Tectonic
PRACTICAL SOLUTIONS. EXCEPTIONAL SERVICE.

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

September 28, 2022

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

RE: **Notice of Tower Share to an existing 180' stealth monopole tower located at 28 Great Oak Lane, Redding, Connecticut**

Latitude: 41.3068333 / Longitude: -73.3863056

Dear Ms. 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 180' stealth monopole tower facility located at 28 Great Oak Lane, Redding, Connecticut. The facility was originally approved by the Siting Council in January, 2011 (See Exhibit A). The property is owned by the Town of Redding (See Redding Assessor Property Card 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 two hundred foot (200') 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 August 24, 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 Julia Pemberton, First Selectwoman of the Town of Redding, and Aimee Pardee, Land Use Director for the Town of Redding.

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 180' height of the Tower as the Dish antennas will be installed at a height of 129'.

The proposed installation will not extend the existing boundaries of the approved fenced 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 1.2391%.

Tower

The Facility consists of a one hundred eighty foot (180') stealth monopole tower located at 28 Great Oak Lane, Redding, Connecticut. As indicated above, the tower is owned by the town of Redding. The tower currently supports AT&T at the one hundred seventy seven foot (177'), one hundred seventy foot (170'), and one hundred sixty five foot (165'), centerline AGL, and Verizon Wireless at the one hundred forty seven foot (147') centerline AGL. The antenna locations are set forth on Sheet A-3 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 analyses are 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 Redding to proceed with the proposed installation. Additionally, a copy of the 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 129' 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 28 Great Oak Lane, Redding, 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, LLC

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

cc: Redding Selectwoman, Honorable Julia Pemberton
100 Hill Rd.
Redding, CT 06875

Redding Land Use Director, Aimee Pardee
Old Town House
23 Cross Highway
Redding, CT 06875

Tectonic

PRACTICAL SOLUTIONS. EXCEPTIONAL SERVICE.

Exhibit A

Original Facility Approval

DOCKET NO. 404 - New Cingular Wireless PCS, LLC application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located at 28 Great Oak Lane, Redding, Connecticut.	}	Connecticut Siting Council January 20, 2011

Decision and Order

Pursuant to 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 New Cingular Wireless PCS, LLC, hereinafter referred to as the Certificate Holder, for a telecommunications facility at 28 Great Oak Lane, Redding, 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 with internal flush mounted panel antennas, 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 180 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 Town of Redding 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, and landscaping; and
    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.

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. The Certificate Holder shall provide reasonable space on the tower for no compensation for any Town of Redding public safety services (police, fire and medical services), provided such use can be accommodated and is compatible with the structural integrity of the tower.

7. 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.

8. Any request for extension of the time period referred to in Condition 7 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 Town of Redding. Any proposed modifications to this Decision and Order shall likewise be so served.

9. 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 before any such use is made.

10. 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.

11. 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.

12. 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.

13. 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.

14. 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.

15. 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.

Pursuant to General Statutes § 16-50p, the Council hereby directs that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in the Redding Pilot.

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.

The parties and intervenors to this proceeding are:

Applicant
New Cingular Wireless PCS, LLC

Its Representative
Christopher B Fisher, Esq.
Daniel M. Laub, Esq.
Cuddy & Feder LLP
445 Hamilton Avenue, 14th Floor
White Plains, NY 10601

Michele Briggs
AT&T
500 Enterprise Drive
Rocky Hill, CT 06067-3900

Exhibit B

Property Card

28 GREAT OAK LN

Location	28 GREAT OAK LN	**Mblu**	21/ / 108/ /
Acct#	00140200	**Owner**	REDDING TOWN OF
Assessment	$1,437,100	**Appraisal**	$2,052,700
PID	1393	**Building Count**	2

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2021	$602,200	$1,450,500	$2,052,700
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2021	$421,700	$1,015,400	$1,437,100

Owner of Record

Owner	REDDING TOWN OF	**Sale Price**	$0
Co-Owner	TOWN GARAGE	**Certificate**	1
Address	PO BOX 1028 REDDING, CT 06875-	**Book & Page**	0065/0343
		Sale Date	05/17/1963
		Instrument	XX

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
REDDING TOWN OF	$0	1	0065/0343	XX	05/17/1963

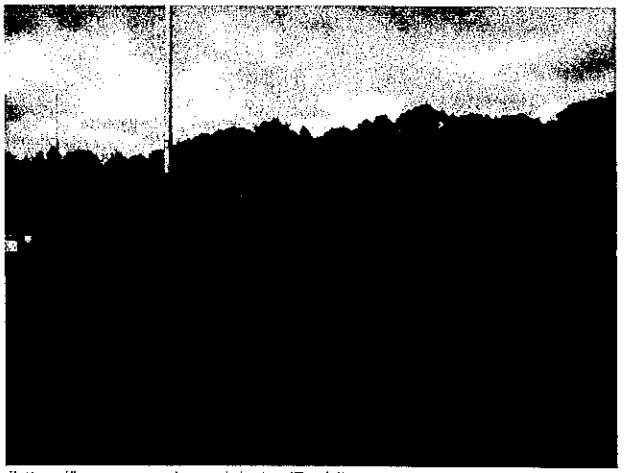
Building Information

Building 1 : Section 1

Year Built:	1964
Living Area:	7,488
Replacement Cost:	$445,425
Building Percent Good:	69
Replacement Cost Less Depreciation:	$307,300

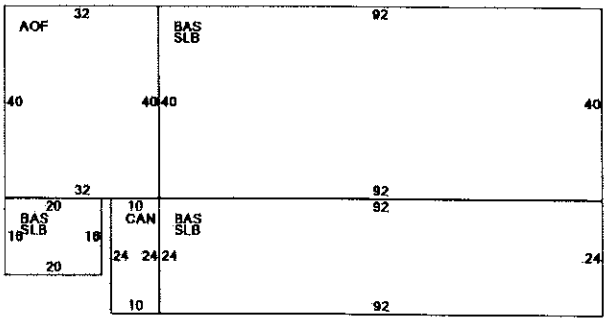
Building Attributes	
Field	**Description**
Style	Comm Garage
Model	Comm/Ind
Grade	C
Stories	1
Occupancy	1.00
Exterior Wall 1	Brick/Masonry
Exterior Wall 2	
Roof Structure	Gable
Roof Cover	Asphalt Shingl
Interior Wall 1	Minimum
Interior Wall 2	
Interior Floor 1	Linoleum
Interior Floor 2	
Heating Fuel	Oil
Heating Type	Forced Air
AC Type	None
Struct Class	
Bldg Use	Mun Bldg Com
Bedrooms	
Full Bths	
Half Bths	
1st Floor Use:	
Heat/AC	None
Frame Type	Masonry
Baths/Plumbing	Average
Ceiling/Walls	Ceil and Mln W
Rooms/Prtns	Average
Wall Height	14.00
% Comn Wall	

Building Photo



(https://images.vgsi.com/photos/ReddingCTPhotos/\00\01\16\62.jpg)

Building Layout



(ParcelSketch.ashx?pid=1393&bid=1393)

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	6,208	6,208
AOF	Office Area	1,280	1,280
CAN	Canopy	240	0
SLB	Slab	6,208	0
		13,936	7,488

Building 2 : Section 1

Year Built: 1964
Living Area: 5,640
Replacement Cost: $329,560
Building Percent Good: 69
Replacement Cost Less Depreciation: $227,400

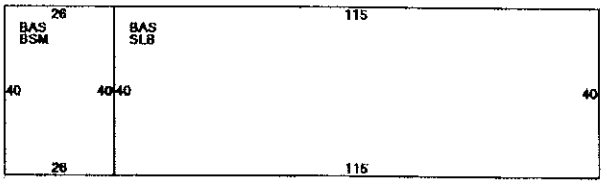
Building Attributes : Bldg 2 of 2	
Field	**Description**
Style	Comm Garage

Model	Comm/Ind
Grade	C
Stories	1
Occupancy	1.00
Exterior Wall 1	Pre-finsh Metl
Exterior Wall 2	
Roof Structure	Gable
Roof Cover	Metal/Tin
Interior Wall 1	Minimum
Interior Wall 2	
Interior Floor 1	Minimum/Plywd
Interior Floor 2	
Heating Fuel	Oil
Heating Type	Forced Air
AC Type	None
Struct Class	
Bldg Use	Mun Bldg Com
Bedrooms	
Full Bths	
Half Bths	
1st Floor Use:	
Heat/AC	None
Frame Type	Steel
Baths/Plumbing	Average
Ceiling/Walls	Ceil & Wall
Rooms/Prtns	Average
Wall Height	16.00
% Comn Wall	

Building Photo

(https://images.vgsi.com/photos/ReddingCTPhotos/\00\01\16\63.jpg)

Building Layout



(ParcelSketch.ashx?pid=1393&bid=20121)

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	5,640	5,640
BSM	Basement Area	1,040	0
SLB	Slab	4,600	0
		11,280	5,640

Extra Features

Extra Features				Legend
Code	Description	Size	Value	Bldg #
LFT2	Lift Heavy	1.00 Units	$2,800	2
MEZ1	Mezzanine Unf.	180.00 S.F.	$2,500	2

Land

Land Use

Use Code	922
Description	Mun Bldg Com
Zone	R-2

Land Line Valuation

Size (Acres)	6.50
Frontage	
Depth	

Neighborhood	1400	**Assessed Value**	$1,015,400
Alt Land Appr	No	**Appraised Value**	$1,450,500
Category			

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
PAV1	Paving Asph.			29060.00 S.F.	$47,100	1
SHD2	Salt Shed			6300.00 S.F.	$15,100	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2021	$602,200	$1,450,500	$2,052,700
2020	$602,200	$1,450,500	$2,052,700
2019	$602,200	$1,450,500	$2,052,700

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2021	$421,700	$1,015,400	$1,437,100
2020	$421,700	$1,015,400	$1,437,100
2019	$421,700	$1,015,400	$1,437,100

Exhibit C

Project Plans

dish wireless

DISH WIRELESS SITE ID:

NJJER01083C

DISH WIRELESS SITE ADDRESS:

28 GREAT OAK LANE
REDDING, CT 06895

CONNECTICUT CODE COMPLIANCE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES:

CODE TYPE	CODE
BUILDING	2018 CT STATE BUILDING CODE/2015 IBC W/ CT AMENDMENTS
MECHANICAL	2018 CT STATE BUILDING CODE/2015 IMC W/ CT AMENDMENTS
ELECTRICAL	2018 CT STATE BUILDING CODE/2017 NEC W/ CT AMENDMENTS

SHEET INDEX

SHEET NO.	SHEET TITLE
T-1	TITLE SHEET
A-1	OVERALL SITE PLAN
A-2	ENLARGED SITE & EQUIPMENT PLAN
A-3	ELEVATION, ANTENNA LAYOUT & SCHEDULE
A-4	EQUIPMENT DETAILS
A-5	EQUIPMENT DETAILS
A-6	EQUIPMENT DETAILS
GN-1	LEGEND AND ABBREVIATIONS
GN-2	GENERAL NOTES

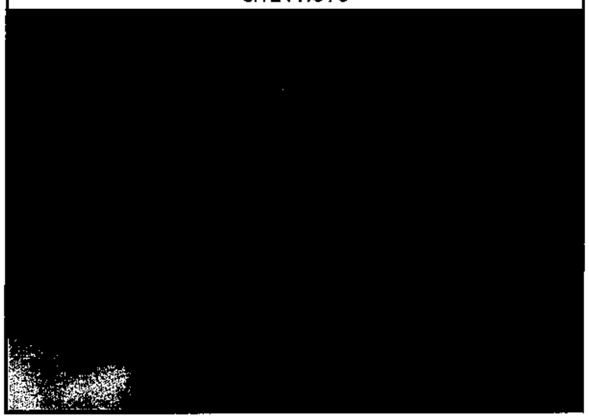
SCOPE OF WORK

THIS IS NOT AN ALL INCLUSIVE LIST. CONTRACTOR SHALL UTILIZE SPECIFIED EQUIPMENT PART OR ENGINEER APPROVED EQUIVALENT. CONTRACTOR SHALL VERIFY ALL NEEDED EQUIPMENT TO PROVIDE A FUNCTIONAL SITE. THE PROJECT GENERALLY CONSISTS OF THE FOLLOWING:

ANTENNA SCOPE OF WORK:
- INSTALL (3) PROPOSED PANEL ANTENNAS (1 PER SECTOR)
- INSTALL (6) PROPOSED DIPLEXERS (2 PER SECTOR)
- INSTALL (12) PROPOSED JUMPERS
- INSTALL (12) PROPOSED 7/8" COAX CABLES (4 PER SECTOR)

EQUIPMENT SCOPE OF WORK:
- INSTALL (1) PROPOSED 8'x10' CONCRETE PAD
- INSTALL (6) PROPOSED RRHs (2 PER SECTOR)
- INSTALL (6) PROPOSED DIPLEXERS (2 PER SECTOR)
- INSTALL (1) PROPOSED PPC CABINET
- INSTALL (1) PROPOSED EQUIPMENT CABINET
- INSTALL (1) PROPOSED POWER CONDUIT
- INSTALL (1) PROPOSED TELCO CONDUIT
- INSTALL (1) PROPOSED TELCO-FIBER BOX
- INSTALL (1) PROPOSED GPS UNIT
- INSTALL (1) PROPOSED SAFETY SWITCH (IF REQUIRED)
- INSTALL (1) PROPOSED CIENA BOX (IF REQUIRED)
- INSTALL CABLE BRIDGE SYSTEM

SITE PHOTO



UNDERGROUND SERVICE ALERT CBYD 811
UTILITY NOTIFICATION CENTER OF CONNECTICUT
(800) 922-4455
WWW.CBYD.COM

CALL 2 WORKING DAYS UTILITY NOTIFICATION PRIOR TO CONSTRUCTION

811

GENERAL NOTES

THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE. NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.

11"x17" PLOT WILL BE HALF SCALE UNLESS OTHERWISE NOTED

CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON THE JOB SITE, AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

SITE INFORMATION

PROPERTY OWNER:	TOWN OF REDDING
ADDRESS:	28 GREAT OAK LANE REDDING, CT 06895
TOWER TYPE:	CONCEALMENT POLE
TOWER CO SITE ID:	CT1420
	N/A
COUNTY:	FAIRFIELD
LATITUDE (NAD 83):	41° 18' 24.50" N 41.306833 N
LONGITUDE (NAD 83):	73° 23' 10.67" W 73.386297 W
ZONING JURISDICTION:	TOWN OF REDDING/CT SITING COUNCIL
ZONING DISTRICT:	R-2
PARCEL NUMBER:	21-108
POWER COMPANY:	EVERSOURCE CT ELECTRIC
TELEPHONE COMPANY:	T.B.D.

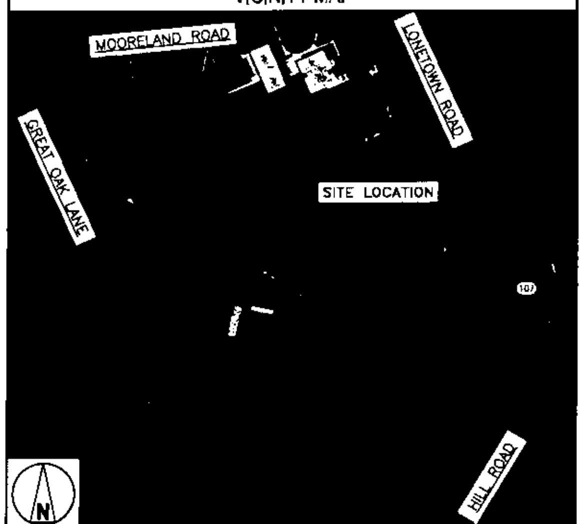
PROJECT DIRECTORY

APPLICANT:	DISH WIRELESS L.L.C. 5701 SOUTH SANTA FE DRIVE LITTLETON, CO 80120
TOWER OWNER:	KGI WIRELESS 805 LAS CIMAS PARKWAY, AUSTIN, TX 78746
SITE DESIGNER:	TECTONIC ENGINEERING CONSULTANTS GEOLOGISTS, SURVEYORS D.P.C., INC. 1279 ROUTE 300 NEWBURGH, NY 10953 (845) 567-6656
SITE ACQUISITION:	TECTONIC ENGINEERING CONSULTANTS GEOLOGISTS, SURVEYORS D.P.C., INC. 1279 ROUTE 300 NEWBURGH, NY 10953 (845) 567-6656
CONSTRUCTION MANAGER:	RAFAL ROSOLOWSKI RAFAL.ROSOLOWSKI@DISH.COM
RF ENGINEER:	PAWAN MADAHAR PAWAN.MADAHAR@DISH.COM

DIRECTIONS

DIRECTIONS FROM 3 ADP BOULEVARD, ROSELAND, NJ 07068:
HEAD NORTHEAST TOWARD ADP BLVD. TURN LEFT TOWARD ADP BLVD. TURN RIGHT TOWARD CHOCTAW WAY. SLIGHT RIGHT ONTO CHOCTAW WAY.TURN RIGHT ONTO LIVINGSTON AVE.TAKE THE RAMP ONTO I-280 E MERGE WITH I-280 E.STAY ON I-280 E. TAKE THE TURNPIKE EXIT ON THE LEFT. MERGE WITH I-95 N. STAY ON I-95 N. FOLLOW SIGNS FOR TOLL PLAZA EZPASS. STAY ON I-95 N TOWARD US-46. TAKE THE US-46 E EXIT TOWARD PALISADES PARK. KEEP LEFT AND MERGE WITH US-46 E. MERGE WITH US-46. CONTINUE ONTO I-95 LOWER LEVEL N. ENTERING NEW YORK. CONTINUE ON I-95 LOWER LEVEL N. STAY ON I-95 LOWER LEVEL N. CONTINUE ONTO I-95 N. MERGE WITH I-87 N TOWARD ALBANY. TAKE EXIT 4 TOWARD CROSS COUNTY PKWY E. MERGE WITH CENTRAL PARK AVE. TAKE THE CROSS COUNTY PKWY RAMP. KEEP LEFT AT THE Y JUNCTION, FOLLOW SIGNS FOR HUTCHINSON PKWY AND MERGE WITH CROSS COUNTY PKWY. MERGE WITH HUTCHINSON RIVER PKWY N. STAY ON HUTCHINSON RIVER PKWY N. ENTERING CONNECTICUT. CONTINUE ONTO CT-15 N. TAKE EXIT 28 FOR ROUND HILL ROAD. TURN LEFT ONTO ROUND HILL RD. DESTINATION WILL BE ON THE RIGHT.

