

Tectonic Engineering
Theresa Ranciato-Viele
63-3 N. Branford Road
Branford, CT 06405
Tranciato@Tectonicengineering.com
203-606-5127

December 21, 2022

Ms. Melanie Bachman, Executive Director Connecticut Siting Council Ten Franklin Square New Britain, CT 06051

RE: Notice of Exempt Modification to an existing 81' monopole located at 60 Commerce Drive, Trumbull, Connecticut

Latitude: 41.2456 / Longitude: 73.1456

Dear Director Bachman:

This letter and attachments are submitted on behalf of Dish Wireless, LLC ("Dish"). Dish plans to install antennas and related equipment to the tower site at the existing 143'monopole tower facility located at 60 Commerce Drive, Trumbull, Connecticut (See Original Facility Approval attached as Exhibit A) ("Facility"). The property is owned by The Town of Trumbull and the tower is owned by Make-A-Wish Foundation of CT, Inc. (See Trumbull Vision Appraisal information attached hereto as Exhibit B).

Dish proposes to install three (3) 600/1900/2100 MHz JMA – MX08Fr0665-21 antennas and six (6) FUJITSU TA08025 RRUs on the tower at the ninety nine foot (99') centerline AGL. Dish further proposes to install one (1) 1.5" Hybrid Cable. Dish will also install its equipment cabinets on a 5' X 7' platform within its 10' X 15' lease area. The installation is shown on plans completed by Tectonic Engineering, dated December 15, 2022 and attached hereto as Exhibit C.

Dish requests that the Connecticut Siting Council ("Council") find that the proposed shared use of this Facility satisfies the criteria of C.G.S. sec. 16-50aa and accordingly issue an order approving the proposed shared use. This proposed installation constitutes an exempt modification pursuant to R.C.S.A. 16-50j-89. Pursuant to R.C.S.A. 16-50j-73, Dish is providing notice to Vicki A. Tesoro, First Selectperson of the Town of Trumbull, Rob Librandi, Land Use Planner, the property owner, Make-A-Wish Foundation of CT, Inc., and the tower owner, Cellco Partnership d/b/a Verizon Wireless.



Under the Council's regulations, Dish's plans do not constitute a modification subject to the Council's review in that:

Dish will not change the existing 81' height of the Tower as the Dish antennas will be installed at a height of 61'.

The proposed installation will not extend the existing boundaries of the compound as depicted in Exhibit C;

The proposed installation will not increase the noise levels at the facility by six (6) decibels or more, or to levels that exceed local and state criteria; and

The proposed antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard. The attached Exhibit F indicates that the combined site operations will result in a total power density of 3.9721%.

Tower

The Facility consists of an Eighty One (81') foot monopole tower located at 60 Commerce Drive, Trumbull, Connecticut. As indicated above, property is owned by the Make-A-Wish Foundation of CT, Inc., and the tower is owned by Cellco Partnership. The tower currently supports Verizon at the eighty foot (80') centerline AGL. The antenna locations are set forth on Sheet A-2 of the attached drawings in Exhibit C.

A. TECHNICAL FEASIBILTY

The existing monopole has been deemed structurally capable of supporting the proposed Dish loading. The structural and mount analysis is attached hereto as Exhibit D.

B. LEGAL FEASIBILITY

C.G.S. Se. 16-50aa authorizes the Council to issue orders approving the shared use of existing towers such as the above referenced tower. Under the authority granted to the Council, an order of the Council approving the requested shared use would permit Dish to obtain a building permit from the Town of Trumbull to proceed with the proposed installation. Additionally, a Lease Supplement to The Master Lease Agreement is attached as Exhibit E, granting Dish the authority from the tower owner to proceed with this application for shared use.

C. ENVIRONMENTAL FEASIBILITY

The proposed shared use of this Facility would have a minimal environmental impact. The installation of the Dish equipment at the 61' level of the existing tower would have an insignificant visual impact on the area surrounding the tower. The proposed Dish ground equipment would be installed within the



existing Facility compound. The Dish installation would not cause any significant alteration to the physical or environmental characteristics of the existing Facility. Additionally, as evidenced by Exhibit F, the proposed antennas would not increase the radio frequency emissions to a level at or above the Federal Communications Commission safety standards.

D. ECONOMIC FEASIBILTY

Dish has entered into a Lease Agreement (Exhibit E) with the Facility owner for the proposed colocation. Therefore, this shared use is economically feasible.

E. PUBLIC SAFETY CONCERNS

As set forth above, the tower is structurally capable of supporting the proposed Dish loading. Dish is not aware of any public safety concerns relative to the proposed sharing of the existing tower.

For the reasons set forth herein, the proposed shared use of the existing tower at 60 Commerce Drive, Trumbull, satisfies the criteria stated in C.G.S. sec. 16-50aa, and supports the general goal of preventing the unnecessary proliferation of tower sites in Connecticut. Dish respectfully requests the Council issue an order approving the proposed shared use.

Respectfully submitted,

Dish Wireless LLO

By

Theresa Ranciato-Viele, consultant

63-3 N. Branford Road Branford, CT 06405

Tranciato@Tectonicengineering.com

203-606-5127

cc: Trumbull First Selectperson, Honorable Vicki A. Tesoro

5866 Main St.

Second Floor

Trumbull, CT 06611

Trumbull Land Use Planner, Rob Librandi

5866 Main St.

Second Floor

Trumbull, CT 06611

Tower Owner: Cellco Partnership

One Verizon Way

Mail Stop 4AW100

Basking Ridge, NJ 07920



Property Owner: Make-A-Wish Foundation of CT, Inc. 56 Commerce Dr.

Trumbull, CT 00011

Exhibit A Original Facility Approval

application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a telecommunications facility located at the Pilot Corporation of America property, Trumbull Tax Assessor Map K/09 Lot 20, 60 }

Commerce Drive, Trumbull, Connecticut.

Connecticut

Connecticut

Siting

Council

June 26, 2014

Decision and Order

Pursuant to Connecticut General Statutes §16-50p and the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, maintenance, and operation of a telecommunications facility, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate, either alone or cumulatively with other effects, when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application, and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes § 16-50k, be issued to Cellco Partnership d/b/a Verizon Wireless, hereinafter referred to as the Certificate Holder, for a telecommunications facility at the Pilot Corporation of America property, Trumbull Tax Assessor Map K/09 Lot 20, 60 Commerce Drive, Trumbull, Connecticut

Unless otherwise approved by the Council, the facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and subject to the following conditions:

- 1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of the Certificate Holder and other entities, both public and private, but such tower shall not exceed a height of 80 feet above ground level.
- 2. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be served on the Towns of Trumbull and Stratford for comment, and all parties and intervenors as listed in the service list, and submitted to and approved by the Council prior to the commencement of facility construction and shall include:
 - a) a final site plan(s) of site development to include specifications for the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line, emergency backup generator and landscaping;
 - b) construction plans for site clearing, grading, landscaping, water drainage, and erosion and sedimentation controls consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended; and,
 - c) details of the box turtle protection program, as per the Department of Energy and Environmental Protection's recommendation.
- 3. Prior to the commencement of operation, the Certificate Holder shall provide the Council worst-case modeling of the electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of the electromagnetic radio frequency power density be submitted to the Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.

- 4. Upon the establishment of any new State or Federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.
- 5. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing.
- 6. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed with at least one fully operational wireless telecommunications carrier providing wireless service within eighteen months from the date of the mailing of the Council's Findings of Fact, Opinion, and Decision and Order (collectively called "Final Decision"), this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's Final Decision shall not be counted in calculating this deadline. Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The Certificate Holder shall provide written notice to the Executive Director of any schedule changes as soon as is practicable.
- 7. Any request for extension of the time period referred to in Condition 6 shall be filed with the Council not later than 60 days prior to the expiration date of this Certificate and shall be served on all parties and intervenors, as listed in the service list, and the Towns of Trumbull and Stratford. Any proposed modifications to this Decision and Order shall likewise be so served.
- 8. If the facility ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council within 90 days from the one year period of cessation of service. The Certificate Holder may submit a written request to the Council for an extension of the 90 day period not later than 60 days prior to the expiration of the 90 day period.
- 9. Any nonfunctioning antenna, and associated antenna mounting equipment, on this facility shall be removed within 60 days of the date the antenna ceased to function.
- 10. In accordance with Section 16-50j-77 of the Regulations of Connecticut State Agencies, the Certificate Holder shall provide the Council with written notice two weeks prior to the commencement of site construction activities. In addition, the Certificate Holder shall provide the Council with written notice of the completion of site construction, and the commencement of site operation.
- 11. The Certificate Holder shall remit timely payments associated with annual assessments and invoices submitted by the Council for expenses attributable to the facility under Conn. Gen. Stat. §16-50v.
- 12. This Certificate may be transferred in accordance with Conn. Gen. Stat. §16-50k(b), provided both the Certificate Holder/transferor and the transferee are current with payments to the Council for their respective annual assessments and invoices under Conn. Gen. Stat. §16-50v. In addition, both the Certificate Holder/transferor and the transferee shall provide the Council a written agreement as to the entity responsible for any quarterly assessment charges under Conn. Gen. Stat. §16-50v(b)(2) that may be associated with this facility.

Docket No. 446 Decision and Order Page 3

- 13. The Certificate Holder shall maintain the facility and associated equipment, including but not limited to, the tower, tower foundation, antennas, equipment compound, radio equipment, access road, utility line and landscaping in a reasonable physical and operational condition that is consistent with this Decision and Order and a Development and Management Plan to be approved by the Council.
- 14. If the Certificate Holder is a wholly-owned subsidiary of a corporation or other entity and is sold/transferred to another corporation or other entity, the Council shall be notified of such sale and/or transfer and of any change in contact information for the individual or representative responsible for management and operations of the Certificate Holder within 30 days of the sale and/or transfer.
- 15. This Certificate may be surrendered by the Certificate Holder upon written notification and approval by the Council.

We hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed in the Service List, dated February 26, 2014, and notice of issuance published in the Connecticut Post.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

Exhibit B Property Card

56 COMMERCE DRIVE

Location 56 COMMERCE DRIVE

Mblu K/09 / 00020/ 000/

Acct#

Owner MAKE-A-WISH FOUNDATION

OF CT INC

Assessment \$1,783,390

Appraisal \$2,547,700

PID 8889

Building Count 1

Fire District N

Assessing District

Current Value

Appraisal	
Valuation Year	Total
2021	\$2,547,700
Assessment	
Valuation Year	Total
2021	\$1,783,390

Owner of Record

Owner

MAKE-A-WISH FOUNDATION OF CT INC

Sale Price

\$2,100,000

Co-Owner Address

56 COMMERCE DR

Book & Page 1787/0291

Sale Date

06/06/2019

TRUMBULL, CT 06611-5403

Instrument

UNKQ

Ownership History

Ownership History											
Owner	Sale Price	Book & Page	Instrument	Sale Date							
MAKE-A-WISH FOUNDATION OF CT INC	\$2,100,000	1787/0291	UNKQ	06/06/2019							
CITY PARK COMMERCE DRIVE LLC &	\$4,450,000	1666/0601	UNKQ	06/25/2014							
PILOT CORP OF AMERICA	\$0	0470/0050		10/13/1982							

Building Information

Building 1: Section 1

Year Built:

1983

Living Area:

16,338

Replacement Cost:

\$1,505,812

Building Percent Good:

45

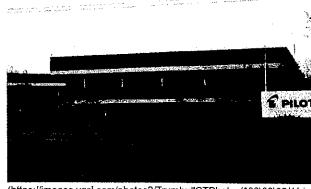
Replacement Cost

Less Depreciation:

\$677,600

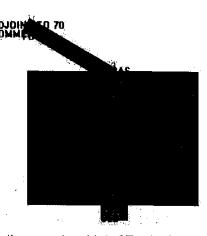
Building Attributes									
Field	Description								
STYLE	Office Bidg								
Grade	С								
Stories:	2 Stories								
Occupancy	1								
Exterior Wall 1	Brick Veneer								
Exterior Wall 2	The state of the s								
Roof Structure	Flat								
Roof Cover	Tar & Gravel								
Interior Wall 1	Drywall								
Interior Wall 2	an error and the control of the cont								
Interior Floor 1	Carpet								
Interior Floor 2									
Heating Fuel	Gas								
Heating Type	Forced Air								
AC Type	Central								
Bldg Use	Charitable Bldg								
1st Floor Use:									
Heat/AC	Heat/AC Pkgs								
Frame Type	Fireprf Steel								
Baths/Plumbing	Average								
Ceiling/Walls	Sus-Ceil & WL								
Rooms/Prtns	Average								
Wail Height	12								
% Comn Wall									

Building Photo



(https://images.vgsi,com/photos2/TrumbullCTPhotos/\00\00\00\11.jpg)

Building Layout



(https://images.vgsi.com/photos2/TrumbullCTPhotos//Sketches/8889_8889

·	<u>Legend</u>							
Code	de Description Gross Area							
FUS	Finished Upper Story	6,700	6,700					
BAS	First Floor	4,838	4,838					
FBL	Fin Bsmt Living Area	4,800	4,800					
CAN	Canopy	112	0					
SLB	Slab	112	0					
		16,562	16,338					

Extra Features

	Extra Featu	res	<u>Legend</u>
Code	Description	Size	Bldg #
ELV	Elevator	1 Units	1
SPR	Sprinklers	15938 S.F.	1

Land

Land Use

Land Line Valuation

Use Code

977

Description

Charitable Bldg

Zone

IL-3

Neighborhood 545 No

Alt Land Appr

Category

Size (Acres) 6.5

Frontage

Depth

Outbuildings

		Outb	uildings		<u>Legend</u>
Code	Description	Sub Code	Sub Description	Size	Bldg#
PAV1	Paving Asph.		min transfer of the state of th	29000 S.F.	1
LT1	Light - 1			9 Units	1
LT2	Light - 2			1 Units	1

Valuation History

Appraisal	
Valuation Year	, Total
2020	\$2,479,800
2019	\$2,479,800
2018	\$5,529,900

Assessment										
Valuation Year	Total									
2020	\$1,735,860									
2019	\$1,735,860									
2018	\$3,870,930									

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Exhibit C Project Plans

wireless.

DISH Wireless L.L.C. SITE ID:

NJJER01153A

DISH Wireless L.L.C. SITE ADDRESS:

60 COMMERCE DRIVE TRUMBULL, CT 06611

CONNECTICUT CODE COMPLIANCE

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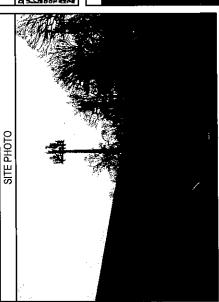
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e dence (onp)	ZOHING DISTRICT:	3
•	PARCEL NUMBER	KD8-20
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	CONSTRUCTION TYPE:	Ī
- G	POWER COMPANY:	UNITED KLUMMATING
	HINDRE COMPANY: UGATIVATI	HOWEN





UNDERGROUND SERVICE ALERT CBYD 811
UTILITY NOTIFICATION CENTER OF CONNECTICUT
(800) 822-465
WWWW.CBYD.COM

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DESH WITHERS LLC. 5701 SOUTH SANTA FE DRIVE LITHLERDY, COSO120

APPLICATE

MAKE-A-MISH FOUNDATION

PROPERTY DWINES:

SITE INFORMATION

OF CT NG. 60 COMMERCE DRIVE TRUMBULL, CT DBB111 MONOPOLE

PROJECT DIRECTORY

5701 SOUTH SANTA FE DRIVE LITTLETON, CO 80120

KON WINDLESS BLOS LAS CHIAS PARKWAY BUNDING AC, SUITE 370 AUSTIN, TX 78746

TOWER OWNER

TOWER CO STITE ID

TOWER TYPE ADDRESSS

Tectonic 1277 (144) (

TECTONE ENGAGENAG
CONSULTANTS, OFECCORSTS &
LAND SURVEDINE, D.P.C., WC.
1278 ROUTE 300
MEXICUROH, NY 12590

SITE DESIGNADA



TECTONIC ENGINEERING COMBULTONITS, CEDICORITS & LAW SUNYEDIRS, D.P.C., INC. 1279 FOULT 300 NEWBUREL, NY 12890 (846) 567—6836

SITE ACQUISITION:



PARKAN MADAHAR PARKAN MADAHARBOSOLODA

AF ENGWEEDE

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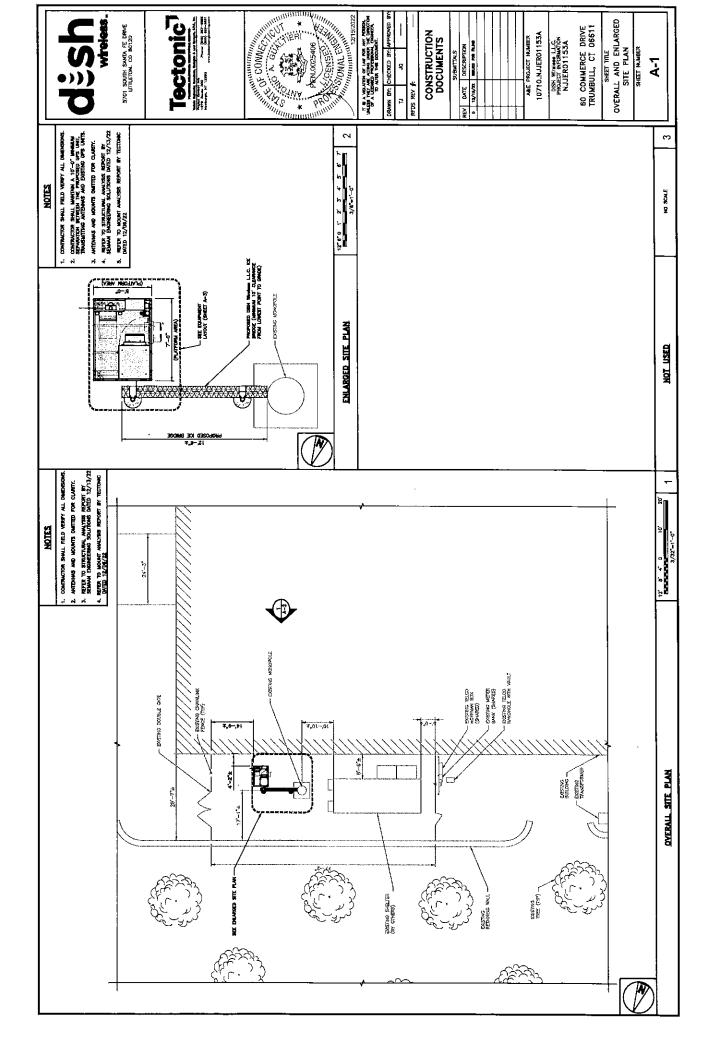
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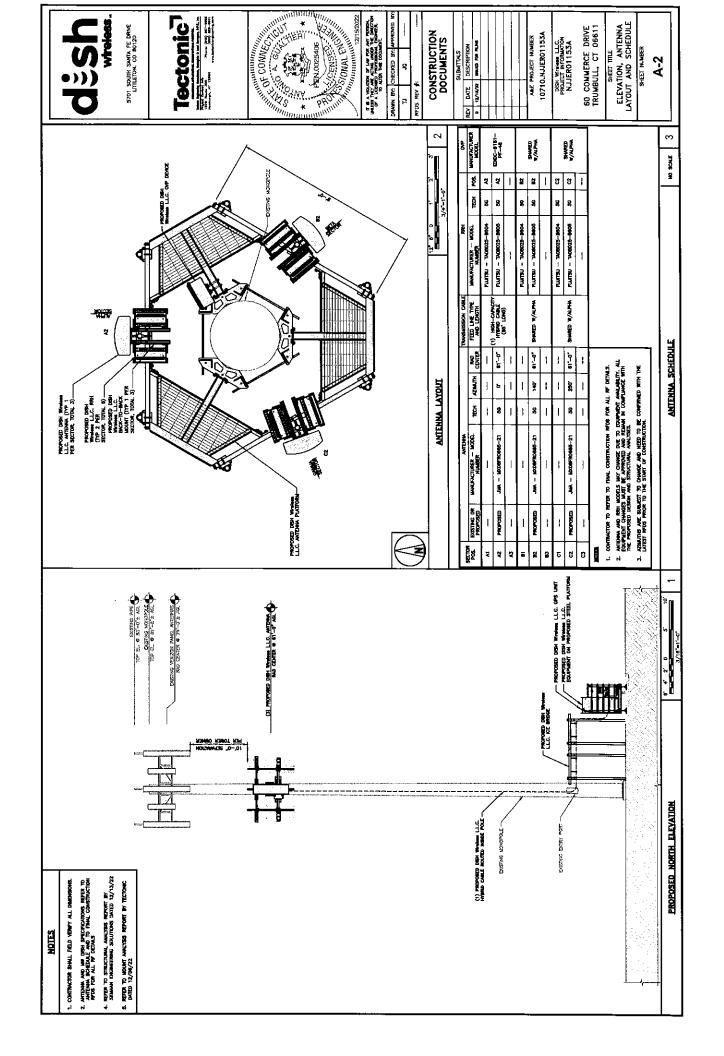
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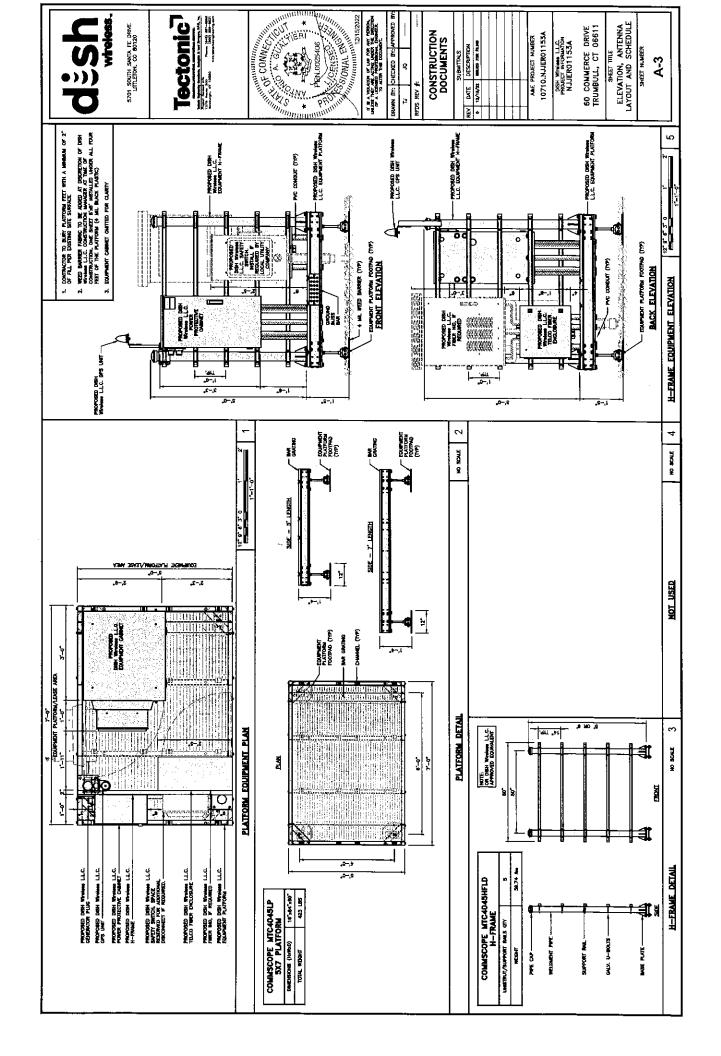
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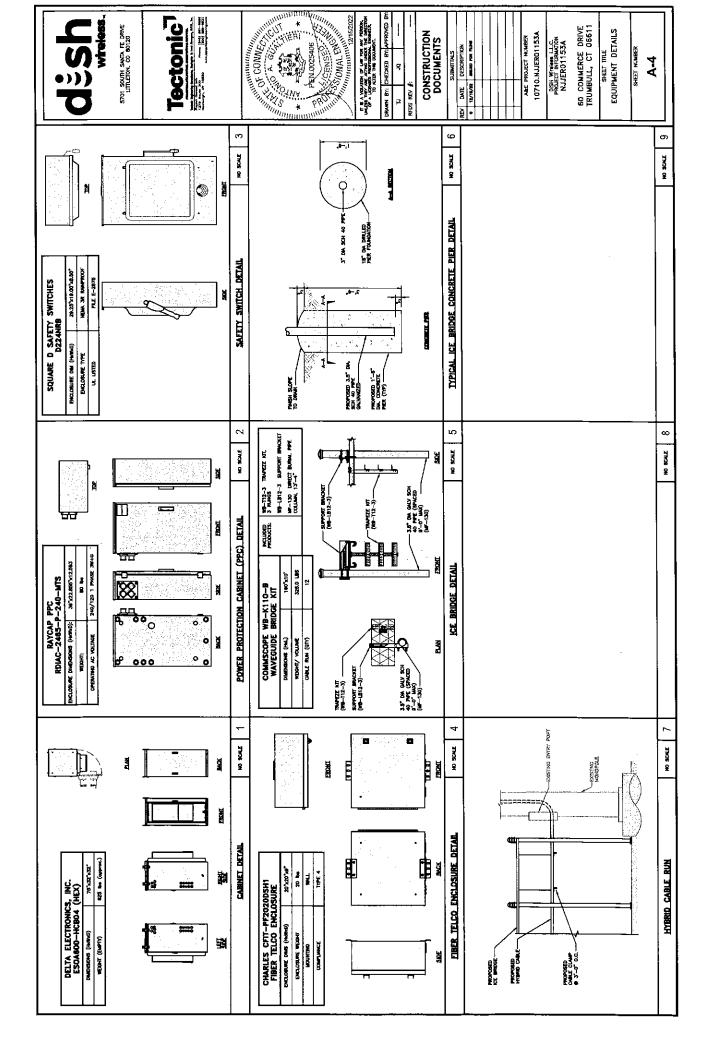
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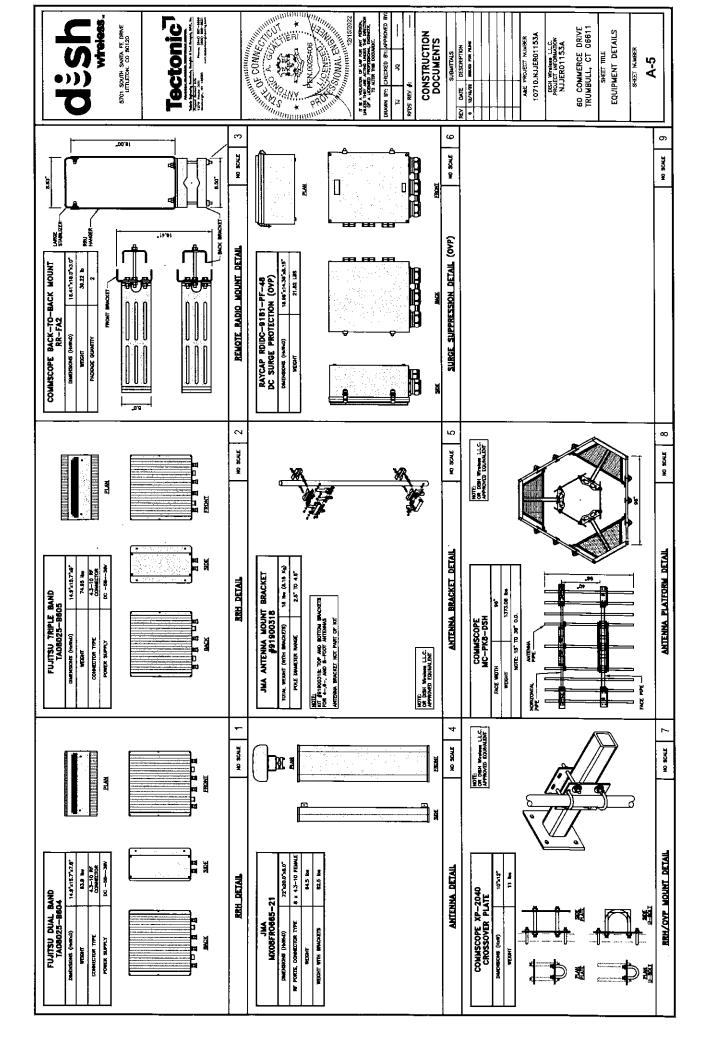
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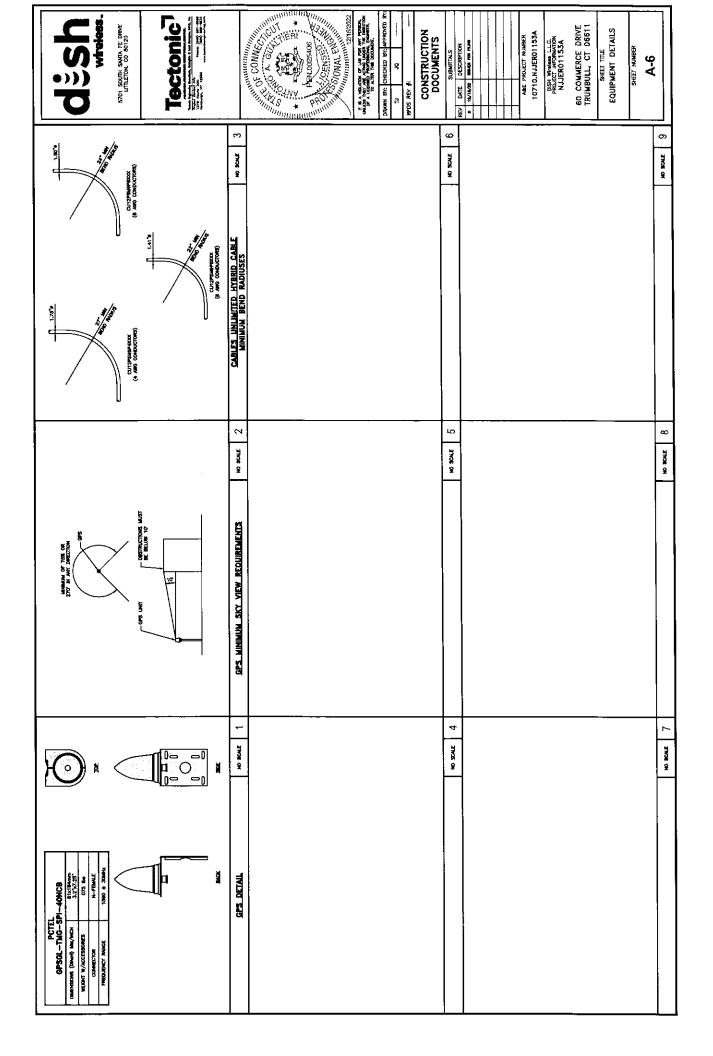


