



Truro Planning Board Agenda

Wednesday, December 18, 2019 – 5:00 p.m.

Truro Select Board Meeting Room

Truro Town Hall

24 Town Hall Road, Truro, MA 02666

Open Meeting

Public Comment Period

The Commonwealth's Open Meeting Law limits any discussion by members of the Board of an issue raised to whether that issue should be placed on a future agenda. Speakers are limited to no more than 5 minutes.

Public Hearing

2019-007/PB – Smartlink, LLC o/b/o AT&T seeks approval for a Special Permit under Section 40.5 of the Truro Zoning Bylaw for the replacement of existing antennas with new antennas on the wireless communication structure on property located at 5 Town Dump Road, Truro, MA, Map 55, Parcel 2-A.

2019-008/PB Nathan A. Nickerson III seeks approval of a Definitive Subdivision Plan of Land, pursuant to G.L. c. 41, §81S and §2.4 of the Town of Truro Rules and Regulations Governing the Subdivision of Land with respect to property at 4-H Bay View Road and 3 Laura's Way, Truro, MA, Map 39, Parcels 77 and 325.

Request to Continue to Meeting of 1/8/2020

Public Hearing – Continued

2019-006/PB Abigail B. Schirmer, Audrey Schirmer, and Joseph M. Schirmer seek approval of a Preliminary Subdivision Plan of Land, pursuant to G.L. c. 41, §81S and §2.4 of the Town of Truro Rules and Regulations Governing the Subdivision of Land with respect to property at Route 6 and Amity Lane, Truro, MA, Map 46, Parcel 8.

Request to Continue to Meeting of 1/8/2020

Board Action/Review

2019-010/SPR – Smartlink, LLC o/b/o AT&T seeks approval for a Waiver of Site Plan Review under Section 70.9 of the Truro Zoning Bylaw for modification of an existing telecommunications tower by replacing existing antennas with kind-like antennas, as well as RFemote Radio Units. There will be no increase in the number of antennas as well as no increase of the tower height or expansion of the leased ground space.

Review of the Cloverleaf Truro Rental Housing Comprehensive Permit application under MGL Ch. 40B to formulate comments for submittal to the Zoning Board of Appeals.

Election of Officers.

Update on past Work Sessions.

Discussion for setting dates for future Work Sessions.

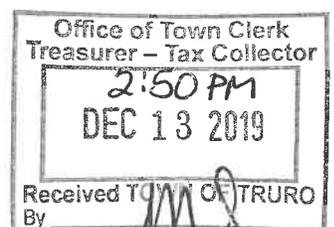
Approval of Minutes

October 23, 2019

Next Meeting

Wednesday, January 8, 2020, at 5:00 p.m.

Adjourn



FYI: Planning Board

cc: Jeffrey Riberto - Planner

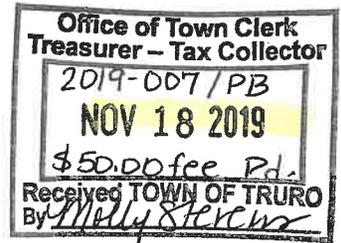
Richard Stevens - Building Commissioner

TOWN OF TRURO



PLANNING BOARD

APPLICATION FOR SPECIAL PERMIT



Date 11/11/19

To the Town Clerk of the Town of Truro, MA

The undersigned hereby files with specific grounds for this application:

Applicant seeks approval and authorization of uses under Section 40.5 of the Truro Zoning By-law

concerning (describe) A. Purpose. The purpose of § 40.5 of this bylaw is to accommodate the communication needs of residents and businesses while protecting the public health, safety and general welfare of the community; to establish guidelines, standards and procedures to regulate the permitting and installation of communication structures, buildings and appurtenances in order to: Facilitate the provision of wireless telecommunications services to the residents and businesses of the town; Minimize adverse visual effects of towers through careful design and siting standards; Avoid potential damage to adjacent properties from tower failure through structural standards and setback requirements, and, Maximize the use of existing and approved towers and buildings to accommodate new wireless telecommunication antennas in order to reduce the number of towers needed to serve the community. Property Address 5 Town Dump Road Map(s) and Parcel(s) 55-002-00A

Registry of Deeds title reference: Book 24309, Page 227, or Certificate of Title

Number and Land Ct. Lot # and Plan #

Applicant's Name Kristina Cottone, Smartlink, LLC on behalf of AT&T

Applicant's Legal Mailing Address 85 Rangeway Road, North Billerica, MA 01862

Applicant's Phone(s), Fax and Email 978-551-8627 Kristina.cottone@smartlinkllc.com

Applicant is one of the following: (please check appropriate box)

- Owner, Prospective Buyer*, Other* *Written Permission of the owner is required for submittal of this application.

Owner's Name SBA Towers II, LLC

Owner's Address 8051 Congress Ave, Boca Raton, FL 33487

Representative's Name and Address Shawn Nottage 8051 Congress Ave, BOca Raton, FL 33487

Representative's Phone(s), Fax and Email 401-533-6434 snottage@sbsite.com

Applicant(s) Representative Signature

See attached Letter of Authorization from the tower owner, SBA Owner(s) Signature or written permission

Your signature(s) on this application authorizes the Members of the Planning Board and town staff to visit and enter upon the subject property.

Applications must be typed or printed clearly with black or blue ink.

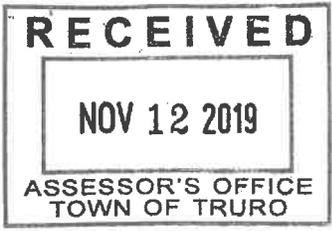


TOWN OF TRURO

Assessors Office

Certified Abutters List

Request Form



DATE: 11/12/19

NAME OF APPLICANT: Kristina Cottone - Smartlink LLC on behalf of AT&T

NAME OF AGENT (if any): _____

MAILING ADDRESS: 85 Rangeway Road, Building 3 Suite 102, North Billerica, MA 01862

CONTACT: HOME/CELL 978-551-8627 EMAIL Kristina.cottone@smartlinkllc.com

PROPERTY LOCATION: 5 Town Dump Road
(street address)

PROPERTY IDENTIFICATION NUMBER: MAP 55 PARCEL 022-2 EXT. A
(if condominiums)

ABUTTERS LIST NEEDED FOR: (please check all applicable) FEE: **\$15.00 per checked item**
(Fee must accompany the application unless other arrangements are made)

- | | | |
|---|---|--|
| <input type="checkbox"/> Board of Health ⁵ | <input type="checkbox"/> Planning Board (PB) | <input type="checkbox"/> Zoning Board of Appeals (ZBA) |
| <input type="checkbox"/> Cape Cod Commission | <input checked="" type="checkbox"/> Special Permit ¹ | <input type="checkbox"/> Special Permit ¹ |
| <input type="checkbox"/> Conservation Commission ⁴ | <input checked="" type="checkbox"/> Site Plan ² | <input type="checkbox"/> Variance ¹ |
| <input type="checkbox"/> Licensing | <input type="checkbox"/> Preliminary Subdivision ³ | |
| Type: _____ | <input type="checkbox"/> Definitive Subdivision ³ | |
| | <input type="checkbox"/> Accessory Dwelling Unit (ADU) ² | |
| <input type="checkbox"/> Other _____ | | (Fee: Inquire with Assessors) |
- (Please Specify)

Note: Per M.G.L., processing may take up to 10 calendar days. Please plan accordingly.

THIS SECTION FOR ASSESSORS OFFICE USE ONLY

Date request received by Assessors: 11/12/19 Date completed: 11/13/19
List completed by: Laura Geiges

¹Abutters, owners of land directly opposite on any public or private street or way, and abutters to the abutters within 300 feet of the property line.

²Abutters to the subject property, abutters to the abutters, and owners of properties across the street from the subject property.

³Landowners immediately bordering the proposed subdivision, landowners immediately bordering the immediate abutters, and landowners located across the streets and ways bordering the proposed subdivision. Note: For Definitive Subdivision only, responsibility of applicant to notify abutters and produce evidence as required.

⁴All abutters within 300 feet of parcel, except Beach Point between Knowles Heights Road and Provincetown border, in which case it is all abutters within 100 feet. Note: Responsibility of applicant to notify abutters and produce evidence as required.

⁵Abutters sharing any boundary or corner in any direction – including land across a street, river or stream. Note: Responsibility of applicant to notify abutters and produce evidence as required.



TRURO ASSESSORS OFFICE
PO Box 2012 Truro, MA 02666
Telephone: (508) 214-0921
Fax: (508) 349-5506

Date: November 12, 2019

To: Smartlink LLC on behalf of AT & T

From: Assessors Department

Certified Abutters List: 5 Town Dump Road, Ext A (Map 55 Parcel 2.A)

Site Plan

Attached is a combined list of abutters for the properties located at 5 Town Dump Road, Ext. A. The current owner is SBA Towers II LLC.

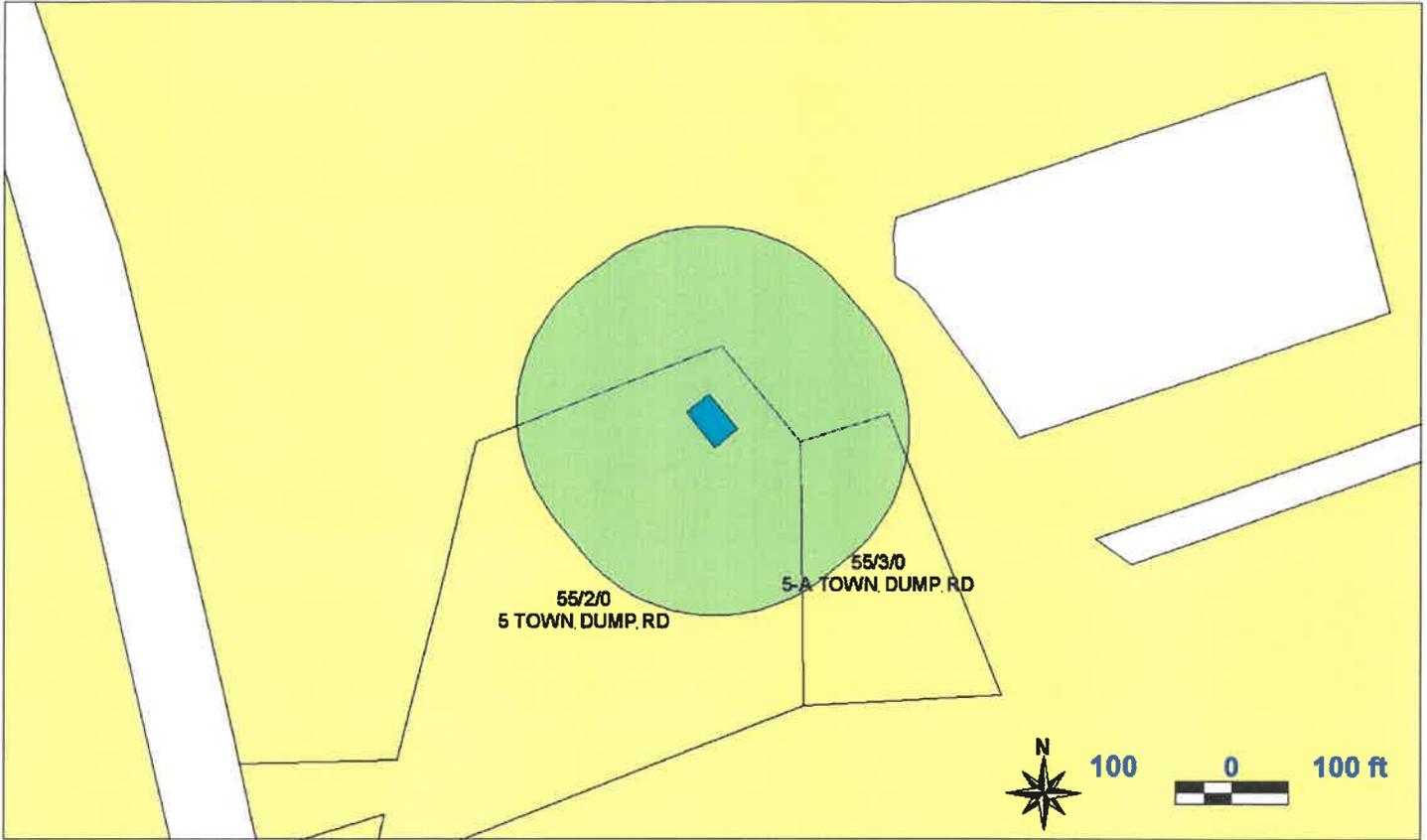
The names and addresses of the abutters are as of November 8, 2019 according to the most recent documents received from the Barnstable County Registry of Deeds.

Certified by: _____

Laura Geiges
Assistant Assessor

TOWN OF TRURO, MA
 BOARD OF ASSESSORS
 P.O. BOX 2012, TRURO MA 02666

Abutters List Within 300 feet of Parcel 55/2/A



Key	Parcel ID	Owner	Location	Mailing Street	Mailing City	ST	ZipCd/Country
7292	40-999-0-E	USA-DEPT OF INTERIOR Cape Cod National Seashore	0 XXXXXXXXXXXXXXXXXXXXX	99 Marconi Site Rd	Wellfleet	MA	02667
3341	55-2-0-E	TOWN OF TRURO	5 TOWN DUMP RD	PO BOX 2030	TRURO	MA	02666-2030
5944	55-2-A-R	S B A TOWERS II LLC	5 TOWN DUMP RD	TAX DEPT MA12227-A 8051 CONGRESS AVE	BOCA RATON	FL	33487
3342	55-3-0-E	TOWN OF TRURO	5-A TOWN DUMP RD	PO BOX 2030	TRURO	MA	02666-2030

LG 11/12/19

40-999-0-E

USA-DEPT OF INTERIOR
Cape Cod National Seashore
99 Marconi Site Rd
Wellfleet, MA 02667

55-2-0-E

TOWN OF TRURO
PO BOX 2030
TRURO, MA 02666-2030

55-2-A-R

S B A TOWERS II LLC
TAX DEPT MA12227-A
8051 CONGRESS AVE
BOCA RATON, FL 33487

55-3-0-E

TOWN OF TRURO
PO BOX 2030
TRURO, MA 02666-2030

Spec. Permit LG 11/12/19



Special Permit

New Cingular Wireless PCS, LLC – Represented by

Kristina Cottone

5 Town Dump Road

Existing Telecommunications Tower

Truro, MA 02666

55-002-00A

SBA Towers II, LLC- Landlord



APPLICATION FOR SPECIAL PERMIT

Date 11/11/19

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Representative's Name and Address Shawn Nottage 8051 Congress Ave, BOca Raton, FL 33487

Representative's Phone(s), Fax and Email 401-533-6434 snottage@sbsite.com

Applicant(s)/Representative Signature

See attached Letter of Authorization from the tower owner, SBA Owner(s) Signature or written permission

Your signature(s) on this application authorizes the Members of the Planning Board and town staff to visit and enter upon the subject property.

Applications must be typed or printed clearly with black or blue ink.



SBA Communications Corporation
8051 Congress Avenue
Boca Raton, FL 33487-1307

T + 561.995.7670
F + 561.995.7626

sbasite.com

LETTER OF AUTHORIZATION

SBA Site ID: MA12227-A, Truro

Property Located at: 5 Town Dump Road, Truro, MA, 02666

THE CITY/COUNTY OF: Truro / Barnstable

APPLICATION FOR ZONING/USE/BUILDING PERMIT

This letter authorizes AT&T Wireless and its authorized agents to file for all necessary zoning, planning and building permits (local, state and federal) for the purposes of installing, operating and maintaining a telecommunications facility on the existing tower on the property referenced above on behalf of The Town Of Truro, Massachusetts.

All approval conditions that may be granted to AT&T Wireless in connection with above referenced facility relating to this specific application are the sole responsibility of AT&T Wireless.

SBA Towers II LLC

A handwritten signature in black ink, appearing to read "Jason Silberstein", is written over a light blue horizontal line.

Jason Silberstein

Executive VP, Site Leasing

Date: 11/12/2019



November 11, 2019

Planning Board
24 Town Hall Road
PO Box 2030
Truro, MA 02666

Re: Building Permit Application and Section 6409 Eligible Facilities Request
Applicant: New Cingular Wireless PCS, LLC ("AT&T")

Dear Honorable Members:

Smartlink LLC, on behalf of AT&T, is submitting this Section 6409 Eligible Facilities Request to remove and replace (6) wireless antennas and remove six (6) remote radio units and install (9) remote radio units at its existing antenna and ancillary Transmission Equipment at an existing wireless Base Station located at 5 Town Dump Road, Truro, MA.

A. Section 6409 Eligible Facilities Request being filed with the Building Permit

The Section 6409 Eligible Facilities Request accompanies this Building Permit Application because the Town of Truro has not yet developed an Eligible Facilities request permit application form that complies with Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012, commonly known as the "Spectrum Act", or ("Section 6409") (Pub. Law No. 112-96, 126 Stat 156) (codified at 47 U.S.C. § 1455).

Section 6409 mandates that state and local governments "*may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station.*" Under Section 6409(a)(2)(A)-(C) an Eligible Facilities Request is any request to modify a Tower or Base Station that involves "collocations of new Transmission Equipment, "removal," or "replacement" of Transmission Equipment.

B. Why this Eligible Facilities Request Must Be Granted

1. The existing facility is a Base Station.

AT&T, a Federal Communications Commission ("FCC") licensed wireless carrier, submitted this Eligible Facilities Request to add, modify and replace its existing antenna and ancillary Transmission Equipment at the existing Base Station. The FCC defines Base Station as "the equipment and non-tower supporting structure at a fixed location that enable Commission-licensed or authorized wireless communications between user equipment and a communications network . . . the term includes equipment associated with wireless communications service including, but not limited to, radio transceivers, antennas, coaxial or fiber-optic cable, regular and backup power supply and comparable equipment." The term "existing base station" also



includes a structure that currently houses or supports an antenna, transceiver or other associated equipment that constitutes part of a Base Station even if the structure was not built solely or primarily to provide such support. The existing Base Station in this application is one hundred ninety feet (190') high (twelve antennas) at one hundred eighty seven feet and three inches (187.3') high their respective centerlines and presently contains wireless facilities and Transmission Equipment. (The proposed Base Station or expand its footprint.) Therefore, the existing Base Station meets the FCC definition of a Base Station.

2. The Application's equipment is considered Transmission Equipment.

The list of equipment identified in the Eligible Facilities Request application is considered Transmission Equipment as determined by the FCC. The FCC defines Transmission Equipment as "any equipment that facilitates transmission for any Commission-licensed or authorized wireless communication service, including, but not limited to, radio transceivers, antennas and other relevant equipment associated with and necessary to their operation, including coaxial or fiber-optic cable, and regular and back-up power supply. This definition includes equipment used in any technological configuration associated with any Commission-authorized wireless transmission; licensed or unlicensed, terrestrial or satellite, including commercial mobile, private mobile, broadcast and public safety services, as well as fixed wireless services such as microwave backhaul or fixed broadband."

3. The Base Station will not be Substantially Changed.

In a Report and Order adopted on October 17, 2014, the FCC determined that any modification to an existing telecommunications Base Station that meets the following six (6) criteria does not substantially change the physical dimensions of the existing Base Station and therefore is an Eligible Facilities Request which must be granted. Attached herewith please find a certification that identifies how each of the above six (6) criteria are met and therefore no substantial change is proposed.

- a. The modifications to the Transmission Equipment do not increase the height of the Base Station by more than 10 percent (10%) or ten (10) feet, whichever is greater.
- b. The modifications to the Transmission Equipment do not protrude from the edge of the support structure by more than six (6) feet.
- c. The modifications to the Transmission Equipment do not involve the installation of more than the standard number of equipment cabinets for the technology involved, not to exceed three.
- d. The modifications to the Transmission Equipment do not entail any excavation or deployment outside of the Base Station site.
- e. The modifications to the Transmission Equipment do not defeat any existing concealed or stealth-design.
- f. The modifications to the Transmission Equipment comply with prior conditions of approval of the Base Station, unless the non-compliance is due to an increase in height, increase in width, addition of equipment cabinets, or new excavation that does not exceed the corresponding "substantial change" thresholds in numbers 1-4.



The modifications to the Transmission Equipment at the Base Station located at 5 Town Dump Road contained in this Eligible Facilities Request fully conform to Section 6409 as enacted by Congress and as interpreted by the FCC, as more specifically articulated in the Eligible Facilities Request Certification, attached herewith. Accordingly, this Eligible Facilities Request must be approved within sixty (60) days, as required by federal law and FCC implementing regulations.

C. Notice of Federal Law Expedited Permit Processing and Deemed Granted

An Eligible Facilities Request is deemed granted sixty (60) days after a complete application is filed with a local jurisdiction. If sixty (60) days pass after the submission of AT&T's Building Permit Application and Eligible Facilities Request and the Town of Truro has not acted to grant or deny the request, it will be deemed granted. At that time, AT&T may advise the Town of Truro that the application has been deemed granted. If the Town of Truro wishes to contest whether the Eligible Facilities Request has been deemed granted, the burden is on the Town of Truro to file a lawsuit in a court of competent jurisdiction within 30 days after receipt of a written communication notifying it that the Eligible Facilities Request has been deemed granted. Failure to file a lawsuit in a timely manner may forever bar this jurisdiction from contesting that this Eligible Facilities Request has been deemed granted.

AT&T is committed to working cooperatively with you, and all jurisdictions around the country, to secure expeditious approval of requests to modify existing personal wireless service facilities. Please do not hesitate to contact me if you have questions.

Sincerely,

Kristina Cottone

Kristina Cottone | Real Estate Specialist
Smartlink

85 Rangeway Road – Building 3 Suite 102

North Billerica MA, 01862

(m) 978.551.8627

Kristina.cottone@Smartlinkllc.com



Tower Engineering Solutions

Phone (972) 483-0607, Fax (972) 975-9615
1320 Greenway Drive, Suite 600, Irving, Texas 75038

Structural Analysis Report

Existing 190 ft Cellxion Self Supporting Tower

Customer Name: SBA Communications Corp

Customer Site Number: MA12227-A

Customer Site Name: Truro

Carrier Name: AT&T (App#: 122575, v2)

Carrier Site ID / Name: MAL01061 / Truro Landfill

Site Location: 5 Town Dump Road

Truro, Massachusetts

Barnstable County

Latitude: 41.985783

Longitude: -70.041333

RSM Redlined
10-31-19
match (v4)-App

Analysis Result:

Max Structural Usage: 74.7% [Pass]

Max Foundation Usage: 42.0% [Pass]

Additional Usage Caused by New Mount: + 0.6%



Kyle Wyant
10/7/19

Report Prepared by: Matthew Baker



Tower Engineering Solutions

Phone (972) 483-0607, Fax (972) 975-9615
1320 Greenway Drive, Suite 600, Irving, Texas 75038

Structural Analysis Report

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Additional Usage Caused by New Mount: + 0.6%

Report Prepared by: Matthew Baker

Introduction

The purpose of this report is to summarize the analysis results on the 190 ft Cellxion Self Supporting Tower to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Cellxion Drawing # TBAY01793, dated 01/13/2004
Foundation Drawing	Cellxion Drawing # TBAY01793, dated 01/13/2004
Geotechnical Report	Paul B. Aldinger & Associates Project # 03135, dated 11/19/2003
Modification Drawings	N/A

Analysis Criteria

The feasibility/rigorous analysis was performed in accordance with the requirements and stipulations of the ANSI/TIA/EIA 222-G. In accordance with this standard, the structure was analyzed using **TESTowers**, a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed $V_{ult} = 139.0$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 108.0$ mph (3-Sec. Gust)
Wind Speed with Ice:	40 mph (3-Sec. Gust) with 3/4" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	ANSI/TIA/EIA 222-G / Massachusetts State Building Code, Ninth Edition
Exposure Category:	B
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	$S_S = 0.164$, $S_1 = 0.057$

This structural analysis is based upon the tower being classified as a Structure Class II; however, if a different classification is required subsequent to the date hereof, the tower classification will be changed to meet such requirement and a new structural analysis will be run.