VICINITY MAP



NO SCALE

dish wireless

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

Tectonic

STATE OF CONNECTICUT
MANOJKUMAR PATEL
PEN.0022038
LICENSED PROFESSIONAL ENGINEER
8/25/22

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

DRAWN BY:	CHECKED BY:	APPROVED BY:
NM	JQ	MP

RFDS REV #: 1

PRELIMINARY DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
0	08/24/22	ISSUED FOR FILING

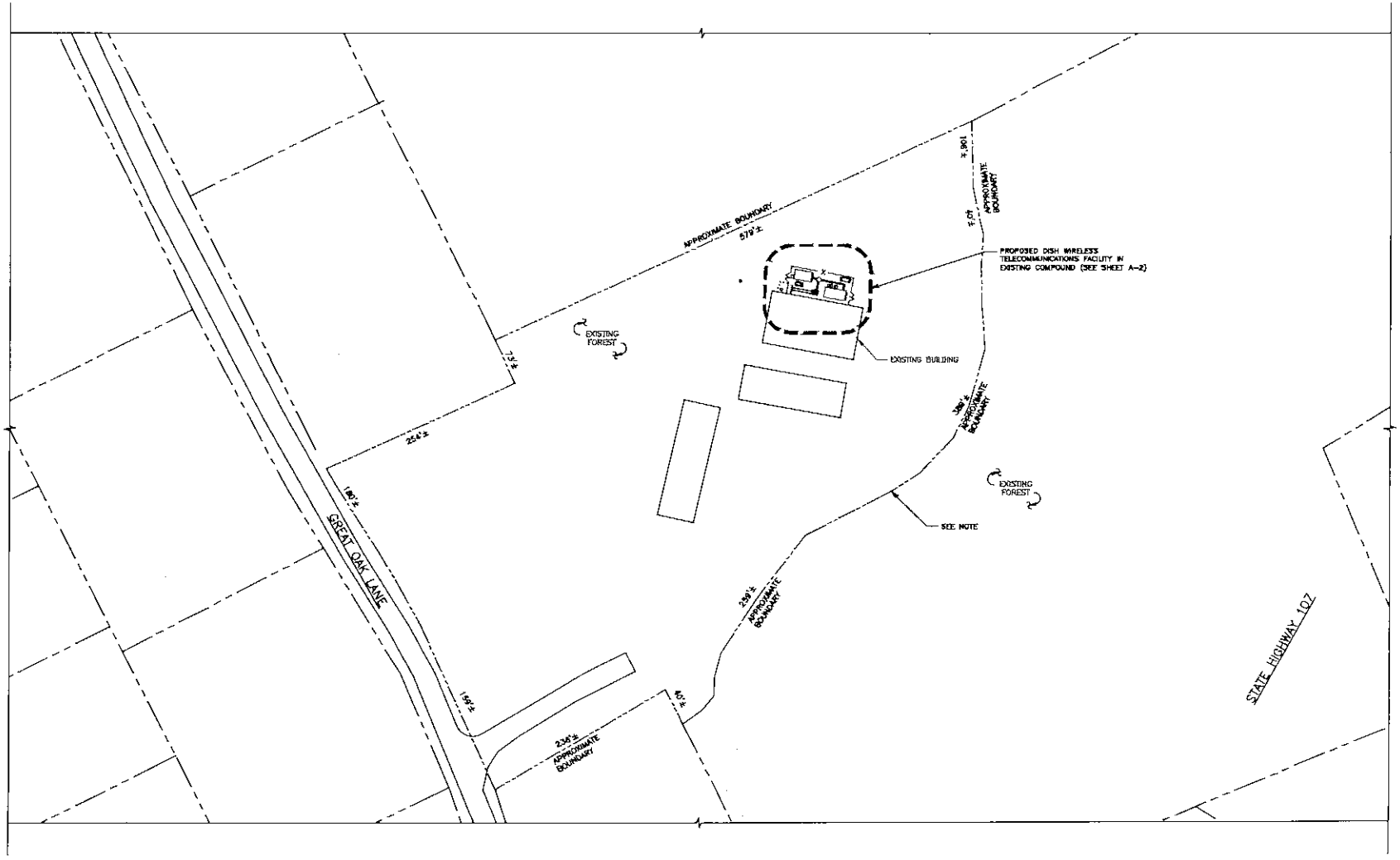
A&E PROJECT NUMBER
10710.NJJER01083C

DISH WIRELESS PROJECT INFORMATION
NJJER01083C

28 GREAT OAK LANE
REDDING, CT 06896

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1



NOTE: FOR SITE PLAN SHOWN REFERENCE "SITE PLAN BY CLOUGH, HARBOUR & ASSOCIATES LLP DATED 2/8/22".

OVERALL SITE PLAN

60' 30' 0 60' 120'
1"=60'

1

dish wireless.

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

Tectonic

STATE OF CONNECTICUT
MANOJKUMAR PATEL
PEN.0022038
LICENSED PROFESSIONAL ENGINEER
8/25/22

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

DRAWN BY:	CHECKED BY:	APPROVED BY:
NM	JO	MP

RFDS REV #: 1

PRELIMINARY DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
0	08/24/22	ISSUED FOR FILING

A&E PROJECT NUMBER
10710-NJJER01083C

DISH WIRELESS PROJECT INFORMATION
NJJER01083C
28 GREAT OAK LANE
REDDING, CT 06896

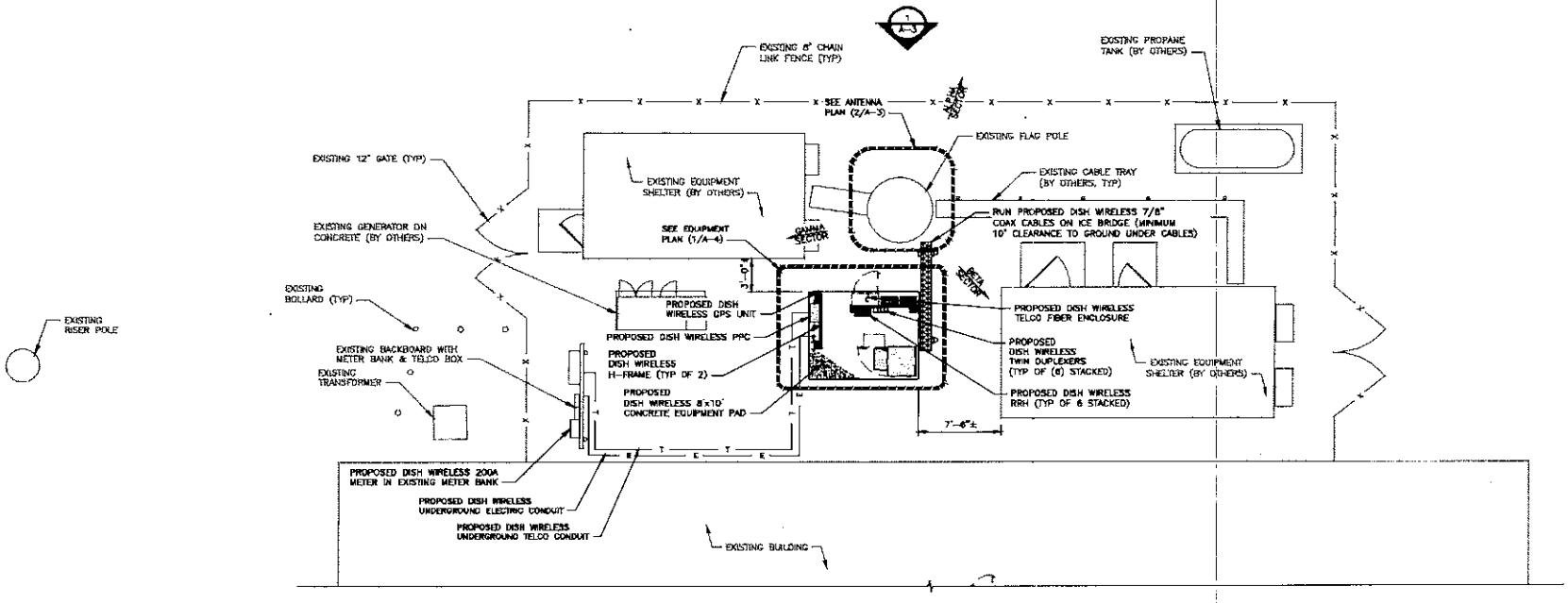
SHEET TITLE
OVERALL SITE PLAN

SHEET NUMBER
A-1

NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.
3. EXISTING STRUCTURE SHALL BE ANALYZED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF CONNECTICUT.

ANTENNA AZIMUTHS	
ALPHA	0°
BETA	120°
GAMMA	240°



ENLARGED SITE PLAN

1/4"=1'-0"

dish wireless.
5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

Tectonic

STATE OF CONNECTICUT
MANOJKUMAR PATEL
PEN.0022038
LICENSED
PROFESSIONAL ENGINEER
8/25/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
NM	JO	MP

RFDS REV #: 1

PRELIMINARY DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
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10710.NJJER01083C

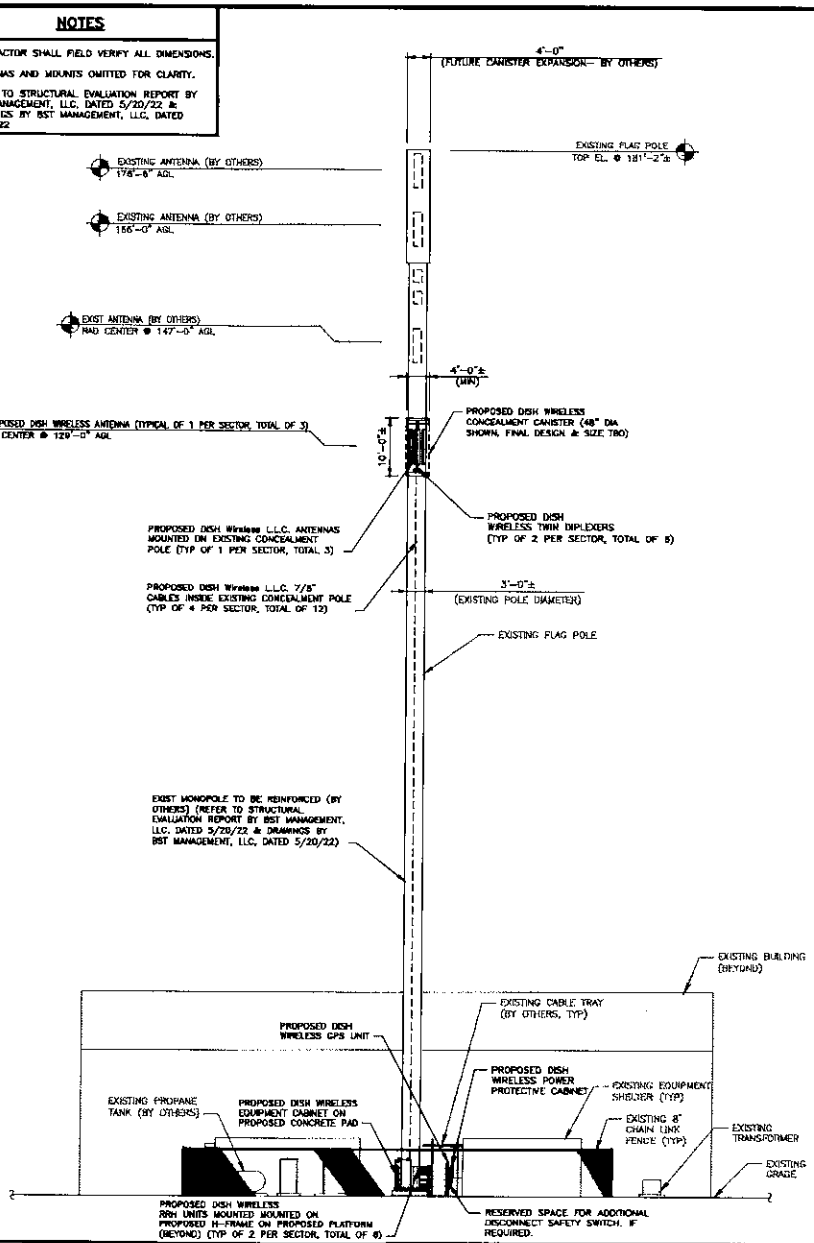
DISH WIRELESS PROJECT INFORMATION
NJJER01083C
28 GREAT OAK LANE
REDDING, CT 06896

SHEET TITLE
ENLARGED SITE & EQUIPMENT PLAN

SHEET NUMBER
A-2

NOTES

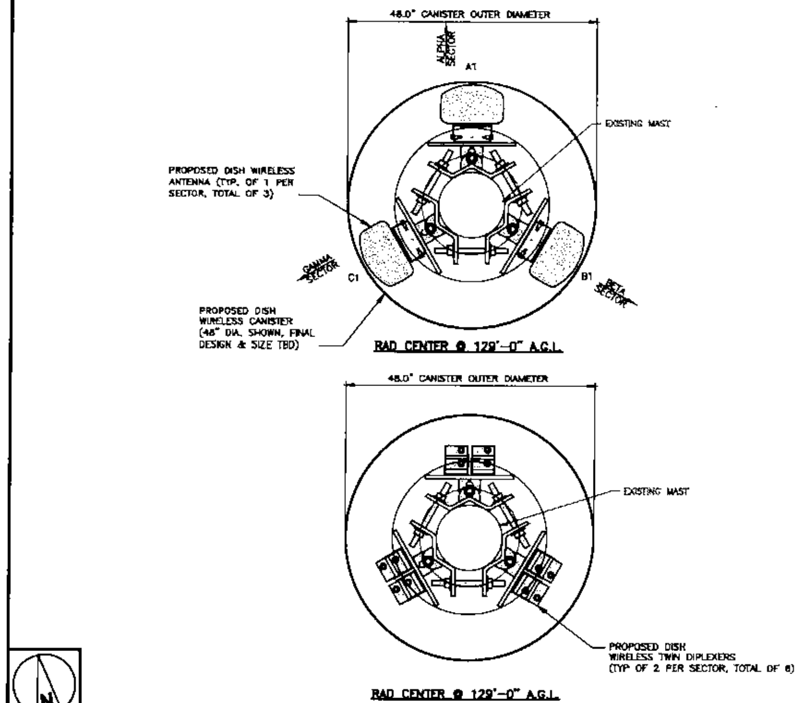
1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.
3. REFER TO STRUCTURAL EVALUATION REPORT BY BST MANAGEMENT, LLC. DATED 5/20/22 & DRAWINGS BY BST MANAGEMENT, LLC. DATED 5/20/22



ELEVATION

12' 8' 4' 0 10' 20'
3/32"=1'-0"

1



ANTENNA LAYOUT

12" 9" 6" 3" 0 1' 2'
1"=1'-0"

2

SECTOR POS.	ANTENNA					TRANSMISSION CABLE	RRH (AT GRADE)			OVP
	EXISTING OR PROPOSED	MANUFACTURER – MODEL NUMBER	TECH	AZIMUTH	RAD CENTER	FEED LINE TYPE AND LENGTH	MANUFACTURER – MODEL NUMBER	TECH	POS.	MANUFACTURER MODEL
A1	PROPOSED	COMMSCOPE FVV-65B-R3	5G	0°	129'-0"	(4) 7/8" COAX (110'-0" LONG)	FUJITSU – TA08025-B604	5G	A1	—
							FUJITSU – TA08025-B605	5G	A1	
							—	—	—	
B1	PROPOSED	COMMSCOPE FVV-65B-R3	5G	120°	129'-0"	(4) 7/8" COAX (110'-0" LONG)	FUJITSU – TA08025-B604	5G	B1	—
							FUJITSU – TA08025-B605	5G	B1	
							—	—	—	
C1	PROPOSED	COMMSCOPE FVV-65B-R3	5G	240°	129'-0"	(4) 7/8" COAX (110'-0" LONG)	FUJITSU – TA08025-B604	5G	C1	—
							FUJITSU – TA08025-B605	5G	C1	
							—	—	—	

NOTES

1. CONTRACTOR TO REFER TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS.
2. ANTENNA AND RRH MODELS MAY CHANGE DUE TO EQUIPMENT AVAILABILITY. ALL EQUIPMENT CHANGES MUST BE APPROVED AND REMAIN IN COMPLIANCE WITH THE PROPOSED DESIGN AND STRUCTURAL ANALYSES.
3. AZIMUTHS ARE SUBJECT TO CHANGE AND NEED TO BE CONFIRMED WITH THE LATEST RFDS PRIOR TO THE START OF CONSTRUCTION.