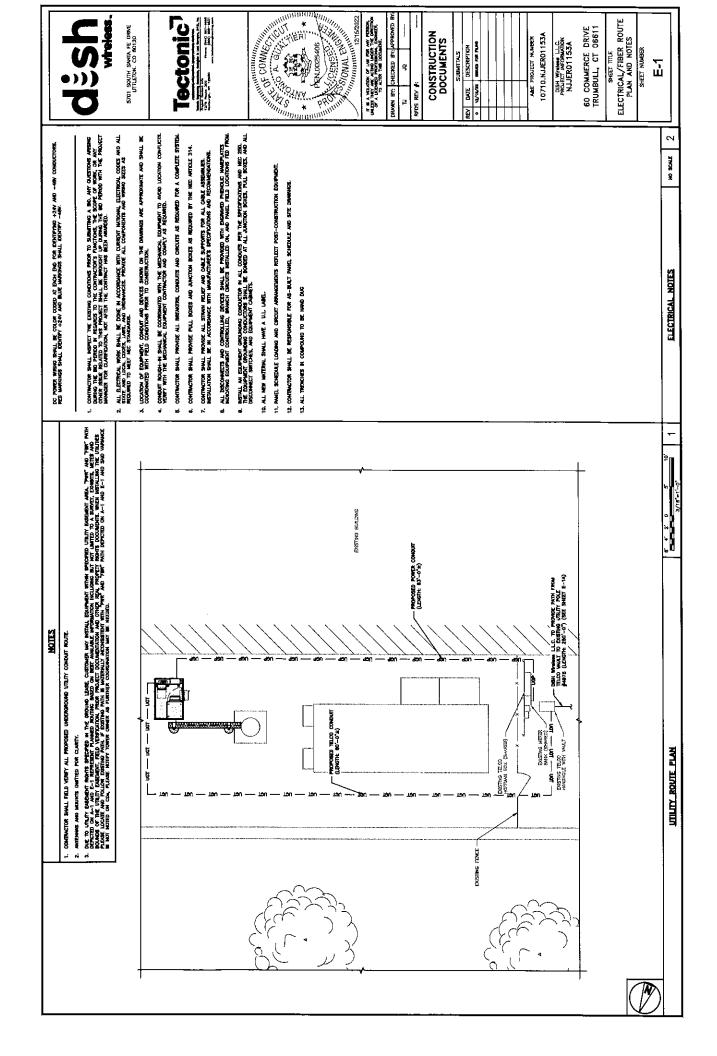


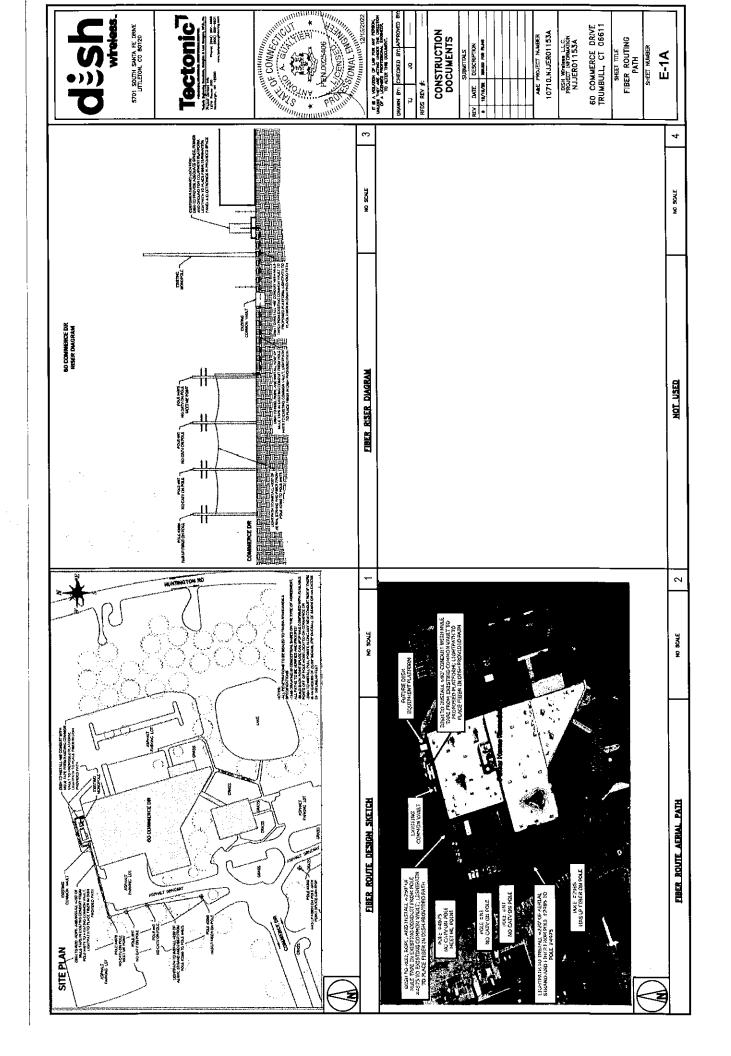


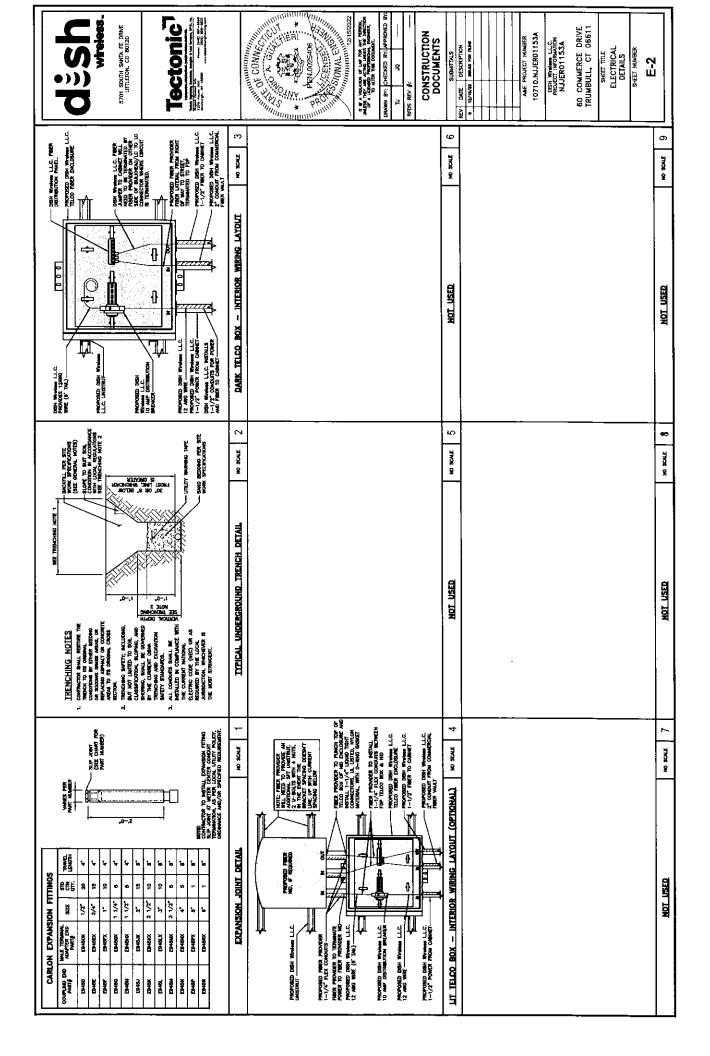


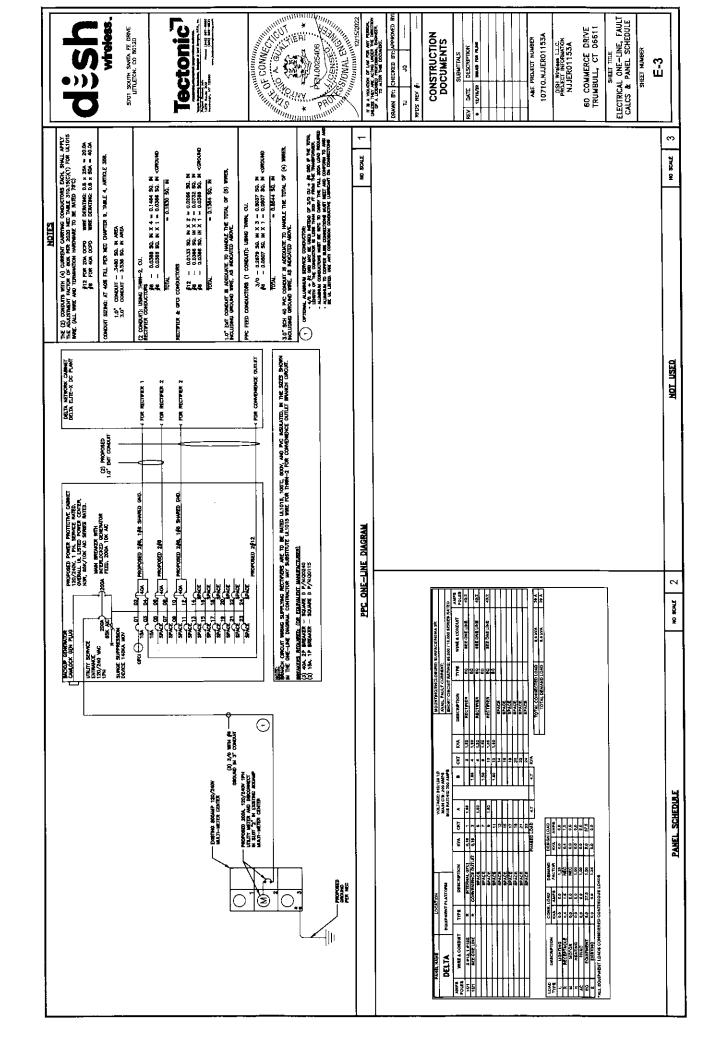


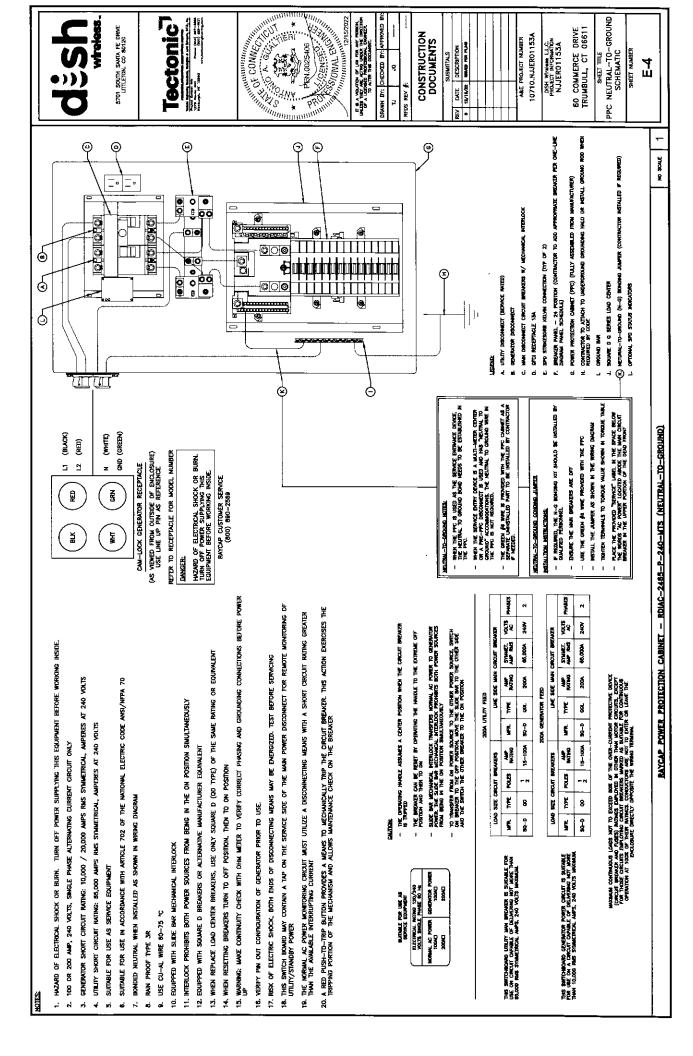


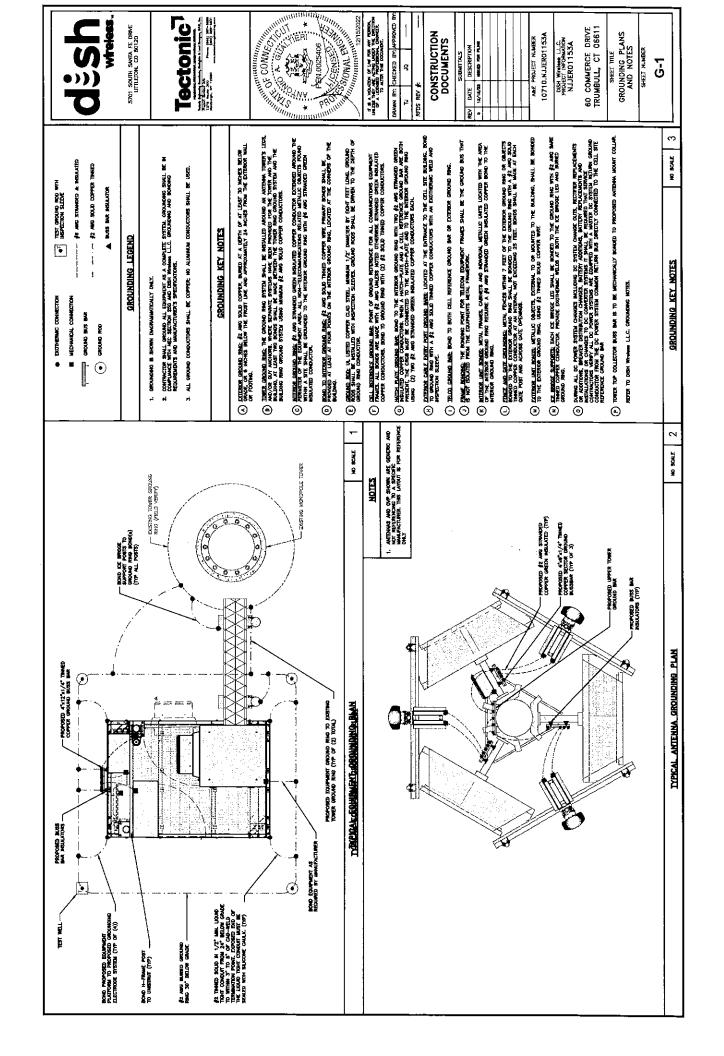


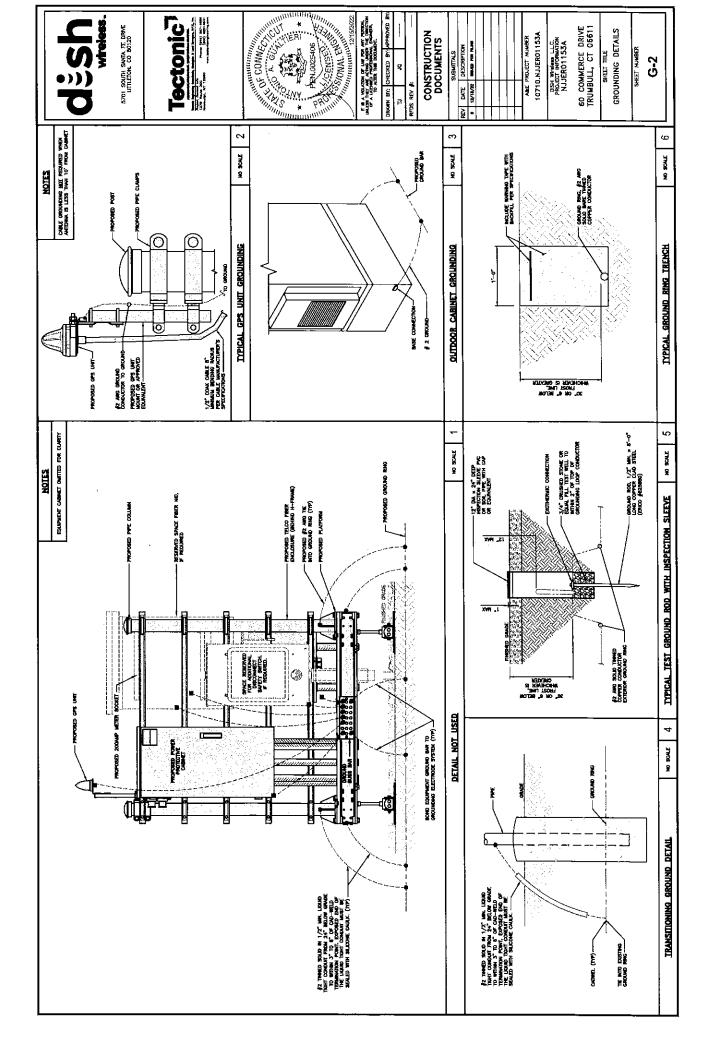


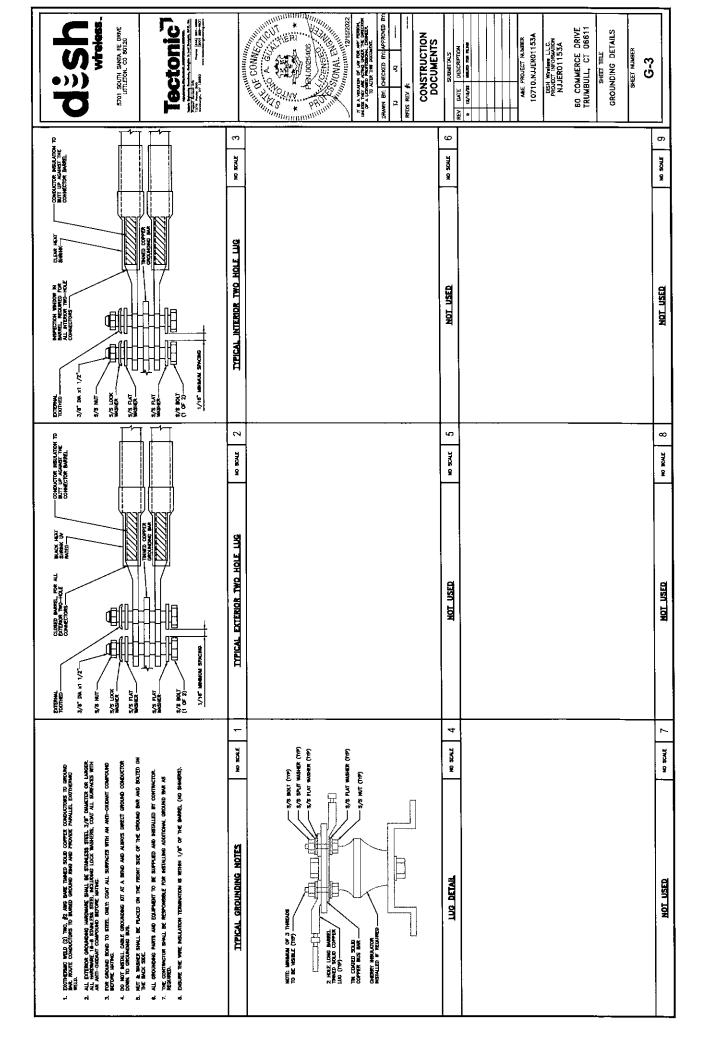


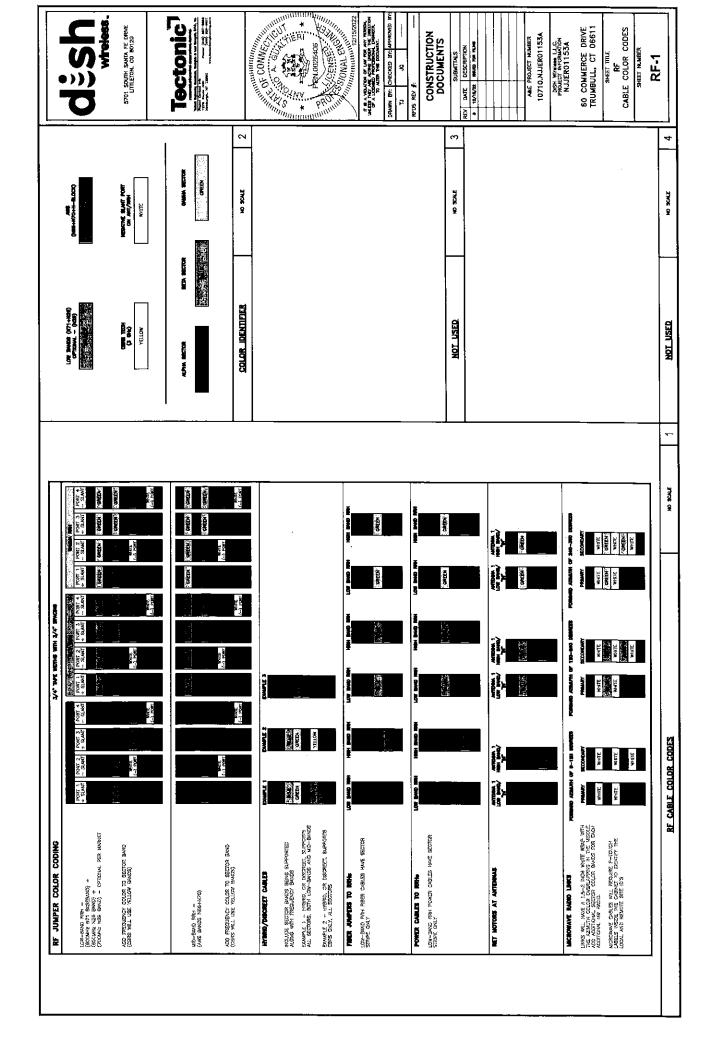


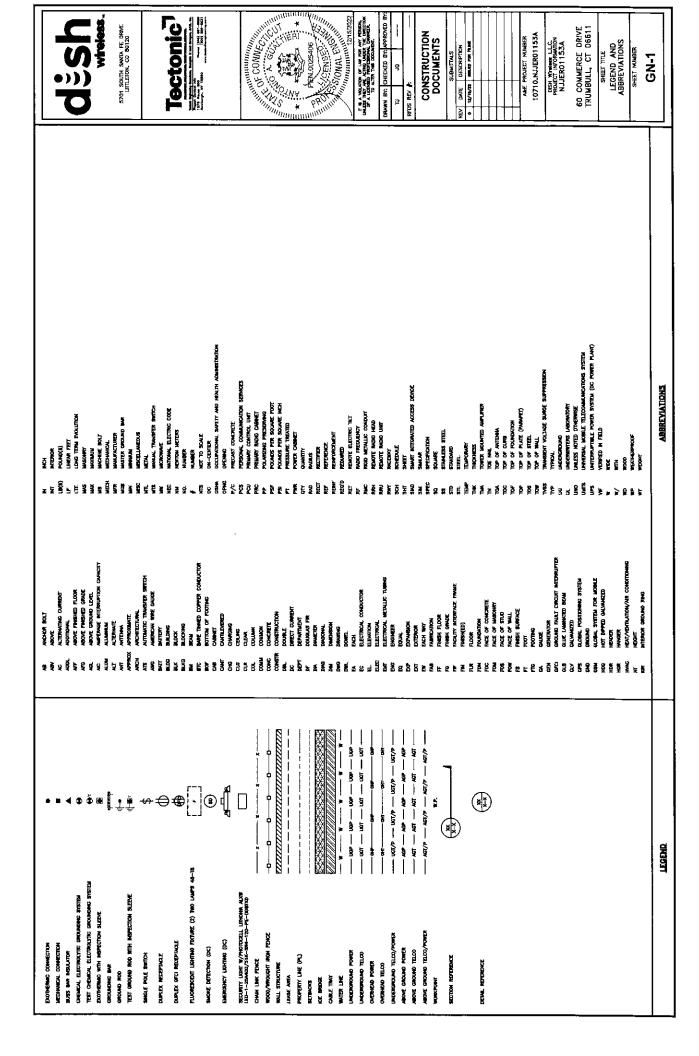












		SIGN TYPES
TYPE	COLOR	COLOR COOR PURPOSE
HEDDAM/DIGH	CHEEN	"INFORMATIONAL SIGN" TO NOTIFY OTHERS OF SITE OWNERSHIP & CONTACT NUMBER AND POTENTIAL RF EXPOSURE.
NOTICE	BLUE	PARTICE SETONS THE FOURT OF PELOS BEYOND THE POINT MAY DOZED THE PCC GOLDBAL FINEL, DEPOSITING LAIL, ORDER ALL PORTED SHOWS THE ADMINISTRATION OF THE PROMOMERIES. THE ACCORDINACE WITH FIDERAL COMMUNICATIONS COMMISSION PALLS OF NOOP PRESENCE AT CHE-LIJORIES.
Силон	MOTTEL	"CAUTHON RICHARD THE PORUL" FOR FILEDS RETOKNO THIS POINT MAY EXCENDENCE WITH FIDENAL COMMUNICATIONS POSTED SHORE AND SET GUERRALE FOR WORKING IN PER PROMOMERTE. A ACCORDANCE WITH FIDENAL COMMUNICATIONS COMMISSION RALES IN PROMOMER PROFESSION FOR THE PLANCE AND PREVAINTED BASSIONS AT CITE 1.1307(8).
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- IN SHOWOE PLACEMENT SHULL FOLLOW THE RECOMMENDATIONS OF AN EXISTING EME REPORT, CREATED BY A THIRD PARTY PREMOUS Windows L.L.C.
- MARKEN SECRETAL SHALL SELLICATE ON DESIRED DISH WENGEL LLE CENTEMENT LLE EXPRENDE CARRET.

 1) F. THE MEDIAL SHALL BE A EXPLICIT ONLY DESIRED DISH WENGEL LLE EX-PRAIRE WITH A SECURE ATTICH METHOD.

 1) F. THE MEDIAL SHALL BE A SETAL SHALL BE PLACED ON EXBINE DISH TRAINER. LLE TH-TRAINE WITH A SECURE ATTICH METHOD.

 1) F. THE WASHINGTON SHALL BE ATTICHED FOR CHARLING OF CONSTRUCTION DOLINERER. PLUGE CONTICL DISH WHOSE LLE, CONSTRUCTION WASHINGTON, ON HOW TO PROCEED.
- 1. FOR DISH Wireless LLC. LOGG, SEE DISH Wireless LLC. DESION SPECIFICATIONS (PROVIDED BY DISH Wireless LLC.)
- 2. SITE IS SHALL BE APPLED TO SIGNS USING "LASTR BIORNING" OR ANY OTHER WEATHER RESISTANT METHOD (DISH WINNERS LLC. APPROVAL REDUINED)
- 3. TOT FOR SIGNAGE SHALL HONCATE CORRECT SITE NAME AND NUMBER AS PER DISH WINNERS LLC. CONSTRUCTION MANAGER RECOMMENDATIONS.
- 4. DAMMET/BRELIER MOUNTING APPLICATION REGUINDS ANOTHER PIGHT APPLIED TO THE FACE OF THE CAUMET WITH WHITE PROOF POLYUNETHAME. ADMESSAR S. ALL SIGNS WILL BE SECURED WITH ETHER STANLESS STEEL ZIP THES OR STANLESS STEEL TECH SCREWS
 - 3. ALL SIGNS TO BE 8.3"X11" AND MADE WITH 0.04" OF ALLAMINM MATERIAL



Radio frequency fields beyond this point IRAY EXCEED the FCC Occupational exposure limit.

Radio frequency fields beyond this point MAY EXCEED the FCC Occupational exposure limit

(resembling Antenna(s)

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

Call the DISH Wireless L.L.C. NOCat 1-866-624-6874 prior to working beyond this point.

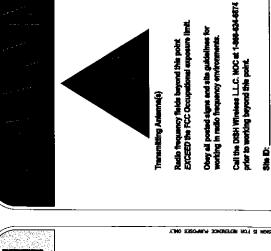
Call the DISH Wheles LL.C. NOCat 1-365-624-6774 prior to working beyond this point.

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

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INFORMATION

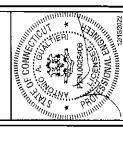
5701 SOUTH SANTA FE DRINE UTILETON, CO 80120

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Obey all signs and barriers beyond this point. Call the DISH Wireless L.L.C. NOC at 1-866-624-6874

area with transmitting antennas.

This is an access point to an



THIS SIGN IS FOR REPORDINCE PURPOSES ONLY

Site ID:

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CONSTRUCTION
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10710.NJJER01153A ARE PROJECT NUMBER

IZ LOW MELENBACE EMBLOREZ ONTA

60 COMMERCE DRIVE TRUMBULL, CT 06611 DISH WITPIERS LLC.
PROJECT INFORMATION
NJJEROT 153A

SIGNAGE

GN-2 SHEET NUMBER

RF SIGNAGE

STE ACTIVITY REQUIREMENTS:

- 1. NOTICE TO PROCED.— NO WORK SAUL COMMENCE PRIOR TO CONTRACTOR RECENHACA MENTER MOTICE TO PROCEED (MET) SUBJURGE OF A DIRECTOR ORDER, PROPE TO ACCESSIONAL PLE STEF YOU MUST CONTACT THE DISH Winshes L.L.C. AND TOWER OWNER ON STRUCTON ANAWORD.
- "LOOK UP" DISH WINHAR LLC, AND TOWER OWNER SAFETY CLIMB REDUIREMENT:
- THE INTERIOR OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACELTY SHALL BE CONSIDERED DURING ALL STAGES OF THE CLIMBING TO PERFORMEDIATION, AND/OF BEDINDENT INSTALLATION, SHALL SHEWFOREMENTS, AND/OF BEDINDENT INSTALLATIONS SHALL NOT COMPROMENTS OF THE CLIMBING FACILITY ON THE COMPROMENTS THE INTEGRAT OR PARKTONAL, NOT OF THE WIRE FOR FROM ITS SUPPORTS. DIRECT CONTACT OF CLOSE PROXIMITY OF THE WIRE FORE FROM ITS SUPPORTS, DIRECT CONTACT OF CLOSE PROXIMITY OF THE WIRE FORE WHICH MAY CAUSE PROSTONAL, WEAK, IMPACT TO THE WASHENGED SEARCH CLUBE, INCLUDING EDISTING COMMITTING MAY PROPER WHICH MAY CAUSE PROSTONAL WEAK, INCLUDING EDISTING COMMITTING MAY PROPER WHICH MAY CAUSE PROSTONAL WEAK INFOCT TO THE COMPANIENT SHALL SHALL
 - 3. PRIOR TO THE START OF CONSTRUCTON, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO BUILDING, ELECTRICAL, MICHARION, ENCY BOARD CONSTRUCTION ARE COUNTEDED, ALL REQUIRED PERMITS SHALL BE SATISFIED AND CLOSED OUT ACCORDING TO LOCAL JURISDICTIONAL REQUIREMENTS.
- 4. ALL CONSTRUCTION MEANS AND METHODS: INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, BROGING PLANS, CLIMBNIG PLANS, CANALLE PLANS SALLE BY REPRESENTED PLANS SALLE BY THE REPRESENTAL CONTRACTIVE RESPONSIBLE TO THE CENTRAL CONTRACTIVE RESPONSIBLE TO THE CHARGE EDITION; FEDERAL STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEANG PERFORADD. ALL RIGGING PLANS SHALL ARREST OF A CHARGE TO ANGEN GLASSES ALOAS ENTRY ENTRY THE SUPPORTING STRUCTURES; INCLUDING THE REQUIRED INCLUDING STRUCTURES OF A QUALIFIED BASINEER FOR CLASS IN CONSTRUCTION, TO CERTIFY THE SUPPORTING STRUCTURES SI NACLORING STRUCTURES STRUCTURES SI NACLORING STRUCTURES STR
 - ALL SITE WORK TO COMPLY WITH DISH WITHHERS LLC. AND TOWER OWNER INSTALLATION STANDARDS FOR COMSTRUCTION ACTIVITIES ON DRIVE WITHHER OWNER DWINE TOWER SITE AND LUISSTS VESSION DE ANSI/TA-1018—A-2012. STANDARD FOR INSTALLATION, ALTERATION, AND MANITEDANCE OF ANTERNA SUPPORTING STRUCTURES AND ANTENNS.
- 6. If THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWNING. THE CONTRACTOR SHALL PROPOSE MA ALTERNATOR BISHLATION FOR APPROVAL BY DISH WINNERS OF INSTALLITION. FOR APPROVAL BY DISH WINNERS OF INSTALLITION.
- 7. ALL MATERALS FURNISHED AND INSTALLED SAUL BE IN STREAM ACCORDANCE WITH ALL APPRICABLE TOORS REQUIRTIONS AND ORDINANCES. CONTRICATE SAULT STREAM AND ADDRESS. THE LAWS TO STREAM AND ADDRESS. THE CONTRIBUTION AND LAWFOLD ORDERS. THE STREAM ALL AND ADDRESS. THE CONTRIBUTION AND LOCAL JUNESPICTIONAL CODES, ORDERWINESS. AND APPLICABLE RECURRINGS.
- e. The contractor small install all equipment and materials in accordance with manufacturer's recommendations. Unless specifically stated otherwise.
 - THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES INCLUDING PRIVATE LOCATES SERVICES PRIOR TO THE START CONSTRUCTION
- 10. ALL EXISTING ACTING SENER, WITER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SAULL BE CHARGED AT WHERE TRADING WHERE REPLACED AS DIRECTED BY CONTRACTOR. EDITEME CAUTION SHOULD BY THE CONTRACTOR WHEN EXCAMINE OR DIRELINE PIERS AROUND ON REVEN TRITLITES, CONTRACTOR, EDITEME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAMINE OR DIRELINE SANDLE SAFETY TRAINING FOR THE WORKING CREW, THIS WILL INCLIDE BUT NOT BE LAITED TO A) TALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAMATION E) CONSTRUCTION SAFETY PROCEDURES.
 - 11. ALL SITE WORK SHULL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND DISH PROJECT SPECIFICATIONS, LATEST APPROVED REVISION.
- 12. CONTRACTOR SHALL KEPP THE SITE FREE FROM ACCUMULATING WASTE MATBOAL DEBNS, AND TRASH AT THE COMPLETION OF THE WORK IF RECESSARY, RUBBISH, STUMPS, DEBNS, STOKES, STOKES AND OTHER REFUSE SHALL BE REMOND TROM THE SITE AND DISPOSED OF LEGALLY.
 - 13. ALL EXSTING INJOINE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE DECULTION OF THE WORK, SAALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF DISH WITHINGER LL.C., AND TOWER OWNER, AND/OR LOCAL UTILITIES.
 - 14. THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE REQUIRED BY LOCAL AMPISDICTION AND SIGNAGE REQUIRED ON INDIVIDUAL PIECES OF EQUIPMENT, ROOMS, AND SHELTERS.
- THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS. 18. THE SUB GRADE SYMIL BE COMPACTED AND BROUGHT TO A SHOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE. APPLICATION. Đ.
 - 17. THE ARES OF THE OMEDS PROPERTY DISTURBED BY THE WORK AND NOT CONFRED BY THE TUNKIN, EQUIPMENT OR DANGWENY, SHALL BE GRADED TO A UNITONA SIDPE, AND STABILIZED TO PREVENT REGION AS SPECIFIED ON THE CONSTRUCTION THANMAGS AND/OR PROJECT SPECIFICATIONS.
- 18. CONTRACTOR SHALL MANIMZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EMOSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDMENT CONTROL.
 - 19. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAREMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
- 20. CONTRACTOR SHALL LEGALY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS CONTAL CABLES AND OTHER ITEMS REMONED FROM THE EXISTING PACILITY. ANTENINGS AND RACHOS REMONED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
 - CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION, TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DALLY
- fill or enbankardit wateral, simil be placed on frozen ground. Frozen materials, snow or ice small not in any fill or embankardit. ZZ. KO KO I

FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:

CONTRACTOR:GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION

TOWER OWNER: TOWER OWNER CARRIER:DISH Wireless LLC.

- 2. THESE DRAWINGS WARE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COUNLITHESS NORMALLY RECEISED UNDER SHALLOR CHECKNESSIONED THAT THE RECEISED UNDER SHALLOR CHECKNESSIONED THAT THE RECEISED UNDER SHALLOR CHECKNESSIONED THAT THE WORK DEPOTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORRPODLE WHO STANDARD AND WORKED COUNTINGS OF THE APPLICATE COOK STANDARD AND REQUIREMENTS AND OF INJUSTING ACCEPTED STANDARD GOOD PRACTICE. AS NOT EXPENDING OND PRACTICE OF MISCELLAREDUS WINN THESE DRAWINGS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLAREDUS WINN FOR PERFORMENCS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLAREDUS WINN FOR PERFORMENCS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED
 - 3. THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT ANDICATE THE MEANS OR METHODOS OF SOCKSTRUCTON. THE CONTRACTORS SHALL BE SOLETY RESPONDED. SECURISED TO THE CONSTRUCTON. BLOCKS, TECHNOLOSS. SECURISES, AND PROCEDURES. THE CONTRACTOR SHALL MEASURES MEESSARY FOR PROTECTION OF LIFE AND PROPERTY DIMENS CONSTRUCTON. SLAY MEASURES SHALL MEASURES HEESSARY FOR PROTECTION OF LIFE AND STREAM CONSTRUCTOR. SLAY MEASURES SHALL MICLIDE. BUT NOT BE LAIRED TO, BRACKING, ENGAMORK, SHOBING, ETC. SITE MISS STRY THE ENGINEER OR HIS REPRESENTATIVE WILL NOT INCLUDE INSPECTION OF THESE ITEMS AND IS FOR STRUCTURAL DOSERVATION.
- 4. HOTES AND DETAILS IN THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL HOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL COMPORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE COMPACT DOCUMENTS. WHERE DISCREPANCES OCCUR BETWEEN PLANS, DETAILS, GENERAL MOTES, AND SPICIFICATIONS, THE GENERAL WORK STRICT REQUIREMENTS, SHALL GOVERN. IF FURTHER CLARIFICATION IS REQUIRED CONTACT THE ENSINEER OF RECORD.
- 5. SUBSTANTIVE, EFFORT HAS BEEN WADE TO PROVIDE ACCURATE DIMENSIONS AND MENSURPAIENTS ON THE DRAWINGS TO ASSIST IN THE FABRICATION AND/OR PLACEMENT OF CONTRACTOR TO FIELD VERBEY THE DIMENSIONS, MENSUREMENTS, AND/OR CLEADANCES SHOWN IN THE CONSTRUCTION DRAWINGS PRIOR TO REDIKENSIONS, MENSUREMENTS, AND/OR CLEADANCES SHOWN IN THE CONSTRUCTION DRAWINGS PRIOR FASHINGS OF SYSTING CONFLICTS WITH THE CONSTRUCTION ELEMENTS. IF IT IS DETERMINED THAT THERE ARE POSSIBLE.
 - ž 6. PROR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR SHALL YSIT THE CELL SITE TO FAMILIARZE WITH THE PROCESSOR CONSTITUTION AND TO CHARMEN THAT THE WORK CAN BE CONDUISIONED AS SHOWN ON THE CONSTRUCTION DRAWINGS. DISCREMACY FOUND SHALL BE BROUGHT OT THE ATTENTION OF CARRIER FOR AND TAKES OWNER.
 - 7. ALL MUTERALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCREDANCE WITH ALL APPLICABLE CODES, REQUANDING SHAD CORRUPACES, CORRECTOR STATE CONTROLL SHAD CORRUPACES, RULLESS, DELIBERTS, AND COLL JURISDICTIONAL, AND UTILITY COMPANY, SECRETATIONS AND LOCAL JURISDICTIONAL, CODES, DEDINANCES, AND APPLICABLE RECULATIONS.
 - 8. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTEMANCES AND LABOR HEDSSSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- D. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS IN LACORDANCE WITH MANUFACTURER'S RECOMMENDATIONS OFFICERICALLY STATED OTHERWISE.
 - IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE. I ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CARRIER AND TOWER OWNER PRIOR TO PROCEEDING WITH ANY SUCH CHANGE INSTALLATION. ₫좋눔
 - 11. CONTRACTOR IS TO PERFORM A SITE INVESTIGATION, BEFORE SUBMITTING BIOS, TO DETERMINE THE BEST ROUTING OF ALL COMDITIES FOR POWER, AND TELCO, AND FOR GROUNDING CABLES AS SHOWN IN THE POWER, TELCO, AND GROUNDING PLAN PRAMINGS.
- 13. CONTRACTOR SWAL LEGALY AND PROPERLY DISPOSE OF ALL SCRAP MATERALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY, ANTENIAS REMOVED SHALL BE RETURNED TO THE OWINEYS DESIGNATED LOCATION. 12. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAREMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF DISH Winders L.L.C. AND TOMER OWNER
 - CONTRACTOR SHALL LEWE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DALLY



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CONSTRUCTION DOCUMENTS

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A&E PROJECT NUMBER

10710.NJJER01153A DISH Wireless LLC. PROJECT INFORMATION NJJER011534 60 COMMERCE DRIVE TRUMBULL, CT 06611

GENERAL NOTES SHEET NUMBER GN-3

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

- 1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTA A184, ASTA A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST—IN-PLACE CONCRETE.
- UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000
- 3. ALL COMCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f°c) OF 3000 pai AT 28 DAYS, UNLESS NOTED OTHERWISE NO MORE THAN 50 MENDINGS SHALL ELGHER FROM BRITCH THE OF PLUGENERU UNLESS APPROVED BY THE ENGINEER OF RECORD. TEMPERATURE OF CONCRETE SHALL NOT EXCED 90°T AT THE OF PLUCEMENT.
- 4. CONCRETE DOYGED TO PREZETE-THAW CYCLES SHALL CONTAIN AIR ENTRAINING AMARTHRES. AMOUNT OF AIR ENTRAINMENT TO BE BASED ON SIZE OF AGREGATE AND F3 CLASS EXPOSURE (VERY SEVERE), CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM WAITE-TD-CEMENT RATIO (W/C) OF 0.43.
- 5. ALL STEEL REMYDRENGE SHALL CONFORM TO ASTA MED. ALL WELDED WIRE FARRIC (WWY) SHALL CONFORM TO ASTA ALL SPUCES SHALL BE CALCAS BY TERROUN SPLICES, INVESS NOTED OFFERINGE. THE DOSTREAMEN SPLICES OF TERROUN (4) OF STANDARD DEPORADE BACE MED. SPLICES.

#4 BARS AND SMALLER 40 Inst

S BARS AND LARGER 60 km

6. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REDIFFORCING STEEL UNLESS SHOWN OTHERWISE ON PROVIDES.

- CONCRETE CAST AGAINST AND PERMANDITY EXPOSED TO EARTH 3"
 - CONCRETE EXPOSED TO EARTH OR WEATHER:
- HE BARS AND LARGER 2"
- #5 BARS AND SWALLER 1-1/2"
- · CONCRETE NOT EXPOSED TO EARTH DR WEATHER:
- . SLAB AND WALLS 3/4"

BEAMS AND COLUMNS 1-1/2"

7. A TOOLED EDGE OR A 3/4" CHAMPER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

ELECTRICAL, INSTALLATION, NOTES:

- 1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE REDERAL, STATE, AND LOCAL CODES/ORDINANCES.
- CONDUIT ROUTHAS ARE SCHEMATIC, CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
 - 3. WIRING, RACENAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
- 4. ALL CIRCUITS SHALL BE SECREGATED AND MAINTAIN MAINTAIN CABLE SEPARATION AS REDUIRED BY THE NEC.
- 4.1. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE WITCHALL ELECTRICAL CODE.
 4.2. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT
 - 4.2. ALL OVERCURRENT DENCES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 22,000 ALC MINBLUIL YERRY AMLIABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PRE THE COMERNANG JURISDICTION.
 - 5. EACH END OF ENERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE CHARLD WITH INTERPRETABLE THE CAB BEACH THE DEPTRICAL TAPE WITH UP PROTECTION, OR EDAML). THE IDENTIFICAL TAPE WITH UP PROTECTION, OR EDAML). THE IDENTIFICATION METHOD SHALL CONFORM WITH HIG AND CSHAL.
- 6. ALL ELECTRICAL, COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VIZTACE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (18. PANEL BOARD AND CIRCUIT ID'S).
- PANIEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
 - I. THE WRAPS ARE NOT ALLOWED.
- 8. ALL POWER AND EDUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#14 OR LARGER) WITH TIPE THAM, THAM, THAM, Z. XHAM, XHAM, Z. THM, THAM, OR RHM-2 INSULATION LINESS OTHERWISE SPECIFIED.
 - 10. SUPPLEMENTAL EDUPWENT GROUND WIRNG LOCATED INDOORS SHALL BE SAIGLE COPPER CONDUCTOR (#6 OR LARGER) WITH TYPE THAIN, THWIN, T
- 11. POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI-CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.
- 13. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP—STALE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOUMAS AND BETTS (OR EQUAL), LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION NOT LESS THAN 75°C (OF C IF ANNLABLE). 14. RACEWRY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, U., ANS/NEEE AND
- THE. ELECTRICAL METALLE TUBING (BAT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED MIDOR LOCATIONS.

- EECTROAL METALLIC TUBING (EMT) OR METAL—CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LICKNONS.

 SCHEDULE 40 PAC UNDERGROUND ON STRAUGHTS AND SCHEDULE 60 PAC FOR ALL ELBOWS/90s, AND ALL APPROVED ABOVE AND PAC CONCUST.
- 18. LIQUID-TIGHT FLEXIBLE METALLIC CONTUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
- 19. CONDUIT AND TUBING FITHINGS SWALL BE THREADED OR COMPRESSION—THPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITHINGS ARE NOT ACCEPTABLE.
- CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND THE
- 21. WIREWAYS SHALL BE MEDAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMAND SPECIANTE WIREWAY).
- 22. SLOTED WIRING DUCT SWALL BE PYC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).

 23. CONDUITS SAULL BE FATENED SECURETY IN PLACE WITH APPRANDED KNH-PERFORDED STRANDED STRANDED.

 24. CONDUITS SAULL BE FATENED SECURETY IN PLACE WITH APPRANDED KNH-PERFORDED CLOSELY FOLLOW THE INNES OF THE STRANDINES. WHATMAN CLOSE PROXIMIT OT THE STRANDINES WILL HAVE BENEAUTHE AND WERE CONDUITS WILL THE REVENUE IN DIRECTION TO RADIO STRANDINES. CHANDED IN A HEAT AND WORKMANINE WANNED. PANALLE, AND PERPENDICULAR TO STRANDINE MALL AND PERPENDICULAR TO STRANDINE MALL AND PERPENDICULAR TO STRANDINES SAULL BE TEMPORARIY CAPPED FLUSH TO PRISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRECTIONAL SHALL BE REGIOT CLAMPED TO BOXES BY GALVANIZED MALEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.
 - 24. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PUIL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHETT STEEL, SHALL WEET OR EXCEED U. 30 AND BE RATED NEW, 1 (OR BETTER) FOR INTERIOR LOCATIONS AND NEW, 3 (OR BETTER) FOR EXTERIOR LOCATIONS.
 - 25. METAL RECEPTACIE, SWITCH AND DEVCE BOXES SHALL BE CALVANIZED, EPOXY-COATED OR NON-CORRODING, SMALL MEET OR SECED ULS SHA AND NEWA SOT HAND BE RATED NEWA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (MP OR BETTER) FOR EXTERIOR LOCATIONS.
- 26. NONMETALIC RECEPTACIE, SMITCH AND DRIVE BOXES SHALL MEET OR EXCEED NEAM OS 2 (NEWEST REVISION) AND BE NATED NEAM 1 (OR BETTER) FOR EXTERIOR LOCATIONS.
 - 27. THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIER AND/OR DISH WITHINGS LLC., AND TOWER DEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
 - 28. THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREMCES, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGLARD LIFE AND PROPERTY.
- 29. INSTALL LAMICOND LABEL ON THE METER CENTER TO SHOW "DISH Wireheas L.L.C.".
- ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.



5701 SOUTH SANTA FE DRINE UTILETON, CD 80120 Tectonic



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AAE PROJECT KUMBER 10710.NJJERO1153A

DISH Wireless LLC PROJECT INFORMATION NJJERO1153A

60 COMMERCE DRIVE TRUMBULL, CT 06611

GENERAL NOTES

GN-4

- 1. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GES'S) SHALL BE ONNER I TOGETHER AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING COMDUCTORS IN ACCORDANCE WITH THE NEC.
 - 2. THE CONTRACTOR SHALL PERFORM IBEE FALL—OF—POTBINAL RESISTANCE TO EARTH TESTING (PER IBEE 1100 AND 81) FOR GROUND ELECTRODES STALS SHE CONTRACTOR SHALL FURNISH AND MISTALL SUPPLIAIENDL, GROUND ELECTRODES AS HEEDED TO ACHIEVE A TEST RESULT OF 5 OHR ON LESS.
- 3. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREMENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND PROVIDE TESTING RESULTS.
- 4. WETAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BIGNOHAG FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH \$6 COPPER WIRE UI, APPROVED GROUNDING TYPE CONDUIT CLAMPS.
- 5. WETAL 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 BITS EQUIPMENT.
 - 6. EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL. EDUIPMENT GROUND WIRES, \$6 STRANDED COPPER OR LARGER FOR INDOOR BTS; \$2 BARE SOLID TINNED COPPER FOR DUTDOOR BTS.
- CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SOF THE GROUND BUS ARE PERMITTED.
 - 8. ALE EXTERIOR GROUND CONDUCTORS BETWEEN EXUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE \$2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
- USE OF 90" BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE ANOIDED WHEN 45" BENDS CAN BE ADEQUATELY DATED. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL, NOT BE USED FOR GROUNDING CONNECTIONS. 10. SUPPOR
- EXCITIENTIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE. Ę,
- ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS. 12
- COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
- ICE BRIDGE BONDING CONDUCTORS SHALL BE EXCTHERMICALLY BONDED OR BOLTED TO THE BINDGE AND THE TOWER GROUND 즉 독꽃
- 13. APPROVED ANTIONIDANT CONTINES (i.e. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND COMMECTIONS.
 - ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL. é
- 77. MISCELANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
- 18. BOND ALL METALLIC OBJECTS WITHIN 8 11 OF MAIN GROUND RING WITH (1) ∯2 BARE SOLID THANED COPPER GROUND CONDUCTOR.
- 16. GROUND CONDUCTORS USED FOR THE FACILITY GROUNDING AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLE CONDUCTS. METAL SUPPORT CLESS OR SLEEPENS THROUGH METALLE CONDUCTS. WHICH CHANGED IT IS REQUIREMENTS OR LOCAL CONDUCTIONS, INFO-METALLS WITHOUGH METALLE CODE REQUIREMENTS OR LOCAL CONDUCTIONS, INFO-METALLE METALLS WHENGENEE (I.A. NOMMETALLE CONDUCT PROHEITED BY LOCAL COOK) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUCT.
 - 20. ALL GROUNDS THAT TRANSTRON FROM BELOW GRADE TO ABONE GRADE MUST BE \$2 BARE SOLID THINED COPPER IN 3/4" NIXH-METALLIC, FLEXIBLE COMDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD-WELD TERMINATION POINT. THE EXPOSED END OF THE CONDUIT MUST BE SEALED WITH SILCONE CAULK. (ADD TRANSTRONING GROUND STANDARD DETAIL AS WELL).
- 21. BULDINGS WHERE THE MAN GROUNDING CHADGOTORS ARE REQUIRED TO RE-ROLFET TO GARDE, THE CONTRIDENCE SHALL ROLF THE ORBORIUM CONDUCTORS FROM THE ROSTORY, TOWERS, AND WATER TOWERS GROUNDING FING TO THE EXISTING GROUNDING CONDUCTORS SHALL NOT BE SAMLET THIN 3.70 CHOPER ROOFIDS REQUIRED TO THE EXISTING GROUNDING SITE OF THE EXISTING CHORDING SHALL BE BUINDED TO THE EXISTING CHORDING SHALL BE BUINDED TO THE EXISTING CHORDING STELL CHORDING STELL CHOUNDING STELL AND BUILDING WHIN WATER UNE THERROLF OR WONTERMOLD STELL AND STELL PIPES.

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DRAWN BY: CHECKED BY: APPROVED BY:

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CONSTRUCTION REDS REV #:

SUBMITTALS

DESCRIPTION	MANUE FOR FILMS				CONTRACTOR OF STA
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DISH Wireless LLC.
PROJECT INFORMATION
NJJERO1153A

60 COMMERCE DRIVE TRUMBULL, CT 06611 GENERAL NOTES

SHEET NUMBER GN-5

Exhibit D Structural Analysis



Structural Analysis Report

Prepared for:

KGI

805 Las Cimas Parkway, Building Three, Suite 370 Austin, TX 78746

ATTN: Ms. Jacquie Cossey

Structure

: 81 ft Monopole

Site ID

: 23393

Proposed Carrier

: Dish Wireless

Site Name

: Trumbull SE 4

Site Location

: 60 Commerce Drive

Trumbull, CT

41.2456, -73.1456

County

: Fairfield

Date

: December 13, 2022

Max Structure Usage

: 44%

Max Foundation Usage

: 52%

Result

: Pass

Prepared By:

Trevor Kuper, E.I.T.

Structural Engineer

EXP. 01/31/2023 COA: PEC.0001536

EXP. 08/04/2023

Digitally signed Thomas by Thomas L. Date: 2022,12,13 12:29:42 -06'00'

Semaan Engineering Solutions Holdings, LLC - 1047 N 205th St - Elkhorn, NE 68022 - 402-289-1888 - 402-289-1861



Table of Contents

Introduction	- 1
Supporting Documents	- 1
Analysis	- 1
Conclusion	1
Existing and Reserved Equipment	- 2
Equipment to be Removed	- 2
Proposed Equipment	- 2
Structure Usages	- 3
Foundations	3
Standard Conditions	- 4
Calculations Attacl	ned



Site ID 23393 December 13, 2022 Page 1

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 81 ft Monopole to reflect the change in loading by Dish Wireless.

Supporting Documents

Tower Drawing Engineered Endeavors Drawing # 17314-E01-S1, dated October 22, 2014			
Foundation Drawing Centek Job # 14006.163, dated March 31, 2015			
Geotechnical Report Associated Borings Project Name Cell Tower 60 Comerce Dr., dated July 29, 20			
Proposed Loading KGI/Dish Wireless TLF, dated December 30, 2021			

Analysis

The tower was analyzed using TNX tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed	120 mph (3-Second Gust) Vult			
Basic Wind Speed w/Ice	47 mph (3-Second Gust) w/ 1.02" radial ice concurrent			
Code	ANSI/TIA-222-H / 2021 IBC / 2022 Connecticut State Building Code			
Risk Category				
Exposure Category	С			
Topographic Category	1			
Crest Height	0.ft			
Spectral Response	Ss = 0.12, S1 = 0.17			
Site Class	B - Competent Rock			
Ground Elevation	168.03 ft			

<u>Conclusion</u>

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please contact Semaan Engineering Solutions at 402-289-1888.

Site ID 23393 December 13, 2022 Page 2

Existing and Reserved Equipment

This loading is included in the analysis.

Cente							
Elevati	ion (ft)	Qty.	Antenna	Mount Type	Coax (in)	Carrier	
Mount	Equip.						
		12	BXA-70080/8CF				
	:	12	RRUS A2 Modules				
		12	TMA 10"x7"x2"	J I I I A Modified Platform I	(12) 1 5/8" (4) 1 5/8" Hybrid Cable		
80.0	80,0	6	RRH 3JR52709AA 2X60 (AWS 60W)				Verizon
		4	OVP Box				
		3	RRH 4X30-4T4R-B13				
		3	RRH 4x30-4T4R-B25				

Equipment to be Removed

This loading $\underline{\text{is not}}$ included in the analysis.

Centerline					-
Elevation (ft)	Qty.	Antenna	Mount Type	Coax (in)	Carrier
Mount Equip.					
No loading considered as to be removed					

Proposed Equipment

This loading is included in the analysis.

Cente Elevati	erline ion (ft)	Qty.	Antenna	Mount Type	Coax (in)	Carrier
Mount	Equip.					
	61.0 61.0	3	MX08FRO665-21	(1) Commscope MC-PK8-		
61.0		3	TA08025-B604	DSH Snub Nose Platform	(1) Hybrid	Dish Wireless
61.0	61.0	3	TA08025-B605		(1) Hybrid	DIST WIFEIESS
		1	RDIDC-9181-PF-48	w/Rail		

install proposed coax inside the pole shaft.



Site ID 23393 December 13, 2022 Page 3

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Shaft	44%	Pass
Anchor Bolts	38%	Pass
Baseplate	32%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	1,062.3	48%
Axial (Kips)	20.2	N/A
Shear (Kips)	16.4	N/A
Reinf. Conc. Fnd. Capacity	N/A	52%

The structure base reactions resulting from this analysis were found to be acceptable through analysis based on geotechnical and foundation information, therefore no modification or reinforcement of the foundation will be required.



Standard Conditions

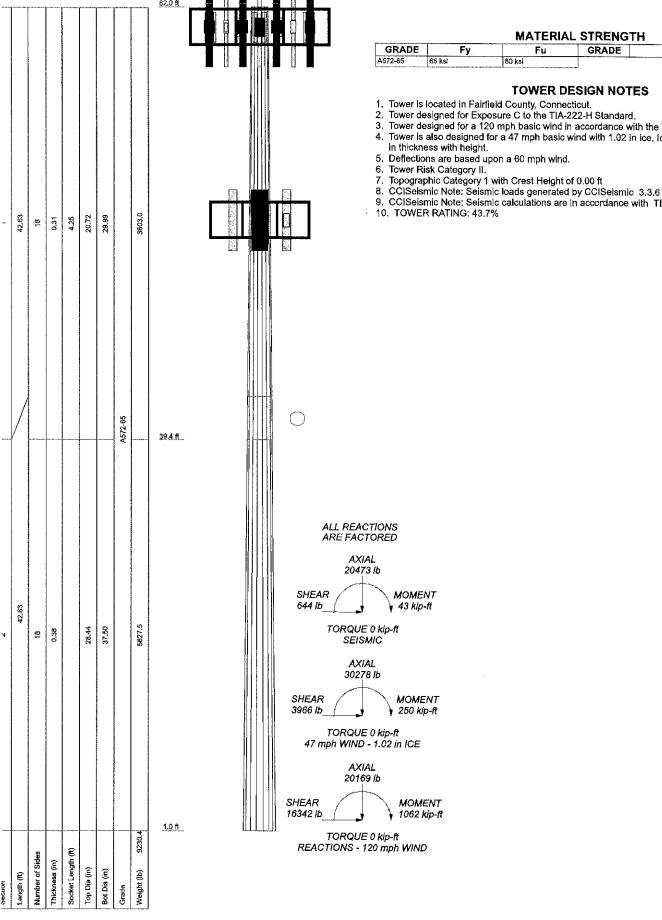
All engineering services are performed on the basis that the information used is current and correct. This information may consist of, but is not necessary limited, to:

- Information supplied by the client regarding the structure itself, antenna, mounts and feed line loading on the structure and its components, or other relevant information.
- -- Information from drawings in the possession of Semaan Engineering Solutions, or generated by field inspections or measurements of the structure.

It is the responsibility of the client to ensure that the information provided to Semaan Engineering Solutions Holdings and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance with the drawings and specifications and that their capacity has not significantly changed from the "as new" condition.

Unless explicitly agreed by both the client and Semaan Engineering Solutions, all services will be performed in accordance with the current revision of ANSI/TIA -222. The design basic wind speed will be determined based on the minimum basic wind speed as prescribed in ANSI/TIA-222. Although every effort is taken to ensure that the loading considered is adequate to meet the requirements of all applicable regulatory entities, we can provide no assurance to meet any other local and state codes or requirements. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes, the client shall specify the exact requirement.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. Semaan Engineering Solutions Holdings is not responsible for the conclusions, opinions and recommendations made by others based on the information we supply.



MATERIAL STRENGTH

GRADE Fy Fu

TOWER DESIGN NOTES

1. Tower is located in Fairfield County, Connecticut,

Tower designed for Exposure C to the TIA-222-H Standard.

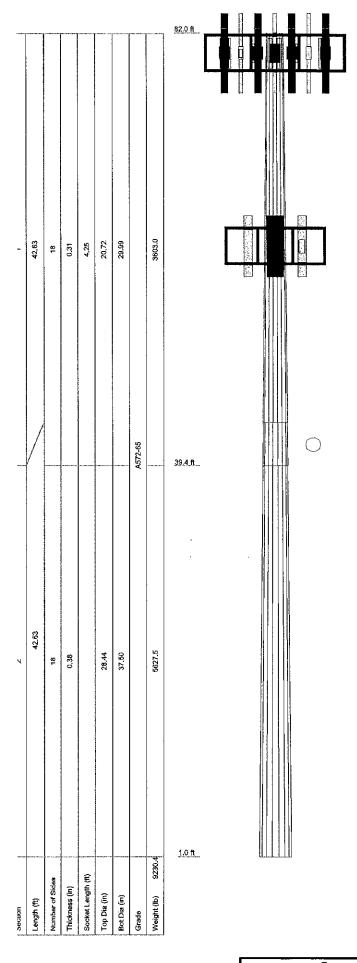
Tower designed for a 120 mph basic wind in accordance with the TIA-222-H Standard.

Tower is also designed for a 47 mph basic wind with 1.02 in ice, Ice is considered to increase in thickness with height.

Deflections are based upon a 60 mph wind.

9. CCISeismic Note: Seismic calculations are in accordance with TIA-222-H-1

Semaan Engineering Solutions, LLC ^{≫:} 23393 Trumbull Project: REV01B 1047 S. 205th St. Ollent: KGI Drawn by: TrevorK Elkhorn, NE, 68022 Appld: Date: 12/13/22 Scale: N Code: TIA-222-H Phone: (402)-289-1888 Path: <u>\\DMZSESSERVER01\Common\\TNX files\23393\REV01B\23393</u> REV01B.e FAX: (402)-289-1861 Dwg No.



DESIGNED APPURTENANCE LOADING

	ELEVATION	TYPE	ELEVATION	
4' Modified Platform w/ Rail w/o	.80	(4) TMA 10"x7"x2" (Verizon)	80	
lount Pipes (Verlzon)		(4) RRUS A2 Modules (Verlzon)	80	
4) BXA-70080/8CF w/8' Mount Pipe Verlzon)	80	(4) RRUS A2 Modules (Verizon)	80	
		(4) RRUS A2 Modules (Verlzon)	80	
4) BXA-70080/8CF w/8' Mount Pipe Verlzon)	80	PLK5 Kicker (Verlzon)	78	
4) BXA-70080/8CF w/8' Mount Pipe	80	PLK7 Collar Mount (Verizon)	76	
Verizon)	-	Commscope MC-PK8-DSH Snub	61	
OVP Box (Verizon)	80	Nose Platform w/Rail w/o Mount Pipe (SES) (Dish Wireless)		
OVP Box (Verlzon)	80	MX08FRO665-21 w/8' Mount Pipe		
2) OVP Box (Verizon)	80	(Dish Wireless)	61	
2) RRH 3JR52709AA 2X60 (AWS	80	MX08FRO665-21 w/8' Mount Pipe	61	
(OW) (Verizon)		(Dish Wireless)		
2) RRH 3JR52709AA 2X60 (AWS 10W) (Verizon)	80	MX08FRO665-21 w/8' Mount Pipe (Dish Wireless)	61	
2) RRH 3JR52709AA 2X60 (AWS	80	TA08025-B604 (Dish Wireless)	61	
0W) (Verizon)		TA08025-B604 (Dish Wireless)	61	
RRH 4X30-4T4R-B13 (Verizon)	80	TA08025-B604 (Dish Wireless)	61	
RH 4X30-4T4R-B13 (Verizon)	80	TA08025-B605 (Dish Wireless)	61	
RH 4X30-4T4R-B13 (Verlzon)	80	TA08025-B605 (Dish Wireless)	61	
RH 4x30-4T4R-B25 (Verizon)	80	0		
RH 4x30-4T4R-B25 (Verizon)	80	RDIDC-9181-PF-48 (Dish Wireless)	61	
RRH 4x30-4T4R-B25 (Verizon)	80	(2) 8'x2" Pipe (Dish Wireless)		
4) TMA 10"x7"x2" (Verizon)	80		61	
4) TMA 10"x7"x2" (Verlzon)	80	(2) 8'x2" Pipe (Dish Wireless) (2) 8'x2" Pipe (Dish Wireless)	61	

Semaan Engineering Solutions, LLC 1047 S. 205th St.

