSIZE SHANKS (UP TO 0.700") MAY BE USED ON 0.625" DIA. BOLTS.
2. USES ONE HEAVY HEX NUT AND ONE HEAVY JAM HEX NUT IN A ACCORDANCE WITH ANSI B.18.2.2 AND REGULAR SPRING LOCK WASHER PER ANSI B27.1
3. BOLT MATERIAL (EXCEPT NUTS & LW) SHALL CONFORM TO MATERIAL SPECIFICATIONS CONTAINED IN ASTM A325, TYPE 1 OR 2.
4. CONTRACTOR SHALL TAKE GREAT CARE NOT TO DAMAGE EXISTING STEEL DURING REMOVAL OF STEP PEGS.
5. ALL EXISTING AREAS DAMAGED DURING THE REMOVAL STEP PEGS INCLUDING WELDS SHALL WILL BE WIRE BRUSHED CLEAN, REPAIRED BY COLD GALVANIZING BRUSH APPLIED PAINT (ZRC OR EQUAL), AND REPAINTED TO MATCH THE EXISTING FINISH (IF APPLICABLE
6. ABSOLUTELY NO TORCH CUTTING, OR OPEN FLAME OF ANY TYPE IS PERMITTED ON THIS STRUCTURE. SEE WELD NOTES ON SHEET N-01 FOR MORE INFORMATION.

STATE OF NEW YORK
CHRISTOPHER J. SCHEKS
LICENSED PROFESSIONAL ENGINEER
11/11/15

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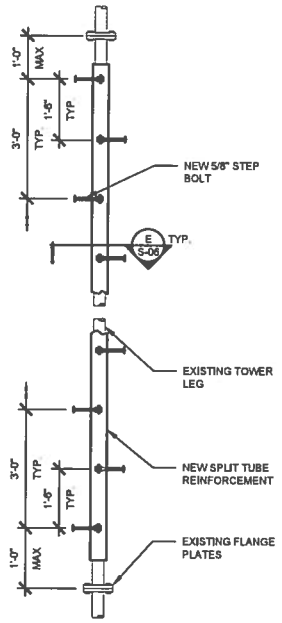
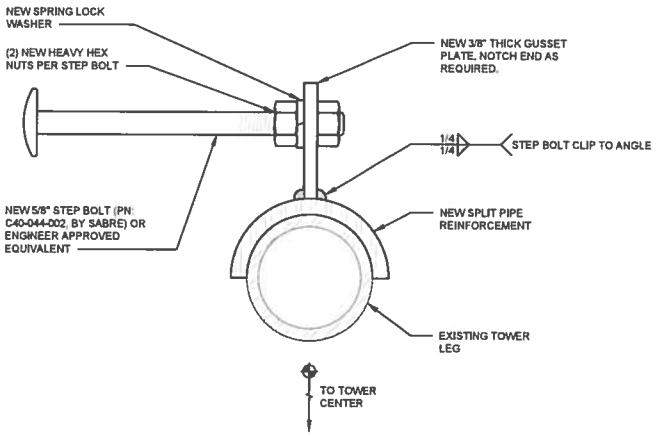
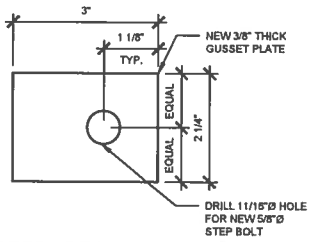


STEP PEG SPACING
N.T.S.



E S-05 SECTION
N.T.S



STEP PEG GUSSET
N.T.S.

GPD GROUP, INC.
520 South Main Street
Akron, Ohio 44311
330.572.2100 Fax 330.572.2101