ANTENNA SCHEDULE

NO SCALE

3

dish wireless.
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STATE OF CONNECTICUT
MANOJKUMAR PATEL
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LICENSED
PROFESSIONAL ENGINEER
8/25/22

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NM	JQ	MP

RFDS REV #: 1

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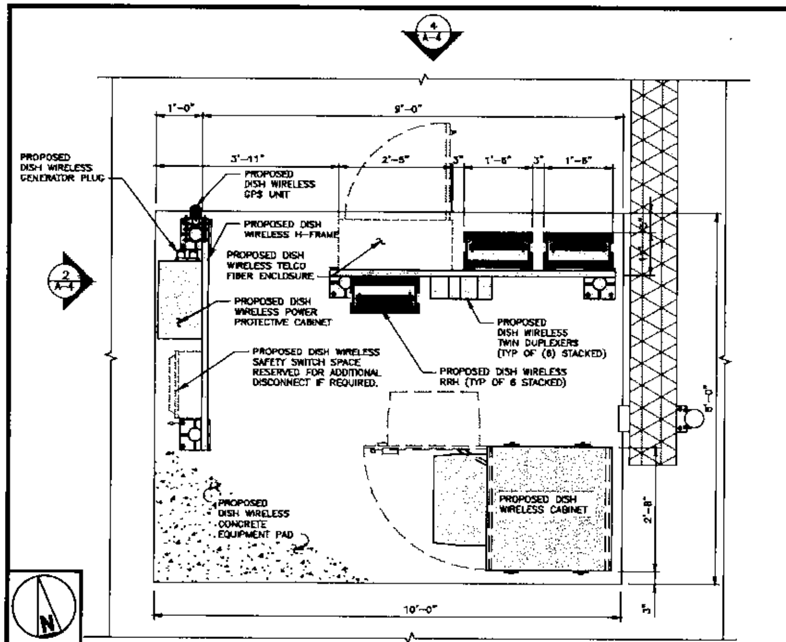
10710.NJJER01083C

DISH WIRELESS PROJECT INFORMATION
NJJER01083C
28 GREAT OAK LANE
REDDING, CT 06896

SHEET TITLE
ELEVATION, ANTENNA LAYOUT AND SCHEDULE

SHEET NUMBER
A-3

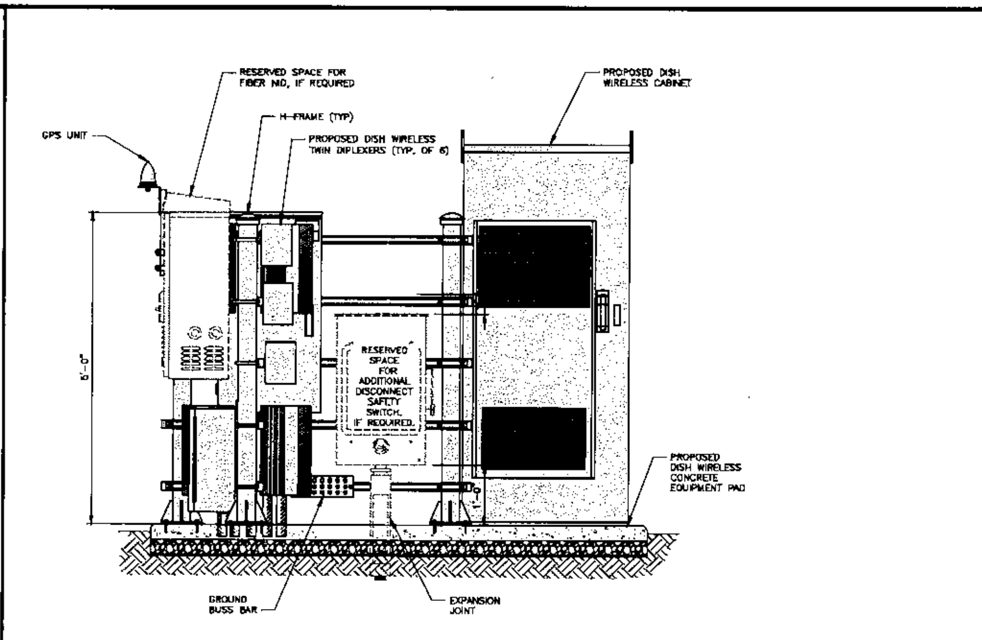


EQUIPMENT AREA PLAN

12" 6" 0 1' 2' 3'

3/4"=1'-0"

1



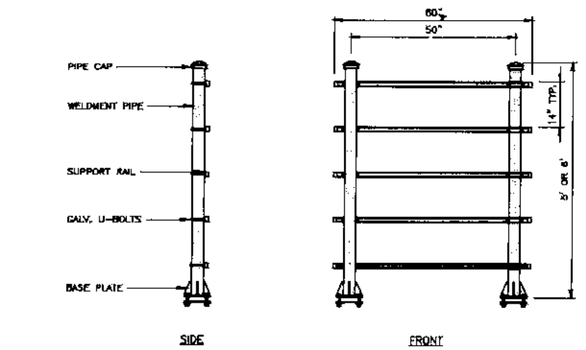
H-FRAME EQUIPMENT ELEVATION

NO SCALE

2

NOTE:
OR DISH WIRELESS APPROVED EQUIVALENT

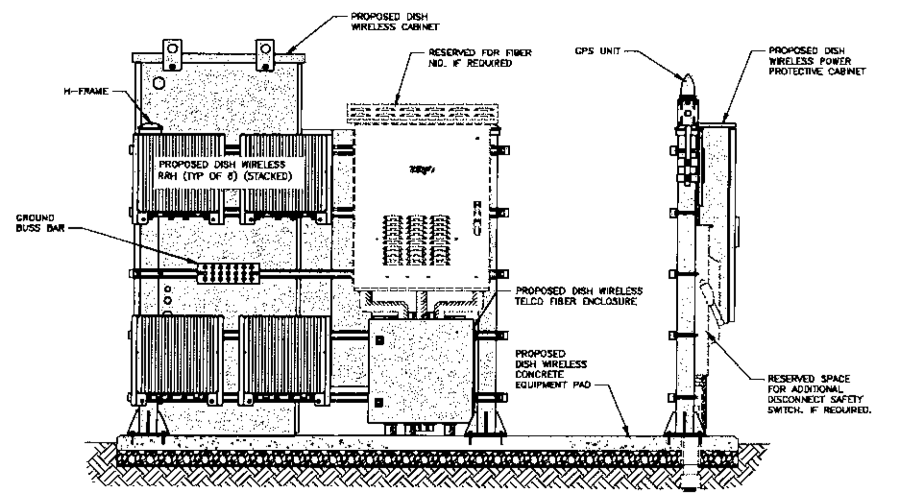
COMMSCOPE MTC4045HFLD H-FRAME	
UNISTRUT/SUPPORT RAILS QTY	5
WEIGHT	59.74 lbs



H-FRAME DETAIL

NO SCALE

3



H-FRAME EQUIPMENT ELEVATION

NO SCALE

4

dish wireless
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LITTLETON, CO 80120

Tectonic

STATE OF CONNECTICUT
MANOJKUMAR PATEL
PEN.0022038
LICENSED
PROFESSIONAL ENGINEER
8/25/22

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

DRAWN BY:	CHECKED BY:	APPROVED BY:
NM	JQ	MP

RFDS REV #: 1

PRELIMINARY DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
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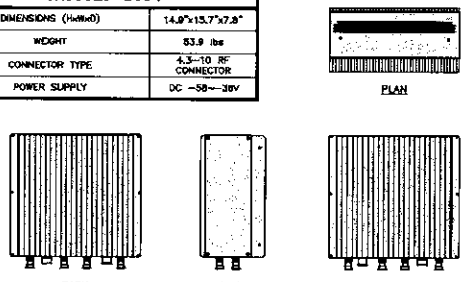
A&E PROJECT NUMBER
10710.NJJER01083C

DISH WIRELESS PROJECT INFORMATION
NJJER01083C
28 GREAT OAK LANE
REDDING, CT 06896

SHEET TITLE
EQUIPMENT DETAILS

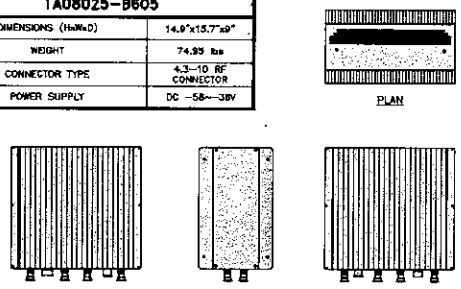
SHEET NUMBER
A-4

FUJITSU DUAL BAND TA08025-B604	
DIMENSIONS (HxWxD)	14.9"x15.7"x7.9"
WEIGHT	53.9 lbs
CONNECTOR TYPE	4.3-10 RF CONNECTOR
POWER SUPPLY	DC -58~-38V



RRH DETAIL | NO SCALE | 1

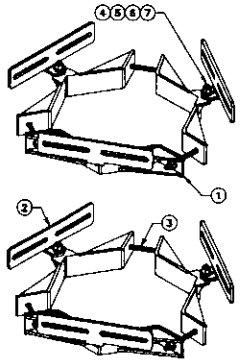
FUJITSU TRIPLE BAND TA08025-B605	
DIMENSIONS (HxWxD)	14.9"x15.7"x9"
WEIGHT	74.95 lbs
CONNECTOR TYPE	4.3-10 RF CONNECTOR
POWER SUPPLY	DC -58~-38V



RRH DETAIL | NO SCALE | 2

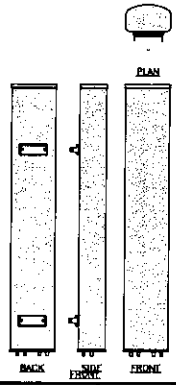
EEI FPXL-AB TRIAD FLUSHED MOUNT	
DESCRIPTION	PART # - QTY
TRIAD-FPXL - 1/4" BRACKET ASSEMBLY	PART 1 - QTY: 6
TRIAD-AB - 1/4" HRPO GUSSET ASSEMBLY	PART 2 - QTY: 6
3/8"x7" A36 THREADED ROD	PART 3 - QTY: 6
3/8"x1-1/4" A307 BOLT	PART 4 - QTY: 6
3/8" HEX NUT	PART 5 - QTY: 6
3/8" FLAT WASHER	PART 6 - QTY: 6
3/8" LOCK WASHER	PART 7 - QTY: 6
TOTAL WEIGHT	±101.4 lbs
POLE DIAMETER	10"ø-14"ø

NOTE:
OR DISH Wireless L.L.C. APPROVED EQUIVALENT

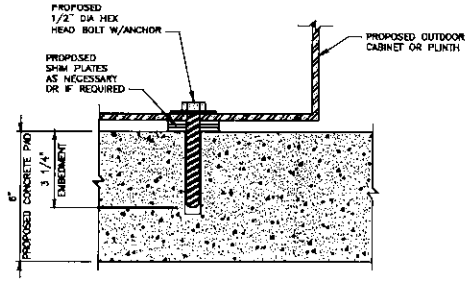


MAST MOUNT DETAIL | NO SCALE | 3

COMMSCOPE FVV-65B-R3	
DIMENSIONS (HxWxD)(MM/IN)	1828x300x181 71.9"x11.8"x7.1"
RF CONNECTOR INTERFACE	4.3-10 FEMALE
WEIGHT	43.8 lbs
WEIGHT WITH BRACKETS	70.9 lbs

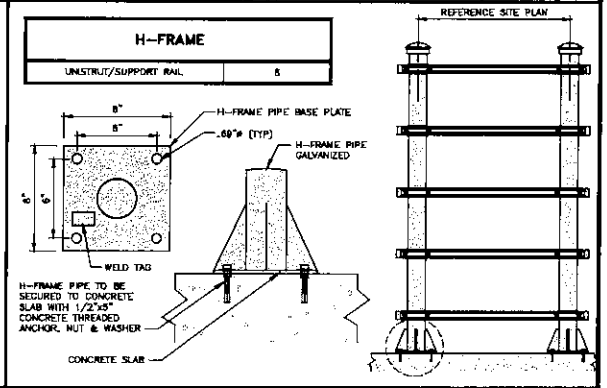


ANTENNA DETAIL | NO SCALE | 4

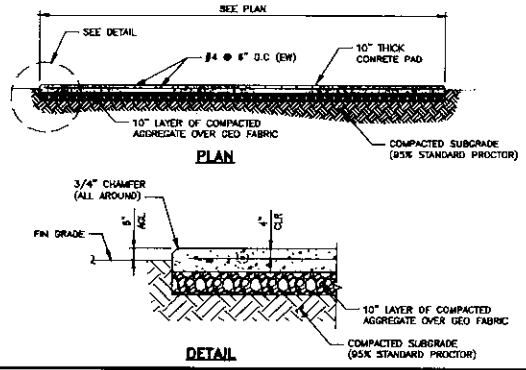


TYPICAL OUTDOOR EQUIPMENT TO CONCRETE SLAB ANCHORAGE | NO SCALE | 5

H-FRAME	
UNISTRUT/SUPPORT RAIL	8



H-FRAME CONCRETE SLAB INSTALLATION DETAIL | NO SCALE | 6



EQUIPMENT CONCRETE PAD | 12" 6" 0 1' 2' 3' 4' 5' 1/2"=1'-0" | 7

NO SCALE | 8

NO SCALE | 9

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LITTLETON, CO 80120

Tectonic

STATE OF CONNECTICUT
MANOJKUMAR PAL
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LICENSED PROFESSIONAL ENGINEER
8/25/22

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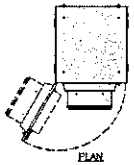
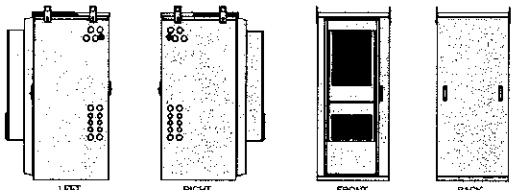
DISH WIRELESS PROJECT INFORMATION
NJJER01083C
28 GREAT OAK LANE
REDDING, CT 06896

SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
A-5

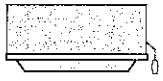
DELTA ELECTRONICS, INC. ESOA600-HCH04 (HEX)	
DIMENSIONS (HxWxD)	75"x32"x32"
WEIGHT (EMPTY)	625 lbs (approx.)

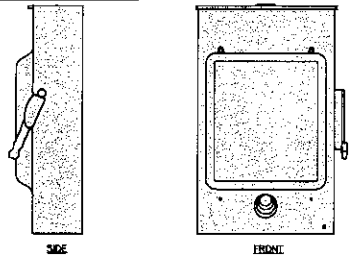




CABINET DETAIL | NO SCALE | 1

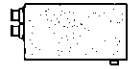
SQUARE D SAFETY SWITCHES D224NRB	
ENCLOSURE DIM (HxWxD)	28.25"x19.00"x8.50"
ENCLOSURE TYPE	NEMA 3R RAINPROOF
UL LISTED	FILE E-2875

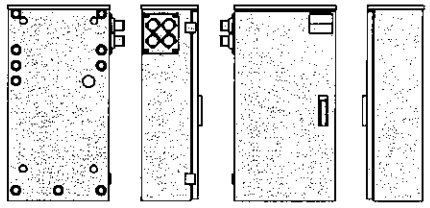




SAFETY SWITCH DETAIL | NO SCALE | 2

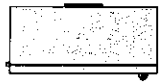
RAYCAP PPC RDIAC-2465-P-240-MTS	
ENCLOSURE DIMENSIONS (HxWxD):	39"x22.835"x12.593
WEIGHT:	80 lbs
OPERATING AC VOLTAGE	240/120 1 PHASE 3W+G

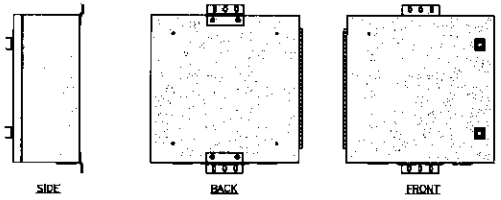




CABINET DETAIL | NO SCALE | 3

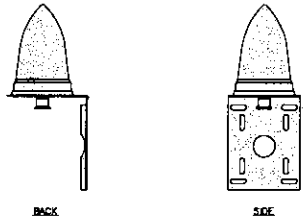
CHARLES CFIT-PF2020DSH1 FIBER TELCO ENCLOSURE	
ENCLOSURE DIMS (HxWxD)	20"x20"x9"
ENCLOSURE WEIGHT	20 lbs
MOUNTING	WALL
COMPLIANCE	TYPE 4



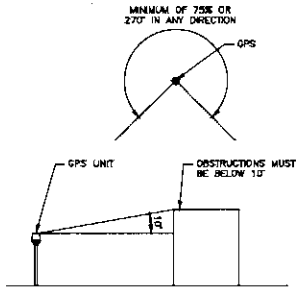


FIBER TELCO ENCLOSURE DETAIL | NO SCALE | 4

PCTEL GPSGL-TMG-SPI-40NCB	
DIMENSIONS (DIAxH) MM/INCH	81x154mm 3.2"x7.25"
WEIGHT W/ACCESSORIES	075 lbs
CONNECTOR	N-FEMALE
FREQUENCY RANGE	1590 ± 30MHz

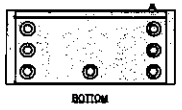


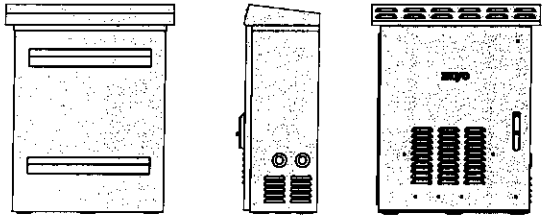
GPS DETAIL | NO SCALE | 5



GPS MINIMUM SKY VIEW REQUIREMENTS | NO SCALE | 6

ZAYO SRU (LEFT SWING DOOR) FIBER NID ENCLOSURE	
DIMENSIONS (HxWxD)	36.1"x29"x12.9"
WEIGHT	85 lbs





FIBER NID ENCLOSURE DETAIL | NO SCALE | 7

NO SCALE | 8

NO SCALE | 9

dish wireless.
5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

Tectonic
Tectonic Engineering Consultants, Architects & Land Surveyors, D.P.C., Inc.
Project Contact Info:
1279 Route 300
Newburgh, NY 12550
Phone: (845) 567-4666
(800) 999-4631
www.tectonicengineering.com

STATE OF CONNECTICUT
MANOJKUMAR PATEL
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LICENSED
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DISH WIRELESS PROJECT INFORMATION
NJJER01083C
28 GREAT OAK LANE
REDDING, CT 06896

SHEET TITLE
EQUIPMENT DETAILS

SHEET NUMBER
A-6

LEGEND

- EXOTHERMIC CONNECTION
- MECHANICAL CONNECTION
- CHEMICAL ELECTROLYTIC GROUNDING SYSTEM
- TEST CHEMICAL ELECTROLYTIC GROUNDING SYSTEM
- EXOTHERMIC WITH INSPECTION SLEEVE
- GROUNDING BAR
- GROUND ROD
- TEST GROUND ROD WITH INSPECTION SLEEVE
- SINGLE POLE SWITCH
- DUPLEX RECEPTACLE
- DUPLEX GFCI RECEPTACLE
- FLUORESCENT LIGHTING FIXTURE (2) TWO LAMPS 48-T8 — F
- SMOKE DETECTION (DC) — SD
- EMERGENCY LIGHTING (DC)
- SECURITY LIGHT W/PHOTOCELL LITHONIA ALXW LED-1-25A400/51K-SR4-120-PE-DDBTXD
- CHAIN LINK FENCE
- WOOD/WROUGHT IRON FENCE
- WALL STRUCTURE
- LEASE AREA
- PROPERTY LINE (PL)
- SETBACKS
- ICE BRIDGE
- CABLE TRAY
- WATER LINE — W
- UNDERGROUND POWER — UGP
- UNDERGROUND TELCO — UGT
- OVERHEAD POWER — OHP
- OVERHEAD TELCO — OHT
- UNDERGROUND TELCO/POWER — UGT/P
- ABOVE GROUND POWER — AGP
- ABOVE GROUND TELCO — AGT
- ABOVE GROUND TELCO/POWER — AGT/P
- WORKPOINT — W.P.
- SECTION REFERENCE — XX / X-X
- DETAIL REFERENCE — XX / X-X