Existing Antennas, Mounts and Transmission Lines

The table below summarizes the antennas, mounts and transmission lines that were considered in the analysis as existing on the tower.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
-	187.3	6	Kathrein - 800-10122 - Panel	(3) T-Frames + (3) Pipe Mounts	(12) 1 5/8" Fiber *(2) 3/4" DC Fiber *(1) 7/16" Fiber *(Inside (1) 2" Innerduct)	AT&T
-		3	KMW - AM-X-CD-16-65-00T - Panel			
-		3	CSS - DUO1417-8686 - Panel			
-		6	Powerwave - LGP17201 - TMA			
-		6	Kathrein - 786-10250 - Diplexer			
-		1	Raycap - DC2-48-60-18-8F - OVP			
-	187.0	6	Ericsson - RRUS11 - RRU	(3) T-Frames	(6) 1 5/8" LMU (1) 1-1/4" LMU (3) 7/8" Fiber	T-Mobile
11	175.0	3	Ericsson - AIR21 B2A B4P - Panel			
12	175.0	3	Ericsson - AIR21 B4A B2P - Panel			
13	173.0	3	Ericsson - KRY 112 144 - TMA	(3) Sector Frames	(2) 1 5/8" Fiber	Verizon
14	165.0	6	Swedcom - SWCP 2X7014 - Panel			
15		6	Andrew - HBX-6516DS-VTM - Panel			
16		3	ALU - RRH2x40-AWS - RRU			
17		3	ALU - 9442 - RRU			
18		2	Raycap - RDC-4276-PF-48 - OVP			
19	138.0	3	RFS - APXVTM14-C-I20 - Panel	(3) T-Frame	(3) 1 1/4" Fiber (1) 5/8" Fiber	Sprint Nextel
20		3	RFS - APXVSP18 - Panel			
21		3	ALU - 2500 MHz - RRU			
22		3	ALU - 1900 MHz - RRU			
23		3	ALU - 800 MHz - RRU			
24		3	ALU - 800MHz Filter			
25		4	RFS - ACU-A20-N - RET			

Proposed Carrier's Final Configuration of Antennas, Mounts and Transmission Lines

Information pertaining to the proposed carrier's final configuration of antennas and transmission lines was provided by SBA Communications Corp. The proposed antennas and lines are listed below.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	187.3	3	KMW - AM-X-CD-16-65-00T-RET - Panel	(3) Sector Frames (Site Pro USF12-XX-U) + (3) Pipe Mounts	(12) 1 5/8" DC Fiber *(4) 3/4" DC Fiber *(2) 7/16" Fiber *(Inside (2) 3" Conduits)	AT&T
2		3	Cci - DMP5R-BU4DA - Panel			
3		3	Css - DUO1417-8686-0 - Panel			
4		3	Kathrein - 800-10121 - Panel			
5		6	Powerwave - LGP17201 - TMA			
6		3	Ericsson - RRUS 12 B4 - RRU			
7		3	Ericsson - RRUS 4478 B14 - RRU			
8		3	Ericsson - RRUS 4449 B5/B12 - RRU			
9		1	Raycap - DC2-48-60-18-8F - OVP			
10		2	Raycap - DC6-48-60-18-8F - OVP			

See the attached coax layout for the line placement considered in the analysis.

Analysis Results

The results of the structural analysis, performed for the wind and ice loading and antenna equipment as defined above, are summarized as the following:

Tower Component	Legs	Diagonals	Horizontals
Max. Usage:	48.9%	74.7%	2.4%
Pass/Fail	Pass	Pass	Pass

Foundations

	Compression (Kips)	Uplift (Kips)	Shear (Kips)
Analysis Reactions	374.1	308.5	37.0

The foundation has been investigated using the supplied documents and soils report and was found adequate. Therefore, no modification to the foundation will be required.

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by ANSI/TIA/EIA 222-G for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 0.0694 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the existing structure and its foundation were found to be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the ANSI/TIA/EIA 222-G Standard under the design basic wind speed as specified in the Analysis Criteria.

PROJECT NOTES:

- SITE INFORMATION OBTAINED FROM THE FOLLOWING:
 - PLAN ENTITLED "SOUTH TRURO" PREPARED BY A SAXON DESIGN GROUP OF TOMS RIVER, NEW JERSEY LAST REVISED 04/28/2015.
 - LIMITED FIELD OBSERVATION BY RAMAKER & ASSOCIATES ON 07/29/2019.
- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, LAWS AND REGULATIONS OF ALL MUNICIPALITIES, UTILITY COMPANIES OR OTHER PUBLIC/GOVERNING AUTHORITIES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS THAT MAY BE REQUIRED BY ANY FEDERAL, STATE, COUNTY OR MUNICIPAL AUTHORITIES.
- THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER, IN WRITING, OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE SUBMISSION OF BIDS OR PERFORMANCE OF WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING SITE IMPROVEMENTS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL REPAIR ANY DAMAGE AS A RESULT OF CONSTRUCTION OF THIS FACILITY AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
- THE SCOPE OF WORK FOR THIS PROJECT SHALL INCLUDE PROVIDING ALL MATERIALS, EQUIPMENT AND LABOR REQUIRED TO COMPLETE THIS PROJECT. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- THE CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO SUBMITTING THE BID TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND CONSTRUCTION DRAWINGS.
- THE CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THESE DRAWINGS MUST BE VERIFIED. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
- SINCE THE CELL SITE MAY BE ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE REQUIRED TO BE WORN TO ALERT OF ANY POTENTIALLY DANGEROUS EXPOSURE LEVELS.
- THE PROPOSED FACILITY WILL CAUSE NO INCREASE IN STORM WATER RUNOFF, THEREFORE, NO DRAINAGE STRUCTURES ARE PROPOSED.
- NO NOISE, SMOKE, DUST OR ODOR WILL RESULT FROM THIS FACILITY AS TO CAUSE A NUISANCE.
- THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION (NO HANDICAP ACCESS IS REQUIRED).
- THE FACILITY DOES NOT REQUIRE POTABLE WATER OR SANITARY SERVICE.
- CONTRACTOR SHALL VERIFY ANTENNA ELEVATION AND AZIMUTHS WITH RF ENGINEERING PRIOR TO INSTALLATION.
- THE TOWER, MOUNTS AND ANTENNAS SHALL BE DESIGNED TO MEET EIA/TIA-222-G AS PER IBC REQUIREMENTS.
- ALL STRUCTURAL ELEMENTS SHALL BE HOT DIPPED GALVANIZED STEEL.
- CONTRACTOR MUST FIELD LOCATE ALL EXISTING UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION.
- CONSTRUCTION SHALL NOT COMMENCE UNTIL COMPLETION OF A PASSING STRUCTURAL ANALYSIS CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER. THE STRUCTURAL ANALYSIS IS TO BE PERFORMED BY OTHERS.
- CONTRACTOR SHALL CONTACT STATE SPECIFIC ONE CALL SYSTEM THREE WORKING DAYS PRIOR TO ANY EARTH MOVING ACTIVITIES.



SITE NAME: SOUTH TRURO
FA NUMBER: 10014237
SITE NUMBER: MAL01061
ADDRESS: 5 TOWN DUMP ROAD
 TRURO, MA 02666
SCOPE: 3C - MRCTB040627 (2101A0PQWK),
 4C - MRCTB040695 (2101A0PQG3),
 4TX4RX SOFTWARE RETROFIT - MRCTB040751 (2101A0PQNJ)



85 RANGEWAY ROAD - BLDG 3, SUITE 102
 NORTH BILLERICA, MA 01862
 SMARTLINKLLC.COM



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 608-643-4100 www.Ramaker.com
 Sauk City, WI • Willmar, MN
 Woodcliff Lake, NJ • Bayamon, PR

Certification # Seal:
 I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Massachusetts.



James R. Skowronski 11/13/2019
 Registered Civil Engineer Signature Date:

AERIAL MAP:



PROJECT INFORMATION:

SITE INFORMATION:
 LATITUDE: 41.985769° N
 LONGITUDE: -70.04134° W
 JURISDICTION: BARNSTABLE COUNTY

APPLICANT/LESSEE:
 COMPANY: AT&T
 ADDRESS: NEW ENGLAND MARKET

PROPERTY OWNER:
 PROPERTY OWNER: SBA TOWERS II, LLC
 5900 BROKEN SOUND PARKWAY NW
 BOCA RATON, FL 33487

REAL ESTATE:
 COMPANY: SMARTLINK, LLC
 ADDRESS: 85 RANGEWAY ROAD
 BUILDING 3, SUITE 102
 NORTH BILLERICA, MA 01862
 CONTACT: KRISTINA COTTONE
 E-MAIL: KRISTINA.COTTONE@SMARTLINKLLC.COM

CONSTRUCTION MANAGER:
 COMPANY: SMARTLINK, LLC
 ADDRESS: 85 RANGEWAY ROAD
 BUILDING 3, SUITE 102
 NORTH BILLERICA, MA 01862
 CONTACT: RYAN DONNELLY
 E-MAIL: RYAN.DONNELLY@SMARTLINKLLC.COM

ENGINEER:
 COMPANY: RAMAKER & ASSOCIATES, INC.
 ADDRESS: 855 COMMUNITY DRIVE
 SAUK CITY, WI 53583
 CONTACT: ANGELA KVALHEIM
 E-MAIL: AKVALHEIM@RAMAKER.COM

PROJECT DESCRIPTION/ SCOPE OF WORK

- REMOVE (3) EXISTING RRUS-11 B12 RRUs, (1) PER SECTOR
 - INSTALL (3) NEW 4478 B14 RRUs, (1) PER SECTOR
 - INSTALL (3) NEW 4449 B5/B12 RRUs, (1) PER SECTOR
 - REMOVE (6) EXISTING DIPLEXERS, (2) PER SECTOR
 - RELOCATE (6) EXISTING LPG 17201 TMAS, (2) PER SECTOR
 - REMOVE (3) EXISTING KATHREIN 800-10121 ANTENNAS, (1) PER SECTOR
 - RELOCATE (3) EXISTING KMW AM-X-CD-16-00T-RET ANTENNAS, (1) PER SECTOR
 - RELOCATE (2) EXISTING KATHREIN 800-10121 ANTENNAS, (1) EACH IN BETA & GAMMA SECTORS
 - INSTALL (3) NEW CCI DMP65R-BU4DA ANTENNAS, (1) PER SECTOR
 - INSTALL (1) NEW DC9 SQUID
 - INSTALL (2) NEW DC POWER CABLES
 - INSTALL (1) NEW FIBER TRUNK
 - REPLACE BB WITH (2) 6630 & IDLs
 - REPLACE (1) POWER PLANT WITH NETSURE 7100 WITH BATTERIES
- PROPOSED PROJECT SCOPE BASED ON RFDS
 ID# 3097967, VERSION 4.0, LAST UPDATED 10/29/2019.
 CONTRACTOR TO VERIFY IN FIELD.

CODE COMPLIANCE:

- ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.
- 9TH EDITION OF THE MA STATE BUILDING CODE
 - 2015 INTERNATIONAL BUILDING CODE
 - 2015 INTERNATIONAL MECHANICAL CODE
 - ANSI/TIA-22-G STRUCTURAL STANDARD



SHEET INDEX

SHEET NUMBER	SHEET DESCRIPTION
T-1	TITLE SHEET
GN-1	GENERAL NOTES
C-1	COMPOUND PLAN
C-2	EQUIPMENT LAYOUT PLAN
C-3	ANTENNA LAYOUTS AND ANTENNA SCHEDULE
A-1	CONSTRUCTION DETAILS
A-2	CONSTRUCTION DETAILS
A-3	RF PLUMBING DIAGRAM
G-1	GROUNDING DETAILS
G-2	GROUNDING DETAILS

MARK	DATE	DESCRIPTION
2	11/13/19	FINAL CD# REVISED PER COMMENTS
1	11/06/19	FINAL CD# ISSUED
0	09/26/19	CD# ISSUED FOR REVIEW

ISSUE PHASE: FINAL DATE ISSUED: 11/13/2019

PROJECT TITLE:
**SOUTH TRURO
 FA# 10014237
 SITE# MAL01061**

PROJECT INFORMATION:
 5 TOWN DUMP ROAD
 TRURO, MA 02666
 BARNSTABLE COUNTY

SHEET TITLE:
TITLE SHEET

SCALE: NONE

PROJECT NUMBER: 45315
 SHEET NUMBER: T-1

GENERAL NOTES:

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND FOR GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 50 HMS OR LESS.
4. THE SUBCONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT.
5. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
6. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
7. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE EQUIPMENT GROUND RING WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS; 2 AWG STRANDED COPPER FOR OUTDOOR BTS.
8. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED. BACK TO BACK CONNECTIONS ON OPPOSITE SIDES OF THE GROUND BUS ARE PERMITTED.
9. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING, SHALL BE #2 AWG SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
10. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
11. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED. ALL BENDS SHALL BE MADE WITH 12" RADIUS OR LARGER.
12. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
13. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS EXCEPT FOR GROUND BAR CONNECTION FROM MGB TO OUTSIDE EXTERIOR GROUND SHALL ALL BE CADWELD CONNECTIONS.
14. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
15. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED TO THE TOWER GROUND BAR.
16. APPROVED ANTIOXIDANT COATINGS (I.E. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
17. ALL EXTERIOR AND INTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
18. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
19. BOND ALL METALLIC OBJECTS WITHIN 6 FT OF MAIN GROUND WIRES WITH 1-#2 AWG TIN-PLATED COPPER GROUND CONDUCTOR.
20. GROUND CONDUCTORS USED IN THE FACILITY GROUND AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC PLASTIC CONDUIT SHALL BE WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (E.G. NON-METALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
21. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/4" IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50.
22. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
 CONTRACTOR - SMARTLINK
 SUBCONTRACTOR - GENERAL CONTRACTOR (CONSTRUCTION)
 OWNER - AT&T (NEW CINGULAR WIRELESS PCS, LLC)
23. ALL SITE WORK SHALL BE COMPLETED AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
24. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
25. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.
26. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
27. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
28. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
29. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE

30. SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
31. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
32. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
33. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY THE RESPONSIBLE ENGINEER. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING & EXCAVATION.
34. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, AS DIRECTED BY THE RESPONSIBLE ENGINEER, AND SUBJECT TO THE APPROVAL OF THE OWNER AND/OR LOCAL UTILITIES.
35. THE AREAS OF THE OWNER'S PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY SHALL BE GRADED TO A UNIFORM SLOPE AND STABILIZED TO PREVENT EROSION.
36. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
37. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
38. THE SUBGRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
39. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.
40. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
41. THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE.
42. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
43. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR.
44. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
45. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
46. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS.
47. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (FY = 36 KSI) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (FY = 36 KSI). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
48. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T MOBILITY SITES."
49. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
50. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION, ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
51. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN ALERT OF DANGEROUS EXPOSURE LEVELS.





**85 RANGEWAY ROAD - BLDG 3, SUITE 102
 NORTH BILLERICA, MA 01862
 SMARTLINKLLC.COM**



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 608-643-4100 www.Ramaker.com**
 Sauk City, WI • Willmar, MN
 Woodcliff Lake, NJ • Bayamon, PR

Certification # Seal:
 I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Massachusetts.



James R. Skowronski 11/13/2019
Registered Civil Engineer Signature Date:

2	11/13/19	FINAL CD# REVISED PER COMMENTS
1	11/06/19	FINAL CD# ISSUED
0	09/26/19	CD# ISSUED FOR REVIEW
MARK	DATE	DESCRIPTION
ISSUE	FINAL	DATE ISSUED 11/13/2019
PROJECT TITLE:		
SOUTH TRURO FA# 10014237 SITE# MAL01061		
PROJECT INFORMATION: 5 TOWN DUMP ROAD TRURO, MA 02666 BARNSTABLE COUNTY		
SHEET TITLE:		
NOTES		
SCALE: NONE		
PROJECT NUMBER	45315	
SHEET NUMBER	GN-1	



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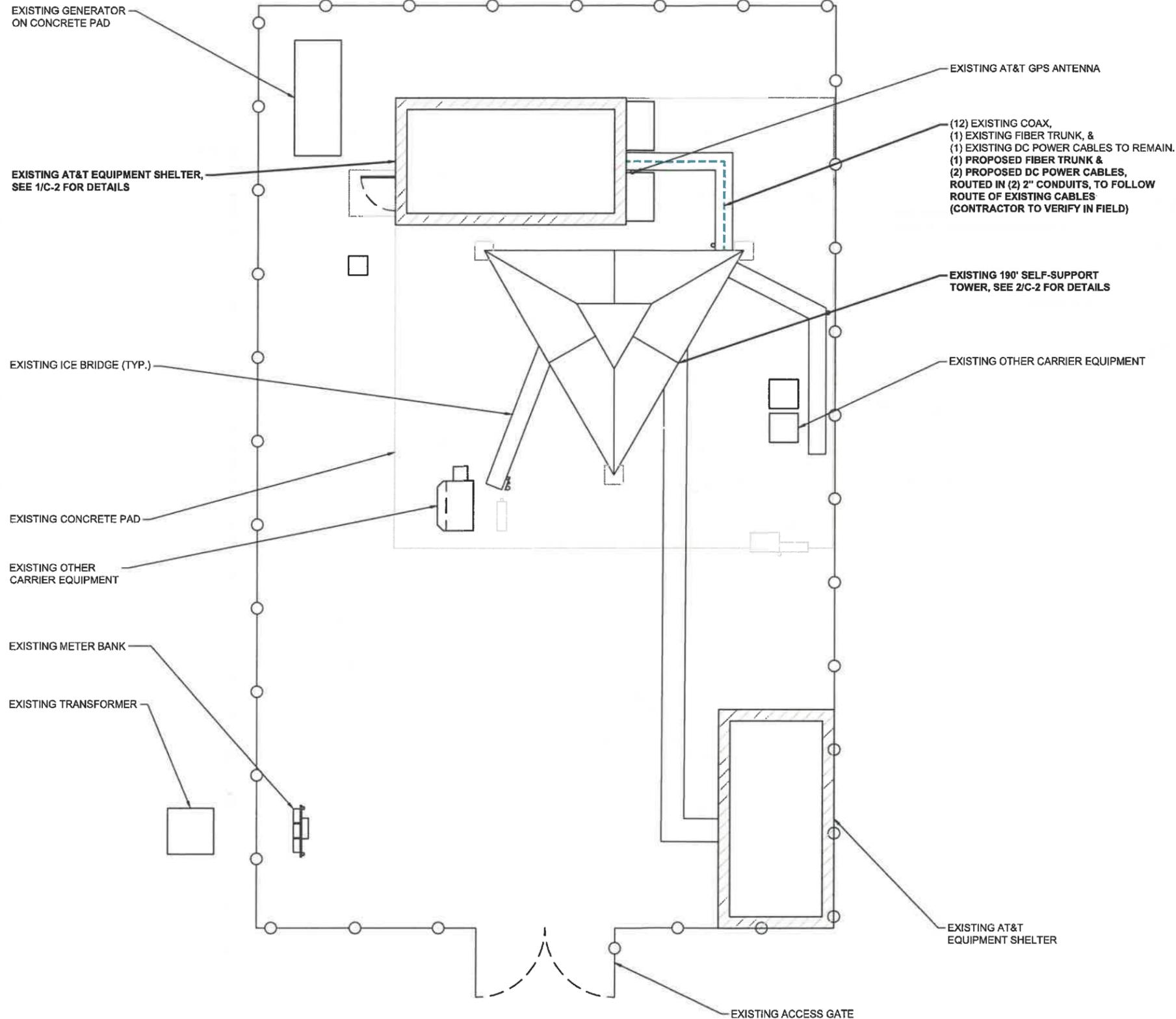
ISSUE PHASE: FINAL DATE ISSUED: 11/13/2019

PROJECT TITLE:
SOUTH TRURO
FA# 10014237
SITE# MAL01061

PROJECT INFORMATION:
 5 TOWN DUMP ROAD
 TRURO, MA 02666
 BARNSTABLE COUNTY

SHEET TITLE:
COMPOUND PLAN

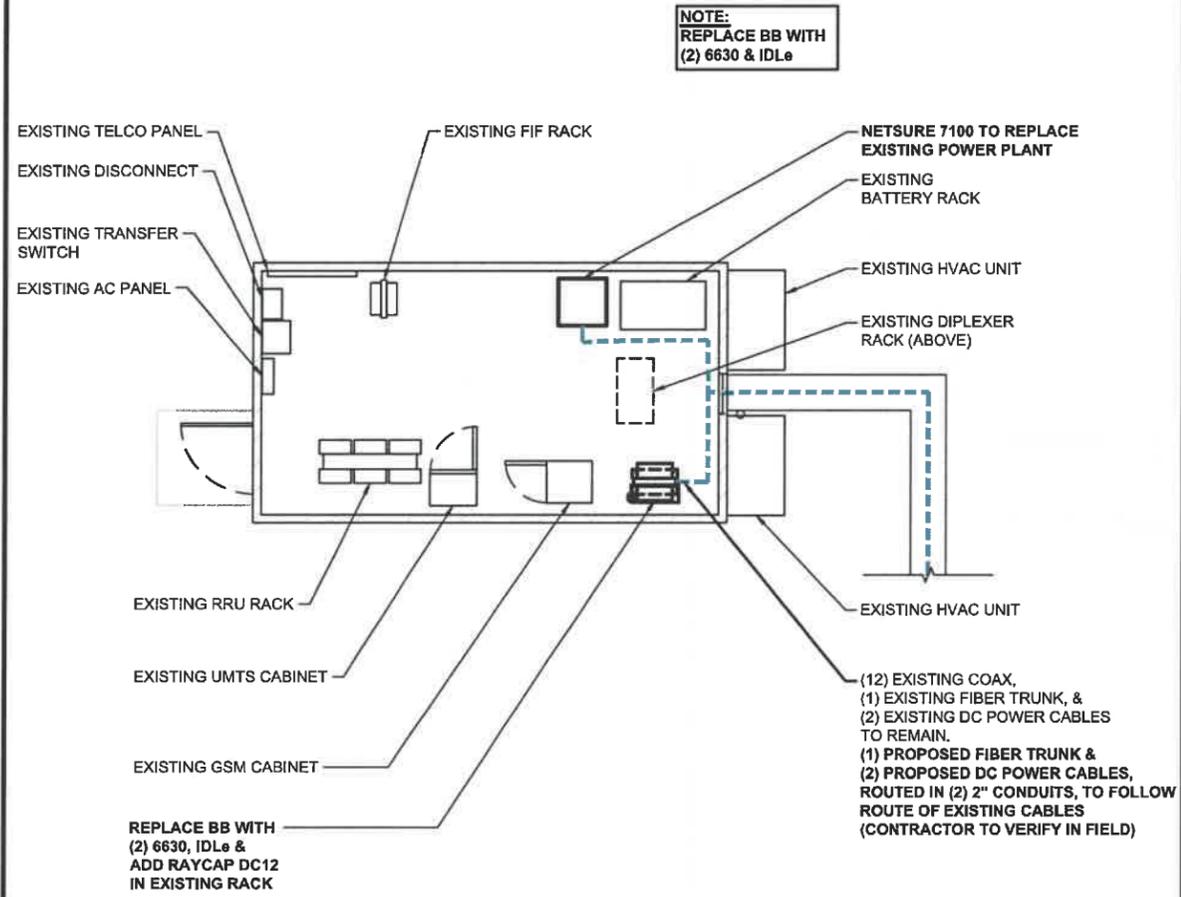
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11" x 17"	- 1" = 10'
22" x 34"	- 1" = 5'
PROJECT NUMBER	45315
SHEET NUMBER	C-1