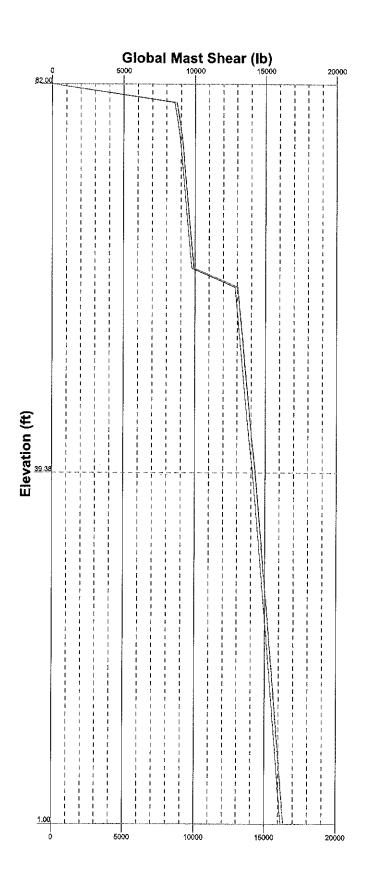
Elkhorn, NE, 68022

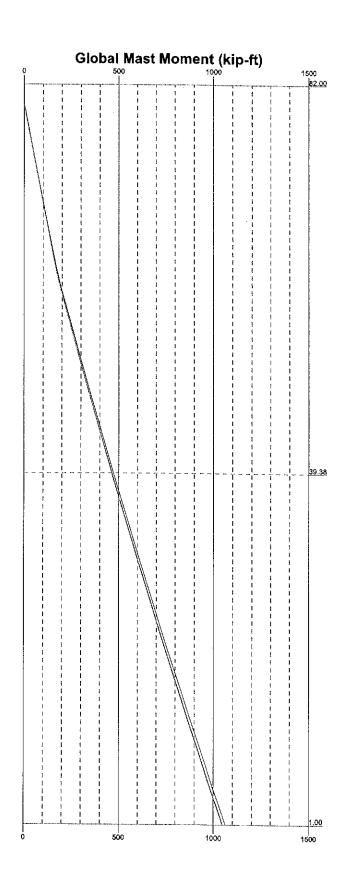
Phone: (402)-289-1888 FAX: (402)-289-1861

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Project: REV01B Cllent: KGI

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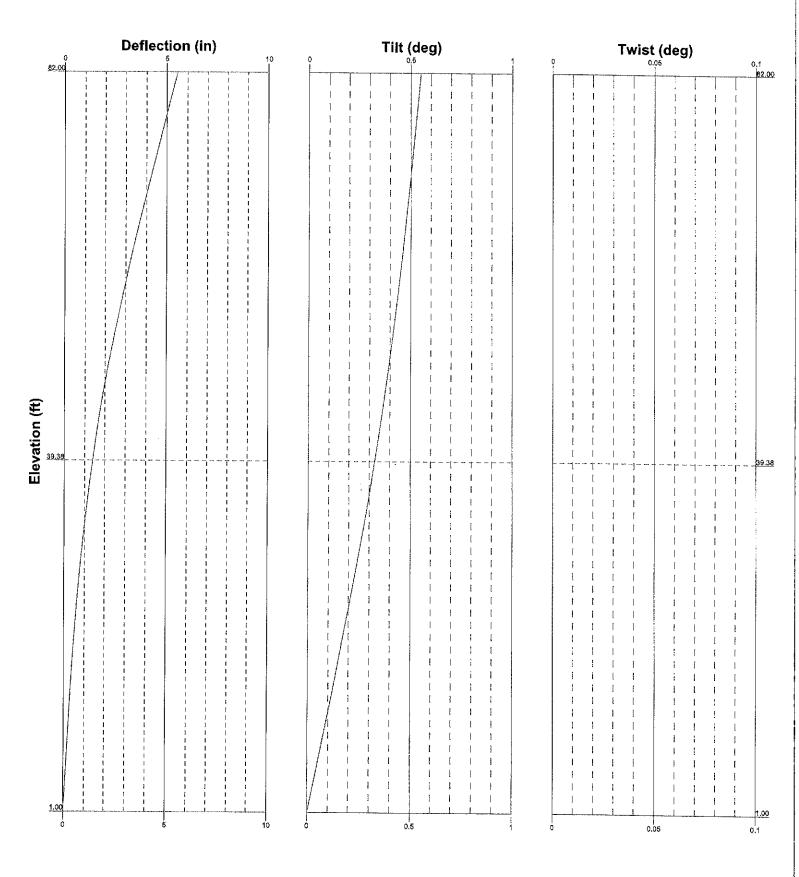
Semaan Engineering Solutions, LLC 1047 S. 205th St. Elkhorn, NE, 68022

Eikhorn, NE, 68022 Phone: (402)-289-1888 FAX: (402)-289-1861 Project: REV01B

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 KGI
 Drawn by:
 TrevorK
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FAX: (402)-289-1861	Path:	THE STATE OF THE S	Dwg No.

Job Page *tnxTower* 23393 Trumbull 1 of 24 Project Date Semaan Engineering Solutions, REV01B 09:38:22 12/13/22 1047 S. 205th St. Elkhorn, NE, 68022 Client Designed by Phone: (402)-289-1888 KGI TrevorK FAX: (402)-289-1861

Tower Input Data

The tower is a monopole.

This tower is designed using the TIA-222-H standard.

The following design criteria apply:

Tower is located in Fairfield County, Connecticut.

Tower base elevation above sea level: 169.03 ft.

Basic wind speed of 120 mph.

Risk Category II.

Exposure Category C.

Simplified Topographic Factor Procedure for wind speed-up calculations is used.

Topographic Category: 1. Crest Height: 0.00 ft.

Nominal ice thickness of 1.02 in.

Ice thickness is considered to increase with height.

Ice density of 56 pcf.

A wind speed of 47 mph is used in combination with ice.

Deflections calculated using a wind speed of 60 mph.

CCISeismic Note: Seismic loads generated by CCISeismic 3.3.6.

CCISeismic Note: Seismic calculations are in accordance with TIA-222-H-1.

A non-linear (P-delta) analysis was used.

Pressures are calculated at each section.

Stress ratio used in pole design is 1.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification

√ Use Code Stress Ratios

√ Use Code Safety Factors - Guys Escalate Ice

Always Use Max Kz
Use Special Wind Profile
Include Bolts In Member Capacity
Leg Bolts Are At Top Of Section
Secondary Horizontal Braces Leg
Use Diamond Inner Bracing (4 Sided)
SR Members Have Cut Ends
SR Members Are Concentric

Distribute Leg Loads As Uniform Assume Legs Pinned

√ Assume Rigid Index Plate

√ Use Clear Spans For Wind Area

√ Use Clear Spans For KL/r
Retension Guys To Initial Tension

√ Bypass Mast Stability Checks

√ Use Azimuth Dish Coefficients

Project Wind Area of Appurt.
 Autocalc Torque Arm Areas
 Add IBC .6D+W Combination
 Sort Capacity Reports By Component
 Triangulate Diamond Inner Bracing
 Treat Feed Line Bundles As Cylinder

√ Ignore KL/ry For 60 Deg. Angle Legs

Use ASCE 10 X-Brace Ly Rules

√ Calculate Redundant Bracing Forces Ignore Redundant Members in FEA

√ SR Leg Bolts Resist Compression

√ All Leg Panels Have Same Allowable Offset Girt At Foundation

Consider Feed Line Torque

√ Include Angle Block Shear Check

Use TIA-222-H Bracing Resist. Exemption
Use TIA-222-H Tension Splice Exemption

Poles

 ✓ Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets

√ Pole Without Linear Attachments Pole With Shroud Or No Appurtenances Outside and Inside Corner Radii Are Known

Tapered Pole Section Geometry

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Job	***************************************	Page
	23393_Trumbull	2 of 24
Project	REV01B	Date 09:38:22 12/13/22
Client	KGI	Designed by TrevorK

Section	Elevation ft	Section Length fi	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	82,00-39,38	42,63	4.25	18	20.72	29.99	0.31	1.25	A572-65 (65 ksi)
L2	39.38-1.00	42.63		18	28.44	37.50	0,38	1.50	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia.	Area	I	r	C	I/C	J	It/Q	w	w/t
	in	in²	in⁴	in	in	in^3	in^4	in^{2}	in	
L1	20,99	20.24	1065,03	7.24	10,53	101,18	2131.47	10,12	3.10	9.91
	30.41	29.44	3276.48	10.54	15.24	215.04	6557,28	14.72	4.73	15.132
L2	29.74	33.41	3325,29	9.96	14.45	230,14	6654,95	16,71	4.35	11.589
	38.02	44,19	7694.40	13,18	19.05	403.91	15398.93	22.10	5.94	15.84

Tower	Gusset	Gusset	Gusset Grade	Adjust. Factor	Adjust,	Weight Mult.	Double Angle	Double Angle	Double Angle
Elevation	Area	Thickness		A_{ℓ}	Factor		Stitch Boli	Stitch Bolt	Stitch Bolt
	(per face)			,	A_r		Spacing	Spacing	Spacing
							Diagonals	Horizontals	Redundants
<u>ft</u>	ft^2	in					in	in	in
L1 82.00-39.38				1	1	1			
L2 39.38-1.00				1	1	1			

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or	Allow Shield	Exclude From	Component Type	Placement	Total Number		C_AA_A	Weight
	Leg		Torque Calculation		ft			ft²/ft	plf
1 5/8" Coax	В	No	No	Inside Pole	80.00 - 1,00	12	No Ice	0.00	1,040
(Verizon)							1/2" Ice	0.00	1.040
							1" Ice	0.00	1.040
							2" Ice	0.00	1.040
. 5/8" Hybrid Cable	В	No	No	Inside Pole	80.00 - 1.00	4	No Ice	0.00	1.780
(Verizon)							1/2" Ice	0.00	1,780
							1" Ice	0.00	1.780
							2" Ice	0.00	1.780
Hybrid	В	No	No	Inside Pole	61.00 - 1.00	1	No Ice	0.00	1.780
(Dish Wireless)							1/2" Ice	0.00	1.780
							1" Ice	0.00	1.780
							2" Ice	0.00	1.780

Feed Line/Linear Appurtenances Section Areas

Tower	Tower	Face	A_R	A_F	C_AA_A	C_AA_A	Weight
Section	Elevation				In Face	Out Face	
	fì		ft²	ft²	ft²	fl ²	lb
							·

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Job	-	Page
	23393_Trumbull	3 of 24
Project	REV01B	Date 09:38:22 12/13/22
Client	KGI	Designed by TrevorK

Tower Section	Tower Elevation	Face	A_R	A_F	C₁A₁ In Face	$C_A A_A$ Out Face	Weight
	ft		ft^2	ft²	ft²	ft²	lb
Ll	82.00-39.38	A	0,000	0.000	0.000	0.000	0.00
		В	0.000	0,000	0.000	0.000	834,74
		C	0.000	0.000	0.000	0.000	0.00
L2	39,38-1,00	Α	0.000	0.000	0.000	0.000	0.00
		В	0,000	0.000	0.000	0.000	820.46
		C	0.000	0.000	0.000	0.000	0.00

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation	Face or	Ice Thickness	A_R	A_F	C _A A _A In Face	C _A A _A Out Face	Weight
	ft	Leg	in	ft^2	ft²	ft²	ft²	lb
Ll	82.00-39.38	Α	1.082	0.000	0,000	0.000	0.000	0,00
		В		0.000	0.000	0.000	0.000	834.74
		C		0.000	0.000	0,000	0.000	0.00
L2	39,38-1,00	A	0.971	0.000	0.000	0.000	0.000	0.00
		В		0.000	0.000	0.000	0.000	820.46
		C		0.000	0.000	0.000	0.000	0.00

Feed Line Center of Pressure

Section	Elevation	CP_X	CP_Z	CP_X	CP_Z
				Ice	Ice
	ft	in	in	in	in
Ll	82.00-39.38	0.00	0.00	0.00	0.00
L2	39,38-1,00	0.00	0.00	0.00	0.00

Note: For pole sections, center of pressure calculations do not consider feed line shielding.

User Defined Loads - Seismic

Description	Elevation	Offset From Centroid	Azimuth Angle	E_{v}	E_{hx}	E_{hz}	E_h
	ft	ft	0	lЬ	lb	lb	lb
CCISeismic Tower Section 1 - 1	80,69	0.000	0,000	3.32	0.00	0.00	13.32
CCISeismic Tower Section 1 - 2	74.38	0.000	0.000	13.50	0.00	0.00	47.64
CCISeismic Tower Section 1 - 3	64.38	0,000	0.000	14.84	0.00	0.00	41.78
CCISeismic Tower Section 1 - 4	54,38	0.000	0.000	16.17	0.00	0.00	34.95
CCISeismic Tower Section 1 - 5	44.38	0,000	0.000	17.50	0.00	0.00	27,49
CCISeismic Tower Section 2 - 1	42,31	0.000	0.000	5.46	0.00	0.00	7.96
CCISeismic Tower Section 2 - 2	36,00	0.000	0.000	21.80	0.00	0.00	24.62
CCISeismic Tower Section 2 - 3	26.00	0.000	0.000	23.36	0.00	0.00	15.72
CCISeismic Tower Section 2 - 4	16.00	0.000	0.000	24.92	0.00	0.00	7.64
CCISeismic Tower Section 2 - 5	6.00	0.000	0.000	26.48	0.00	0.00	1.50
CCISeismic 14' Modified Platform w/ Rail w/o Mount	80.00	0.000	0.000	34.05	0.00	0.00	134,58

Pipes

Semaan Engineering Solutions, LLC 1047 S. 205th St. Elkhorn, NE, 68022 Phone: (402)-289-1888 FAX: (402)-289-1861

Job		Page
	23393_Trumbull	4 of 24
Project	REV01B	Date 09:38:22 12/13/22
Client	KGI	Designed by TrevorK

Description	Elevation	Offset From	Azimuth Angle	$E_{ u}$	E_{hx}	E_{hz}	E_h
	ft	Centroid ft	٥	lb	1b	lb	lb
CCISeismic verizon PLK5	78,00	0.000	0,000	1,76	0,00	0.00	6.68
Kicker							
CCISeismic verizon PLK7 Collar Mount	76.00	0.000	0.000	2.72	0,00	0.00	9.93
CCISeismic (4) amphenol	80.00	0.000	0.000	5,03	0.00	0.00	19.87
BXA-70080/8CF w/8' Mount				-144	0.00	0.00	15,07
Pipe	90.00	0.000	0.000	5.00	2.00		
CCISeismic (4) amphenol BXA-70080/8CF w/8' Mount	80.00	0.000	0.000	5,03	0.00	0.00	19.87
Pipe							
CCISeismic (4) amphenol	80.00	0.000	0.000	5.03	0.00	0,00	19.87
BXA-70080/8CF w/8' Mount							
Pipe CCISeismic semaan OVP Box	80,00	0.000	0.000	0.36	0,00	0.00	1.43
CCISeismic semaan OVP Box	80.00	0,000	0,000	0.36	0,00	0.00	1,43
CCISeismic (2) semaan OVP	80.00	0,000	0.000	0.73	0.00	0.00	2.87
Box	00.00						
CCISeismic (2) semaan RRH 3JR52709AA 2X60 (AWS 60W)	80,00	0,000	0.000	1.99	0.00	0.00	7.88
CCISeismic (2) semaan RRH	80.00	0,000	0.000	1.99	0.00	0.00	7.88
3JR52709AA 2X60 (AWS 60W)					****	3,00	7100
CCISeismic (2) semaan RRH	80.00	0.000	0.000	1.99	0.00	0.00	7.88
3JR52709AA 2X60 (AWS 60W) CCISeismic semaan RRH	80,00	0,000	0,000	0.59	0.00	0.00	2.24
4X30-4T4R-B13	60,00	0,000	0,000	0.59	0.00	0,00	2.34
CCISeismic semaan RRH	80.00	0.000	0.000	0.59	0.00	0.00	2.34
4X30-4T4R-B13		0.000			1.11		
CCISeismic semaan RRH 4X30-4T4R-B13	80.00	0.000	0.000	0.59	0.00	0.00	2.34
CCISeismic semaan RRH	80.00	0.000	0.000	0.92	0.00	0.00	3,66
4x30-4T4R-B25							-,-,
CCISeismic semaan RRH 4x30-4T4R-B25	80.00	0.000	0.000	0,92	0.00	0.00	3.66
CCISeismic semaan RRH	80.00	0.000	0.000	0.92	0.00	0.00	3.66
4x30-4T4R-B25	*****	0,000	0.000	0.72	0.00	0,00	3.00
CCISeismic (4) semaan TMA	80.00	000,0	0.000	0.73	0.00	0.00	2.87
10"x7"x2" CCISeismic (4) semaan TMA	80.00	0.000	0.000	0.72	0.00	0.00	• • •
10"x7"x2"	00.00	0,000	0.000	0.73	0.00	0.00	2.87
CCISeismic (4) semaan TMA	80.00	0.000	0.000	0.73	0.00	0.00	2.87
10"x7"x2"	00.00						
CCISeismic (4) semaan RRUS A2 Modules	80.00	0.000	0.000	1.53	0.00	0.00	6.07
CCISeismic (4) semaan RRUS	80.00	0.000	0.000	1.53	0.00	0.00	6.07
A2 Modules		0.000	0.000	1100	0.00	0,00	0.07
CCISeismic (4) semaan RRUS	80.00	0.000	0.000	1.53	0.00	0.00	6.07
A2 Modules CCISeismic pole mounts	61.00	0.000	0.000	17.04	0.00	0.00	45.10
Commscope MC-PK8-DSH	01,00	0.000	0.000	17.84	0.00	0.00	46.18
Snub Nose Platform w/Rail w/o							
Mount Pipe (SES)							
CCISeismic jma MX08FRO665-21 w/8' Mount	61.00	0.000	0.000	2.01	0.00	0.00	5,20
Pipe							
CCISeismic jma	61.00	0.000	0.000	2.01	0.00	0.00	5.20
MX08FRO665-21 w/8' Mount							
Pipe CCISeismic jma	61.00	0.000	0.000	2.01	0.00	0.00	F 30
MX08FRO665-21 w/8' Mount	01.00	0,000	0,000	2.01	0.00	0.00	5.20
Pipe							

Semaan Engineering Solutions, LLC 1047 S. 205th St. Elkhorn, NE, 68022 Phone: (402)-289-1888 FAX: (402)-289-1861

Job	·	Page
	23393_Trumbull	5 of 24
Project	REV01B	Date 09:38:22 12/13/22
Client	KGI	Designed by TrevorK

Description	Elevation	Offset From	Azimuth Angle	E_{ν}	E_{hx}	E_{hz}	E_h
	ft	Centroid ft	o	<i>1b</i>	1b	1b	16
CCISeismic fujitsu	61.00	0.000	0.000	1.16	0.00	0.00	3.00
TA08025-B604	C1.00	0.000	0.000	444			
CCISeismic fujitsu TA08025-B604	61.00	0.000	0.000	1.16	0.00	0.00	3.00
CCISeismic fujitsu	61,00	0.000	0.000	1.16	0.00	0.00	3.00
TA08025-B604							
CCISeismic fujitsu TA08025-B605	61.00	0,000	0.000	1.36	0,00	0.00	3,52
CCISeismic fujitsu TA08025-B605	61.00	0.000	0.000	1.36	0.00	0.00	3,52
CCISeismic fujitsu TA08025-B605	61.00	0.000	0.000	1.36	0.00	0.00	3,52
CCISeismic raycap RDIDC-9181-PF-48	61,00	0,000	0.000	0.40	0,00	0.00	1.03
CCISeismic (2) tower mounts 8'x2" Pipe	61.00	0,000	0.000	1.06	0.00	0.00	2.74
CCISeismic (2) tower mounts 8'x2" Pipe	61.00	0,000	0.000	1.06	0,00	0.00	2.74
CCISeismic (2) tower mounts 8'x2" Pipe	61.00	0.000	0.000	1.06	0.00	0.00	2.74
CCISeismic (12) general cable 1 5/8" Coax From 0 to 79 (71ft to79ft)	76.00	0.000	0,000	1.81	0.00	0,00	6.61
CCISeismic (12) general cable 1 5/8" Coax From 0 to 79 (61ft to71ft)	67.00	0,000	0.000	2.26	0.00	0.00	6.78
CCISeismic (12) general cable 1 5/8" Coax From 0 to 79 (51ft	57.00	0.000	0.000	2.26	0.00	0.00	5.27
to61ft) CCISeismic (12) general cable 1 5/8" Coax From 0 to 79 (41ft	47.00	0.000	0,000	2.26	0.00	0.00	3.89
to51ft) CCISeismic (12) general cable 1 5/8" Coax From 0 to 79 (31ft	37.00	0,000	0.000	2.26	0.00	0.00	2.67
to41ft) CCISeismic (12) general cable 1 5/8" Coax From 0 to 79 (21ft	27.00	0,000	0.000	2.26	0.00	0.00	1.62
to31ft) CCISeismic (12) general cable 1 5/8th Coax From 0 to 79 (11ft	17.00	0.000	0.000	2.26	0.00	0.00	0.77
to21ft) CCISeismic (12) general cable 1 5/8" Coax From 0 to 79 (1ft	7.00	0.000	0.000	2.26	0.00	0.00	0.17
to11ft) CCISeismic (12) general cable 1 5/8" Coax From 0 to 79 (0ft	1.50	0.000	0.000	0.23	0.00	0.00	0.00
to1ft) CCISeismic (4) general cable 1 5/8" Hybrid Cable From 0 to 79	76.00	0.000	0.000	1.03	0.00	0.00	3.77
(71ft to 79ft) CCISeismic (4) general cable 1 5/8" Hybrid Cable From 0 to 79	67,00	0.000	0.000	1.29	0.00	0.00	3.87
(61ft to71ft) CCISeismic (4) general cable 1 5/8" Hybrid Cable From 0 to 79	57.00	0.000	0.000	1,29	0.00	0.00	3.01
(51ft to61ft) CCISeismic (4) general cable 1 5/8" Hybrid Cable From 0 to 79	47.00	0.000	0.000	1.29	0.00	0.00	2.22
(41ft to51ft) CCIScismic (4) general cable 1	37.00	0.000	0.000	1.29	0.00	0.00	1.52

Semaan Engineering Solutions, LLC 1047 S. 205th St.

1047 S. 205th St. Elkhorn, NE, 68022 Phone: (402)-289-1888 FAX: (402)-289-1861

Job		Page
	23393_Trumbull	6 of 24
Project	REV01B	Date 09:38:22 12/13/22
Client	KGI	Designed by TrevorK

Description	Elevation	Offset From Centroid	Azimuth Angle	$E_{ u}$	E_{hx}	E_{hz}	E_h	
	ft	ft	0	<i>Ib</i>	<i>1b</i>	lb	1b	
5/8" Hybrid Cable From 0 to 79 (31ft to41ft)			7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	editelevidiens (everys og sprengsprengs) engles pr				
CCISeismic (4) general cable 1 5/8" Hybrid Cable From 0 to 79 (21ft to31ft)	27,00	0.000	0.000	1,29	0,00	0.00	0.92	
CCISeismic (4) general cable 1 5/8" Hybrid Cable From 0 to 79 (11ft to21ft)	17.00	0.000	0,000	1.29	0.00	0.00	0.44	
CCISeismic (4) general cable 1 5/8" Hybrid Cable From 0 to 79 (1ft to11ft)	7.00	0,000	0.000	1.29	0.00	0.00	0,10	
CCISeismic (4) general cable 1 5/8" Hybrid Cable From 0 to 79 (0ft to1ft)	1,50	0.000	0.000	0.13	0,00	0.00	0.00	
CCISeismic Hybrid From 0 to 60 (51ft to60ft)	56,50	0,000	0.000	0.29	0.00	0.00	0.67	
CCISeismic Hybrid From 0 to 60 (41ft to51ft)	47.00	0.000	0.000	0.32	0.00	0.00	0.56	
CCISeismic Hybrid From 0 to 60 (31ft to41ft)	37.00	0.000	0,000	0,32	0.00	0.00	0.38	
CCISeismic Hybrid From 0 to 60 (21ft to31ft)	27,00	0.000	0,000	0,32	0.00	0.00	0.23	
CCISeismic Hybrid From 0 to 60 (11ft to21ft)	17.00	0.000	0.000	0.32	0.00	0.00	0.11	
CCISeismic Hybrid From 0 to 60 (1ft to 11ft)	7.00	0.000	0.000	0.32	0.00	0.00	0.02	
CCISeismic Hybrid From 0 to 60 (0ft to 1ft)	1.50	0.000	0.000	0.03	0.00	0.00	0.00	

D:	_	
Discrete	IOWAR	Loade
D1301616	101161	Lvaus

Description	Face or Leg	Offset Type	Offsets: Horz Lateral	Azimuth Adjustment	Placement		C _A A _A Front	C _A A _A Side	Weight
			Vert ft ft ft	٥	ft		ft²	ft²	lb
14' Modified Platform w/ Rail	C	From	0.00	0.000	80.00	No Ice	43,30	43,30	1877.55
w/o Mount Pipes		Centroid-Fa	0.000			1/2" Ice	50.88	50.88	2400.80
(Verizon)		ce	0.000			1" Ice	58.45	58.45	2924.05
						2" Ice	73.61	73,61	3970,56
	C	None		0.000	78.00	No Ice	2.03	1.18	97.00
(Verizon)						1/2" Ice	2.21	1.34	102,91
						1" Ice	2.38	1.51	108.82
	_					2" Ice	2.72	1.85	120.64
PLK7 Collar Mount	C	None		0.000	76.00	No Ice	1.45	1.45	150,00
(Verizon)						1/2" Ice	2.19	2.19	275.00
						1" Ice	2.93	2.93	400.00
						2" Ice	4.41	4.41	650.00
(4) BXA-70080/8CF w/8'	Α	From Face	2.00	0.000	80.00	No Ice	8.32	8.75	69.32
Mount Pipe			0.000			1/2" Ice	8.92	10.16	141.59
(Verizon)			0.000			1" Ice	9.52	11.23	224.19
						2" Ice	10.75	13.41	418.05
(4) BXA-70080/8CF w/8 ^t	В	From Face	2.00	0.000	80.00	No Ice	8.32	8.75	69.32

Semaan Engineering Solutions, LLC 1047 S. 205th St. Elkhorn, NE, 68022 Phone: (402)-289-1888 FAX; (402)-289-1861

Job		Page
	23393_Trumbull	7 of 24
Project	REV01B	Date 09:38:22 12/13/22
Client	KGI	Designed by TrevorK

Mount Pipe (Verizon) (4) BXA-70080/8CF w/8' Mount Pipe (Verizon) OVP Box (Verizon) OVP Box (Verizon)	C A B	From Face From Face From Face	Lateral Vert ft ft 0.000 0.000 2.00 0.000 0.000 1.50 0.000 0.000	0.000	ft 80.00	1/2" Ice 1" Ice 2" Ice No Ice 1/2" Ice	8.92 9.52 10.75 8.32 8.92	5ide ft² 10.16 11.23 13.41 8.75 10.16	141.59 224.19 418.05 69.32
(Verizon) (4) BXA-70080/8CF w/8' Mount Pipe (Verizon) OVP Box (Verizon) OVP Box	A	From Face	ft ft 0.000 0.000 0.000 0.000 0.000 1.50 0.000	0.000		1" Ice 2" Ice No Ice 1/2" Ice	8.92 9.52 10.75 8.32	10.16 11.23 13.41 8.75	141.59 224.19 418.05 69.32
(Verizon) (4) BXA-70080/8CF w/8' Mount Pipe (Verizon) OVP Box (Verizon) OVP Box	A	From Face	0,000 0,000 2,00 0,000 0,000 1,50 0,000		80,00	1" Ice 2" Ice No Ice 1/2" Ice	9.52 10.75 8.32	11.23 13,41 8,75	224,19 418.05 69.32
(Verizon) (4) BXA-70080/8CF w/8' Mount Pipe (Verizon) OVP Box (Verizon) OVP Box	A	From Face	0,000 2,00 0,000 0,000 1,50 0,000		80,00	1" Ice 2" Ice No Ice 1/2" Ice	9.52 10.75 8.32	11.23 13,41 8,75	224,19 418.05 69.32
(4) BXA-70080/8CF w/8' Mount Pipe (Verizon) OVP Box (Verizon)	A	From Face	0,000 0.000 1.50 0,000		80,00	2" Ice No Ice 1/2" Ice	10.75 8.32	13,41 8,75	418.05 69.32
Mount Pipe (Verizon) OVP Box (Verizon)	A	From Face	0,000 0.000 1.50 0,000		80,00	1/2" Ice			69.32
(Verizon) OVP Box (Verizon) OVP Box			0.000 1.50 0.000	0.000			8.92	10.16	
OVP Box (Verizon)			1,50 0,000	0.000		1 11 =			141,59
(Verizon) OVP Box			0.000	0.000		1" Ice	9.52	11.23	224.19
(Verizon) OVP Box			0.000	0.000	90.00	2" Ice	10.75	13.41	418.05
OVP Box	В	From Face			80.00	No Ice 1/2" Ice	6.72 7.07	2.63 2.87	20.00
	В	From Vace				1/2 10e	7.42	3,12	61,51 107,27
	В	From Vace	-,			2" Ice	8.15	3.65	212,32
(Verizon)		TIOIII PACC	1.50	0.000	80.00	No Ice	6.72	2,63	20.00
			0.000			1/2" Ice	7.07	2.87	61.51
			0.000			1" Ice	7.42	3.12	107.27
						2" Ice	8,15	3.65	212,32
(2) OVP Box	\mathbf{C}	From Face	1.50	0.000	80.00	No Ice	6.72	2.63	20.00
(Verizon)			0.000			1/2" Ice	7.07	2.87	61.51
			0.000			1" Ice	7.42	3.12	107,27
2) RRH 3JR52709AA 2X60	Α	From Face	1.50	0.000	90.00	2" Ice	8.15	3,65	212.32
(AWS 60W)	A	rion race	0.000	0.000	80.00	No Ice 1/2" Ice	3,36 3,61	2.00 2.24	55.00
(Verizon)			0.000			1" Ice	3,88	2.48	78.16 104.95
(:			01000			2" Ice	4.42	2.97	170.18
2) RRH 3JR52709AA 2X60	В	From Face	1.50	0.000	80,00	No Ice	3,36	2.00	55,00
(AWS 60W)			0.000			1/2" Ice	3.61	2.24	78.16
(Verizon)			0.000			1" Ice	3,88	2.48	104,95
						2" Ice	4.42	2.97	170.18
2) RRH 3JR52709AA 2X60	C	From Face	1.50	0.000	80.00	No Ice	3.36	2.00	55.00
(AWS 60W)			0.000			1/2" Ice	3.61	2.24	78,16
(Verizon)			0.000			1" Ice	3.88	2.48	104.95
RRH 4X30-4T4R-B13	Α	From Face	1.50	0.000	90.00	2" Ice	4.42	2.97	170.18
(Verizon)	A	From Face	0.000	0.000	80.00	No Ice 1/2" Ice	1.54 1.70	0.63 0.75	32.60
(Volizon)			0.000			1" Ice	1.86	0.73	43.87 57,42
			***************************************			2" Ice	2.21	1,13	92.14
RRH 4X30-4T4R-B13	В	From Face	1.50	0.000	80,00	No Ice	1.54	0.63	32.60
(Verizon)			0.000			1/2" Ice	1.70	0.75	43.87
			0.000			1" Ice	1.86	0.87	57.42
						2" Ice	2,21	1.13	92.14
RRH 4X30-4T4R-B13	C	From Face	1.50	0.000	80.00	No Ice	1.54	0.63	32.60
(Verizon)			0.000			1/2" Ice	1.70	0.75	43.87
			0.000			1" Ice	1.86	0.87	57.42
RRH 4x30-4T4R-B25	Α	From Face	1.50	0.000	80.00	2" Ice No Ice	2.21	1.13	92.14
(Verizon)	А	Prom Pace	0.000	0.000	80.00	1/2" Ice	2.14 2.33	1,30 1,46	51.00
(10112011)			0.000			1" Ice	2.52	1.62	68.44 88.70
			01000			2" Ice	2.94	1.98	138.47
RRH 4x30-4T4R-B25	В	From Face	1.50	0.000	80.00	No Ice	2.14	1.30	51.00
(Verizon)			0.000			1/2" Ice	2.33	1.46	68.44
			0.000			1" Ice	2.52	1.62	88.70
nnvv 1 40 1-1-						2" Ice	2.94	1.98	138,47
RRH 4x30-4T4R-B25	C	From Face	1.50	0.000	80.00	No Ice	2.14	1,30	51.00
(Verizon)			0.000			1/2" Ice	2.33	1.46	68.44
			0.000			1" Ice	2.52	1.62	88.70
(4) TMA 10"x7"x2"	Α	From Face	2.00	0.000	90.00	2" Ice	2.94	1.98	138.47
(Verizon)	А	rrom race	2.00 0.000	0.000	80.00	No Ice 1/2" Ice	0.58 0.68	0.18 0.25	10.00 14.02

Semaan Engineering Solutions, LLC 1047 S. 205th St. Elkhorn, NE, 68022 Phone: (402)-289-1888 FAX: (402)-289-1861

Job		Page
	23393_Trumbull	8 of 24
Project	REV01B	Date 09:38:22 12/13/22
Client	KGI	Designed by TrevorK

Description	Face or Leg	Offset Type	Offsets: Horz Lateral	Azimuth Adjustment	Placement		C_AA_A Front	C _A A _A Side	Weight
			Vert ft fl ft		ſŧ		fît²	ft²	lb
			0,000			1" Ice	0.79	0.33	19.46
(4) mark 100 mm Au	_					2" Ice	1.02	0.50	35.41
(4) TMA 10"x7"x2"	В	From Face	2.00	0.000	80.00	No Ice	0.58	0.18	10.00
(Verizon)			0,000 0,000			1/2" Ice	0.68	0.25	14.02
			0.000			1" Ice 2" Ice	0.79 1.02	0.33 0,50	19,46
(4) TMA 10"x7"x2"	C	From Face	2.00	0.000	80,00	No Ice	0.58	0.30	35.41 10.00
(Verizon)	~		0.000	0.000	00,00	1/2" Ice	0.68	0.25	14.02
,			0.000			1" Ice	0.79	0.33	19,46
						2" Ice	1.02	0.50	35.41
(4) RRUS A2 Modules	Α	From Face	2.00	0.000	80.00	No Ice	1.60	0.46	21.16
(Verizon)			0,000			1/2" Ice	1.76	0,56	31.49
			0.000			1" Ice	1.92	0.67	44.03
(4) RRUS A2 Modules	ъ	Enam Enan	2.00	0.000	00.00	2" Ice	2.28	0.91	76.55
(4) KRUS AZ Modules (Verizon)	В	From Face	2,00 0,000	0.000	80.00	No Ice 1/2" Ice	1.60	0.46	21.16
(VCHZOH)			0.000			1" Ice	1.76 1.92	0.56 0.67	31.49
			0,000			2" Ice	2.28	0.91	44.03 76,55
(4) RRUS A2 Modules	\mathbf{C}	From Face	2.00	0,000	80.00	No Ice	1.60	0.46	21.16
(Verizon)			0.000		20,00	1/2" Ice	1.76	0.56	31,49
, ,			0.000			1" Ice	1.92	0.67	44.03
						2" Ice	2,28	0.91	76.55
* * * * * * * * * * * * * * * * * * *		27		0.000					
Commscope MC-PK8-DSH Snub Nose Platform w/Rail	C	None		0.000	61.00	No Ice	26.05	26.05	983.89
w/o Mount Pipe (SES)						1/2" Ice 1" Ice	50.70°	50.70	1279.06
(Dish Wireless)						2" Ice	75.35 124.65	75.35 124.65	1574.22
MX08FRO665-21 w/8'	Α	From Face	2.00	0.000	61.00	No Ice	13.06	8,17	2164,56 110,82
Mount Pipe			0.000	0,000	01.00	1/2" Ice	13.77	9.46	209.48
(Dish Wireless)			0.000			1" Ice	14,39	10.41	317,93
						2" Ice	15.67	12.36	561.82
MX08FRO665-21 w/8'	В	From Face	2.00	0.000	61.00	No Ice	13,06	8.17	110.82
Mount Pipe			0.000			1/2" Ice	13.77	9.46	209.48
(Dish Wireless)			0.000			1" Ice	14,39	10.41	317.93
MX08FRO665-21 w/8'	С	Erom Voca	2.00	0.000	(1.00	2" Ice	15.67	12.36	561.82
Mount Pipe	C	From Face	2,00 0.000	0.000	61.00	No Ice 1/2" Ice	13.06 13.77	8.17	110.82
(Dish Wireless)			0.000			1" Ice	14.39	9.46 10,41	209,48 317.93
(Dish Wholesp)			0,000			2" Ice	15.67	12.36	561.82
TA08025-B604	Α	From Face	2.00	0.000	61.00	No Ice	1.98	1.04	64.00
(Dish Wireless)			0.000		02.00	1/2" Ice	2.15	1.18	80.85
•			0.000			1 [™] Ice	2.33	1.32	100.41
						2" Ice	2.72	1.63	148,40
TA08025-B604	В	From Face	2.00	0,000	61.00	No Ice	1.98	1.04	64.00
(Dish Wireless)			0.000			1/2" Ice	2.15	1.18	80.85
			0.000			1" Ice	2.33	1.32	100.41
TA08025-B604	a	P P	2.00	0.000	61.00	2" Ice	2.72	1.63	148.40
(Dish Wireless)	C	From Face	2.00 0.000	0.000	61.00	No Ice	1.98	1.04	64.00
(Dian Wholess)			0.000			1/2" Ice 1" Ice	2.15 2.33	1.18	80.85
			0.000			2" Ice	2.33	1,32 1.63	100.41 148.40
TA08025-B605	Α	From Face	2.00	0.000	61.00	No Ice	1.98	1.03	75.00
(Dish Wireless)			0.000	2,200	22100	1/2" Ice	2.15	1.34	93.09
` ,			0.000			l" Ice	2.33	1.49	113,96
						2" Ice	2.72	1.81	164.82
TA08025-B605	В	From Face	2.00	0.000	61.00	No Ice	1.98	1.20	75.00
(Dish Wireless)			0.000			1/2" Ice			

Semaan Engineering Solutions, LLC

1047 S. 205th St. Elkhorn, NE, 68022 Phone: (402)-289-1888 FAX: (402)-289-1861

Job		Page
	23393_Trumbull	9 of 24
Project	REV01B	Date 09:38:22 12/13/22
Client	KGI	Designed by TrevorK

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert	Azimuth Adjustment	Placement		C _A A _A Front	C_AA_A Side	Weight
			ft ft ft ft	o	° ft		ft²	ſt²	lb
			0.000			l" Ice	2.33	1,49	113.96
						2" Ice	2.72	1.81	164.82
TA08025-B605	C	From Face	2,00	0.000	61,00	No Ice	1.98	1.20	75.00
(Dish Wireless)			0.000			1/2" Ice	2.15	1,34	93.09
			0.000			I" Ice	2.33	1.49	113.96
						2" Ice	2.72	1.81	164.82
RDIDC-9181-PF-48	C	From Face	2.00	0.000	61.00	No Ice	2,30	1.33	21.85
(Dish Wireless)			0.000			1/2" Ice	2.49	1.49	41,36
			0.000			1" Ice	2,68	1.65	63.78
						2" Ice	3.10	2.00	118.14
(2) 8'x2" Pipe	A	From Face	2.00	0.000	61.00	No Ice	1.90	1.90	29.22
(Dish Wireless)			0.000			1/2" Ice	2.73	2.73	43.56
			0.000				3.40	3.40	63.19
						2" Ice	4.40	4.40	118.88
(2) 8'x2" Pipe	В	From Face	2.00	0.000	61.00	No Ice	1.90	1.90	29.22
(Dish Wireless)			0.000			1/2" Ice	2.73	2,73	43.56
			0.000			1" Ice	3.40	3.40	63,19
						2" Ice	4.40	4.40	118.88
(2) 8'x2" Pipe	C	From Face	2.00	0.000	61.00	No Ice	1.90	1,90	29,22
(Dish Wireless)			0.000			1/2" Ice	2.73	2.73	43.56
•			0.000			1" Ice	3,40	3,40	63,19
						2" Ice	4,40	4.40	118.88

Tower Pressures - No Ice

 $G_H = 1.100$

Section Elevation	Z	K_Z	q_z	A_G	F a	A_F	A_R	\overline{A}_{leg}	Leg %	$C_A A_A$ In	C _A A _A Out
ft	ft		ksf	ft²	c e	ft²	ft²	ft²		Face ft²	Face ft²
L1 82.00-39.38	59.78	1.136	0.039	91,287	Α	0,000	91.287	91.287	100.00	0.000	0.000
					В	0.000	91,287		100.00	0.000	0.000
					C	0,000	91.287		100.00	0.000	0.000
L2 39.38-1.00	20.08	0.903	0.032	108.349	Α	0.000	108.349	108.349	100.00	0.000	0.000
					В	0.000	108.349		100.00	0.000	0.000
					C	0.000	108.349	_	100.00	0.000	0.000

Tower Pressure - With Ice

 $G_H = 1.100$

ſ	Section Elevation	z	Kz	$q_{\bar{\imath}}$	t_Z	$A_{\mathcal{O}}$	F a	A_F	A_R	A_{log}	Leg %	$C_A A_A$ In	$C_A A_A$ Out
L	ft	ft		ksf	in	ft²	c _e	ft²	ft²	fi²		Face ft²	Face ft²
ſ	L1 82.00-39.38	59.78	1.136	0.006	1.08	98.976	Α	0,000	98.976	98.976	100.00	0.000	0.000

Semaan Engineering Solutions, LLC 1047 S. 205th St.

1047 S. 205th St. Elkhorn, NE, 68022 Phone: (402)-289-1888 FAX: (402)-289-1861

Job		Page
	23393_Trumbull	10 of 24
Project	REV01B	Date 09:38:22 12/13/22
Client	KGI	Designed by TrevorK

Section Elevation	z	Kz	q_z	t_Z	A_G	F a	A_F	A_R	A_{leg}	Leg %	$\frac{C_A A_A}{In}$	C _A Â _A Out
fi	ft		ksf	in	ft²	c e	ft²	ft²	ſt²		Face ft²	Face ft ²
L2 39.38-1.00	20.08	0.903	0.005	0.97	115.272	B C A B C	0,000 0,000 0,000 0,000 0,000	98.976 98.976 115.272 115.272 115.272	115,272	100.00 100.00 100.00 100.00 100.00		0.000 0.000 0.000

Tower Pressure - Service

 $G_H = 1.100$

Section Elevation	z	K_Z	q_z	A_G	$\frac{F}{a}$	A_{F}	A_R	A_{leg}	Leg %	C_AA_A	$C_A A_A$
Dieration					c				/0	In Face	Out Face
ft	ft		ksf	ft^2	e	ft ²	ft²	ft²		ft²	ft²
L1 82.00-39.38	59.78	1.136	0.009	91.287	A	0.000	91,287	91.287	100,00	0.000	0.000
					В	0.000	91.287		100.00	0,000	0.000
					C	0.000	91.287		100,00	0.000	0.000
L2 39.38-1.00	20,08	0,903	0.007	108.349	A	0.000	108.349	108.349	100.00	0,000	0,000
					В	0.000	108,349		100.00	0.000	0.000
	<u> </u>				C	0.000	108.349		100.00	0,000	0.000

Tower Forces - No Ice - Wind Normal To Face

Section	Add	Self	F	е	C_F	q_z	D_F	D_R	A_E	\overline{F}	w	Ctrl.
Elevation	Weight	Weight	а									Face
]			с			ksf						
ft	lb	lb	е						ft²	lb	plf	
L1	834.74	3602.97	Α	1	0.63	0.039	1	1	91.287	2490.82	58.436	С
82.00-39.38			В	1	0.63		1	1	91.287			
			C	1	0.63		1	1	91.287			
L2 39.38-1.00	820.46	5627.45	Α	1	0.63	0.032	1	1	108.349	2380,21	62.025	C
			В	1	0.63		1	1	108,349			
			C	1	0.63		1	1	108.349			
Sum Weight:	1655.20	9230.42						OTM	191.84	4871.03		
									kip-ft			

Tower Forces - No Ice - Wind 60 To Face

Section	Add	Self	F	e	C_F	q_z	D_F	D_R	A_E	\overline{F}	w	Ctrl.
Elevation	Weight	Weight	а						İ			Face
			c			ksf						
ft	<u>lb</u>	₽b	e					L	ft²	lЪ	plf	
L1	834.74	3602.97	Α	1	0.63	0.039	1	1	91.287	2490.82	58.436	С
82.00-39.38			В	i	0.63		1	1	91.287			1
			С	1	0.63		1	1	91.287			
L2 39.38-1.00	820.46	5627.45	Α	1	0.63	0.032	1	1	108.349	2380.21	62,025	С
			В	1	0.63		1	1	108,349			

Semaan Engineering Solutions, LLC

1047 S. 205th St. Elkhorn, NE, 68022 Phone: (402)-289-1888 FAX: (402)-289-1861

Job		Page
	23393_Trumbull	11 of 24
Project	REV01B	Date 09:38:22 12/13/22
Client	KGI	Designed by

Add	Self	F	e	C_F	q_z	D_F	D_R	A_R	\overline{F}	w	Ctrl.
Weight	Weight				kof						Face
<u>lb</u>	lb	e			ž9)			ft²	lb	plf	
1655.00	0000 40	C	1	0,63		1	1	108.349			
1655.20	9230.42						OTM		4871.03		
	Weight	Weight Weight <u>lb</u> lb	Weight Weight a .c .lb .lb .e	Weight Weight a lb lb e C 1	Weight Weight a c lb lb e C 1 0.63	Weight Weight a 12 1b 1b e ksf C 1 0.63	Weight Weight a c ksf lb lb e 1 0.63 1	Weight Weight a L <th< td=""><td>Weight Weight a Image: constraint of the const</td><td>Weight Weight a ksf ft² lb 1b 1b c e 1 1 108.349 1655.20 9230.42 0TM 191.84 4871.03</td><td>Weight Weight a ksf ft² lb plf 1b lb e 1 1 108,349 0 1 1 108,349 0 107M 191,84 4871.03</td></th<>	Weight Weight a Image: constraint of the const	Weight Weight a ksf ft² lb 1b 1b c e 1 1 108.349 1655.20 9230.42 0TM 191.84 4871.03	Weight Weight a ksf ft² lb plf 1b lb e 1 1 108,349 0 1 1 108,349 0 107M 191,84 4871.03

Tower Forces - No Ice - Wind 90 To Face

Section	Add	Self	F	e	C_F	q_z	D_F	D_R	A_E	F	w	Ctrl.
Elevation	Weight	Weight	а									Face
			С			ksf						
ft	<i>lb</i>	lЬ	е						ft²	lb	plf	
L1	834.74	3602.97	Α	1	0.63	0.039	1	1	91.287	2490.82	58,436	С
82.00-39.38			В	1	0.63		1	1	91,287			
i			C	1	0.63		1	1	91.287			
L2 39.38-1.00	820,46	5627.45	A	1	0,63	0.032	1	1	108,349	2380.21	62.025	C
			В	1	0.63		1	1	108,349			
			C	1	0.63		1	1	108.349			
Sum Weight:	1655.20	9230,42						OTM	191,84	4871.03		
									kip-ft			

Tower Forces - With Ice - Wind Normal To Face

Section	Add	Self	F	e	C_F	q_z	D_F	D_R	A_E	F	w	Ctrl.
Elevation	Weight	Weight	а									Face
			С			ksf						
ft	lb	lb	e						ft ²	lb	plf	
L1	834.74	5108.70	Á	1	1.1	0.006	1	1	98.976	723.36	16,970	С
82.00-39.38			В	1	1.1		1	1	98.976			
			C	1	1.1		1	1	98,976			
L2 39.38-1.00	820.46	7208.68	Α	1	1.1	0.005	1	1	114.556	674.06	17.565	C
			В	1	1.1		1	1	114,556			
	i		C	1	1.1		1	1	114.556			
Sum Weight:	1655.20	12317.37						OTM	55.38	1397,41		
									kip-ft			

Tower Forces - With Ice - Wind 60 To Face

Section Elevation	Add Weight	Self Weight	F a	e	C_F	q_z	D_F	D_R	A_E	F	w	Ctrl. Face
			c			ksf						race
ft	<u>lb</u>	lb	e			, and			ft²	IЬ	plf	
L1	834.74	5108.70	A	1	1,1	0.006	1	1	98.976	723,36	16.970	С
82.00-39.38			В	1	1.1		1	1	98.976			
l			C	1	1.1		1	1	98.976			
L2 39.38-1.00	820.46	7208.68	A	1	1.1	0.005	1	1	114.556	674.06	17,565	C

Semaan Engineering Solutions, LLC

1047 S. 205th St. Elkhorn, NE, 68022 Phone: (402)-289-1888 FAX: (402)-289-1861

Job	··· -	Page
	23393_Trumbull	12 of 24
Project	REV01B	Date 09:38:22 12/13/22
Client	KGI	Designed by TrevorK

Section	Add	Self	F	e	C_F	q_z	D_F	D_R	A_E	F	w	Ctrl.
Elevation	Weight	Weight	a					ľ				Face
			c			ksf				ĺ		
ft	lb	lb .	e						ft²	lb .	plf	
			В	1	1,1		1	1	114.556			
			C	1	1.1		1	1	114,556			
Sum Weight:	1655.20	12317,37	·					OTM	55.38	1397.41		
						İ.,			kip-ft			

Tower Forces - With Ice - Wind 90 To Face

Section	Add	Self	F	e	C_F	q_z	D_F	D_R	A_E	F	w	Ctrl.
Elevation	Weight	Weight	а									Face
			c			ksf						
ft	lb	lb	е			·			ft²	lb	plf	
Li	834.74	5108.70	Α	1	1.1	0.006	1	1	98,976	723,36	16.970	C
82,00-39,38			В	1	1.1		1	1	98,976			
			C	1	1.1		1	1	98.976			
L2 39.38-1.00	820,46	7208.68	Α	1	1.1	0.005	1	1	114.556	674,06	17,565	C
			В	1	1.1	-	1	1	114,556			
			C	1	1.1		1	1	114.556			
Sum Weight:	1655.20	12317.37						OTM	55,38	1397.41		
									kip-ft			

Tower Forces - Service - Wind Normal To Face

Section	Add	Self	F	e	C_F	q_z	D_F	D_R	A_E	F	w	Ctrl.
Elevation	Weight	Weight	а									Face
			С			ksf				i		
ft	l lb	lb	e						fl²	lb	plf	
L1	834.74	3602.97	Α	1	0.63	0.009	1	1	91,287	557,16	13.071	C
82.00-39.38			В	1	0.63		1	1	91.287			
			C	1	0.63		1	1	91.287			
L2 39.38-1.00	820.46	5627.45	Α	1	0.63	0.007	1	1	108.349	532.41	13.874	C
			В	1	0.63		1	l l	108.349			
			C	1	0.63		1	1	108,349			1
Sum Weight:	1655.20	9230.42						OTM	42.91	1089.57		
						_,			kip-ft			

Tower Forces - Service - Wind 60 To Face

Section Elevation	Add Weight	Self Weight	F a	е	C_F	q_z	$D_{\it F}$	D_R	A_E	F	w	Ctrl. Face
			c			ksf						
ft	lb	lb	e						ft^2	lb	plf	
Ll	834,74	3602.97	A	1	0.63	0.009	1	1	91.287	557.16	13.071	С
82,00-39,38			В	1	0.63		1	1	91.287			
			C	1	0.63		1	1	91,287			

Semaan Engineering Solutions, LLC 1047 S. 205th St.