ABBREVIATIONS

AB	ANCHOR BOLT
ABV	ABOVE
AC	ALTERNATING CURRENT
ADDL	ADDITIONAL
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AGL	ABOVE GROUND LEVEL
AIC	AMPERAGE INTERRUPTION CAPACITY
ALUM	ALUMINUM
ALT	ALTERNATE
ANT	ANTENNA
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BATT	BATTERY
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BTC	BARE TINNED COPPER CONDUCTOR
BOF	BOTTOM OF FOOTING
CAB	CABINET
CANT	CANTILEVERED
CHG	CHARGING
CLG	CEILING
CLR	CLEAR
COL	COLUMN
COMM	COMMON
CONC	CONCRETE
CONSTR	CONSTRUCTION
DBL	DOUBLE
DC	DIRECT CURRENT
DEPT	DEPARTMENT
DF	DOUGLAS FIR
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DWG	DRAWING
DWL	DOWEL
EA	EACH
EC	ELECTRICAL CONDUCTOR
EL.	ELEVATION
ELEC	ELECTRICAL
EMT	ELECTRICAL METALLIC TUBING
ENG	ENGINEER
EQ	EQUAL
EXP	EXPANSION
EXT	EXTERIOR
EW	EACH WAY
FAB	FABRICATION
FF	FINISH FLOOR
FG	FINISH GRADE
FIF	FACILITY INTERFACE FRAME
FIN	FINISH(ED)
FLR	FLOOR
FDN	FOUNDATION
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FOW	FACE OF WALL
FS	FINISH SURFACE
FT	FOOT
FTG	FOOTING
GA	GAUGE
GEN	GENERATOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GLB	GLUE LAMINATED BEAM
GLV	GALVANIZED
GPS	GLOBAL POSITIONING SYSTEM
GND	GROUND
GSM	GLOBAL SYSTEM FOR MOBILE
HDG	HOT DIPPED GALVANIZED
HDR	HEADER
HGR	HANGER
HVAC	HEAT/VENTILATION/AIR CONDITIONING
HT	HEIGHT
IGR	INTERIOR GROUND RING
IN	INCH
INT	INTERIOR
LB(S)	POUND(S)
LF	LINEAR FEET
LTE	LONG TERM EVOLUTION
MAS	MASONRY
MAX	MAXIMUM
MB	MACHINE BOLT
MECH	MECHANICAL
MFR	MANUFACTURER
MGB	MASTER GROUND BAR
MIN	MINIMUM
MISC	MISCELLANEOUS
MTL	METAL
MTS	MANUAL TRANSFER SWITCH
MW	MICROWAVE
NEC	NATIONAL ELECTRIC CODE
NM	NEWTON METERS
NO.	NUMBER
#	NUMBER
NTS	NOT TO SCALE
OC	ON-CENTER
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
OPNG	OPENING
P/C	PRECAST CONCRETE
PCS	PERSONAL COMMUNICATION SERVICES
PCU	PRIMARY CONTROL UNIT
PRC	PRIMARY RADIO CABINET
PP	POLARIZING PRESERVING
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE TREATED
PWR	POWER CABINET
QTY	QUANTITY
RAD	RADIUS
RECT	RECTIFIER
REF	REFERENCE
REINF	REINFORCEMENT
REQ'D	REQUIRED
RET	REMOTE ELECTRIC TILT
RF	RADIO FREQUENCY
RMC	RIGID METALLIC CONDUIT
RRH	REMOTE RADIO HEAD
RRU	REMOTE RADIO UNIT
RWY	RACEWAY
SCH	SCHEDULE
SHT	SHEET
SIAD	SMART INTEGRATED ACCESS DEVICE
SIM	SIMILAR
SPEC	SPECIFICATION
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
TEMP	TEMPORARY
THK	THICKNESS
TMA	TOWER MOUNTED AMPLIFIER
TN	TOE NAIL
TOA	TOP OF ANTENNA
TOC	TOP OF CURB
TOF	TOP OF FOUNDATION
TOP	TOP OF PLATE (PARAPET)
TOS	TOP OF STEEL
TOW	TOP OF WALL
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
TYP	TYPICAL
UG	UNDERGROUND
UL	UNDERWRITERS LABORATORY
UNO	UNLESS NOTED OTHERWISE
UMTS	UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM
UPS	UNINTERRUPTIBLE POWER SYSTEM (DC POWER PLANT)
VIF	VERIFIED IN FIELD
W	WIDE
W/	WITH
WD	WOOD
WP	WEATHERPROOF
WT	WEIGHT

dish wireless.
5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

Tectonic
Tectonic Engineering Consultants, Geologists & Land Surveyors, D.P.C., Inc.
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STATE OF CONNECTICUT
MANOJKUMAR PATEL
PEN.0022038
LICENSED
PROFESSIONAL ENGINEER
8/25/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
NM	JO	MP

RFDS REV #: 1

PRELIMINARY DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
0	08/24/22	ISSUED FOR FILING

A&E PROJECT NUMBER
10710.NJJER01083C

DISH WIRELESS PROJECT INFORMATION
NJJER01083C
28 GREAT OAK LANE
REDDING, CT 06896

SHEET TITLE
LEGEND AND ABBREVIATIONS

SHEET NUMBER
GN-1

SITE ACTIVITY REQUIREMENTS:

1. NOTICE TO PROCEED – NO WORK SHALL COMMENCE PRIOR TO CONTRACTOR RECEIVING A WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE DISH WIRELESS AND TOWER OWNER NOC & THE DISH WIRELESS AND TOWER OWNER CONSTRUCTION MANAGER.

2. "LOOK UP" – DISH WIRELESS AND TOWER OWNER SAFETY CLIMB REQUIREMENT:

THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR DISH WIRELESS AND DISH WIRELESS AND TOWER OWNER POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.

3. PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, FLOOD ZONE, ENVIRONMENTAL, AND ZONING. AFTER ONSITE ACTIVITIES AND CONSTRUCTION ARE COMPLETED, 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, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN, AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND DISH WIRELESS AND TOWER OWNER STANDARDS, INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION, TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH ANSI/TIA–322 (LATEST EDITION).

5. ALL SITE WORK TO COMPLY WITH DISH WIRELESS AND TOWER OWNER INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON DISH WIRELESS AND TOWER OWNER TOWER SITE AND LATEST VERSION OF ANSI/TIA–1019–A–2012 "STANDARD FOR INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS."

6. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY DISH WIRELESS AND TOWER OWNER PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.

7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

8. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

9. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES INCLUDING PRIVATE LOCATES SERVICES PRIOR TO THE START OF CONSTRUCTION.

10. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION E) CONSTRUCTION SAFETY PROCEDURES.

11. ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND DISH PROJECT SPECIFICATIONS, LATEST APPROVED REVISION.

12. CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH AT THE COMPLETION OF THE WORK. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.

13. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF DISH WIRELESS 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 JURISDICTION AND SIGNAGE REQUIRED ON INDIVIDUAL PIECES OF EQUIPMENT, ROOMS, AND SHELTERS.

15. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS.

16. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.

17. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED ON THE CONSTRUCTION DRAWINGS AND/OR PROJECT SPECIFICATIONS.

18. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.

19. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.

20. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS AND RADIOS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

21. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

22. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

GENERAL NOTES:

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

CONTRACTOR:GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION

CARRIER:DISH WIRELESS

TOWER OWNER:TOWER OWNER

2. THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE ENGINEERS IN THIS OR SIMILAR LOCALITIES. IT IS ASSUMED THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKPEOPLE WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.

3. THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY FOR PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, FORMWORK, SHORING, ETC. SITE VISITS BY THE ENGINEER OR HIS REPRESENTATIVE WILL NOT INCLUDE INSPECTION OF THESE ITEMS AND IS FOR STRUCTURAL OBSERVATION OF THE FINISHED STRUCTURE ONLY.

4. NOTES AND DETAILS IN THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES, AND SPECIFICATIONS, THE GREATER, MORE STRICT REQUIREMENTS, SHALL GOVERN. IF FURTHER CLARIFICATION IS REQUIRED CONTACT THE ENGINEER OF RECORD.

5. SUBSTANTIAL EFFORT HAS BEEN MADE TO PROVIDE ACCURATE DIMENSIONS AND MEASUREMENTS ON THE DRAWINGS TO ASSIST IN THE FABRICATION AND/OR PLACEMENT OF CONSTRUCTION ELEMENTS BUT IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE DIMENSIONS, MEASUREMENTS, AND/OR CLEARANCES SHOWN IN THE CONSTRUCTION DRAWINGS PRIOR TO FABRICATION OR CUTTING OF ANY NEW OR EXISTING CONSTRUCTION ELEMENTS. IF IT IS DETERMINED THAT THERE ARE DISCREPANCIES AND/OR CONFLICTS WITH THE CONSTRUCTION DRAWINGS THE ENGINEER OF RECORD IS TO BE NOTIFIED AS SOON AS POSSIBLE.

6. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CARRIER POC AND TOWER OWNER.

7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.

8. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.

9. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.

10. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CARRIER AND TOWER OWNER PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.

11. CONTRACTOR IS TO PERFORM A SITE INVESTIGATION, BEFORE SUBMITTING BIDS, TO DETERMINE THE BEST ROUTING OF ALL CONDUITS FOR POWER, AND TELCO AND FOR GROUNDING CABLES AS SHOWN IN THE POWER, TELCO, AND GROUNDING PLAN DRAWINGS.

12. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF DISH WIRELESS AND TOWER OWNER

13. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.

14. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.

dish wireless.

5701 SOUTH SANTA FE DRIVE
LITTLETON, CO 80120

Tectonic

STATE OF CONNECTICUT
MANOJKUMAR PAL
PEN.0022038
LICENSED
PROFESSIONAL ENGINEER
8/25/22

DRAWN BY:	CHECKED BY:	APPROVED BY:
NM	JO	MP

RFDS REV #: 1

PRELIMINARY DOCUMENTS

SUBMITTALS

REV	DATE	DESCRIPTION
0	08/24/22	ISSUED FOR FILING

A&E PROJECT NUMBER

10710.NJJER01083C

DISH WIRELESS PROJECT INFORMATION

NJJER01083C

28 GREAT OAK LANE
REDDING, CT 06896

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

GN-2

Exhibit D

Structural Analysis

BST MANAGEMENT LLC

Structural Analysis Report

Structure	: 180' Stealth Monopole
BlueSky Site Name	: S. Yale Ave
BlueSky Site Number	: CT-1420
Proposed Carrier	: Dish Wireless LLC
Carrier Site Name	: NJJER01083C
Carrier Site Number	: NJJER01083C
Site Location	: 28 Great Oak Lane Redding, CT 06896 (Fairfield County) 41.3068333, -73.3863056
Date	: September 8, 2022
Max Member Stress Level	**: 46.8% (Tower)** **: 93.1% (Foundation)** **: 71.6% (Base Plate / Anchor Bolts)**
Result	**: PASS**

Prepared by:

CELLSITE SOLUTIONS, LLC

STATE OF CONNECTICUT
MICHAEL T. DEBOER
No. 18062
LICENSED PROFESSIONAL ENGINEER

09/09/2022

Table of Contents

Introduction

We have completed our structural analysis of the proposed equipment installation on the foregoing tower to determine its ability to support the new loads proposed by **Dish Wireless LLC**. The objective of the analysis was to determine if the tower meets the current structural codes and standards with the proposed equipment installation.

Existing Structural Information

The following documents for the existing structure were made available for our structural analysis.

Tower Information	Original Tower Drawings provided by Sabre Towers, Job No. 41261, dated March 2, 2011.
Foundation Information	Original Foundation Information provided by Sabre Towers, Job No. 41261, dated March 2, 2011.
Geotechnical Information	Geotechnical Report referenced by Dr. Clarence Welti, dated July 7, 2008.
Existing Equipment Information	BlueSky Towers colocation application.
Tower Reinforcement Information	Tower has not been previously modified.

Final Proposed Equipment Loading for Dish Wireless LLC

The following proposed loading was obtained from the BlueSky Towers Collocation Application:

Antenna/Equipment					Coax	
Mount (Ft.)	RAD (Ft.)	Qty.	Antenna	Type	Qty.	Size/Type
129.0	-	**1**	**Stealth Canister (48" Diameter)**	**Mount**	**12**	**0.875" Coax**
	129.0	**3**	**Commscope FVV-65B-R3**	**Panel**		

Note: Other existing loading can be found on the tower profile attached.
Note: Proposed equipment is in Bold print.
Note: Canister for Dish has been considered to be a 48" diameter canister as requested in the application.

Design Criteria

The tower was analyzed using tnxTower (Version 8.1.1.0) tower analysis software using the following design criteria.

State	Connecticut
City/County Building Code	Fairfield County (IBC 2015)
TIA/EIA Standard Code	TIA-222-H
Basic Wind Speed	116 MPH (Vult)
Basic Wind Speed w/ Ice	50 MPH w/ 1.0" Ice
Steel Grade	Pole Shaft A572 GR 65 (65 KSI) / Base Plate A572 GR 50 (50 KSI) / Anchor Bolts A615-75 (75 KSI)
Exposure Category	B
Topographic Category (height)	1 (0)
Risk Category	II
S_s	0.227
Seismic design Category	B

Analysis Results

Based on the foregoing information, our structural analysis determined that **the existing tower is structurally capable of supporting the proposed equipment loads without modification.** The existing tower foundation, base plate and anchor bolts have also been evaluated. The foundation, base plate and anchor bolts were found to be structurally capable of supporting the proposed loads. A seismic analysis has been performed on this site and is not controlling.

Assumptions

The below assumptions are true, complete, and accurate.

1. The existing tower has been maintained to manufacturer's specifications and is in good condition.
2. Foundations are considered to have been properly designed for the original design loads.
3. All member connections are considered to have been designed to meet the load carrying capacity of the connected member.
4. Antenna mount loads have been estimated based on generally accepted industry standards.
5. The mounts for the proposed antennas have been analyzed and designed by others.
6. See additional assumptions contained in the report attached.
7. Tower is within acceptable engineering tolerance at 105%.
8. Foundations are within acceptable engineering tolerance at 110%.

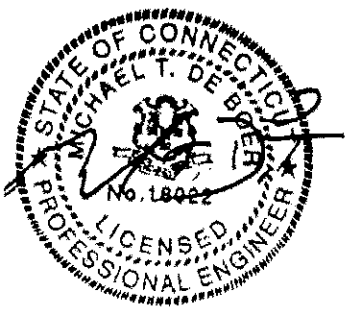
Conclusions

The existing tower described above **has sufficient capacity** to support the proposed loading based on the governing Building Code. The tower foundation, base plate and anchor bolts have also been evaluated and are acceptable. A seismic analysis has been performed on this site and is not controlling.

We appreciate the opportunity of providing our continuing professional services to you. If you have any questions or need further assistance, please call us anytime at 941-400-2206.

Sincerely,

Analysis by:



Michael T De Boer, PE
Vice President of Engineering
Cellsite Solutions, LLC

09/09/2022

Standard Conditions

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

- Information supplied by the client regarding the structure itself, the antenna and transmission line loading on the structure and it components, or relevant information.

- Information from drawings in possession of Cellsite Solutions, LLC, or generated by field inspections or measurements of the structure.

It is the responsibility of the client to ensure that the information provided to Cellsite Solutions, LLC and used in the performance of our engineering services is correct and complete. In the absence of information contrary, we consider that all structures were constructed in accordance with the drawings and specifications and are in a un-corroded condition and have not deteriorated; and we, therefore consider that their capacity has not significantly changed from the original design condition.

All services will be performed to the codes and standards specified by the client, and we do not imply to meet any other code and standard requirements unless explicitly agreed to in writing. If wind and ice loads or other relevant parameters are to be different from the minimum values recommended by the codes and standards, the client shall specify the exact requirements. In the absence of information to the contrary, all work will be performed in accordance with the revision of ANSI/TIA/EIA-222-H requested.

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

Disclaimer of Warranties

Cellsite Solutions, LLC makes no warranties, express or implied, in connection with this report and disclaims any liability arising from the ability of the existing structure to support the design loads for which it was originally designed. Cellsite Solutions, LLC will not be responsible whatsoever for or on account of, consequential or incidental damages sustained by any person, firm, or organization as a result of any data or conclusions contained in this report. The maximum liability of Cellsite Solutions, LLC pursuant to this report will be limited to the total fee received for preparation of this report.

Attachment 1:
Calculations

DESIGNED APPURTENANCE LOADING

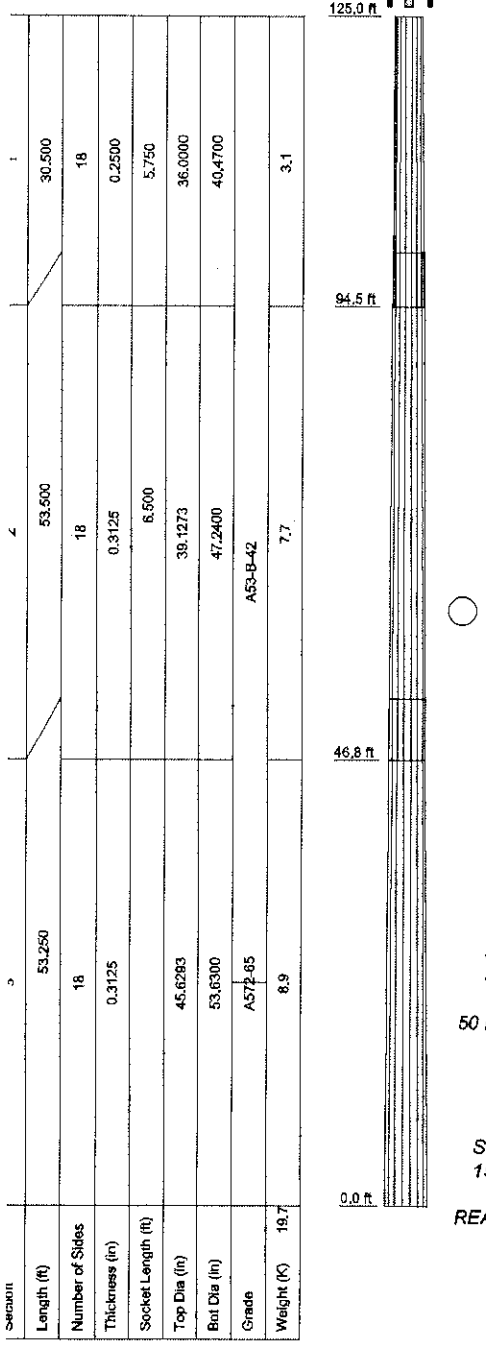
TYPE	ELEVATION	TYPE	ELEVATION
Kathrein 840 370966 (ATT)	177	3' Diameter Canister 160' - 135' (TBD / VZW)	147.5
Kathrein 840 370966 (ATT)	177		
Kathrein 840 370966 (ATT)	177	Amphenol HTXCW631619 (Verizon)	147
(2) CCI TMA BPD7823VG12A (ATT)	177	(2) RFS FD9R Diplexer (Verizon)	147
(2) CCI TMA BPD7823VG12A (ATT)	177	(2) RFS FD9R Diplexer (Verizon)	147
(2) CCI TMA BPD7823VG12A (ATT)	177	(2) RFS FD9R Diplexer (Verizon)	147
4' Diameter Canister 180' - 160' (ATT)	170	Amphenol HTXCW631619 (Verizon)	147
Kathrein 840 370966 (ATT)	165	Amphenol HTXCW631619 (Verizon)	147
Kathrein 840 370966 (ATT)	165	4' Diameter Canister 125' - 135' (Dish)	130
(2) CCI TMA BPD7823VG12A (ATT)	165	Commscope FVV-65B-R3 (Dish)	129
(2) CCI TMA BPD7823VG12A (ATT)	165	Commscope FVV-65B-R3 (Dish)	129
(2) CCI TMA BPD7823VG12A (ATT)	165	Commscope FVV-65B-R3 (Dish)	129
Kathrein 840 370966 (ATT)	165		

MATERIAL STRENGTH

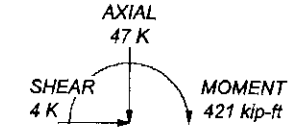
GRADE	Fy	Fu	GRADE	Fy	Fu
A53-B-42	42 ksi	63 ksi	A572-65	65 ksi	80 ksi

TOWER DESIGN NOTES

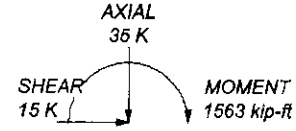
1. Tower is located in Fairfield County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 116 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 in Ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.000 ft
8. Weld together tower sections have flange connections.
9. Connections use galvanized A325 bolts, nuts and locking devices. Installation per TIA/EIA-222 and AISC Specifications.
10. Tower members are "hot dipped" galvanized in accordance with ASTM A123 and ASTM A153 Standards.
11. Welds are fabricated with ER-70S-6 electrodes.
12. TOWER RATING: 46.8%



ALL REACTIONS ARE FACTORED



50 mph WIND - 1.0000 in ICE



REACTIONS - 116 mph WIND

Cellsite Solutions, LLC
4150 C Street SW
Cedar Rapids, IA 52404
Phone: 319-826-3404
FAX:

Job: ***CT-1420 (Redding, CT)***
Project: ***Structural Analysis of a 180' Stealth Monopole***
Client: Blue Sky Towers (Dish) | Drawn by: mike.deboer | App'd:
Code: TIA-222-H | Date: 09/08/22 | Scale: N
Path: | Dwg No.