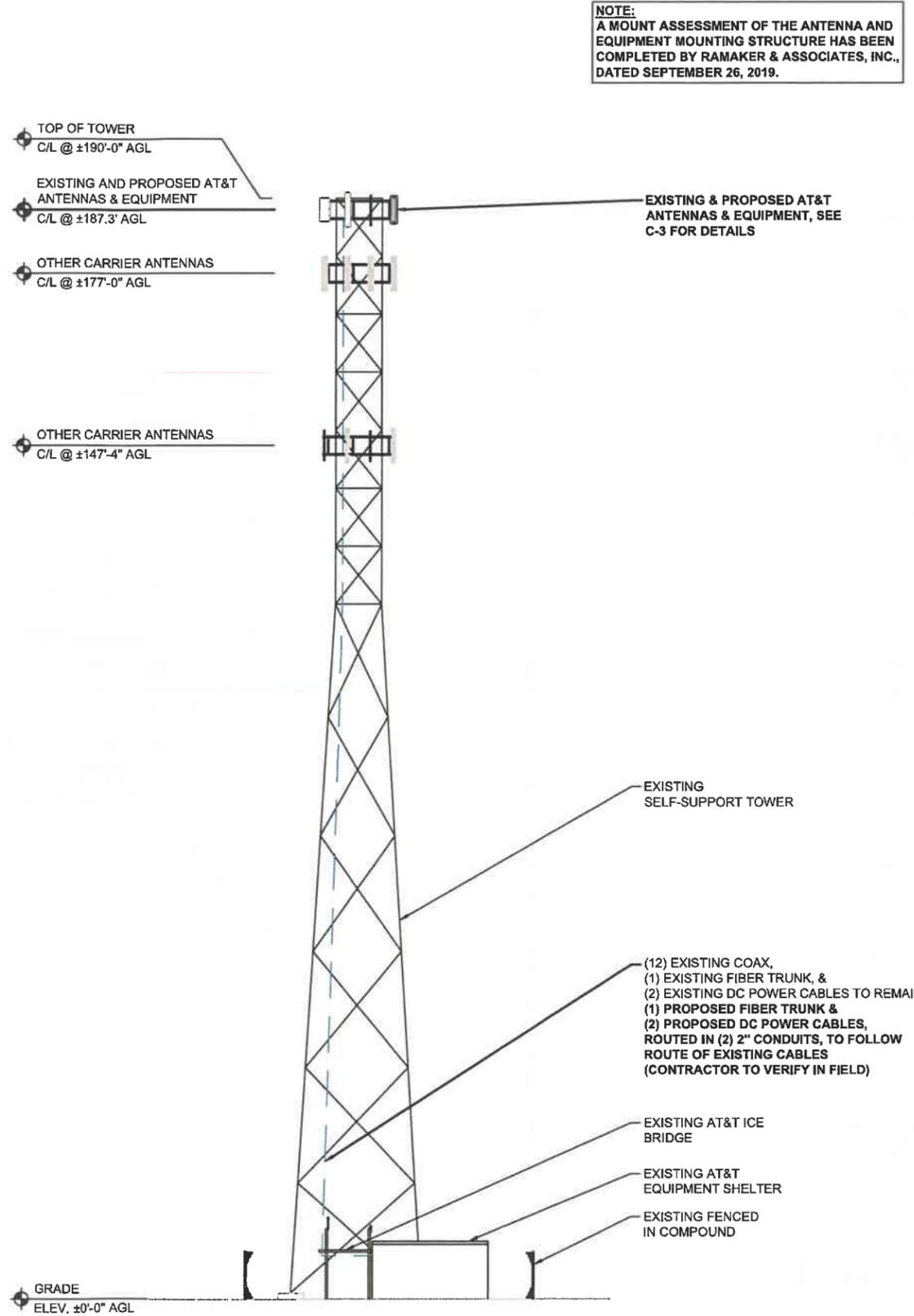
COMPOUND PLAN

SCALE: 1" = 10'

1



EQUIPMENT LAYOUT
 SCALE: 1" = 7.5' 1



ELEVATION VIEW
 SCALE: 1" = 25' 2



smartlink
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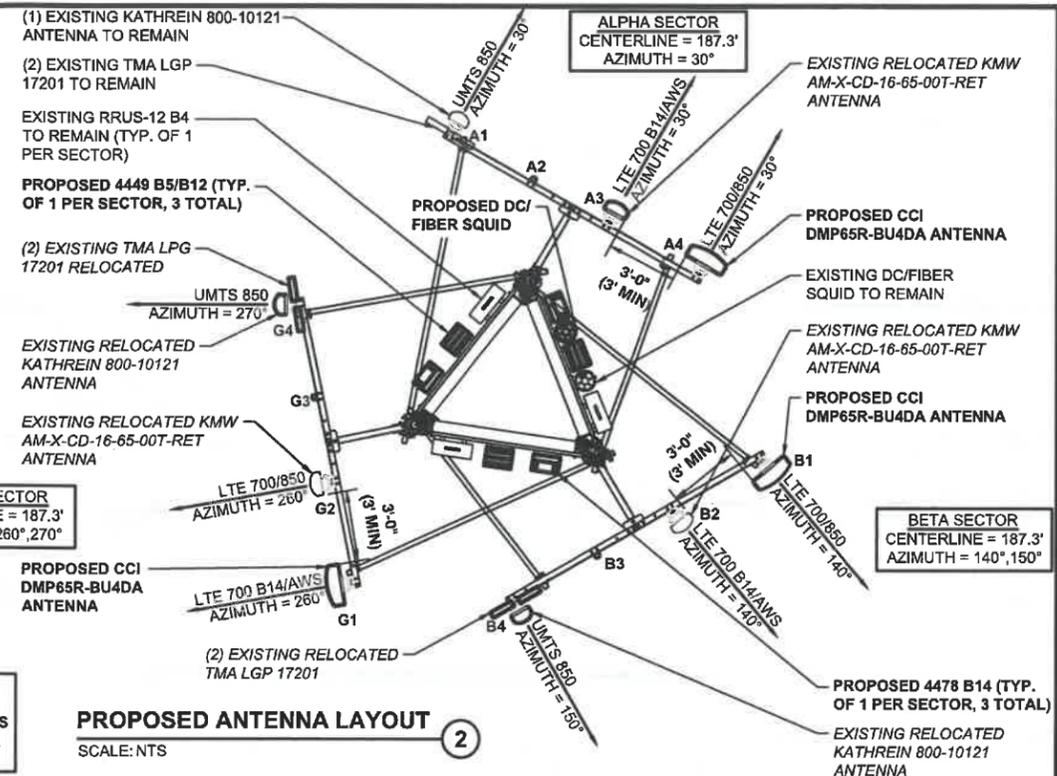
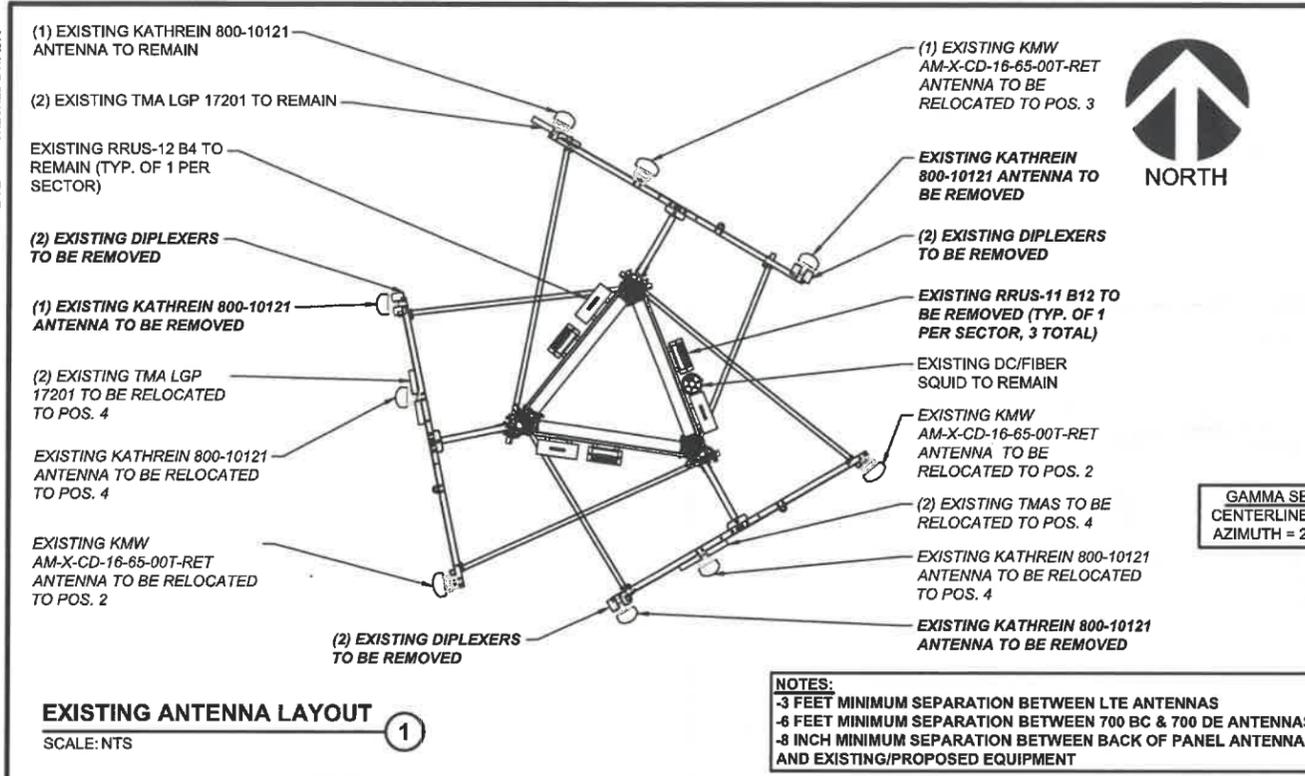
PROJECT TITLE:
SOUTH TRURO
FA# 10014237
SITE# MAL01061

PROJECT INFORMATION:
 5 TOWN DUMP ROAD
 TRURO, MA 02666
 BARNSTABLE COUNTY

SHEET TITLE:
EQUIPMENT LAYOUT AND ELEVATION VIEW

SCALE:
 AS NOTED

PROJECT NUMBER	45315
SHEET NUMBER	C-2



BASED ON: RF ENGINEERING DESIGN ENTITLED "NEW-ENGLAND_BOSTON_MA1061_2020-LTE-NEXT-CARRIER_LTE_MR673A_2101A0PQNJ_10014237_76840_05-07-2019_FINAL-APPROVED_V4.00" LAST REVISED 10/29/2019.

SECTOR	EXISTING ANTENNA	PROPOSED ANTENNA	TECHNOLOGY	ANTENNA STATUS	HEIGHT (IN.)	WIDTH (IN.)	DEPTH (IN.)	WEIGHT (LBS.)	ANTENNA AZIMUTH (DEG.)	ANT. C/L ELEV. (FT.)	REMOTE RADIO/TMA CONFIGURATION	TRANSMISSION CABLE			RAYCAP UNIT	
												QUANTITY	TYPE	STATUS		
SECTOR 1	1	KATHREIN 800-10121	UMTS 850	EXISTING	54.5	10.3	5.9	44.1	30	187.3	(2) TMA - LGP 17201	2	COAX	EXISTING	(1) EXISTING DC/FIBER SQUID (1) PROPOSED DC9 DC/FIBER SQUID	
	2	(RELOCATE) KMW AM-X-CD-16-65-00T-RET	-	VACANT	-	-	-	-	-	-	-	2	COAX	EXISTING		
	3	-	KMW AM-X-CD-16-65-00T-RET	LTE 700 B14 / AWS	RELOCATED	48.0	11.8	5.9	48.5	30	187.3	(1) RRUS-11 B12 (REMOVE) (1) RRUS-12 B4 (1) 4478 B14	1 2	FIBER TRUNK DC POWER		EXISTING
	4	KATHREIN 800-10121	CCI DMP65R-BU4DA	LTE 700 / 850	PROPOSED	48.0	20.7	7.7	67.9	30	187.3	(1) 4449 B5/B12	1 2	FIBER TRUNK DC POWER		PROPOSED
SECTOR 2	1	(RELOCATE) KMW AM-X-CD-16-65-00T-RET	CCI DMP65R-BU4DA	LTE 700 / 850	PROPOSED	48.0	20.7	7.7	140	187.3	(1) RRUS-11 B12 (REMOVE) (1) 4449 B5/B12	(SHARED)			(1) EXISTING DC/FIBER SQUID (1) PROPOSED DC9 DC/FIBER SQUID	
	2	-	KMW AM-X-CD-16-65-00T-RET	LTE 700 B14 / AWS	RELOCATED	72	11.8	5.9	140	187.3	(1) RRUS-12 B4 (RELOCATED) (1) 4478 B14	(SHARED)				
	3	(RELOCATE) KATHREIN 800-10121	-	-	VACANT	-	-	-	-	-	-	2	COAX	EXISTING		
	4	(REMOVE) KATHREIN 800-10121	KATHREIN 800-10121	UMTS 850	RELOCATED	54.5	10.3	5.9	44.1	150	187.3	(2) TMA - LGP 17201	2	COAX		EXISTING
SECTOR 3	1	KMW AM-X-CD-16-65-00T-RET	CCI DMP65R-BU4DA	LTE 700 / 850	PROPOSED	48.0	20.7	7.7	260	187.3	(1) RRUS-11 B12 (REMOVE) (1) 4449 B5/B12	(SHARED)			(1) EXISTING DC/FIBER SQUID (1) PROPOSED DC9 DC/FIBER SQUID	
	2	-	KMW AM-X-CD-16-65-00T-RET	LTE 700 B14 / AWS	RELOCATED	72	11.8	5.9	260	187.3	(1) RRUS-12 B4 (RELOCATED) (1) 4478 B14	(SHARED)				
	3	(RELOCATE) KATHREIN 800-10121	-	-	VACANT	-	-	-	-	-	-	2	COAX	EXISTING		
	4	(REMOVE) KATHREIN 800-10121	KATHREIN 800-10121	UMTS 850	RELOCATED	54.5	10.3	5.9	44.1	270	187.3	(2) TMA - LGP 17201	2	COAX		EXISTING

ANTENNA SCHEDULE (3)
 SCALE: NTS

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 NORTH BILLERICA, MA 01862
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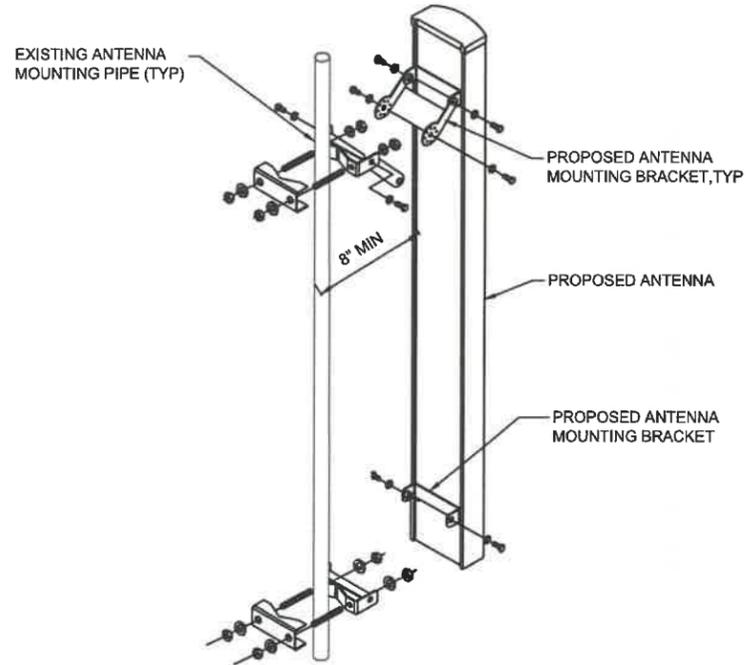
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 Woodcliff Lake, NJ • Bayamon, PR

Certification # Seal:
 I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Massachusetts.

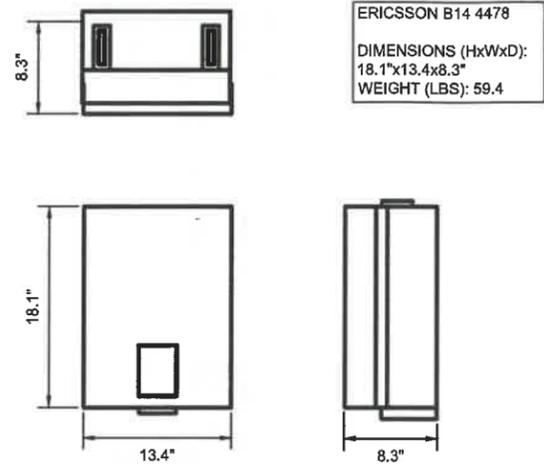
James R. Skowronski
 Registered Civil Engineer signature: 11/13/2019 Date:

2	11/13/19	FINAL CDs REVISED PER COMMENTS
1	11/06/19	FINAL CDs ISSUED
0	09/26/19	CDs ISSUED FOR REVIEW
MARK	DATE	DESCRIPTION
ISSUE	FINAL	DATE ISSUED 11/13/2019
PROJECT TITLE: SOUTH TRURO FA# 10014237 SITE# MAL01061		
PROJECT INFORMATION: 5 TOWN DUMP ROAD TRURO, MA 02666 BARNSTABLE COUNTY		
SHEET TITLE: ANTENNA LAYOUTS AND ANTENNA SCHEDULE		
SCALE: NONE		
PROJECT NUMBER	45315	
SHEET NUMBER	C-3	

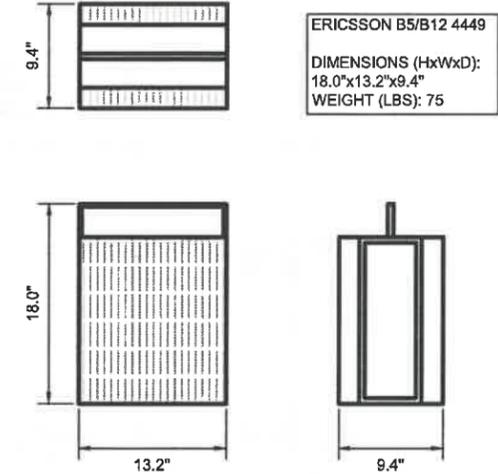
NOTES:
 -3 FEET MINIMUM SEPARATION BETWEEN LTE ANTENNAS
 -8 INCH MINIMUM SEPARATION BETWEEN BACK OF PANEL ANTENNA AND EXISTING/PROPOSED EQUIPMENT



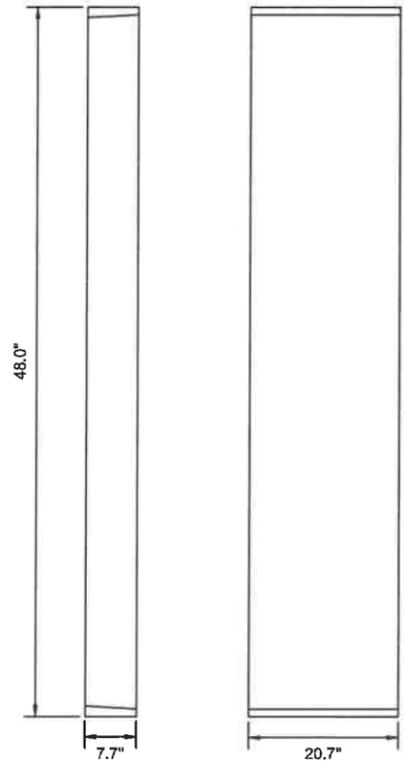
ANTENNA MOUNTING DETAIL ①
 SCALE: NTS



RRUS B14 4478 DETAIL ②
 SCALE: NTS



RRUS B5/B12 4449 DETAIL ③
 SCALE: NTS



CCI DMP65R-BU4DA
 DIMENSIONS (HxWxD):
 48.0"x20.7"x7.7"
 WEIGHT (LBS): 67.9

ANTENNA DETAIL ④
 SCALE: NTS

EXISTING RRUS-12 B4 TO REMAIN MOUNTED ON EXISTING UNISTRUT ON TOWER FACE



PROPOSED SQUID, 4449 B5/B12 & 4478 B14 TO BE MOUNTED ON EXISTING UNISTRUT ON TOWER FACE
 EXISTING RRUS-11 B12 MOUNTED ON EXISTING UNISTRUT ON TOWER FACE TO BE REMOVED

RRU & SQUID MOUNTING DETAIL ⑤
 SCALE: NTS

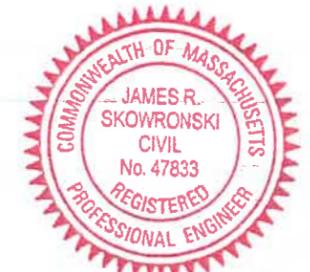


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James R. Skowronski 11/13/2019
 Registered Civil Engineer Signature: Date:

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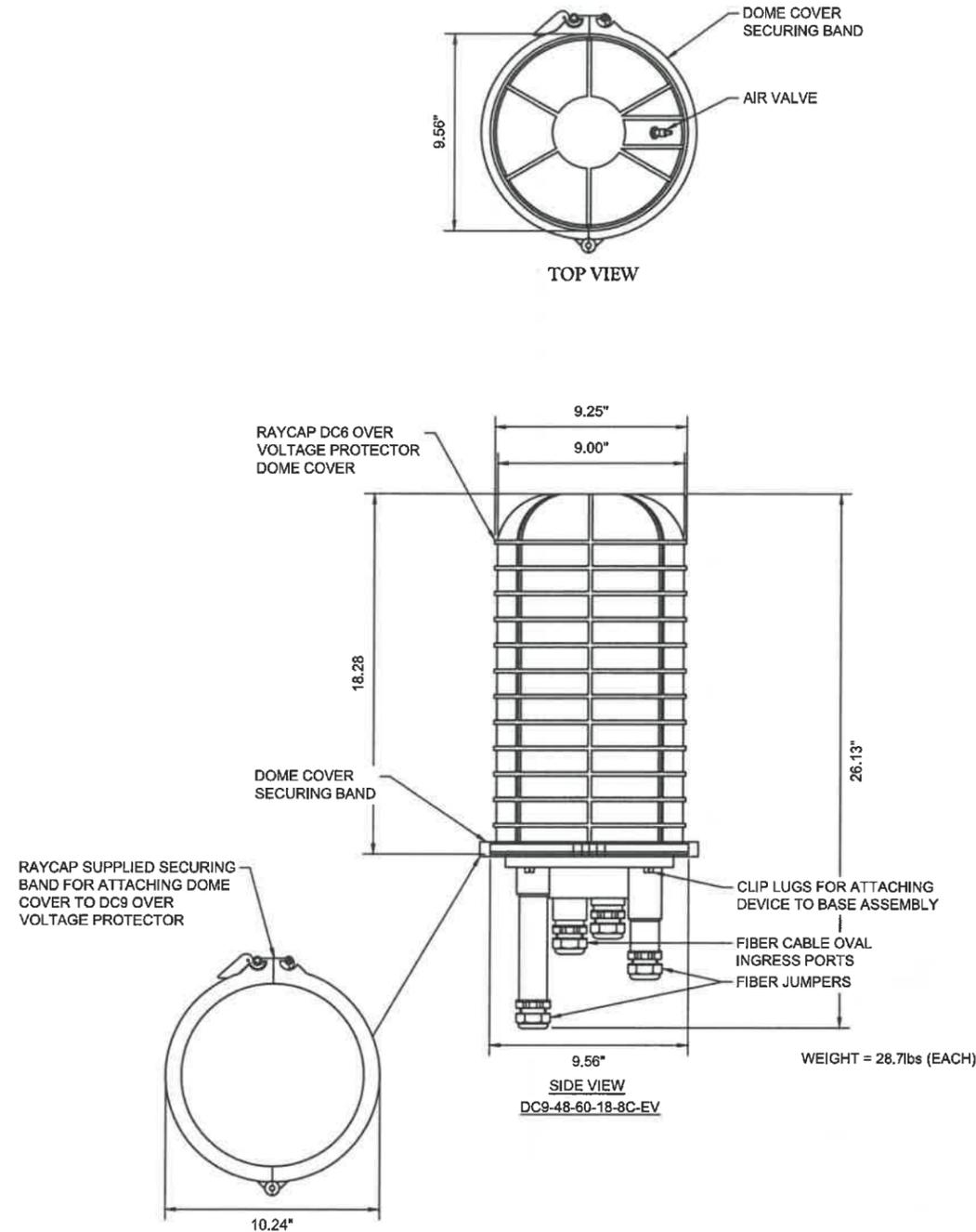
PROJECT TITLE:
SOUTH TRURO
FA# 10014237
SITE# MAL01061