AMAGANSETT III
SITE FA #: 11631254

DESIGN DRAWINGS PREPARED FOR:
Dewberry

REV	DATE	DESCRIPTION
A	11/11/15	REVISED PER NEW LOADING

AMAGANSETT III
100-106 LONG LANE
EAST HAMPTON, NY 11937

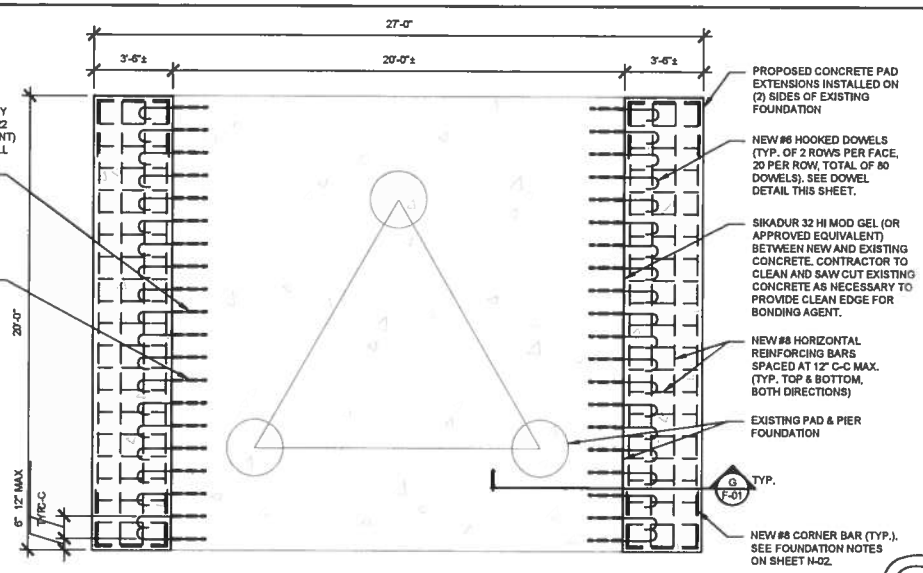
STEP PEG DETAILS

ISSUED FOR:	
PERMIT	11/11/2015
BID	-
CONSTRUCTION	-
RECORD	-

ENGINEER	DRAFTER
JN	MJS
PROJECT MANAGER	APPROVED BY
BPS	CJS

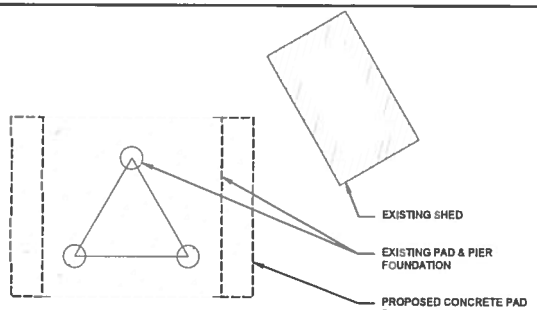
JOB NO.
2015707.38

S-05



F SECTION
F-01 SCALE 3/16"=1'-0"

NOTE: EXISTING FOUNDATION IS BEING EXCAVATED. CONTRACTOR IS RESPONSIBLE FOR SUPPORTING THE TOWER AND EQUIPMENT DURING ALL PHASES OF CONSTRUCTION. SEE FOUNDATION NOTES ON SHEET N-01.

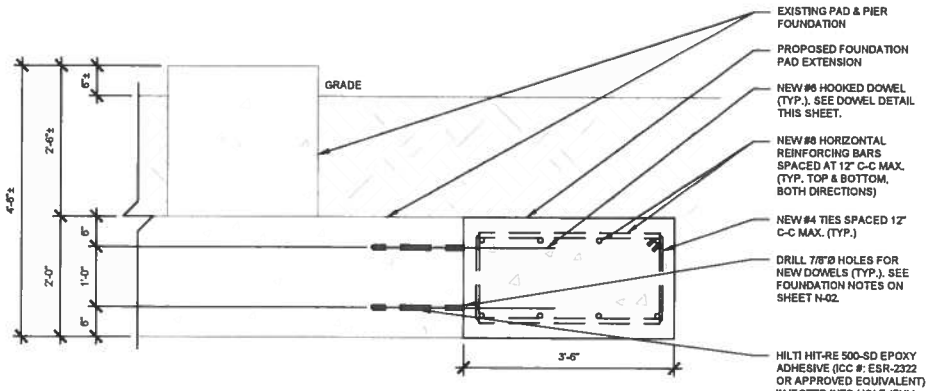


PARTIAL SITE PLAN
N.T.S.

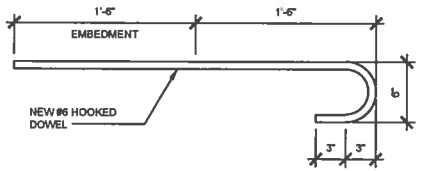
ALL SITE LAYOUT & FOUNDATION ORIENTATION INFORMATION IS CONSIDERED APPROXIMATE. CONTRACTOR SHALL VERIFY ALL SITE DIMENSIONS, ORIENTATIONS, AND UTILITY LOCATIONS PRIOR TO MOBILIZING (SEE NOTES ON SHEET N-01).

NOTE: CONTRACTOR TO VERIFY LOCATION OF ALL EXISTING PUBLIC AND PRIVATE UTILITIES PRIOR TO EXCAVATION. IF NECESSARY, UTILITIES SHALL BE RELOCATED PRIOR TO FOUNDATION MODIFICATION. UTILITIES SHALL NOT BE ENCASED IN CONCRETE.

811
Know what's below
Call before you dig.



G SECTION
F-01 SCALE 1/2"=1'-0"



DOWEL DETAIL
1"=1'-0"±

STATE OF NEW YORK
CHRISTOPHER J. SCHEKS
PROFESSIONAL ENGINEER
11/11/15

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GPD GROUP, INC.
520 South Main Street, Akron, Ohio 44311
Phone: 330.572.2100 Fax: 330.572.2049

at&t
AMAGANSETT III
SITE FA #: 15631254
DESIGN DRAWINGS PREPARED FOR:
Dewberry

REV.	DATE	DESCRIPTION

AMAGANSETT III
100-106 LONG LANE
EAST HAMPTON, NY 11937

FOUNDATION SECTIONS & PARTIAL SITE PLAN

ISSUED FOR:	
PERMIT	11/11/2015
BID	-
CONSTRUCTION	-
RECORD	-

ENGINEER	DESIGNER
JN	MJS
PROJECT MANAGER	APPROVED BY
BPS	CJS

JOB NO.
2015707.38

F-01

STRUCTURAL STEEL (IBC 1705.2.1, 1705.11.1, & 1705.12.2)