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: 587.750 ft.
- Basic wind speed of 116 mph.
- Risk Category II.
- Exposure Category B.
- Simplified Topographic Factor Procedure for wind speed-up calculations is used.
- Topographic Category: 1.
- Crest Height: 0.000 ft.
- Nominal ice thickness of 1.0000 in.
- Ice thickness is considered to increase with height.
- Ice density of 56.000 pcf.
- A wind speed of 50 mph is used in combination with ice.
- Temperature drop of 50.000 °F.
- Deflections calculated using a wind speed of 60 mph.
- Weld together tower sections have flange connections..
- Connections use galvanized A325 bolts, nuts and locking devices. Installation per TIA/EIA-222 and AISC Specifications..
- Tower members are "hot dipped" galvanized in accordance with ASTM A123 and ASTM A153 Standards..
- Welds are fabricated with ER-70S-6 electrodes..
- 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	Distribute Leg Loads As Uniform	Use ASCE 10 X-Brace Ly Rules
Consider Moments - Horizontals	Assume Legs Pinned	√ Calculate Redundant Bracing Forces
Consider Moments - Diagonals	√ Assume Rigid Index Plate	Ignore Redundant Members in FEA
Use Moment Magnification	√ Use Clear Spans For Wind Area	SR Leg Bolts Resist Compression
√ Use Code Stress Ratios	√ Use Clear Spans For KL/r	√ All Leg Panels Have Same Allowable
√ Use Code Safety Factors - Guys	Retension Guys To Initial Tension	Offset Girt At Foundation
Escalate Ice	Bypass Mast Stability Checks	Consider Feed Line Torque
Always Use Max Kz	√ Use Azimuth Dish Coefficients	Include Angle Block Shear Check
Use Special Wind Profile	√ Project Wind Area of Appurt.	Use TIA-222-H Bracing Resist. Exemption
√ Include Bolts In Member Capacity	Autocalc Torque Arm Areas	Use TIA-222-H Tension Splice Exemption
√ Leg Bolts Are At Top Of Section	Add IBC .6D+W Combination	**Poles**
√ Secondary Horizontal Braces Leg	Sort Capacity Reports By Component	Include Shear-Torsion Interaction
Use Diamond Inner Bracing (4 Sided)	Triangulate Diamond Inner Bracing	Always Use Sub-Critical Flow
SR Members Have Cut Ends	Treat Feed Line Bundles As Cylinder	Use Top Mounted Sockets
SR Members Are Concentric	Ignore KL/ry For 60 Deg. Angle Legs	√ Pole Without Linear Attachments
		√ Pole With Shroud Or No Appurtenances
		Outside and Inside Corner Radii Are Known

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	125.000-94.500	30.500	5.750	18	36.0000	40.4700	0.2500	1.0000	A53-B-42 (42 ksi)
L2	94.500-46.750	53.500	6.500	18	39.1273	47.2400	0.3125	1.2500	A53-B-42 (42 ksi)
L3	46.750-0.000	53.250		18	45.6293	53.6300	0.3125	1.2500	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
L1	36.5168	28.3676	4580.4961	12.6913	18.2880	250.4646	9167.0194	14.1865	5.8960	23.584
	41.0557	31.9146	6522.4473	14.2781	20.5588	317.2588	13053.4770	15.9603	6.6827	26.731
L2	40.5681	38.4994	7328.0139	13.7793	19.8767	368.6742	14665.6703	19.2534	6.3364	20.276
	47.9205	46.5462	12950.2052	16.6593	23.9979	539.6387	25917.4506	23.2775	7.7642	24.846
L3	47.2767	44.9486	11662.0090	16.0875	23.1797	503.1129	23339.3632	22.4786	7.4808	23.938
	54.4091	52.8843	18993.4443	18.9277	27.2440	697.1596	38011.8806	26.4472	8.8889	28.444

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	Adjust. Factor A_r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 125.000-94.500				1	1	1			
L2 94.500-46.750				1	1	1			
L3 46.750-0.000				1	1	1			

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight klf
****ATT****									
LDF7-50A (1-5/8 FOAM) (ATT)	C	No	Yes	Inside Pole	177.000 - 3.000	12	No Ice	0.000	0.001
							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
LDF7-50A (1-5/8 FOAM) (ATT)	C	No	Yes	Inside Pole	165.000 - 3.000	12	No Ice	0.000	0.001
							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
****Verizon									

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight klf
LDF7-50A (1-5/8 FOAM) (Verizon) ****Dish****	B	No	Yes	Inside Pole	147.000 - 3.000	6	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.001 0.001 0.001
LDF5-50A (7/8 FOAM) (Dish)	A	No	Yes	Inside Pole	129.000 - 3.000	12	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.000 0.000 0.000

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	125.000-94.500	A	0.000	0.000	0.000	0.000	0.121
		B	0.000	0.000	0.000	0.000	0.150
		C	0.000	0.000	0.000	0.000	0.600
L2	94.500-46.750	A	0.000	0.000	0.000	0.000	0.189
		B	0.000	0.000	0.000	0.000	0.235
		C	0.000	0.000	0.000	0.000	0.940
L3	46.750-0.000	A	0.000	0.000	0.000	0.000	0.173
		B	0.000	0.000	0.000	0.000	0.215
		C	0.000	0.000	0.000	0.000	0.861

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	125.000-94.500	A	1.128	0.000	0.000	0.000	0.000	0.121
		B		0.000	0.000	0.000	0.000	0.150
		C		0.000	0.000	0.000	0.000	0.600
L2	94.500-46.750	A	1.079	0.000	0.000	0.000	0.000	0.189
		B		0.000	0.000	0.000	0.000	0.235
		C		0.000	0.000	0.000	0.000	0.940
L3	46.750-0.000	A	0.965	0.000	0.000	0.000	0.000	0.173
		B		0.000	0.000	0.000	0.000	0.215
		C		0.000	0.000	0.000	0.000	0.861

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft Vert ft ft	Azimuth Adjustment °	Placement ft	C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
****ATT****									
Kathrein 840 370966 (ATT)	A	From Leg	1.000 0.000 0.000	0.0000	177.000	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.000 0.000 0.000	0.093 0.120 0.147
Kathrein 840 370966 (ATT)	B	From Leg	1.000 0.000 0.000	0.0000	177.000	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.000 0.000 0.000	0.093 0.120 0.147
Kathrein 840 370966 (ATT)	C	From Leg	1.000 0.000 0.000	0.0000	177.000	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.000 0.000 0.000	0.093 0.120 0.147
(2) CCI TMA BPD7823VG12A (ATT)	A	None		0.0000	177.000	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.000 0.000 0.000	0.031 0.044 0.057
(2) CCI TMA BPD7823VG12A (ATT)	B	None		0.0000	177.000	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.000 0.000 0.000	0.031 0.044 0.057
(2) CCI TMA BPD7823VG12A (ATT)	C	None		0.0000	177.000	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.000 0.000 0.000	0.031 0.044 0.057
Kathrein 840 370966 (ATT)	A	From Leg	1.000 0.000 0.000	0.0000	165.000	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.000 0.000 0.000	0.093 0.120 0.147
Kathrein 840 370966 (ATT)	B	From Leg	1.000 0.000 0.000	0.0000	165.000	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.000 0.000 0.000	0.093 0.120 0.147
Kathrein 840 370966 (ATT)	C	From Leg	1.000 0.000 0.000	0.0000	165.000	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.000 0.000 0.000	0.093 0.120 0.147
(2) CCI TMA BPD7823VG12A (ATT)	A	None		0.0000	165.000	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.000 0.000 0.000	0.031 0.044 0.057
(2) CCI TMA BPD7823VG12A (ATT)	B	None		0.0000	165.000	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.000 0.000 0.000	0.031 0.044 0.057
(2) CCI TMA BPD7823VG12A (ATT)	C	None		0.0000	165.000	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.000 0.000 0.000	0.031 0.044 0.057
****Verizon****									
Amphenol HTXCW631619 (Verizon)	A	From Leg	1.000 0.000 0.000	0.0000	147.000	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.000 0.000 0.000	0.070 0.100 0.130
Amphenol HTXCW631619 (Verizon)	B	From Leg	1.000 0.000 0.000	0.0000	147.000	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.000 0.000 0.000	0.070 0.100 0.130
Amphenol HTXCW631619 (Verizon)	C	From Leg	1.000 0.000 0.000	0.0000	147.000	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.000 0.000 0.000	0.070 0.100 0.130
(2) RFS FD9R Diplexer (Verizon)	A	None		0.0000	147.000	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.000 0.000 0.000	0.010 0.020 0.030
(2) RFS FD9R Diplexer (Verizon)	B	None		0.0000	147.000	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.000 0.000 0.000	0.010 0.020 0.030
(2) RFS FD9R Diplexer (Verizon)	C	None		0.0000	147.000	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.000 0.000 0.000	0.010 0.020 0.030
****Dish****									

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
Commscope FVV-65B-R3 (Dish)	A	From Leg	1.000 0.000 0.000	0.0000	129.000	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.000 0.000 0.000	0.100 0.150 0.200
Commscope FVV-65B-R3 (Dish)	B	From Leg	1.000 0.000 0.000	0.0000	129.000	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.000 0.000 0.000	0.100 0.150 0.200
Commscope FVV-65B-R3 (Dish)	C	From Leg	1.000 0.000 0.000	0.0000	129.000	No Ice 1/2" Ice 1" Ice	0.000 0.000 0.000	0.000 0.000 0.000	0.100 0.150 0.200
****Canister Loading****									
4' Diameter Canister 180' - 160' (ATT)	C	None		0.0000	170.000	No Ice 1/2" Ice 1" Ice	60.000 64.000 68.000	60.000 64.000 68.000	2.000 2.500 3.000
3' Diameter Canister 160' - 135' (TBD / VZW)	C	None		0.0000	147.500	No Ice 1/2" Ice 1" Ice	56.250 60.000 63.750	56.250 60.000 63.750	1.750 2.000 2.250
4' Diameter Canister 125' - 135' (Dish) ****	C	None		0.0000	130.000	No Ice 1/2" Ice 1" Ice	30.000 34.000 38.000	30.000 34.000 38.000	1.000 1.250 1.500

Tower Pressures - No Ice

$G_H = 1.100$

Section Elevation ft	z ft	K_Z	q_z ksf	A_G ft^2	Face	A_F ft^2	A_R ft^2	A_{leg} ft^2	Leg %	C_AA_A In Face ft^2	C_AA_A Out Face ft^2
L1	109.604	1.014	0.034	98.582	A	0.000	98.582	98.582	100.00	0.000	0.000
125.000-94.50					B	0.000	98.582		100.00	0.000	0.000
0					C	0.000	98.582		100.00	0.000	0.000
L2	70.546	0.894	0.030	176.055	A	0.000	176.055	176.055	100.00	0.000	0.000
94.500-46.750					B	0.000	176.055		100.00	0.000	0.000
					C	0.000	176.055		100.00	0.000	0.000
L3	23.087	0.7	0.024	198.076	A	0.000	198.076	198.076	100.00	0.000	0.000
46.750-0.000					B	0.000	198.076		100.00	0.000	0.000
					C	0.000	198.076		100.00	0.000	0.000

Tower Pressure - With Ice

$G_H = 1.100$

Section Elevation ft	z ft	K_Z	q_z ksf	t_Z in	A_G ft^2	Face	A_F ft^2	A_R ft^2	A_{leg} ft^2	Leg %	C_AA_A In Face ft^2	C_AA_A Out Face ft^2

Section Elevation ft	z ft	K_Z	q_z ksf	t_Z in	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1	109.604	1.014	0.006	1.1275	104.313	A	0.000	104.313	104.313	100.00	0.000	0.000
125.000-94.500						B	0.000	104.313		100.00	0.000	0.000
						C	0.000	104.313		100.00	0.000	0.000
L2	70.546	0.894	0.006	1.0789	185.029	A	0.000	185.029	185.029	100.00	0.000	0.000
94.500-46.750						B	0.000	185.029		100.00	0.000	0.000
						C	0.000	185.029		100.00	0.000	0.000
L3 46.750-0.000	23.087	0.7	0.004	0.9649	206.482	A	0.000	206.482	206.482	100.00	0.000	0.000
						B	0.000	206.482		100.00	0.000	0.000
						C	0.000	206.482		100.00	0.000	0.000

Tower Pressure - Service

$G_H = 1.100$

Section Elevation ft	z ft	K_Z	q_z ksf	A_G ft²	Face	A_F ft²	A_R ft²	A_{leg} ft²	Leg %	C_AA_A In Face ft²	C_AA_A Out Face ft²
L1	109.604	1.014	0.008	98.582	A	0.000	98.582	98.582	100.00	0.000	0.000
125.000-94.50					B	0.000	98.582		100.00	0.000	0.000
0					C	0.000	98.582		100.00	0.000	0.000
L2	70.546	0.894	0.007	176.055	A	0.000	176.055	176.055	100.00	0.000	0.000
94.500-46.750					B	0.000	176.055		100.00	0.000	0.000
					C	0.000	176.055		100.00	0.000	0.000
L3	23.087	0.7	0.005	198.076	A	0.000	198.076	198.076	100.00	0.000	0.000
46.750-0.000					B	0.000	198.076		100.00	0.000	0.000
					C	0.000	198.076		100.00	0.000	0.000

Tower Forces - No Ice - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L1	0.871	3.128	A	1	0.63	0.034	1	1	98.582	2.335	0.077	C
125.000-94.50			B	1	0.63		1	1	98.582			
0			C	1	0.63		1	1	98.582			
L2	1.364	7.741	A	1	0.63	0.030	1	1	176.055	3.661	0.077	C
94.500-46.750			B	1	0.63		1	1	176.055			
			C	1	0.63		1	1	176.055			
L3	1.250	8.864	A	1	0.63	0.024	1	1	198.076	3.311	0.071	C
46.750-0.000			B	1	0.63		1	1	198.076			
			C	1	0.63		1	1	198.076			
Sum Weight:	3.484	19.733						OTM	590.607 kip-ft	9.307		

Tower Forces - No Ice - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L1	0.871	3.128	A	1	0.63	0.034	1	1	98.582	2.335	0.077	C
125.000-94.50			B	1	0.63		1	1	98.582			
0			C	1	0.63		1	1	98.582			
L2	1.364	7.741	A	1	0.63	0.030	1	1	176.055	3.661	0.077	C
94.500-46.750			B	1	0.63		1	1	176.055			
			C	1	0.63		1	1	176.055			
L3	1.250	8.864	A	1	0.63	0.024	1	1	198.076	3.311	0.071	C
46.750-0.000			B	1	0.63		1	1	198.076			
			C	1	0.63		1	1	198.076			
Sum Weight:	3.484	19.733						OTM	590.607 kip-ft	9.307		

Tower Forces - No Ice - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L1	0.871	3.128	A	1	0.63	0.034	1	1	98.582	2.335	0.077	C
125.000-94.50			B	1	0.63		1	1	98.582			
0			C	1	0.63		1	1	98.582			
L2	1.364	7.741	A	1	0.63	0.030	1	1	176.055	3.661	0.077	C
94.500-46.750			B	1	0.63		1	1	176.055			
			C	1	0.63		1	1	176.055			
L3	1.250	8.864	A	1	0.63	0.024	1	1	198.076	3.311	0.071	C
46.750-0.000			B	1	0.63		1	1	198.076			
			C	1	0.63		1	1	198.076			
Sum Weight:	3.484	19.733						OTM	590.607 kip-ft	9.307		

Tower Forces - With Ice - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L1	0.871	4.799	A	1	1.1	0.006	1	1	104.313	0.802	0.026	C
125.000-94.50			B	1	1.1		1	1	104.313			
0			C	1	1.1		1	1	104.313			
L2	1.364	10.584	A	1	1.1	0.006	1	1	184.642	1.245	0.026	C
94.500-46.750			B	1	1.1		1	1	184.642			
			C	1	1.1		1	1	184.642			
L3	1.250	11.708	A	1	1.1	0.004	1	1	205.594	1.115	0.024	C
46.750-0.000			B	1	1.1		1	1	205.594			
			C	1	1.1		1	1	205.594			
Sum Weight:	3.484	27.091						OTM	201.445 kip-ft	3.162		

Tower Forces - With Ice - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L1	0.871	4.799	A	1	1.1	0.006	1	1	104.313	0.802	0.026	C
125.000-94.50			B	1	1.1		1	1	104.313			
0			C	1	1.1		1	1	104.313			
L2	1.364	10.584	A	1	1.1	0.006	1	1	184.642	1.245	0.026	C
94.500-46.750			B	1	1.1		1	1	184.642			
			C	1	1.1		1	1	184.642			
L3	1.250	11.708	A	1	1.1	0.004	1	1	205.594	1.115	0.024	C
46.750-0.000			B	1	1.1		1	1	205.594			
			C	1	1.1		1	1	205.594			
Sum Weight:	3.484	27.091						OTM	201.445 kip-ft	3.162		

Tower Forces - With Ice - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L1	0.871	4.799	A	1	1.1	0.006	1	1	104.313	0.802	0.026	C
125.000-94.50			B	1	1.1		1	1	104.313			
0			C	1	1.1		1	1	104.313			
L2	1.364	10.584	A	1	1.1	0.006	1	1	184.642	1.245	0.026	C
94.500-46.750			B	1	1.1		1	1	184.642			
			C	1	1.1		1	1	184.642			
L3	1.250	11.708	A	1	1.1	0.004	1	1	205.594	1.115	0.024	C
46.750-0.000			B	1	1.1		1	1	205.594			
			C	1	1.1		1	1	205.594			
Sum Weight:	3.484	27.091						OTM	201.445 kip-ft	3.162		