1047 S. 205th St. Elkhorn, NE, 68022 Phone: (402)-289-1888 FAX: (402)-289-1861

Job	·-	Page
	23393_Trumbull	13 of 24
Project	REV01B	Date 09:38:22 12/13/22
Client	KGI	Designed by TrevorK

Section	Add	Self	F	e	$C_{I'}$	q_z	D_F	D_R	A_E	F	w	Ctrl.
Elevation	Weight	Weight	а									Face
			c			ksf						
ft	lb	lb	е						ft²	lь	plf	
L2 39,38-1.00	820,46	5627.45	Α	1	0.63	0.007	1	1	108.349	532.41	13,874	С
			В	1	0,63		1	1	108,349			
			С	1	0.63		1	1	108.349			
Sum Weight:	1655.20	9230.42						OTM	42.91	1089,57		
									kip-ft			E

Tower Forces - Service - Wind 90 To Face

Section	Add	Self	F	e	C_F	q_z	D_F	D_R	A_{E}	F	w	Ctrl.
Elevation	Weight	Weight	a									Face
•			c			ksf					'	
ft	lЬ	lb	e						ft ²	lb	plf	
L1	834.74	3602.97	Α	1	0.63	0.009	1	1	91.287	557.16	13.071	C
82.00-39,38			В	1	0,63		1	1	91,287			
			C	1	0.63		1	1	91.287			
L2 39,38-1,00	820.46	5627.45	Α	1	0,63	0.007	1	1	108,349	532,41	13.874	C
			В	1	0.63		1	1	108.349			
			C	1	0,63		1	1	108,349			
Sum Weight:	1655,20	9230.42						OTM	42.91	1089.57		
									kip-ft			

Force Totals

Load	Vertical	Sum of	Sum of	Sum of	Sum of	Sum of Torques
Case	Forces	Forces	Forces	Overturning	Overturning	
		X	\boldsymbol{z}	Moments, M_x	Moments, Mz	
	lb -	lb	lb	kip-ft	kip-ft	kip-ft
Leg Weight	9230.42		4.4		3.1	7.0
Bracing Weight	0.00					
Total Member Self-Weight	9230.42			0.11	0,00	
Total Weight	16807.25			0.11	0.00	
Wind 0 deg - No Ice		0.00	-16342.20	-1042.38	0,00	0.00
Wind 30 deg - No Ice		8070.13	-14152.76	-902.71	-513.57	0.20
Wind 60 deg - No Ice	* * * * * * * * * * * * * * * * * * * *	13977.87	-8171.10	-521.13	-889.53	0.34
Wind 90 deg - No Ice		16140,25	0.00	0.11	-1027,14	0.39
Wind 120 deg - No Ice	35000 300	13977.87	8171.10	521.36	-889.53	0.34
Wind 150 deg - No Ice	A. Carrier	8070.13	14152.76	902,94	-513.57	0.20
Wind 180 deg - No Ice	100	0.00	16342,20	1042.61	0,00	0.00
Wind 210 deg - No Ice	internation	-8070.13	14152,76	902.94	513.57	-0.20
Wind 240 deg - No Ice		-13977.87	8171.10	521,36	889.53	-0,34
Wind 270 deg - No Ice	-100000000	-16140.25	0.00	0.11	1027,14	-0.39
Wind 300 deg - No Ice		-13977.87	-8171,10	-521.13	889.53	-0.34
Wind 330 deg - No Ice	3.6 3.2 3.5	-8070.13	-14152.76	-902.71	513.57	-0.20
Member Ice	3086.95			and the same of the same		
Total Weight Ice	26741.63			0.49	0.00	a solution are solved a
Wind 0 deg - Icc		0.00	-3965.78	-240,73	0.00	0.00
Wind 30 deg - Ice		1966,49	-3434.46	-208.41	-119.37	0.04
Wind 60 deg - Ice		3406.07	-1982,89	-120.12	-206,75	0.06
Wind 90 deg - Ice		3932,99	0.00	0.49	-238.73	

Semaan Engineering Solutions, LLC 1047 S. 205th St.

1047 S. 205th St. Elkhorn, NE, 68022 Phone: (402)-289-1888 FAX: (402)-289-1861

Job	· · · · · · · · · · · · · · · · · · ·	Page
	23393_Trumbull	14 of 24
Project	REV01B	Date 09:38:22 12/13/22
Client	KGI	Designed by TrevorK

Load	Vertical	Sum of	Sum of	Sum of	Sum of	Sum of Torques
Case	Forces	Forces	Forces	Overturning	Overturning	, ,
		X	Z	Moments, M _x	Moments, M.	
	lb	lb	lb -	kip-ft	kìp-fi	kip-ft
Wind 120 deg - Ice	STATE OF THE REAL PROPERTY.	3406.07	1982.89	121.10	-206.75	0.06
Wind 150 deg - Ice		1966.49	3434,46	209.40	-119.37	0.04
Wind 180 deg - Ice		0.00	3965.78	241.72	0.00	0.00
Wind 210 deg - Ice	100	-1966.49	3434,46	209,40	119,37	-0.04
Wind 240 deg - Ice		-3406.07	1982.89	121,10	206.75	-0.06
Wind 270 deg - Ice		-3932.99	0,00	0.49	238.73	-0.07
Wind 300 deg - Ice		-3406,07	-1982.89	-120,12	206,75	-0.06
Wind 330 deg - Ice		-1966.49	-3434.46	-208,41	119.37	-0.04
Total Weight	16807.25	3.4		0.11	0.00	
Wind 0 deg - Service		0,00	-3655.49	-233,07	0.00	0.00
Wind 30 deg - Service		1805.16	-3165,75	-201.83	-114.88	0.04
Wind 60 deg - Service		3126.63	-1827.75	-116 .4 8	-198.97	0.08
Wind 90 deg - Service		3610.32	0,00	0.11	-229,75	0.09
Wind 120 deg - Service		3126.63	1827.75	116.71	-198.97	0.08
Wind 150 deg - Service	Property and	1805.16	3165,75	202.06	-114,88	0.04
Wind 180 deg - Service		0.00	3655.49	233.30	0.00	0.00
Wind 210 deg - Service	M/h(0) = f(0)/h(0)	-1805.16	3165,75	202.06	114.88	-0.04
Wind 240 deg - Service		-3126.63	1827.75	116.71	198.97	-0.08
Wind 270 deg - Service		-3610.32	0,00	0,11	229.75	-0.09
Wind 300 deg - Service	Market State of	-3126.63	-1827.75	-116.48	198.97	-0.08
Wind 330 deg - Service	The second second	-1805.16	-3165.75	-201.83	114.88	-0.04
Seismic Vertical	304.76				2000	
Seismic Horizontal 0 deg		0.00	-643.78	-42.41	0.00	0.00
Seismic Horizontal 30 deg	70 W 10 10 10 10 10 10 10 10 10 10 10 10 10	321.89	-557,53	-36.73	-21,21	0.00
Seismic Horizontal 60 deg		557.53	-321.89	-21.21	-36,73	0.00
Seismic Horizontal 90 deg		643.78	0.00	0.00	-42,41	0.00
Seismic Horizontal 120 deg		557,53	321.89	21.21	-36,73	0.00
Seismic Horizontal 150 deg		321.89	557.53	36.73	-21.21	0.00
Seismic Horizontal 180 deg		0.00	643.78	42.41	0.00	0.00
Seismic Horizontal 210 deg		-321.89	557.53	36.73	21.21	0.00
Seismic Horizontal 240 deg		-557.53	321.89	21.21	36.73	0.00
Seismic Horizontal 270 deg	70 100	-643.78	0.00	. 0.00	42.41	0.00
Seismic Horizontal 300 deg		-557.53	-321.89	-21.21	36.73	0.00
Seismic Horizontal 330 deg		-321.89	-557.53	-36.73	21,21	0.00

Load Combinations

Comb. No.		Description	
1	Dead Only		
2	1.2 Dead+1.0 Wind 0 deg - No Ice		
3	0.9 Dead+1.0 Wind 0 deg - No Ice		
4	1.2 Dead+1.0 Wind 30 deg - No Ice		
5	0.9 Dead+1.0 Wind 30 deg - No Ice		
6	1.2 Dead+1.0 Wind 60 deg - No Ice		
7	0.9 Dead+1.0 Wind 60 deg - No Ice		
8	1.2 Dead+1.0 Wind 90 deg - No Ice		
9	0.9 Dead+1.0 Wind 90 deg - No Ice		
10	1.2 Dead+1.0 Wind 120 deg - No Ice		
11	0.9 Dead+1.0 Wind 120 deg - No Ice		
12	1.2 Dead+1.0 Wind 150 deg - No Ice		
13	0.9 Dead+1.0 Wind 150 deg - No Ice		
14	1.2 Dead+1.0 Wind 180 deg - No Ice		
15	0.9 Dead+1.0 Wind 180 deg - No Ice		
16	1,2 Dead+1.0 Wind 210 deg - No Ice		
17	0.9 Dead+1.0 Wind 210 deg - No Ice		

Semaan Engineering Solutions, LLC

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Job	·	Page
	23393_Trumbull	15 of 24
Project	REV01B	Date 09:38:22 12/13/22
Client	KGI	Designed by TrevorK

No.	Comb.	Description
18		Distription
19	************	1.2 Dead+1.0 Wind 240 deg - No Ice
1.2 Dead+1.0 Wind 270 deg - No Ice 1.2 Dead+1.0 Wind 300 deg - No Ice 2.1 L2 Dead+1.0 Wind 300 deg - No Ice 3.0 Pead+1.0 Wind 330 deg - No Ice 4.1 L2 Dead+1.0 Wind 330 deg - No Ice 4.1 L2 Dead+1.0 Wind 330 deg - No Ice 5.1 Dead+1.0 Wind 330 deg - No Ice 7.1 L2 Dead+1.0 Wind 0 deg+1.0 Ice 8.1 L2 Dead+1.0 Wind 0 deg+1.0 Ice 9.1 L2 Dead+1.0 Wind 0 deg+1.0 Ice 9.1 L2 Dead+1.0 Wind 0 deg+1.0 Ice 1.2 Dead+1.0 Wind 150 deg+1.0 Ice 1.2 Dead+1.0 Wind 170 deg-1.0 Ice 1.2 Dead+1.0 Wind 150 deg - Service Dead+Wind 150 deg - Service Dead-Wind		
22 1.2 Dead+1.0 Wind 300 deg - No Ice 24 1.2 Dead+1.0 Wind 300 deg - No Ice 25 0.9 Dead+1.0 Wind 330 deg - No Ice 26 1.2 Dead+1.0 Wind 330 deg - No Ice 27 1.2 Dead+1.0 Wind 30 deg + No Ice 28 1.2 Dead+1.0 Wind 0 deg + 1.0 Ice 29 1.2 Dead+1.0 Wind 0 deg + 1.0 Ice 29 1.2 Dead+1.0 Wind 60 deg+1.0 Ice 30 1.2 Dead+1.0 Wind 120 deg+1.0 Ice 31 1.2 Dead+1.0 Wind 120 deg+1.0 Ice 31 1.2 Dead+1.0 Wind 120 deg+1.0 Ice 32 1.2 Dead+1.0 Wind 120 deg+1.0 Ice 33 1.2 Dead+1.0 Wind 180 deg+1.0 Ice 34 1.2 Dead+1.0 Wind 180 deg+1.0 Ice 35 1.2 Dead+1.0 Wind 180 deg+1.0 Ice 36 1.2 Dead+1.0 Wind 300 deg+1.0 Ice 37 1.2 Dead+1.0 Wind 300 deg+1.0 Ice 38 1.2 Dead+1.0 Wind 300 deg+1.0 Ice 39 1.2 Dead+1.0 Wind 300 deg+1.0 Ice 40 Dead+Wind 300 deg - Service 40 Dead+Wind 300 deg - Service 41 Dead+Wind 300 deg - Service 42 Dead+Wind 300 deg - Service 43 Dead+Wind 300 deg - Service 44 Dead+Wind 100 deg - Service 45 Dead+Wind 100 deg - Service 46 Dead-Wind 120 deg - Service 47 Dead-Wind 120 deg - Service 48 Dead-Wind 120 deg - Service 49 Dead-Wind 120 deg - Service 40 Dead-Wind 210 deg - Service 40 Dead-Wind 270 deg - Service 41 Dead-Wind 300 deg - Service 42 Dead-Wind 210 deg - Service 43 Dead-Wind 120 deg - Service 44 Dead-Wind 120 deg - Service 45 Dead-Wind 210 deg - Service 46 Dead-Wind 300 deg - Service 47 Dead-Wind 300 deg - Service 48 Dead-Wind 300 deg - Service 49 Dead-Wind 300 deg - Service 50 Dead-Wind 300 deg - Service 50 Dead-Wind 300 deg - Service 51 12 Dead+1 Dead 10 Ded 60 deg 52 12 Dead+1 Ded 10 Ded 60 deg 53 12 Dead+1 Ded 10 Ded 60 deg 54 12 Dead+1 Ded 10 Ded 10 Ded 55 12 Dead+1 Ded 10 Ded 60 deg 56 12 Dead+1 Dev+1 Ded 10 deg 67 12 Dead+1 Dev+1 Ded 10 deg 68 12 Dead+1 Dev+1 Ded 10 deg 69 12 Dead-1 Dev+1 Ded 10 deg 60 12 Dead-1 Dev+1 Ded 10 deg 61 12 Dead+1 Dev+1 Ded 10 deg 62 12 Dead-1 Dev+1 Ded 10 deg 63 12 Dead-1 Dev+1 Ded 10 deg 64 12 Dead-1 Dev+1 Ded 10 deg 65 12 Dead-1 Dev+1 Ded 10 deg 66 12 Dead-1 Dev+1 Ded 10 deg 67 12 Dead-1 Dev+1 Ded 10 deg 68 12 Dead-1 Dev+1 Ded 10 deg 69 12 Dead-1 Dev+1 Ded 10 deg 60 12 Dead-1 Dev+1 D		
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1.2 Dead+1.0 Wind 0 deg+1.0 loc	25	0.9 Dead+1.0 Wind 330 deg - No Ice
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Maximum Member Forces

Semaan Engineering Solutions, LLC

1047 S. 205th St. Elkhorn, NE, 68022 Phone: (402)-289-1888 FAX: (402)-289-1861

Job		Page
	23393_Trumbull	16 of 24
Project	REV01B	Date 09:38:22 12/13/22
Client	KGI	Designed by TrevorK

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial lb	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	82 - 39,375	Pole	Max Tension	27	0,00	0.00	-0.00
			Max. Compression	26	-20031.42	0.00	-0.52
			Max. Mx	8	-11447.61	-406.15	-0.14
			Max, My	14	-11435,69	0.00	-413,20
			Max. Vy	8	13807.96	-406.15	-0.14
			Max. Vx	14	14014.96	0.00	-413,20
			Max, Torque	8			-0.39
L2	39,375 - 1	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-30278.20	0.00	-0.52
			Max. Mx	8	-20157.61	-1046,47	-0.14
			Max. My	14	-20157.30	0.00	-1062,26
			Max, Vy	8	16154,10	-1046.47	-0.14
			Max. Vx	14	16356,26	0.00	-1062,26
			Max. Torque	8			-0.39

Maximum Reactions

Location	Condition	Gov.	Vertical	Horizontal, X	Horizontal,
		Load	lb	<i>lb</i>	lb
		Comb.			
Pole	Max. Vert	33	30278.20	0.00	-3965.78
	$Max. H_x$	20	20168.70	16140.25	-0.00
	Max. H _z	2	20168.70	0.00	16342.21
	$Max. M_x$	2	1061.98	0.00	16342.21
	Max, M_z	8	1046.47	-16140,25	-0,00
	Max. Torsion	20	0.39	16140.25	-0.00
	Min, Vert	64	14821,76	0.00	-643,78
	Min. H _x	8	20168.70	-16140.25	-0.00
	Min. Hz	14	20168.70	0.00	-16342.21
	Min, M_x	14	-1062,26	0.00	-16342,21
	Min. Mz	20	-1046.47	16140.25	-0.00
	Min, Torsion	8	-0.39	-16140.25	-0.00

Tower Mast Reaction Summary

Load Combination	Vertical	Shear _x	Shear _z	Overturning Moment, M _x	Overturning Moment, M,	Torque
	lb	lb	lb	kip-ft	kip-ft	kip-ft
Dead Only	16807.25	0,00	0.00	0.11	0.00	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	20168.70	0.00	-16342.21	-1061.98	0.00	0.00
0.9 Dead+1.0 Wind 0 deg - No Ice	15126.52	0,00	-16342.20	-1056.94	0.00	0.00
1.2 Dead+1.0 Wind 30 deg - No Ice	20168.70	8070.13	-14152.76	-919.69	-523.23	0.20
0.9 Dead+1.0 Wind 30 deg - No Ice	15126,52	8070.13	-14152.76	-915.32	-520.73	0.20
1.2 Dead+1.0 Wind 60 deg - No Ice	20168.70	13977.87	-8171.10	-530.92	-906.27	0.34
0.9 Dead+1.0 Wind 60 deg - No Ice	15126.52	13977.87	-8171.10	-528,42	-901.94	0.34
1.2 Dead+1.0 Wind 90 deg - No	20168.70	16140.25	0.00	0.14	-1046.47	0,39

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Job	-	Page
	23393_Trumbull	17 of 24
Project	REV01B	Date 09:38:22 12/13/22
Client	KGI	Designed by TrevorK

Load Combination	Vertical ''	Shear _x	Shear _z	Overturning Moment, M _x	Overturning Moment, M _z	Torque
Ice	<u>lb</u>	<u> 1b</u>	<u>Ib</u>	kip-ft	kip-ft	kip-ft
0.9 Dead+1.0 Wind 90 deg - No Ice	15126,52	16140.25	0,00	0.10	-1041.47	0.39
1.2 Dead+1.0 Wind 120 deg - No Ice	20168.70	13977.87	8171.10	531.21	-906.27	0.34
0.9 Dead+1.0 Wind 120 deg - No Ice	15126.52	13977.87	8171,10	528.63	-901.94	0.34
1.2 Dead+1.0 Wind 150 deg - No Ice	20168.70	8070,13	14152.76	919.97	-523.23	0.20
0.9 Dead+1.0 Wind 150 deg - No Ice	15126.52	8070.13	14152.76	915.53	-520,73	0.20
1.2 Dead+1.0 Wind 180 deg - No Ice	20168.70	0.00	16342.21	1062.26	0.00	0.00
0.9 Dead+1.0 Wind 180 deg - No Ice	15126.52	0,00	16342,20	1057.15	0,00	0.00
1.2 Dead+1.0 Wind 210 deg - No Ice	20168.70	-8070,13	14152,76	919.97	523,23	-0.20
0.9 Dead+1.0 Wind 210 deg - No Ice	15126.52	-8070,13	14152.76	915.53	520,73	-0.20
1.2 Dead+1.0 Wind 240 deg - No Ice	20168.70	-13977.87	8171,10	531.21	906,27	-0.34
0.9 Dead+1.0 Wind 240 deg - No Ice	15126,52	-13977.87	8171,10	528.63	901.94	-0.34
1.2 Dead+1.0 Wind 270 deg - No Ice	20168.70	-16140.25	00,0	0.14	1046.47	-0.39
0.9 Dead+1.0 Wind 270 deg - No Ice	15126,52	-16140.25	0.00	0,10	1041.47	-0,39
1.2 Dead+1.0 Wind 300 deg - No Ice	20168.70	-13977.87	-8171.10	-530,92	906.27	-0,34
0.9 Dead+1.0 Wind 300 deg - No Ice	15126,52	-13977.87	-8171.10	-528,42	901.94	-0.34
1.2 Dead+1.0 Wind 330 deg - No Ice	20168.70	-8070.13	-14152.76	-919.69	523,23	-0.20
0.9 Dead+1.0 Wind 330 deg - No Ice	15126.52	-8070.13	-14152.76	-915.32	520.73	-0.20
1.2 Dead+1.0 Ice 1.2 Dead+1.0 Wind 0 deg+1.0	30278.20 30278.20	0.00 0.00	0.00 -3965.78	0,52 -248.54	0,00 0,00	0.00 0.00
Ice 1.2 Dead+1.0 Wind 30 deg+1.0	30278.20	1966,49	-3434.46	-215.17	-123,25	0.04
Ice 1,2 Dead+1,0 Wind 60 deg+1,0	30278.20	3406.07	-1982.89	-124.00	-213.48	0.07
Ice 1.2 Dead+1.0 Wind 90 deg+1.0	30278.20	3932.99	0.00	0.55	-246.51	0.08
Ice 1.2 Dead+1.0 Wind 120	30278.20	3406.07	1982.89	125.09	-213.48	0.07
deg+1.0 Ice 1.2 Dead+1.0 Wind 150	30278.20	1966.49	3434,46	216.26	-123.25	0.04
deg÷1.0 Ice 1.2 Dead+1.0 Wind 180	30278.20	0.00	3965.78	249.63	0.00	0.00
deg+1.0 Ice 1.2 Dead+1.0 Wind 210	30278.20	-1966.49	3434.46	216.26	123,25	-0.04
deg+1.0 Ice 1.2 Dead+1.0 Wind 240	30278.20	-3406.07	1982.89	125.09	213.48	-0.07
deg+1.0 Ice 1.2 Dead+1.0 Wind 270	30278.20	-3932.99	0.00	0,55	246.51	-0.08
deg+1.0 Ice 1.2 Dead+1.0 Wind 300	30278.20	-3406.07	-1982.89	-124.00	213.48	-0.07
deg+1.0 Ice 1.2 Dead+1.0 Wind 330	30278.20	-1966.49	-3434.46	-215.17	123.25	-0.04
deg+1.0 Ice Dead+Wind 0 deg - Service	16807,25	0.00	-3655.49	-236.78	0.00	0.00

Semaan Engineering Solutions, LLC 1047 S. 205th St.

1047 S. 205th St. Elkhorn, NE, 68022 Phone: (402)-289-1888 FAX: (402)-289-1861

Job	· · · · · · · · · · · · · · · · · · ·	Page
	23393_Trumbull	18 of 24
Project	REV01B	Date 09:38:22 12/13/22
Client	KGI	Designed by TrevorK

Load Combination	Vertical	Shear _s	$Shear_z$	Overturning Moment, M _x	Overturning Moment, M _z	Torque
	lb	<i>lb</i>	<i>lb</i>	kip-ft	kip-ft	kip-ft
Dead+Wind 30 deg - Service	16807.25	1805.16	-3165.75	-205.04	-116.70	0.04
Dead+Wind 60 deg - Service	16807.25	3126.63	-1827.75	-118,33	-202,14	0.08
Dead+Wind 90 deg - Service	16807.25	3610,32	0.00	0.12	-233.41	0.09
Dead+Wind 120 deg - Service	16807.25	3126.63	1827.75	118,57	-202,14	0.08
Dead+Wind 150 deg - Service	16807.25	1805.16	3165.75	205.28	-116.70	0.04
Dead+Wind 180 deg - Service	16807.25	0.00	3655.49	237.02	0.00	0.00
Dead+Wind 210 deg - Service	16807.25	-1805.16	3165.75	205.28	116.70	-0.04
Dead+Wind 240 deg - Service	16807.25	-3126.63	1827.75	118.57	202.14	-0.08
Dead+Wind 270 deg - Service	16807.25	-3610.32	0.00	0.12	233.41	-0.09
Dead+Wind 300 deg - Service	16807.25	-3126.63	-1827.75	-118.33	202.14	-0.08
Dead+Wind 330 deg - Service	16807.25	-1805.16	-3165,75	-205,04	116.70	-0.04
1.2 Dead+1.0 Ev+1.0 Eh 0 deg	20473.46	0.00	-643.78	-43.08	0.00	0.00
0.9 Dead-1.0 Ev+1.0 Eh 0 deg	14821,76	0,00	-643.78	-42,89	0,00	0.00
1.2 Dead+1.0 Ev+1.0 Eh 30 deg	20473.46	321.89	-557.53	-37.29	-21.61	0.00
0.9 Dead-1.0 Ev+1.0 Eh 30 deg	14821.76	321.89	-557,53	-37,13	-21.50	0.00
1.2 Dead+1.0 Ev+1.0 Eh 60 deg	20473.46	557.53	-321.89	-21.47	-37.43	0.00
0.9 Dead-1.0 Ev+1.0 Eh 60 deg	14821.76	557.53	-321.89	-21,39	-37,24	0.00
1.2 Dead+1.0 Ev+1.0 Eh 90 deg	20473.46	643.78	0.00	0.14	-43.23	0.00
0.9 Dead-1.0 Ev+1.0 Eh 90 deg	14821.76	643.78	0.00	0.11	-43,00	0.00
1.2 Dead+1.0 Ev+1.0 Eh 120	20473.46	557,53	321.89	21.75	-37.43	0.00
deg						
0,9 Dead-1,0 Ev+1,0 Eh 120	14821.76	557.53	321,89	21,60	-37,24	0,00
deg						
1.2 Dead+1.0 Ev+1.0 Eh 150	20473.46	321.89	557,53	37.58	-21.61	0.00
deg						
0.9 Dead-1.0 Ev+1.0 Eh 150	14821.76	321.89	557.53	37.34	-21,50	0.00
deg						
1.2 Dead+1.0 Ev+1.0 Eh 180	20473.46	0,00	643.78	43,37	0.00	0.00
deg						
0.9 Dead-1.0 Ev+1.0 Eh 180	14821.76	0,00	643,78	43,10	0.00	0.00
deg						
1,2 Dead+1.0 Ev+1.0 Eh 210	20473.46	-321.89	557.53	37.58	21.61	-0.00
deg						
0.9 Dead-1.0 Ev+1.0 Eh 210	14821.76	-321.89	557.53	37.34	21.50	-0.00
deg						
1.2 Dead+1.0 Ev+1.0 Eh 240	20473.46	-557.53	321.89	21.75	37.43	-0.00
deg						
0.9 Dead-1.0 Ev+1.0 Eh 240	14821,76	-557.53	321.89	21.60	37.24	-0.00
deg						
1.2 Dead+1.0 Ev+1.0 Eh 270	20473.46	-643.78	0.00	0.14	43.23	-0.00
deg						
0.9 Dead-1.0 Ev+1.0 Eh 270	14821.76	-643.78	0.00	0.11	43.00	-0.00
deg						
1.2 Dead+1.0 Ev+1.0 Eh 300	20473.46	-557.53	-321.89	-21.47	37.43	-0.00
deg						
0.9 Dead-1.0 Ev+1.0 Eh 300	14821.76	-557.53	-321.89	-21.39	37.24	-0.00
deg						
1.2 Dead+1.0 Ev+1.0 Eh 330	20473.46	-321.89	-557.53	-37.29	21.61	-0.00
deg						
0.9 Dead-1.0 Ev+1.0 Eh 330	14821.76	-321.89	-557.53	-37.13	21.50	-0.00
deg						

Solut	ion	Sur	nm	ary

B-01-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1							
Sum of Applied Forces			Sum of Reactions				
Load	PX	PY	PZ	PX	PY	PZ	% Error
Comb.	lb	lЬ	lb	lЬ	<i>1b</i>	lb	
1	0.00	-16807,25	0.00	0.00	16807.25	0.00	0.000%

Semaan Engineering Solutions, LLC 1047 S. 205th St. Elkhorn, NE, 68022 Phone: (402)-289-1888 FAX: (402)-289-1861

Job	-	Page
	23393_Trumbull	19 of 24
Project	REV01B	Date 09:38:22 12/13/22
Client	KGI	Designed by TrevorK

	Sur	n of Applied Force	·		Sum of Reaction	.s	
Load	PX	PY	PZ	PX	PY	." PZ	% Error
Comb.	lb	lb	lb	lb	lb	îb	70 E1101
2	0,00	-20168,70	-16342.20	0.00	20168.70	16342.21	0.000%
3	0.00	-15126.52	-16342,20	0.00	15126.52	16342.20	0.000%
4	8070,13	-20168.70	-14152.76	-8070.13	20168.70	14152.76	0.000%
5	8070,13	-15126.52	-14152.76	-8070.13	15126.52	14152.76	0.000%
6	13977.87	-20168,70	-8171,10	-13977.87	20168.70	8171,10	0.000%
7	13977,87	-15126.52	-8171,10	-13977.87	15126.52	8171.10	0.000%
8	16140.25	-20168.70	0.00	-16140,25	20168.70	-0.00	0.000%
9	16140,25	-15126,52	0.00	-16140.25	15126,52	-0.00	0.000%
10	13977.87	-20168.70	8171.10	-13977.87	20168.70	-8171.10	0.000%
11	13977.87	-15126,52	8171.10	-13977.87	15126.52	-8171.10	0.000%
12	8070,13	-20168,70	14152.76	-8070.13	20168.70	-14152.76	0.000%
13	8070.13	-15126,52	14152.76	-8070.13	15126,52	-14152.76	0.000%
14	0.00	-20168.70	16342,20	0.00	20168.70	-16342.21	0.000%
15	0.00	-15126,52	16342,20	0.00	15126,52	-16342,20	0.000%
16	-8070,13	-20168.70	14152.76	8070.13	20168.70	-14152.76	0.000%
17	-8070.13	-15126.52	14152.76	8070,13	15126,52	-14152,76	0.000%
18	-13977.87	-20168.70	8171.10	13977.87	20168.70	-8171.10	0.000%
19	-13977.87	-15126.52	8171.10	13977.87	15126,52	-8171,10	0.000%
20	-16140,25	-20168.70	0.00	16140.25	20168.70	-0.00	0.000%
21	-16140.25	-15126.52	0.00	16140.25	15126.52	-0.00	0.000%
22 23	-13977.87 -13977.87	-20168.70	-8171.10	13977.87	20168.70	8171.10	0.000%
23 24	-8070.13	-15126.52 -20168.70	-8171.10	13977.87	15126,52	8171.10	0.000%
25	-8070.13 -8070.13	-20168.70 -15126.52	-14152.76 -14152.76	8070.13	20168,70	14152.76	0.000%
26	0,00	-30278.20	0.00	8070.13 0.00	15126,52	14152.76	0.000%
27	0,00	-30278.20	-3965.78	0.00	30278,20 30278,20	0.00	0.000%
28	1966.49	-30278.20	-3434.46	-1966.49	30278.20	3965.78 3434.46	0.000%
29	3406,07	-30278.20	-1982.89	-3406.07	30278.20	1982.89	0.000%
30	3932.99	-30278,20	0.00	-3932.99	30278,20	-0,00	0.000% 0.000%
31	3406,07	-30278.20	1982.89	-3406.07	30278.20	-1982.89	0.000%
32	1966.49	-30278.20	3434.46	-1966,49	30278.20	-3434,46	0.000%
33	0.00	-30278,20	3965.78	0.00	30278.20	-3965.78	0.000%
34	-1966.49	-30278,20	3434.46	1966,49	30278,20	-3434,46	0.000%
35	-3406.07	-30278,20	1982.89	3406,07	30278,20	-1982.89	0.000%
36	-3932,99	-30278,20	0.00	3932.99	30278.20	-0.00	0.000%
37	-3406.07	-30278.20	-1982,89	3406,07	30278.20	1982.89	0.000%
38	-1966.49	-30278.20	-3434.46	1966.49	30278.20	3434,46	0.000%
39	0.00	-16807.25	-3655,49	0.00	16807.25	3655.49	0.000%
40	1805.16	-16807.25	-3165.75	-1805.16	16807.25	3165,75	0.000%
41	3126.63	-16807,25	-1827.75	-3126.63	16807.25	1827.75	0.000%
42	3610.32	-16807.25	0.00	-3610.32	16807.25	-0.00	0.000%
43	3126,63	-16807,25	1827.75	-3126.63	16807.25	-1827.75	0.000%
44	1805.16	-16807.25	3165.75	-1805.16	16807.25	-3165.75	0.000%
45	0.00	-16807.25	3655.49	0.00	16807.25	-3655,49	0.000%
46	-1805.16	-16807.25	3165.75	1805.16	16807.25	-3165.75	0.000%
47	-3126.63	-16807.25	1827.75	3126.63	16807.25	-1827.75	0.000%
48	-3610.32	-16807.25	0.00	3610,32	16807,25	-0.00	0.000%
49	-3126.63	-16807.25	-1827.75	3126.63	16807.25	1827.75	0.000%
50	-1805,16	-16807.25	-3165.75	1805.16	16807.25	3165.75	0.000%
51 52	0.00 0.00	-20473.46	-643.78	0.00	20473.46	643.78	0.000%
53	321.89	-14821.76 -20473.46	-643.78	0.00	14821.76	643.78	0.000%
54	321.89	-20473.46 -14821.76	-557.53 -557.53	-321.89	20473.46	557.53	0.000%
55	557.53	-20473.46	-321.89	-321.89 -557.53	14821.76	557.53	0.000%
56	557.53	-14821.76	-321.89	-557.53 -557.53	204 7 3.46 14821.76	321.89	0.000%
57	643.78	-20473.46	0.00	-643.78	20473.46	321.89 -0.00	0.000%
58	643.78	-14821.76	0.00	-643.78	14821.76	-0.00 -0.00	0.000%
59	557.53	-20473.46	321,89	-557.53	20473.46	-321.89	0.000% 0.000%
60	557.53	-14821.76	321.89	-557,53	14821.76	-321.89	0.000%
61	321.89	-20473,46	557.53	-321.89	20473.46	-557.53	0.000%
62	321.89	-14821.76	557.53	-321.89	14821.76	-557.53	0.000%
				2-1177	041170	JJ 1,JJ	9,000/0

Semaan Engineering Solutions, LLC

LLC 1047 S. 205th St. Elkhorn, NE, 68022 Phone: (402)-289-1888 FAX: (402)-289-1861

Job		Page
	23393_Trumbull	20 of 24
Project	REV01B	Date 09:38:22 12/13/22
Client	KGI	Designed by TrevorK

	Su	m of Applied Forces			Sum of Reactions	5	
Load	PX	PY	PZ	PX	PY	PZ	% Error
Comb.	lb	lb	<i>lb</i>	lb .	1b	1b	
63	0.00	-20473.46	643,78	0.00	20473,46	-643.78	0.000%
64	0.00	-14821.76	643.78	0.00	14821.76	-643,78	0.000%
65	-321.89	-20473.46	557,53	321,89	20473,46	-557,53	0.000%
66	-321.89	-14821.76	557.53	321.89	14821.76	-557.53	0.000%
67	-557.53	-20473.46	321.89	557,53	20473,46	-321,89	0.000%
68	-557.53	-14821.76	321.89	557.53	14821.76	-321.89	0.000%
69	-643.78	-20473.46	0,00	643.78	20473,46	-0.00	0.000%
70	-643.78	-14821.76	0.00	643,78	14821.76	-0.00	0.000%
71	-557.53	-20473,46	-321.89	557.53	20473.46	321.89	0.000%
72	-557,53	-14821.76	-321.89	557,53	14821,76	321.89	0.000%
73	-321.89	-20473.46	-557,53	321.89	20473.46	557.53	0.000%
74	-321.89	-14821.76	-557.53	321,89	14821.76	557.53	0.000%

Non-Linear Convergence Results

Load	Converged?	Number	Displacement	Force
Combination		of Cycles	Tolerance	Tolerance
1	Yes	4	0.00000001	0.0000001
2	Yes	4	100000001	0.00000833
3	Yes	4	0.00000001	0.00000001
4	Yes	4	0.00000001	0.00048853
5	Yes	4	0.00000001	0.00030024
6	Yes	4	0.00000001	0.00046494
7	Yes	4	0.00000001	0.00028562
8	Yes	4	0.00000001	0.00003298
9	Yes	4	0.00000001	0.00002069
10	Yes	4	0.00000001	0.00049273
11	Yes	4	0.00000001	0.00030321
12	Yes	4	0.00000001	0.00047243
13	Yes	4	0.00000001	0.00028991
14	Yes	4	0.00000001	0.00000833
15	Yes	4	0.00000001	0.00000001
16	Yes	4	0.00000001	0.00047243
17	Yes	4	0.00000001	0.00028991
18	Yes	4	0.0000001	0.00049273
19	Yes	4	0.00000001	0.00030321
20	Yes	4	0.00000001	0.00003298
21	Yes	4	0.00000001	0.00002069
22	Yes	4	0.00000001	0.00046494
23	Yes	4	0.00000001	0.00028562
24	Yes	4	0.00000001	0.00048853
25	Yes	4	0.00000001	0.00030024
26	Yes	4	0.00000001	0.00000001
27	Yes	4	0.00000001	0.00000737
28	Yes	4	0.00000001	0.00002163
29	Yes	4	0.00000001	0.00001967
30	Yes	4	0.00000001	0.00000834
31	Yes	4	0.00000001	0.00002252
32	Yes	4	0.00000001	0.00002044
33	Yes	4	0.00000001	0.00000743
34	Yes	4	0.00000001	0.00002044
35	Yes	4	0.00000001	0.00002252
36	Yes	4	0.00000001	0.00000834
37	Yes	4	0.00000001	0.00001967
38	Yes	4	0.00000001	0.00002163
39	Yes	4	0.0000001	0.00000001

45	Job	Page
tnxTower	23393_Trur	mbull 21 of 24
Semaan Engineering Solutions, LLC 1047 S. 205th St.	Project REV01	B Date 09:38:22 12/13/22
1047 S. 205th St. Elkhorn, NE, 68022 Phone: (402)-289-1888 FAX: (402)-289-1861	Client KGI	Designed by TrevorK

40	Yes	4	0,0000001	0.00000001
41	Yes	4	0.0000001	0.00000001
42	Yes	4	0,0000001	0.00000001
43	Yes	4	0.0000001	0.00000001
44	Yes	4	0,00000001	0.00000001
45	Yes	4	0.00000001	0.00000001
46	Yes	4	0.0000001	0.00000001
47	Yes	4	0,0000001	0.00000001
48	Yes	4	0,0000001	0.0000001
49	Yes	4	10000000.0	0.00000001
50	Yes	4	0.0000001	0.00000001
51	Yes	4	0,00000001	0.00000001
52	Yes	4	0.0000001	0.00000001
53	Yes	4	0,0000001	0.00000001
54	Yes	4	0.00000001	0.00000001
55	Yes	4	0.0000001	0.00000001
56	Yes	4	10000000,0	0.00000001
57	Yes	4	0.0000001	0.00000001
58	Yes	4	0.0000001	0.00000001
59	Yes	4	0.0000001	0.00000001
60	Yes	4	0,00000001	0,00000001
61	Yes	4	0.0000001	0.0000001
62	Yes	4	0.00000001	0.00000001
63	Yes	4	0.0000001	0.00000001
64	Yes	4	0.0000001	100000001
65	Yes	4	0,00000001	0.00000001
66	Yes	4	0.0000001	0.00000001
67	Yes	4	0,0000001	0.00000001
68	Yes	4	0.0000001	0.00000001
69	Yes	4	0.0000001	0.00000001
70	Yes	4	0.0000001	0.00000001
71	Yes	4	0.00000001	0.00000001
72	Yes	4	0.0000001	0.00000001
73	Yes	4	0,00000001	0.00000001
74	Yes	4	0.00000001	0.00000001

Maximum Tower Deflections - Service Wind

Section No.	Elevation	Horz. Deflection	Gov. Load	Tilt	Twist
NO.	ft	in	Comb.	٥	۰
L1	82 - 39.375	5,531	45	0.549	100,0
L2	43.625 - 1	1.667	45	0,353	0.000

Critical Deflections and Radius of Curvature - Service Wind

Elevation	Appurtenance	Gov. Load	Deflection	Tilt	Twist	Radius of Curvature
ft		Comb.	in	•	0	fi
80.69	CCISeismic Tower Section 1 - 1	45	5.380	0.544	0.001	40378
80.00	14' Modified Platform w/ Rail w/o	45	5.300	0.541	0.001	40378
	Mount Pipes					
78.00	PLK5 Kicker	45	5.070	0.532	0.001	40378
76.00	PLK7 Collar Mount	45	4.841	0.523	0.001	33648
74.38	CCISeismic Tower Section 1 - 2	45	4,656	0.516	0.001	26477
67.00	CCISeismic (12) general cable 1	45	3.835	0.482	0.001	13459

Semaan Engineering Solutions, LLC

1047 S. 205th St. Elkhorn, NE, 68022 Phone: (402)-289-1888 FAX: (402)-289-1861

Job		Page
	23393_Trumbull	22 of 24
Project	REV01B	Date 09:38:22 12/13/22
Client	KGI	Designed by TrevorK

Elevation	Appurtenance	Gov. Load	Deflection	Tilt	Twist	Radius of Curvature
ft		Comb.	in	Ó	٥	ft
	5/8" Coax From 0 to 79 (61ft to71ft)					
64,38	CCISeismic Tower Section 1 - 3	45	3.553	0.470	0.001	11454
61.00	Commscope MC-PK8-DSH Snub	45	3,202	0.453	0.000	9614
	Nose Platform w/Rail w/o Mount					
	Pipe (SES)					
57.00	CCISeismic (12) general cable 1	45	2.804	0,433	0.000	8075
	5/8" Coax From 0 to 79 (51ft to 61ft)					
56.50	CCISeismic Hybrid From 0 to 60	45	2,755	0.430	0.000	79 17
	(51ft to60ft)					
54.38	CCISeismic Tower Section 1 - 4	45	2,555	0.418	0.000	7308
47.00	CCISeismic (12) general cable 1	45	1.921	0.375	0.000	5777
	5/8" Coax From 0 to 79 (41ft to51ft)					
44.38	CCISeismic Tower Section 1 - 5	45	1.721	0,358	0.000	5508
42.31	CCISeismic Tower Section 2 - 1	45	1,575	0.345	0.000	5522
37.00	CCISeismic (12) general cable 1	45	1.240	0.307	0.000	6228
	5/8" Coax From 0 to 79 (31ft to41ft)					
36.00	CCISeismic Tower Section 2 - 2	45	1,184	0.300	0.000	6406
27.00	CCISeismic (12) general cable 1	45	0.752	0.229	0.000	8624
	5/8" Coax From 0 to 79 (21ft to31ft)					
26.00	CCISeismic Tower Section 2 - 3	45	0.712	0.221	0.000	8969
17.00	CCISeismic (12) general cable 1	45	0.403	0.144	0.000	14014
	5/8" Coax From 0 to 79 (11ft to21ft)					
16.00	CCISeismic Tower Section 2 - 4	45	0.374	0.135	0.000	14948
7.00	CCISeismic (12) general cable 1	45	0.139	0.055	0.000	37370
	5/8" Coax From 0 to 79 (1ft to 11ft)					
6.00	CCISeismic Tower Section 2 - 5	45	0.116	0.046	0.000	44844
1.50	CCISeismic (12) general cable 1	45	0.011	0.005	0.000	44844
	5/8" Coax From 0 to 79 (0ft to1ft)					

Maximum Tower Deflections - Design Wind

Section	Elevation	Horz.	Gov.	Ti/t	Twist
No.		Deflection	Load		
	ft	in	Comb,	٥	٥
L1	82 - 39.375	24.792	14	2,463	0.003
L2	43.625 - 1	7.472	14	1.585	0.001

Critical Deflections and Radius of Curvature - Design Wind

Elevation	Appurtenance	Gov. Load	Deflection	Tilt	Twist	Radius of Curvature
ft		Comb.	in	٠	0	ft
80.69	CCISeismic Tower Section 1 - 1	14	24.114	2.437	0.003	9033
80.00	14' Modified Platform w/ Rail w/o Mount Pipes	14	23.759	2.424	0.003	9033
78,00	PLK5 Kicker	14	22.728	2.385	0.003	9033
76.00	PLK7 Collar Mount	14	21.701	2.345	0,003	7528
74.38	CCISeismic Tower Section 1 - 2	14	20,872	2.313	0.003	5923
67.00	CCISeismic (12) general cable 1 5/8" Coax From 0 to 79 (61ft to 71ft)	14	17.191	2.163	0.002	3010
64.38	CCISeismic Tower Section 1 - 3	14	15.928	2.107	0.002	2562
61.00	Commscope MC-PK8-DSH Snub	14	14.352	2,032	0.002	2150

Semaan Engineering Solutions, LLC 1047 S. 205th St.