PROJECT INFORMATION:
 5 TOWN DUMP ROAD
 TRURO, MA 02666
 BARNSTABLE COUNTY

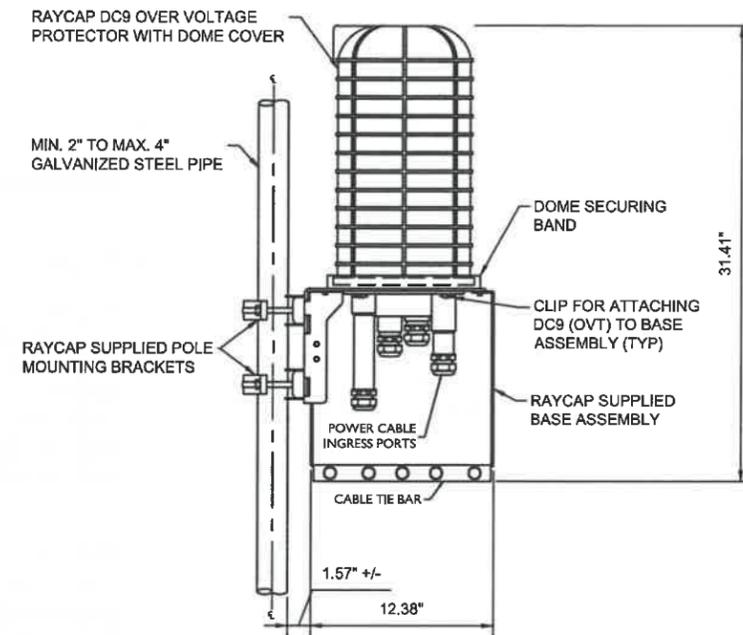
SHEET TITLE:
CONSTRUCTION DETAILS

SCALE: NONE

PROJECT NUMBER	45315
SHEET NUMBER	A-1



DC9 SURGE SUPPRESSION DOME
 SCALE: NTS ①



NOTE:
 RAYCAP VIA AT&T SUPPLIES THE DC9 OVER VOLTAGE PROTECTOR AND PIPE MOUNTING BRACKETS. SUBCONTRACTOR SHALL SUPPLY THE PIPE

DC9 SURGE SUPPRESSION DOME POLE MOUNT ASSEMBLY
 NOT TO SCALE ②

DC9 SURGE SUPPRESSION DOME POLE MOUNT ASSEMBLY
 SCALE: NTS ②



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James R. Skowronski 11/13/2019
 Registered Civil Engineer Signature Date

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0	09/26/19	CDs ISSUED FOR REVIEW

ISSUE PHASE: FINAL DATE ISSUED: 11/13/2019

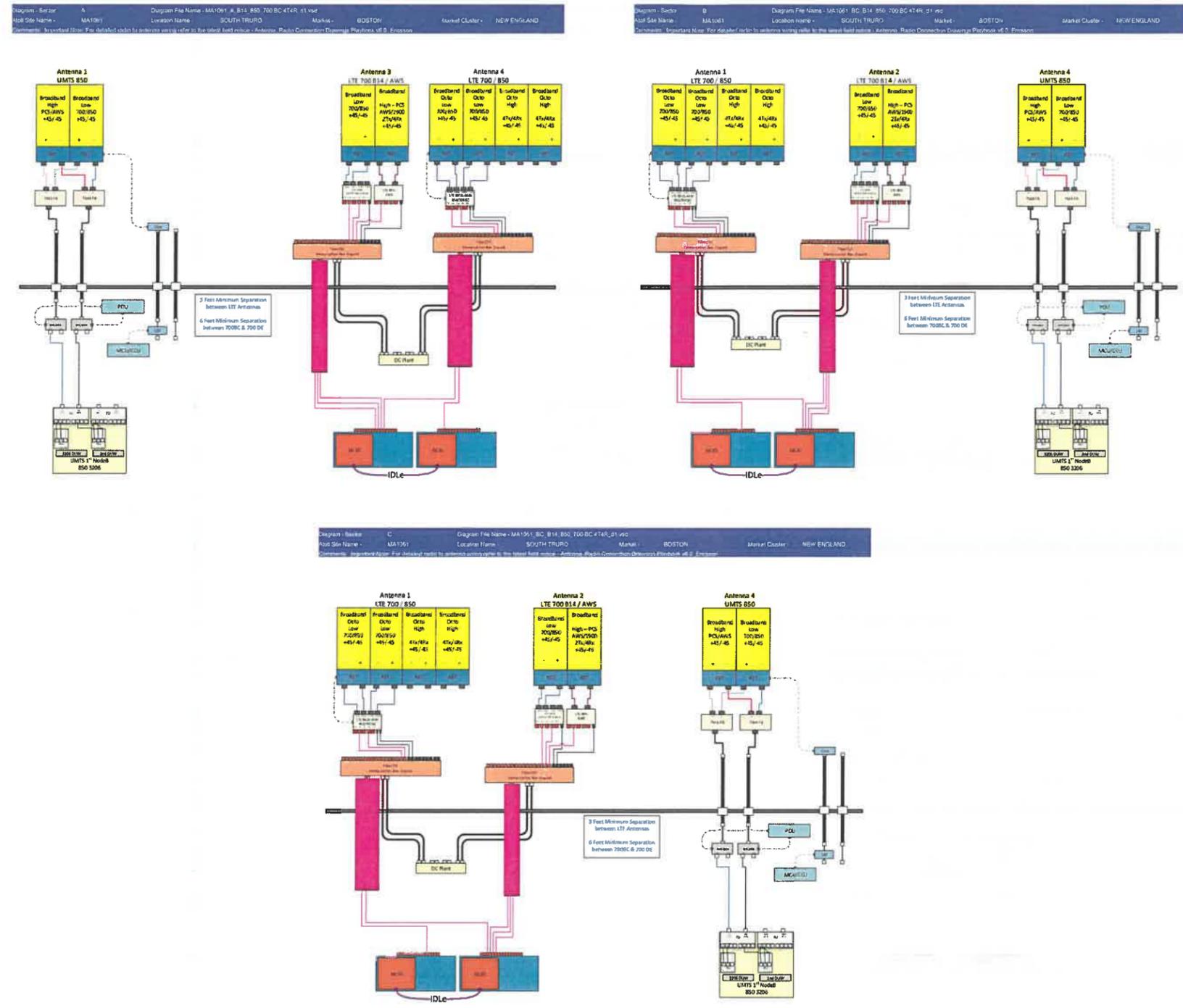
PROJECT TITLE:
SOUTH TRURO
FA# 10014237
SITE# MAL01061

PROJECT INFORMATION:
 5 TOWN DUMP ROAD
 TRURO, MA 02666
 BARNSTABLE COUNTY

SHEET TITLE:
CONSTRUCTION DETAILS

SCALE: NONE

PROJECT NUMBER: 45315
 SHEET NUMBER: A-2



BASED ON: RF ENGINEERING DESIGN ENTITLED "NEW-ENGLAND_BOSTON_MA1061_2020-LTE-NEXT-CARRIER_LTE_MR673A_2101A0PQNJ_10014237_76840_05-07-2019_FINAL-APPROVED_V4.00" LAST REVISED 10/29/2019.

RF PLUMBING DIAGRAMS
 SCALE: NTS



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James R. Skowronski 11/13/2019
 Registered Civil Engineer Signature: Date:

MARK	DATE	DESCRIPTION
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1	11/06/19	FINAL CDs ISSUED
0	09/28/19	CDs ISSUED FOR REVIEW

ISSUE PHASE: FINAL
 DATE ISSUED: 11/13/2019
 PROJECT TITLE:
SOUTH TRURO
FA# 10014237
SITE# MAL01061

PROJECT INFORMATION:
 5 TOWN DUMP ROAD
 TRURO, MA 02666
 BARNSTABLE COUNTY

SHEET TITLE:
RF PLUMBING DIAGRAMS

SCALE: NONE

PROJECT NUMBER	45315
SHEET NUMBER	A-3



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 Registered Civil Engineer Signature: Date:

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0	09/26/19	CDs ISSUED FOR REVIEW

ISSUE PHASE	FINAL	DATE ISSUED
		11/13/2019

PROJECT TITLE:
SOUTH TRURO
FA# 10014237
SITE# MAL01061

PROJECT INFORMATION:
 5 TOWN DUMP ROAD
 TRURO, MA 02666
 BARNSTABLE COUNTY

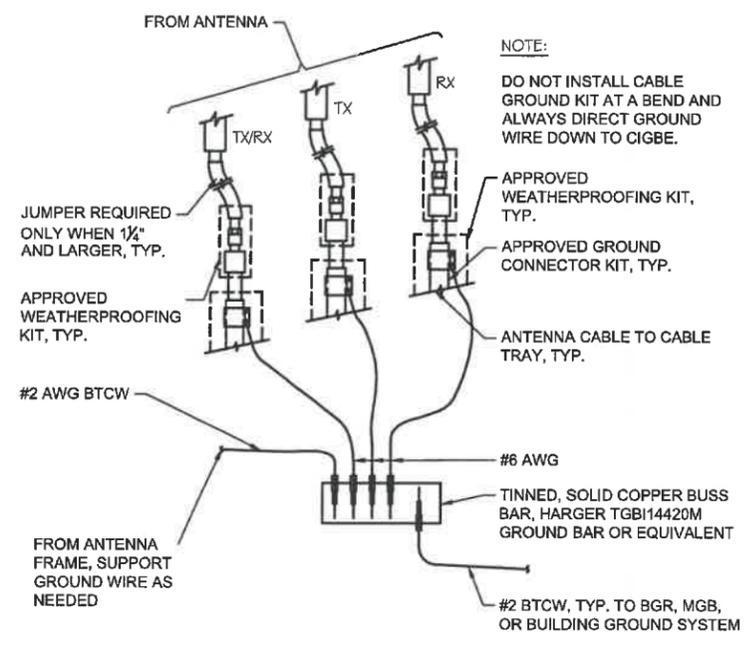
SHEET TITLE:
GROUNDING DETAILS

SCALE: NONE

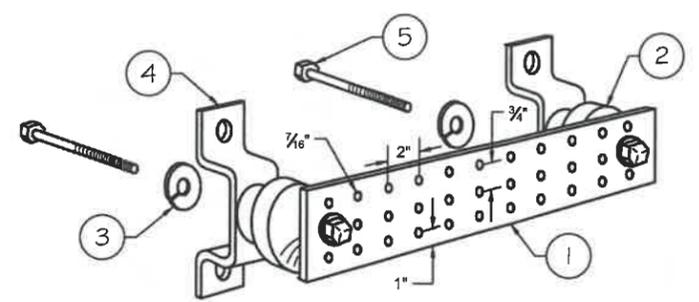
PROJECT NUMBER	45315
SHEET NUMBER	G-1

NOTES:

- ALL MOUNTING HARDWARE CAN BE USED ON 6", 12", 18", ETC. GROUND BARS.
- ENTIRE ASSEMBLY AVAILABLE FROM NEWTON INSTRUMENT CO. CAT. NO. 2106060010 OR AS HARGER TGBI14420M.

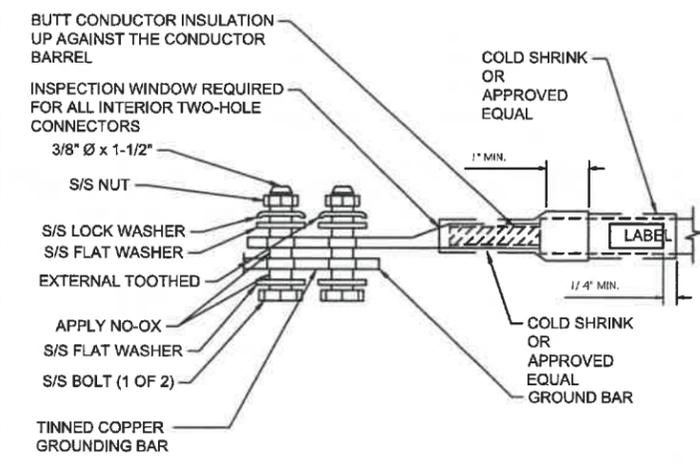


GROUND WIRE TO GROUND BAR DETAIL
 SCALE: NTS

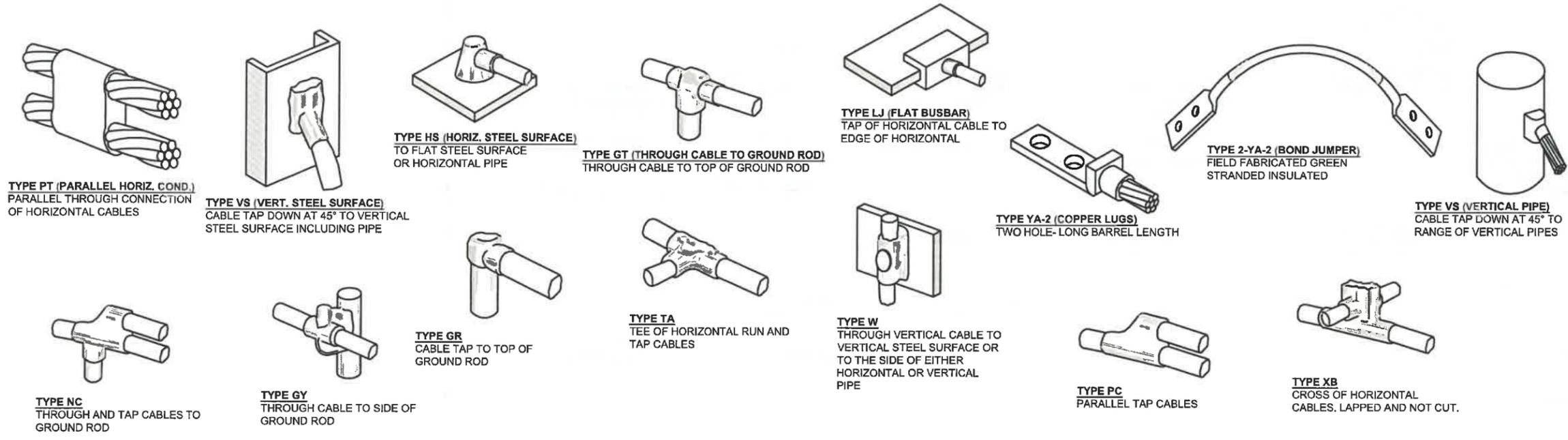


- LEGEND**
- TINNED COPPER GROUND BAR, 1/4" x 4" x 20", NEWTON CO., HARGER TGBI14420M, OR EQUIVALENT. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION.
 - INSULATORS. INSTRUMENT CO. CAT. NO. 3061-4 OR HARGER EQUIVALENT.
 - 3/8" LOCKWASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8 OR EQUIVALENT.
 - WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT. NO. A-6056 OR HARGER EQUIVALENT.
 - 5/8" x 1" H.H.C.S. BOLTS, NEWTON INSTRUMENT CO. CAT. NO. 3012-1 OR HARGER EQUIVALENT.

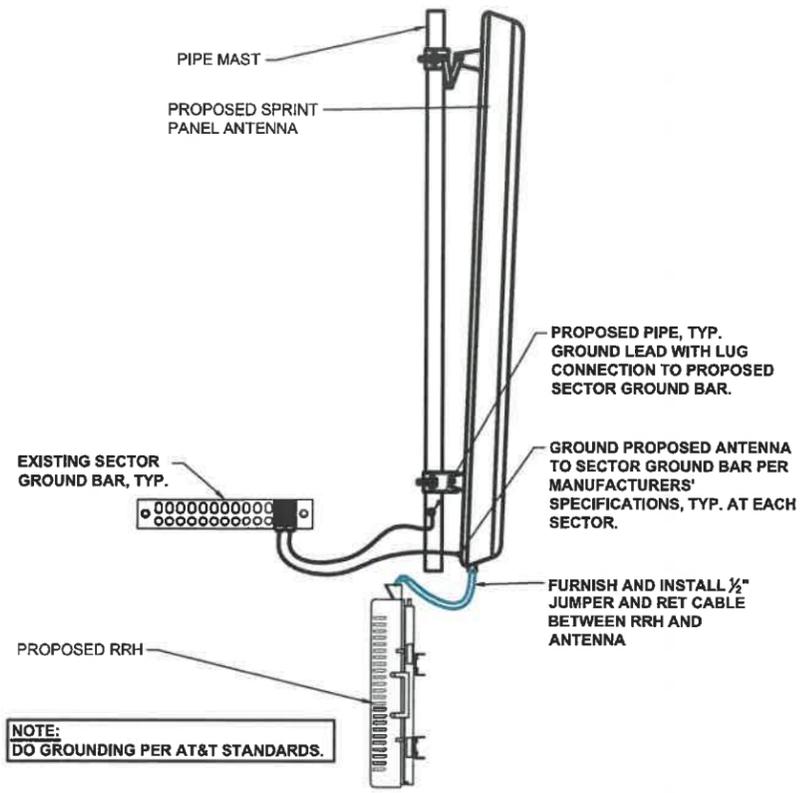
TYPICAL GROUND BAR DETAIL
 SCALE: NTS



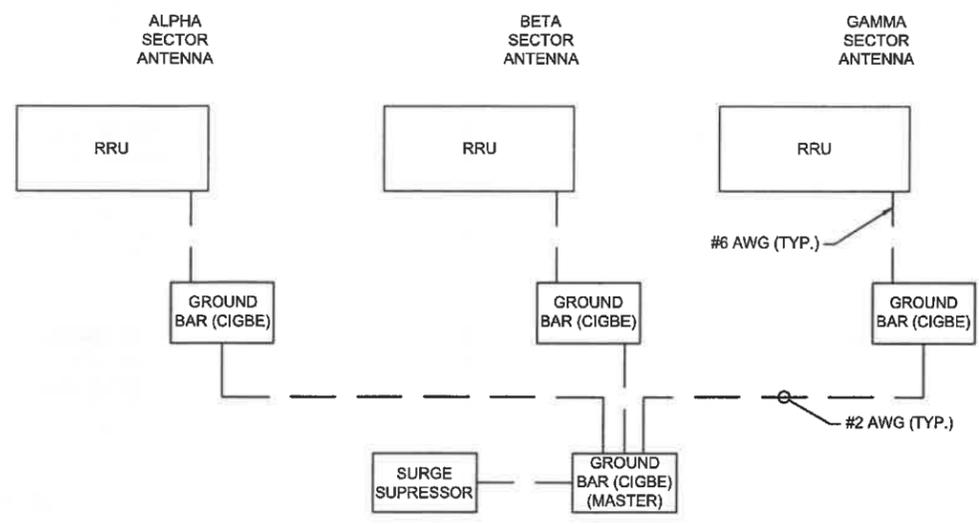
TYPICAL GROUND BAR CONNECTION DETAIL
 SCALE: NTS



TYPICAL CADWELD TYPES DETAIL
 SCALE: NTS



ANTENNA & RRU GROUNDING DETAIL
 SCALE: NTS ①



SCHEMATIC DIAGRAM GROUNDING SYSTEM
 SCALE: NTS ②



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James R. Skowronski 11/13/2019
 Registered Civil Engineer Signature: Date:

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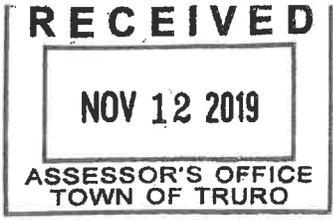
PROJECT TITLE:
SOUTH TRURO
FA# 10014237
SITE# MAL01061

PROJECT INFORMATION:
 5 TOWN DUMP ROAD
 TRURO, MA 02666
 BARNSTABLE COUNTY

SHEET TITLE:
GROUNDING DETAILS

SCALE: NONE

PROJECT NUMBER	45315
SHEET NUMBER	G-2



TOWN OF TRURO

Assessors Office

Certified Abutters List

Request Form

DATE: 11/12/19

NAME OF APPLICANT: Kristina Cottone - Smartlink LLC on behalf of AT&T

NAME OF AGENT (if any): _____

MAILING ADDRESS: 85 Rangeway Road, Building 3 Suite 102, North Billerica, MA 01862

CONTACT: HOME/CELL 978-551-8627 EMAIL Kristina.cottone@smartlinkllc.com

PROPERTY LOCATION: 5 Town Dump Road
(street address)

PROPERTY IDENTIFICATION NUMBER: MAP 55 PARCEL 022 2 EXT. A
(if condominium)

ABUTTERS LIST NEEDED FOR: (please check all applicable) **FEE: \$15.00 per checked item**
(Fee must accompany the application unless other arrangements are made)

- | | | |
|---|---|--|
| <input type="checkbox"/> Board of Health ⁵ | <input type="checkbox"/> Planning Board (PB) | <input type="checkbox"/> Zoning Board of Appeals (ZBA) |
| <input type="checkbox"/> Cape Cod Commission | <input checked="" type="checkbox"/> Special Permit ¹ | <input type="checkbox"/> Special Permit ¹ |
| <input type="checkbox"/> Conservation Commission ⁴ | <input checked="" type="checkbox"/> Site Plan ² | <input type="checkbox"/> Variance ¹ |
| <input type="checkbox"/> Licensing | <input type="checkbox"/> Preliminary Subdivision ³ | |
| Type: _____ | <input type="checkbox"/> Definitive Subdivision ³ | |
| | <input type="checkbox"/> Accessory Dwelling Unit (ADU) ² | |
| <input type="checkbox"/> Other _____ | | (Fee: Inquire with Assessors) |
- (Please Specify)

Note: Per M.G.L., processing may take up to 10 calendar days. Please plan accordingly.

THIS SECTION FOR ASSESSORS OFFICE USE ONLY

Date request received by Assessors: 11/12/19 Date completed: 11/13/19
List completed by: Laura Seizer

¹Abutters, owners of land directly opposite on any public or private street or way, and abutters to the abutters within 300 feet of the property line.

²Abutters to the subject property, abutters to the abutters, and owners of properties across the street from the subject property.

³Landowners immediately bordering the proposed subdivision, landowners immediately bordering the immediate abutters, and landowners located across the streets and ways bordering the proposed subdivision. **Note:** For Definitive Subdivision only, responsibility of applicant to notify abutters and produce evidence as required.

⁴All abutters within 300 feet of parcel, except Beach Point between Knowles Heights Road and Provincetown border, in which case it is all abutters within 100 feet. **Note:** Responsibility of applicant to notify abutters and produce evidence as required.

⁵Abutters sharing any boundary or corner in any direction – including land across a street, river or stream. **Note:** Responsibility of applicant to notify abutters and produce evidence as required.



TRURO ASSESSORS OFFICE

PO Box 2012 Truro, MA 02666

Telephone: (508) 214-0921

Fax: (508) 349-5506

Date: November 12, 2019

To: Smartlink LLC on behalf of AT & T

From: Assessors Department

Certified Abutters List: 5 Town Dump Road, Ext A (Map 55 Parcel 2.A)

Special Permit

Attached is a combined list of abutters for the properties located at 5 Town Dump Road, Ext. A. The current owner is SBA Towers II LLC.