Tower Forces - Service - Wind Normal To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L1	0.871	3.128	A	1	0.63	0.008	1	1	98.582	0.531	0.017	C
125.000-94.50			B	1	0.63		1	1	98.582			
0			C	1	0.63		1	1	98.582			
L2	1.364	7.741	A	1	0.63	0.007	1	1	176.055	0.832	0.017	C
94.500-46.750			B	1	0.63		1	1	176.055			
			C	1	0.63		1	1	176.055			

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L3	1.250	8.864	A	1	0.63	0.005	1	1	198.076	0.753	0.016	C
46.750-0.000			B	1	0.63		1	1	198.076			
			C	1	0.63		1	1	198.076			
Sum Weight:	3.484	19.733						OTM	134.309 kip-ft	2.116		

Tower Forces - Service - Wind 60 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L1	0.871	3.128	A	1	0.63	0.008	1	1	98.582	0.531	0.017	C
125.000-94.50			B	1	0.63		1	1	98.582			
0			C	1	0.63		1	1	98.582			
L2	1.364	7.741	A	1	0.63	0.007	1	1	176.055	0.832	0.017	C
94.500-46.750			B	1	0.63		1	1	176.055			
			C	1	0.63		1	1	176.055			
L3	1.250	8.864	A	1	0.63	0.005	1	1	198.076	0.753	0.016	C
46.750-0.000			B	1	0.63		1	1	198.076			
			C	1	0.63		1	1	198.076			
Sum Weight:	3.484	19.733						OTM	134.309 kip-ft	2.116		

Tower Forces - Service - Wind 90 To Face

Section Elevation ft	Add Weight K	Self Weight K	Face	e	C_F	q_z ksf	D_F	D_R	A_E ft²	F K	w klf	Ctrl. Face
L1	0.871	3.128	A	1	0.63	0.008	1	1	98.582	0.531	0.017	C
125.000-94.50			B	1	0.63		1	1	98.582			
0			C	1	0.63		1	1	98.582			
L2	1.364	7.741	A	1	0.63	0.007	1	1	176.055	0.832	0.017	C
94.500-46.750			B	1	0.63		1	1	176.055			
			C	1	0.63		1	1	176.055			
L3	1.250	8.864	A	1	0.63	0.005	1	1	198.076	0.753	0.016	C
46.750-0.000			B	1	0.63		1	1	198.076			
			C	1	0.63		1	1	198.076			
Sum Weight:	3.484	19.733						OTM	134.309 kip-ft	2.116		

Force Totals

Load Case	Vertical Forces K	Sum of Forces X K	Sum of Forces Z K	Sum of Overturning Moments, M_x kip-ft	Sum of Overturning Moments, M_z kip-ft	Sum of Torques kip-ft
Leg Weight	19.733					
Bracing Weight	0.000					
Total Member Self-Weight	19.733			0.000	0.000	
Total Weight	29.467			0.000	0.000	
Wind 0 deg - No Ice		0.000	-15.356	-1519.687	0.000	0.000
Wind 30 deg - No Ice		7.678	-13.298	-1316.088	-759.844	0.000
Wind 60 deg - No Ice		13.298	-7.678	-759.844	-1316.088	0.000
Wind 90 deg - No Ice		15.356	0.000	0.000	-1519.687	0.000
Wind 120 deg - No Ice		13.298	7.678	759.844	-1316.088	0.000
Wind 150 deg - No Ice		7.678	13.298	1316.088	-759.844	0.000
Wind 180 deg - No Ice		0.000	15.356	1519.687	0.000	0.000
Wind 210 deg - No Ice		-7.678	13.298	1316.088	759.844	0.000
Wind 240 deg - No Ice		-13.298	7.678	759.844	1316.088	0.000
Wind 270 deg - No Ice		-15.356	0.000	0.000	1519.687	0.000
Wind 300 deg - No Ice		-13.298	-7.678	-759.844	1316.088	0.000
Wind 330 deg - No Ice		-7.678	-13.298	-1316.088	759.844	0.000
Member Ice	7.358					
Total Weight Ice	40.599			0.000	0.000	
Wind 0 deg - Ice		0.000	-4.494	-405.294	0.000	0.000
Wind 30 deg - Ice		2.247	-3.892	-350.995	-202.647	0.000
Wind 60 deg - Ice		3.892	-2.247	-202.647	-350.995	0.000
Wind 90 deg - Ice		4.494	0.000	0.000	-405.294	0.000
Wind 120 deg - Ice		3.892	2.247	202.647	-350.995	0.000
Wind 150 deg - Ice		2.247	3.892	350.995	-202.647	0.000
Wind 180 deg - Ice		0.000	4.494	405.294	0.000	0.000
Wind 210 deg - Ice		-2.247	3.892	350.995	202.647	0.000
Wind 240 deg - Ice		-3.892	2.247	202.647	350.995	0.000
Wind 270 deg - Ice		-4.494	0.000	0.000	405.294	0.000
Wind 300 deg - Ice		-3.892	-2.247	-202.647	350.995	0.000
Wind 330 deg - Ice		-2.247	-3.892	-350.995	202.647	0.000
Total Weight	29.467			0.000	0.000	
Wind 0 deg - Service		0.000	-3.492	-345.589	0.000	0.000
Wind 30 deg - Service		1.746	-3.024	-299.289	-172.794	0.000
Wind 60 deg - Service		3.024	-1.746	-172.794	-299.289	0.000
Wind 90 deg - Service		3.492	0.000	0.000	-345.589	0.000
Wind 120 deg - Service		3.024	1.746	172.794	-299.289	0.000
Wind 150 deg - Service		1.746	3.024	299.289	-172.794	0.000
Wind 180 deg - Service		0.000	3.492	345.589	0.000	0.000
Wind 210 deg - Service		-1.746	3.024	299.289	172.794	0.000
Wind 240 deg - Service		-3.024	1.746	172.794	299.289	0.000
Wind 270 deg - Service		-3.492	0.000	0.000	345.589	0.000
Wind 300 deg - Service		-3.024	-1.746	-172.794	299.289	0.000
Wind 330 deg - Service		-1.746	-3.024	-299.289	172.794	0.000

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

Comb. No.	Description
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
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	125 - 94.5	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-16.491	0.000	0.000
			Max. Mx	8	-11.095	-353.968	0.000
			Max. My	2	-11.095	0.000	353.968
			Max. Vy	8	8.302	-353.968	0.000
			Max. Vx	2	-8.302	0.000	353.968
			Max. Torque	6			0.000
L2	94.5 - 46.75	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-30.023	0.000	0.000
			Max. Mx	8	-21.548	-831.997	0.000
			Max. My	2	-21.548	0.000	831.997

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	8	11.970	-831.997	0.000
			Max. Vx	2	-11.970	0.000	831.997
			Max. Torque	6			0.000
L3	46.75 - 0	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-47.230	0.000	0.000
			Max. Mx	8	-35.353	-1563.106	0.000
			Max. My	2	-35.353	0.000	1563.106
			Max. Vy	8	15.373	-1563.106	0.000
			Max. Vx	2	-15.373	0.000	1563.106
			Max. Torque	6			0.000

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	27	47.230	0.000	4.494
	Max. H_x	20	35.361	15.356	0.000
	Max. H_z	2	35.361	0.000	15.356
	Max. M_x	2	1563.106	0.000	15.356
	Max. M_z	8	1563.106	-15.356	0.000
	Max. Torsion	6	0.000	-13.298	7.678
	Min. Vert	5	26.521	-7.678	13.298
	Min. H_x	8	35.361	-15.356	0.000
	Min. H_z	14	35.361	0.000	-15.356
	Min. M_x	14	-1563.106	0.000	-15.356
	Min. M_z	20	-1563.106	15.356	0.000
	Min. Torsion	10	-0.000	-13.298	-7.678

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	29.467	0.000	0.000	0.000	0.000	0.000
1.2 Dead+1.0 Wind 0 deg - No Ice	35.361	0.000	-15.356	-1563.106	0.000	0.000
0.9 Dead+1.0 Wind 0 deg - No Ice	26.521	0.000	-15.356	-1551.909	0.000	0.000
1.2 Dead+1.0 Wind 30 deg - No Ice	35.361	7.678	-13.298	-1353.690	-781.553	0.000
0.9 Dead+1.0 Wind 30 deg - No Ice	26.521	7.678	-13.298	-1343.993	-775.955	0.000
1.2 Dead+1.0 Wind 60 deg - No Ice	35.361	13.298	-7.678	-781.553	-1353.690	-0.000
0.9 Dead+1.0 Wind 60 deg - No Ice	26.521	13.298	-7.678	-775.955	-1343.993	-0.000
1.2 Dead+1.0 Wind 90 deg - No Ice	35.361	15.356	0.000	0.000	-1563.106	0.000
0.9 Dead+1.0 Wind 90 deg - No Ice	26.521	15.356	0.000	0.000	-1551.909	0.000
1.2 Dead+1.0 Wind 120 deg - No Ice	35.361	13.298	7.678	781.553	-1353.690	0.000

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
0.9 Dead+1.0 Wind 120 deg - No Ice	26.521	13.298	7.678	775.955	-1343.993	0.000
1.2 Dead+1.0 Wind 150 deg - No Ice	35.361	7.678	13.298	1353.690	-781.553	-0.000
0.9 Dead+1.0 Wind 150 deg - No Ice	26.521	7.678	13.298	1343.993	-775.955	-0.000
1.2 Dead+1.0 Wind 180 deg - No Ice	35.361	0.000	15.356	1563.106	0.000	0.000
0.9 Dead+1.0 Wind 180 deg - No Ice	26.521	0.000	15.356	1551.909	0.000	0.000
1.2 Dead+1.0 Wind 210 deg - No Ice	35.361	-7.678	13.298	1353.690	781.553	0.000
0.9 Dead+1.0 Wind 210 deg - No Ice	26.521	-7.678	13.298	1343.993	775.955	0.000
1.2 Dead+1.0 Wind 240 deg - No Ice	35.361	-13.298	7.678	781.553	1353.690	-0.000
0.9 Dead+1.0 Wind 240 deg - No Ice	26.521	-13.298	7.678	775.955	1343.993	-0.000
1.2 Dead+1.0 Wind 270 deg - No Ice	35.361	-15.356	0.000	0.000	1563.106	0.000
0.9 Dead+1.0 Wind 270 deg - No Ice	26.521	-15.356	0.000	0.000	1551.909	0.000
1.2 Dead+1.0 Wind 300 deg - No Ice	35.361	-13.298	-7.678	-781.553	1353.690	0.000
0.9 Dead+1.0 Wind 300 deg - No Ice	26.521	-13.298	-7.678	-775.955	1343.993	0.000
1.2 Dead+1.0 Wind 330 deg - No Ice	35.361	-7.678	-13.298	-1353.690	781.553	-0.000
0.9 Dead+1.0 Wind 330 deg - No Ice	26.521	-7.678	-13.298	-1343.993	775.955	-0.000
1.2 Dead+1.0 Ice+1.0 Temp	47.230	0.000	0.000	0.000	0.000	0.000
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	47.230	0.000	-4.494	-421.243	0.000	0.000
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	47.230	2.247	-3.892	-364.808	-210.622	0.000
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	47.230	3.892	-2.247	-210.622	-364.808	0.000
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	47.230	4.494	0.000	0.000	-421.243	0.000
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	47.230	3.892	2.247	210.622	-364.808	0.000
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	47.230	2.247	3.892	364.808	-210.622	0.000
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	47.230	0.000	4.494	421.243	0.000	0.000
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	47.230	-2.247	3.892	364.808	210.622	0.000
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	47.230	-3.892	2.247	210.622	364.808	0.000
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	47.230	-4.494	0.000	0.000	421.243	0.000
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	47.230	-3.892	-2.247	-210.622	364.808	0.000
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	47.230	-2.247	-3.892	-364.808	210.622	0.000
Dead+Wind 0 deg - Service	29.467	0.000	-3.492	-353.831	0.000	0.000
Dead+Wind 30 deg - Service	29.467	1.746	-3.024	-306.427	-176.916	0.000
Dead+Wind 60 deg - Service	29.467	3.024	-1.746	-176.916	-306.427	-0.000
Dead+Wind 90 deg - Service	29.467	3.492	0.000	0.000	-353.831	0.000
Dead+Wind 120 deg - Service	29.467	3.024	1.746	176.916	-306.427	0.000
Dead+Wind 150 deg - Service	29.467	1.746	3.024	306.427	-176.916	-0.000

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
Dead+Wind 180 deg - Service	29.467	0.000	3.492	353.831	0.000	0.000
Dead+Wind 210 deg - Service	29.467	-1.746	3.024	306.427	176.916	0.000
Dead+Wind 240 deg - Service	29.467	-3.024	1.746	176.916	306.427	-0.000
Dead+Wind 270 deg - Service	29.467	-3.492	0.000	0.000	353.831	0.000
Dead+Wind 300 deg - Service	29.467	-3.024	-1.746	-176.916	306.427	0.000
Dead+Wind 330 deg - Service	29.467	-1.746	-3.024	-306.427	176.916	-0.000

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX K	PY K	PZ K	PX K	PY K	PZ K	% Error
1	0.000	-29.467	0.000	0.000	29.467	0.000	0.000%
2	0.000	-35.361	-15.356	0.000	35.361	15.356	0.000%
3	0.000	-26.521	-15.356	0.000	26.521	15.356	0.000%
4	7.678	-35.361	-13.298	-7.678	35.361	13.298	0.000%
5	7.678	-26.521	-13.298	-7.678	26.521	13.298	0.000%
6	13.298	-35.361	-7.678	-13.298	35.361	7.678	0.000%
7	13.298	-26.521	-7.678	-13.298	26.521	7.678	0.000%
8	15.356	-35.361	0.000	-15.356	35.361	0.000	0.000%
9	15.356	-26.521	0.000	-15.356	26.521	0.000	0.000%
10	13.298	-35.361	7.678	-13.298	35.361	-7.678	0.000%
11	13.298	-26.521	7.678	-13.298	26.521	-7.678	0.000%
12	7.678	-35.361	13.298	-7.678	35.361	-13.298	0.000%
13	7.678	-26.521	13.298	-7.678	26.521	-13.298	0.000%
14	0.000	-35.361	15.356	0.000	35.361	-15.356	0.000%
15	0.000	-26.521	15.356	0.000	26.521	-15.356	0.000%
16	-7.678	-35.361	13.298	7.678	35.361	-13.298	0.000%
17	-7.678	-26.521	13.298	7.678	26.521	-13.298	0.000%
18	-13.298	-35.361	7.678	13.298	35.361	-7.678	0.000%
19	-13.298	-26.521	7.678	13.298	26.521	-7.678	0.000%
20	-15.356	-35.361	0.000	15.356	35.361	0.000	0.000%
21	-15.356	-26.521	0.000	15.356	26.521	0.000	0.000%
22	-13.298	-35.361	-7.678	13.298	35.361	7.678	0.000%
23	-13.298	-26.521	-7.678	13.298	26.521	7.678	0.000%
24	-7.678	-35.361	-13.298	7.678	35.361	13.298	0.000%
25	-7.678	-26.521	-13.298	7.678	26.521	13.298	0.000%
26	0.000	-47.230	0.000	0.000	47.230	0.000	0.000%
27	0.000	-47.230	-4.494	0.000	47.230	4.494	0.000%
28	2.247	-47.230	-3.892	-2.247	47.230	3.892	0.000%
29	3.892	-47.230	-2.247	-3.892	47.230	2.247	0.000%
30	4.494	-47.230	0.000	-4.494	47.230	0.000	0.000%
31	3.892	-47.230	2.247	-3.892	47.230	-2.247	0.000%
32	2.247	-47.230	3.892	-2.247	47.230	-3.892	0.000%
33	0.000	-47.230	4.494	0.000	47.230	-4.494	0.000%
34	-2.247	-47.230	3.892	2.247	47.230	-3.892	0.000%
35	-3.892	-47.230	2.247	3.892	47.230	-2.247	0.000%
36	-4.494	-47.230	0.000	4.494	47.230	0.000	0.000%
37	-3.892	-47.230	-2.247	3.892	47.230	2.247	0.000%
38	-2.247	-47.230	-3.892	2.247	47.230	3.892	0.000%
39	0.000	-29.467	-3.492	0.000	29.467	3.492	0.000%
40	1.746	-29.467	-3.024	-1.746	29.467	3.024	0.000%
41	3.024	-29.467	-1.746	-3.024	29.467	1.746	0.000%
42	3.492	-29.467	0.000	-3.492	29.467	0.000	0.000%
43	3.024	-29.467	1.746	-3.024	29.467	-1.746	0.000%
44	1.746	-29.467	3.024	-1.746	29.467	-3.024	0.000%
45	0.000	-29.467	3.492	0.000	29.467	-3.492	0.000%
46	-1.746	-29.467	3.024	1.746	29.467	-3.024	0.000%

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
47	-3.024	-29.467	1.746	3.024	29.467	-1.746	0.000%
48	-3.492	-29.467	0.000	3.492	29.467	0.000	0.000%
49	-3.024	-29.467	-1.746	3.024	29.467	1.746	0.000%
50	-1.746	-29.467	-3.024	1.746	29.467	3.024	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	4	0.00000001	0.00006734
3	Yes	4	0.00000001	0.00003485
4	Yes	5	0.00000001	0.00010750
5	Yes	5	0.00000001	0.00005435
6	Yes	5	0.00000001	0.00010750
7	Yes	5	0.00000001	0.00005435
8	Yes	4	0.00000001	0.00006734
9	Yes	4	0.00000001	0.00003485
10	Yes	5	0.00000001	0.00010750
11	Yes	5	0.00000001	0.00005435
12	Yes	5	0.00000001	0.00010750
13	Yes	5	0.00000001	0.00005435
14	Yes	4	0.00000001	0.00006734
15	Yes	4	0.00000001	0.00003485
16	Yes	5	0.00000001	0.00010750
17	Yes	5	0.00000001	0.00005435
18	Yes	5	0.00000001	0.00010750
19	Yes	5	0.00000001	0.00005435
20	Yes	4	0.00000001	0.00006734
21	Yes	4	0.00000001	0.00003485
22	Yes	5	0.00000001	0.00010750
23	Yes	5	0.00000001	0.00005435
24	Yes	5	0.00000001	0.00010750
25	Yes	5	0.00000001	0.00005435
26	Yes	4	0.00000001	0.00000001
27	Yes	4	0.00000001	0.00095943
28	Yes	5	0.00000001	0.00004678
29	Yes	5	0.00000001	0.00004678
30	Yes	4	0.00000001	0.00095943
31	Yes	5	0.00000001	0.00004678
32	Yes	5	0.00000001	0.00004678
33	Yes	4	0.00000001	0.00095943
34	Yes	5	0.00000001	0.00004678
35	Yes	5	0.00000001	0.00004678
36	Yes	4	0.00000001	0.00095943
37	Yes	5	0.00000001	0.00004678
38	Yes	5	0.00000001	0.00004678
39	Yes	4	0.00000001	0.00001228
40	Yes	4	0.00000001	0.00004850
41	Yes	4	0.00000001	0.00004850
42	Yes	4	0.00000001	0.00001228
43	Yes	4	0.00000001	0.00004850
44	Yes	4	0.00000001	0.00004850
45	Yes	4	0.00000001	0.00001228
46	Yes	4	0.00000001	0.00004850
47	Yes	4	0.00000001	0.00004850