1047 S. 205th St. Elkhorn, NE, 68022 Phone: (402)-289-1888 FAX: (402)-289-1861

Job		Page
	23393_Trumbull	23 of 24
Project	REV01B	Date 09:38:22 12/13/22
Client	KGI	Designed by TrevorK

Elevation	Appurtenance	Gov. Load	Deflection	Tilt	Twist	Radius of Curvature
ft		Comb.	in	•	٥	ft
	Nose Platform w/Rail w/o Mount Pipe (SES)					
57.00	CCISeismic (12) general cable 1 5/8" Coax From 0 to 79 (51ft to61ft)	14	12.568	1.939	0.002	1805
56.50	CCISeismic Hybrid From 0 to 60 (51ft to60ft)	14	12,352	1.927	0.002	1770
54.38	CCISeismic Tower Section 1 - 4	14	11.454	1.876	0.002	1633
47,00	CCISeismic (12) general cable 1 5/8" Coax From 0 to 79 (41ft to51ft)	14	8,611	1.682	0.001	1291
44.38	CCISeismic Tower Section 1 - 5	14	7.715	1.607	0.001	1230
42.31	CCISeismic Tower Section 2 - 1	14	7.060	1.545	0,001	1233
37.00	CCISeismic (12) general cable 1 5/8" Coax From 0 to 79 (31ft to41ft)	14	5.561	1.377	0.001	1391
36.00	CCISeismic Tower Section 2 - 2	14	5,307	1.344	0.001	1430
27.00	CCISeismic (12) general cable 1 5/8" Coax From 0 to 79 (21ft to31ft)	14	3.372	1.028	0.001	1925
26.00	CCISeismic Tower Section 2 - 3	14	3.191	0.991	0,001	2002
17.00	CCISeismic (12) general cable 1 5/8" Coax From 0 to 79 (11ft to21ft)	14	1.807	0.646	0.000	3128
16.00	CCISeismic Tower Section 2 - 4	14	1,675	0.607	0.000	3336
7.00	CCISeismic (12) general cable 1 5/8" Coax From 0 to 79 (1ft to 11ft)	14	0.625	0.245	0.000	8340
6,00	CCISelsmic Tower Section 2 - 5	14	0,518	0.204	0.000	10008
1.50	CCISeismic (12) general cable 1 5/8" Coax From 0 to 79 (0ft to1ft)	14	0.051	0.020	0,000	10008

Compression Checks

			Po	le Des	sign [Data			
Section No.	Elevation	Size	L	L_{ν}	Kl/r	Å	P_{μ}	ϕP_n	Ratio P
	ft		ft	ft		ln^2	lb	lb	$\frac{1}{\Phi P_{\pi}}$
Ll	82 - 39.375 (1)	TP29.99x20.72x0.31	42.63	0.00	0.0	28.52	-11435,70	1668550.00	0.007
L2	39.375 - 1 (2)	TP37.5x28.44x0.38	42.63	0.00	0.0	44.19	-20157.30	2585000.00	0.008

Pole Bending Design Data

Section	Elevation	Size	M_{yx}	ϕM_{nx}	Ratio	M_{vy}	ϕM_{nv}	Ratio
No.					$M_{\mu \nu}$			$\underline{M_{yy}}$
	ft		kip-ft	kip-ft	ϕM_{nx}	kip-ft	kip-ft	ϕM_{ny}
L1	82 - 39.375 (1)	TP29.99x20.72x0.31	413.20	1249.31	0.331	0.00	1249.31	0.000
L2	39,375 - 1 (2)	TP37.5x28.44x0.38	1062.27	2475.98	0.429	0.00	2475.98	0.000

Pole Shear Design Data

Job Page *tnxTower* 24 of 24 23393_Trumbull Project Date Semaan Engineering Solutions, REV01B 09:38:22 12/13/22 LLC1047 S. 205th St. Elkhorn, NE, 68022 Client Designed by Phone: (402)-289-1888 FAX: (402)-289-1861 KGI

TrevorK

Section	Elevation	Size	Actual	ϕV_n	Ratio	Actual	ϕT_n	Ratio
No.			V_{μ}		V_{μ}	T_{u}	,	T_{μ}
	,ft		16	lb	ϕV_n	kip-ft	kip-ft	ϕT_n
L1	82 - 39.375 (1)	TP29,99x20,72x0,31	14015.00	500566,00	0,028	0,00	1260.58	0.000
L2	39.375 - 1 (2)	TP37,5x28,44x0,38	16356,30	775500,00	0.021	0.00	2521,32	0.000

			F	Pole Int	teraction	n Des	ign Da	ta	
Section No.	Elevation	Ratio P _u	Ratio M _{ux}	Ratio Muy	Ratio V _u	Ratio T _u	Comb. Stress	Allow. Stress	Criteria
	ft	ϕP_{n}	ϕM_{nx}	$-\frac{\Phi M_{nv}}{\Phi M_{nv}}$	ϕV_n	ϕT_n	Ratio	Ratio	
L1	82 - 39,375 (1)	0.007	0.331	0,000	0.028	0.000	0.338	1,000	4.8.2
L2	39.375 - 1 (2)	800,0	0,429	0.000	0.021	0.000	0.437	1.000	4.8.2

Section Capacity Table								
Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	øP _{ailow} lb	% Capacity	Pass Fail
L1	82 - 39.375	Pole	TP29.99x20.72x0,31	1	-11435.70	1668550.00	33,8	Pass
L2	39.375 - 1	Pole	TP37.5x28.44x0.38	2	-20157.30	2585000.00	43.7	Pass
							Summary	
						Pole (L2)	43.7	Pass
						RATING =	43.7	Pass



BU:	23393
WO:	Trumbull
Order:	REV01B

Structure:	and the sales
Rev:	H

Analysis Date: 12/13/2022

Decimal Degrees Lat: 41.245600	Deg .41	Min	Sec
Long: -73.145600 Code and Site Pai	rameters	8	44.16
Seismic Design Code: Site Soll: Risk Category:	_	Rock	
	0.1200 0.1700 6 ¥ *	g g s	
Seismic Design Category	Determination		
		1	
Importance Factor, I _g :	1		
Acceleration-based site coefficient, F _a : Velocity-based site coefficient, F _v :	0.9000		
velocity-based site coefficient, Fy:	0.8000		
Design spectral response acceleration short period, S _{DS} :	0.0907	g	
Design spectral response acceleration 1 s period, S _{D1} :	0.0907	g	
$T_{s};\Gamma$	1.0000		
_			
Seismic Design Category Based on S _{DS} :	Α		
Seismic Design Category Based on S _{D1} :	В		
Seismic Design Category Based on S ₁ :	N/A		
Controlling Seismic Design Category:		I	



BU:	23393
WO:	Trumbull
Order:	REV01B

Structure:		7
Rev:	<u> н</u>	_

Analysis Date: 12/13/2022

Tower Details						
Tower Type: Height, h: Effective Seismic Weight, W: Amplification Factor, A _s :	Tapered Monopole 81 16.81	ft kips	2.7.8.1			
Seismic Base Shear						
Response Modification Factor, R:	1.5]				
Discrete Appurtenance Weight in Top 1/3 of Structure, W _u :	5.9216273	kips				
W _L :	10.88524846	kips				
E:	29000.0	ksi				
g:	386,088	in/s ²				
Average Moment of Inertia, I _{avg} :	3680.21637]in⁴				
F _a :	0.633712656	hz				
Approximate Fundamental Period Monopole, Ta:	1.5780	ş	2.7.7.1.3.3			
Seismic Response Coefficient, C _s	0.0604]	2.7.7.1.1			
Seismic Response Coefficient Max 1, C _{smax}	0.0383		2.7.7.1.1			
Seismic Response Coefficient Max 2, C _{smax}	N/A]	2.7.7.1.1			
Seismic Response Coefficient Min 1, C _{smin}	0.0300	1	2.7.7.1.1			
Seismic Response Coefficient Min 2, C _{smin}	N/A	1	2.7.7.1.1			
Controlling Seismic Response Coefficient, $C_{ m sc}$	0.0383					
Seismíc Base Shear, V		kips	2.7.7.1.1			
Vertical Distribution Factors						
Period Related Exponent, k: Sum of w _i h _i k	1.539 7478.46]				

			7:	war Shat ain Elb	1			
Section Number	Length	Top Height	Mid Height, h,	Section Weight, w _s	w,h,1	C _. ,	F,.	F _{cc}
								e de la communicación
1 - 2	10.00	78.38	73.38	0.7447	553.46	0.0740	0.0476	0.0135
*************************************	THE PERSON NAMED IN	製造機能を	美人のお客があ		30 P. Marie	美黎斯科科	ALC: UNITED BY	阿拉拉拉
1-4	10.00	58,38	53.38	0.8916	406.01	0.0543	0,0350	0.0162
734 75 F	10 M SE	神经性等		新なままま		非拉斯力器		EL POT PAR
2-1	2.63	42.63	41,31	0.3014	92.52	0.0124	0.0080	0.0055
25324	STATE OF SE	44 MOO	15.00212	*********	A STATE OF THE STA	建位级	COURSE.	3600218/S
2 - 3	10.00	30.00	25.00	1.2884	182.60	0.0244	0.0157	0.0234
ATTE TANK	319830.00 MA	SERVICE SERVICE	\$2 1 CO 1 12	ALC: NO.		特别地域群	AND DEFE	是此句的主义
2 - 5	10,00	10.00	5.00	1,4605	17.39	0.0023	0.0015	0.0265
		•	Šum					

	Tax one to obtain					
Name	h,	w,	w.h."	c.,	F.,-	F.,
and the state of t	in the same and part and	Diam're in a second	and the second	A CONTRACTOR OF THE	Action to the second	ilia de de
erizon PLK5 Kicker	77.00	0.0970	77.64	0.0104	0.0067	0.0018
				Name of Street		1
I) amphenol BXA-70080/8CF w/8' Mount Pipe	79.00	0.2773	230,87	0.0309	0.0199	0.0050
				MAR CALL	SHOW SHIP	10 mm
i) amphenol BXA-70080/8CF w/8' Mount Pipe	79,00	0.2773	230.87	0.0309	0.0199	0.0050
	E \$620.00 (8)	*******	Service Control	\$000 P	WOOD W	THE PARTY NAMED IN
emaan OVP Box	79.00	0,0200	16.65	0.0022	0.0014	0,0004
				SEALES SE		
2) semaan RRH 3JR52709AA 2X60 (AWS 60W)	79.00	0.1100	91.59	0.0122	0,0079	0.0020
THE BASE LINES FOR SEALER AND THE PROPERTY OF	M WANTED SE	ALE LUCKE	Commence of the state of the st	新加拉州	ALCOYS I	1 2 0 0 0 0 O
2) semaan RRH 3JR52709AA 2X60 (AWS 60W)	79,00	0.1100	91.59	0.0122	0.0079	0.0020
STATE OF THE PARTY OF THE SAME	2000年 2000年	\$400 0525 MA	** TANKS T. J. ACT 19 8 8 9 1	44 TO 15 20	to the second se	# 0 DOS
emaan RRH 4X30-4T4R-B13	79.00	0.0326	27.14	0.0036	0,0023	0.0006
emaan RRH 4x30-4T4R-B25	79,00	0.0510	42.46	0.0057	0,0037	0.0009
All and the second of the seco	TO 1788 00/272	St. Deliver			$c_{J} : U_{c_{J}}$	2,500,00
emaan RRH 4x30-4T4R-B25	79.00	0.0510	42.46	0,0057	0.0037	0.0009
				Established San		
4) semaan TMA 10"x7"x2"	79.00	0.0400	33,31	0.0045	0,0029	0.0007
<u> </u>					and the same of the same	
1) semaan RRUS A2 Modules	79.00	0,0846	70.47	0,0094	0.0061	0.0015
					1	
1) semaan RRUS A2 Modules	79,00	0.0846	70.47	0.0094	0,0061	0.0015
and the second s					2	
na MX08FRO665-21 w/8' Mount Pipe	60.00	0.1108	60.42	0,0081	0.0052	0.0020
and the same of the same of the same of the same of the same of the same of the same of the same of the same of	Sandi and Sandi Person	-				
na MX08FRO665-21 w/8¹ Mount Pipe	60,00	0.1108	60.42	0.0081	0,0052	0,0020
and the second of the second o		Managhara and Affrica and assess	lati a man se sinon da man			diameter
ıjitsu TA08025-B604	60,00	0.0640	34.89	0.0047	0.0030	0,0012
	77002			#ROTE		
ıjitsu TA08025-B605	60,00	0.0750	40.89	0.0055	0.0035	0.0014
			No. of Section	THE COLUMN		
ıjltsu TA08025-8605	60.00	0.0750	40.89	0.0055	0.0035	0,0014
					Service and Service Services	
2) tower mounts 8'x2" Pipe	60,00	0.0584	31.86	0.0043	0.0027	0.0011
				经验证 多数	The Property of	- MACON
2) tower mounts 8'x2" Pipe	60.00	0.0584	31.86	0,0043	0.0027	0.0011

		ind in Edward.		•				
Name	Start Height	End Height	h,	₩.	w.h.	c.,	F _a ,	F.,
(12) general cable 1.5/8" Coax From 0 to 79	61.00	71.00	66.00	0.1248	78,79	0.0105	0.0068	0.0023
	1882 00 188	金数の大学	**************************************			SECOND SECOND	MEDICAL PROPERTY.	100.002578
(12) general cable 1 5/8" Coax From 0 to 79	41.00	51.00	46.00	0.1248	45,21	0.0060	0.0039	0,0023
CONTRACTOR OF THE PROPERTY OF	学的主体	THE RESERVE	图图 图 图		美国的	STREET, STREET	THE RESERVE	APPOOLS:
(12) general cable 1 5/8" Coax From 0 to 79	21.00	31.00	26,00	0.1248	18.79	0.0025	0.0016	0.0023
(1) MANUTURE DE LONGERMENT EN EN EN EN EN EN EN EN EN EN EN EN EN	为特殊的	TATAL STATE OF	MALEO ST	No. of Concession, Name of	建筑的	MANUAL DESIGNATION OF THE PERSON OF THE PERS	Manual Art	1000073
(12) general cable 1 5/8" Coax From 0 to 79	1.00	11.00	6.00	0,1248	1.97	0.0003	0.0002	0.0023
(LIL BOOK A CHANGE OF THE PROPERTY OF THE PARTY OF THE PA	(A) 00.00	2000	金属の自然		AND USE AND		SE STOCK SE	48 0 DUG 48
(4) general cable 1 5/8" Hybrid Cable From 0 to 79	71.00	79.00	75.00	0.0570	43.78	0.0059	0.0038	0.0010
(figure care) (A products into page 20 and 2	发红的绿	100	SE SCAPE SE	**************************************	成次4400年	**********	Sauces Age	SERVICE LE
(4) general cable 1 5/8" Hybrid Cable From 0 to 79	51.00	61.00	56.00	0.0712	34.91	0.0047	0.0030	0.0013
A period activities (their cace stands in 19 Said Court Plans	MAINTE	有到100%	#6.00°#		2000年1月20日	200 EFF (8)	作品を記載	Market X
(4) general cable 1 5/8" Hybrid Cable From 0 to 79	31.00	41.00	36,00	0.0712	17,59	0.0024	0.0015	0.0013
Charles and Stephanism and Department of the				#51W/2 18	STATE OF THE STATE			
(4) general cable 1 5/8" Hybrid Cable From 0 to 79	11,00	21,00	16.00	0.0712	5,08	0.0007	0.0004	0,0013
		Name of Street			SKO HE LAND	多数 使强烈	新世市协会	HEATTER
(4) general cable 1 5/8" Hybrid Cable From 0 to 79	0.00	1.00	0.50	0,0071	0.00	0.0000	0.0000	0.0001
						AS INDUCATE		書きたけは東
Hybrid From 0 to 60	41,00	51.00	46.00	0.0178	6,45	0.0009	0.0006	0.0003
SAME CONTROL OF THE SAME OF TH	数约7000					NAME OF STREET		
Hybrid From 0 to 60	21.00	31,00	26.00	0.0178	2.68	0.0004	0.0002	0.0003
	(A) (A) (A) (A)							E CONTRACT
Hybrid From 0 to 60	1.00	11.00	6,00	0.0178	0.28	0.0000	0.0000	0.0003
THAT PORT TO A TOTAL CONTRACTOR OF THE PROPERTY OF THE PROPERT	ながなりは					THE REAL PROPERTY.	THE PERSON NAMED IN	THE OWNERS
			Sum					

Analysis Date: 12/13/2022

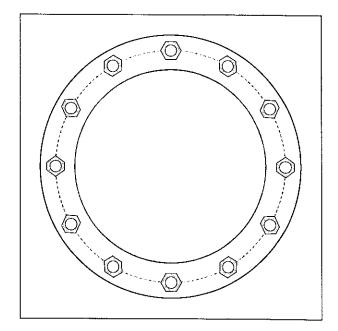
Monopole Base Plate Connection



Site Info	
BU a	# 23393
Site Name	e Trumbull
Order	# 2001 Text (150 A 2001 Let

Analysis Considerations	
TIA-222 Revision	
Grout Considered:	No No
l _{ar} (in)	0

Applied Loads	
Moment (kip-ft)	1062.26
Axial Force (kips)	20.16
Shear Force (kips)	16.36



Connection Properties	Analysis Results			
Anchor Rod Data	Anchor Rod Summary	(9	units of kips, kip-ln)	
(12) 2-1/4" ø bolts (A615-75 N; Fy=75 ksi, Fu=100 ksi) on 45" BC	Pu_t = 92,65	φPn_t = 243.75	Stress Rating	
	Vu = 1.36	φVn = 149,1	38.0%	
Base Plate Data	Mu = n/a	φMn = n/a	Pass	
51" OD x 2.5" Plate (A572-50; Fy=50 ksi, Fu=65 ksi)				
	Base Plate Summary			
Stiffener Data	Max Stress (ksi):	14.25	(Flexural)	
N/A	Allowable Stress (ksi):	45	(**************************************	
	Stress Rating:	31.7%	Pass	
Pole Data	-			
37.5" x 0.375" 18-sided pole (A572-65; Fy=65 ksi, Fu=80 ksi)				

CCIplate - Version 4.1.1 Analysis Date: 12/13/2022

Monopole Base Plate Connection - Seismic

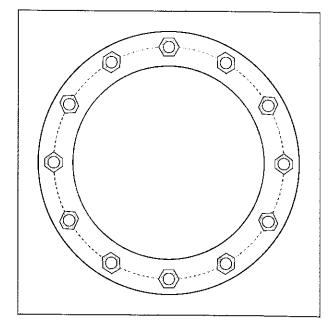


Site Info	
BU#	23393
Site Name	Trumbull
Order#	

Analysis Considerations	
TIA-222 Revision	Last the Arthritis
Grout Considered:	No
l _{ar} (in)	. 0

Applied Loads	
Moment (kip-ft)	43.37
Axial Force (kips)	20.47
Shear Force (kips)	0,64

^{*1.5} Overstrength Factor Applied



Connection Properties	Analysis Results			
Anchor Rod Data	Anchor Rod Summary	lu	nits of kips, kip-in)	
(12) 2-1/4" ø bolts (A615-75 N; Fy=75 ksi, Fu=100 ksi) on 45" BC	Pu_c = 7.48 Vu = 0.08	φPn_c ≈ 268,39 φVn = 120,77	Stress Rating	
Base Plate Data	Vu = 0,08 Mu ≈ n/a	φνι = 120,77 φΜn = n/a	2.8% Pass	
51" OD x 2.5" Plate (A572-50; Fy=50 ksi, Fu=65 ksi)	Base Plate Summary			
Stiffener Data	Max Stress (ksi):	0.83	(Flexural)	
N/A	Alfowable Stress (ksi):	45		
Pole Data	Stress Rating:	1.8%	Pass	

37.5" x 0.375" 18-sided pole (A572-65; Fy=65 ksi, Fu=80 ksi)

DATE	2115/2022
	-11/

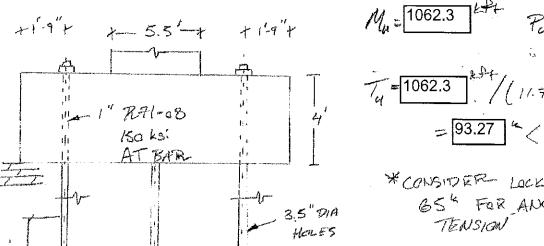


10	21=	1	

23393 REV01B PROJECT

CUSTOMER

BOND LEWST



Cu

$$M_{u} = 1062.3$$

$$F_{u} = 20.2$$

$$T_{u} = 1062.3$$

$$\frac{4.23}{12}$$

$$T_{4} = \frac{1062.3}{1062.3} \left(\frac{4.83}{10.75} - \frac{4.83}{10.75} \right)$$

$$= \frac{93.27}{10.75} \left(\frac{3}{5} \cdot 65 \right) = \frac{195}{100} \times \frac{1}{100}$$

* CONSIDER- LOCK-OFF LOAD OF 65 FOR ANCHORS AS MAY

FOUNDATION CAPACITY

$$A_{s} = (0.853^{\circ}) \cdot 3 = 2.559^{\circ}$$

$$\alpha = \frac{3.65^{\circ}}{40^{\circ} \cdot 6} = \frac{195^{\circ}}{40^{\circ} \cdot 6} = 4.33^{\circ}$$

$$\alpha = \frac{3.65^{\circ}}{40^{\circ} \cdot 6} = \frac{195^{\circ}}{40^{\circ} \cdot 6} = 4.33^{\circ}$$

$$E_{s} = \left(\frac{141'' - 5.094''}{5.094''}\right) \cdot 0.003 = 0.08$$

pMn=0.9. (3.65)(1411 = 4.38 / =) = 24365 kin > 0.0021 STEEL = 2030.46 1062.3

CONSIDER (S) ANCHOR-S

CONSIDER (3) ANCHORS

	Basi	Basic Design Wind Speeds, V (mph)	Vind Speed	ds, V	Allow	Allowable Stress Design Wind Speeds, V_{acd} (mph)	s Design V, V_{asd}	Wind	Ground	MCE Ground Accelerations	Fround	Wind-Borne Debris Region ¹	ae Debris on¹	Hurricane-
Municipanty	Risk Cat. I	Risk Cat. II	Risk Cat.	Risk Cat.	Risk Cat. I	Risk Cat. II	Risk Cat.	Risk Cat.	P_{g} (psf)	SS (g)	S_I	Risk Cat. III Occup. I-2	Risk Cat. IV	Frone Region
(I)	-1	31,	105	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\			1 8	<u> </u>						
Sherman	OTT	CIT	21	051	ç i	89), -	101	35	0.203	0.055			
Simsbury	110	170	125	130	85	93	97	101	35	0.177	0.054			Yes
Somers	110	120	130	135	85	93	101	105	35	0.174	0.055			Yes
South Windsor	110	120	130	135	85	93	101	105	30	0.183	0.055			Yes
Southbury	110	120	130	130	85	93	101	101	35	0.199	0.054			Yes
Southington	110	120	130	135	85	93	101	105	30	0.196	0.055			Yes
Sprague	115	125	135	140	68	26	105	108	30	0.191	0.054			Yes
Stafford	110	120	130	135	85	93	101	105	35	0.176	0.055			Yes
Stamford	110	120	130	135	85	93	101	105	30	0.261	0.058		Type B	Yes
Sterling	115	125	135	140	68	16	105	108	35	0.187	0.054			Yes
Stonington	120	130	140	145	93	101	108	112	30	0.182	0.051	Type B	Type A	Yes
Stratford	110	120	130	135	85	93	101	105	30	0.206	0.054		Type B	Yes
Suffield	110	120	125	130	85	93	97	101	35	0.170	0.054			Yes
Thomaston	110	120	125	130	85	93	26	101	35	0.184	0.054			Yes
Thompson	110	120	130	135	85	93	101	105	40	0.185	950.0			Yes
Tolland	110	120	130	135	85	93	101	105	35	0.182	0.055			Yes
Torrington	110	115	125	130	85	89	97	101	40	0.175	0.054			
Trumbull	110	120	130	135	85	93	101	105	30	0.210	0.054			Yes
Union	110	120	130	135	85	93	101	105	40	0.178	0.055			Yes
Vernon	110	120	130	135	85	93	101	105	30	0.186	0.055			Yes
Voluntown	. 120	130	135	140	93	, 101	105	108	30	0.188	0.053			Yes
Wallingford	110	120	130	135	85	93	101	105	30	0.205	0.055			Yes
Warren	110	115	125	130	85	68	97	101	40	0.179	0.054			
Washington	110	115	125	130	85	68	26	101	35	0.189	0.054			
Waterbury	110	120	130	135	85	93	101	105	35	0.193	0.054			Yes
Waterford	120	130	140	140	93	101	108	108	30	0.194	0.053	Type B	Type B	Yes
Watertown	110	120	130	130	85	93	101	101	35	0.189	0.054			Yes
West Hartford	110	120	130	135	85	93	101	105	30	0.187	0.055			Yes
West Haven	110	125	130	135	85	97	101	105	30	0.200	0.053	Type B	Type B	Yes
Westbrook	115	125	135	140	68	76	105	108	30	0.204	0.054	Type B	Type B	Yes
Weston	110	120	130	135	85	93	101	105	30	0.233	0.056			Yes
Westport	110	120	130	135	85	93	101	105	30	0.232	0.056		Type B	Yes



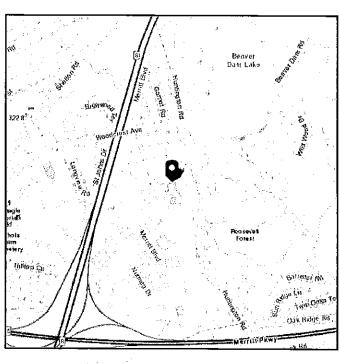
ASCE 7 Hazards Report

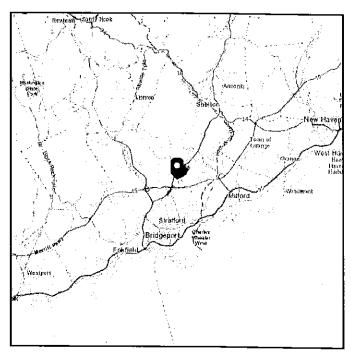
Address:

No Address at This Location

Standard: ASCE/SEI 7-22 Latitude: 41.2456
Risk Category: || Longitude: -73.1456

Soil Class: B - Rock Elevation: 168.03 ft (NAVD 88)





Wind

Results:

Wind Speed

120 Vmph - Per 2022 Connecticut Building Code



Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-22 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years). Values for 10-year MRI, 25-year MRI, 50-year MRI and 100-year MRI are Service Level wind speeds, all other wind speeds are Ultimate wind speeds.

Site is in a hurricane-prone region as defined in ASCE/SEI 7-22 Section 26.2. Glazed openings need not be protected against wind-borne debris.

0.03

Site Soil Class:

 S_{D1} :

Results:

PGA	м:		0.12
S _{MS}	:		0.17
S _{M1}	:	,	0.046
Sps	•		0.11

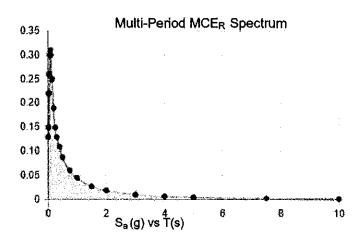
Ss: S₁: 0.047 1080 V_{s30}

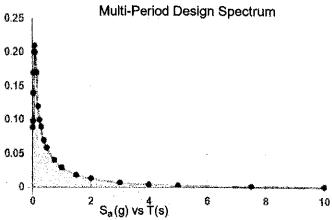
6

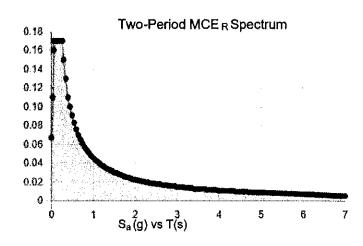
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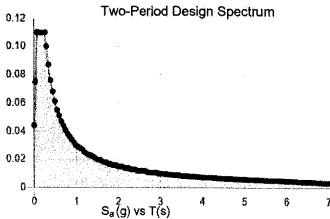
 T_L :

Seismic Design Category: A









MCER Vertical Response Spectrum Vertical ground motion data has not yet been made available by USGS.

Design Vertical Response Spectrum Vertical ground motion data has not yet been made available by USGS.



Data Accessed:

Thu Dec 08 2022

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-22 and ASCE/SEI 7-22 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-22 Ch. 21 are available from USGS.



Ice

Results:

Ice Thickness:

1.02 in.

Concurrent Temperature:

15 F

3-s Gust Speed

47 mph

Data Source:

Standard ASCE/SEI 7-22, Figs. 10-2 through 10-8

Date Accessed:

Thu Dec 08 2022

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain for 250, 500, 1,000, and 1,400-year mean recurrence intervals along with concurrent 3-s gust speeds and concurrent air temperatures. The shading indicates special icing regions, with elevations above 2,100 ft (640 m) in the east, 6,000 ft (1829 m) in the west, and 1,600 ft (488 m) in Alaska, with sparse weather station data for determining design ice loads. In these regions, as well as in regions with complex terrain causing unusual icing conditions and regions where snow or in-cloud icing results in larger loads, the mapped values should be adjusted based on a combination of local historical records and experience, reanalysis data, and numerical weather prediction systems.

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided "as is" and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE 7 standard.

In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE 7 Hazard Tool.

Exhibit E Lease Agreement

Lessee Site ID & No.: NJJER01153A

LEASE SUPPLEMENT

This Supplement ("Supplement"), is made this 23rd day of November , 2022 (the "Supplement Effective Date"), between Cellco Partnership, a Delaware general partnership, d/b/a Verizon Wireless, with its principal offices at One Verizon Way, Mail Stop 4AW100, Basking Ridge, New Jersey 07920, hereinafter designated LESSOR and DISH Wireless L.L.C., a Colorado limited liability company, with its principal offices at 9601 S. Meridian Blvd., Englewood, Colorado 80112, hereinafter designated LESSEE.

- 1. This Supplement is made pursuant to that certain Master Tower Lease Agreement between Cellco Partnership d/b/a Verizon Wireless and DISH Wireless L.L.C. dated August 6, 2021 (the "Agreement"). All of the terms and conditions of the Agreement are incorporated hereby by reference and made a part hereof without the necessity of repeating or attaching the Agreement. In the event of a contradiction, modification or inconsistency between the terms of the Agreement and this Supplement, the terms of the Agreement shall govern, except as it pertains to Exhibits, Rent that is negotiated in accordance with the terms of the Agreement, and any other site specific terms that are expressly included in a Supplement. Capitalized terms used in this Supplement shall have the same meaning described for them in the Agreement unless otherwise indicated herein.
- 2. The Premises leased by the LESSOR to the LESSEE hereunder is described as follows:

200 square feet of Ground Space located at 60 Commerce Drive, Trumbull, Fairfield County, Connecticut 06611 for the placement of LESSEE's equipment shelter or cabinets and ancillary equipment, and certain Tower Space for the installation of LESSEE's antennas and related equipment, together with certain easements, as more particularly described on **Exhibit 1** attached hereto and made a part hereof.

- 3. In the event an **Exhibit 1** is attached hereto describing the Premises, the LESSEE may have the right to survey the Premises and said survey may then become **Exhibit 2** which shall be attached hereto and made a part hereof and shall control in the event of any discrepancies between it and **Exhibit 1**. The cost for such work shall be borne by the LESSEE.
- 4. LESSOR hereby grants permission to LESSEE to install, maintain and operate the communications equipment, antennas, technology, frequencies and appurtenances described in **Exhibit 3** attached hereto (the "LESSEE Equipment"). LESSEE reserves the right to replace, repair, augment, add or otherwise modify the LESSEE Equipment as provided in **Paragraph 4** of the Agreement.
- 5. If the Premises are subject to a prime lease, license or other such agreement, a copy of such agreement is attached hereto as **Exhibit 4** (the "Prime Lease"). This Supplement shall not be effective until LESSEE has approved the Prime Lease, and Lessee shall be under no obligation to proceed under this Supplement unless and until the form and substance of the Prime Lease is acceptable to LESSEE. LESSEE'S execution of this Supplement shall convey its approval of the Prime Lease.

Lessee Site ID & No.: NJJER01153A

CONTRACT #

6. The Supplement Term shall be as set forth in **Paragraph 6** of the Agreement and shall commence as set forth in **Paragraph 6** of the Agreement and if known at the time execution of this Supplement, is set forth below. LESSOR and LESSEE agree that they shall acknowledge in writing the Commencement Date using the form attached as "**Exhibit 5**" to this Supplement.

7. The Rent due for the Term of this Supplement shall be in accordance with the Agreement and shall be an annual amount of Sixteen Thousand Five Hundred Dollars (\$16,500.00) to be paid in equal monthly installments on the first day of each month, in advance, to LESSOR at Verizon Wireless, P.O. Box 64498, Baltimore, Maryland 21264-4498 or to such other person, firm or place as the LESSOR may, from time to time, designate in writing at least sixty (60) calendar days in advance of any Rent payment date. All Rent checks shall have LESSOR'S site number clearly written on the face of the check. The foregoing Rent reflects the Site Rent, any Microwave Rent, any Additional Wind Load Surface Area Rent, any Additional Ground Space Rent, and any Prime Lease Payment and shall commence on a date to be determined in accordance with **Paragraph 6** of the Agreement.

[SIGNATURE PAGE TO FOLLOW]

Lessee Site ID & No.: NJJER01153A

Date: 23-Nov-2022

CONTRACT # _____

IN WITNESS WHEREOF, the Parties hereto have set their hands and affixed their respective seals as of the Supplement Effective Date.

LESSOR:

Cellco Partnership
d/b/a Verizon Wireless

DISH Wireless L.L.C.

Docusigned by:

By:

Docusigned by:

By:

Docusigned by:

By:

Docusigned by:

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MF 11/8/2022

Date: 11/9/2022

Lessee Site ID & No.: NJJER01153A

CONTRACT#	
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EXHIBIT 1 TO SUPPLEMENT **PREMISES PAGE 1 OF 6**

LEGAL DESCRIPTION

Situated in the County of Fairfield, State of Connecticut:

Parent Parcel:

All that certain piece or parcel of land with all of the improvements thereon situated in the Town of Trumbull, County of Fairfield and State of Connecticut, containing 14.02 acres and shown on a certain map entitled "Resubdivision Plan, Lot No. 4, Commerce Drive & Huntington Road, Trumbull. Connecticut, prepared for David Mack" Prepared by J. & D. Kasper & Associates, Engineers, Surveyors, Planners, Bridgeport, Connecticut, Scale 1" = 50' dated Feb. 20, 1979, Sheet 2 of 3, on file in the Trumbull Town Clerk's Office and further shown on a revision of said map dated Dec. 4, 1981 and bounded and described as follows:

WESTERLY:

In part, by land now or formerly of Dow Corning Corp., in part, by the terminus of Commerce Drive, as shown on said map, and in part, by land now or formerly of Optique Dumonde, Ltd., in all, 793.21 feet, said boundary having a bearing of N 19°37'25"W, the termini of said boundary being marked by iron pipes;

NORTHWESTERLY: By land now or formerly of Optique Dumonde, Ltd., 264.90 feet, said boundary having a bearing of N 25°32'15"E, the termini of said boundary being marked by iron pipes;

NORTHERLY:

By land now or formerly of Christine Lundgren, 47,14 feet, said boundary having a bearing of S 79°31'53"E:

NORTHERLY:

AGAIN, by land now or formerly of Christine Lundgren, 60.33 feet, said boundary having a bearing of N 83°40 15"E;

AGAIN, by land now or formerly of Christine Lundgren, 26.91 feet, said

boundary having a bearing of N 77°19'39"E;

NORTHERLY:

NORTHERLY:

AGAIN, by land now or formerly of Christine Lundgren, 58.83 feet, said

boundary having a bearing or N 75°33'27"E;

NORTHERLY:

AGAIN, by land now or formerly of Christine Lundgren, 66.26 feet, said

boundary having a bearing of N 77°36'19"E;

NORTHERLY:

AGAIN, in part by land now or formerly of Christine Lundgren and in part by land now or formerly of E.V. & N.B. Bowen, in all, 51.36 feet, said boundary

having a bearing of N 75°24'40"E;

Lessee Site ID & No.: NJJER01153A

CONTRACT #

EXHIBIT 1 TO SUPPLEMENT **PREMISES** PAGE 2 OF 6

LEGAL DESCRIPTION

NORTHERLY:

AGAIN, by land now or formerly of E.V. & N.B. Bowen, 38.96 feet, said

boundary having a bearing of N 80°42'12"E;

NORTHERLY:

AGAIN, by land now or formerly of E.V. & N.B. Bowen, 76.08 feet, said boundary having a bearing of N 76°46'19"E, all of said northerly boundaries

being the center line of a stone wall;

EASTERLY:

In part by land now or formerly of E.J. & A.M. Overwise and in part by land

now or formerly of Thomas & Carol Donegan, in all, 222.47 feet, said

boundary having a bearing of S 25°36'55"E;

EASTERLY:

AGAIN, in part by land now or formerly of Thomas & Carol Donegan, in part by land now or formerly of R.D. & L.S. Sutton, and in part by land now or formerly of M.H. & V.M. Shaw, in all, 167.89 feet, said boundary having a

bearing of S 17°42'45"E;

EASTERLY:

AGAIN, in part by land now or formerly of M.H. & V.M. Shaw and in part by land now or formerly of Doris Cheney and Linda Beeman, in all, 205.70 feet, said boundary having a bearing of S 14°15'35"E;

EASTERLY:

AGAIN, in part by land now or formerly of Doris Cheney and Linda Beeman and in part by land now or formerly of Peter Everetts, in all, 211.25 feet, said boundary having a bearing of S 07°16'25"E;

SOUTHEASTERLY:

By land now or formerly of Timothy & Carol Ryan, 24.59 feet, said boundary having a bearing of S 60°35'50"W, said boundary being the center line of a stone wall;

SOUTHEASTERLY:

AGAIN, by land now or formerly of Timothy & Carol Ryan, 88.04 feet, said boundary having a bearing of \$ 61°24'49"W, said boundary being the center line of a stone wall;

SOUTHEASTERLY:

AGAIN, by land now or formerly of Timothy & Carol Ryan, 12.65 feet, said boundary having a bearing of \$ 67°09'05"W, said boundary being the center

line of a stone wall;

EASTERLY:

AGAIN, in part by land now or formerly of Timothy and Carol Ryan and in part by land now or formerly of Robert & Carol Brumper, in all, 192.32 feet, said boundary having a bearing of \$ 07°52'21"W:

NORTHERLY:

AGAIN, by land now or formerly of Robert & Carol Brumper, 4.00 feet, said

boundary having a bearing of S 80°30'31"E;

Lessee Site ID & No.: NJJER01153A

CONTRACT #

EXHIBIT 1 TO SUPPLEMENT **PREMISES** PAGE 3 OF 6

LEGAL DESCRIPTION

EASTERLY:

AGAIN, by land now or formerly of C.B. & J.R. Kelly, 120.00 feet, said

boundary having a bearing of S 01°51'40"W;

EASTERLY:

AGAIN, by land now or formerly of Walter & Brian Holinko, 251.93 feet,

said boundary baving a bearing of \$ 17000'58"E;

SOUTHERLY:

By land now or formerly of Pauline Nemergut, 8.594 feet, said boundary

having a bearing of S 77°10'51"W;

SOUTHERLY:

AGAIN, by land now or formerly of Pauline Nemergut, 96,60 feet, said

boundary having a bearing of S 87°06'11"W:

SOUTHWESTERLY: By land now or formerly of Belmar Corporation, 48.31 feet, said boundary

having a bearing of N 13°55'47"W;

SOUTHWESTERLY: AGAIN, by land now or formerly of Belmar Corporation, 66.23 feet, said

boundary having a bearing of N 25°50'46"W;

SOUTHWESTERLY: AGAIN, by land now or formerly of Belmar Corporation, 46.73 feet, said

boundary having a bearing of N 33°26'08"W;

SOUTHWESTERLY: AGAIN, by land now or formerly of Belmar Corporation, 72.44 feet, said

boundary having a bearing of N 38°14'47°W;

SOUTHWESTERLY: AGAIN, by land now or formerly of Belmar Corporation, 46.47 feet, said

boundary having a bearing of N 40°31'50"W;

SOUTHWESTERLY: AGAIN, by land now or formerly of Belmar Corporation, 75.01 feet, said

boundary having a bearing of N 47°54'59"W;

SOUTHWESTERLY:

AGAIN, by land now or formerly of Belmar Corporation, 103.51 feet, said

boundary having a bearing of N 45°27'05"W, all of said southwesterly

boundaries being the center line of a stone wall:

SOUTHERLY:

by land now or formerly of Belmar Corporation, 58.12 feet, said boundary

having a bearing of S 60°09'57"W.

Tax I.D. Number: 00432800

Being the same property conveyed to City Park Commerce Drive, LLC, a Connecticut limited liability company and CH Commerce Drive Associates, LLC, a limited liability company, as their interests may appear, Grantee, from Pilot Corporation of America, Grantor, by deed recorded 06/25/2014, as Book 1666, Page 608 of the Trumbull Town Clerk Records.

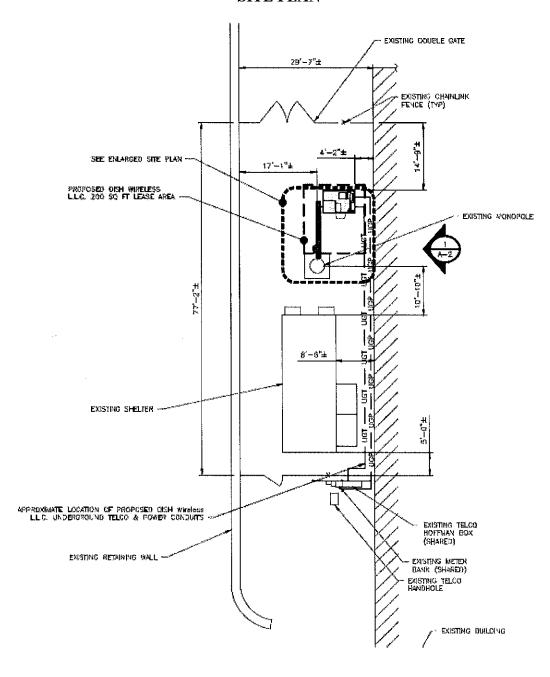
Being the same property conveyed to City Park Commerce Drive, LLC, a Connecticut limited liability company and CH Commerce Drive Associates, LLC, a Connecticut limited liability company, as their interests may appear, Grantee, from Pilot Corporation of America, Grantor, by deed recorded 06/25/2014, as Book 1666, Page 601 of the Trumbull Town Clerk Records.

Lessor Site ID & No.: Trumbull SE 4 CT / 469122 Lessee Site ID & No.: NJJER01153A

CONTRACT # ____

EXHIBIT 1 TO SUPPLEMENT PREMISES PAGE 4 OF 6

SITE PLAN

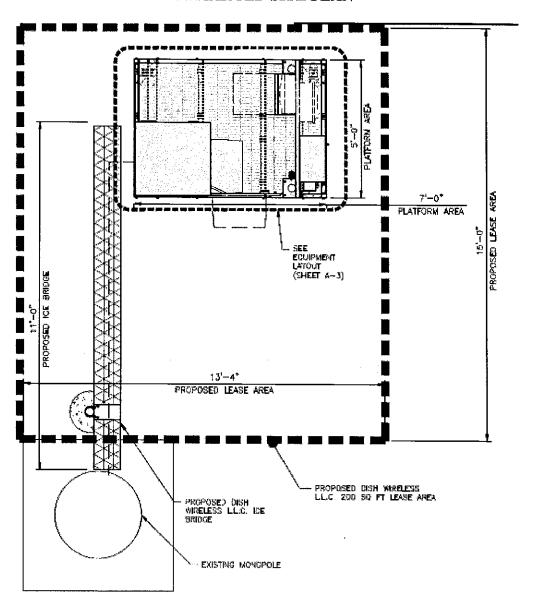


Lessee Site ID & No.: NJJER01153A

CONTRACT #

EXHIBIT 1 TO SUPPLEMENT PREMISES PAGE 5 OF 6

ENLARGED SITE PLAN

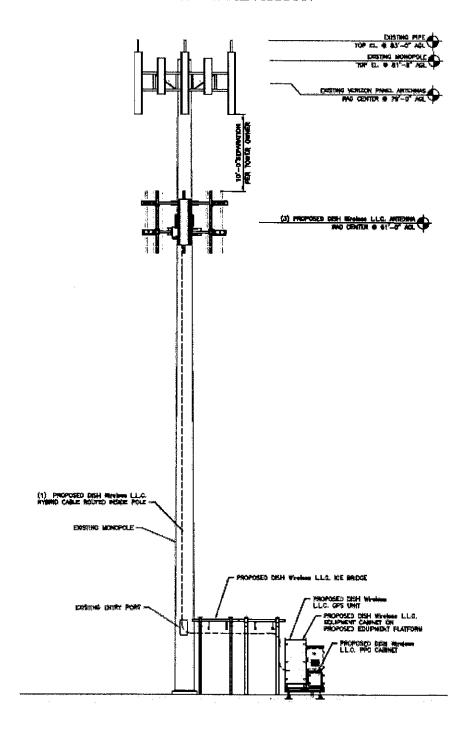


Lessee Site ID & No.: NJJER01153A

CONTRACT # ____

EXHIBIT 1 TO SUPPLEMENT PREMISES PAGE 6 OF 6

TOWER ELEVATION



Lessor Site ID & No.: Trumbull SE 4 CT / 469122 Lessee Site ID & No.: NJJER01153A

CONTRACT # _____

EXHIBIT 2 TO SUPPLEMENT SURVEY

N/A

Lessee Site ID & No.: NJJER01153A

CONTRACT # ____

EXHIBIT 3 TO SUPPLEMENT LESSEE'S COMMUNICATIONS EQUIPMENT

Number of Antennas:

Three (3)

JMA (MX08FRO665-21) Panel

Antenna Manufacturer, Model and Type:

Antennas

Dimension and Weight of Antenna:

72.0 x 20.0 x 8.0 inches & 64.5 lbs

Number of Transmission Lines (Coax and/or Hybrid):

One (1)

Diameter of Transmission Lines (Coax and/or Hybrid):

Hybrid Cable

Location of Antenna(s) (Approved RAD Center):

61'

Direction of Radiation (Azimuth):

0 / 140 / 250

MW Dish diameter:

N/A

Approved RAD Center for MW Dish:

N/A

Additional Equipment to be placed on Tower:

Three (3) Fujitsu (TA08025-B605)

15.8 x 15.0 x 9.1 inches & 75.0 lbs Three (3) Fujitsu (TA08025-B604)

RRUs

15.8 x 15.0 x 7.9 inches & 63.9 lbs One (1) Raycap (RDIDC-9181-PF-

48) OVP

19.0 x 14.5 x 8.0 inches & 21.9 lbs

Dimensions of Lessee's Shelter (for additional equipment

not scheduled hereon):

Generator Specifications:

Additional Ground Space for Generator

200 SF (13'4" x 15')

No generator proposed

N/A

Lessee Site ID & No.: NJJER01153A

CONTRACT #

EXHIBIT 4 TO SUPPLEMENT PRIME LEASE

VOLI 6 6 6 PAGE O 6 0 1

James P. White, Jr., Esq. Pollman & Courley LLC 850 Maiu Sireet, 8th Flour Bridgeport, CT 06604

WARRANTY DEED 60 COMMERCE DRIVE

PILOT CORPORATION OF AMERICA, a Delaware corporation with an office at 3855 Regent Boulevard, Jacksonville, Florida 32224 (hereinafter referred as to the "Grantor") for the

for consideration of

paid, grants to

CITY PARK COMMERCE DRIVE, LLC, a Connecticut Limited Liability Company an undivided 28,8% interest and to CH COMMERCE DRIVE ASSOCIATES, LLC a Connecticut Limited Liability Company an undivided 71.2% interest, both having an address of C/O Cambridge Hanover, Inc., 65 Locust Avenue, Suite 200, New Canaan, Connecticut 06840 (collectively hereinafter referred to as the "Grantee"), in and to

ALL THAT CERTAIN piece and parcel of land more particularly described on Schedule A attached hereto and made a part hereof, together with any and all buildings and other improvements now situated thereon (the "Premises") and subject to those exceptions to title ("Permitted Exceptions") set forth on Schedule B attached hereto and made a part hereof.

TO HAVE AND TO HOLD the Premises hereby conveyed, with the appurtenances thereof, to the Grantee and unto the Grantee's successors and assigns forever, to its and their own proper use and behoof.

AND FURTHERMORE, the Grantor will warrant and forever defend the Premises hereby conveyed, with the appurtenances thereof conveyed to the Grantee, its successors and assigns against the claims of all persons owning, holding, or claiming by, through or under the Grantor, but not otherwise,

Signed this Kanday of June, 2014.

Witnessed by:

Cloune

PILOT CORPORATION OF AMERICA

Nicholas Niejelow its: Vice President N.B.D.

177 au witness Anne Marie Burke

Suzarme Burr Monaco
State Town Clerk of Trumbull Town

DocuSign Envelope ID: C021138A-E137-45F2-BB5F-FDA9627DE752

Lessor Site ID & No.: Trumbull SE 4 CT / 469122

Lessee Site ID & No.: NJJER01153A

CONTRACT # _____

VBL 1 6 6 6 PAGE 0 6 0 2

STATE OF CONNECTICUT

COUNTY OF FAIRFIELD

ss: Bridgeport

On this the \(\frac{\text{V}}{\text{V}} \) day of June, 2014, before me, the undersigned officer, personally appeared Nicholas Niejelow, who acknowledged himself to be the Vice President N.B.D. of **PILOT CORPORATION OF AMERICA** a Delaware corporation authorized to do business in the State of Connecticut and that he as such Vice President N.B.D., being duly authorized so to do, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation by himself as such Vice President N.B.D.

IN WITNESS WHEREOF, I hereunto set my hand.

James P. White, Jr.