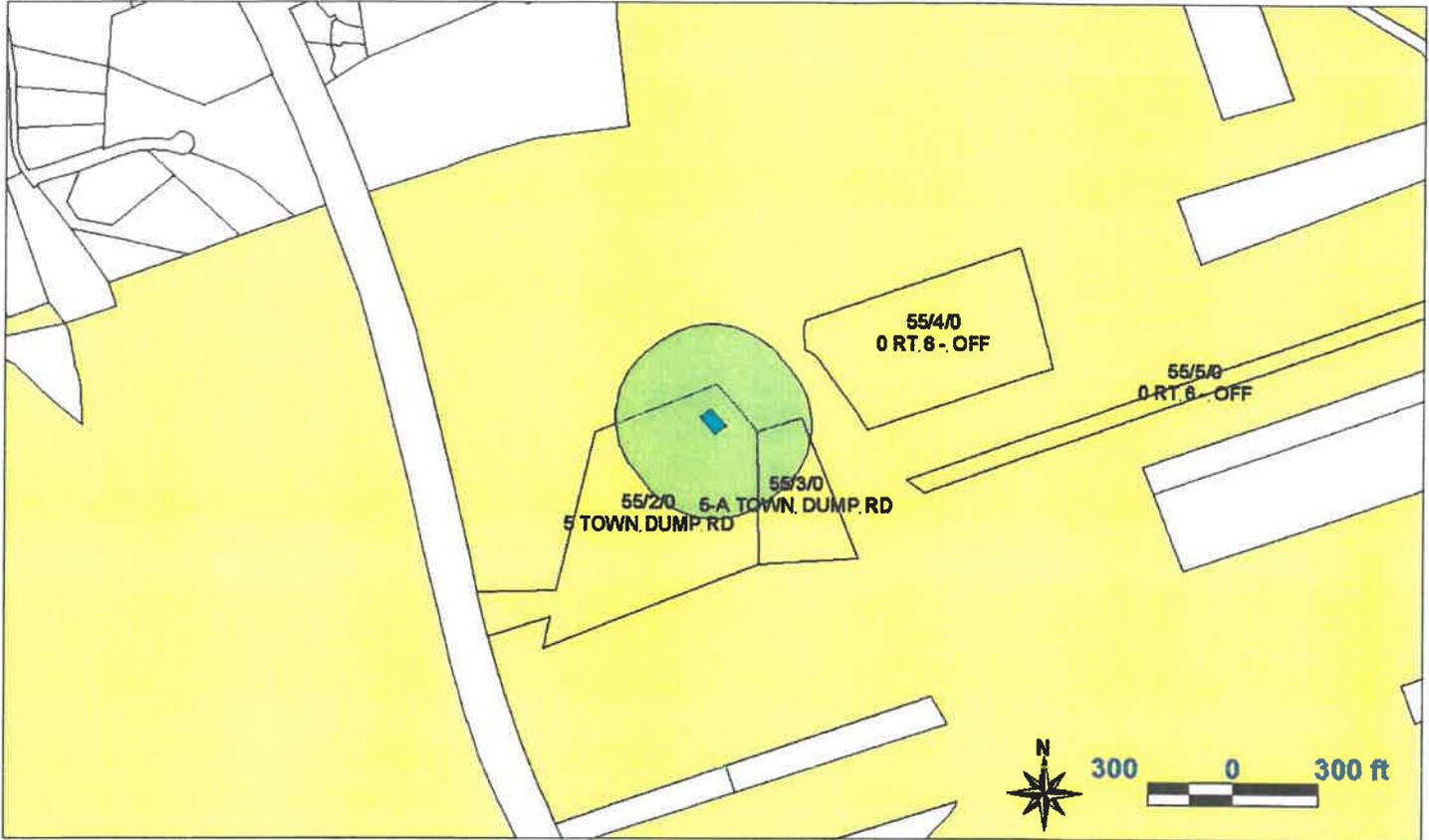
The names and addresses of the abutters are as of November 8, 2019 according to the most recent documents received from the Barnstable County Registry of Deeds.

Certified by: _____

Laura Geiges
Assistant Assessor

TOWN OF TRURO, MA
 BOARD OF ASSESSORS
 P.O. BOX 2012, TRURO MA 02666

Abutters List Within 300 feet of Parcel 55/2/A



Key	Parcel ID	Owner	Location	Mailing Street	Mailing City	ST	ZipCd/Country
7292	40-999-0-E	USA-DEPT OF INTERIOR Cape Cod National Seashore	0 XXXXXXXXXXXXXXXXXXXXX	99 Marconi Site Rd	Wellfleet	MA	02667
3341	55-2-0-E	TOWN OF TRURO	5 TOWN DUMP RD	PO BOX 2030	TRURO	MA	02666-2030
5944	55-2-A-R	S B A TOWERS II LLC	5 TOWN DUMP RD	TAX DEPT MA12227-A 8051 CONGRESS AVE	BOCA RATON	FL	33487
3342	55-3-0-E	TOWN OF TRURO	5-A TOWN DUMP RD	PO BOX 2030	TRURO	MA	02666-2030
3343	55-4-0-E	U S A DEPT OF THE INTERIOR	0 RT 6 - OFF	CAPE COD NATIONAL SEASHORE 99 MARCONI SITE RD	WELLFLEET	MA	02667
3344	55-5-0-E	U S A DEPT OF THE INTERIOR	0 RT 6 - OFF	CAPE COD NATIONAL SEASHORE 99 MARCONI SITE RD	WELLFLEET	MA	02667

40-999-0-E

USA-DEPT OF INTERIOR
Cape Cod National Seashore
99 Marconi Site Rd
Wellfleet, MA 02667

55-2-0-E

TOWN OF TRURO
PO BOX 2030
TRURO, MA 02666-2030

55-2-A-R

S B A TOWERS II LLC
TAX DEPT MA12227-A
8051 CONGRESS AVE
BOCA RATON, FL 33487

55-3-0-E

TOWN OF TRURO
PO BOX 2030
TRURO, MA 02666-2030

55-4-0-E

U S A
DEPT OF THE INTERIOR
CAPE COD NATIONAL SEASHORE
99 MARCONI SITE RD
WELLFLEET, MA 02667

55-5-0-E

U S A
DEPT OF THE INTERIOR
CAPE COD NATIONAL SEASHORE
99 MARCONI SITE RD
WELLFLEET, MA 02667



Waiver for Site Plan Review

New Cingular Wireless PCS, LLC – Represented by

Kristina Cottone

5 Town Dump Road

Existing Telecommunications Tower

Truro, MA 02666

55-002-00A

SBA Towers II, LLC- Landlord



Town of Truro Planning Board

P.O. Box 2030, Truro, MA 02666

COMMERCIAL DEVELOPMENT APPLICATION FOR SITE PLAN REVIEW

Date 11/12/19

To the Town Clerk and the Planning Board of the Town of Truro, MA

The undersigned hereby files an application with the Truro Planning Board for the following:

- Site Plan Review** pursuant to §70.3 of the Truro Zoning By-law (Complete I, II & III)
- Waiver of Site Plan Review** pursuant to §70.9 of the Truro Zoning By-law (Complete I & III)

I. General Information

Description of Property and Proposed Project Modification of an existing telecommunications tower by replacing existing antennas with kind-like antennas, as well as RFemote Radio Units. There will be no increase in the number of antennas as well as no increase of the tower height or expansion of the leased ground space.

Property Address 5 Town Dump Road Map(s) and Parcel(s) 055-002-00a

Registry of Deeds title reference: Book _____, Page _____, or Certificate of Title Number _____ and Land Ct. Lot # _____ and Plan # _____

Applicant's Name Kristina Cottone - Smartlink LLC - on behalf of AT&T

Applicant's Legal Mailing Address 85 Rangeway Road, Building 3, Suite 102

Applicant's Phone(s), Fax and Email 978-551-8627, kristina.cottone@smartlinkllc.com

Applicant is one of the following: (please check appropriate box)

- Owner
- Prospective Buyer*
- Other* *Written Permission of the owner is required for submittal of this application.

Owner's Name and Address Shawn Nottage - SBA Towers

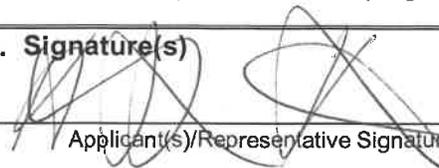
Representative's Name and Address 8051 Congress Ave, Boca Raton, FL 33487

Representative's Phone(s), Fax and Email 401-533-6434 snottage@sbsite.com

II. Waiver(s) Request – Waivers from any of the items listed in §70.3.D, must be identified below and a separate sheet shall be attached indicating in detail the reason for said waiver(s) pursuant to §70.3.D. *Note that items 1(a-d), 2 and 3.a (1 – 6) of §70.3.D shall not be waived.*

- 1.e: 3 copies of drainage calculations
- 3.b: Existing Conditions Plan (specific waiver requests and reason must be attached)
- 3.c: Proposed Conditions Plan (specific waiver requests and reason must be attached)
- 3.d: Proposed Landscaping Plan (specific waiver requests and reason must be attached)

III. Signature(s)


Applicant(s)/Representative Signature

- See attached Letter of Authorization from the tower owner SBA
Owner(s) Signature or written permission

Your signature on this application authorizes the Members of the Planning Board and town staff to visit and enter upon the subject property.



SBA Communications Corporation
8051 Congress Avenue
Boca Raion, FL 33487-1307

T + 561.995.7670
F + 561.995.7626

sbasite.com

LETTER OF AUTHORIZATION

SBA Site ID: MA12227-A, Truro

Property Located at: 5 Town Dump Road, Truro, MA, 02666

THE CITY/COUNTY OF: Truro / Barnstable

APPLICATION FOR ZONING/USE/BUILDING PERMIT

This letter authorizes AT&T Wireless and its authorized agents to file for all necessary zoning, planning and building permits (local, state and federal) for the purposes of installing, operating and maintaining a telecommunications facility on the existing tower on the property referenced above on behalf of The Town Of Truro, Massachusetts.

All approval conditions that may be granted to AT&T Wireless in connection with above referenced facility relating to this specific application are the sole responsibility of AT&T Wireless.

SBA Towers II LLC

A handwritten signature in black ink, appearing to read "Jason Silberstein", is written over a light blue horizontal line.

Jason Silberstein

Executive VP, Site Leasing

Date: 11/12/2019



November 12, 2019

Planning Board
24 Town Hall Road
PO Box 2030
Truro, MA 02666

RE: Estimated Fair Cost of Construction for Improvements Associated with Wireless Upgrade of Existing AT&T Wireless Facility – MAL01061 – 5 Town Dump Road, Truro, MA 02666 / (the "Site")

Dear Planning Board Members:

The estimated fair cost of construction for improvements for the upgrade of AT&T's existing wireless facility at the Site, as depicted on the construction drawings, is estimated as follows (each cost being a not-to-exceed estimate):

Labor for Improvements \$10,0000
Materials for Improvements \$15,000
Total Fair Cost for Improvements \$25,000

These modifications shall be started in April of 2020 and be finished 2 weeks later in April 2020 as well. The construction time will be Monday through Friday, 9am to 5pm.

As mentioned before, AT&T intends to do the following telecommunications modifications to the existing tower at 5 Town Dump Road, in Truro, MA; remove six (6) existing panel antennas, remove six (6) existing diplexers, and removing six (6) existing Remote Radio Units. They intend to swap the equipment with six (6) new panel antennas -that are like-kind in size of the removed antennas, adding nine (9) new Remote Radio Units, adding one (1) DC/Fiber Squid with two (2) 3" Conduits to hold those lines. The proposed work does not increase the height of the tower nor does it expand AT&T leased ground space.

Thank you,

A handwritten signature in black ink, appearing to read "Javier Soto".

Javier Soto
Empire Telecom



November 11, 2019

Planning Board
24 Town Hall Road
PO Box 2030
Truro, MA 02666

Re: Eligible Facilities Request pursuant to Section 6409 of the
Spectrum Act and an Application for Waiver of Site Plan Review, in the Alternative.
Property Address: 5 Town Dump Road, Truro, MA 02666 (the "Property")
Applicant: New Cingular Wireless PCS, LLC ("AT&T")

Dear Honorable Members of the Planning Board:

Pursuant to Section 70.9 (Waiver of Site Plan Review) of the Town of Truro zoning bylaws (the "Bylaws"), the Applicant respectfully requests the waiver of site plan review from the Board because the proposed telecommunication modifications to the Tower "will not have a significant impact within the site or in relation to adjacent properties and streets; on pedestrian and vehicular traffic; on public services and infrastructure, or on unique environmental and historic resources, abutting properties; or community needs." Moreover, to the extent the Board determines site plan review from the Board.

AT&T's proposed Facility (as defined herein) is subject to Section 6409 of the Middle Class Tax relief and Job Creation Act of 2012, more commonly known as the "Spectrum Act" (47 U.S.C §1445). The compliance with the Spectrum Act is shown on the Eligible Facilities Request permit application form attached in this application package and incorporated herein by reference (the "EFR"). We respectfully submit in the event that the Board determines that the application does not comply with the Spectrum Act, the Applicant hereby states that the site plan requirements set forth in the Bylaws are hereby met by the Applicant, and that relief must be granted to the Applicant.

The Applicant seeks to modify its existing wireless communications facility by replacing panel antennas and Remote Radio Head Units ("RRU") currently installed on the Tower, and by replacing supporting equipment at the base of the Tower (the "proposed Facility"). All of the proposed replacement antennas will be installed in the



same location as the removed antennas on the existing tower. The applicant's facilities are shown on the Plans attached hereto in this application package and incorporated herein by reference (the "Plans").

1. Project Description

As noted above, AT&T proposes to modify its existing wireless facility currently operating in the Tower by replacing six (6) panel antennas with six (6) like kind panel antennas, by removing six (6) RRUs and installing nine (9) RRUS and remove six (6) Diplexers from the tower. In addition, AT&T will add one (1) DC/Fiber Squid on the tower. All of the replacement antennas will be installed at the same locations as the replaced antennas on the tower. The visual change to the Applicant's existing facility will be de minimis. The Proposed Facility will comply with all applicable local, state and federal codes.

2. Legal Arguments

a. Section 70.9: Waiver of Site Plan Review

The Planning Board may determine at its discretion without a public hearing that submission of a Commercial or residential Site Plan review application is not required when this alteration or reconstruction is an existing building or structure ort new use or change in use will not have a significant impact: within the site or in relation to adjacent properties and streets; on pedestrian and vehicular traffic; on public services and infrastructure, or on unique environmental and historic resources, abutting properties; or community needs.

A waiver from Commercial or Residential Site Plan Review must be requested by the applicant using the appropriate Site Plan Review Application form. The form, applicable filing fee and supporting documentation to establish that such review is not required shall be filed with the Planning Board Secretary. A waiver request will be considered at a regular session of the Planning Board.

Upon the decision of the Planning Board, a copy of the decision shall be sent to the applicant, the owner, the representative, if any, and the Building Commissioner.

Site plan review is not required because the Proposed Facility on the existing Tower on the Property will not have a signification impact within the site or in relation to



adjacent properties and streets; on pedestrian and vehicular traffic; on public services and infrastructure, or on unique environmental and historic resources, abutting properties; or community needs.

All of the replacement antennas will be of like kind design and shape as the existing antennas and will be located at the same location and on the same mounts as the existing antennas on the Tower. The proposed facility will not increase the height of the Tower or the footprint of the existing equipment platform at the base of the Tower. Therefore, the Proposed Facility will not have a significant impact within the site or in relation to adjacent properties and streets.

The modifications to the Tower by the Applicant will not change with esthetics of the Tower or the surrounding area and will cause no impact to any unique environmental and historic resources, or to abutting properties. Further, the modifications will produce a minimal change in the appearance of the Tower, as the Proposed Facility will blend in with the existing characteristics of the Tower and the surrounding neighborhood.

Finally, the Proposed Facility will benefit the Town and promote the safety of its residents, businesses and drivers with its reliable state-of-the-art digital wireless voice and data services. It will also enhance the reliability of the emergency communications with the police and fire departments by eliminating dropped or blocked calls due to inadequate signal strength or insufficient network capacity to handle call volume, particularly important during emergency situations. Therefore, the Proposed Facility will benefit the surrounding properties and the community by providing enhanced wireless coverage, while not impacting the Property and surrounding areas.

b. **Section 70.3.F: Review Criteria/Design Guidelines**

To the extent the Board determines that Site Plan Review is required, the Board will find that the Proposed Facility complies with the following review criteria and design guidelines:

- 1. The proposal is in conformity with all applicable provisions of the Zoning Bylaw.**

The proposed Facility will not change the footprint or the height of the Tower, and will not increase the footprint of the ground equipment platforms at the base of the Tower. As referenced above, the Proposed Facility conforms to Sections 70.9, Waiver of Site Plan review, of the Bylaws.



- 2. The proposal provides for the protection of abutting properties and the surrounding area from detrimental site characteristics and from adverse impact from excessive noise, dust, smoke, or vibration higher than levels previously experienced from permitted uses.**

The modification to the Tower will blend in with the existing characteristics of the Tower and the surrounding neighborhood. It will not generate any traffic, smoke, dust, heat, glare, discharge of noxious substances, or any water pollution. It will however benefit the community with enhanced wireless communications.

- 3. The proposal provides for the protection of adjacent properties and the night sky from intrusive lighting, including parking lot and building exterior lighting. Lighting must be consistent with Chapter IV, Section 6 of the General Bylaws of the Town of Truro.**

No additional lighting is being proposed at this time.

- 4. The proposal provides for the protection of significant or important natural, historic, or scenic features.**

As mentioned above, the modifications to the Tower and Site will be de minimis and will not change with esthetics of the Tower or the surrounding area and will not impact unique environmental and historic resources, or to abutting properties.

- 5. The building sites shall minimize obstruction of scenic views from publicly accessible locations; minimize tree, vegetation, and soil removal and grade changes; and maximize open space retention.**

There will be no additional obstruction of scenic views, and proposes no tree, vegetation or soil removal or grade change as a result of the proposed modifications.

- 6. The proposal adequately provides for refuse disposal.**

The Applicant's proposal complies with the provision of the Bylaws.



- 7. The proposed sewage disposal and water supply systems within and adjacent to the site shall be adequate to serve the proposed use.**

Not applicable, there will be no water and or sewage services.

- 8. The proposed drainage system within the site shall be adequate to handle the runoff resulting from the development. Drainage runoff from the project shall not: damage any existing wellfield(s) or public water supply; damage adjoining property; overload, silt up or contaminate any marsh, swamp, bog, pond, stream, or other body of water; or interfere with the functioning of any vernal pool.**

There will be no change to the existing footprint of the Tower and the equipment shelters and pads at the base of the Tower.

- 9. A soil erosion plan shall adequately protect all steep slopes within the site and control runoff to adjacent properties and streets both during and after construction.**

Not applicable, we are not modifying the footprint or the Property's slopes or impervious services in any way.

- 10. The proposal shall provide for structural and/or landscaped screening or buffers for storage areas, loading docks, dumpsters, rooftop or other exposed equipment, parking areas, utility buildings and similar features viewed from street frontages and residentially used or zoned premises.**

There is no proposed parking or loading area on this modification, the only modification to the site will be the replacement of AT&T's antennas, radios and supporting ground equipment.

- 11. Buildings and structures within the subject site shall relate harmoniously to each other in architectural style, site location, and building exits and entrances. Building scale, massing, materials, and detailing should be compatible with the surrounding area.**

The Proposed Facility complies with this provision of the Bylaws because the proposed replacement antennas and supporting equipment



will be of like kind to the existing equipment, please see the plans for more description.

12. Electric, telephone, cable, and other such utility lines and equipment shall be placed underground.

There are no changes to the existing electric, telephone and cabling currently servicing the site.

13. The project shall not place excessive demands on Town services.

After installation, the Proposed Facility will be unmanned and will only require maintenance per carrier's discretion.

14. The location and number of curb cuts shall be minimized to reduce turning movements and hazardous exits and entrances. Where appropriate and allowable, access to adjoining properties shall be provided. Joint access driveways between adjoining properties shall be encouraged.

Not applicable, there will be no change to the existing curb cuts, adjoining property access, joint access driveways and the like.

15. Convenience and safety of vehicular and pedestrian movement within the site and in relation to adjacent and other ways serving the project shall be maximized. Traffic patterns for vehicles and pedestrians must show safe and adequate circulation within and access to and from the site.

The Applicant's proposal complies with these provisions of the Bylaws. The proposed installation will not obstruct existing rights-of-way or pedestrian access and will not change the daily conditions of access, egress, traffic, congestion hazard, or character of the neighborhood. The installation will not require the addition of any new parking or loading spaces. The use is passive and will not change the current conditions or appearance surrounding the Tower. The facility will not produce any odors, fumes, noise or waste. There will be no need for water, sewer, or other municipal services.

16. A bicycle rack(s) shall be provided on the site and shall be located near the entrance to the building(s).



Not applicable, this site will be gated and not accessible to the public.

3. Summary

The applicant hereby requests that the Board determines that the Town of Truro has the right to Authorize the construction of the Proposed Facility through the issuance of a Building Permit, pursuant to Section 6409(a) of the Spectrum Act. Or, in the alternative, its proposed modifications to the existing Tower do not have a significance impact within the site or in relation to adjacent properties and streets; on pedestrian and vehicular traffic; on public services; or community needs, and therefore no site plan review is required. The findings are made in view of the particular characteristics of the Property and of the Applicant's proposed siting and equipment, as detailed above and herewith. This property is the most appropriate location for the installation and operation of the wireless communications facility.

For the foregoing reasons the Applicant respectfully requests that the Board grant the foregoing relief pursuant to Section 6409(a) of the Spectrum Act or, in the alternative, zoning relief in the form of a Site Plan review approval, and such other relief as the Board deems necessary to allow the installation and operation of the Applicant's proposed Facility.

Respectfully,

Kristina Cottone | Real Estate Specialist
Smartlink
85 Rangeway Road – Building 3 Suite 102
North Billerica MA, 01862
(m) 978.551.8627
Kristina.cottone@Smartlinkllc.com



November 11, 2019

Planning Board
24 Town Hall Road
PO Box 2030
Truro, MA 02666

Re: Building Permit Application and Section 6409 Eligible Facilities Request
Applicant: New Cingular Wireless PCS, LLC ("AT&T")

Dear Honorable Members:

Smartlink LLC, on behalf of AT&T, is submitting this Section 6409 Eligible Facilities Request to remove and replace (6) wireless antennas and remove six (6) remote radio units and install (9) remote radio units at its existing antenna and ancillary Transmission Equipment at an existing wireless Base Station located at 5 Town Dump Road, Truro, MA.

A. Section 6409 Eligible Facilities Request being filed with the Building Permit

The Section 6409 Eligible Facilities Request accompanies this Building Permit Application because the Town of Truro has not yet developed an Eligible Facilities request permit application form that complies with Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012, commonly known as the "Spectrum Act", or ("Section 6409") (Pub. Law No. 112-96, 126 Stat 156) (codified at 47 U.S.C. § 1455).

Section 6409 mandates that state and local governments "*may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station.*" Under Section 6409(a)(2)(A)-(C) an Eligible Facilities Request is any request to modify a Tower or Base Station that involves "collocations of new Transmission Equipment, "removal," or "replacement" of Transmission Equipment.

B. Why this Eligible Facilities Request Must Be Granted

1. The existing facility is a Base Station.

AT&T, a Federal Communications Commission ("FCC") licensed wireless carrier, submitted this Eligible Facilities Request to add, modify and replace its existing antenna and ancillary Transmission Equipment at the existing Base Station. The FCC defines Base Station as "the equipment and non-tower supporting structure at a fixed location that enable Commission-licensed or authorized wireless communications between user equipment and a communications network . . . the term includes equipment associated with wireless communications service including, but not limited to, radio transceivers, antennas, coaxial or fiber-optic cable, regular and backup power supply and comparable equipment." The term "existing base station" also



includes a structure that currently houses or supports an antenna, transceiver or other associated equipment that constitutes part of a Base Station even if the structure was not built solely or primarily to provide such support. The existing Base Station in this application is one hundred ninety feet (190') high (twelve antennas) at one hundred eighty seven feet and three inches (187.3') high their respective centerlines and presently contains wireless facilities and Transmission Equipment. (The proposed Base Station or expand its footprint.) Therefore, the existing Base Station meets the FCC definition of a Base Station.