PRIOR TO WELDING (TABLE N5.4-1, AISC 360-10)			
VERIFY WELDING PROCEDURES (WPS) AND CONSUMABLE CERTIFICATES	☒ CONTINUOUS	☐ PERIODIC	
MATERIAL IDENTIFICATION	☐ CONTINUOUS	☒ PERIODIC	VERIFY TYPE AND GRADE OF MATERIAL.
WELDER IDENTIFICATION	☐ CONTINUOUS	☒ PERIODIC	A SYSTEM SHALL BE MAINTAINED BY WHICH A WELDER WHO HAS A WELDED JOINT OR MEMBER CAN BE IDENTIFIED.
FIT-UP GROOVE WELDS	☐ CONTINUOUS	☒ PERIODIC	VERIFY JOINT PREPARATION, DIMENSIONS, CLEANLINESS, TACKING, AND BACKING.
ACCESS HOLES	☐ CONTINUOUS	☒ PERIODIC	VERIFY CONFIGURATION AND FINISH.
FIT-UP OF FILLET WELDS	☐ CONTINUOUS	☒ PERIODIC	VERIFY ALIGNMENT, GAPS AT ROOT, CLEANLINESS OF STEEL SURFACES, AND TACK WELD QUALITY AND LOCATION.
DURING WELDING (TABLE N5.4-2, AISC 360-10)			
USE OF QUALIFIED WELDERS	☐ CONTINUOUS	☒ PERIODIC	VERIFY THAT WELDERS ARE APPROPRIATELY QUALIFIED.
CONTROL AND HANDLING OF WELDING CONSUMABLES	☐ CONTINUOUS	☒ PERIODIC	VERIFY PACKAGING AND EXPOSURE CONTROL.
CRACKED TACK WELDS	☐ CONTINUOUS	☒ PERIODIC	VERIFY WELDING DOES NOT OCCUR OVER CRACKED TACK WELDS.
ENVIRONMENTAL CONDITIONS	☐ CONTINUOUS	☒ PERIODIC	VERIFY WIND SPEED IS WITHIN LIMITS AS WELL AS PRECIPITATION AND TEMPERATURE.
WPS FOLLOWED	☐ CONTINUOUS	☒ PERIODIC	VERIFY ITEMS SUCH AS SETTINGS ON WELDING EQUIPMENT, TRAVEL SPEED, WELDING MATERIALS, SHIELDING GAS TYPE/FLOW RATE, PREHEAT APPLIED, INTERPASS TEMPERATURE MAINTAINED, AND PROPER POSITION.
WELDING TECHNIQUES	☐ CONTINUOUS	☒ PERIODIC	VERIFY INTERPASS AND FINAL CLEANING, EACH PASS IS WITHIN PROFILE LIMITATIONS, AND QUALITY OF PASS.
AFTER WELDING (TABLE N5.4-3, AISC 360-10)			
WELDS CLEANED	☐ CONTINUOUS	☒ PERIODIC	VERIFY WELDS HAVE BEEN PROPYL CLEANED.
SIZE, LENGTH, AND LOCATION OF WELDS	☒ CONTINUOUS	☐ PERIODIC	
WELDS MEET VISUAL ACCEPTANCE CRITERIA	☒ CONTINUOUS	☐ PERIODIC	
ARC STRIKES	☒ CONTINUOUS	☐ PERIODIC	
K-AREA	☒ CONTINUOUS	☐ PERIODIC	
BACKING AND WELD TABS REMOVED	☒ CONTINUOUS	☐ PERIODIC	
REPAIR ACTIVITIES	☒ CONTINUOUS	☐ PERIODIC	
DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT/MEMBER	☒ CONTINUOUS	☐ PERIODIC	
NONDESTRUCTIVE TESTING (SECTION N5.5, AISC 360-10)			
CJP WELDS (RISK CAT. II)	☐ CONTINUOUS	☒ PERIODIC	ULTRASONIC TESTING SHALL BE PERFORMED ON 10% OF CJP GROOVE WELDS IN BUTT, T- AND CORNER JOINTS SUBJECT TO TRANSVERSELY APPLIED TENSION LOADING MATERIALS 5/16-INCH THICK OR GREATER. TESTING RATE MUST BE INCREASED IF >5% OF WELDS TESTED HAVE UNACCEPTABLE DEFECTS.
CJP WELDS (RISK CAT. III OR IV)	☒ CONTINUOUS	☐ PERIODIC	A REDUCTION IN THE RATE OF ULTRASONIC TESTING IS ALLOWED PER SECTION N5.5a.
ACCESS HOLES (FLANGE > 2")	☒ CONTINUOUS	☐ PERIODIC	
WELDED JOINTS SUBJECT TO FATIGUE	☒ CONTINUOUS	☐ PERIODIC	
PRIOR TO BOLTING (SECTION N5.6 - I, AISC 360-10) >NOT REQUIRED IF ONLY SNUG-TIGHT JOINTS ARE SPECIFIED (PER SECTION N5.6(1) OF AISC 360-10)			
CERTIFICATION OF FASTENERS	☒ CONTINUOUS	☐ PERIODIC	
FASTENERS MARKED	☐ CONTINUOUS	☒ PERIODIC	VERIFY THAT FASTENERS HAVE BEEN MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS.
PROPER FASTENERS FOR JOINT	☐ CONTINUOUS	☒ PERIODIC	VERIFY GRADE, TYPE, AND BOLT LENGTH IF THREADS ARE EXCLUDED FROM THE SHEAR PLANE.
PROPER BOLTING PROCEDURE	☐ CONTINUOUS	☒ PERIODIC	VERIFY PROPER PROCEDURE IS USED FOR THE JOINT DETAIL.
CONNECTING ELEMENTS	☐ CONTINUOUS	☒ PERIODIC	VERIFY APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET REQUIREMENTS.
PRE-INSTALLATION VERIFICATION TESTING	☐ CONTINUOUS	☒ PERIODIC	OBSERVE AND DOCUMENT VERIFICATION TESTING BY INSTALLATION PERSONNEL FOR FASTENER ASSEMBLIES AND METHODS USED.
PROPER STORAGE	☐ CONTINUOUS	☒ PERIODIC	VERIFY PROPER STORAGE OF BOLTS, NUTS, WASHERS, AND OTHER FASTENER COMPONENTS.