48	Yes	4	0.00000001	0.00001228
49	Yes	4	0.00000001	0.00004850
50	Yes	4	0.00000001	0.00004850

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	125 - 94.5	7.313	39	0.4994	0.0000
L2	100.25 - 46.75	4.910	39	0.4223	0.0000
L3	53.25 - 0	1.510	39	0.2510	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
177.000	Kathrein 840 370966	39	7.313	0.4994	0.0000	90918
170.000	4' Diameter Canister 180' - 160'	39	7.313	0.4994	0.0000	90918
165.000	Kathrein 840 370966	39	7.313	0.4994	0.0000	90918
147.500	3' Diameter Canister 160' - 135'	39	7.313	0.4994	0.0000	90918
147.000	Amphenol HTXCW631619	39	7.313	0.4994	0.0000	90918
130.000	4' Diameter Canister 125' - 135'	39	7.313	0.4994	0.0000	90918
129.000	Commscope FVV-65B-R3	39	7.313	0.4994	0.0000	90918

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	125 - 94.5	32.320	2	2.2065	0.0000
L2	100.25 - 46.75	21.703	2	1.8669	0.0000
L3	53.25 - 0	6.675	2	1.1095	0.0000

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
177.000	Kathrein 840 370966	2	32.320	2.2065	0.0000	20662
170.000	4' Diameter Canister 180' - 160'	2	32.320	2.2065	0.0000	20662
165.000	Kathrein 840 370966	2	32.320	2.2065	0.0000	20662
147.500	3' Diameter Canister 160' - 135'	2	32.320	2.2065	0.0000	20662
147.000	Amphenol HTXCW631619	2	32.320	2.2065	0.0000	20662
130.000	4' Diameter Canister 125' - 135'	2	32.320	2.2065	0.0000	20662
129.000	Commscope FVV-65B-R3	2	32.320	2.2065	0.0000	20662

Compression Checks

Pole Design Data

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	K	K	
L1	125 - 94.5 (1)	TP40.47x36x0.25	30.500	125.000	107.3	31.2459	-11.095	582.315	0.019
L2	94.5 - 46.75 (2)	TP47.24x39.1273x0.3125	53.500	125.000	92.0	45.5686	-21.548	1024.540	0.021
L3	46.75 - 0 (3)	TP53.63x45.6293x0.3125	53.250	125.000	79.2	52.8843	-35.353	1703.040	0.021

Pole Bending Design Data

Section No.	Elevation	Size	M_{ux}	ϕM_{nx}	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy}	ϕM_{ny}	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
	ft		kip-ft	kip-ft		kip-ft	kip-ft	
L1	125 - 94.5 (1)	TP40.47x36x0.25	353.967	1117.775	0.317	0.000	1117.775	0.000
L2	94.5 - 46.75 (2)	TP47.24x39.1273x0.3125	831.998	1944.825	0.428	0.000	1944.825	0.000
L3	46.75 - 0 (3)	TP53.63x45.6293x0.3125	1563.108	3498.533	0.447	0.000	3498.533	0.000

Pole Shear Design Data

Section No.	Elevation	Size	Actual V_u	ϕV_n	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u	ϕT_n	Ratio $\frac{T_u}{\phi T_n}$
	ft		K	K		kip-ft	kip-ft	
L1	125 - 94.5 (1)	TP40.47x36x0.25	8.302	354.328	0.023	0.000	1221.892	0.000
L2	94.5 - 46.75 (2)	TP47.24x39.1273x0.3125	11.970	516.748	0.023	0.000	2079.058	0.000
L3	46.75 - 0 (3)	TP53.63x45.6293x0.3125	15.373	928.119	0.017	0.000	4333.650	0.000

Pole Interaction Design Data

Section No.	Elevation	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
	ft								
L1	125 - 94.5 (1)	0.019	0.317	0.000	0.023	0.000	0.336 ✔	1.000	4.8.2 ✔
L2	94.5 - 46.75 (2)	0.021	0.428	0.000	0.023	0.000	0.449 ✔	1.000	4.8.2 ✔
L3	46.75 - 0 (3)	0.021	0.447	0.000	0.017	0.000	0.468 ✔	1.000	4.8.2 ✔

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	125 - 94.5	Pole	TP40.47x36x0.25	1	-11.095	582.315	33.6	Pass
L2	94.5 - 46.75	Pole	TP47.24x39.1273x0.3125	2	-21.548	1024.540	44.9	Pass
L3	46.75 - 0	Pole	TP53.63x45.6293x0.3125	3	-35.353	1703.040	46.8	Pass
							Summary	
						Pole (L3)	46.8	Pass
						RATING =	**46.8**	**Pass**

Program Version 8.1.1.0 - 6/3/2021 File:C:/Users/mike.deboer/OneDrive - CellSite Solutions LLC/Documents/BlueSkyTowers_CT-1420_090822_Dish/BlueSky_CT-1420_SA_090822_Dish.eri

Monopole Base Plate Connection

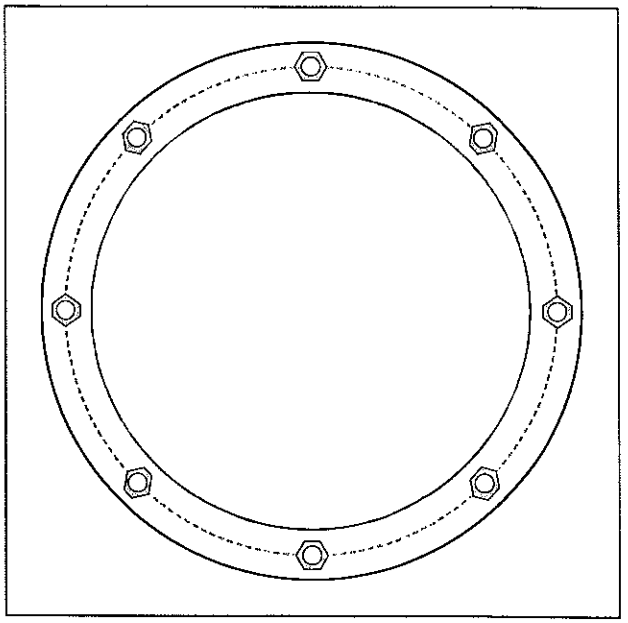
CROWN CASTLE

Site Info	
BU #	CT-1420
Site Name	
Order #	

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
l_{gr} (in)	0

Applied Loads	
Moment (kip-ft)	1563.11
Axial Force (kips)	35.35
Shear Force (kips)	15.37

**TIA-222-H Section 15.5 Applied*



Connection Properties

Anchor Rod Data

(8) 2-1/4" ø bolts (A615-75 N; Fy=75 ksi, Fu=100 ksi) on 60" BC

Base Plate Data

66" OD x 1.5" Plate (A572-50; Fy=50 ksi, Fu=65 ksi)

Stiffener Data

N/A

Pole Data

53.63" x 0.3125" 18-sided pole (A572-65; Fy=65 ksi, Fu=80 ksi)

Analysis Results

Anchor Rod Summary		*(units of kips, kip-in)*
Pu_c = 160.64	ϕPn_c = 268.39	**Stress Rating**
Vu = 1.92	ϕVn = 120.77	**57.0%**
Mu = n/a	ϕMn = n/a	Pass

Base Plate Summary		
Max Stress (ksi):	33.81	(Flexural)
Allowable Stress (ksi):	45	
Stress Rating:	**71.6%**	Pass

Monopole Foundation Analysis

Site# CT-1420
Carrier Dish

TIA Rev	TIA-222-H
Conversion Factor	1

*Use (1) if tower was designed in Rev G

Original Design Reactions	
Moment (kip-ft)	1863.0
Horizontal (kip)	20.6
Vertical (kip)	37.6

Current Analysis
Moment (kip-ft)
Horizontal (kip)
Vertical (kip)

Foundation Reactions	Factored Original Design			Current Analysis	
	Horizontal (kips)	Vertical (kips)	Moment (kips-ft)	Horizontal (kips)	Vertical (kips)
Base	20.6	37.6	1863.0	15.0	35.0

Notes:

1. Original design reactions should be increased by 1.35 conversion factor from Rev F to Rev G
2. Foundations are within acceptable engineering tolerance at 110%.

Reaction	Percentage
Moment	83.9%
Horizontal	72.8%
Vertical	93.1%

Date 9/8/2022
Engineer MD

Reactions
1563.0
15.0
35.0

Moment (kips-ft)	**Percentage**
1563.0	**93.1%**

CROWN CASTLE

BU:	CT-1420	Structure:	A
WO:			
Order:		Rev:	

Location

	Decimal Degrees		Deg	Min	Sec
Lat:	41.306831	+	41	18	24.59
Long:	-73.386306	-	73	23	10.70

Code and Site Parameters

Seismic Design Code:	TIA-222-H	
Site Soil:	D (Default)	Default
Risk Category:	II	

USGS Seismic Reference			
	S_S:	0.2270	g
	S_1:	0.0560	g
	T_L:	6	s

Seismic Design Category Determination

Importance Factor, I_e:	1
Acceleration-based site coefficient, F_a:	1.6000
Velocity-based site coefficient, F_v:	2.4000

Design spectral response acceleration short period, S_{DS}:	0.2421	g
Design spectral response acceleration 1 s period, S_{D1}:	0.0896	g

Seismic Design Category Based on S_{DS}:	B
Seismic Design Category Based on S_{D1}:	B
Seismic Design Category Based on S_1:	N/A
Controlling Seismic Design Category:	

CROWN CASTLE

BU:	CT-1420	Structure:	A
WO:			
Order:		Rev:	

Tower Details

Tower Type:	Tapered Monopole		
Height, h:	125	ft	
Effective Seismic Weight, W:	27.24	kips	
Amplification Factor, A_s:	1.0		2.7.8.1

Seismic Base Shear

Response Modification Factor, R:	1.5		
Discrete Appurtenance Weight in Top 1/3 of Structure, W_u:	6.25	kips	
W_L:	20.99177719	kips	
E:	29000.0	ksi	
g:	386.088	in/s^2	
Average Moment of Inertia, I_{avg}:	10980.65407	in^4	
F_a:	0.49706413	hz	
Approximate Fundamental Period Monopole, T_a:	2.0118	s	2.7.7.1.3.3
Seismic Response Coefficient, C_s	0.1614		2.7.7.1.1
Seismic Response Coefficient Max 1, C_{smax}	0.0297		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		2.7.7.1.1
Seismic Response Coefficient Min 2, C_{smin}	N/A		2.7.7.1.1
Controlling Seismic Response Coefficient, C_{sc}	0.0300		
Seismic Base Shear, V		kips	2.7.7.1.1

Vertical Distribution Factors

Period Related Exponent, k:	1.756	2.7.7.1.2
Sum of $w_i h_i^k$	76104.20	2.7.7.1.2

Section Number	Length	Top Height	Mid Height, h_i	Section Weight, w_i	$w_i h_i^k$	C_{vi}	F_i	F_i
1 - 2	10.00	124.50	119.50	0.9870	4385.19	0.0576	0.0471	0.0478
1 - 4	10.00	104.50	99.50	1.0662	3434.09	0.0451	0.0369	0.0516
2 - 2	10.00	96.75	91.75	1.3535	3781.05	0.0497	0.0406	0.0655
2 - 4	10.00	76.75	71.75	1.4559	2641.01	0.0347	0.0284	0.0705
2 - 6	10.00	56.75	51.75	1.5582	1592.55	0.0209	0.0171	0.0755
3 - 2	10.00	50.00	45.00	1.5713	1256.44	0.0165	0.0135	0.0761
3 - 4	10.00	30.00	25.00	1.6727	476.51	0.0063	0.0051	0.0810
3 - 6	10.00	10.00	5.00	1.7741	29.94	0.0004	0.0003	0.0859
			Sum					

Name	h_i	w_i	$w_i h_i$	C_{Ai}	F_a	F_v
Kathrein 840 370966	177.00	0.0930	823.59	0.0108	0.0088	0.0045
(2) CCI TMA BPD7823VG12A	177.00	0.0620	549.06	0.0072	0.0059	0.0030
(2) CCI TMA BPD7823VG12A	177.00	0.0620	549.06	0.0072	0.0059	0.0030
Kathrein 840 370966	165.00	0.0930	728.08	0.0096	0.0078	0.0045
(2) CCI TMA BPD7823VG12A	165.00	0.0620	485.38	0.0064	0.0052	0.0030
(2) CCI TMA BPD7823VG12A	165.00	0.0620	485.38	0.0064	0.0052	0.0030
Amphenol HTXCW631619	147.00	0.0700	447.41	0.0059	0.0048	0.0034
(2) RFS FD9R Diplexer	147.00	0.0200	127.83	0.0017	0.0014	0.0010
(2) RFS FD9R Diplexer	147.00	0.0200	127.83	0.0017	0.0014	0.0010
Commscope FVV-65B-R3	129.00	0.1000	508.16	0.0067	0.0055	0.0048
4' Diameter Canister 180' - 160'	170.00	2.0000	16500.21	0.2168	0.1772	0.0969
4' Diameter Canister 125' - 135'	130.00	1.0000	5150.94	0.0677	0.0553	0.0484
	Sum					

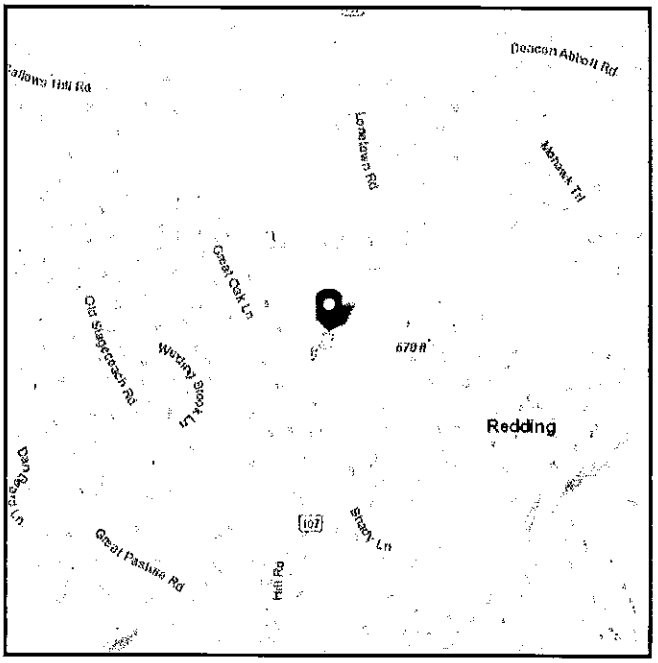
Name	Start Height	End Height	h	v_z	$v_z h$	C_a	F_a	F_a
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(12) andrew (ccl) LDF7-50A (1-5/8 FOAM) From 0 to 177	115.00	125.00	120.00	0.0984	440.40	0.0058	0.0047	0.0048
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(12) andrew (ccl) LDF7-50A (1-5/8 FOAM) From 0 to 177	95.00	105.00	100.00	0.0984	319.75	0.0042	0.0034	0.0048
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(12) andrew (ccl) LDF7-50A (1-5/8 FOAM) From 0 to 177	75.00	85.00	80.00	0.0984	216.09	0.0028	0.0023	0.0048
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(12) andrew (ccl) LDF7-50A (1-5/8 FOAM) From 0 to 177	55.00	65.00	60.00	0.0984	130.40	0.0017	0.0014	0.0048
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(12) andrew (ccl) LDF7-50A (1-5/8 FOAM) From 0 to 177	35.00	45.00	40.00	0.0984	63.98	0.0008	0.0007	0.0048
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(12) andrew (ccl) LDF7-50A (1-5/8 FOAM) From 0 to 177	15.00	25.00	20.00	0.0984	18.94	0.0002	0.0002	0.0048
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
(12) andrew (ccl) LDF7-50A (1-5/8 FOAM) From 0 to 177	0.00	5.00	2.50	0.0492	0.25	0.0000	0.0000	0.0024
			Sum	[illegible]	[illegible]			

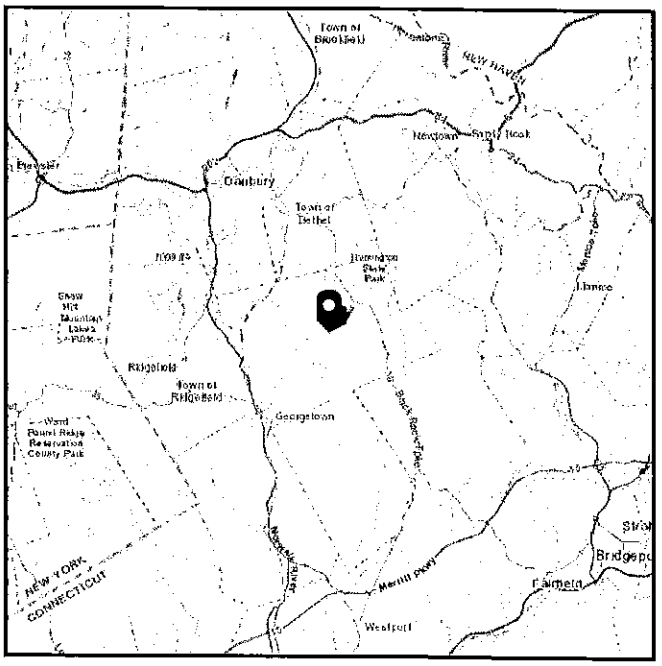
ASCE 7 Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: D - Default (see Section 11.4.3)

Elevation: 587.75 ft (NAVD 88)
Latitude: 41.306833
Longitude: -73.386306





Wind

Results:

Wind Speed	116 Vmph
10-year MRI	75 Vmph
25-year MRI	84 Vmph
50-year MRI	90 Vmph
100-year MRI	96 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed: Thu Sep 08 2022

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 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2. Glazed openings need not be protected against wind-borne debris.