2. The Application's equipment is considered Transmission Equipment.

The list of equipment identified in the Eligible Facilities Request application is considered Transmission Equipment as determined by the FCC. The FCC defines Transmission Equipment as "any equipment that facilitates transmission for any Commission-licensed or authorized wireless communication service, including, but not limited to, radio transceivers, antennas and other relevant equipment associated with and necessary to their operation, including coaxial or fiber-optic cable, and regular and back-up power supply. This definition includes equipment used in any technological configuration associated with any Commission-authorized wireless transmission; licensed or unlicensed, terrestrial or satellite, including commercial mobile, private mobile, broadcast and public safety services, as well as fixed wireless services such as microwave backhaul or fixed broadband."

3. The Base Station will not be Substantially Changed.

In a Report and Order adopted on October 17, 2014, the FCC determined that any modification to an existing telecommunications Base Station that meets the following six (6) criteria does not substantially change the physical dimensions of the existing Base Station and therefore is an Eligible Facilities Request which must be granted. Attached herewith please find a certification that identifies how each of the above six (6) criteria are met and therefore no substantial change is proposed.

- a. The modifications to the Transmission Equipment do not increase the height of the Base Station by more than 10 percent (10%) or ten (10) feet, whichever is greater.
- b. The modifications to the Transmission Equipment do not protrude from the edge of the support structure by more than six (6) feet.
- c. The modifications to the Transmission Equipment do not involve the installation of more than the standard number of equipment cabinets for the technology involved, not to exceed three.
- d. The modifications to the Transmission Equipment do not entail any excavation or deployment outside of the Base Station site.
- e. The modifications to the Transmission Equipment do not defeat any existing concealed or stealth-design.
- f. The modifications to the Transmission Equipment comply with prior conditions of approval of the Base Station, unless the non-compliance is due to an increase in height, increase in width, addition of equipment cabinets, or new excavation that does not exceed the corresponding "substantial change" thresholds in numbers 1-4.



The modifications to the Transmission Equipment at the Base Station located at 5 Town Dump Road contained in this Eligible Facilities Request fully conform to Section 6409 as enacted by Congress and as interpreted by the FCC, as more specifically articulated in the Eligible Facilities Request Certification, attached herewith. Accordingly, this Eligible Facilities Request must be approved within sixty (60) days, as required by federal law and FCC implementing regulations.

C. Notice of Federal Law Expedited Permit Processing and Deemed Granted

An Eligible Facilities Request is deemed granted sixty (60) days after a complete application is filed with a local jurisdiction. If sixty (60) days pass after the submission of AT&T's Building Permit Application and Eligible Facilities Request and the Town of Truro has not acted to grant or deny the request, it will be deemed granted. At that time, AT&T may advise the Town of Truro that the application has been deemed granted. If the Town of Truro wishes to contest whether the Eligible Facilities Request has been deemed granted, the burden is on the Town of Truro to file a lawsuit in a court of competent jurisdiction within 30 days after receipt of a written communication notifying it that the Eligible Facilities Request has been deemed granted. Failure to file a lawsuit in a timely manner may forever bar this jurisdiction from contesting that this Eligible Facilities Request has been deemed granted.

AT&T is committed to working cooperatively with you, and all jurisdictions around the country, to secure expeditious approval of requests to modify existing personal wireless service facilities. Please do not hesitate to contact me if you have questions.

Sincerely,

Kristina Cottone

Kristina Cottone | Real Estate Specialist

Smartlink

85 Rangeway Road – Building 3 Suite 102

North Billerica MA, 01862

(m) 978.551.8627

Kristina.cottone@Smartlinkllc.com



Tower Engineering Solutions

Phone (972) 483-0607, Fax (972) 975-9615
1320 Greenway Drive, Suite 600, Irving, Texas 75038

Structural Analysis Report

Existing 190 ft Cellxion Self Supporting Tower

Customer Name: SBA Communications Corp

Customer Site Number: MA12227-A

Customer Site Name: Truro

Carrier Name: AT&T (App#: 122575, v2)

Carrier Site ID / Name: MAL01061 / Truro Landfill

Site Location: 5 Town Dump Road

Truro, Massachusetts

Barnstable County

Latitude: 41.985783

Longitude: -70.041333

RSM Redlined
10-31-19
match (v4)-App

Analysis Result:

Max Structural Usage: 74.7% [Pass]

Max Foundation Usage: 42.0% [Pass]

Additional Usage Caused by New Mount: + 0.6%



Kyle Wyant
10/7/19

Report Prepared by: Matthew Baker



Tower Engineering Solutions

Phone (972) 483-0607, Fax (972) 975-9615
1320 Greenway Drive, Suite 600, Irving, Texas 75038

Structural Analysis Report

Existing 190 ft Cellxion Self Supporting Tower

Customer Name: SBA Communications Corp

Customer Site Number: MA12227-A

Customer Site Name: Truro

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Latitude: 41.985783

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Analysis Result:

Max Structural Usage: 74.7% [Pass]

Max Foundation Usage: 42.0% [Pass]

Additional Usage Caused by New Mount: + 0.6%

Report Prepared by: Matthew Baker

Introduction

The purpose of this report is to summarize the analysis results on the 190 ft Cellxion Self Supporting Tower to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

Sources of Information

Tower Drawings	Cellxion Drawing # TBAY01793, dated 01/13/2004
Foundation Drawing	Cellxion Drawing # TBAY01793, dated 01/13/2004
Geotechnical Report	Paul B. Aldinger & Associates Project # 03135, dated 11/19/2003
Modification Drawings	N/A

Analysis Criteria

The feasibility/rigorous analysis was performed in accordance with the requirements and stipulations of the ANSI/TIA/EIA 222-G. In accordance with this standard, the structure was analyzed using **TESTowers**, a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

Wind Speed Used in the Analysis:	Ultimate Design Wind Speed $V_{ult} = 139.0$ mph (3-Sec. Gust)/ Nominal Design Wind Speed $V_{asd} = 108.0$ mph (3-Sec. Gust)
Wind Speed with Ice:	40 mph (3-Sec. Gust) with 3/4" radial ice concurrent
Operational Wind Speed:	60 mph + 0" Radial ice
Standard/Codes:	ANSI/TIA/EIA 222-G / Massachusetts State Building Code, Ninth Edition
Exposure Category:	B
Structure Class:	II
Topographic Category:	1
Crest Height:	0 ft
Seismic Parameters:	$S_S = 0.164$, $S_1 = 0.057$

This structural analysis is based upon the tower being classified as a Structure Class II; however, if a different classification is required subsequent to the date hereof, the tower classification will be changed to meet such requirement and a new structural analysis will be run.

Existing Antennas, Mounts and Transmission Lines

The table below summarizes the antennas, mounts and transmission lines that were considered in the analysis as existing on the tower.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
-	187.3	6	Kathrein - 800-10122 - Panel	(3) T-Frames + (3) Pipe Mounts	(12) 1 5/8" DC *(2) 3/4" Fiber *(1) 7/16" Fiber *(Inside (1) 2" Innerduct)	AT&T
-		3	KMW - AM-X-CD-16-65-00T - Panel			
-		3	CSS - DUO1417-8686 - Panel			
-		6	Powerwave - LGP17201 - TMA			
-		6	Kathrein - 786-10250 - Diplexer			
-		1	Raycap - DC2-48-60-18-8F - OVP			
-		187.0	6			
11	175.0	3	Ericsson - AIR21 B2A B4P - Panel	(3) T-Frames	(6) 1 5/8" LMU (1) 1-1/4" Fiber (3) 7/8" Fiber	T-Mobile
12		3	Ericsson - AIR21 B4A B2P - Panel			
13	173.0	3	Ericsson - KRY 112 144 - TMA			
14	165.0	6	Swedcom - SWCP 2X7014 - Panel	(3) Sector Frames	(2) 1 5/8"	Verizon
15		6	Andrew - HBX-6516DS-VTM - Panel			
16		3	ALU - RRH2x40-AWS - RRU			
17		3	ALU - 9442 - RRU			
18		2	Raycap - RDC-4276-PF-48 - OVP			
19	138.0	3	RFS - APXVTM14-C-120 - Panel	(3) T-Frame	(3) 1 1/4" Fiber (1) 5/8" Fiber	Sprint Nextel
20		3	RFS - APXVSPP18 - Panel			
21		3	ALU - 2500 MHz - RRU			
22		3	ALU - 1900 MHz - RRU			
23		3	ALU - 800 MHz - RRU			
24		3	ALU - 800MHz Filter			
25		4	RFS - ACU-A20-N - RET			

Proposed Carrier's Final Configuration of Antennas, Mounts and Transmission Lines

Information pertaining to the proposed carrier's final configuration of antennas and transmission lines was provided by SBA Communications Corp. The proposed antennas and lines are listed below.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	187.3	3	KMW - AM-X-CD-16-65-00T-RET - Panel	(3) Sector Frames (Site Pro USF12-XX-U) + (3) Pipe Mounts	(12) 1 5/8" DC *(4) 3/4" Fiber *(2) 7/16" Fiber *(Inside (2) 3" Conduits)	AT&T
2		3	Cci - DMP5R-BU4DA - Panel			
3		3	Css - DUO1417-8686-0 - Panel			
4		3	Kathrein - 800-10121 - Panel			
5		6	Powerwave - LGP17201 - TMA			
6		3	Ericsson - RRUS 12 B4 - RRU			
7		3	Ericsson - RRUS 4478 B14 - RRU			
8		3	Ericsson - RRUS 4449 B5/B12 - RRU			
9		1	Raycap - DC2-48-60-18-8F - OVP			
10	2	← 1 Raycap - DC6-48-60-18-8F - OVP				

See the attached coax layout for the line placement considered in the analysis.

Analysis Results

The results of the structural analysis, performed for the wind and ice loading and antenna equipment as defined above, are summarized as the following:

Tower Component	Legs	Diagonals	Horizontals
Max. Usage:	48.9%	74.7%	2.4%
Pass/Fail	Pass	Pass	Pass

Foundations

	Compression (Kips)	Uplift (Kips)	Shear (Kips)
Analysis Reactions	374.1	308.5	37.0

The foundation has been investigated using the supplied documents and soils report and was found adequate. Therefore, no modification to the foundation will be required.

Operational Condition (Rigidity):

Operational characteristics of the tower are found to be within the limits prescribed by ANSI/TIA/EIA 222-G for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 0.0694 degrees under the operational wind speed as specified in the Analysis Criteria.

Conclusions

Based on the analysis results, the existing structure and its foundation were found to be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the ANSI/TIA/EIA 222-G Standard under the design basic wind speed as specified in the Analysis Criteria.

PROJECT NOTES:

- SITE INFORMATION OBTAINED FROM THE FOLLOWING:
 - PLAN ENTITLED "SOUTH TRURO" PREPARED BY A SAXON DESIGN GROUP OF TOMS RIVER, NEW JERSEY LAST REVISED 04/28/2015.
 - LIMITED FIELD OBSERVATION BY RAMAKER & ASSOCIATES ON 07/29/2019.
- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, LAWS AND REGULATIONS OF ALL MUNICIPALITIES, UTILITY COMPANIES OR OTHER PUBLIC/GOVERNING AUTHORITIES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS THAT MAY BE REQUIRED BY ANY FEDERAL, STATE, COUNTY OR MUNICIPAL AUTHORITIES.
- THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER, IN WRITING, OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE SUBMISSION OF BIDS OR PERFORMANCE OF WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING SITE IMPROVEMENTS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL REPAIR ANY DAMAGE AS A RESULT OF CONSTRUCTION OF THIS FACILITY AT THE CONTRACTOR'S EXPENSE TO THE SATISFACTION OF THE OWNER.
- THE SCOPE OF WORK FOR THIS PROJECT SHALL INCLUDE PROVIDING ALL MATERIALS, EQUIPMENT AND LABOR REQUIRED TO COMPLETE THIS PROJECT. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- THE CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO SUBMITTING THE BID TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND CONSTRUCTION DRAWINGS.
- THE CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THESE DRAWINGS MUST BE VERIFIED. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
- SINCE THE CELL SITE MAY BE ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE REQUIRED TO BE WORN TO ALERT OF ANY POTENTIALLY DANGEROUS EXPOSURE LEVELS.
- THE PROPOSED FACILITY WILL CAUSE NO INCREASE IN STORM WATER RUNOFF, THEREFORE, NO DRAINAGE STRUCTURES ARE PROPOSED.
- NO NOISE, SMOKE, DUST OR ODOR WILL RESULT FROM THIS FACILITY AS TO CAUSE A NUISANCE.
- THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION (NO HANDICAP ACCESS IS REQUIRED).
- THE FACILITY DOES NOT REQUIRE POTABLE WATER OR SANITARY SERVICE.
- CONTRACTOR SHALL VERIFY ANTENNA ELEVATION AND AZIMUTHS WITH RF ENGINEERING PRIOR TO INSTALLATION.
- THE TOWER, MOUNTS AND ANTENNAS SHALL BE DESIGNED TO MEET EIA/TIA-222-G AS PER IBC REQUIREMENTS.
- ALL STRUCTURAL ELEMENTS SHALL BE HOT DIPPED GALVANIZED STEEL.
- CONTRACTOR MUST FIELD LOCATE ALL EXISTING UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION.
- CONSTRUCTION SHALL NOT COMMENCE UNTIL COMPLETION OF A PASSING STRUCTURAL ANALYSIS CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER. THE STRUCTURAL ANALYSIS IS TO BE PERFORMED BY OTHERS.
- CONTRACTOR SHALL CONTACT STATE SPECIFIC ONE CALL SYSTEM THREE WORKING DAYS PRIOR TO ANY EARTH MOVING ACTIVITIES.



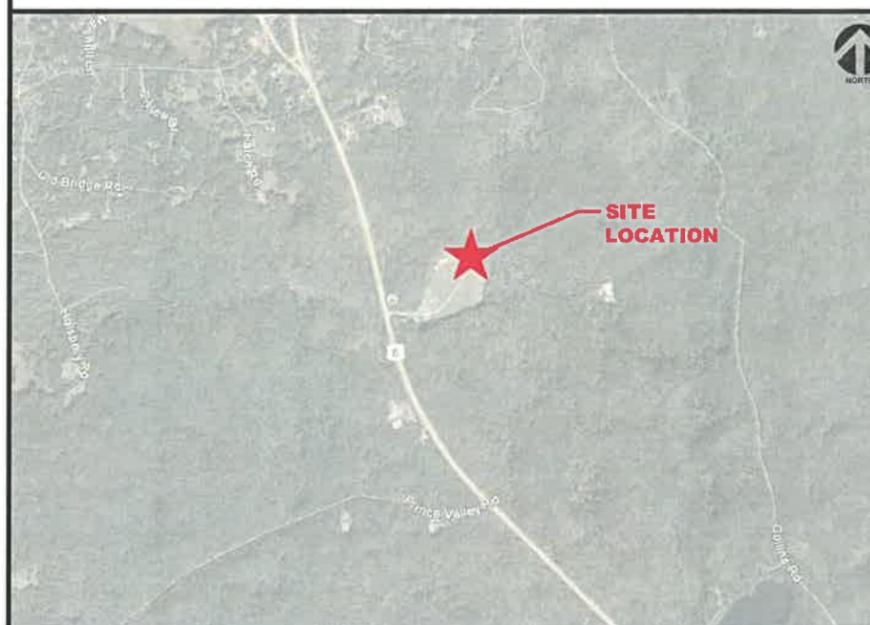
SITE NAME: SOUTH TRURO
FA NUMBER: 10014237
SITE NUMBER: MAL01061
ADDRESS: 5 TOWN DUMP ROAD
 TRURO, MA 02666
SCOPE: 3C - MRCTB040627 (2101A0PQWK),
 4C - MRCTB040695 (2101A0PQG3),
 4TX4RX SOFTWARE RETROFIT - MRCTB040751 (2101A0PQNJ)



85 RANGEWAY ROAD - BLDG 3, SUITE 102
 NORTH BILLERICA, MA 01862
 SMARTLINKLLC.COM

RAMAKER & ASSOCIATES, INC.
 100% EMPLOYEE-OWNED
 855 Community Dr, Sauk City, WI 53583
 608-643-4100 www.Ramaker.com
 Sauk City, WI • Willmar, MN
 Woodcliff Lake, NJ • Bayamon, PR

AERIAL MAP:



PROJECT INFORMATION:

SITE INFORMATION:
 LATITUDE: 41.985769° N
 LONGITUDE: -70.04134° W
 JURISDICTION: BARNSTABLE COUNTY

APPLICANT/LESSEE:
 COMPANY: AT&T
 ADDRESS: NEW ENGLAND MARKET

PROPERTY OWNER:
 PROPERTY OWNER: SBA TOWERS II, LLC
 5900 BROKEN SOUND PARKWAY NW
 BOCA RATON, FL 33487

REAL ESTATE:
 COMPANY: SMARTLINK, LLC
 ADDRESS: 85 RANGEWAY ROAD
 BUILDING 3, SUITE 102
 NORTH BILLERICA, MA 01862
 CONTACT: KRISTINA COTTONE
 E-MAIL: KRISTINA.COTTONE@SMARTLINKLLC.COM

CONSTRUCTION MANAGER:
 COMPANY: SMARTLINK, LLC
 ADDRESS: 85 RANGEWAY ROAD
 BUILDING 3, SUITE 102
 NORTH BILLERICA, MA 01862
 CONTACT: RYAN DONNELLY
 E-MAIL: RYAN.DONNELLY@SMARTLINKLLC.COM

ENGINEER:
 COMPANY: RAMAKER & ASSOCIATES, INC.
 ADDRESS: 855 COMMUNITY DRIVE
 SAUK CITY, WI 53583
 CONTACT: ANGELA KVALHEIM
 E-MAIL: AKVALHEIM@RAMAKER.COM

PROJECT DESCRIPTION/ SCOPE OF WORK

- REMOVE (3) EXISTING RRUS-11 B12 RRUs, (1) PER SECTOR
 - INSTALL (3) NEW 4478 B14 RRUs, (1) PER SECTOR
 - INSTALL (3) NEW 4449 B5/B12 RRUs, (1) PER SECTOR
 - REMOVE (6) EXISTING DIPLEXERS, (2) PER SECTOR
 - RELOCATE (6) EXISTING LPG 17201 TMAS, (2) PER SECTOR
 - REMOVE (3) EXISTING KATHREIN 800-10121 ANTENNAS, (1) PER SECTOR
 - RELOCATE (3) EXISTING KMW AM-X-CD-16-00T-RET ANTENNAS, (1) PER SECTOR
 - RELOCATE (2) EXISTING KATHREIN 800-10121 ANTENNAS, (1) EACH IN BETA & GAMMA SECTORS
 - INSTALL (3) NEW CCI DMP65R-BU4DA ANTENNAS, (1) PER SECTOR
 - INSTALL (1) NEW DC9 SQUID
 - INSTALL (2) NEW DC POWER CABLES
 - INSTALL (1) NEW FIBER TRUNK
 - REPLACE BB WITH (2) 6630 & IDLs
 - REPLACE (1) POWER PLANT WITH NETSURE 7100 WITH BATTERIES
- PROPOSED PROJECT SCOPE BASED ON RFDS ID# 3097967, VERSION 4.0, LAST UPDATED 10/29/2019.
 CONTRACTOR TO VERIFY IN FIELD.

SHEET INDEX

SHEET NUMBER	SHEET DESCRIPTION
T-1	TITLE SHEET
GN-1	GENERAL NOTES
C-1	COMPOUND PLAN
C-2	EQUIPMENT LAYOUT PLAN
C-3	ANTENNA LAYOUTS AND ANTENNA SCHEDULE
A-1	CONSTRUCTION DETAILS
A-2	CONSTRUCTION DETAILS
A-3	RF PLUMBING DIAGRAM
G-1	GROUNDING DETAILS
G-2	GROUNDING DETAILS

CODE COMPLIANCE:

- ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.
- 9TH EDITION OF THE MA STATE BUILDING CODE
 - 2015 INTERNATIONAL BUILDING CODE
 - 2015 INTERNATIONAL MECHANICAL CODE
 - ANSI/TIA-22-G STRUCTURAL STANDAR



Certification & Seal:
 I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Massachusetts.

COMMONWEALTH OF MASSACHUSETTS
 JAMES R. SKOWRONSKI
 CIVIL
 No. 47833
 REGISTERED PROFESSIONAL ENGINEER

James R. Skowronski 11/13/2019
 Registered Civil Engineer Signature Date

PROJECT TITLE:
**SOUTH TRURO
 FA# 10014237
 SITE# MAL01061**

PROJECT INFORMATION:
 5 TOWN DUMP ROAD
 TRURO, MA 02666
 BARNSTABLE COUNTY

SHEET TITLE:
TITLE SHEET

SCALE: NONE

PROJECT NUMBER: 45315
 SHEET NUMBER: T-1

GENERAL NOTES:

1. THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI, OR NFPA) LIGHTING PROTECTION CODE, AND GENERAL COMPLIANCE WITH TELCORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATIONS OR ADVERSE FINDINGS TO THE CONTRACTOR FOR RESOLUTION.
2. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
3. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND FOR GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 50 HMS OR LESS.
4. THE SUBCONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT.
5. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
6. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
7. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE EQUIPMENT GROUND RING WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS; 2 AWG STRANDED COPPER FOR OUTDOOR BTS.
8. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED. BACK TO BACK CONNECTIONS ON OPPOSITE SIDES OF THE GROUND BUS ARE PERMITTED.
9. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING, SHALL BE #2 AWG SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
10. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
11. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED. ALL BENDS SHALL BE MADE WITH 12" RADIUS OR LARGER.
12. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
13. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS EXCEPT FOR GROUND BAR CONNECTION FROM MGB TO OUTSIDE EXTERIOR GROUND SHALL ALL BE CADWELD CONNECTIONS.
14. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
15. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED TO THE TOWER GROUND BAR.
16. APPROVED ANTIOXIDANT COATINGS (I.E. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
17. ALL EXTERIOR AND INTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
18. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
19. BOND ALL METALLIC OBJECTS WITHIN 6 FT OF MAIN GROUND WIRES WITH 1-#2 AWG TIN-PLATED COPPER GROUND CONDUCTOR.
20. GROUND CONDUCTORS USED IN THE FACILITY GROUND AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC PLASTIC CONDUIT SHALL BE WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (E.G. NON-METALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
21. ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20 FT. OR MORE OF 1/4" IN. OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BARE TINNED COPPER GROUND WIRE, PER NEC 250.50.
22. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
 CONTRACTOR - SMARTLINK
 SUBCONTRACTOR - GENERAL CONTRACTOR (CONSTRUCTION)
 OWNER - AT&T (NEW CINGULAR WIRELESS PCS, LLC)
23. ALL SITE WORK SHALL BE COMPLETED AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
24. DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
25. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.
26. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
27. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
28. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
29. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE

30. SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
31. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
32. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
33. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY THE RESPONSIBLE ENGINEER. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING & EXCAVATION.
34. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, AS DIRECTED BY THE RESPONSIBLE ENGINEER, AND SUBJECT TO THE APPROVAL OF THE OWNER AND/OR LOCAL UTILITIES.
35. THE AREAS OF THE OWNER'S PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY SHALL BE GRADED TO A UNIFORM SLOPE AND STABILIZED TO PREVENT EROSION.
36. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
37. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
38. THE SUBGRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
39. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.
40. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
41. THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE.
42. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
43. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR.
44. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
45. ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
46. ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS.
47. ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (FY = 36 KSI) UNLESS OTHERWISE NOTED. PIPES SHALL BE ASTM A53 TYPE E (FY = 36 KSI). ALL STEEL EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED. TOUCHUP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
48. CONSTRUCTION SHALL COMPLY WITH SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T MOBILITY SITES."
49. SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
50. THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION, ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
51. SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN ALERT OF DANGEROUS EXPOSURE LEVELS.



Certification # Seal
 I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Massachusetts.