STRUCTURAL STEEL (CONTINUED)

DURING BOLTING (SECTION N5.6-2, AISC 360-10) >NOT REQUIRED IF ONLY SNUG-TIGHT JOINTS ARE SPECIFIED (PER SECTION N5.6(1) OF AISC 360-10) >NOT REQUIRED FOR PRETENSIONED JOINTS USING TURN-OF-THE-NUT METHOD WITH MATCH-MARKING, DIRECT-TENSION-INDICATORS, OR TWIST-OFF TYPE TENSION CONTROL METHOD (PER SECTION N5.6(2) OF AISC 360-10)			
FASTENER ASSEMBLIES	☐ CONTINUOUS	☒ PERIODIC	VERIFY THAT FASTENER ASSEMBLIES ARE OF SUITABLE CONDITION, PLACED IN ALL HOLES, AND WASHERS ARE POSITIONED AS REQUIRED.
SNUG-TIGHT PRIOR TO PRETENSIONING	☐ CONTINUOUS	☒ PERIODIC	VERIFY THAT JOINTS ARE BROUGHT TO SNUG-TIGHT CONDITION PRIOR TO PRETENSIONING OPERATION.
FASTENER COMPONENT	☐ CONTINUOUS	☒ PERIODIC	VERIFY THAT FASTENER COMPONENT IS NOT TURNED BY WRENCH PREVENTED FROM ROTATING.
PRETENSIONED FASTENERS	☐ CONTINUOUS	☒ PERIODIC	VERIFY THAT FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES.
AFTER BOLTING (TABLE N5.6-3, AISC 360-10)			
DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	☒ CONTINUOUS	☐ PERIODIC	
OTHER STEEL INSPECTIONS (SECTION N5.7, AISC 360-10; TABLES J6-1 & J10-1, AISC 341-10)			
STRUCTURAL STEEL DETAILS	☐ CONTINUOUS	☒ PERIODIC	ALL FABRICATED STEEL OR STEEL FRAMES SHALL BE INSPECTED TO VERIFY COMPLIANCE WITH THE DETAILS SHOWN IN THE CONSTRUCTION DOCUMENTS, SUCH AS BRACES, STIFFENERS, MEMBER LOCATIONS, AND PROPER APPLICATION OF JOINT DETAILS AT EACH CONNECTION.
ANCHOR RODS AND OTHER EMBEDMENTS SUPPORTING STRUCTURAL STEEL	☐ CONTINUOUS	☒ PERIODIC	SHALL BE ON THE PREMISES DURING THE PLACEMENT OF ANCHOR RODS AND OTHER EMBEDMENTS SUPPORTING STRUCTURAL STEEL FOR COMPLIANCE WITH CONSTRUCTION DOCUMENTS. VERIFY THE DIAMETER, GRADE, TYPE, AND LENGTH OF THE ANCHOR ROD OR EMBEDDED ITEM, AND THE EXTENT OR DEPTH OF EMBEDMENT PRIOR TO PLACEMENT OF CONCRETE.
REDUCED BEAM SECTIONS (RBS)	☐ CONTINUOUS	☒ PERIODIC	VERIFY CONTOUR AND FINISH AS WELL AS DIMENSIONAL TOLERANCES. (SEE TABLE J6-1 OF AISC 341-10)
PROTECTED ZONES	☐ CONTINUOUS	☒ PERIODIC	VERIFY THAT NO HOLES OR UNAPPROVED ATTACHMENTS ARE MADE WITHIN THE PROTECTED ZONE. (SEE TABLE J6-1 OF AISC 341-10)
H-PILES	☐ CONTINUOUS	☒ PERIODIC	VERIFY THAT NO HOLES OR UNAPPROVED ATTACHMENTS OCCUR WITHIN THE PROTECTED ZONE OF PILING (SEE TABLE J10-1 OF AISC 341-10)
STEEL ELEMENTS OF COMPOSITE CONSTRUCTION (TABLE N6.1, AISC 360-10, TABLES J6-1 THRU J6-3, AISC 341-11)			
PLACEMENT AND INSTALLATION OF STEEL DECK	☒ CONTINUOUS	☐ PERIODIC	
PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS	☒ CONTINUOUS	☐ PERIODIC	
DOCUMENT ACCEPTANCE OR REJECTION OF STEEL ELEMENTS	☒ CONTINUOUS	☐ PERIODIC	
REINFORCING STEEL	☐ CONTINUOUS	☒ PERIODIC	VERIFY APPROPRIATE REINFORCEMENT SIZE, SPACING AND ORIENTATION, THAT IT HAS NOT BEEN RE-BENT IN FIELD, THAT IT IS CORRECTLY TIED AND SUPPORTED, AND THAT THE REQUIRED STEEL CLEARANCES HAVE BEEN PROVIDED.
COMPOSITE MEMBER SIZE	☐ CONTINUOUS	☒ PERIODIC	VERIFY THAT COMPOSITE MEMBER IS THE REQUIRED SIZE.