Commissioner of the Superior Court

Grantee Mailing Address; C/O Cambridge Hanover, Inc. 65 Locust Avenue, Suite 200 New Canaan, CT 06840

Lessee Site ID & No.: NJJER01153A

CONTRACT #

VOLI 6 6 6 PAGE 0 6 0 3

SCHEDULE A

PROPERTY DESCRIPTION

All that certain piece or parcel of land with all of the improvements thereon situated in the Town of Trumbull, County of Fairfield and State of Connecticut, containing 14.02 acres and shown on a certain map entitled "Resubdivision Plan, Lot No. 4, Commerce Drive & Huntington Road, Trumbull, Connecticut, Prepared for David Mack" Prepared by J. & D. Kasper & Associates, Engineers, Surveyors, Planners, Bridgeport, Connecticut, Scale 1" = 50' dated Feb. 20, 1979, Sheet 2 of 3, on file in the Trumbull Town Clerk's Office and further shown on a revision of said map dated Dec. 4, 1981 and bounded and described as follows:

WESTERLY:

NORTHERLY:

In part, by land now or formerly of Dow Corning Corp., in part, by the terminus of Commerce Drive, as shown on said map, and in part, by land now or formerly of Optique DuMonde, Ltd., in all, 793.21 feet, said boundary having a bearing of N 19°37'25"W, the termini of said boundary being marked by iron pipes:

NORTHWESTERLY By land now or formerly of Optique DuMonde, Ltd., 264.90 feet, said boundary having a bearing of N 25°32'15"B, the termini of said boundary being marked by iron pipes;

NORTHERLY: By land now or formerly of Christine Lundgren, 47.14 feet, said boundary having a bearing of \$ 79°31'53"E;

NORTHERLY: AGAIN, by land now or formerly of Christine Lundgren, 60.33 feet, said boundary having a bearing of N 83°40'15"E;

NORTHERLY: AGAIN, by land now or formerly of Christine Lundgren, 26.91 feet, said boundary having a bearing of N 77°19'39"E;

NORTHERLY: AGAIN, by land now or formerly of Christine Lundgren, 58.83 feet, said boundary having a bearing of N 75°33'27"E;

NORTHERLY: AGAIN, by land now or formerly of Christine Lundgren, 66.26 feet, said boundary having a bearing of N 77°36'19"E;

NORTHERLY: AGAIN, in part by land now or formerly of Christine Lundgren and in part by land now or formerly of E.V. & N.B. Bowen, in all, 51.36 feet, said boundary having a bearing of N 75°24'40"E;

NORTHERLY: AGAIN, by land now or formerly of E.V. & M.B. Bowen, 38.96 feet, said boundary having a bearing of N 80°42'12"E;

AGAIN, by land now or formerly of E.V. & M.B. Bowen, 76.08 feet, said boundary having a bearing of N 76°46'19"E, all of said northerly boundaries being the center line of a stone wall;

14

Lessee Site ID & No.: NJJER01153A

CONTRACT#___

VOLI 6 6 6 PAGE 0 6 0 4

EASTERLY:

In part by land now or formerly of E.J. & A.M. Overwise and in part by land now or formerly of Thomas & Carol Donegan, in all, 222.47 feet,

said boundary having a bearing of \$ 25°36'55"E;

EASTERLY:

AGAIN, in part by land now or formerly of Thomas & Carol Donegan, in part by land now or formerly of R.D. & L.S. Sutton, and in part by land now or formerly of M.H. & V.M. Shaw, in all, 167.89 feet, said boundary having a bearing of S 17°42'45"E;

EASTERLY;

AGAIN, in part by land now or formerly of M.H. & V.M. Shaw and in part by land now or formerly of Doris Cheney and Linda Beeman, in all, 205.70 feet, said boundary having a bearing of S 14°15'35"E;

EASTERLY:

AGAIN, in part by land now or formerly of Doris Cheney and Linda Beeman and in part by land now or formerly of Peter Everetts, in all, 211.25 feet, said boundary having a bearing of S 07°16'25"E;

SOUTHEASTERLY: By land now or formerly of Timothy & Carol Ryan, 24.59 feet, said boundary having a bearing of S 60°35'50"W, said boundary being the center line of a stone wall:

SOUTHEASTERLY: AGAIN, by land now or formerly of Timothy & Carol Ryan, 88.04 feet, said boundary having a bearing of S 61°24'49"W, said boundary being the center line of a stone wall;

SOUTHEASTERLY: AGAIN, by land now or formerly of Timothy & Carol Ryan, 12.65 feet, said boundary having a bearing of \$67°09'05"W, said boundary being the center line of a stone wall:

EASTERLY;

AGAIN, in part by land now or formerly of Timothy and Carol Ryan and in part by land now or formerly of Robert & Carol Brumper, in all, 192.32 feet, said boundary having a bearing of S 07°52'21"W;

NORTHERLY:

AGAIN, by land now or formerly of Robert & Carol Brumper, 4.00 feet, said boundary having a bearing of S 80°30'31"E;

EASTERLY:

AGAIN, by land now or formerly of C.B. & J.R. Kelly, 120.00 feet, said boundary having a bearing of S 01°51'40"W:

EASTERLY:

AGAIN, by land now or formerly of Walter & Brian Holinko, 251.93 feet, said boundary having a bearing of S 17°00'58"E;

SOUTHERLY:

By land now or formerly of Pauline Nemergut, 8.594 feet, said boundary having a bearing of S 77°10'51"W;

SOUTHERLY:

AGAIN, by land now or formerly of Pauline Nemergut, 96.60 feet, said boundary having a bearing of S 87°06'11"W;

4

Lessee Site ID & No.: NJJER01153A

CONTRACT #

VOLT 6 6 6 PAGE 0 6 0 5

- SOUTHWESTERLY: By land now or formerly of Belmar Corporation, 48.31 feet, said boundary having a bearing of N 13°55'47"W;
- SOUTHWESTERLY: AGAIN, by land now or formerly of Belmar Corporation, 66.23 feet, said boundary having a bearing of N 25°50'46"W;
- SOUTHWESTERLY: AGAIN, by land now or formerly of Belmar Corporation, 46.73 feet, said boundary having a bearing of N 33°26'08"W;
- SOUTHWESTERLY: AGAIN, by land now or formerly of Belmar Corporation, 72.44 feet, said boundary having a bearing of N 38°14'47"W;
- SOUTHWESTERLY: AGAIN, by land now or formerly of Belmar Corporation, 46.47 feet, said boundary having a bearing of N 40°31'50"W;
- SOUTHWESTERLY: AGAIN, by land now or formerly of Belmar Corporation, 75.01 feet, said boundary having a bearing of N 47°54'59"W;
- SOUTHWESTERLY: AGAIN, by land now or formerly of Belmar Corporation, 103.51 feet, said boundary having a bearing of N 45°27'05"W, all of said southwesterly boundaries being the center line of a stone wall;
- SOUTHERLY: By land now or formerly of Belmar Corporation, 58.12 feet, said boundary having a bearing of S 60°09'57"W.

Lessee Site ID & No.: NJJER01153A

CONTRACT #	
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VOLT 6 6 6 PAGE 0 6 0 6

SCHEDULE B

PERMITTED EXCEPTIONS

- 1. Any and all provisions of any ordinance, municipal regulation or public or private law which regulate the use of the Premises, including but not limited to zoning, planning and building laws, rules and regulations established in and for the Town of Trumbull.
- 2. Real property taxes of the Town of Trumbull becoming due and payable after the date of the Deed to which this Schedule is attached.
- 3. Fire district taxes to the Nichols Fire District becoming due and payable after the date of the Deed to which this Schedule is attached.
- 4. Assessment or use fees of governmental authority from municipal or public works, becoming due and payable after the date of the Deed to which this Schedule is attached.
- 5. Such state of facts as would be disclosed by a current accurate survey and by a personal inspection of the Premises provided the same do not render title unmarketable.
- 6. An easement in favor of The United Illuminating Company dated September 21, 1964 and recorded in the Trumbull Land Records in Volume 167 at Page 364 and the document intending to correct such easement dated September 30, 1964 and recorded in said Land Records in Volume 168 at Page 19.
- 7. A right of way in favor of Bridgeport Hydraulic Company dated September --, 1964 and recorded in said Trumbull Land Records in Volume 167 at Page 578.
- 8. An easement for the installation of and maintenance of utility lines as referred to in a deed recorded in the Trumbull Land records in Volume 187 at Page 402.
- 9. An easement to Optique DuMonde, Limited, recorded on April 13, 1978 in Volume 392 at Page 105 of the Trumbull Land Records,
- A Buffer Strip as shown on the above described map.
- 11. An encreachment, as shown on the map described in Schedule A attached hereto.
- 12. Rights of others in and to the brook crossing property.
- 13. Inland Wetlands and Water Courses Commission Notice recorded in Volume 462 at Page 449 of the Trumbull Land Records.
- 14. Inland Wetlands and Water Courses Commission Notice recorded in Volume 464 at Page 197 of the Trumbull Land Records.
- 15. Inland Wetlands and Water Courses Commission Notice recorded in Volume 488 at Page 189 of the Trumbull Land Records.

Lessee Site ID & No.: NJJER01153A

CONTRACT #

VOLT 6 6 6 PAGE 0 6 0 7

- Special Permit recorded in Volume 503 at Page 10 of the Trumbull Land Records.
- 17. Special Permit recorded in Volume 544 at Page 49 of the Trumbull Land Records.
- 18. Special Permit recorded in Volume 629 at Page 402 of the Trumbull Land Records.
- 19. Access Agreement by and between Pilot Corporation of America and The Southern New England Telephone Company recorded in Volume 662 at Page 229 of the Trumbull Land Records.
- Utility Easement in favor of The United Illuminating Company recorded in Volume 1579
 at Page 477 of the Trumbull Land Records,
- 21. Note, Easements and Conditions as shown on Map Nos. 2063 and 2213.
- 22. Trumbull Inland Wetlands and Watercourses Commission Permit Approval dated April 10, 2012, effective April 25, 2012 and filed in the office of the Trumbull Town Clerk.
- Trumbull Planning and Zoning Commission Approval dated April 26, 2012 and effective May 10, 2012 and recorded in Volume 1589 at Page 12 of the Trumbull Land Records.
- 24. Land Lease Agreement dated October 18, 2013 by and between Pilot Corporation of America ("Lessor") and Cellco Partnership, d/b/a Verizon Wireless ("Lessee") as referred to in Memorandum of Land Lease Agreement dated October 18, 2013 and recorded in Volume 1651, at Page 901 of the Trumbull Land Records.

TOWN CLERK OFFICE, TRUMBULL, CT

JUN 2 5 2014

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Lessee Site ID & No.: NJJER01153A

CONTRACT #

James P. White, Jr., Esq. Pullman & Comley LLC 850 Main Street, 8th Floor Bridgeport, CT 06604

ASSIGNMENT AND ASSUMPTION OF LEASE

THIS ASSIGNMENT AND ASSUMPTION OF THE LEASE AND SECURITY DEPOSIT (the "Assignment") is made and entered into as of the 19th day of June, 2014 by and between PILOT CORPORATION OF AMERICA, a Delaware corporation ("Assignor"), and CITY PARK COMMERCE DRIVE, LLC and CH COMMERCE DRIVE ASSOCIATES, LLC, Connecticut limited liability companies ("collectively, Assignee").

RECITALS:

WHEREAS, Assignor and Assignee entered into that certain Purchase and Sale Agreement, dated as of April 15, 2014, and as amended from time to time (as amended, the "Agreement"), for the purchase and sale of the building commonly known by the street address of 60 Commerce Drive, Trumbull, Connecticut (the "Premises"); and

WHEREAS, in connection with the consummation of the transaction contemplated under the Agreement, Assignor and Assignee desire to execute this Assignment.

NOW, THEREFORE, in consideration of good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

- 1. Recitals. The foregoing recitals are hereby incorporated in the body of this Assignment as if fully rewritten and restated herein.
- 2. Assignment of Lease. Assignor hereby sells, transfers and assigns to Assignee all of its right, title and interest in and to the certain lease between Assignor, as Landlord, and Cellco Partnership d/b/a Verizon Wireless, as Tenant, dated October 18, 2013 (collectively, the "Lease"), subject, however, to the terms, covenants and conditions of the Lease and this Assignment. Notwithstanding the foregoing, however, Assignor nevertheless retains, on a nonexclusive basis, the benefit and protection of any indemnity(ies) provided by the tenant under the Lease for the benefit of the landlord.
- 3. Assumption of Obligations. Assignee hereby accepts the assignment of the Lease, the rents due thereunder subject to the terms and conditions hereof, and from and after the date hereof, Assignee hereby assumes and shall be responsible for and shall perform all of those obligations imposed on the lessor or landlord under the Lease, which obligations first arise or accrue on or after the date hereof (the "Closing").
- 4. Assignee's Indemnification. Assignee hereby indemnifies, protects, defends and holds Assignor and Assignor's members and managers and their respective successors, and assigns, harmless from any and all claims, damages, losses, suits, proceedings, costs and expenses, including, without limitation, reasonable attorneys' fees (collectively, "Losses"), both known or unknown, present and future, at law or in equity, arising out of, by virtue of or in any

Lessee Site ID & No.: NJJER01153A

CONTRACT #

way related to the breach by Assignee of (or Assignee's failure to timely perform) any or all of the obligations imposed on the lessor or the landlord under the Lease, which obligations accrue from and after the date of the Closing.

- 5. Assignor's Indemnification. Assignor hereby indemnifies, protects, defends and holds Assignee, and Assignee's members and managers, and all of their respective successors and assigns harmless from any and all Losses, both known and unknown, present and future, at law or in equity and arising out of, by virtue of, or related in any way to, the breach by Assignor of (or Assignor's failure to timely perform) any or all of the obligations imposed on the lessor or the landlord under the Lease, which obligations accrue prior to the date of the Closing.
- 6. Counterparts. This Assignment may be executed in one or more identical counterparts, all of which, when taken together shall constitute one and the same instrument.
- 7. Governing Law. This Assignment shall be governed by and construed in accordance with the laws of the State of Connecticut.
- 8. Partial Invalidity. The provisions hereof shall be deemed independent and severable, and the invalidity or enforceability of any one provision shall not affect the validity or enforceability of any other provision hereof.

IN WITNESS WHEREOF, Assignor and Assignee have executed this Assignment as of the date first above written.

Witnessed by: James P. White, Jr. (1 1) 1 and Brake	PILO By:	GNOR: T CORPORATION OF AMERICA The control of the
Anne Marie Burke	CITY	GNEE: ' PARK COMMERCE DRIVE, LLC a ecticut limited liability company
	Ву:	CH Commerce Drive Management, LLC a Connecticut limited liability company, its Manager
	Ву:	Jonathan P. Garrity, President

2

Lessee Site ID & No.: NJJER01153A

		CH C	GNEE: OMMERCE DRIVE ASSOCIATES, LLC inecticut limited liability company
w		Ву:	CH Commerce Drive Management, LLC a Connecticut limited liability company, its Manager
		Ву:	Jonathan P. Garrity, President
STATE OF CONNECTICUT COUNTY OF FAIRFIELD)	ss: Bi	idgeport

On this the 18th day of June, 2014, before me, the undersigned officer, personally appeared Nicholas Niejelow, who acknowledged himself to be the Vice President N.B.D. of PILOT CORPORATION OF AMERICA a Delaware corporation authorized to do business in the State of Connecticut and that he as such Vice President N.B.D., being duly authorized so to do, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation by himself as such Vice President N.B.D.

IN WITNESS WHEREOF, I hereunto set my hand.

James P. White, Jr.

Commissioner of the Superior Courts

Lessee Site ID & No.: NJJER01153A

way related to the breach by Assignee of (or Assignee's failure to timely perform) any or all of the obligations imposed on the lessor or the landlord under the Lease, which obligations accrue from and after the date of the Closing.

- 5. Assignor's Indemnification. Assignor hereby indemnifies, protects, defends and holds Assignee, and Assignee's members and managers, and all of their respective successors and assigns harmless from any and all Losses, both known and unknown, present and future, at law or in equity and arising out of, by virtue of, or related in any way to, the breach by Assignor of (or Assignor's failure to timely perform) any or all of the obligations imposed on the lessor or the landlord under the Lease, which obligations accrue prior to the date of the Closing.
- 6. Counterparts. This Assignment may be executed in one or more identical counterparts, all of which, when taken together shall constitute one and the same instrument.
- 7. Governing Law. This Assignment shall be governed by and construed in accordance with the laws of the State of Connecticut.
- 8. Partial Invalidity. The provisions hereof shall be deemed independent and severable, and the invalidity or enforceability of any one provision shall not affect the validity or enforceability of any other provision hereof.

IN WITNESS WHEREOF, Assignor and Assignee have executed this Assignment as of the date first above written.

Witnessed by:	ASSIGNOR: PILOT CORPORATION OF AMERICA
	By:
	ASSIGNEE: CITY PARK COMMERCE DRIVE, LLC a Connecticut limited liability company
Michael is Mussey Nancy a Hackmisk	By: CH Commerce Drive Management, LLC a Connecticut limited liability company, its Manager
	By: Jonathan P. Garrity President

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Lessor Site ID & No.: Trumbull SE 4 CT / 469122 Lessee Site ID & No.: NJJER01153A

CONTRACT #

ASSIGNEE:

CH COMMERCE DRIVE ASSOCIATES, LLC a Connecticut limited liability company

Rv+

CH Commerce Drive Management, LLC a Connecticut limited liability company, its

Manager

D...

Jonathan P. Garrity, Presi

STATE OF CONNECTICUT

COUNTY OF FAIRFIELD

ss: Bridgeport

On this the 18th day of June, 2014, before me, the undersigned officer, personally appeared Nicholas Niejelow, who acknowledged himself to be the Vice President N.B.D. of PILOT CORPORATION OF AMERICA a Delaware corporation authorized to do business in the State of Connecticut and that he as such Vice President N.B.D., being duly authorized so to do, executed the foregoing instrument for the purposes therein contained by signing the name of the corporation by himself as such Vice President N.B.D.

IN WITNESS WHEREOF, I hereunto set my hand.

James P. White, Jr.

Commissioner of the Superior Court

Lessee Site ID & No.: NJJER01153A

STATE OF CONNECTICUT)	
COUNTY OF FAIRFIELD)	S

On this the K day of June, 2014, before me, the undersigned officer, personally appeared Jonathan P. Garrity, who acknowledged himself to be the President of CH Commerce Drive Management, LLC a Connecticut limited liability company, Manager of CH Commerce Drive Associates, LLC, a Connecticut limited liability company and that he as such President, being duly authorized so to do, executed the foregoing instrument for the purposes therein contained by signing the name of CH Commerce Drive Management, LLC in its capacity as Manager of CH Commerce Drive Associates, LLC, by himself as such President.

IN WITNESS WHEREOF, I hereunto set my hand.

Commissioner of the Superior Court

Notary Public

My commission expires:

24

STATE OF CONNECTICUT)	
COUNTY OF FAIRFIELD)	ss:

On this the Ix day of June, 2014, before me, the undersigned officer, personally appeared Jonathan P. Garrity, who acknowledged himself to be the President of CH Commerce Drive Management, LLC a Connecticut limited liability company, Manager of City Park Commerce Drive, LLC a Connecticut limited liability company and that he as such President, being duly authorized so to do, executed the foregoing instrument for the purposes therein contained by signing the name of CH Commerce Drive Management, LLC in its capacity as Manager of City Park Commerce Drive, LLC, by himself as such President.

IN WITNESS WHEREOF, I hereunto set my hand.

Michael ? Murray

Commissioner of the Superior Court

Notary Public

My-commission expires:

Scal

Grantees' Mailing Address: C/O Cambridge Hanover, Inc. 65 Locust Avenue, Suite 200 New Canaan, CT 06840

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5

25

Lessee Site ID & No.: NJJER01153A

CONTRACT #

After recording please return to: Blue Sky Towers II, LLC 86 West Street Chagrin Falls, Ohio 44022

COMMUNICATIONS FACILITY EASEMENT AGREEMENT AND ASSIGNMENT OF TOWER-RELATED LICENSE (CT-5046 Trumbull II)

THIS COMMUNICATIONS FACILITY EASEMENT AGREEMENT AND ASSIGNMENT OF TOWER-RELATED LICENSE (this "Agreement") is made as of December 2018 (the "Effective Date") by and between CH COMMERCE DRIVE ASSOCIATES, LLC and CITY PARK COMMERCE DRIVE, LLC (together, "Grantor"), having an address at 65 Locust Avenue, Suite 200, New Canaan, CT 06840, and BLUE SKY TOWERS II, LLC, a Delaware limited liability company, as grantee ("Grantee"), having an address at 352 Park Street, Suite 106, North Reading, MA 01864 Attention: Jim Rech.

- A. Grantor is the owner of certain real property located at 60 Commerce Drive in the Town of Trumbull, County of Fairfield, State of Connecticut as more particularly described on **Exhibit A** attached hereto and incorporated herein by reference ("Grantor's Property"), a portion of which (the "Easement Premises") is used by a tenant pursuant to the occupancy agreement identified on **Exhibit B** attached hereto and incorporated herein by reference (the "Existing Tower-Related Licenses" and together with the additional occupancy agreements entered into by Grantee in the future pursuant to this Agreement [the "Additional Tower-Related Licenses"], the "Tower-Related Licenses") for the placement of the Communications Equipment (defined below) of such tenant (the "Existing Tenant Equipment").
- B. Pursuant to a Purchase and Sale Agreement dated October 15, 2018, between Grantor, as seller, and Grantee, as buyer (the "Purchase Agreement"), Grantor has agreed to sell to Grantee, among other things, (i) the exclusive right to all space in, on, over, under and around Grantor's Property necessary for the maintenance of the Existing Tenant Equipment on the Easement Premises and the placement and maintenance from time to time of additional Communications Equipment in, on or around the Easement Premises and (ii) all assets, rights and improvements owned by Grantor relating to placement of the Existing Tenant Equipment on the Easement Premises, including the existing Tower-Related License, amenna support structures, equipment structures or closets, utility lines and connections.
- C. In order to effectuate the transfer of the rights described in Recital A, Grantor has agreed, (i) to grant to Grantee an exclusive easement in, on, over, under and around the Easement Premises and a

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-1-

Lessee Site ID & No.: NJJER01153A

CONTRACT #

non-exclusive easement in, on, over, under and around such portions of Grantor's Property necessary to support Existing Tenant Equipment and future Communications Equipment installed within the Easement Premises and (ii) to grant to Grantee any non-exclusive easements needed to provide for access and utilities to the Communications Equipment installed within the Easement Premises.

NOW, THEREFORE, on the terms and subject to the conditions set forth in this Easement, the Easement Payment described in Section 5 and other good and valuable consideration, the parties agree as follows:

1. Grant of Easement. Upon the terms and conditions set forth herein, Grantor hereby grants, bargains and conveys to Grantee an exclusive easement in, to, under, over and around (i) the Easement Premises (including, without limitation, all airspace above and around the ground space upon which is located the Existing Tenant Equipment and all ground space appurtenances) upon which is currently located the Existing Tenant Equipment, as such space may be further described in the Existing Tower-Related License and as described on Exhibit C attached hereto and incorporated herein by reference, and a non-exclusive easement in, to, under, over and around those portions of Grantor's Property necessary for the construction, installation, maintenance, repair, replacement, improvement, operation and removal of the Existing Tenant Equipment so long as Grantee's use of Grantor's Property does not materially interfere with Grantor's normal use of Grantor's Property.

Access and Utility Easements.

- 2.1 Access Easements. Grantor hereby grants, bargains and conveys to Grantee, its tenants and licensees, and their successors and assigns, irrevocable, non-exclusive and unconditional easements, which Grantor shall maintain in a manner to allow twenty-four (24) hours a day for ingress and egress (vehicular and pedestrian) at all times, from a publicly dedicated roadway to the Easement Premises over, upon, across and through Grantor's Property, and adjoining lands and rights-of-way owned by Grantor as may be required by Grantee and its tenants and licensees for the purpose of construction, installation, maintenance, repair, replacement, improvement, operation and removal of the Communications Equipment within the Easement Premises including any antenna support structures, conduits, risers, and other necessary appurtenances and for telephone lines and power lines used in connection with the Communications Equipment, including the access easement more particularly described on Exhibit D attached hereto and incorporated herein by reference (the "Access Easements"). Grantee will notify Grantor in advance of its need to install, maintain or repair its cables, wires, related fixtures and Communications Equipment within the Easement Premises located in the Easement Premises; EXCEPT HOWEVER, in the case of an emergency whereupon notification shall follow.
- 2.2 <u>Utility Easements</u>. Grantor hereby grants, bargains and conveys to Grantee, its tenants and licensees, and their successors and assigns, or to such utility company which Grantee shall designate, and Grantee, its tenants and licensees or such utility company is hereby given and granted irrevocable, non-exclusive and unconditional easements twenty-four (24) hours a day for providing utilities to the Easement Premises, including the utility easement more particularly described on <u>Exhibit E</u> attached hereto and incorporated herein by reference (hereinafter, the "<u>Utility Easement</u>"). The Utility Easement shall be for the installation, maintenance and operation (whether by Grantee or by Grantee's designated utility company) of necessary utilities from the point of connection with the utility company's distribution

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Lessee Site ID & No.: NJJER01153A

CONTRACT #

network to Grantee's or its tenants' or licensees' Communications Equipment located on the Easement Premises. The Utility Easement shall be sufficient for providing the applicable utility services to the Easement Premises. It is understood that Grantee and the utility company providing utility services shall have access to all areas of the Easement Premises, Grantor's Property and rights-of-way owned by Grantor as necessary for the installation, maintenance and/or repair of such utility services provided that such access does not materially interfere with Grantor's normal use of Grantor's Property or rights of way owned by Grantor. Grantee will notify Grantor in advance of its need to install, maintain or repair its cables, wires, related fixtures and Communications Equipment located in the Easement Premises; EXCEPT HOWEVER, in the case of an emergency whereupon notification shall follow.

2.3 <u>Utility Lines.</u> Grantee and its tenants and licensees may have electrical current meters installed on the Easement Premises. Grantee shall have the right to run the utility lines directly or in such a manner as may be reasonably necessary from the utility source to the Communications Equipment including the right to install cables and wires in and Grantor's Property and the Easement Premises; provided, however, Grantor shall have the right to approve the location and manner of installation of such cables and wires but such approval shall not be unreasonably withheld or delayed. The cost of such meter and the installation, maintenance and repairs thereof shall be paid by Grantee or its tenants and licensees. Grantee and any utility company providing services to Grantee shall have access to all portions of the Easement Premises, Grantor's Property or other adjacent or adjoining land of Grantor as is reasonably necessary for the installation, maintenance and/or repair of such utility services provided that such access does not materially interfere with Grantor's normal use of Grantor's Property or such adjoining or adjacent land. Grantee will notify Grantor in advance of its need to install, maintain or repair its cables, wires, related fixtures and Communications Equipment located in the Easement Premises; <u>EXCEPT HOWEVER</u>, in the case of an emergency whereupon notification shall follow.

Tower-Related Licenses.

- 3.1 Assignment of Existing Tower-Related License. Grantor hereby transfers and assigns to Grantee as of the Effective Date all of its right, title and interest in, to and under the Existing Tower-Related License identified on Exhibit B and any amendments thereto, including without limitation, all rents, and other monies due to Grantor. Grantor and Grantee intend that this Easement serve as an absolute assignment and transfer to Grantee of the Existing Tower-Related License and all rents and other monies due Grantor pursuant to the Existing Tower-Related License. Grantor designates Grantee as the lessor under the Existing Tower-Related License and Grantee assumes the obligations and liabilities of Grantor under the Existing Tower-Related Licenses only to the extent that such obligations and liabilities (i) are not the responsibility of the Grantor pursuant to the terms of this Easement and (ii) accrue on or after the Effective Date. It is specifically agreed that Grantor will retain and continue to be responsible for the provisions of the Existing Tower-Related Licenses that can only be satisfied by Grantor as owner of Grantor's Property including without limitation (a) obligations relating to the ownership and use of Grantor's Property, (b) all maintenance and repair obligations relating to Grantor's Property, (c) the payment of real property taxes and (d) any covenant or obligation of Grantor relating to the environmental condition of Grantor's Property.
- 3.2 <u>Additional Tower-Related Licenses</u>. To facilitate Grantee's right to place and maintain from time to time additional Communications Equipment on the Easement Premises, Grantor hereby grants to

4842-0657-9323.5

-3-

Lessee Site ID & No.: NJJER01153A

CONTRACT #

Grantee the authority to negotiate and consummate Additional Tower-Related License for the Easement Premises (which Additional Tower-Related Licenses shall be in form consistent with industry standards for placement of Communications Equipment in, on or around property similar to Grantor's Property). Grantor ratifies and acknowledges the right of Grantee to enter into such agreements, and Grantor shall be bound by such agreements throughout the term of this Agreement.

4. <u>Term.</u> Commencing upon the Effective Date, the Term of this Easement shall be for the period of thirty-five (35) years ending on the day prior to the thirty-fifth (35th) anniversary of the Effective Date. Notwithstanding the foregoing, in the event Grantee and its tenants and licensees voluntarily cease to use the Easements Premises for a period of more than five (5) year (for reasons other than casualty, condemnation or Act of God), the Easements granted hereunder shall be deemed surrendered. Grantee may surrender the Easements for any reason or at any time by giving thirty (30) days' notice to Grantor. Upon surrender, this Easement, shall be terminated, and Grantor and Grantee shall execute and record such documents reasonably required to terminate this Easement. This Easement may not be terminated by Grantor.

5.

(a) <u>Easement Payment</u>. On or about the Effective Date, Grantee shall pay to Grantor one, and only one, lump-sum payment in an amount equal to the purchase price set forth in the Purchase Agreement (the "Purchase Price") as payment in full for the Term. Grantor hereby acknowledges and agrees that the Purchase Price constitutes all payments and other amounts due and payable by Grantee for the Term and that Grantor shall not be entitled to any other compensation, fees, commissions, reimbursements, contributions, purchase monies or other payments under this Easement or otherwise in connection with the Purchase Agreement, this Agreement, the non-exclusive easements granted hereunder, the assignment of the Existing Tenant-Related License or the performance of Grantor's other obligations under this Agreement.

Intentionally omitted for recording purposes

6. <u>Use.</u> Grantee shall use the Easement Premises only for the purpose of constructing, installing maintaining, repairing, replacing, improving, operating and removing such Communications Equipment reasonably required by Grantee and its tenants and licensees for use as a telecommunications facility and any other incidental activities or activities relating thereto as may be required or permitted by applicable laws, rules, regulations or guidelines. As used in this Easement, "Communications Equipment" shall include but is not limited to the following equipment, whether owned by Grantee or any of its tenants or licensees: (a) antenna support structures (including towers) and building(s) and cabinets to house equipment, including generators, necessary to operate the equipment; (b) flexible coaxial transmission

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-4-

lines between antennae and telecommunications equipment; (c) radio communication antennas and equipment consisting of transmitters, receivers, microwave dishes and accessories; (d) a fence to enclose all improvements, including the antenna support structures (including towers), buildings, cabinets and all equipment; and (e) any and all equipment, supplies or materials related to the foregoing. All improvements constructed or installed by Grantee upon the Easement Premises shall be at Grantee's expense. Grantee, or any assignee or tenant of Grantee, may construct or erect such additional storage structures or otherwise add or modify its Communications Equipment or telecommunications equipment, as the case may be, on the Easement Premises as reasonably required for the maintenance or operation of the Communications Equipment, or any telecommunications equipment of an assignee or tenant or licensee. Grantee will not use the Easement Premises, the Access Easement or the Utility Easement in a manner that interferes with Grantor's use of Grantor's Property.

7. <u>Insurance.</u> Grantee shall, at its expense, maintain during the Term, comprehensive general liability and property liability insurance with liability limits of not less than Two Million Dollars (\$2,000,000.00) for injury to or death of one or more persons or damage to or destruction of property in any one occurrence. Grantor shall be named as an additional insured, as its interest may appear, and the policies shall contain cross liability endorsements. Grantee may carry said insurance under a blanket policy. Grantee shall deliver to Grantor, upon request, certificates evidencing the existence and amounts of such insurance. No policy shall be cancelable or subject to reduction of coverage except after ten (10) days prior written notice to Grantor.

Defaults and Remedies:

- (a) Notwithstanding anything in this Easement to the contrary, neither Grantor or Grantee shall be in default under this Easement for failure to perform any obligation under this Easement until thirty (30) days after receipt of written notice of the act or omission constituting the default; provided, however, if any such default cannot reasonably be cured within thirty (30) days, neither party shall be deemed to be in default under this Easement if such defaulting party commences to cure such default within said thirty (30) day period and thereafter diligently pursues such cure to completion.
- (b) Should Grantee fail to perform any obligations under this Easement and such breach shall continue uncured thirty (30) days following the receipt of written notice, as provided in paragraph &(a) above, Grantor may seek specific performance or actual damages or invoke any other remedies available in law or in equity except for termination of this Easement.
- (c) Should Grantor breach any material term or covenant in this Easement or fail to perform any obligation under this Easement, and such breach shall continue uncured thirty (30) days following the receipt of written notice, as provided in paragraph 8(a) above, Grantor may seek specific performance or actual damages or invoke any other remedies available in law or in equity or, at its option, cure such default including but not limited to payment of mortgage, tax obligations or other encumbrances. All costs and expenses of any such Grantee performance shall be relimbursed upon invoice therefore and, or abated from any Rent due to Grantor until Grantee is reimbursed in full.
- Taxes. Grantor acknowledges that a portion of the Purchase Price delivered by Grantee to
 Grantor pursuant to the Purchase Agreement is for and in consideration of the continuing obligation of

4842-0657-9323.5 ____ CT-5046 Trumbull II

Lessee Site ID & No.: NJJER01153A

CONTRACT #

Grantor to pay, on or before the due date, all present and future real property taxes, transfer taxes, penalties, interest, roll-back or additional taxes, sales and use taxes and all other fees and assessments regardless of the taxing method (the "Taxes") attributable to Grantor's Property and this Agreement. Without limiting the foregoing, except to the extent Taxes are the obligation of tenants under the Tower-Related Licenses, Grantor shall be solely responsible for the payment of such Taxes. Within ten (10) days of receiving a request from Grantee, Grantor shall furnish to Grantee a copy of each bill for any such Taxes and evidence of Grantor's payment of such bill. In the event that Grantor fails to pay any Taxes when due, Grantee shall have the right, but not the obligation, to pay such Taxes on behalf of Grantor after Grantee gives Grantor thirty (30) day notice. Grantor shall reimburse Grantee for the full amount of such Taxes paid by Grantee on Grantor's behalf within ten (10) business days of Grantor's receipt of an invoice from Grantee.

10. <u>Tests.</u> Throughout the Term, Grantee and its tenants and licensees shall have the right to conduct survey, soil, radio coverage, and environmental tests and conduct any other investigations needed to determine if the Easement Premises, Access Easements and Utility Easement is suitable for the construction, installation, maintenance, repair, replacement, improvement, operation and removal of the Communications Equipment.

11. Exclusive Rights; Non-Interference.

- 11.1 <u>Exclusivity.</u> During the Term, Grantor will not grant a lease, license, or easement or transfer or convey any other interest in Grantor's Property or any other property owned by Grantor contiguous to the property upon which the Easement Premises is located to any party for the purposes of operating Communications Equipment or to any party if such lease, transfer or conveyance would in any way adversely affect or interfere, in Grantee's reasonable judgment, with any Communications Equipment or the operation of the Easement Premises.
- 11.2 <u>Grantor Interference</u>. Grantor shall not, nor shall Grantor permit its lessees, licensees, employees, invitees or agents to, use any portion of Grantor's Property in a way which interferes with the operations of the tenants under the Tower-Related Licenses or which interferes with the Access Easements or Utility Easement. Such interference shall be deemed a material breach by Grantor. Upon written notice from Grantee or a tenant under a Tower-Related License, Grantor shall be responsible for terminating any such interference. Should Grantor fail to cease promptly any such interference, Grantee and any tenant under a Tower-Related License shall have the right to bring a court action to enjoin such interference, and Grantee shall have the right, in its sole discretion, to terminate this Agreement. It is agreed and understood by the parties that a continuing interference may cause irreparable injury to Grantee and tenant under the Tower-Related Licenses.
- 11.3 Grantor Interference with Construction. Provided that construction is proceeding pursuant to a building permit or other required municipal or governmental approvals, and according to drawings or exhibits as provided to Grantor, Grantor shall not interfere with any aspects of construction. Such interference may include, without limitation, attempting to direct construction personnel as to the location of or method of installation of the Communications Equipment. Grantor further acknowledges that it will be responsible for any costs and damages (including, fines and penalties) that are directly attributable to Grantor's interference with construction. Grantee shall not commence construction of any kind on

4842-0657-9323.5 ...6-. CT-5046 Trumbull II

Lessee Site ID & No.: NJJER01153A

CONTRACT #

Grantor's Property, including the Easement Premises, until the plans therefore have been approved by Grantor, which approval shall not be unreasonably withheld, delayed or conditioned but Grantor's consent shall not be required for any construction which the Tenant under the Tower Related License has the right to perform without Grantor's consent.

12. Nature of Grantee's Property.

- 12.1 Fixtures. Grantor covenants and agrees that notwithstanding any contrary provision of statutory or common law, no part of the improvements, including without limitation, the Communications Equipment, constructed, erected or placed by Grantee or Grantee's tenants or licensees on the Easement Premises shall be deemed by Grantor to be or become affixed to or a part of the Easement Premises, it being the specific agreement of Grantor and Grantee that all improvements of every kind and nature constructed, erected or placed by Grantee or any tenants or licensees on the Easement Premises shall be and remain the personal property of Grantee or Grantee's tenants or licensees and may be removed by Grantee as provided in this Easement. Grantee agrees to save Grantor hamless on account of claims or mechanic's, materialman or other liens imposed upon the Easement Premises or Grantor's Property in connection with any alterations, addition, or improvements to the Easement Premises made by Grantee, Grantee's agents, employees, contractors, tenants or licensees.
- 12.2 <u>Waiver of Grantor Liens</u>. Grantor acknowledges that the Communications Equipment and any related items brought to the Easement Premises by Grantee, Grantee's tenants and licenses or their designees, are and shall remain Grantee's, Grantee's tenants' and licensees' or such designees' personal property, as applicable. Grantor waives any rights it may have to assert any liens, encumbrances or adverse claims, statutory or otherwise, against the Communications Equipment, including any rights it may have in its capacity as Grantor under this Easement. Grantee, Grantee's tenants, licensees or such designee in its sole discretion, may remove its Communications Equipment or any portion of it at any time during the Term of the Easement, without notice to Grantor and without Grantor's consent.
- 13. <u>Assignment</u>. Grantor may assign this this Agreement, without the prior consent of Grantee, only to a successor fee owner of Grantor's Property or as collateral for any loan that is secured by a mortgage on Grantor's fee simple interest in Grantor's Property. Grantee may assign, transfer or otherwise encumber all or any part of its rights under this Agreement without the prior consent of Grantor provided that such assignee assumes in full all of Grantee's obligations under this Easement. No such assignment shall relieve Grantor of any of its liabilities or obligations hereunder.
- 14. Governmental Condemnation or Taking. In the event that any governmental, quasigovernmental agency or other public body exercises its power of eminent domain and thereby takes all or
 part of the Easement Premises or adjoining or adjacent property subject to an easement hereunder,
 apportionment thereby making it physically or financially unfeasible, the Easement Premises to be used in
 the manner it was intended to be used by Grantee under this Easement, Grantee shall have the right to
 assert a claim against the condemning agency for the portion attributable to Grantee's interest in the
 Easement Premises and to terminate this Easement effective as of the date the condemning agency takes
 possession. If only a portion of the Easement Premises is taken by eminent domain, and Grantee does not
 elect to terminate this Easement under this provision, then this Easement shall continue. Grantee reserves
 its right under paragraph 15.

4842-0657-9323.5 __7_ CT-5046 Trumbull II

32

Lessee Site ID & No.: NJJER01153A

CONTRACT #

Damage or Destruction.

- Grantor acknowledges and agrees that it is extremely important that Grantee and its tenants and licensees maintain continuous operation of the Communications Equipment on the Easement Premises. Therefore, in the event of any damage to or destruction of the Easement Premises, the Access Easements or the Utility Easement or any condemnation thereof, which renders the Communications Equipment inoperable or unusable, Grantee and its tenants and licensees shall have the right, at Grantee's option, to construct or install temporary facilities, including temporary or replacement antennae, if necessary, elsewhere on the Easement Premises and to establish alternative easements for access and utilities, in such locations as may be reasonably acceptable to Grantor and in a manner which will not interfere with any repair or reconstruction efforts, in order to continue operation of the Communications Equipment. Grantor shall allow Grantee and its tenants and licensees to install such additional equipment and fixtures, including but not limited to, antennae, cables, wires, and shall permit Grantee and its tenants and licensees access, repair and maintenance rights as may be necessary to allow Grantee and its tenants and licensees to operate and maintain such temporary facilities until the Easement Premises, Access Easements and/or Utility Easement have been sufficiently repaired to permit use of the Communications Equipment on its prior location on the Easement Premises, or until a substitute permanent location on the Easement Premises (with substitute access and utility easements, if necessary) that does not materially interfere with Grantor's normal use of Grantor's Property has been chosen by Grantee and a substitute permanent facility has been completed.
- (b) If the Easement Premises is repaired, Grantee and it tenants and licensees shall have the right to construct and install replacement Communications Equipment, including, but not limited to, the antenna support structures, antennae, cables, conduits, poles, wires and electronic or other equipment, in and on the repaired Easement Premises together with replacement access and utility easements if necessary, in substantially the same location and manner as prior to the occurrence of the damage or at another location on the Easement Premises provided that such relocation does not materially interfere with Grantor's normal use of Grantor's Property. It is the intention of the parties that Grantee and its tenants and licensees shall be able to maintain continuous operation and use of the Existing Tenant Equipment and any future Communications Equipment throughout the Term.
- (c) If Grantee elects to continue operation of the Communications Equipment pursuant to this paragraph, this Easement shall not terminate on account of such damage, destruction or condemnation, but shall continue in effect. Grantee's obligations under this Easement shall be equitably abated or adjusted to account for any damage, destruction or reduction of the Easement Premises or the conditions under which Grantee's temporary or replacement facilities are being used and operated, commencing from the date of damage, destruction or condemnation and continuing during the period of such repair or restoration.
- 16. <u>Consents and Approvals.</u> Grantee and/or its tenants and licensees shall maintain the permits necessary for the Communications Equipment. Upon execution of this Easement, Grantor agrees to cooperate with Grantee in all respects in connection with any application made by Grantee, in the name of Grantor, to any governmental authority for any license, permit or approval or renewal thereof. Procurement of licenses, permits and/or approvals necessary for the construction, maintenance and

 operation of Grantee's or its tenants' or licensees' Communications Equipment shall be made at Grantee's expense, and Grantor shall have no obligations with respect thereto. Whenever the consent or approval of either party is required or a determination must be made by either party under this Basement, no such consent or approval shall be unreasonably withheld, denied or delayed, and all such determinations shall be made on a reasonable basis and in a reasonable manner.

- 17. <u>Outet Possession: Maintenance of Grantor's Property</u>. Grantor hereby covenants that Grantee is seized and possessed of a valid easement estate in and to the Basement Premises, that Grantee shall have quiet and peaceable possession of the Easement Premises, that Grantor shall defend title to the Easement Premises for and on behalf of Grantee, and that Grantor shall provide such further assurances of title as may be necessary or appropriate. Grantor further agrees to maintain Grantor's Property in a commercially reasonable condition and repair during the Term of this Easement, normal wear and tear and casualty excepted. Without limiting the foregoing, except to the extent maintenance is the obligation of tenants under the Tower-Related Licenses, Grantor shall be solely responsible for the maintenance of Grantor's Property.
- 18. Debt Security. Grantor covenants and agrees that, without the prior consent of Grantor, at all times during the Term, Grantee shall have the right to mortgage or convey by deed of trust, deed to secure debt or other instrument adequate for the purpose of securing any bona fide indebtedness or evidence thereof, this Agreement or the easement holder's interest of Grantee created hereby, together with all of Grantee's right, title, and interest in and to the improvements hereinafter constructed, erected, or placed on the Easement Premises by Grantee, provided that no such mortgage, conveyance or encumbrance, nor any foreclosure thereof, nor any purchase thereunder, shall impair or abridge the rights of Grantor, as provided herein.
- 19. Estoppel Certificates, Grantor's Acknowledgment of Rights, and other Similar Documents. Grantor agrees that it will from time to time, within ten (10) business days after request by Grantee, execute and deliver an estoppel certificate, Grantor's acknowledgement of rights or other similar statement, in a form that is reasonably acceptable to both Grantor and Grantee certifying that (i) this Easement is unmodified and in full force and effect (or if there have been modifications, that the same is in full force and effect as so modified); (ii) confirming that the Easement Payment has been prepaid for the entire Term; (iii) stating that Grantee is not in default hereunder (or if Grantor alleges a default stating the nature of such alleged default); and (iv) acknowledging the rights of Grantee, Grantee's mortgagee or assignee, if any, and further stating such other matters as Grantee, Grantee's mortgagee or assignee shall reasonably require. Grantee agrees that it will from time to time, within ten (10) business days after request by Grantor, execute and deliver an estoppel certificate stating whether or not Grantor is default in the performance of any of its obligations hereunder and, if so, specifying the nature of the default.
- 20. <u>Subordination</u>. If the Easement Premises are subject and subordinate to a mortgage, deed of trust or deed to secure debt in favor of Grantor's lender, Grantor shall provide to Grantee a non-disturbance and attornment agreement substantially in the form attached as <u>Exhibit 7.4(b)</u> to the Purchase Agreement.
- 21. Environmental Matters.

4842-0657-9323.5

-9-

Lessee Site ID & No.: NJJER01153A

CONTRACT #

21.1 <u>Grantor's Representations</u>. The operation of Grantor's Property has met, in all material respects, the applicable laws and regulations of all federal, state, and local government authorities having jurisdiction, including, without limitation, all requirements pursuant to environmental protection, health, or safety laws and regulations (including the disposal of hazardous substances and solid wastes) and Grantor will continue to operate Grantor's Property so that it continues to comply such health, or safety laws and regulations. Neither Grantor nor amy of its agents or affiliates have, in connection with the operation of Grantor's Property, ever generated, stored, treated, transported, handled, disposed of, or released any hazardous substance or solid, liquid, or gaseous waste ("Hazardous Substances") in a manner that would give rise to any material liability under any statute or governmental regulation. Grantor is not a "potentially responsible party," as defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980 or under any comparable state or local statute, in connection with any past or present waste disposal practices undertaken by it or on its behalf during its ownership or occupancy of Grantor's Property.

- 21.2 <u>Grantee's Representations and Limitation.</u> Grantee shall not introduce or use any Hazardous Substance on the Easement Premises or Grantor's Property violation of any applicable federal, state or local environmental laws. Grantee shall not be responsible for any Hazardous Substances arising or present on or before the Effective Date. Liability of Grantee for any claims with respect to any Hazardous Substances at Grantor's Property or the Easement Premises shall be limited to contamination that is shown by clear evidence to have been caused by a release of a Hazardous Substance by Grantee after the Effective Date, and in violation of any applicable federal, state or local environmental laws.
- 22. <u>Notices</u>. Notices will be effective if and when sent by registered or certified U.S. mail or reputable same-day or overnight courier, postage prepaid or otherwise accounted for by sender, and sent to the addresses set forth in in the Preamble above. Any party may change the address to which notices are to be addressed by giving the other party notice in the manner set forth in this Section 23.
- 23. Entire Agreement and Binding Effect. The Purchase Agreement, this Agreement and any attached Exhibits constitute the entire agreement between Grantor and Grantee. No prior written or prior, contemporaneous or subsequent oral promises or representations shall be binding. This Agreement shall not be amended or changed except by written instrument signed by authorized representatives of the parties hereto. The provisions of this Agreement shall be binding upon and inure to the benefit of the heirs, executors, administrators, successors and assigns of the parties.
- 24. <u>Counterparts.</u> This Agreement may be executed in any number of counterparts, each of which shall be an original, but all of which together shall constitute but one instrument.
- 25. <u>Recording of Easement.</u> Grantor and Grantee hereby agree, following the execution of this Agreement, that Grantee, at its sole expense, shall have the file this Agreement of record in the county and state where the Easement Premises is located.
- 26. Further Assurances. Grantor will, from time to time after the date of this Agreement, upon the reasonable request of Grantee, execute and deliver all such further documents and assurances as may be reasonably required to transfer to and to vest in Grantee all interest of Grantor in and to the Easement Premises, the Access and Utility Easements and Tower-Related Licenses and to protect the right, title, and

4842-0657-9323.5

-10-

Lessee Site ID & No.: NJJER01153A

CONTRACT #

interest of Grantee in and to such interests. Grantor further agrees to sign such reasonable documents to evidence its agreement to be responsible under Additional Tower-Related Licenses for certain obligations that can only be satisfied by Grantor as owner of Grantor's Property including without limitation (a) obligations relating to the ownership and use of Grantor's Property, (b) all maintenance and repair obligations relating to Grantor's Property, (c) the payment of real property taxes and (d) any covenant or obligation of Grantor relating to the environmental condition of Grantor's Property.

- 27. <u>Time is of the Essence</u>. Time is of the essence of this Agreement and each and all of its provisions.
- 28. <u>Governing Law</u>. This Agreement shall be construed and governed in accordance with the laws of the state in which the Easement Premises is located.
- 29. <u>Severability</u>. If any term, covenant, condition or provision of this Agreement or application thereof shall, to any extent, be invalid or unenforceable, the remainder of this Easement shall not be affected thereby, and shall be valid and enforceable to the fullest extent permitted by law.
- 30. <u>Waiver</u>. No failure or delay of the parties hereto to exercise their rights hereunder or to insist upon the strict compliance with any obligation imposed hereunder, and no course of dealing or custom or practice of either party hereto at variance with any term hereof, shall constitute a waiver or a modification of the terms hereof or the right to demand strict compliance with the terms hereof.
- 31. <u>Covenant Running with the Land</u>. The provisions of and covenants contained in this Agreement shall run with the land and shall bind and inure to the benefit of Grantor, Grantee and their respective successors, heirs and assigns.
- 32. <u>Indemnification By Grantor.</u> After the Effective Date, Grantor agrees to indemnify Grantee against any loss, cost, liability, or expense (including, without limitation, costs and expenses of litigation and, to the extent not prohibited by law, reasonable attorney's fees) (all of which are referred to as "Losses") incurred by Grantee by reason of, resulting from, or arising out of (a) the incorrectness of any of the representations or warranties, or the breach of any of the covenants or agreements of Grantor contained in this Agreement or in any other instrument executed or delivered by Grantor in connection with this Agreement or given on or before the Effective Date; (b) Grantor's breach, on or before the Effective Date, of any agreements with third parties; (c) Grantor's operation of the Property on or before the Effective Date; or (d) the assertion against Grantee of any liability of Grantor.
- 33. <u>Indemnification By Grantee.</u> After the Effective Date, Grantee agrees to indemnify Grantor against any Losses incurred by Grantor by reason of, resulting from, or arising out of (a) the incorrectness of any of the representations or warranties, or the breach of any of the covenants of Grantee contained in this Agreement or given on the Effective Date; (b) Grantee's breach, after the Effective Date (c) the assertion against Grantor of any liability of Grantee; or (d) arising out of the construction, operation or removal of the Communications Equipment on or after the date hereof.