MARK	DATE	DESCRIPTION
2	11/13/19	FINAL CDs REVISED PER COMMENTS
1	11/06/19	FINAL CDs ISSUED
0	09/26/19	CDs ISSUED FOR REVIEW

ISSUE PHASE: FINAL DATE ISSUED: 11/13/2019

PROJECT TITLE:
**SOUTH TRURO
 FA# 10014237
 SITE# MAL01061**

PROJECT INFORMATION:
 5 TOWN DUMP ROAD
 TRURO, MA 02666
 BARNSTABLE COUNTY

SHEET TITLE:
NOTES

SCALE: NONE

PROJECT NUMBER: 45315
 SHEET NUMBER: GN-1



85 RANGEWAY ROAD - BLDG 3, SUITE 102
 NORTH BILLERICA, MA 01862
 SMARTLINKLLC.COM



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James R. Skowronski 11/13/2019
 Registered Civil Engineer Signature: Date:

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FA# 10014237
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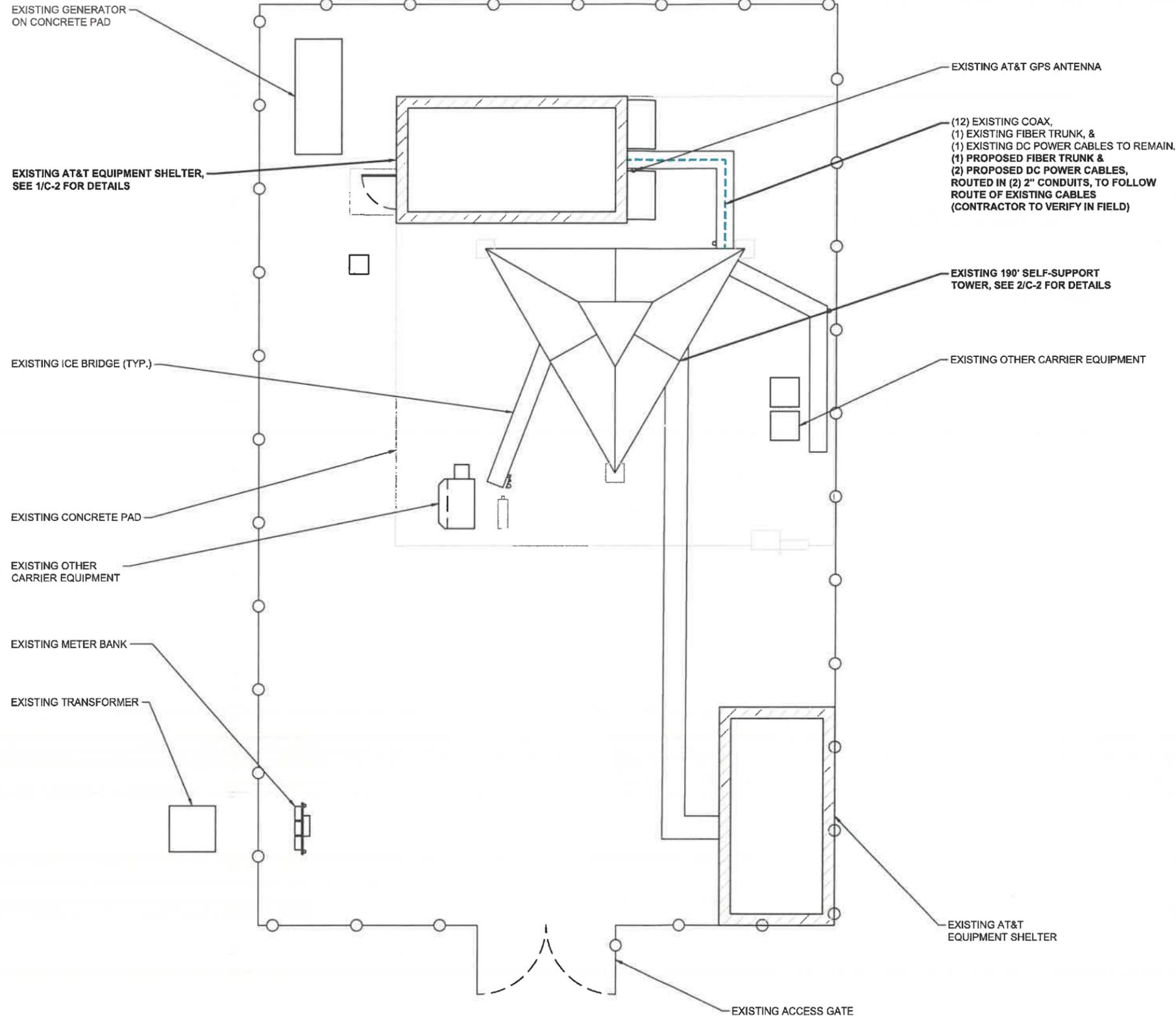
PROJECT INFORMATION:
 5 TOWN DUMP ROAD
 TRURO, MA 02666
 BARNSTABLE COUNTY

SHEET TITLE:
COMPOUND PLAN

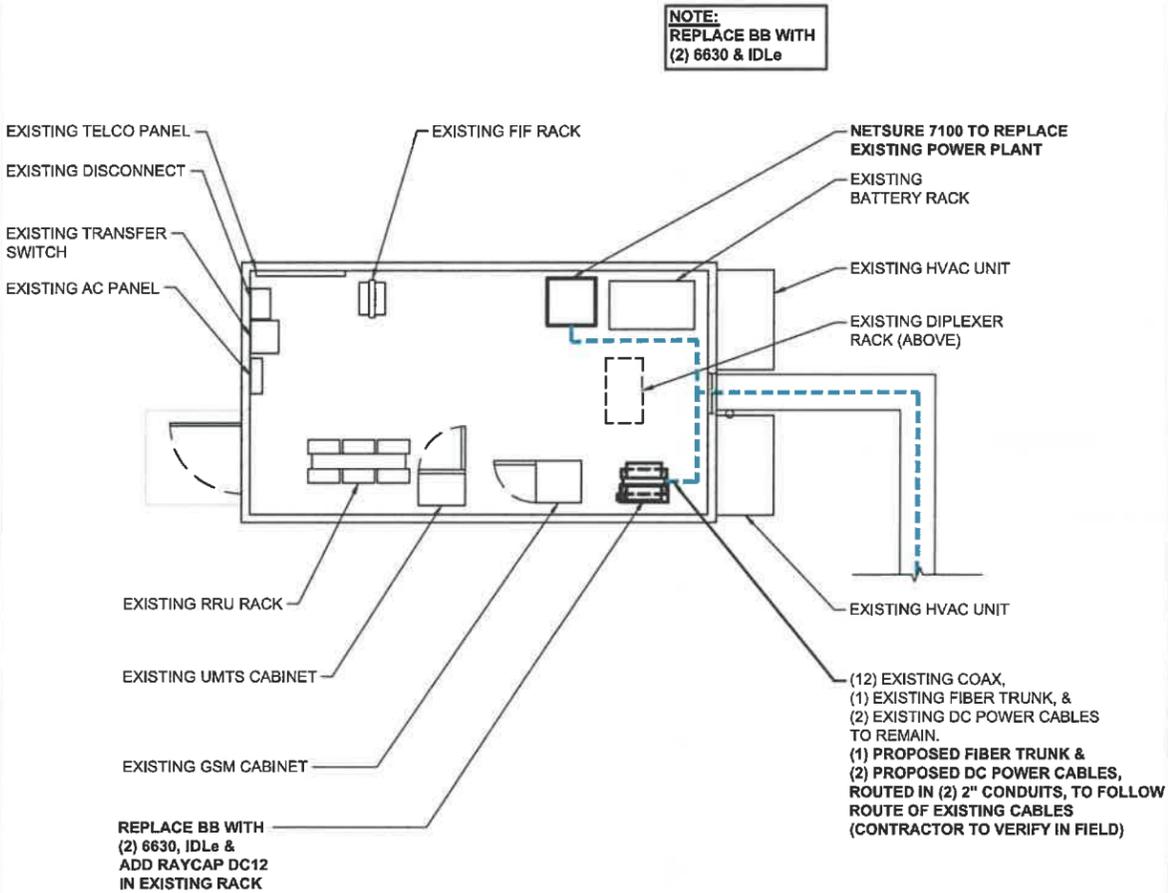
0 5' 10' 20'

11" x 17" - 1" = 10'
 22" x 34" - 1" = 5'

PROJECT NUMBER	45315
SHEET NUMBER	C-1

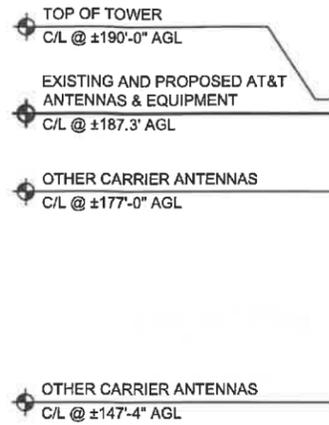


COMPOUND PLAN
 SCALE: 1" = 10' 1



EQUIPMENT LAYOUT
 SCALE: 1" = 7.5'

1



GRADE
 ELEV. ±0'-0" AGL

ELEVATION VIEW
 SCALE: 1" = 25'

NOTE:
 A MOUNT ASSESSMENT OF THE ANTENNA AND EQUIPMENT MOUNTING STRUCTURE HAS BEEN COMPLETED BY RAMAKER & ASSOCIATES, INC., DATED SEPTEMBER 26, 2019.

EXISTING & PROPOSED AT&T ANTENNAS & EQUIPMENT, SEE C-3 FOR DETAILS

EXISTING SELF-SUPPORT TOWER

(12) EXISTING COAX, (1) EXISTING FIBER TRUNK, & (2) EXISTING DC POWER CABLES TO REMAIN. (1) PROPOSED FIBER TRUNK & (2) PROPOSED DC POWER CABLES, ROUTED IN (2) 2" CONDUITS, TO FOLLOW ROUTE OF EXISTING CABLES (CONTRACTOR TO VERIFY IN FIELD)

EXISTING AT&T ICE BRIDGE

EXISTING AT&T EQUIPMENT SHELTER

EXISTING FENCED IN COMPOUND



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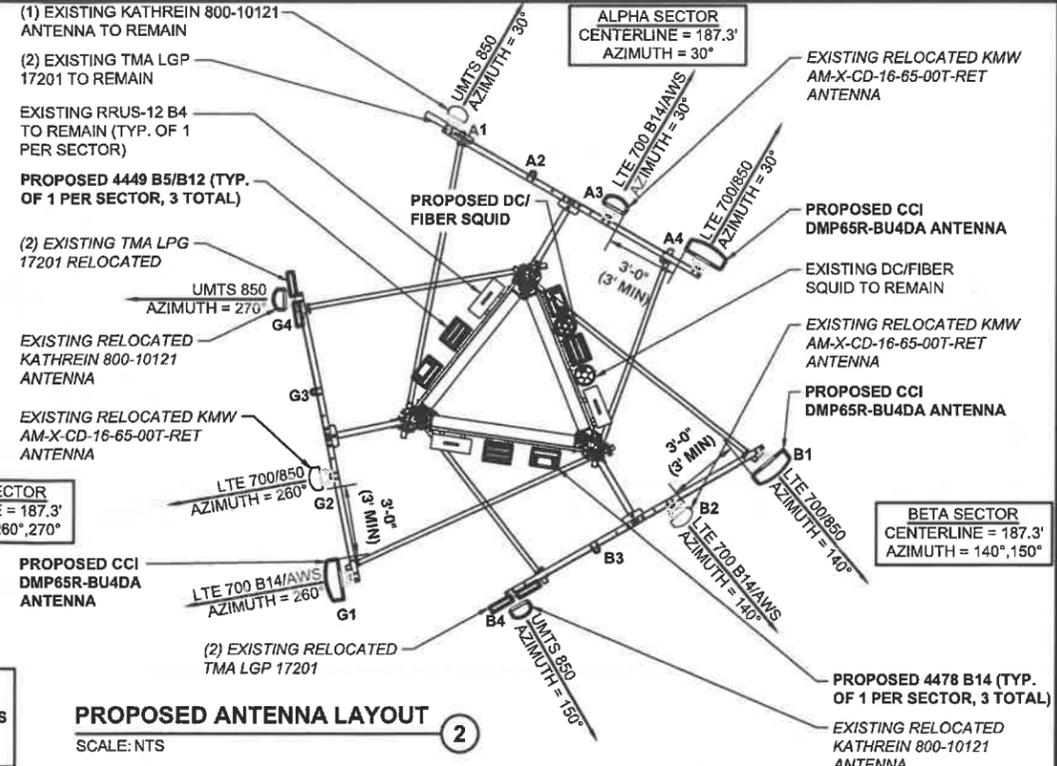
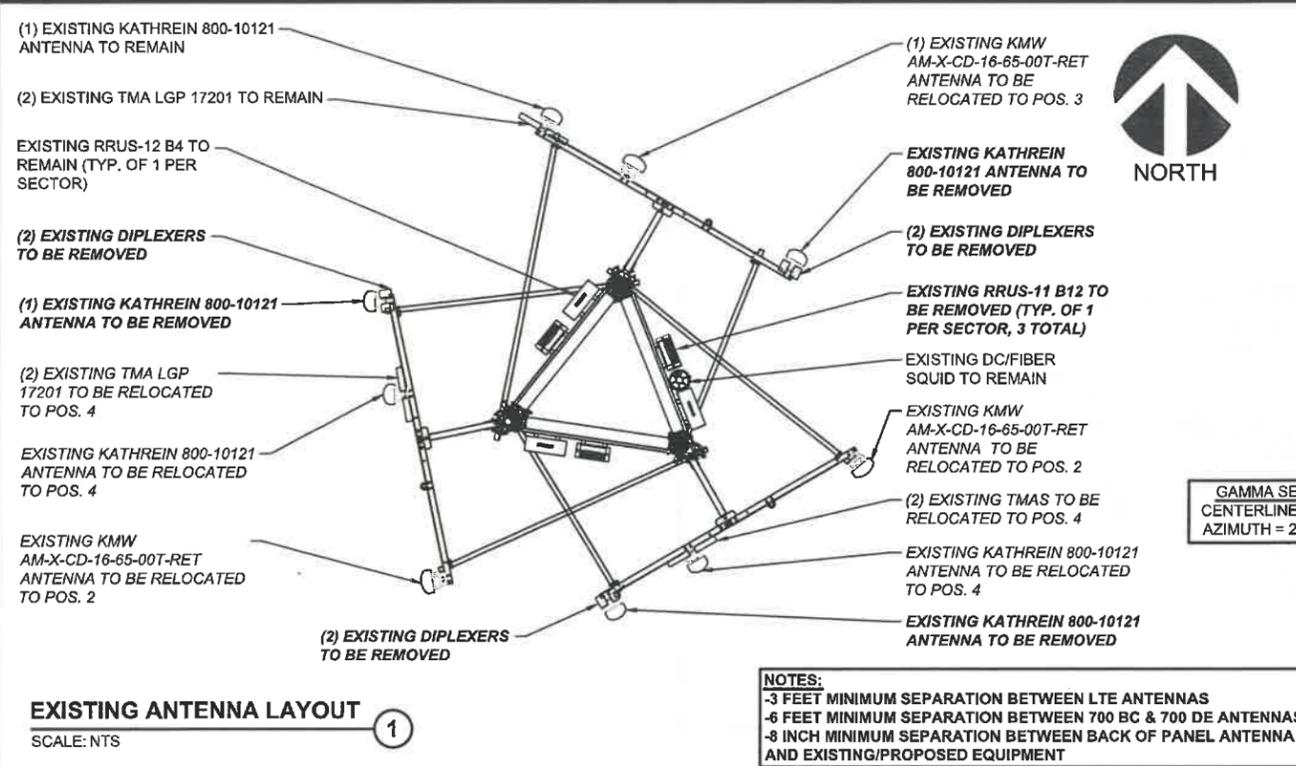
PROJECT TITLE:
SOUTH TRURO
FA# 10014237
SITE# MAL01061

PROJECT INFORMATION:
 5 TOWN DUMP ROAD
 TRURO, MA 02666
 BARNSTABLE COUNTY

SHEET TITLE:
EQUIPMENT LAYOUT AND ELEVATION VIEW

SCALE:
 AS NOTED

PROJECT NUMBER: 45315
 SHEET NUMBER: C-2



BASED ON: RF ENGINEERING DESIGN ENTITLED "NEW-ENGLAND_BOSTON_MA1061_2020-LTE-NEXT-CARRIER_LTE_MR673A_2101A0PQNJ_10014237_76840_05-07-2019_FINAL-APPROVED_V4.00" LAST REVISED 10/29/2019.

SECTOR	EXISTING ANTENNA	PROPOSED ANTENNA	TECHNOLOGY	ANTENNA STATUS	HEIGHT (IN.)	WIDTH (IN.)	DEPTH (IN.)	WEIGHT (LBS.)	ANTENNA AZIMUTH (DEG.)	ANT. C/L ELEV. (FT.)	REMOTE RADIO/TMA CONFIGURATION	TRANSMISSION CABLE			RAYCAP UNIT
												QUANTITY	TYPE	STATUS	
SECTOR 1	KATHREIN 800-10121	KATHREIN 800-10121	UMTS 850	EXISTING	54.5	10.3	5.9	44.1	30	187.3	(2) TMA - LGP 17201	2	COAX	EXISTING	
	(RELOCATE) KMW AM-X-CD-16-65-00T-RET	-	-	VACANT	-	-	-	-	-	-	-	2	COAX	EXISTING	
	-	KMW AM-X-CD-16-65-00T-RET	LTE 700 B14 / AWS	RELOCATED	48.0	11.8	5.9	48.5	30	187.3	(1) RRUS-11 B12 (REMOVE) (1) RRUS-12 B4 (1) 4478 B14	1 2	FIBER TRUNK DC POWER	EXISTING	
	KATHREIN 800-10121	CCI DMP65R-BU4DA	LTE 700 / 850	PROPOSED	48.0	20.7	7.7	67.9	30	187.3	(1) 4449 B5/B12	1 2	FIBER TRUNK DC POWER	PROPOSED	
SECTOR 2	(RELOCATE) KMW AM-X-CD-16-65-00T-RET	CCI DMP65R-BU4DA	LTE 700 / 850	PROPOSED	48.0	20.7	7.7	67.9	140	187.3	(1) RRUS-11 B12 (REMOVE) (1) 4449 B5/B12	(SHARED)			
	-	KMW AM-X-CD-16-65-00T-RET	LTE 700 B14 / AWS	RELOCATED	72	11.8	5.9	48.5	140	187.3	(1) RRUS-12 B4 (RELOCATED) (1) 4478 B14	(SHARED)			
	(RELOCATE) KATHREIN 800-10121	-	-	VACANT	-	-	-	-	-	-	-	2	COAX	EXISTING	
	(REMOVE) KATHREIN 800-10121	KATHREIN 800-10121	UMTS 850	RELOCATED	54.5	10.3	5.9	44.1	150	187.3	(2) TMA - LGP 17201	2	COAX	EXISTING	
SECTOR 3	KMW AM-X-CD-16-65-00T-RET	CCI DMP65R-BU4DA	LTE 700 / 850	PROPOSED	48.0	20.7	7.7	67.9	260	187.3	(1) RRUS-11 B12 (REMOVE) (1) 4449 B5/B12	(SHARED)			
	-	KMW AM-X-CD-16-65-00T-RET	LTE 700 B14 / AWS	RELOCATED	72	11.8	5.9	48.5	260	187.3	(1) RRUS-12 B4 (RELOCATED) (1) 4478 B14	(SHARED)			
	(RELOCATE) KATHREIN 800-10121	-	-	VACANT	-	-	-	-	-	-	-	2	COAX	EXISTING	
	(REMOVE) KATHREIN 800-10121	KATHREIN 800-10121	UMTS 850	RELOCATED	54.5	10.3	5.9	44.1	270	187.3	(2) TMA - LGP 17201	2	COAX	EXISTING	

ANTENNA SCHEDULE 3
 SCALE: NTS

85 RANGEWAY ROAD - BLDG 3, SUITE 102
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MARK DATE DESCRIPTION

ISSUE FINAL DATE ISSUED 11/13/2019

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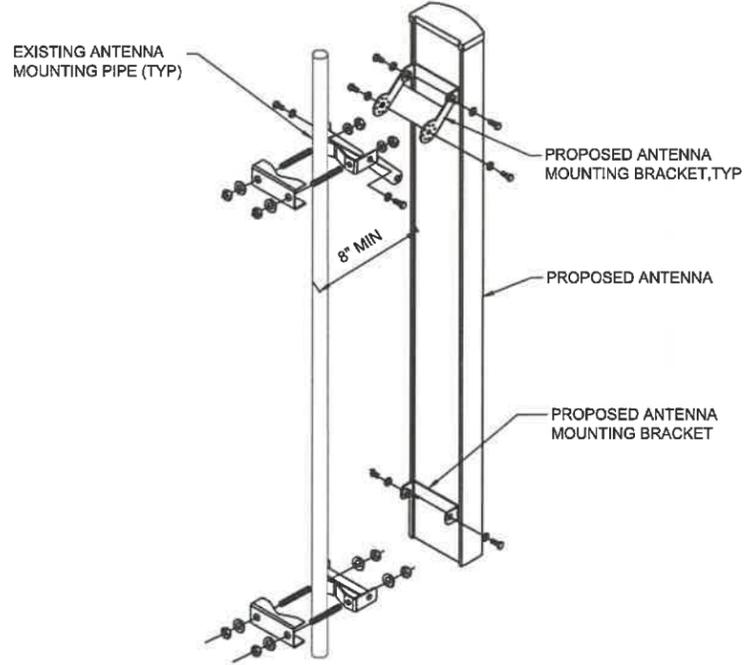
PROJECT INFORMATION:
 5 TOWN DUMP ROAD
 TRURO, MA 02666
 BARNSTABLE COUNTY

SHEET TITLE:
**ANTENNA LAYOUTS AND
 ANTENNA SCHEDULE**

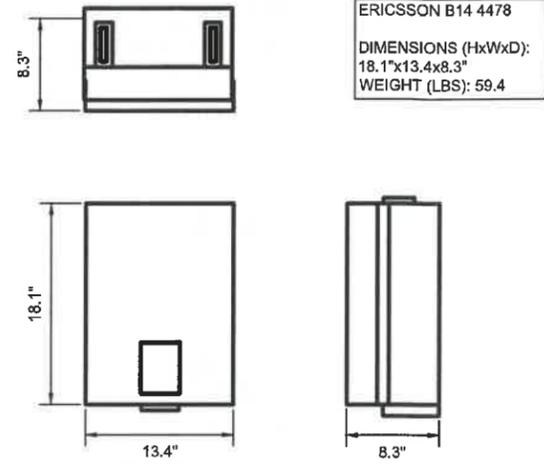
SCALE: NONE

PROJECT NUMBER 45315
 SHEET NUMBER C-3

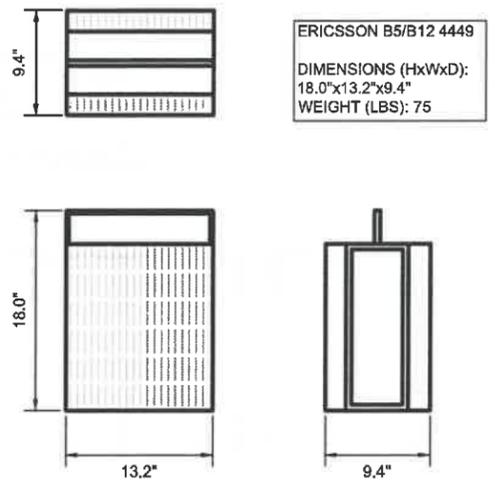
NOTES:
 -3 FEET MINIMUM SEPARATION BETWEEN LTE ANTENNAS
 -8 INCH MINIMUM SEPARATION BETWEEN BACK OF PANEL ANTENNA AND EXISTING/PROPOSED EQUIPMENT