SOIL CONSTRUCTION (IBC 1705.6)

VERIFY SUBGRADE IS ADEQUATE TO ACHIEVE DESIGN BEARING CAPACITY	☐ CONTINUOUS	☒ PERIODIC	PRIOR TO PLACEMENT OF CONCRETE.
VERIFY EXCAVATIONS EXTEND TO PROPER DEPTH AND MATERIAL	☐ CONTINUOUS	☒ PERIODIC	PRIOR TO PLACEMENT OF COMPACTED FILL OR CONCRETE.
VERIFY THAT SUBGRADE HAS BEEN APPROPRIATELY PREPARED PRIOR TO PLACING COMPACTED FILL	☐ CONTINUOUS	☒ PERIODIC	PRIOR TO PLACEMENT OF COMPACTED FILL.
PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS	☐ CONTINUOUS	☒ PERIODIC	ALL MATERIALS SHALL BE CHECKED AT EACH LIFT FOR PROPER CLASSIFICATIONS AND GRADATIONS NOT LESS THAN ONCE FOR EACH 10,000 SQ. FT.OF SURFACE AREA.
VERIFY PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION	☒ CONTINUOUS	☐ PERIODIC	

CONCRETE CONSTRUCTION (IBC 1705.3 & 1705.12.1)

REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS	☐ CONTINUOUS	☒ PERIODIC	VERIFY PRIOR TO PLACING CONCRETE THAT REINFORCING IS OF SPECIFIED TYPE, GRADE AND SIZE, THAT IT IS FREE OF OIL, DIRT AND RUST, THAT IT IS LOCATED AND SPACED PROPERLY, THAT HOOKS, BENDS, TIES, STIRRUPS AND SUPPLEMENTAL REINFORCEMENT ARE PLACED CORRECTLY. THAT LAP LENGTHS, STAGGER AND OFFSETS ARE PROVIDED; AND THAT ALL MECHANICAL CONNECTIONS ARE INSTALLED PER THE MANUFACTURER'S INSTRUCTIONS AND/OR EVALUATION REPORT.
CAST-IN BOLTS & EMBEDS	☐ CONTINUOUS	☒ PERIODIC	INSPECTION OF ANCHORS OR EMBEDS CAST IN CONCRETE IS REQUIRED WHEN ALLOWABLE LOADS HAVE BEEN INCREASED OR WHERE STRENGTH DESIGN IS USED.
POST-INSTALLED ANCHORS OR DOWELS	☐ CONTINUOUS	☒ PERIODIC	ALL POST-INSTALLED ANCHORS/DOWELS SHALL BE SPECIALLY INSPECTED AS REQUIRED BY THE APPROVED ICC-ES REPORT.
USE OF REQUIRED MIX DESIGN	☐ CONTINUOUS	☒ PERIODIC	VERIFY THAT ALL MIXES USED COMPLY WITH THE APPROVED CONSTRUCTION DOCUMENTS; ACI 318: CH. 4, 5.2-5.4, AND IBC 1904.3, 1913.2, 1913.3.
CONCRETE SAMPLING FOR STRENGTH TESTS, SLUMP, AIR CONTENT, AND TEMPERATURE	☒ CONTINUOUS	☐ PERIODIC	
CONCRETE & SHOTCRETE PLACEMENT	☒ CONTINUOUS	☐ PERIODIC	
CURING TEMPERATURE AND TECHNIQUES	☐ CONTINUOUS	☒ PERIODIC	VERIFY THAT THE AMBIENT TEMPERATURE FOR CONCRETE IS KEPT AT > 50°F FOR AT LEAST 7 DAYS AFTER PLACEMENT. HIGH-EARLY STRENGTH CONCRETE SHALL BE KEPT AT > 50 °F FOR AT LEAST 3 DAYS. ACCELERATED CURING METHODS MAY BE USED (SEE ACI 318, 5.11.3). THE AMBIENT TEMPERATURE FOR SHOTCRETE SHALL BE > 40°F FOR THE SAME PERIOD OF TIME NOTED FOR CONCRETE. SHOTCRETE SHALL BE KEPT CONTINUOUSLY MOIST FOR AT LEAST 24 HOURS AFTER SHOTCRETING. ALL CONCRETE MATERIALS, REINFORCEMENT, FORMS, FILLERS, AND GROUND SHALL BE FREE FROM FROST. IN HOT WEATHER CONDITIONS ENSURE THAT APPROPRIATE MEASURES ARE TAKEN TO AVOID PLASTIC SHRINKAGE CRACKING AND THAT THE SPECIFIED WATER/CEMENT RATIO IS NOT EXCEEDED.
PRE-STRESSED CONCRETE	☒ CONTINUOUS	☐ PERIODIC	
ERECTION OF PRECAST CONCRETE	☐ CONTINUOUS	☒ PERIODIC	VERIFY THAT ALL PRECAST ELEMENTS ARE LIFTED, ASSEMBLED AND BRACED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.
STRENGTH VERIFICATION	☐ CONTINUOUS	☒ PERIODIC	VERIFY THAT ADEQUATE STRENGTH HAS BEEN ACHIEVED PRIOR TO THE REMOVAL OF SHORES AND FORMS OR THE STRESSING OF POST-TENSIONED TENDONS.
FORMWORK	☐ CONTINUOUS	☒ PERIODIC	VERIFY THAT THE FORMS ARE PLACED PLUMB AND CONFORM TO THE SHAPES, LINES AND DIMENSIONS OF THE MEMBERS AS REQUIRED BY THE APPROVED CONSTRUCTION DOCUMENTS.
REINFORCEMENT COMPLYING WITH ASTM A615 IN SPECIAL MOMENT FRAMES, SPECIAL STRUCTURAL WALLS AND COUPLING BEAMS	☐ CONTINUOUS	☒ PERIODIC	VERIFY THAT ASTM A615 REINFORCING STEEL USED IN THESE AREAS COMPLIES WITH ACI 318 21.1.5.2 BY MEANS OF CERTIFIED MILL TEST REPORTS. IF THIS REINFORCING STEEL IS TO BE WELDED CHEMICAL TESTS SHALL BE PERFORMED IN ACCORDANCE WITH ACI 318: 3.5.2.