[Signatures are on the following page]

4842-0657-9323.5

-11-

Executed by the parties' duly authorized representatives as of the Effective Date.

Signed, Sealed and Delivered In The Presence Of:

GRANTOR:

By:

CH COMMERCE DRIVE ASSOCIATES, LLC, a

Connecticut limited liability company

By: CH Commerce Dr ve Management, LLC, Manager

Name: Edward

State of: CONNECTICUT

NEW CANARN [City /Town]; December _______, 2018

County of FNRFIELD

On this 17th day of December, 2018, before me, personally appeared Jonathan Garrity, the President of CH Commerce Drive Management, LLC, the Manager of CH COMMERCE DRIVE ASSOCIATES, LLC, a Connecticut limited liability company, signer and sealer of the foregoing instrument, and acknowledged the same to be his free act and deed, and the free act and deed of said CH COMMERCE DRIVE ASSOCIATES, LLC, a Connecticut limited liability company, before me, a Notary Public in and for said County and State.

Notary Public

Print Name:

My Commission Expires January 31, 2020 My Commission Expi

(Seal)

[Signatures continued on the following page]

4842-0657-9323.5

-12-

Signature Page - Telecommunications Facility Easement Agreement

Lessee Site ID & No.: NJJER01153A

Signatures continued	from	the	previous	page]
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GRANTOR:

CITY PARK COMMERCE DRIVE, LLC, a Connecticut limited liability company

By: CH Commerce Drive Management, LLC,

Manager

By: Jonathan Garrity, Presiden

Print

Name: Edward N. Epstein

Print Tyler Gisenar

State of: CONNECTICUT

ss. NEW (ANAAN [City /Town]; December 17, 2018

County of FNRFIELD

On this _______day of December, 2018, before me, personally appeared Jonathan Garrity, the President of CH Commerce Drive Management, LLC, the Manager of CITY PARK COMMERCE DRIVE, LLC, a Connecticut limited liability company, signer and scaler of the foregoing instrument, and acknowledged the same to be his free act and deed, and the free act and deed of said CITY PARK COMMERCE DRIVE, LLC, a Connecticut limited liability company, before me, a Notary Public in and for said County and State.

Commissioner of the

Notary Public
Print Name:

Motory Public, State of Connecticut

My Commission Expires James y 31, 2020

My Commission Exerc

(Seal)

[Signatures continued on the following page]

CT-5046 Trumbull II

4842-0657-9323.5

-13-

Signature Page - Telecommunications Facility Easement Agreement

[Signatures continued from the previous page]

GRANTEE:

James Rech, Chief Executive Officer

Witnesse

Print Name: 1

Commonwealth of Massachusetts

ss. (). Reading [City or Town]; December 17, 2018

On this 12 day of December, 2018, before me, personally appeared James Rech, Chief Executive Officer of BLUE SKY TOWERS II, LLC, a Delaware limited liability company, signer and sealer of the foregoing instrument, and acknowledged the same to be his free act and deed, and the free act and deed of said BLUE SKY TOWERS II, LLC, a Delaware limited liability company, before me, a Notary Public in and for said County and State.

Notary Public

Princ Name: Dawie My Commission Expires:

(Seal)

DANIEL J. GUARINI Notary Public COMMONWEALTH OF MASSACHUSETT My Commission Expires December 3, 2021

4842-0657-9323.5

-14-

CT-5046 Trumbull II

Signature Page - Telecommunications Facility Easement Agreement

Lessee Site ID & No.: NJJER01153A

CONTRACT # _____

EXHIBITS AND SCHEDULES

EXHIBITS

Legal Description of Grantor's Property	A
Existing Tower-Related License	В
Legal Description of Easement Premises	C
Legal Description of Access Easement	D
Legal Description of Utility Easement	E

4842-0657-9323.5

-15-

Lessee Site ID & No.: NJJER01153A

CONTRACT#

EXHIBIT A

LEGAL DESCRIPTION OF GRANTOR'S PROPERTY

Situated in the County of Fairfield, State of Connecticut:

Parent Parcel:

All that certain piece or parcel of land with all of the improvements thereon situated in the Town of Trumbull, County of Fairfield and State of Connecticut, containing 14.02 acres and shown on a certain map entitled "Resubdivision Plan, Lot No. 4, Commerce Drive & Huntington Road, Trumbull, Connecticut, prepared for David Mack" Prepared by J. & D. Kasper & Associates, Engineers, Surveyors. Planners, Bridgeport, Connecticut, Scale 1* = 50' dated Feb. 20, 1979, Sheet 2 of 3, on file in the Trumbull Town Clerk's Office and further shown on a revision of said map dated Dec. 4, 1981 and bounded and described as follows:

In part, by land now or formerly of Dow Corning Corp., in part, by the WESTERLY:

terminus of Commerce Drive, as shown on said map, and in part, by land now or formerly of Optique Dumonde, Ltd., in all, 793.21 feet, said boundary having a bearing of N 19°37'25"W, the termini of said boundary being

marked by iron pipes;

NORTHWESTERLY: By land now or formerly of Optique Dumonde, Ltd., 264.90 feet, said

boundary having a bearing of N 25°32'15"E, the termini of said boundary

being marked by iron pipes;

By land now or formerly of Christine Lundgren, 47.14 feet, said boundary NORTHERLY:

having a bearing of S 79°31'53"E;

NORTHERLY: AGAIN, by land now or formerly of Christine Lundgren, 60.33 feet, said

boundary having a bearing of N 83°40 15"E;

NORTHERLY: AGAIN, by land now or formerly of Christine Lundgren, 26.91 feet, said

boundary having a bearing of N 77°19'39"E;

AGAIN, by land now or formerly of Christine Lundgren, 58.83 feet, said NORTHERLY:

boundary having a bearing or N 75°33'27"E;

AGAIN, by land now or formerly of Christine Lundgren, 66.26 feet, said NORTHERLY:

boundary having a bearing of N 77°36'19"E;

AGAIN, in part by land now or formerly of Christine Lundgren and in part by NORTHERLY:

land now or formerly of E.V. & N.B. Bowen, in all, 51.36 feet, said boundary

having a bearing of N 75°24'40"E;

CT-5046 Trumbull II 4842-0657-9323.5 **A**-1

Lessee Site ID & No.: NJJER01153A

CONTRACT#

NORTHERLY:

AGAIN, by land now or formerly of E.V. & N.B. Bowen, 38.96 feet, said

boundary having a bearing of N 80°42'12"E;

NORTHERLY:

AGAIN, by land now or formerly of E.V. & N.B. Bowen, 76.08 feet, said

boundary having a bearing of N 76°46'19"E, all of said northerly boundaries

being the center line of a stone wall;

EASTERLY:

In part by land now or formerly of E.J. & A.M. Overwise and in part by land

now or formerly of Thomas & Carol Donegan, in all, 222.47 feet, said

boundary having a bearing of \$ 25°36'55"E;

EASTERLY:

AGAIN, in part by land now or formerly of Thomas & Carol Donegan, in part by land now or formerly of R.D. & L.S. Sutton, and in part by land now

or formerly of M.H. & V.M. Shaw, in all, 167.89 feet, said boundary having a

bearing of \$ 17°42'45"E;

EASTERLY:

AGAIN, in part by land now or formerly of M.H. & V.M. Shaw and in part

by land now or formerly of Doris Cheney and Linda Beeman, in all, 205.70

feet, said boundary having a bearing of \$ 14°15'35"E;

EASTERLY:

AGAIN, in part by land now or formerly of Doris Cheney and Linda Beeman

and in part by land now or formerly of Peter Everetts, in all, 211.25 feet, said

boundary having a bearing of \$ 07°16'25"E;

SOUTHEASTERLY:

By land now or formerly of Timothy & Carol Ryan, 24.59 feet, said boundary

having a bearing of \$ 60°35'50"W, said boundary being the center line of a

stone wall:

SOUTHEASTERLY:

AGAIN, by land now or formerly of Timothy & Carol Ryan, 88.04 feet, said

boundary having a bearing of S 61°24'49"W, said boundary being the center

line of a stone wall;

SOUTHEASTERLY:

AGAIN, by land now or formerly of Timothy & Carol Ryan, 12.65 feet, said

boundary having a bearing of S 67°09'05"W, said boundary being the center

line of a stone wall;

EASTERLY:

AGAIN, in part by land now or formerly of Timothy and Carol Ryan and in

part by land now or formerly of Robert & Carol Brumper, in all, 192.32 feet,

said boundary having a bearing of S 07°52'21"W;

NORTHERLY:

AGAIN, by land now or formerly of Robert & Carol Brumper, 4.00 feet, said

boundary having a bearing of S 80°30'31"E;

4842-0657-9323 5

A-2

CT-5046 Toroshell II

Lessee Site ID & No.: NJJER01153A

CONTRACT #_

EASTERLY:

AGAIN, by land now or formerly of C.B. & J.R. Kelly, 120.00 feet, said

boundary having a bearing of S 01°51'40"W;

EASTERLY:

AGAIN, by land now or formerly of Walter & Brian Holinko, 251.93 feet,

said boundary having a bearing of S 17°00'58"E;

SOUTHERLY:

By land now or formerly of Pauline Nemergut, 8.594 feet, said boundary

having a bearing of S 77°10'51"W;

SOUTHERLY:

AGAIN, by land now or formerly of Pauline Nemergut, 96.60 feet, said

boundary having a bearing of S 87°06'11"W;

SOUTHWESTERLY:

By land now or formerly of Belmar Corporation, 48.31 feet, said boundary

having a bearing of N 13°55'47"W;

SOUTHWESTERLY:

AGAIN, by land now or formerly of Belmar Corporation, 66.23 feet, said

boundary having a bearing of N 25°50'46"W;

SOUTHWESTERLY:

AGAIN, by land now or formerly of Belmar Corporation, 46.73 feet, said

boundary having a bearing of N 33°26'08"W;

SOUTHWESTERLY:

AGAIN, by land now or formerly of Belmar Corporation, 72.44 feet, said

boundary having a bearing of N 38°14'47"W;

SOUTHWESTERLY: AGAIN, by land now or formerly of Belmar Corporation, 46.47 feet, said

boundary having a bearing of N 40°31'50"W;

SOUTHWESTERLY:

AGAIN, by land now or formerly of Belmar Corporation, 75.01 feet, said

boundary having a bearing of N 47°54'59"W;

SOUTHWESTERLY:

AGAIN, by land now or formerly of Belmar Corporation, 103.51 feet, said

boundary having a bearing of N 45°27'05"W, all of said southwesterly

boundaries being the center line of a stone wall;

SOUTHERLY:

by land now or formerly of Belmar Corporation, 58.12 feet, said boundary

having a bearing of S 60°09'57"W.

Tax I.D. Number: 00432800

Being the same property conveyed to City Park Commerce Drive, LLC, a Connecticut limited liability company and CH Commerce Drive Associates, LLC, a limited liability company, as their interests may appear, Grantee, from Pilot Corporation of America, Grantor, by deed recorded 06/25/2014, as Book 1666, Page 608 of the Trumbull Town Clerk Records.

and

4842-0657-9323,5

A-3

Lessee Site ID & No.: NJJER01153A

CONTRACT #

Being the same property conveyed to City Park Commerce Drive, LLC, a Connecticut limited liability company and CH Commerce Drive Associates, LLC, a Connecticut limited liability company, as their interests may appear, Grantee, from Pilot Corporation of America, Grantor, by deed recorded 06/25/2014, as Book 1666, Page 601 of the Trumbull Town Clerk Records.

4842-0657-9323.5

A-4

Lessee Site ID & No.: NJJER01153A

CONTRACT # _____

EXHIBIT B

EXISTING TENANTS AND TOWER-RELATED LICENSES

RENT ROLL: TOWER-RELATED LICENSES

1. That certain Land Lease Agreement dated October 18th, 2013, as may be amended, by and between CH Commerce Drive Associates, LLC and City Park Commerce Drive, LLC, as successor-in-Interest to Pilot Corporation of America as Lessor thereunder, and Celleo Partnership d/b/a Verizon Wireless as Lessoe thereunder, as evidenced by the Memorandum of Land Lease Agreement dated October 18, 2013 and recorded on October 29, 2013 in Volume 1651 Page 901 of the Trumbull Town Clerk Records.

4842-0657-9323.5

B-1

CT-5046 Trambull 11

Lessee Site ID & No.: NJJER01153A

CONTRACT #

EXHIBIT C

LEGAL DESCRIPTION OF EASEMENT PREMISES

Beginning at a northwesterly corner of the Easement Area herein described, said point being located N 76°49'28" E a distance of 260.02' from an iron rod found, thence;

S 15°49'11" E a distance of 8.92' to a point, thence;

S 74°10'49" W a distance of 35.00' to a point, thence;

S 15°49'11" E a distance of 20.00' to a point, thence;

N 74°10'49" E a distance of 117.00' to a point, thence;

N 15°49'11" W a distance of 29.16' to a point, thence;

S 74°03'43" W a distance of 39.19' to a point, thence;

S 73°57'58" W a distance of 42.81' to the point of beginning.

Having an area of 3,082 square feet or 0.071 acres, more or less.

Being shown on a survey drawing prepared by ProTerra Design Group, LLC, titled "Site Number CT-5046 Address: 60 Commerce Drive, Trumbull, CT 06611" and dated December 12, 2018.

4842-0657-9323.5

C-1

Lessee Site ID & No.: NJJER01153A

CONTRACT #

EXHIBIT D

LEGAL DESCRIPTION OF ACCESS EASEMENT

12' WIDE NON-EXCLUSIVE ACCESS EASEMENT DESCRIPTION:

Beginning at a point in the easterly terminus of Commerce Drive, said point being located S19°25'26"B a distance of 475.19' from an iron rod found, thence;

S 58°31'38" E a distance of 41.50' to a point, thence;

along a curve to the right with an arc length of 33.63', with a radius of 56.00',

with a chord bearing of S 41°19'32" E, with a chord length of 33.12' to a point, thence;

S 24°07'26" B a distance of 113.58' to a point, thence;

along a curve to the left with an arc length of 141.23', with a radius of 84.00',

with a chord bearing of S 72°17'24" E with a chord length of 125.17 to a point, thence;

N 59°32'39" E a distance of 355.58' to a point, thence;

along a curve to the left with an arc length of 51.03', with a radius of 44.00',

with a chord bearing of N 26°18'57" E, with a chord length of 48.22' to a point, thence;

N 06°54'44" W a distance of 167.90' to a point, thence;

along a curve to the left with an arc length of 51.12', with a radius of 44.00',

with a chord bearing of N 40°11'49" W, with a chord length of 48.29' to a point, thence;

N 73°28'54" W a distance of 3.65' to a point, thence;

along a curve to the right with an arc length of 56.32', with a radius of 56.00'.

with a chord bearing of N 44°40'09" W, with a chord length of 53.98' to a point, thence;

N 15°51'25" W a distance of 210.56' to a point, thence;

along a curve to the left with an arc length of 13.73', with a radius of 9.00',

with a chord bearing of N 59°34'10" W, with a chord length of 12.44' to a point, thence;

4842-0657-9323.5

D-1

Docusigit Envelope ID. Co21136A-E 131-461 2-BB31 4 DA3021DE132

Lessor Site ID & No.: Trumbull SE 4 CT / 469122

Lessee Site ID & No.: NJJER01153A

CONTRACT#

S 76°43'05" W a distance of 89.27 to a point, thence;

along a curve to the right with an arc length of 48.26', with a radius of 56.00',

with a chord bearing of N 78°35'30" W, with a chord length of 46.78' to a point, thence;

N 53°54'05" W a distance of 44.21' to a point, thence;

along a curve to the left with an arc length of 39.87', with a radius of 44.00',

with a chord bearing of N 79°51'38" W, with a chord length of 38.52' to a point, thence;

S 74°10'49" W a distance of 3.20' to a point, thence;

N 15°49'11" W a distance of 12.00' to a point, thence;

N 74°10'49" E a distance of 3.20' to a point, thence;

along a curve to the right with an arc length of 50.74', with a radius of 56.00',

with a chord bearing of S 79°51'38" E, with a chord length of 49.03' to a point, thence;

S 53°54'05" E a distance of 44.21' to a point, thence;

along a curve to the left with an arc length of 37.92', with a radius of 44.00',

with a chord bearing of S 78°35'30" E, with a chord length of 36.76' to a point, thence;

N 76°43'05" E a distance of 89.27 to a point, thence;

along a curve to the right with an arc length of 32.04', with a radius of 21.00',

with a chord bearing of S 59°34'10" E, with a chord length of 29.02' to a point, thence;

S 15°51'25" E a distance of 210.56' to a point, thence;

along a curve to the left with an arc length of 44.25', with a radius of 44.00',

with a chord bearing of S 44°40'09" E, with a chord length of 42.41' to a point, thence;

S 73°28'54" E a distance of 3.65' to a point, thence;

along a curve to the right with an arc length of 65.06', with a radius of 56.00',

4842-0657-9323.5

D-2

Lessee Site ID & No.: NJJER01153A

CONTRACT #

with a chord bearing of S 40°11'49" E, with a chord length of 61.47' to a point, thence;

S 06°54'44" E a distance of 167.90' to a point, thence;

along a curve to the right with an arc length of 64.95', with a radius of 56.00',

with a chord bearing of S 26°18'57" W, with a chord length of 61.37' to a point, thence;

S 59°32'39" W a distance of 355.58' to a point, thence;

along a curve to the right with an arc length of 161.41', with a radius of 96.00',

with a chord bearing of N 72°17'24" W, with a chord length of 143.06' to a point, thence;

N 24°07'26" W a distance of 113.58' to a point, thence;

along a curve to the left with an arc length of 26.42', with a radius of 44.00',

with a chord bearing of N 41°19'32" W, with a chord length of 26.02' to a point, thence;

N 58°31'38" W a distance of 26.73' to a point, thence;

N 19°25'26" W a distance of 19.03' to the point of beginning.

Having on area of 17,773 square feet, or 0.408 acres, more or less.

Being shown on a survey drawing prepared by ProTerra Design Group, LLC, titled "Site Number CT-5046 Address: 60 Commerce Drive, Trumbull, CT 06611" and dated December 12, 2018.

4842-0657-9323.5

D-3

Lessee Site ID & No.: NJJER01153A

CONTRACT #

EXHIBIT E

LEGAL DESCRIPTION OF UTILITY EASEMENT

Beginning at a point in the easterly terminus of Commerce Drive, said point being located S19°25'26"B a distance of 364.83' from an iron rod found, thence;

N 39°17'57" E a distance of 0.28' to a point, thence;

along a curve to the left with an arc length of 54.02', with a radius of 60.00',

with a chord bearing of N 13°30'18" E, with a chord length of 52.22' to a point, thence;

N 12°17'20" W a distance of 159.01' to a point, thence;

along a curve to the right with an arc length of 26.97', with a radius of 80.00',

with a chord bearing of N 02°37'47" W, with a chord length of 26.85' to a point, thence;

N 07°01'45" E a distance of 74.58' to a point, thence;

along a curve to the right with an arc length of 93.76', with a radius of 80.00',

with a chord bearing of N 40°36'17" E, with a chord length of 88.49' to a point, thence;

N 74°10'49" E a distance of 92.40' to a point, thence;

S 15°49'11" E a distance of 5.00' to a point, thence;

S 74°10'49" W a distance of 35.00' to a point, thence;

S 15°49'11" E a distance of 15.00' to a point, thence;

S 74°10'49" W a distance of 57.40' to a point, thence;

along a curve to the left with an arc length of 70.32', with a radius of 60.00',

with a chord bearing of S 40°36'17" W, with a chord length of 66.36' to a point, thence;

S 07°01'45" W a distance of 74.58' to a point, thence;

along a curve to the left with an arc length of 20.23', with a radius of 60.00',

with a chord bearing of S 02°37'47" E, with a chord length of 20.13' to a point, thence;

4842-0657-9323.5

E-1

Lessee Site ID & No.: NJJER01153A

CONTRACT # _____

S 12°17'20" B a distance of 159.01' to a point, thence;

along a curve to the right with an arc length of 72.03', with a radius of 80.00',

with a chord bearing of S 13°30'18" W, with a chord length of 69.62' to a point, thence;

S 39°17'57" W a distance of 12.43' to a point, thence;

N 19°25'26" W a distance of 23.40' to the point of beginning.

Having an area of 9,495 square feet or 0.218 acres, more or less.

Being shown on a survey drawing prepared by ProTerra Design Group, LLC, titled "Site Number CT-5046 Address: 60 Commerce Drive, Trumbull, CT 06611" and dated December 12, 2018.

4842-0657-9323.5

E-2

Lessee Site ID & No.: NJJER01153A

CONTRACT #

SITE NAME: Trumbuli SE4, CT SITE NUMBER: 20130931986 ATTY/DATE: Saunders/2013

LAND LEASE AGREEMENT

This Agreement, made this 18th day of October, 2013 between Pilot Corporation of America, a Delaware corporation with its principal offices located at 3855 Regent Boulevard, Jacksonville, Florida 32224, hereinafter designated LESSOR and Cellco Partnership d/b/a Verizon Wireless, a Delaware general partnership with its principal office located at One Verizon Way, Mail Stop 4AW100, Basking Ridge, New Jersey 07920 (telephone number 866-862-4404), hereinafter designated LESSEE. The LESSOR and LESSEE are at times collectively referred to hereinafter as the "Parties" or individually as the "Party".

1. <u>PREMISES</u>. LESSOR hereby leases to LESSEE a portion of that certain parcel of property (the entirety of LESSOR's property is referred to hereinafter as the Property), located at 60 Commerce Drive in the Town of Trumbull, County of Fairfield and State of Connecticut, and being described as a parcel containing 1,968 square feet (the "Land Space"), together with the non-exclusive right (the "Rights of Way") for ingress and egress, seven (7) days a week twenty-four (24) hours a day, on foot or motor vehicle, including trucks over or along a twenty (20') foot wide right-of-way extending from the nearest public right-of-way, Commerce Drive, to the Land Space, and for the installation and maintenance of utility wires, poles, cables, conduits, and pipes over, under, or along one or more rights of way from the Land Space, said Land Space and Rights of Way (hereinafter collectively referred to as the "Premises") being substantially as described herein in Exhibit "A" attached hereto and made a part hereof. The Property is also shown on the Tax Map K/09 of the Town of Trumbull as Block N/A, Lot 20 and is further described in Deed Book 470 at Page 50 as recorded in the Office of the Trumbull Town Clerk.

In the event any public utility is unable to use the Rights of Way, the LESSOR hereby agrees to grant an additional right-of-way either to the LESSEE or to the public utility at no cost to the LESSEE.

2. <u>SURVEY</u>. LESSOR also hereby grants to LESSEE the right to survey the Property and the Premises, and said survey shall then become Exhibit "B" which shall be attached hereto and made a part hereof, and shall control in the event of boundary and access discrepancies between it and Exhibit "A". Cost for such work shall be borne by the LESSEE.

TERM; RENTAL.

a. This Agreement shall be effective as of the date of execution by both Parties, provided, however, the initial term shall be for five (5) years and shall commence on the Commencement Date (as hereinafter defined) at which time rental payments shall commence and be due at a total annual rental of to be paid in equal monthly installments on the first day of the month, in advance, to LESSOR or to such other person, firm or place as LESSOR may, from time to time, designate in writing at least thirty (30) days in advance of any rental payment date by notice given in accordance with Paragraph 23 below. The Agreement shall commence based upon the date LESSEE is granted a

{W2280479;2}

Lessee Site ID & No.: NJJER01153A

CONTRACT #

building permit by the governmental agency charged with issuing such permits, or the date of execution of the Agreement by the Parties, whichever is later. In the event the date at which LESSEE is granted a building permit or the date of execution of the Agreement, whichever is applicable, falls between the 1st and 15th of the month, the Agreement shall commence on the 1st of that month and if such date falls between the 16th and 31st of the month, then the Agreement shall commence on the 1st day of the following month (either the "Commencement Date"). LESSOR and LESSEE acknowledge and agree that initial rental payment(s) shall not actually be sent by LESSEE until thirty (30) days after the Commencement Date. By way of illustration of the preceding sentence, if the Commencement Date is January 1, LESSEE shall send to the LESSOR the rental payments for January 1 and February 1 by February 1.

Upon agreement of the Parties, LESSEE may pay rent by electronic funds transfer and in such event, LESSOR agrees to provide to LESSEE bank routing information for such purpose upon request of LESSEE.

b. LESSOR hereby agrees to provide to LESSEE certain documentation (the "Rental Documentation") evidencing LESSOR's interest in, and right to receive payments under, this Agreement, including without limitation: (i) documentation, acceptable to LESSEE in LESSEE's reasonable discretion, evidencing LESSOR's good and sufficient title to and/or interest in the Property and right to receive rental payments and other benefits hereunder; and (ii) a complete and fully executed Internal Revenue Service Form W-9, or equivalent, in a form acceptable to LESSEE, for any party to whom rental payments are to be made pursuant to this Agreement. From time to time during the Term of this Agreement and within thirty (30) days of a written request from LESSEE, LESSOR agrees to provide updated Rental Documentation in a form reasonably acceptable to LESSEE. The Rental Documentation shall be provided to LESSEE in accordance with the provisions of and at the address given in Paragraph 23. Delivery of Rental Documentation to LESSEE shall be a prerequisite for the payment of any rent by LESSEE and notwithstanding anything to the contrary herein, LESSEE shall have no obligation to make any rental payments until Rental Documentation has been supplied to LESSEE as provided herein.

Within fifteen (15) days of obtaining an interest in the Property or this Agreement, any assignee(s), transferee(s) or other successor(s) in interest of LESSOR shall provide to LESSEE Rental Documentation in the manner set forth in the preceding paragraph. From time to time during the Term of this Agreement and within thirty (30) days of a written request from LESSEE, any assignee(s) or transferee(s) of LESSOR agrees to provide updated Rental Documentation in a form reasonably acceptable to LESSEE. Delivery of Rental Documentation to LESSEE by any assignee(s), transferee(s) or other successor(s) in interest of LESSOR shall be a prerequisite for the payment of any rent by LESSEE to such party and notwithstanding anything to the contrary herein, LESSEE shall have no obligation to make any rental payments to any assignee(s), transferee(s) or other successor(s) in interest of LESSOR until Rental Documentation has been supplied to LESSEE as provided herein.

{W2280479;2}

4. <u>EXTENSIONS</u>. This Agreement shall automatically be extended for four (4) additional five (5) year terms unless LESSEE terminates it at the end of the then current term by giving LESSOR written notice of the intent to terminate at least six (6) months prior to the end of the then current term.

5. EXTENSION RENTALS. The annual rental for the first (1st) five (5) year extension term shall be increased to the annual rental for the second (2nd) five (5) year extension term shall be increased to the annual rental for the third (3rd) five (5) year extension term shall be increased to the annual rental for the fourth (4th) five (5) year extension term shall be increased to

- 6. <u>ADDITIONAL EXTENSIONS</u>. If at the end of the fourth (4th) five (5) year extension term this Agreement has not been terminated by either Party by giving to the other written notice of an intention to terminate it at least three (3) months prior to the end of such term, this Agreement shall continue in force upon the same covenants, terms and conditions for a further term of five (5) years and for five (5) year terms thereafter until terminated by either Party by giving to the other written notice of its intention to so terminate at least three (3) months prior to the end of such term. Annual rental for each such additional five (5) year term shall be equal to 103% of the annual rental payable with respect to the immediately preceding five (5) year term. The initial term and all extensions shall be collectively referred to herein as the "Term".
- TAXES. LESSEE shall have the responsibility to pay any personal property, real estate taxes, assessments, or charges owed on the Property which LESSOR demonstrates is the result of LESSEE's use of the Premises and/or the installation, maintenance, and operation of the LESSEE's improvements, and any sales tax imposed on the rent (except to the extent that LESSEE is or may become exempt from the payment of sales tax in the jurisdiction in which the Property is located), including any increase in real estate taxes at the Property which LESSOR demonstrates arises from the LESSEE's improvements and/or LESSEE's use of the Premises. LESSOR and LESSEE shall each be responsible for the payment of any taxes, levies, assessments and other charges imposed including franchise and similar taxes imposed upon the business conducted by LESSOR or LESSEE at the Property. Notwithstanding the foregoing, LESSEE shall not have the obligation to pay any tax, assessment, or charge that LESSEE is disputing in good faith in appropriate proceedings prior to a final determination that such tax is properly assessed provided that no lien attaches to the Property. Nothing in this Paragraph shall be construed as making LESSEE liable for any portion of LESSOR's income taxes in connection with any Property or otherwise. Except as set forth in this Paragraph, LESSOR shall have the responsibility to pay any personal property, real estate taxes, assessments, or charges owed on the Property and shall do so prior to the imposition of any lien on the Property.

LESSEE shall have the right, at its sole option and at its sole cost and expense, to appeal, challenge or seek modification of any tax assessment or billing for which LESSEE is wholly or partly responsible for payment. LESSOR shall reasonably cooperate with LESSEE at LESSEE's

(W2280479/2)

Lessee Site ID & No.: NJJER01153A

CONTRACT #

expense in filing, prosecuting and perfecting any appeal or challenge to taxes as set forth in the preceding sentence, including but not limited to, executing any consent, appeal or other similar document. In the event that as a result of any appeal or challenge by LESSEE, there is a reduction, credit or repayment received by the LESSOR for any taxes previously paid by LESSEE, LESSOR agrees to promptly reimburse to LESSEE the amount of said reduction, credit or repayment. In the event that LESSEE does not have the standing rights to pursue a good faith and reasonable dispute of any taxes under this paragraph, LESSOR will pursue such dispute at LESSEE's sole cost and expense upon written request of LESSEE.

- USE; GOVERNMENTAL APPROVALS. LESSEE shall use the Premises for the purpose of constructing, maintaining, repairing and operating a communications facility and uses incidental thereto. A security fence consisting of chain link construction or similar but comparable construction shall be placed around the perimeter of the Premises (not including the access easement). All improvements, equipment, antennas and conduits shall be at LESSEE's expense and their installation shall be at the discretion and option of LESSEE, LESSEE shall have the right to replace, repair, add or otherwise modify its utilities, equipment, antennas and/or conduits or any portion thereof and the frequencies over which the equipment operates, whether the equipment, antennas, conduits or frequencies are specified or not on any exhibit attached hereto, during the Term. It is understood and agreed that LESSEE's ability to use the Premises is contingent upon its obtaining after the execution date of this Agreement all of the certificates, permits and other approvals (collectively the "Governmental Approvals") that may be required by any Federal, State or Local authorities as well as satisfactory soil boring tests which will permit LESSEE use of the Premises as set forth above. LESSOR shall cooperate with LESSEE in its effort to obtain such approvals and shall take no action which would adversely affect the status of the Property with respect to the proposed use thereof by LESSEE. In the event that (i) any of such applications for such Governmental Approvals should be finally rejected; (ii) any Governmental Approval issued to LESSEE is canceled, expires, lapses, or is otherwise withdrawn or terminated by governmental authority; (iii) LESSEE determines that such Governmental Approvals may not be obtained in a timely manner; (iv) LESSEE determines that any soil boring tests are unsatisfactory; (v) LESSEE determines that the Premises is no longer technically compatible for its use, or (vi) LESSEE, in its sole discretion, determines that the use the Premises is obsolete or unnecessary, LESSEE shall have the right to terminate this Agreement. Notice of LESSEE's exercise of its right to terminate shall be given to LESSOR in writing by certified mail, return receipt requested, and shall be effective upon the mailing of such notice by LESSEE, or upon such later date as designated by LESSEE. All rentals paid to said termination date shall be retained by LESSOR. Upon such termination, this Agreement shall be of no further force or effect except to the extent of the representations, warranties and indemnities made by each Party to the other hereunder. Otherwise, the LESSEE shall have no further obligations for the payment of rent to LESSOR.
- 9. <u>INDEMNIFICATION</u>. Subject to Paragraph 10 below, each Party shall indemnify and hold the other harmless against any claim of liability or loss from personal injury or property damage resulting from or arising out of the negligence or willful misconduct of the indemnifying Party, its employees, contractors or agents, except to the extent such claims or damages may be due to or caused by the negligence or willful misconduct of the other Party, or its employees, contractors or agents.

{W2280479;2}

Lessee Site ID & No.: NJJER01153A

CONTRACT#

10. INSURANCE,

a. <u>Intentionally Omitted.</u>

- b. LESSEE agrees that, at its own cost and expense, it will maintain commercial general liability insurance with limits not less than \$5,000,000.00 for injury to or death of one or more persons in any one occurrence and \$5,000,000.00 for damage or destruction to property in any one occurrence. LESSEE agrees that it will include the LESSOR as an additional insured on all applicable policies.
- 11. <u>LIMITATION OF LIABILITY</u>. Except for indemnification pursuant to Paragraphs 9 and 29, neither Party shall be liable to the other, or any of their respective agents, representatives, employees for any lost revenue, lost profits, loss of technology, rights or services, incidental, punitive, indirect, special or consequential damages, loss of data, or interruption or loss of use of service, even if advised of the possibility of such damages, whether under theory of contract, tort (including negligence), strict liability or otherwise.
- 12. <u>ANNUAL TERMINATION</u>. Notwithstanding anything to the contrary contained herein, provided LESSEE is not in default hereunder beyond applicable notice and cure periods, LESSEE shall have the right to terminate this Agreement upon the annual anniversary of the Commencement Date provided that three (3) months prior notice is given to LESSOR.
- 13. INTERFERENCE. LESSEE agrees to install equipment of the type and frequency which will not cause harmful interference which is measurable in accordance with then existing industry standards to any equipment of LESSOR or other lessees of the Property which existed on the Property prior to the date this Agreement is executed by the Parties. In the event any afterinstalled LESSEE's equipment causes such interference, and after LESSOR has notified LESSEE in writing of such interference, LESSEE will take all commercially reasonable steps necessary to correct and eliminate the interference, including but not limited to, at LESSEE's option, powering down such equipment and later powering up such equipment for intermittent testing. In no event will LESSOR be entitled to terminate this Agreement or relocate the equipment as long as LESSEE is making a good faith effort to remedy the interference issue. LESSOR agrees that LESSOR and/or any other tenants of the Property who currently have or in the future take possession of the Property will be permitted to install only such equipment that is of the type and frequency which will not cause harmful interference which is measurable in accordance with then existing industry standards to the then existing equipment of LESSEE. The Parties acknowledge that there will not be an adequate remedy at law for noncompliance with the provisions of this Paragraph and therefore, either Party shall have the right to equitable remedies, such as, without limitation, injunctive relief and specific performance.
- 14. <u>REMOVAL AT END OF TERM</u>. LESSEE shall, upon expiration of the Term, or within ninety (90) days after any earlier termination of the Agreement, remove its building(s), antenna structure(s) (except footings), equipment, conduits, fixtures and all personal property and restore the Premises to its original condition, reasonable wear and tear and casualty damage excepted. LESSOR agrees and acknowledges that all of the equipment, conduits, fixtures and

{W2280479;2}

Lessee Site ID & No.: NJJER01153A

CONTRACT #

personal property of LESSEE shall remain the personal property of LESSEE and LESSEE shall have the right to remove the same at any time during the Term, whether or not said items are considered fixtures and attachments to real property under applicable Laws (as defined in Paragraph 33 below). If such time for removal causes LESSEE to remain on the Premises after termination of this Agreement, LESSEE shall pay rent at the then existing monthly rate or on the existing monthly pro-rata basis if based upon a longer payment term, until such time as the removal of the building, antenna structure, fixtures and all personal property are completed.

- 15. HOLDOVER. LESSEE has no right to retain possession of the Premises or any part thereof beyond the expiration of that removal period set forth in Paragraph 14 herein, unless the Parties are negotiating a new lease or lease extension in good faith. In the event that the Parties are not in the process of negotiating a new lease or lease extension in good faith, LESSEE holds over in violation of Paragraph 14 and this Paragraph 15, then the rent then in effect payable from and after the time of the expiration or earlier removal period set forth in Paragraph 14 shall equal to the rent applicable during the month immediately preceding such expiration or earlier termination.
- 16. RIGHT OF FIRST REFUSAL. If LESSOR elects, during the Term (i) to sell or otherwise transfer all or any portion of the Property, whether separately or as part of a larger parcel of which the Property is a part, or (ii) to grant to a third party by easement or other legal instrument an interest in and to that portion of the Property occupied by LESSEE, or a larger portion thereof, for the purpose of operating and maintaining communications facilities or the management thereof, with or without an assignment of this Agreement to such third party, LESSEE shall have the right of first refusal to meet any bona fide offer of sale or transfer on the same terms and conditions of such offer. If LESSEE fails to meet such bona fide offer within thirty (30) days after written notice thereof from LESSOR, LESSOR may sell or grant the easement or interest in the Property or portion thereof to such third person in accordance with the terms and conditions of such third party offer. For purposes of this Paragraph, any transfer, bequest or devise of LESSOR's interest in the Property as a result of the death of LESSOR, whether by will or intestate succession, or any conveyance to LESSOR's family members by direct conveyance or by conveyance to a trust for the benefit of family members shall not be considered a sale of the Property for which LESSEE has any right of first refusal.
- 17. RIGHTS UPON SALE. Should LESSOR, at any time during the Term decide (i) to sell or transfer all or any part of the Property to a purchaser other than LESSEE, or (ii) to grant to a third party by easement or other legal instrument an interest in and to that portion of the Property occupied by LESSEE, or a larger portion thereof, for the purpose of operating and maintaining communications facilities or the management thereof, such sale or grant of an easement or interest therein shall be under and subject to this Agreement and any such purchaser or transferee shall recognize LESSEE's rights hereunder under the terms of this Agreement. To the extent that LESSOR grants to a third party by easement or other legal instrument an interest in and to that portion of the Property occupied by LESSEE for the purpose of operating and maintaining communications facilities or the management thereof and in conjunction therewith, assigns this Agreement to said third party, LESSOR shall not be released from its obligations to

(W2280479;2)

Lessee Site ID & No.: NJJER01153A

CONTRACT #	
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LESSEE under this Agreement, and LESSEE shall have the right to look to LESSOR and the third party for the full performance of this Agreement.

- 18. <u>QUIET ENJOYMENT</u>. LESSOR covenants that LESSEE, on paying the rent and performing the covenants herein, shall peaceably and quietly have, hold and enjoy the Premises.
- 19. <u>TITLE</u>. LESSOR represents and warrants to LESSEE as of the execution date of this Agreement, and covenants during the Term that LESSOR is seized of good and sufficient title and interest to the Property and has full authority to enter into and execute this Agreement. LESSOR further covenants during the Term that there are no liens, judgments or impediments of title on the Property, or affecting LESSOR's title to the same and that there are no covenants, easements or restrictions which prevent or adversely affect the use or occupancy of the Premises by LESSEE as set forth above.
- 20. INTEGRATION. It is agreed and understood that this Agreement contains all agreements, promises and understandings between LESSOR and LESSEE and that no verbal or oral agreements, promises or understandings shall be binding upon either LESSOR or LESSEE in any dispute, controversy or proceeding at law, and any addition, variation or modification to this Agreement shall be void and ineffective unless made in writing signed by the Parties or in a written acknowledgment in the case provided in Paragraph 3. In the event any provision of the Agreement is found to be invalid or unenforceable, such finding shall not affect the validity and enforceability of the remaining provisions of this Agreement. The failure of either Party to insist upon strict performance of any of the terms or conditions of this Agreement or to exercise any of its rights under the Agreement shall not waive such rights and such Party shall have the right to enforce such rights at any time and take such action as may be lawful and authorized under this Agreement, in law or in equity.
- 21. <u>GOVERNING LAW</u>. This Agreement and the performance thereof shall be governed, interpreted, construed and regulated by the Laws of the State in which the Property is located.
- 22. ASSIGNMENT. This Agreement may be sold, assigned or transferred by the LESSEE without any approval or consent of the LESSOR to the LESSEE's principal, affiliates, subsidiaries of its principal or to any entity which acquires all or substantially all of LESSEE's assets in the market defined by the Federal Communications Commission in which the Property is located by reason of a merger, acquisition or other business reorganization. As to other parties, this Agreement may not be sold, assigned or transferred without the written consent of the LESSOR, which such consent will not be unreasonably withheld, delayed or conditioned. No change of stock ownership, partnership interest or control of LESSEE or transfer upon partnership or corporate dissolution of LESSEE shall constitute an assignment hereunder. LESSEE may sublet the Premises within its sole discretion, upon notice to LESSOR. Any sublease that is entered into by LESSEE shall be subject to the provisions of this Agreement and shall be binding upon the successors, assigns, heirs and legal representatives of the respective Parties hereto.

(W2280479;2)

Lessee Site ID & No.: NJJER01153A

CONTRACT #

23. NOTICES. All notices hereunder must be in writing and shall be deemed validly given if sent by certified mail, return receipt requested or by commercial courier, provided the courier's regular business is delivery service and provided further that it guarantees delivery to the addressee by the end of the next business day following the courier's receipt from the sender, addressed as follows (or any other address that the Party to be notified may have designated to the sender by like notice):

LESSOR: Pilot Corr

Pilot Corporation of America 3855 Regent Boulevard Jacksonville, Florida 32224 Attention: Nicholas Niejelow

LESSEE:

Cellco Partnership d/b/a Verizon Wireless 180 Washington Valley Road Bedminster, New Jersey 07921 Attention: Network Real Estate

Notice shall be effective upon actual receipt or refusal as shown on the receipt obtained pursuant to the foregoing.

- 24. <u>SUCCESSORS</u>. This Agreement shall extend to and bind the heirs, personal representative, successors and assigns of the Parties hereto.
- 25. SUBORDINATION AND NON-DISTURBANCE. LESSOR shall obtain not later than fifteen (15) days following the execution of this Agreement, a Non-Disturbance Agreement, as defined below, from its existing mortgagee(s), ground lessors and master lessors, if any, of the Property. At LESSOR's option, this Agreement shall be subordinate to any future master lease, ground lease, mortgage, deed of trust or other security interest (a "Mortgage") by LESSOR which from time to time may encumber all or part of the Property or right-of-way; provided, however, as a condition precedent to LESSEE being required to subordinate its interest in this Agreement to any future Mortgage covering the Property, LESSOR shall obtain for LESSEE's benefit a non-disturbance and attornment agreement for LESSEE's benefit in the form reasonably satisfactory to LESSEE, and containing the terms described below (the "Non-Disturbance Agreement"), and shall recognize LESSEE's right to remain in occupancy of and have access to the Premises as long as LESSEE is not in default of this Agreement beyond applicable notice and The Non-Disturbance Agreement shall include the encumbering party's ("Lender's") agreement that, if Lender or its successor-in-interest or any purchaser of Lender's or its successor's interest (a "Purchaser") acquires an ownership interest in the Property, Lender or such successor-in-interest or Purchaser will (1) honor all of the terms of the Agreement, (2) fulfill LESSOR's obligations under the Agreement, and (3) promptly cure all of the then-existing LESSOR defaults under the Agreement. Such Non-Disturbance Agreement must be binding on all of Lender's participants in the subject loan (if any) and on all successors and assigns of Lender and/or its participants and on all Purchasers. In return for such Non-Disturbance Agreement, LESSEE will execute an agreement for Lender's benefit in which LESSEE (1) confirms that the

{W2280479;2}

Lessee Site ID & No.: NJJER01153A

CONTRACT#

Agreement is subordinate to the Mortgage or other real property interest in favor of Lender, (2) agrees to attorn to Lender if Lender becomes the owner of the Property and (3) agrees to accept a cure by Lender of any of LESSOR's defaults, provided such cure is completed within the deadline applicable to LESSOR. In the event LESSOR defaults in the payment and/or other performance of any mortgage or other real property interest encumbering the Property, LESSEE, may, at its sole option and without obligation, cure or correct LESSOR's default and upon doing so, LESSEE shall be subrogated to any and all rights, titles, liens and equities of the holders of such mortgage or other real property interest and LESSEE shall be entitled to deduct and setoff against all rents that may otherwise become due under this Agreement the sums paid by LESSEE to cure or correct such defaults.

26. <u>RECORDING</u>. LESSOR agrees to execute a Memorandum of this Agreement which LESSEE may record with the appropriate recording officer. The date set forth in the Memorandum of Lease is for recording purposes only and bears no reference to commencement of either the Term or rent payments.

27. DEFAULT.

- a. In the event there is a breach by LESSEE with respect to any of the provisions of this Agreement or its obligations under it, including the payment of rent, LESSOR shall give LESSEE written notice of such breach. After receipt of such written notice, LESSEE shall have fifteen (15) days in which to cure any monetary breach and thirty (30) days in which to cure any non-monetary breach, provided LESSEE shall have such extended period as may be required beyond the thirty (30) days if the nature of the cure is such that it reasonably requires more than thirty (30) days and LESSEE commences the cure within the thirty (30) day period and thereafter continuously and diligently pursues the cure to completion. LESSOR may not maintain any action or effect any remedies for default against LESSEE unless and until LESSEE has failed to cure the breach within the time periods provided in this Paragraph.
- In the event there is a breach by LESSOR with respect to any of the provisions of this Agreement or its obligations under it, LESSEE shall give LESSOR written notice of such breach. After receipt of such written notice, LESSOR shall have thirty (30) days in which to cure any such breach, provided LESSOR shall have such extended period as may be required beyond the thirty (30) days if the nature of the cure is such that it reasonably requires more than thirty (30) days and LESSOR commences the cure within the thirty (30) day period and thereafter continuously and diligently pursues the cure to completion. LESSEE may not maintain any action or effect any remedies for default against LESSOR unless and until LESSOR has failed to cure the breach within the time periods provided in this Paragraph. Notwithstanding the foregoing to the contrary, it shall be a default under this Agreement if LESSOR fails, within five (5) days after receipt of written notice of such breach, to perform an obligation required to be performed by LESSOR if the failure to perform such an obligation interferes with LESSEE's ability to conduct its business on the Property; provided, however, that if the nature of LESSOR's obligation is such that more than five (5) days after such notice is reasonably required for its performance, then it shall not be a default under this Agreement if performance is commenced within such five (5) day period and thereafter diligently pursued to completion.

(W2280479;2)

Lessee Site ID & No.: NJJER01153A

CONTRACT#

28. REMEDIES. Upon a default, the non-defaulting Party may at its option (but without obligation to do so), perform the defaulting Party's duty or obligation on the defaulting Party's behalf, including but not limited to the obtaining of reasonably required insurance policies. The costs and expenses of any such performance by the non-defaulting Party shall be due and payable by the defaulting Party upon invoice therefor. In the event of a default by either Party with respect to a material provision of this Agreement, without limiting the non-defaulting Party in the exercise of any right or remedy which the non-defaulting Party may have by reason of such default, the non-defaulting Party may terminate the Agreement and/or pursue any remedy now or hereafter available to the non-defaulting Party under the Laws or judicial decisions of the state in which the Premises are located; provided, however, LESSOR shall use reasonable efforts to mitigate its damages in connection with a default by LESSEE, If LESSEE so performs any of LESSOR's obligations hereunder, the full amount of the reasonable and actual cost and expense incurred by LESSEE shall immediately be owing by LESSOR to LESSEE, and LESSOR shall pay to LESSEE upon demand the full undisputed amount thereof with interest thereon from the date of payment at the greater of (i) or (ii) the highest rate permitted by applicable Laws. Notwithstanding the foregoing, if LESSOR does not pay LESSEE the full undisputed amount within thirty (30) days of its receipt of an invoice setting forth the amount due from LESSOR, LESSEE may offset the full undisputed amount, including all accrued interest, due against all fees due and owing to LESSOR until the full undisputed amount, including all accrued interest, is fully reimbursed to LESSEE.