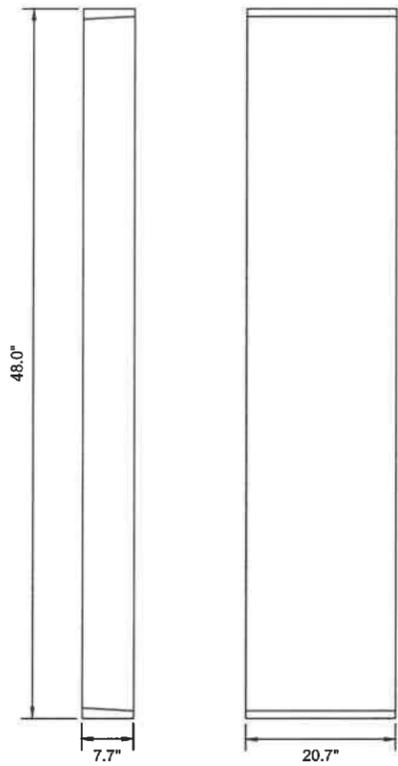
ANTENNA MOUNTING DETAIL
 SCALE: NTS



RRUS B14 4478 DETAIL
 SCALE: NTS



RRUS B5/B12 4449 DETAIL
 SCALE: NTS



ANTENNA DETAIL
 SCALE: NTS

CCI DMP65R-BU4DA
 DIMENSIONS (HxWxD):
 48.0"x20.7"x7.7"
 WEIGHT (LBS): 67.9

EXISTING RRUS-12 B4 TO REMAIN MOUNTED ON EXISTING UNISTRUT ON TOWER FACE



PROPOSED SQUID, 4449 B5/B12 & 4478 B14 TO BE MOUNTED ON EXISTING UNISTRUT ON TOWER FACE

EXISTING RRUS-11 B12 MOUNTED ON EXISTING UNISTRUT ON TOWER FACE TO BE REMOVED

RRU & SQUID MOUNTING DETAIL
 SCALE: NTS



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Certification # Seal:
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James R. Skowronski 11/13/2019
 Registered Civil Engineer Signature: Date:

MARK	DATE	DESCRIPTION
2	11/13/19	FINAL CDs REVISED PER COMMENTS
1	11/06/19	FINAL CDs ISSUED
0	09/26/19	CDs ISSUED FOR REVIEW

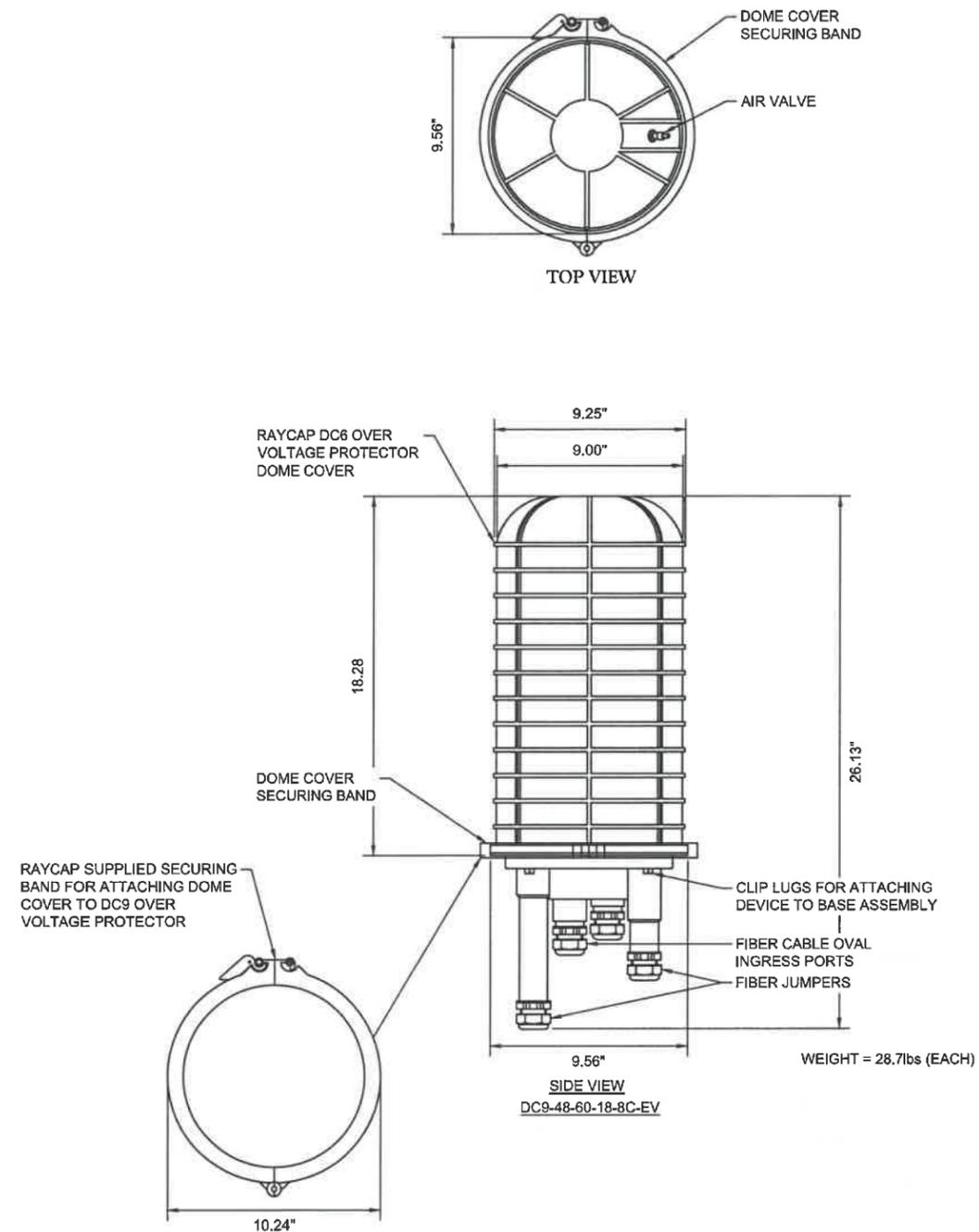
ISSUE PHASE: FINAL DATE ISSUED: 11/13/2019
 PROJECT TITLE:
**SOUTH TRURO
 FA# 10014237
 SITE# MAL01061**

PROJECT INFORMATION:
 5 TOWN DUMP ROAD
 TRURO, MA 02666
 BARNSTABLE COUNTY

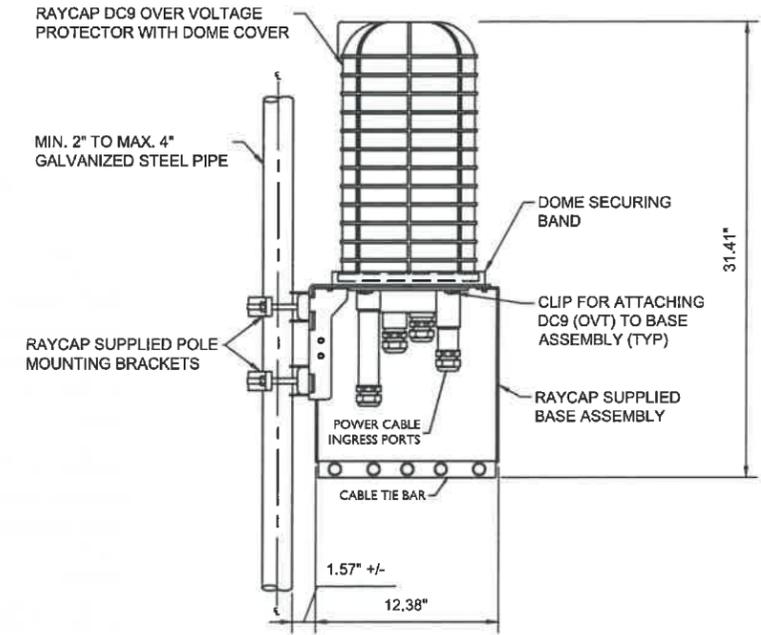
SHEET TITLE:
CONSTRUCTION DETAILS

SCALE: NONE

PROJECT NUMBER: 45315
 SHEET NUMBER: A-1



DC9 SURGE SUPPRESSION DOME
 SCALE: NTS ①



**DC9 SURGE SUPPRESSION DOME
 POLE MOUNT ASSEMBLY**
 NOT TO SCALE ②



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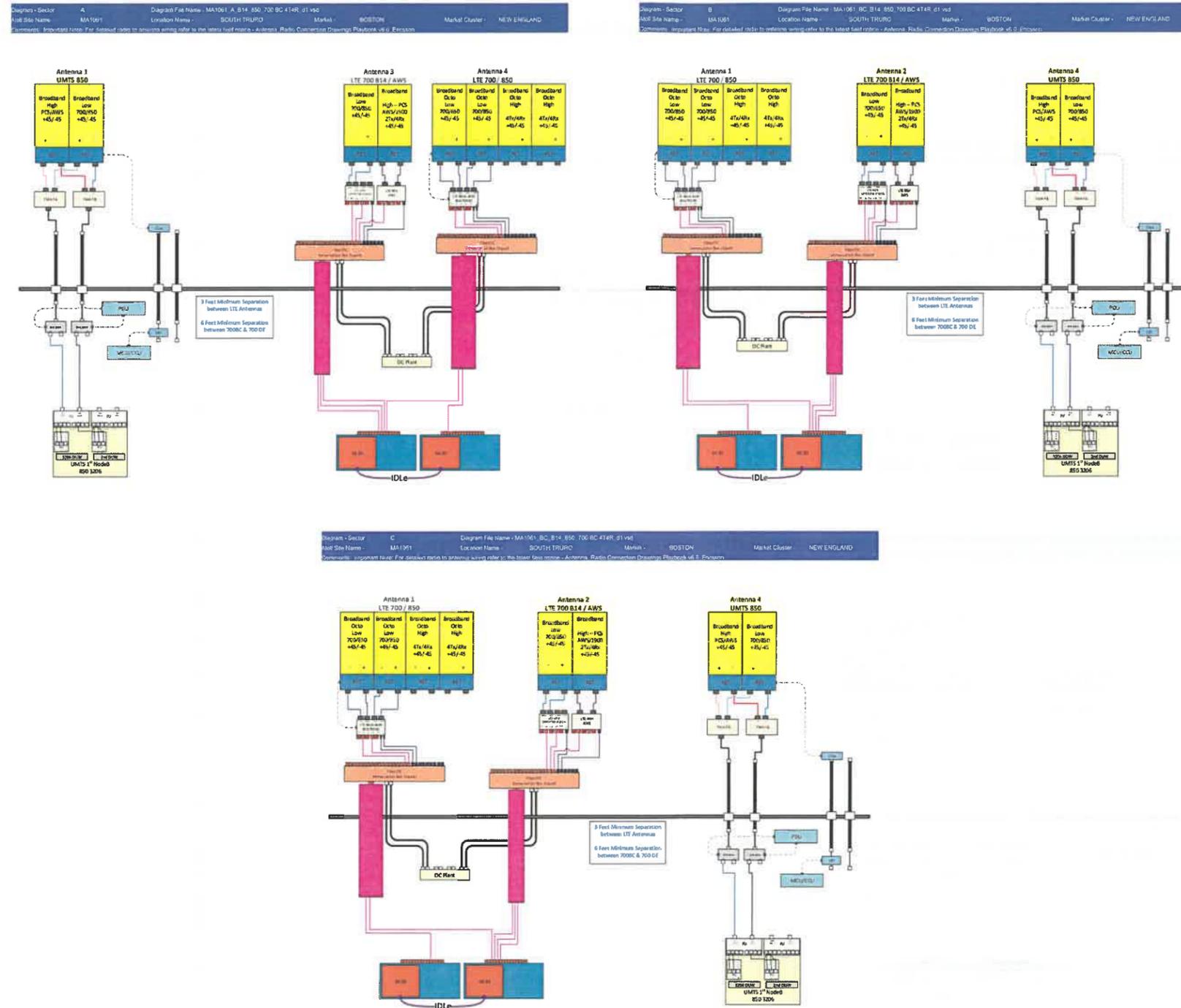
PROJECT TITLE:
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 FA# 10014237
 SITE# MAL01061**

PROJECT INFORMATION:
 5 TOWN DUMP ROAD
 TRURO, MA 02666
 BARNSTABLE COUNTY

SHEET TITLE:
CONSTRUCTION DETAILS

SCALE: NONE

PROJECT NUMBER	45315
SHEET NUMBER	A-2



BASED ON: RF ENGINEERING DESIGN ENTITLED "NEW-ENGLAND_BOSTON_MA1061_2020-LTE-NEXT-CARRIER_LTE_MR673A_2101A0PQNJ_10014237_76840_05-07-2019_FINAL-APPROVED_V4.00" LAST REVISED 10/29/2019.

RF PLUMBING DIAGRAMS
 SCALE: NTS



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ISSUE FINAL DATE 11/13/2019
 PHASE ISSUED

PROJECT TITLE:
**SOUTH TRURO
 FA# 10014237
 SITE# MAL01061**

PROJECT INFORMATION:
 5 TOWN DUMP ROAD
 TRURO, MA 02666
 BARNSTABLE COUNTY

SHEET TITLE:
RF PLUMBING DIAGRAMS

SCALE: NONE

PROJECT NUMBER 45315
 SHEET NUMBER A-3



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ISSUE PHASE: FINAL DATE ISSUED: 11/13/2019

PROJECT TITLE:
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SITE# MAL01061

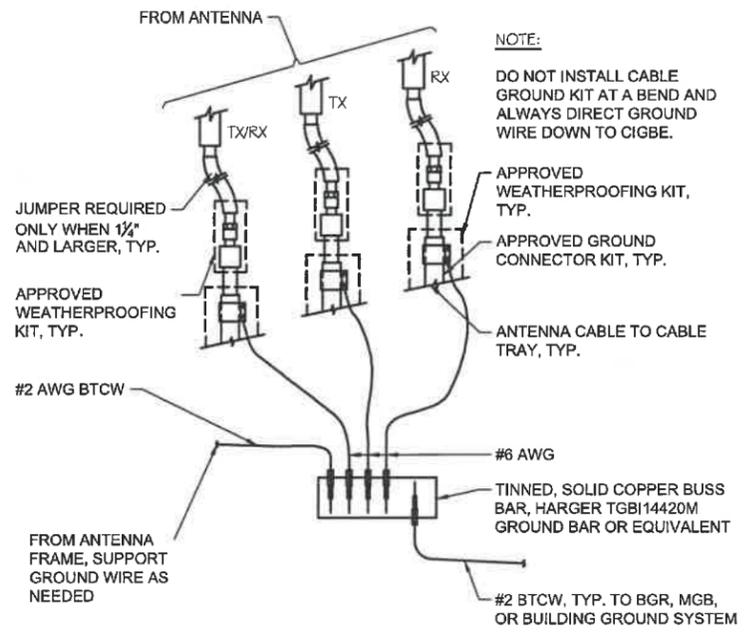
PROJECT INFORMATION:
 5 TOWN DUMP ROAD
 TRURO, MA 02666
 BARNSTABLE COUNTY

SHEET TITLE:
GROUNDING DETAILS

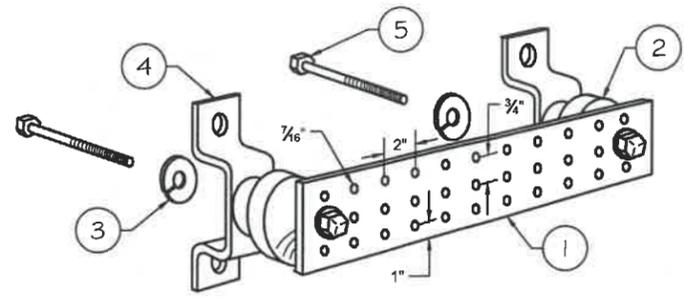
SCALE: NONE

PROJECT NUMBER	45315
SHEET NUMBER	G-1

NOTES:
 1. ALL MOUNTING HARDWARE CAN BE USED ON 6", 12", 18", ETC. GROUND BARS.
 2. ENTIRE ASSEMBLY AVAILABLE FROM NEWTON INSTRUMENT CO. CAT. NO. 2106060010 OR AS HARGER TGBI14420M.

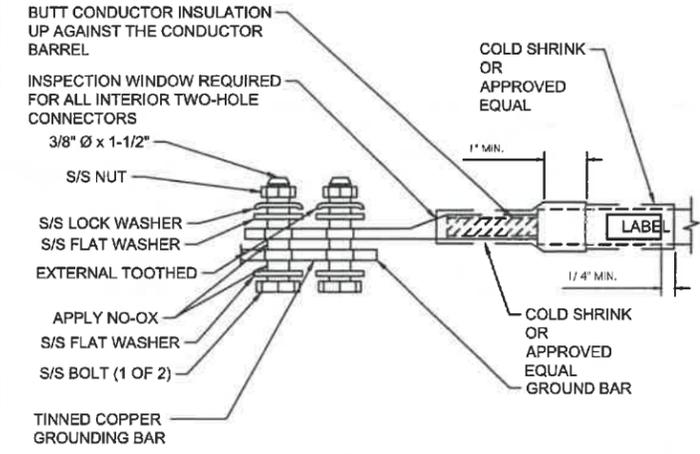


GROUND WIRE TO GROUND BAR DETAIL
 SCALE: NTS

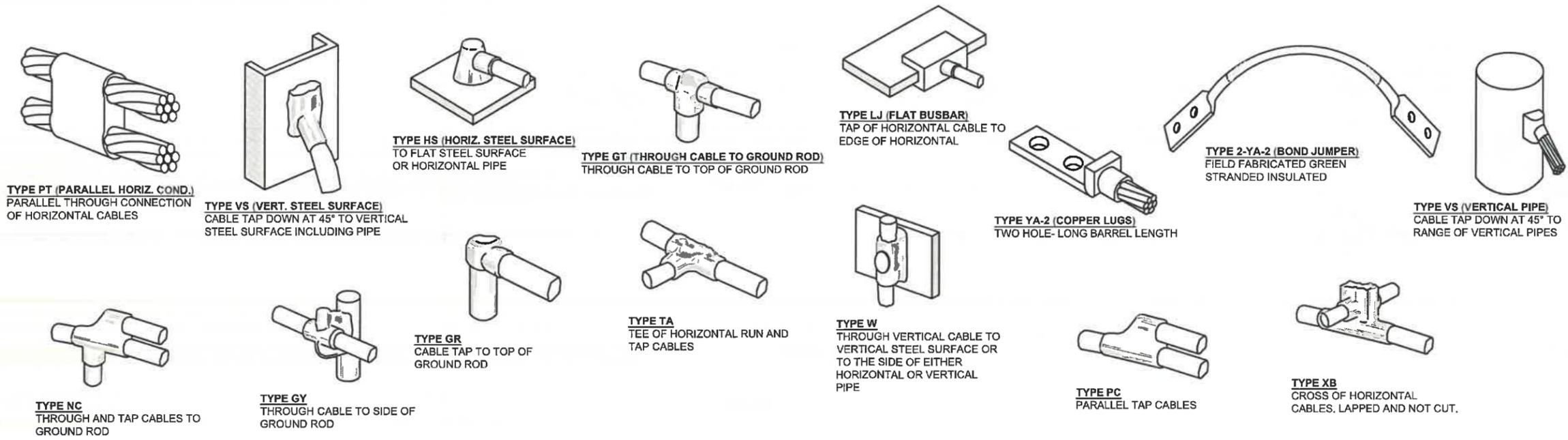


- LEGEND**
- ① TINNED COPPER GROUND BAR, 1/4" x 4" x 20", NEWTON CO., HARGER TGBI14420M, OR EQUIVALENT. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION.
 - ② INSULATORS. INSTRUMENT CO. CAT. NO. 3061-4 OR HARGER EQUIVALENT.
 - ③ 3/8" LOCKWASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8 OR EQUIVALENT.
 - ④ WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT. NO. A-6056 OR HARGER EQUIVALENT.
 - ⑤ 3/8" x 1" H.H.C.S. BOLTS, NEWTON INSTRUMENT CO. CAT. NO. 3012-1 OR HARGER EQUIVALENT.

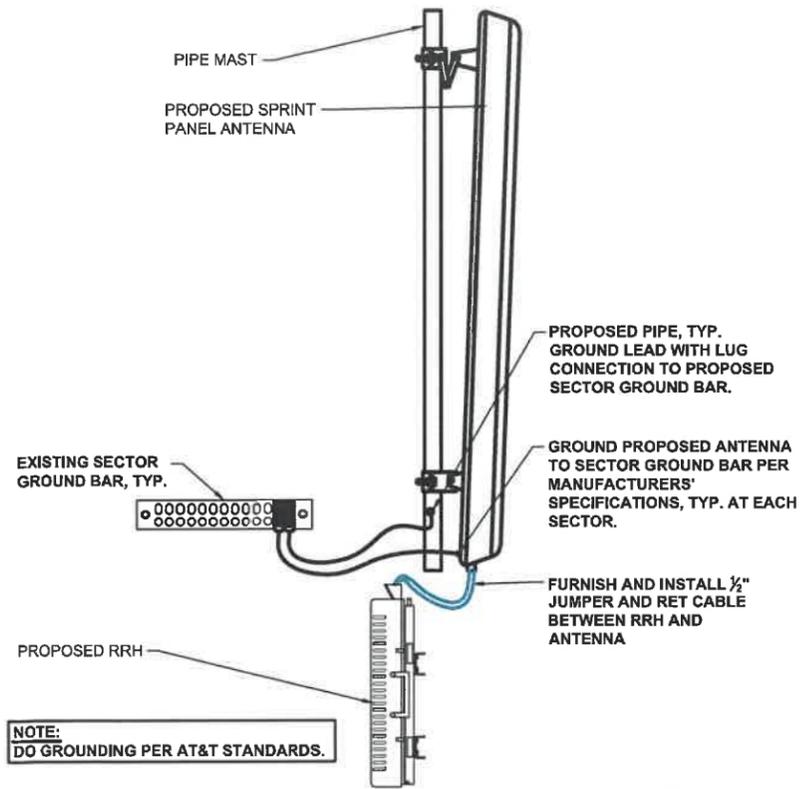
TYPICAL GROUND BAR DETAIL
 SCALE: NTS



TYPICAL GROUND BAR CONNECTION DETAIL
 SCALE: NTS



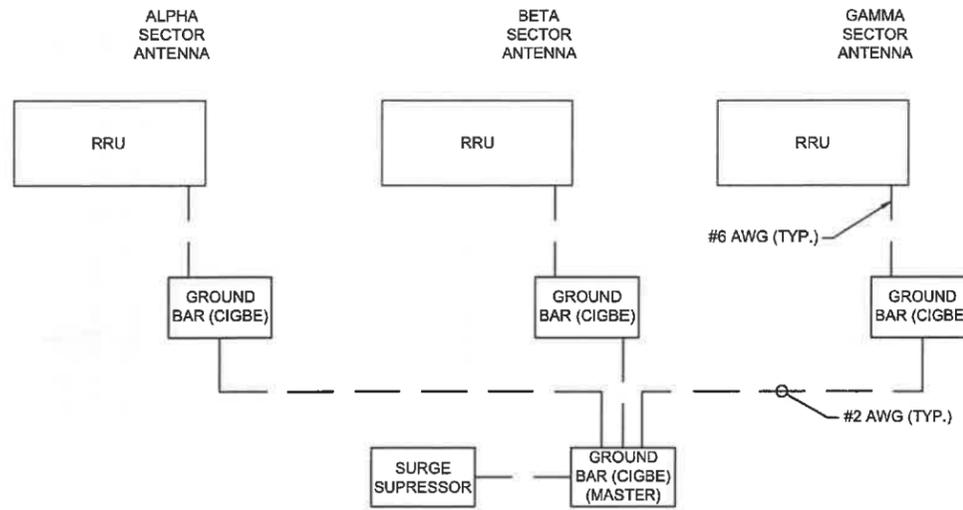
TYPICAL CADWELD TYPES DETAIL
 SCALE: NTS



ANTENNA & RRU GROUNDING DETAIL

SCALE: NTS

1



SCHEMATIC DIAGRAM GROUNDING SYSTEM

SCALE: NTS

2



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PROJECT INFORMATION:
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 BARNSTABLE COUNTY

SHEET TITLE:
GROUNDING DETAILS

SCALE: NONE

PROJECT NUMBER	45315
SHEET NUMBER	G-2