STATE OF NEW YORK
CHRISTOPHER J. SCHEKS
085706
PROFESSIONAL ENGINEER
11/11/15

WARNING - IT IS A VIOLATION OF LAW FOR ANY PERSON TO ALTER THIS DRAWING UNLESS HE IS ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

GPD GROUP, INC.
520 South Main Street
Akron, Ohio 44311
330.572.2100 Fax 330.572.2101

at&t
AMAGANSETT III
SITE FA #: 11631254

DESIGN DRAWINGS PREPARED FOR:
Dewberry

REV.	DATE	DESCRIPTION

AMAGANSETT III
100-106 LONG LANE
EAST HAMPTON, NY 11937

SPECIAL INSPECTION CHECKLIST

ISSUED FOR:	
PERMIT	11/11/2015
BID	-
CONSTRUCTION	-
RECORD	-

ENGINEER	DESIGNER
JN	MJS
PROJECT MANAGER	APPROVED BY
BPS	CJS

JOB NO. 2015707.38

SI-01

NOTE: X DENOTES A DOCUMENT NEEDED FOR THE MODIFICATION INSPECTION REPORT
- DENOTES A DOCUMENT THAT IS NOT REQUIRED FOR THE MODIFICATION INSPECTION REPORT

STANDARD MODIFICATION DOCUMENTATION REQUIREMENTS

CONSTRUCTION PROCESS			REPORT ITEM	STAMPED REPORT REQUIRED
BEFORE	DURING	AFTER		
X	-	-	• SHOP DRAWINGS	
X	-	-	• MATERIAL TEST REPORT (ALL MODIFICATION MATERIALS)	
X	-	-	• PACKING SLIPS	
			• PHOTOS:	
X	-	-	• PRE-CONSTRUCTION PHOTOS (COMPOUND, ACCESS DRIVE, ROAD ENTRANCE, TOWER)	
-	X	-	• DURING CONSTRUCTION	
-	-	X	• POST CONSTRUCTION	
-	-	-	• BASE PLATE GROUT VERIFICATION	
-	-	X	• ON SITE COLD GALVANIZING VERIFICATION	
-	-	X	• GC AS-BUILT DRAWINGS	
-	-	X	• LIEN RELEASE (GPD SERVICES ONLY)	

WELDING REQUIREMENTS: FABRICATION & ONSITE

CONSTRUCTION PROCESS			REPORT ITEM	STAMPED REPORT REQUIRED
BEFORE	DURING	AFTER		
-	X	-	• NDT - ALL FULL PEN OR WELDS >5/16"	AWS
-	-	X	• VISUAL INSPECTION IN ACCORDANCE WITH ANSI/AWS D1.1	AWS
X	-	-	• FABRICATOR CERTIFIED WELD INSPECTION	
-	-	-	• NDT - MONOPOLE EXISTING PERIMETER BASE WELD	AWS
X	X	X	• ELECTRODE VERIFICATION - ONSITE PHOTO OF ELECTRODE STRENGTH	
X	-	-	• WELDER'S CERTIFICATIONS	
-	-	X	• 3RD PARTY CERTIFIED WELD INSPECTORS REPORT	AWS