29. ENVIRONMENTAL.

- a. LESSOR will be responsible for all obligations of compliance with any and all environmental and industrial hygiene laws, including any regulations, guidelines, standards, or policies of any governmental authorities regulating or imposing standards of liability or standards of conduct with regard to any environmental or industrial hygiene conditions or concerns as may now or at any time hereafter be in effect, that are or were in any way related to activity now conducted in, on, or in any way related to the Property, unless such conditions or concerns are caused by the specific activities of LESSEE in the Premises.
- b. LESSOR shall hold LESSEE harmless and indemnify LESSEE from and assume all duties, responsibility and liability at LESSOR's sole cost and expense, for all duties, responsibilities, and liability (for payment of penalties, sanctions, forfeitures, losses, costs, or damages) and for responding to any action, notice, claim, order, summons, citation, directive, litigation, investigation or proceeding which is in any way related to: a) failure to comply with any environmental or industrial hygiene law, including without limitation any regulations, guidelines, standards, or policies of any governmental authorities regulating or imposing standards of liability or standards of conduct with regard to any environmental or industrial hygiene concerns or conditions as may now or at any time hereafter be in effect, unless such non-compliance results from conditions caused by LESSEE; and b) any environmental or industrial hygiene conditions arising out of or in any way related to the condition of the Property or activities conducted thereon, unless such environmental conditions are caused by LESSEE.

(W2280479:2)

Lessee Site ID & No.: NJJER01153A

CONTRACT #

30. CASUALTY. In the event of damage by fire or other casualty to the Premises that cannot reasonably be expected to be repaired within forty-five (45) days following same or, if the Property is damaged by fire or other casualty so that such damage may reasonably be expected to disrupt LESSEE's operations at the Premises for more than forty-five (45) days, then LESSEE may, at any time following such fire or other casualty, provided LESSOR has not completed the restoration required to permit LESSEE to resume its operation at the Premises, terminate this Agreement upon fifteen (15) days prior written notice to LESSOR. Any such notice of termination shall cause this Agreement to expire with the same force and effect as though the date set forth in such notice were the date originally set as the expiration date of this Agreement and the Parties shall make an appropriate adjustment, as of such termination date, with respect to payments due to the other under this Agreement. Notwithstanding the foregoing, the rent shall abate during the period of repair following such fire or other casualty in proportion to the degree to which LESSEE's use of the Premises is impaired.

- 31. CONDEMNATION. In the event of any condemnation of all or any portion of the Property, this Agreement shall terminate as to the part so taken as of the date the condemning authority takes title or possession, whichever occurs first. If as a result of a partial condemnation of the Premises or Property, LESSEE, in LESSEE's sole discretion, is unable to use the Premises for the purposes intended hereunder, or if such condemnation may reasonably be expected to disrupt LESSEE's operations at the Premises for more than forty-five (45) days, LESSEE may, at LESSEE's option, to be exercised in writing within fifteen (15) days after LESSOR shall have given LESSEE written notice of such taking (or in the absence of such notice, within fifteen (15) days after the condemning authority shall have taken possession) terminate this Agreement as of the date the condemning authority takes such possession. LESSEE may on its own behalf make a claim in any condemnation proceeding involving the Premises for losses related to the equipment, conduits, fixtures, its relocation costs and its damages and losses (but not for the loss of its leasehold interest). Any such notice of termination shall cause this Agreement to expire with the same force and effect as though the date set forth in such notice were the date originally set as the expiration date of this Agreement and the Parties shall make an appropriate adjustment as of such termination date with respect to payments due to the other under this Agreement. If LESSEE does not terminate this Agreement in accordance with the foregoing, this Agreement shall remain in full force and effect as to the portion of the Premises remaining, except that the rent shall be reduced in the same proportion as the rentable area of the Premises taken bears to the total rentable area of the Premises. In the event that this Agreement is not terminated by reason of such condemnation, LESSOR shall promptly repair any damage to the Premises caused by such condemning authority.
- 32. <u>SUBMISSION OF AGREEMENT/PARTIAL INVALIDITY/AUTHORITY.</u> The submission of this Agreement for examination does not constitute an offer to lease the Premises and this Agreement becomes effective only upon the full execution of this Agreement by the Parties. If any provision herein is invalid, it shall be considered deleted from this Agreement and shall not invalidate the remaining provisions of this Agreement. Each of the Parties hereto warrants to the other that the person or persons executing this Agreement on behalf of such Party has the full right, power and authority to enter into and execute this Agreement on such Party's

(W2280479;2)

Lessee Site ID & No.: NJJER01153A

CONTRACT #	
CONTRACT#	

behalf and that no consent from any other person or entity is necessary as a condition precedent to the legal effect of this Agreement.

- 33. <u>APPLICABLE LAWS</u>. During the Term, LESSOR shall maintain the Property in compliance with all applicable laws, rules, regulations, ordinances, directives, covenants, easements, zoning and land use regulations, and restrictions of record, permits, building codes, and the requirements of any applicable fire insurance underwriter or rating bureau, now in effect or which may hereafter come into effect (including, without limitation, the Americans with Disabilities Act and laws regulating hazardous substances) (collectively "Laws"). LESSEE shall, in respect to the condition of the Premises and at LESSEE's sole cost and expense, comply with (a) all Laws relating solely to LESSEE's specific and unique nature of use of the Premises (other than general office use); and (b) all building codes requiring modifications to the Premises due to the improvements being made by LESSEE in the Premises.
- 34. <u>SURVIVAL</u>. The provisions of the Agreement relating to indemnification from one Party to the other Party shall survive any termination or expiration of this Agreement. Additionally, any provisions of this Agreement which require performance subsequent to the termination or expiration of this Agreement shall also survive such termination or expiration.
- 35. <u>CAPTIONS</u>. The captions contained in this Agreement are inserted for convenience only and are not intended to be part of the Agreement. They shall not affect or be utilized in the construction or interpretation of the Agreement.

{W2280479;2}

63

Lessee Site ID & No.: NJJER01153A

CONTRACT # _____

IN WITNESS WHEREOF, the Parties hereto have set their hands and affixed their respective seals the day and year first above written.

LESSOR:

Pilot Corporation of America

Elena Bischof

Its: Vice President NBD

Date: August 24, 2013

LESSEE:

Cellco Partnership d/b/a Verizon Wireless

WITNESS Yarn Paul

David R. Heverling

Its: Area Vice President Network

(W2280479;2)

Lessee Site ID & No.: NJJER01153A

CONTRACT # ____

Exhibit "A" (Page 1 of 2)

All that certain piece or parcel of land, together with the buildings and improvements there on, situated in the Town of Trumbull, County of Fairfield and State of Connecticut being shown and designated as Lot 4 A = 610,700 S.F. 14.02 AC. on certin map entitled "Boundary Map Lot No 4 Commerce Drive Trumbull, Connecticut Prepared for Commerce Drive Associates Scale;1"=50' Date: Dec. 4, 1981" which map was revised on 5'4'82 is on file in the Office of the Town Clerk of Trumbull as Map No. 2213.

Lessee Site ID & No.: NJJER01153A

CONTRACT # ____

Exhibit "A" (Page 2 of 2) NOTES PROPOSED LESSEE 80" TALL MONOPOLE TOWER TO BE LOCATED WITHIN THE PROPOSED LEASE AREA. PROPOSED LESSEE EQUIPMENT SHELTER TO HOUSE A DEISEL FLELED EMERGENCY POWER GENERATOR <u>...</u> PARTIAL SITE PLAN - C.145 - E4 PROPOSED LESSEE 20" WIDE CHEST. PROPOSED LESSEE 8'---TALL CHAINLINK FENCE
WITH PRIVACY SLATS, TYP. PROPOSED LESSEE 12' WIDE ACCESS EASEMENT. GRAPHIC SCALE (W FEET) 15 HIS LEASE PLAN IS DIAGRAMMATIC IN NATURE WAYD IS INFORDED TO PROMOBE CENERAL, SHE SHEROLDED TO PROMOBE CENERAL, SHE SHE LAYOUT WILL BE FRANKEISO OF THE PROPOSED MERLESS COMMUNICATION FACHITY, THE SHE LAYOUT WILL BE VIEWED AND FACHIFY OF THE LOCATION AND FACHIFY OF THE SURVEY AND FACHIFY OF SHE SURVEY CROUND ELEVATION (TAKEN IN FIELD) SITE KEY PLAN LEASE EXHIBIT LNC:: 41"-14"-44" LNC:: 73"-08"-44" 185" + AMSL ENTEK TRUMBULL SE 4

66

60 COMMERCE DRIVE TRUMBULL, CT 06611

Lessee Site ID & No.: NJJER01153A

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EXHIBIT 5 TO SUPPLEMENT

WRITTEN ACKNOWLEDGMENT OF LEASE COMMENCEMENT

[To be sent by or on behalf of LESSOR to LESSEE]
Re: COMMENCEMENT LETTER Supplement by and between Cellco Partnership ("LESSOR") and DISH Wireless L.L.C. ("LESSEE") dated Site Reference: Trumbull SE 4 CT / 469122 LESSEE Site Reference: NJJER01153A
Dear:
The Master Tower Lease Agreement between LESSOR and LESSEE defines the Commencement Date of any Supplement as the earlier of three (3) months from full execution of the Supplement or the first day of the calendar month following the commencement of installation of LESSEE's communications equipment at such Site.
This letter is to notify you that three (3) months expired on and the Commencement Date is hereby established as That date is also the date that rent commences under the Supplement. LESSEE agrees to provide a copy of this signed Commencement Letter to LESSEE's accounting group to ensure proper rent credit.
Or
This letter is to notify you that installation started on thereby the Commencement Date is hereby established as That date is also the date that rent commences under the Supplement. LESSEE agrees to provide a copy of this signed Commencement Letter to LESSEE's accounting group to ensure proper rent credit.
If you have any questions, please feel free to call me at
Sincerely,

Certificate Of Completion

Envelope Id: 1689ADAF534B46E98859AD8C861135A9

Subject: DocuSign: 469122 DISH_Trumbull SE 4_PE_SLA

Source Envelope:

Document Pages: 67

Signatures; 1 Certificate Pages: 1 Initials: 0

AutoNav: Enabled

Envelopeld Stamping: Disabled

Time Zone: (UTC-05:00) Eastern Time (US & Canada)

Status: Completed

Envelope Originator: Tammy Yeadon

1095 Ave of The Americas New York, NY 10036-6704

tammy.yeadon@verizonwireless.com

IP Address: 137.188.108,39

Record Tracking

Status: Original

11/23/2022 | 10:56 AM

Holder: Tammy Yeadon

tammy.yeadon@verizonwireless.com

Location: DocuSign

Signer Events

Chad Schmelzer

chad.schmelzer@verizonwireless.com Sr. Manager- Network Engineering & Operations

Security Level: Email, Account Authentication

(None)

Signature

Signature Adoption: Pre-selected Style Using IP Address: 69.78.100.101

Timestamp

Sent: 11/23/2022 | 10:57 AM Viewed: 11/23/2022 | 10:58 AM Signed: 11/23/2022 | 10:58 AM

Electronic Record and Signature Disclosure: Not Offered via DocuSign

In Person Signer Events	Signature	Timestamp
Editor Delivery Events	Status	Timestamp
Agent Delivery Events	Status	Timestamp
Intermediary Delivery Events	Status	Timestamp
Certified Delivery Events	Status	Timestamp
Carbon Copy Events	Status	Timestamp
Witness Events	Signature	Timestamp
Notary Events	Signature	Timestamp
Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	11/23/2022 10:57 AM
Certified Delivered	Security Checked	11/23/2022 10:58 AM
Signing Complete	Security Checked	11/23/2022 10:58 AM
Completed	Security Checked	11/23/2022 10:58 AM
Payment Events	Status	Timestamps

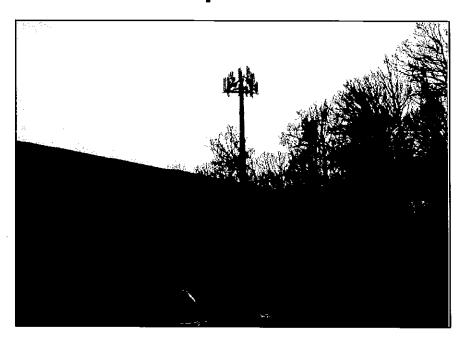
Exhibit F Emissions Report



Pinnacle Telecom Group

Professional and Technical Services

Antenna Site FCC RF Compliance Assessment and Report for Municipal Submission



Prepared for:

DISH Wireless, LLC

SITE ID:

NJJER01153A

Site Address:

60 Commerce Drive

Trumbull, CT

LATITUDE:

N 41.245601

Longitude:

W 73.145678

STRUCTURE TYPE:

Monopole

REPORT DATE:

August 29, 2022

Compliance Conclusion:

DISH Wireless, LLC will be in compliance with the rules and regulations as described in OET Bulletin 65, following the implementation of the proposed mitigation as detailed in the proposed.

the report.

14 Ridgedale Avenue - Suite 260 • Cedar Knolls, NJ 07927 • 973-451-1630

CONTENTS

Introduction and Summary
Antenna and Transmission Data
Compliance Analysis
Compliance Conclusion
Certification
Appendix A. Documents Used to Prepare the Analysis
Appendix B. Background on the FCC MPE Limit
Appendix C. Proposed Signage
Appendix D. Summary of Expert Qualifications

Introduction and Summary

At the request of DISH Wireless, LLC ("DISH"), Pinnacle Telecom Group has performed an independent expert assessment of radiofrequency (RF) levels and related FCC compliance for proposed wireless base station antenna operations on an existing monopole located at 60 Commerce Drive in Trumbull, CT. DISH refers to the antenna site by the code "NJJER01153A", and its proposed operation involves directional panel antennas and transmission in the 600 MHz, 2000 MHz and 2100 MHz frequency bands licensed to it by the FCC.

The FCC requires all wireless antenna operators to perform an assessment of potential human exposure to radiofrequency (RF) fields emanating from all the transmitting antennas at a site whenever antenna operations are added or modified, and to ensure compliance with the Maximum Permissible Exposure (MPE) limit in the FCC's regulations. In this case, the compliance assessment needs to take into account the RF effects of other existing antenna operations at the site by Verizon Wireless. Note that FCC regulations require any future antenna collocators to assess and assure continuing compliance based on the cumulative effects of all then-proposed and then-existing antennas at the site.

This report describes a mathematical analysis of RF levels resulting around the site in areas of unrestricted public access, that is, at street level around the site. The compliance analysis employs a standard FCC formula for calculating the effects of the antennas in a very conservative manner, in order to overstate the RF levels and to ensure "safe-side" conclusions regarding compliance with the FCC limit for safe continuous exposure of the general public.

The results of a compliance assessment can be described in layman's terms by expressing the calculated RF levels as simple percentages of the FCC MPE limit. If the normalized reference for that limit is 100 percent, then calculated RF levels higher than 100 percent indicate the MPE limit is exceeded and there is a need to mitigate the potential exposure. On the other hand, calculated RF levels consistently below 100 percent serve as a clear and sufficient demonstration of compliance with the MPE limit. We can (and will) also describe the overall worst-case result via the "plain-English" equivalent "times-below-the-limit" factor.

The result of the RF compliance assessment in this case is as follows:

- □ At street level, the conservatively calculated maximum RF level from the combination of proposed and existing antenna operations at the site is 3.9721 percent of the FCC general population MPE limit well below the 100-percent reference for compliance. In other words, the worst-case calculated RF level intentionally and significantly overstated by the calculations is still more than 25 times below the FCC limit for safe, continuous exposure of the general public.
- A supplemental analysis of the RF levels at the same height as the DISH antennas indicate that the FCC MPE limit is potentially exceeded. Therefore, it is recommended that three Caution signs and NOC Information signs be installed at the base of the monopole.
- The results of the calculations, along with the proposed mitigation, combine to satisfy the FCC requirements and associated guidelines on RF compliance. Moreover, because of the significant conservatism incorporated in the analysis, RF levels actually caused by the antennas will be lower than these calculations indicate.

The remainder of this report provides the following:

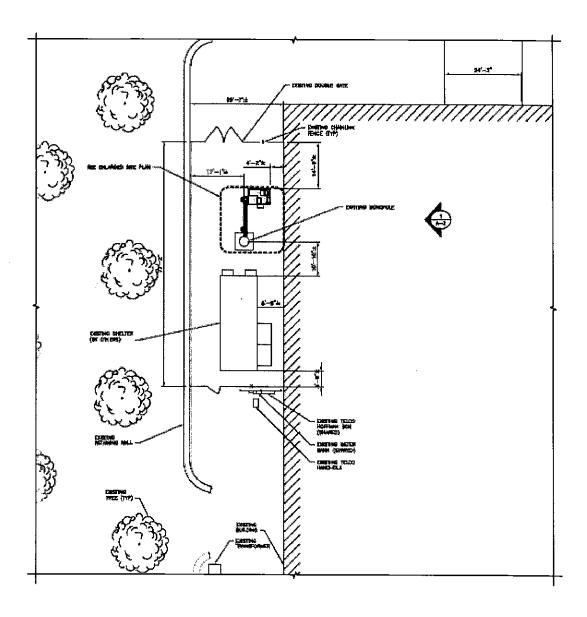
- relevant technical data on the proposed DISH antenna operations at the site, as well as on the existing Verizon Wireless antenna operations;
- a description of the applicable FCC mathematical model for calculating RF levels, and application of the relevant technical data to that model;
- analysis of the results of the calculations against the FCC MPE limit, and the compliance conclusion for the site.

In addition, four Appendices are included. Appendix A provides information on the documents used to prepare the analysis. Appendix B provides background on the FCC MPE limit. Appendix C details the proposed mitigation to satisfy the FCC requirements and associated guidelines on RF compliance. Appendix D provides a summary of the qualifications of the expert certifying FCC compliance for this site.

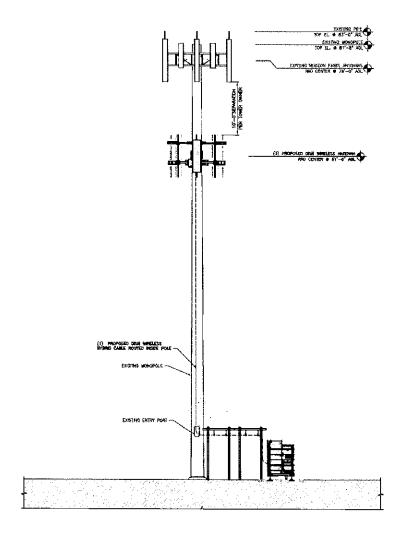
ANTENNA AND TRANSMISSION DATA

The plan and elevation views that follow, extracted from the site drawings, illustrate the mounting positions of the DISH antennas at the site.

Plan View:



Elevation View:



The table that follows summarizes the relevant data for the proposed DISH antenna operations. Note that the "Z" height references the centerline of the antenna.

Ant JD:	0	•	•	0	0	0	•	•	9
Carrier	HSIQ	DISH	HSIO	HSIQ	HSIO	HSIQ	HSIQ	HSIQ	HSIG
Antenna	JMA Wireless								
Arrienna Model	MX08FRO665-21	MX08FRO665-21	MX08FRO665-21	MX08FRO665-21	MX08FRO665-21	MX08FRO665-21	MX08FRO665-21	MX08FRO665-21	MX08FRO665-21
	Panel								
(Elgi)	009	2000	2100	009	2000	2100	009	2000	2100
3,33	9	9	9	9	9	9	9	9	9
follo ippii Polo Cons)	120	160	160	120	160	160	120	160	160
(2017A) (201 <u>5</u> (200 <u>5</u>)	1637	6011	7567	1637	6011	7567	1637	6011	1967
70 3 -	61.0	61.0	61.0	61.0	61.0	61.0	61.0	61.0	61.0
(GED) 1715 - GTN	11.46	16.16	16.66	11.46	16.16	16.66	11.46	16.16	16.66
Wa	89	62	64	89	62	64	89	62	64
Azımırın	0	0	0	140	140	140	250	250	250
JŒ	2	2	7	2	2	2	2	2	2
Q	0	0	0	0	0	0	0	0	C

The area below the antennas, at street level, is of interest in terms of potential "uncontrolled" exposure of the general public, so the antenna's vertical-plane emission characteristic is used in the calculations, as it is a key determinant of the relative amount of RF emissions in the "downward" direction.

By way of illustration, Figure 1 that follows shows the vertical-plane radiation pattern of the proposed antenna model in the 600 MHz frequency band. In this type of antenna radiation pattern diagram, the antenna is effectively pointed at the three o'clock position (the horizon) and the relative strength of the pattern at different angles is described using decibel units.

Note that the use of a decibel scale to describe the relative pattern at different angles actually serves to significantly understate the actual focusing effects of the antenna. Where the antenna pattern reads 20 dB the relative RF energy emitted at the corresponding downward angle is 1/100th of the maximum that occurs in the main beam (at 0 degrees); at 30 dB, the energy is only 1/1000th of the maximum.

Finally, note that the automatic pattern-scaling feature of our internal software may skew side-by-side visual comparisons of different antenna models, or even different parties' depictions of the same antenna model.

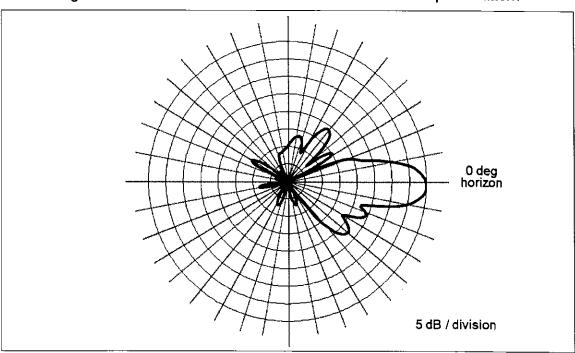


Figure 1. JMA Wireless MX08FRO665-21- 600 MHz Vertical-plane Pattern

As noted at the outset, there is an existing wireless antenna operation by Verizon Wireless to include in the compliance assessment and we will conservatively assume operation with maximum channel capacity and at maximum transmitter power per channel to be used in each of its FCC-licensed frequency bands.

The table that follows summarizes the relevant data for the collocated antenna operations.

	V/V	15.46	5625	2100	Panel	Generic	Generic	Verizon Wireless
	N/A	15.26	5372	1900	Panel	Generic	Generic	Verizon Wireless
ı	N/A	12.36	5166	698	Panel	Generic	Generic	Verizon Wireless
Γ	Y/V	11.76	2400	746	Panel	Generic	Generic	Verizon Wireless
1-11-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	Azimuin	Ani: Gain: Kaba)	(gana/) Gana Consti		Section 1	internal Wada	* Antenha Manufactura	Сатог

Compliance Analysis

FCC Office of Engineering and Technology Bulletin 65 ("OET Bulletin 65") provides guidelines for mathematical models to calculate the RF levels at various points around transmitting antennas. Different models apply in different areas around antennas, with one model applying to street level around a site, and another applying at the same height as the antennas. We will address each area of interest in turn in the subsections that follow.

Street Level Analysis

At street-level around an antenna site (in what is called the "far field" of the antennas), the RF levels are directly proportional to the total antenna input power and the relative antenna gain in the downward direction of interest – and the levels are otherwise inversely proportional to the square of the straight-line distance to the antenna.

Conservative calculations also assume the potential RF exposure is enhanced by reflection of the RF energy from the intervening ground. Our calculations will assume a 100% "perfect", mirror-like reflection, which is the absolute worst-case scenario.

The formula for street-level compliance assessment for any given wireless antenna operation is as follows:

MPE% = (100 * Chans * TxPower * 10
$$(Gmax-Vdisc/10)$$
 * 4) / (MPE * 4π * R^2)

where

MPE% = RF level, expressed as a percentage of the MPE limit applicable to continuous exposure of the general

public

100 = factor to convert the raw result to a percentage

Chans = maximum number of RF channels per sector

TxPower = maximum transmitter power per channel, in milliwatts

10 (Gmax-Vdisc/10)	=	numeric equivalent of the relative antenna gain in the downward direction of interest; data on the antenna vertical-plane pattern is taken from manufacturer specifications
4	=	factor to account for a 100-percent-efficient energy reflection from the ground, and the squared relationship between RF field strength and power density $(2^2 = 4)$
MPE	=	FCC general population MPE limit
R	=	straight-line distance from the RF source to the point of interest, centimeters

The MPE% calculations are performed out to a distance of 500 feet from the facility to points 6.5 feet (approximately two meters, the FCC-recommended standing height) off the ground, as illustrated in Figure 2, below.

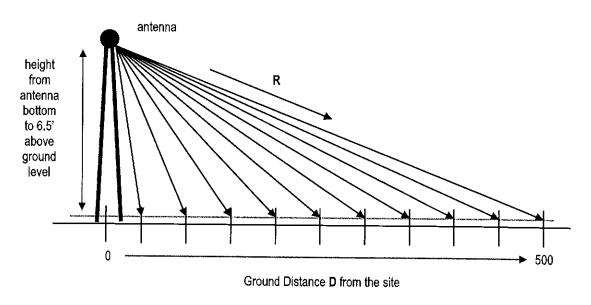


Figure 2. Street-level MPE% Calculation Geometry

It is popularly understood that the farther away one is from an antenna, the lower the RF level – which is generally but not universally correct. The results of MPE% calculations fairly close to the site will reflect the variations in the vertical-plane antenna pattern as well as the variation in straight-line distance to the antenna.

Therefore, RF levels may actually increase slightly with increasing distance within the range of zero to 500 feet from the site. As the distance approaches 500 feet and beyond, though, the antenna pattern factor becomes less significant, the RF levels become primarily distance-controlled and, as a result, the RF levels generally decrease with increasing distance. In any case, the RF levels more than 500 feet from a wireless antenna site are well understood to be sufficiently low to be comfortably in compliance.

According to the FCC, when directional antennas (such as panels) are used, compliance assessments are based on the RF effect of a single (facing) antenna sector, as the effects of directional antennas pointed away from the point(s) of interest are considered insignificant. If the different parameters apply in the different sectors, compliance is based on the worst-case parameters.

Street level FCC compliance for a collocated antenna site is assessed in the following manner. At each distance point along the ground, an MPE% calculation is made for each antenna operation (including each frequency band), and the sum of the individual MPE% contributions at each point is compared to 100 percent, the normalized reference for compliance with the MPE limit. We refer to the sum of the individual MPE% contributions as "total MPE%", and any calculated total MPE% result exceeding 100 percent is, by definition, higher than the FCC limit and represents non-compliance and a need to mitigate the potential exposure. If all results are consistently below 100 percent, on the other hand, that set of results serves as a clear and sufficient demonstration of compliance with the MPE limit.

Note that the following conservative methodology and assumptions are incorporated into the MPE% calculations on a general basis:

- The antennas are assumed to be operating continuously at maximum power and maximum channel capacity.
- 2. The power-attenuation effects of shadowing or other obstructions to the line-of-sight path from the antenna to the point of interest are ignored.
- 3. The calculations intentionally minimize the distance factor (R) by assuming a 6'6" human and performing the calculations from the bottom (rather than

- the centerline) of each operator's lowest-mounted antenna, as applicable.
- 4. The calculations also conservatively take into account, when applicable, the different technical characteristics and related RF effects of the use of multiple antennas for transmission in the same frequency band.
- 5. The RF exposure at ground level is assumed to be 100-percent enhanced (increased) via a "perfect" field reflection from the intervening ground.

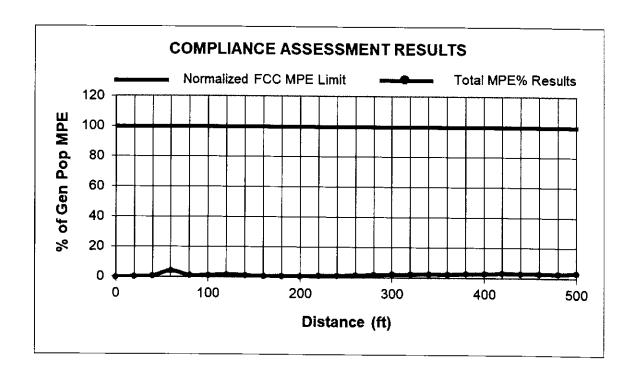
The net result of these assumptions is to intentionally and significantly overstate the calculated RF levels relative to the levels that will actually result from the antenna operations – and the purpose of this conservatism is to allow very "safeside" conclusions about compliance.

The table that follows provides the results of the MPE% calculations for each antenna operation, with the overall worst-case calculated result highlighted in bold in the last column. Note that the transmission parameters for each DISH antenna sector are identical, and the calculations reflect the worst-case result for any/all sectors.

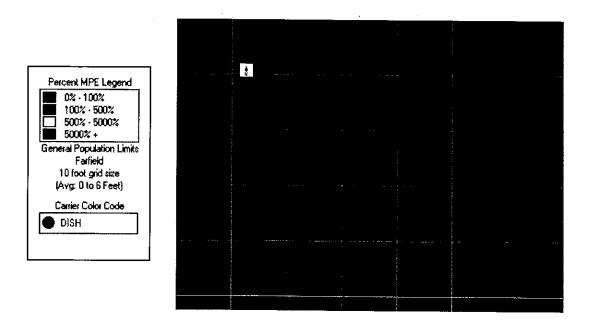
Ground Distance (ft)	DISH 600 MHz MPE%	DISH 2000 MHz MPE%	DISH 2100 MHz MPE%	Verizon Wireless MPE%	Total MPE%
	A COST		18 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		form was some
0	0.0054	0.0070	0.0001	0.0552	0.0677
20	0.0354	0.0881	0.0507	0.1370	0.3112
40	0.0841	0.0270	0.0980	0.4500	0.6591
60	0.6417	1.1060	1.9220	0.3024	3.9721
80	0.1724	0.0553	0.0505	0.9087	1.1869
100	0.3171	0.2331	0.0370	0.7233	1.3105
120	0.3561	0.1067	0.1042	1.1344	1.7014
140	0.1932	0.1594	0.1669	0.7971	1.3166
160	0.1707	0.1044	0.0644	0.3385	0.6780
180	0.3704	0.1758	0.2114	0.0976	0.8552
200	0.4937	0.1445	0.2041	0.0667	0.9090
220	0,6388	0.0578	0.1027	0.2716	1.0709
240	0.7824	0.0030	0.0141	0.4144	1.2139
260	0.9479	0.0136	0.0070	0.5840	1.5525
280	1.0830	0.0372	0.0399	0.7641	1.9242
300	1.1927	0.0192	0.0297	0.9646	2.2062
320	1.0520	0.0169	0.0262	1.1623	2.2574
340	1.1235	0.0048	0.0002	1.3685	2.4970
360	1.0046	0.0042	0.0002	1.2261	2.2351
380	1.0615	0.1077	0.0917	1.4010	2.6619
400	0.9597	0.0974	0.0829	1.5518	2.6918
420	1.0010	0.3862	0.3952	1.4114	3.1938
440	0.9132	0.3523	0.3606	1.2892	2.9153
460	0.8365	0.3227	0.3303	1.4604	2.9499
480	0.7690	0.2967	0.3036	1.3437	2.7130
500	0.7778	0.6416	0.7035	1.2404	3.3633

As indicated, the maximum calculated overall RF level is 3.9721 percent of the FCC MPE limit – well below the 100-percent reference for compliance.

A graph of the overall calculation results, provided on the next page, perhaps provides a clearer *visual* illustration of the relative compliance of the calculated RF levels. The line representing the overall calculation results shows an obviously clear, consistent margin to the FCC MPE limit.



The graphic output for the areas at street level surrounding the site is below.

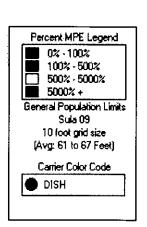


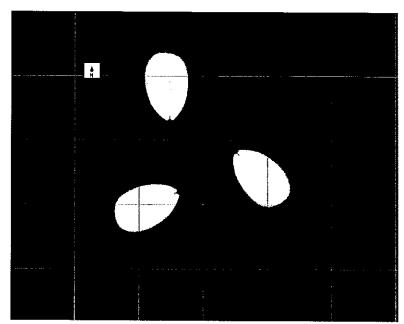
Near-field Analysis

The compliance analysis for the same height as the antennas is performed using the RoofMaster program by Waterford Consultants.

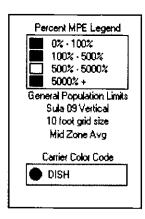
RF levels in the near field of an antenna depend on the power input to the antenna, the antenna's length and horizontal beamwidth, the mounting height of the antenna, and one's position and distance from the antenna. RF levels in front of a directional antenna are higher than they are to the sides or rear, and in any given horizontal direction are inversely proportional to the straight-line distance to the antenna.

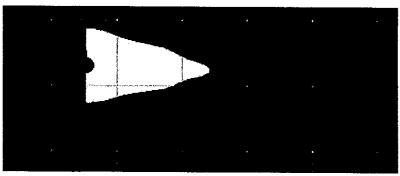
The RoofMaster graphic outputs for the same height as the DISH antennas are reproduced on the next page.





RoofMaster – Same Height as the Antennas – Alpha / Beta / Gamma sectors





RoofMaster – Same Height as the Antennas – Alpha / Beta / Gamma sectors

Compliance Conclusion

According to the FCC, the MPE limit has been constructed in such a manner that continuous human exposure to RF fields up to and including 100 percent of the MPE limit is acceptable and safe.

The conservative analysis in this case shows that the maximum calculated RF level from the combination of proposed and existing antenna operations at street level around the site is 3.9721 percent of the FCC general population MPE limit. At the same height as the antennas, the analysis shows that the calculated RF levels potentially exceed the FCC MPE limit. Per DISH guidelines, and consistent with FCC guidance on compliance, it is recommended that three Caution signs and NOC Information signs be installed at the base of the monopole.

The results of the calculations, along with the described RF mitigation, combine to satisfy the FCC's RF compliance requirements and associated guidelines on compliance.

Moreover, because of the extremely conservative calculation methodology and operational assumptions we applied in the analysis, RF levels actually caused by the antennas will be significantly lower than the calculation results here indicate.

CERTIFICATION

It is the policy of Pinnacle Telecom Group that all FCC RF compliance assessments are reviewed, approved, and signed by the firm's Chief Technical Officer who certifies as follows:

- 1. I have read and fully understand the FCC regulations concerning RF safety and the control of human exposure to RF fields (47 CFR 1.1301 et seq).
- 2. To the best of my knowledge, the statements and information disclosed in this report are true, complete and accurate.
- The analysis of site RF compliance provided herein is consistent with the applicable FCC regulations, additional guidelines issued by the FCC, and industry practice.
- 4. The results of the analysis indicate that the subject antenna operations will be in compliance with the FCC regulations concerning the control of potential human exposure to the RF emissions from antennas.

Daniel . Collins

Chief Technical Officer

Pinnacle Telecom Group, LLC

8/29/22

Date

Appendix A. Documents Used to Prepare the Analysis

RFDS: NJJER01153A_RFDS_20220825

CD: NJJER01153A_PCDs_20220825

Appendix B. Background on the FCC MPE Limit

As directed by the Telecommunications Act of 1996, the FCC has established limits for maximum continuous human exposure to RF fields.

The FCC maximum permissible exposure (MPE) limits represent the consensus of federal agencies and independent experts responsible for RF safety matters. Those agencies include the National Council on Radiation Protection and Measurements (NCRP), the Occupational Safety and Health Administration (OSHA), the National Institute for Occupational Safety and Health (NIOSH), the American National Standards Institute (ANSI), the Environmental Protection Agency (EPA), and the Food and Drug Administration (FDA). In formulating its guidelines, the FCC also considered input from the public and technical community – notably the Institute of Electrical and Electronics Engineers (IEEE).

The FCC's RF exposure guidelines are incorporated in Section 1.301 *et seq* of its Rules and Regulations (47 CFR 1.1301-1.1310). Those guidelines specify MPE limits for both occupational and general population exposure.

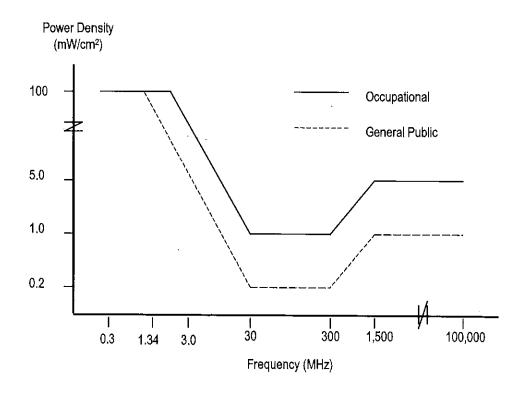
The specified continuous exposure MPE limits are based on known variation of human body susceptibility in different frequency ranges, and a Specific Absorption Rate (SAR) of 4 watts per kilogram, which is universally considered to accurately represent human capacity to dissipate incident RF energy (in the form of heat). The occupational MPE guidelines incorporate a safety factor of 10 or greater with respect to RF levels known to represent a health hazard, and an additional safety factor of five is applied to the MPE limits for general population exposure. Thus, the general population MPE limit has a built-in safety factor of more than 50. The limits were constructed to appropriately protect humans of both sexes and all ages and sizes and under all conditions — and continuous exposure at levels equal to or below the applicable MPE limits is considered to result in no adverse health effects or even health risk.

The reason for *two* tiers of MPE limits is based on an understanding and assumption that members of the general public are unlikely to have had appropriate RF safety training and may not be aware of the exposures they receive; occupational exposure in controlled environments, on the other hand, is assumed to involve individuals who have had such training, are aware of the exposures, and know how to maintain a safe personal work environment.

The FCC's RF exposure limits are expressed in two equivalent forms, using alternative units of field strength (expressed in volts per meter, or V/m), and power density (expressed in milliwatts per square centimeter, or mW/cm²). The table on the next page lists the FCC limits for both occupational and general population exposures, using the mW/cm² reference, for the different radio frequency ranges.

Frequency Range (F) (MHz)	Occupational Exposure (mW/cm²)	General Public Exposure (mW/cm²)
0.3 - 1.34	100	100
1.34 - 3.0	100	180 / F ²
3.0 - 30	900 / F ²	180 / F ²
30 - 300	1.0	0.2
300 - 1,500	F/300	F / 1500
1,500 - 100,000	5.0	1.0

The diagram below provides a graphical illustration of both the FCC's occupational and general population MPE limits.



Because the FCC's RF exposure limits are frequency-shaped, the exact MPE limits applicable to the instant situation depend on the frequency range used by the systems of interest.

The most appropriate method of determining RF compliance is to calculate the RF power density attributable to a particular system and compare that to the MPE limit applicable to the operating frequency in question. The result is usually expressed as a percentage of the MPE limit.

For potential exposure from multiple systems, the respective percentages of the MPE limits are added, and the total percentage compared to 100 (percent of the limit). If the result is less than 100, the total exposure is in compliance; if it is more than 100, exposure mitigation measures are necessary to achieve compliance.

Note that the FCC "categorically excludes" all "non-building-mounted" wireless antenna operations whose mounting heights are more than 10 meters (32.8 feet) from the routine requirement to demonstrate compliance with the MPE limit, because such operations "are deemed, individually and cumulatively, to have no significant effect on the human environment". The categorical exclusion also applies to *all* point-to-point antenna operations, regardless of the type of structure they're mounted on. Note that the FCC considers any facility qualifying for the categorical exclusion to be automatically in compliance.

In addition, FCC Rules and Regulations Section 1.1307(b)(3) describes a provision known in the industry as "the 5% rule". It describes that when a specific location – like a spot on a rooftop – is subject to an overall exposure level exceeding the applicable MPE limit, operators with antennas whose MPE% contributions at the point of interest are less than 5% are exempted from the obligation otherwise shared by all operators to bring the site into compliance, and those antennas are automatically deemed by the FCC to satisfy the rooftop compliance requirement.

FCC References on RF Compliance

47 CFR, FCC Rules and Regulations, Part 1 (Practice and Procedure), Section 1.1310 (Radiofrequency radiation exposure limits).

FCC Second Memorandum Opinion and Order and Notice of Proposed Rulemaking (FCC 97-303), In the Matter of Procedures for Reviewing Requests for Relief From State and Local Regulations Pursuant to Section 332(c)(7)(B)(v) of the Communications Act of 1934 (WT Docket 97-192), Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation (ET Docket 93-62), and Petition for Rulemaking of the Cellular Telecommunications Industry Association Concerning Amendment of the Commission's Rules to Preempt State and Local Regulation of Commercial Mobile Radio Service Transmitting Facilities, released August 25, 1997.

FCC First Memorandum Opinion and Order, ET Docket 93-62, *In the Matter of Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation*, released December 24, 1996.

FCC Report and Order, ET Docket 93-62, In the Matter of Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation, released August 1, 1996.

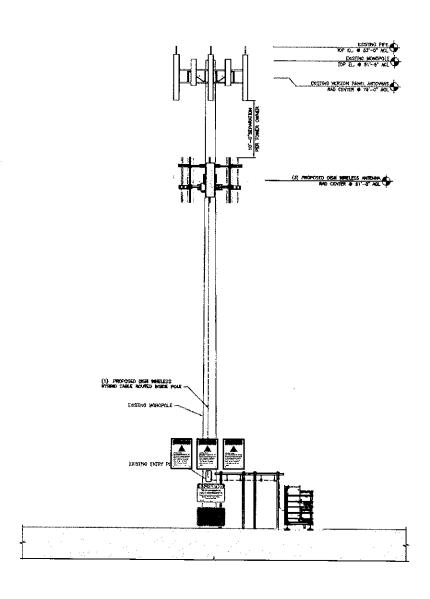
FCC Report and Order, Notice of Proposed Rulemaking, Memorandum Opinion and Order (FCC 19-126), Proposed Changes in the Commission's Rules Regarding Human Exposure to Radiofrequency Electromagnetic Fields; Reassessment of Federal Communications Commission Radiofrequency Exposure Limits and Policies, released December 4, 2019.

FCC Office of Engineering and Technology (OET) Bulletin 65, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields", Edition 97-01, August 1997.

FCC Office of Engineering and Technology (OET) Bulletin 56, "Questions and Answers About Biological Effects and Potential Hazards of RF Radiation", edition 4, August 1999.

Appendix C. Proposed Signage

Final Compliance Configuration		NOTICE ((¿))	Section 10 Across 10 Acros	The second secon	PIFORMATION Which is advantaged to an income of the control of the	
	GUIDELINES	NOTICE	CAUTION	WARNING	NOC INFO	BARRIER/MARKER
Access Point(s)	1 .	0	0	0	1	0
Alpha	0	0	1	0	0	0
Beta	0	0	1	0	0	0
Gamma	0	0	1	0	0	



Appendix D. Summary of Expert Qualifications

Daniel J. Collins, Chief Technical Officer, Pinnacle Telecom Group, LLC

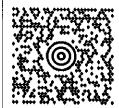
	A TANK THE PROPERTY OF THE PRO
Synopsis:	 40+ years of experience in all aspects of wireless system
	engineering, related regulation, and RF exposure
	Has performed or led RF exposure compliance assessments
	on more than 20,000 antenna sites since the latest FCC
	regulations went into effect in 1997
	Has provided testimony as an RF compliance expert more
	than 1,500 times since 1997
	Have been accepted as an FCC compliance expert in New
	York, New Jersey, Connecticut, Pennsylvania and more than
	40 other states, as well as by the FCC
Education:	B.E.E., City College of New York (Sch. Of Eng.), 1971
	• M.B.A., 1982, Fairleigh Dickinson University, 1982
	Bronx High School of Science, 1966
Current Responsibilities:	Leads all PTG staff work involving RF safety and FCC
a and the state of	compliance, microwave and satellite system engineering, and
•	consulting on wireless technology and regulation
Prior Experience:	Edwards & Kelcey, VP – RF Engineering and Chief
	Information Technology Officer, 1996-99
	Bellcore (a Bell Labs offshoot after AT&T's 1984 divestiture),
•	Executive Director – Regulation and Public Policy, 1983-96
	AT&T (Corp. HQ), Division Manager – RF Engineering, and
•	Director – Radio Spectrum Management, 1977-83
	AT&T Long Lines, Group Supervisor – Microwave Radio
	System Design, 1972-77
Specific RF Safety /	Involved in RF exposure matters since 1972
Compliance Experience:	Have had lead corporate responsibility for RF safety and
•	compliance at AT&T, Bellcore, Edwards & Kelcey, and PTG
	While at AT&T, helped develop the mathematical models for
	calculating RF exposure levels
	Have been relied on for compliance by all major wireless
	carriers, as well as by the federal government, several state
	and local governments, equipment manufacturers, system
	integrators, and other consulting / engineering firms
Other Background:	Author, Microwave System Engineering (AT&T, 1974)
_	Co-author and executive editor, A Guide to New
	Technologies and Services (Bellcore, 1993)
	National Spectrum Management Association (NSMA) —
	former three-term President and Chairman of the Board of
	Directors; was founding member, twice-elected Vice
	President, long-time member of the Board, and was named
	an NSMA Fellow in 1991
	Have published more than 35 articles in industry magazines
	The state of the s

Exhibit G Mailing Receipts

FROM: LEV MAYZLER (203) 488-0712 CONSTRUCTION SERVICES OF BRANF 63-3 NORTH BRANFORD ROAD BRANFORD CT 06405-2848

SHIP TO:

MAKE-A-WISH FOUNDATION 56 COMMERCE DR. TRUMBULL CT 06611



LTR 10F1

CT 066 9-07

UPS 2ND DAY AIR

TRACKING #: 1Z E05 345 02 6276 4780

2



BILLING: P/P

WS 22.0.17 SHARP MX-3070 52,0A 12/2022

Fold here and place in label pouch

Proof of Delivery

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number

1ZE053450262764780

Service

UPS 2nd Day Air®

Shipped / Billed On

12/29/2022

Delivered On

12/28/2022 10:25 A.M.

Delivered To

56 COMMERCE DR TRUMBULL, CT, 06611, US Received By

DIEHL

Left At

Receiver

Please print for your records as photo and details are only available for a limited time.

Sincerely,

UPS

Tracking results provided by UPS: 12/30/2022 7:50 A.M. EST

LEV MAYZLER (203) 488-0712 CONSTRUCTION SERVICES OF BRANF 63-3 NORTH BRANFORD ROAD BRANFORD CT 06405-2848

SHIP TO:

NETWORK REAL ESTATE CELLCO/DBA VERIZON WIRELESS MS 4AW100 ONE VERIZON WAY BASKING RIDGE NJ 07920



NJ 078 9-71

UPS 2ND DAY AIR

TRACKING #: 1Z E05 345 02 6150 8979

2



BILLING: P/P

WS 22.0.17 SHARP MX-3070 52.0A 12/2022

Fold here and place in label pouch

Proof of Delivery

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number

1ZE053450261508979

Service

UPS 2nd Day Air®

Shipped / Billed On

12/29/2022

Delivered On

12/28/2022 9:48 A.M.

Delivered To

1 VERIZON WAY BASKING RIDGE, NJ, 07920, US Received By

PHU

Left At

Receiver

Please print for your records as photo and details are only available for a limited time.

Sincerely,

UPS

Tracking results provided by UPS: 12/30/2022 7:51 A.M. EST

FROM:
LEV MAYZLER
(203) 488-0712
CONSTRUCTION SERVICES OF BRANF
63-3 NORTH BRANFORD ROAD
BRANFORD CT 06405-2848

SHIP TO:

HON. VICKI A. TESSORO 2ND FL 5866 MAIN ST., TRUMBULL CT 06611



LTR 1 0F 1

CT 066 9-07

UPS 2ND DAY AIR

TRACKING #: 1Z E05 345 02 6195 7752

2



BILLING: P/P

WS 22.0,17 SHARP MX-3070 52,0A 12/2022

Fold here and place in label pouch

Proof of Delivery

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number

1ZE053450261957752

Service

UPS 2nd Day Air®

Shipped / Billed On

12/29/2022

Delivered On

12/28/2022 9:59 A.M.

Delivered To

5866 MAIN ST TRUMBULL, CT, 06611, US Received By

LUKE

Left At

Front Desk

Please print for your records as photo and details are only available for a limited time.

Sincerely,

UPS

Tracking results provided by UPS: 12/30/2022 7:53 A.M. EST

FROM:
LEV MAYZLER
(203) 488-0712
CONSTRUCTION SERVICES OF BRANF
63-3 NORTH BRANFORD ROAD
BRANFORD CT 06405-2848

SHIP TO:

ROB LIBRANDI TOWN OF TRUMBULL 5866 MAIN ST. TRUMBULL CT 06611-3113



CT 066 9-07

UPS 2ND DAY AIR
TRACKING #: 1Z E05 345 02 6196 7965

7



BILLING: P/P

WS 22.0.17 SHARP MX-3070 52.0A 12/2022

Fold here and place in label pouch

Proof of Delivery

Dear Customer,

This notice serves as proof of delivery for the shipment listed below.

Tracking Number

1ZE053450261967965

Service

UPS 2nd Day Air®

Shipped / Billed On

12/29/2022

Delivered On

12/28/2022 9:59 A.M.

Delivered To

5866 MAIN ST TRUMBULL, CT, 06611, US Received By

LUKE

Left At

Front Desk

Please print for your records as photo and details are only available for a limited time.

Sincerely,

UPS

Tracking results provided by UPS: 12/30/2022 7:52 A.M. EST