FOUNDATION REQUIREMENTS

CONSTRUCTION PROCESS			REPORT ITEM	STAMPED REPORT REQUIRED
BEFORE	DURING	AFTER		
X	-	-	• PRE-POUR REBAR INSPECTION	ENGINEER
X	X	-	• EPOXY VERIFICATION - ONSITE PHOTO OF EPOXY LABEL	
X	-	-	• EPOXY PACKING SLIP	
X	X	-	• CONCRETE BONDING AGENT ONSITE PHOTO OF LABEL	
X	-	-	• CONCRETE BONDING AGENT PACKING SLIP	
X	X	-	• CONCRETE MIX DESIGN, LOAD TICKETS, AND SLUMP TESTS	
-	X	X	• CONCRETE COMP. STRENGTH TEST RESULTS	ENGINEER
-	X	-	• EARTHWORK: LIFT AND DENSITY (REPORT REQUIRED)	ENGINEER

MODIFICATION INSPECTION NOTES:

GENERAL NOTES

1. THE MODIFICATION INSPECTION IS A VISUAL INSPECTION OF TOWER MODIFICATIONS AND A REVIEW OF CONSTRUCTION INSPECTIONS AND OTHER REPORTS TO ENSURE THE INSTALLATION WAS CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, NAMELY THE MODIFICATION DRAWINGS, AS DESIGNED BY THE ENGINEER OF RECORD.
2. THE MODIFICATION INSPECTION IS TO CONFIRM INSTALLATION CONFIGURATION AND WORKMANSHIP ONLY AND IS NOT A REVIEW OF THE MODIFICATION DESIGN ITSELF, NOR DOES THE MODIFICATION INSPECTOR TAKE OWNERSHIP OF THE MODIFICATION DESIGN. OWNERSHIP OF THE STRUCTURAL MODIFICATION DESIGN EFFECTIVENESS AND INTENT RESIDES WITH THE ENGINEER OF RECORD AT ALL TIMES.
3. TO ENSURE THAT THE REQUIREMENTS OF THE MODIFICATION INSPECTION ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR (GC) AND THE MODIFICATION INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS A PO OR PAYMENT IS RECEIVED. IT IS EXPECTED THAT EACH PARTY WILL BE PROACTIVE IN REACHING OUT TO THE OTHER PARTY. CONTACT LISTED ON THE TITLE SHEET SHALL BE CONTACTED IF SPECIFIC INSPECTOR CONTACT INFORMATION IS NOT KNOWN.

MODIFICATION INSPECTOR

1. THE MODIFICATION INSPECTOR IS REQUIRED TO CONTACT THE GC AS SOON AS RECEIVING A PO OR PAYMENT FOR THE MODIFICATION INSPECTION TO:
   - REVIEW THE REQUIREMENTS OF THE MODIFICATION INSPECTION CHECKLIST
   - WORK WITH THE GC TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS
   - DISCUSS ANY SITE SPECIFIC INSPECTIONS OR CONCERNS
2. THE MODIFICATION INSPECTOR IS RESPONSIBLE FOR COLLECTING ALL GENERAL CONTRACTOR (GC) INSPECTION AND TEST REPORTS, REVIEWING THE DOCUMENTS FOR ADHERENCE TO THE CONTRACT DOCUMENTS, CONDUCTING THE IN-FIELD INSPECTIONS, AND SUBMITTING THE MODIFICATION INSPECTION REPORT.

GENERAL CONTRACTOR

1. THE GC IS REQUIRED TO CONTACT THE MODIFICATION INSPECTOR AS SOON AS RECEIVING A PO OR PAYMENT FOR THE MODIFICATION INSTALLATION OR TURNKEY PROJECT TO:
   - REVIEW THE REQUIREMENTS OF THE MODIFICATION INSPECTION CHECKLIST
   - WORK WITH THE MI INSPECTOR TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE MODIFICATION INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS
   - BETTER UNDERSTAND ALL INSPECTION AND TESTING REQUIREMENTS
2. THE GC SHALL PERFORM AND RECORD THE TEST AND INSPECTION RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE MODIFICATION INSPECTION CHECKLIST.

RECOMMENDATIONS

THE FOLLOWING RECOMMENDATIONS AND SUGGESTIONS ARE OFFERED TO ENHANCE THE EFFICIENCY AND EFFECTIVENESS OF DELIVERING A MODIFICATION INSPECTION REPORT:

- IT IS SUGGESTED THAT THE GC PROVIDE A MINIMUM OF 5 BUSINESS DAYS NOTICE, PREFERABLY 10, TO THE MODIFICATION INSPECTOR AS TO WHEN THE SITE WILL BE READY FOR THE MODIFICATION INSPECTION TO BE CONDUCTED.
- THE GC AND MODIFICATION INSPECTOR COORDINATE CLOSELY THROUGHOUT THE ENTIRE PROJECT.
- WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MODIFICATION INSPECTOR ON-SITE SIMULTANEOUSLY FOR ANY GUY WIRE TENSIONING OR RE-TENSIONING OPERATIONS.
- IT MAY BE BENEFICIAL TO INSTALL ALL TOWER MODIFICATIONS PRIOR TO CONDUCTING THE FOUNDATION INSPECTIONS TO ALLOW FOUNDATION AND MODIFICATION INSPECTION(S) TO COMMENCE WITH ONE SITE VISIT.
- WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MODIFICATION INSPECTOR ON-SITE DURING THE MODIFICATION INSPECTION TO HAVE ANY DEFICIENCIES CORRECTED DURING THE INITIAL MODIFICATION INSPECTION. THEREFORE, THE GC MAY CHOOSE TO COORDINATE THE MODIFICATION INSPECTION CAREFULLY TO ENSURE ALL CONSTRUCTION FACILITIES ARE AT THEIR DISPOSAL WHEN THE MI INSPECTOR IS ON SITE.

CANCELLATION OR DELAYS

1. IF THE GC AND MODIFICATION INSPECTOR AGREE TO A DATE ON WHICH THE MODIFICATION INSPECTION WILL BE CONDUCTED, AND EITHER PARTY CANCELS OR DELAYS, THE TOWER OWNER SHALL NOT BE RESPONSIBLE FOR ANY COSTS, FEES, LOSS OF DEPOSITE AND/OR OTHER PENALTIES RELATED TO THE CANCELLATION OR DELAY INCURRED BY EITHER PARTY FOR ANY TIME (E.G. TRAVEL AND LODGING, COSTS OF KEEPING EQUIPMENT ON-SITE, ETC.). EXCEPTIONS MAY BE MADE IN THE EVENT THAT THE DELAY/CANCELLATION IS CAUSED BY WEATHER OR OTHER CONDITIONS THAT MAY COMPROMISE THE SAFETY OF THE PARTIES INVOLVED.

FAILING INSPECTION CORRECTIONS

1. IF THE MODIFICATION INSTALLATION WOULD FAIL THE MODIFICATION INSPECTION ("FAILED MODIFICATION INSPECTION"), THE GC SHALL WORK WITH MODIFICATION INSPECTOR TO COORDINATE A REMEDIATION PLAN IN ONE OF TWO WAYS:
   - CORRECT FAILING ISSUES TO COMPLY WITH THE SPECIFICATIONS CONTAINED IN THE ORIGINAL CONTRACT DOCUMENTS AND COORDINATE A SUPPLEMENT MODIFICATION INSPECTION.
   - OR, WITH TOWER OWNER'S APPROVAL, THE GC MAY WORK WITH THE ENGINEER OF RECORD TO RE-ANALYZE THE MODIFICATION/REINFORCEMENT USING THE AS-BUILT CONDITION.

VERIFICATION INSPECTIONS

1. TOWER OWNER RESERVES THE RIGHT TO CONDUCT A VERIFICATION INSPECTION TO VERIFY THE ACCURACY AND COMPLETENESS OF PREVIOUSLY COMPLETED MODIFICATION INSPECTION(S) ON TOWER MODIFICATION PROJECTS.
2. VERIFICATION INSPECTION MAY BE CONDUCTED BY AN INDEPENDENT FIRM AFTER A MODIFICATION PROJECT IS COMPLETED, AS MARKED BY THE DATE OF AN ACCEPTED "PASSING MODIFICATION INSPECTION" OR "PASS AS NOTED MODIFICATION INSPECTION" REPORT FOR THE ORIGINAL PROJECT.

REQUIRED PHOTOS

1. BETWEEN THE GC AND THE MI INSPECTOR THE FOLLOWING PHOTOGRAPHS ARE TO BE TAKEN AND INCLUDED IN THE MODIFICATION INSPECTION REPORT:
   - PRE-CONSTRUCTION GENERAL SITE CONDITION
   - PHOTOGRAPHS DURING THE REINFORCEMENT MODIFICATION CONSTRUCTION/ERECTION AND INSPECTION:
     - RAW MATERIALS
     - PHOTOS OF ALL CRITICAL DETAILS
     - FOUNDATION MODIFICATIONS
     - WELD PREPARATION
     - BOLT INSTALLATION AND TORQUE
     - FINAL INSTALLED CONDITION
     - SURFACE COATING REPAIR
   - POST CONSTRUCTION PHOTOGRAPHS:
     - FINAL INFIELD CONDITION
   - ANY OTHER PHOTOS DEEMED RELEVANT TO SHOW COMPLETE DETAILS OF MODIFICATIONS.
2. PHOTOS OF ELEVATED MODIFICATIONS TAKEN FROM THE GROUND SHALL BE CONSIDERED INADEQUATE.

STATE OF NEW YORK
CHRISTOPHER J. SCHEKS
LICENSED PROFESSIONAL ENGINEER
11/11/15

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SITE FA #: 11631254

DESIGN DRAWINGS PREPARED FOR:

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RECORD	-

ENGINEER	DESIGNER
JN	MJS
PROJECT MANAGER	APPROVED BY
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MI-01