ASCE
AMERICAN SOCIETY OF CIVIL ENGINEERS

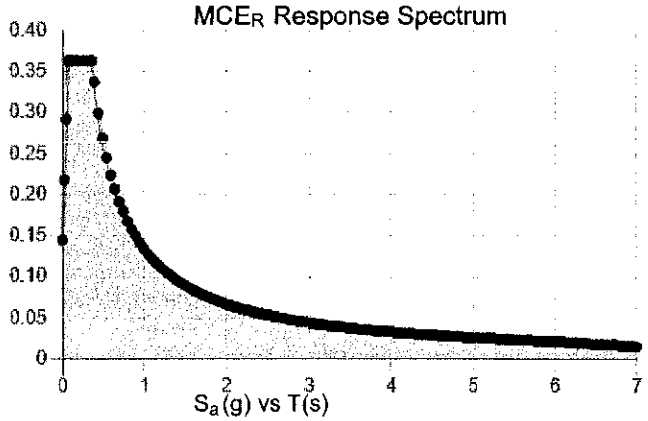
Seismic

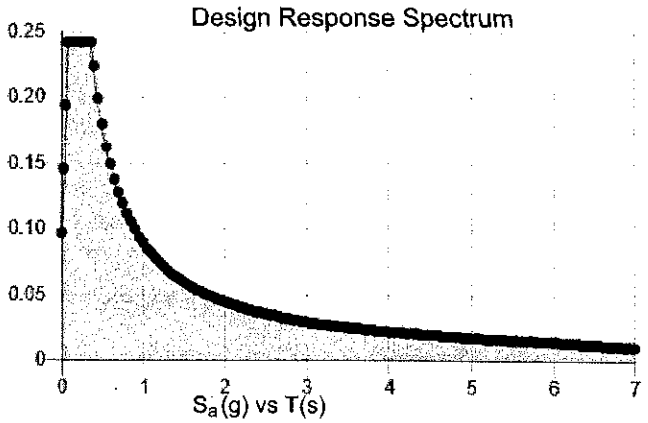
Site Soil Class: D - Default (see Section 11.4.3)

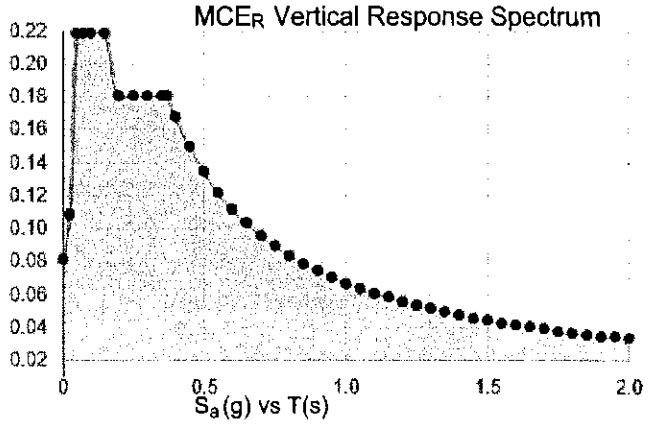
Results:

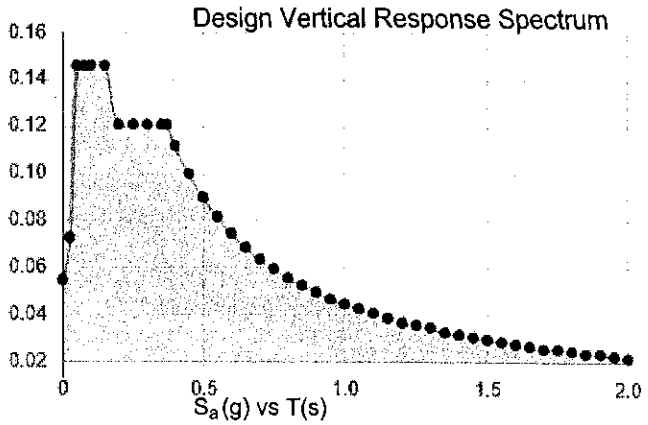
S_S :	0.227	S_{D1} :	0.09
S_1 :	0.056	T_L :	6
F_a :	1.6	PGA :	0.131
F_v :	2.4	PGA_M :	0.202
S_{MS} :	0.363	F_{PGA} :	1.538
S_{M1} :	0.135	I_e :	1
S_{DS} :	0.242	C_V :	0.753

Seismic Design Category B









Data Accessed: **Thu Sep 08 2022**

Date Source:
USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

ASCE
AMERICAN SOCIETY OF CIVIL ENGINEERS

Ice

Results:

Ice Thickness:	1.00 in.
Concurrent Temperature:	15 F
Gust Speed	50 mph
Data Source:	Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8
Date Accessed:	Thu Sep 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 with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Attachment 2:
Collocation Application

Blue Sky Tower Collocation Application

Installation Type: Anchor ☐ Collocation ☑ Add to Existing ☐

Blue Sky Towers LLC

Contact: James Jurgens
Email: jamesb@blueskytower.com
Office: 617-549-2800
Fax:

Site Number: CU1420
Site Name:
Submittal Date
Revision Date(s)

PLEASE SUBMIT THIS APPLICATION VIA E-MAIL. Include Drawings, Specification Sheets, RFDS, Antenna Data Sheets

Applicant Information

Applicant Name:	DISH Wireless LLC	Primary Contact/Agent Name:	Debra Holden
App'licant Site Name:	NJJER01083C	Contact/Agent Company Name:	Tectonic Engineering
Applicant Site Number:	NJJER01083C	Contact/Agent Number:	845-325-4789
Proposed ON AIR Date:		Contact Email:	dholden@tectonicengineering.com

Applicant Contact Information

Leasing Contact Name:	Denise Fuller	Email:	Leaseadmin@dish.com	Number:	(303) 703-3352
RF Contact Name:	Vishal Kataria	Email:	Vishal.kataria@dish.com	Number:	20'-628-4338
Construction Contact Name:	Joseph DiPiazza	Email:	Joseph.dipiazza@dish.com	Number:	(914) 843-4134
Emergency Contact Name:	NOC	Email:		Number:	866.624.6874
Account Payable Contact Name:		Email:	WirelessAPHelpDesk@Dish.com	Number:	720-514-5400

Tower Information

Latitude:	41.31778	N	Structure Type:	Flagpole	
Longitude:	-73.38333	W	Structure Height:	181.5	
AASL:	799	FT	Site Address:	28 GREAT OAK LANE, Redding	

EQUIPMENT SPECIFICATIONS

Summary of Work to be Completed:

EXISTING CONDITIONS - List all installed equipment prior to proposed modification. If this is a new installation, proceed to FINAL CONFIGURATION.

	SECTOR 1	SECTOR 2	SECTOR 3	SECTOR 4 (If necessary)
Current RAD Center (Ft AGL)				
Tower Mount Height (If different than RAD ctr)				
Mount Type (Label "Existing" if no change)				
Mount Model #				
Antenna Manufacturer				
Antenna Model# (Attach Specs)				
Antenna Dimensions (WxHxD in inches)				
Antenna Weight (Lbs.)				
Antenna Quantity				
Dish Manufacturer				
Dish Model# (attach Specs)				
Dish Diameter (Ft)				
Dish Weight (Lbs.)				
Dish Mount Height				
Azimuths				
Total # of Coax Lines per Sector				
Diameter Of Coax Cables (in)				
Total # of Hybrid Cables per Sector				
Diameter Of Hybrid Cables (in)				
Total # of other Cables per Sector				
Diameter Of Other Cables (in)				
Quantity of RRUs per Sector				
Manufacturer				
Model				
Dimensions				
Weight (Lbs.)				
Quantity of TMAs per Sector				
Manufacturer				
Model				
Dimensions				
Weight (Lbs.)				
Quantity of Surge Arrestors per Sector				
Manufacturer				
Model				
Antenna Model & Quantity to be Removed per Sector (If Applicable)				
RRU Model & Quantity to be Removed per Sector (If Applicable)				
Line/Cable Type, Size & Quantity to be Removed (If Applicable)				
List Any Other Equipment to be Removed (If Applicable)				

FINAL CONFIGURATION - List all installed equipment after proposed modification or initial installation.

	SECTOR 1	SECTOR 2	SECTOR 3	SECTOR 4 (If necessary)
Current/Proposed RAD Center (Ft AGL)	129	129	129	
Tower Mount Height (If different than RAD ctr)				
Mount Type (Label "Existing" if no change)				
Mount Model #				
Antenna Manufacturer	Comscope	Comscope	Comscope	
Antenna Model# (Attach Specs)	FVV-65B-R3	FVV-65B-R3	FVV-65B-R3	
Antenna Dimensions (WxHxD in inches)	71.97'' x 11.81'' x 7.12''	71.97'' x 11.81'' x 7.12''	71.97'' x 11.81'' x 7.12''	
Antenna Weight (Lbs.)	43.87	43.87	43.87	
Antenna Quantity	1	1	1	
Dish Manufacturer				
Dish Model# (attach Specs)				
Dish Diameter (Ft)				
Dish Weight (Lbs.)				
Dish Mount Height				
Azimuths	0	120	240	

Total # of Coax Lines per Sector	4	4	4	
Diameter Of Coax Cables (in)	7/8"	7/8"	7/8"	
Total # of Hybrid Cables per Sector				
Diameter Of Hybrid Cables (in)				
Total # of other Cables per Sector				
Diameter Of Other Cables (in)				
Quantity of RRUs per Sector				
Manufacturer				
Model				
Quantity of TMAs per Sector				
Manufacturer				
Model				
Quantity of Surge Arrestors per Sector				
Manufacturer				
Model				
Transmit Frequency (MHz)	632-652,1995-2020,2155-2165,2180-220			
Receive Frequency (MHz)	678-698,1695-1710,1735-1765			
Antenna Gain (Db)				
Type of Technology				
TX Power Output				
ERP (Watts)				
Electric Service Required (Amps/Volts)				

GROUND SPACE REQUIREMENTS

Existing Lease Area: DIMS: L(ft) _____ W(ft) _____ OR _____ Square footage

New/Add'l Lease Area being requested: DIMS: L(ft) 75 x W(ft) _____ OR _____ Square footage

Shelter: DIMS: L(ft) _____ W(ft) _____ L(ft) _____

Concrete Pad for Shelter/Cabinets: DIMS: L(ft) _____ W(ft) _____

POWER REQUIREMENTS

Power Provided by: Power Company Electrical Service Provider: Enersource Electrical Service Telephone Number: _____

Average Monthly Power Consumption: _____ KWH units

Is a multi-tenant meter rack present: Yes How many, if any, empty meter banks are present: _____

Telco/Interconnect Requirements: POTS ☐ T1 ☐ MICROWAVE ☐ FIBER OPTIC ☑

Fiber Provider: _____

BACK-UP POWER INFORMATION

Generator Required: No Generation Location: _____

Generator Ground Space Requirement: DIMS: L(ft) _____ W(ft) _____ L(ft) _____ **Fuel Type:** _____

BST Generator: _____ Generator Owner: _____ Shared Generator Peak Usage: _____ KW

Generator Capacity: _____ KW Generator Make: _____ Generator Model: _____

Fuel Tank Location: _____ Fuel Tank Size: DIMS: L(ft _____ W(ft) _____ Fuel Tank S _____ Gallons

Pad for Fuel Tank (if required) DIMS: L(ft _____ W(ft) _____

Comments: _____

Comments: List any pertinent information that was not included above.

DiSi is requesting
a canister
expansion of 48".
1 Commscope
Diplexer per
sector CDX6231-DS-
U 2F5V95P63
8.86" x 4.96" x
4.53" 10.141 lbs.;
1 Kaelus Mas U
per sector 2.40 x
3.27 x 1.89 0.88;
All other
equipment will be
on the ground.

Exhibit E

Lease Agreement

SRR Site #: CT-1420
SRR Site Name: Redding
DISH Site #: NJJER01083C

SUPPLEMENT TO THE MASTER LEASE AGREEMENT

THIS SUPPLEMENT TO THE MASTER LEASE AGREEMENT ("**SLA**") is entered into as of _____ ("**Effective Date**"), by and between **SRR Towers, LLC**, a Delaware limited liability company (the "**Lessor**"), whose principal business address is 57 E. Washington Street, Chagrin Falls, Ohio 44022 and **DISH Wireless L.L.C.** ("**Lessee**"), whose address is 9601 South Meridian Blvd, Englewood, Colorado, 80112. Lessor and Lessee are at times collectively referred to hereinafter as the "**Parties**", or individually as a "**Party**".

BACKGROUND

WHEREAS, Lessor and Lessee have entered into that certain Master Lease Agreement dated February 25, 2021 (the "**MLA**"). Such MLA provides that Lessor and Lessee will enter into separate SLA's on a site-by-site basis, pursuant to which Lessor will lease to Lessee certain available space at a Leased Property.

AGREEMENT

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, and intending to be legally bound hereby, the Parties agree as follows:

1. Site Information. The Leased Property, as more particularly described in Section 6 hereof, means:
    a. Lessee Site ID: NJJER01083C _____
    b. Lessor Site ID: CT-1420
    c. Address and/or location of the Site: 28 Great Oak Ln, Redding, CT 06896
    d. Site coordinates (NAD 83):
        i. Latitude: 41.31778
        ii. Longitude: -73.38333
    e. Antenna Space centerline height: 129' _____
    f. Ground Space dimensions:8' X10'

2. Rent; Term.
    a. Rent.
        i. Commencing on the SLA Rent Commencement Date, the Basic Rent for this SLAshall be a monthly rental of [redacted] to be paid and to escalate in accordance with the terms set forth in Section 4 of the MLA.
        ii. Basic Rent will increase in accordance with the provisions of **Exhibit C** to the MLA.
        iii. Additional Rent shall be paid in accordance with the terms set forth in Section 4 of the MLA, in the amount of: [redacted] per month for Revenue Sharing Payment Reimbursement (see Section 4 below).

b. Term. The term of this SLA shall be as set forth in Section 3 of the MLA, unless set forthherein as follows: Not Applicable.

3. Non-Standard Terms. The Parties acknowledge and agree that the following conditions exist atthe Site: (Check all that apply)

- o Electrical utilities at the Site are unavailable.
- o ☒The Site is located, in whole or in part, on land which is owned, operated, or controlled by a Governmental Authority (e.g., Bureau of Land Management or Bureau of Indian Affairs).
- o The Structure on the Site is AM detuned.
- o Tower Modifications are required prior to the commencement of Lessee's Installation at the Site.
- o Ground Space at the Site is not included in the legal interest conveyed to Lessee pursuant to this SLA.
- o ☒Aesthetic restrictions imposed by Prime Lessor or Applicable Law apply to Lessee's Equipment.
- o An access Easement for the Site is not included in the legal interest conveyed, in whole or in part, to Lessee pursuant to this SLA.

4. Special Provisions. (insert any special provisions, or write "Not Applicable"):

a. Revenue Sharing Payment Reimbursement. Commencing on the day that Lessee commences construction, Lessee shall reimburse Lessor in the amount of [redacted] per month ("**Revenue Share Reimbursement**"). The Revenue Share Reimbursement shall escalate in accordance with the terms set forth in Section 4 of the MLA.

b. Tower Modification. Lessor and Lessee acknowledge that the existing Structure at the Property lacks sufficient capacity to support Lessee's Equipment and will require structural reinforcement ("Tower Modification"). The Parties agree that the total cost of the Tower Modification is [redacted] (the "Capital Contribution"). The Parties agree to share the cost of the Tower Modification, and Lessor share shall be [redacted] ("Lessor's Capital Contribution"). Lessee's share shall be a one-time payment to Lessor of [redacted] ("Lessee's Capital Contribution"). Lessee shall issue a purchase order to Lessor for the full amount of Lessee's Capital Contribution; thereafter, Lessor shall commence the Tower Modification. Upon completion of the Tower Modification, Lessor shall issue Lessee an invoice for Lessee's Capital Contribution of the Tower Modification, and payment shall be due to Lessor within sixty (60) days of receipt of an invoice from Lessor. Upon completion, the Tower Modification shall be the sole Property of the Lessor who will take full liability for same.

5. Unique Prime Agreement Terms. (list any Unique Prime Agreement Terms, or write "Not Applicable").

a. Section 2 of the Prime Agreement requires that the tower and related communication fixtures be a "stealth" monopole design.

6. Site Address and Legal Description of Site. Lessor hereby leases to Lessee, and Lessee leases from Lessor, as applicable, the Site, as more particularly described in Section 1 hereof, and which is comprised of the space on the Structure, Easements (including, without limitation, a right-of-way for access) and Ground Space on the Parcel at heights and locations as more particularly set forth on **Schedule A-1** (Collocation Application), **Schedule A-2** (Structure Elevation and Site Plan), and **Schedule A-4** (Legal Description of Parcel or Survey) (together, as applicable, the "**Leased Property**"), each of which are attached hereto and incorporated herein.

7. Frequencies. As of the Effective Date, Lessee's initial Installation will use those certain frequencies, in pre-approved transmit power, as set forth on **Schedule A-1** (Collocation Application), which is attached hereto and incorporated herein by this reference.

8. MLA; Defined Terms; Incorporation of Background; Prime Agreement. This SLA is entered into pursuant to the MLA. All terms and conditions of the MLA are incorporated herein by this reference and made a part hereof without the necessity of repeating such terms and conditions or attaching the MLA. By executing and delivering this SLA, the Parties hereby agree to be bound by all terms and conditions of the MLA applicable to such Party, and to perform all covenants and agreements of such Party therein. Capitalized terms used in this SLA shall have the same meaning ascribed to them in the MLA unless otherwise indicated herein. The background section set forth above is hereby incorporated into this SLA by this reference in its entirety. A true and correct copy of the Prime Agreement(s) (subject to redaction of economic, financial, and confidential terms) is set forth in **Schedule A-3** (Redacted Prime Agreement), which is attached hereto and incorporated herein by this reference.

9. Order of Precedence; Conflict. In the event of an inconsistency, conflict, or discrepancy between, or among, (a) Section 1 of this SLA, (b) **Schedule A-1** (Collocation Application), and/or (c) **Schedule A-2** (Structure Elevation and Site Plan), Section 1 of this SLA shall govern. In the event of an inconsistency, conflict, or discrepancy between (i) **Schedule A-1** (Collocation Application), and (ii) **Schedule A-2** (Structure Elevation and Site Plan), **Schedule A-2** (Structure Elevation and Site Plan) shall control. In the event of an inconsistency, conflict, or discrepancy between (x) the MLA, and (y) this SLA, the terms set forth in the MLA shall control.

IN WITNESS WHEREOF, the Parties have executed this SLA as of the Effective Date.

LESSOR:

SRR Towers, LLC, a Delaware limited liability company

By: DocuSigned by: Jim Rech
07419F0F9E0043E...

Name: Jim Rech

Title: President & CEO

LESSEE:

DISH Wireless L.L.C.

By: DocuSigned by: David Mayo
F0DA1A105A884B7...

Name: David Mayo

Title: EVP

DS

SCHEDULE A-1 TO SLA
COLLOCATION APPLICATION

[Attached Hereafter]

Blue Sky Tower Collocation Application

Blue Sky Towers LLC

Installation Type: Anchor ☐ Collocation ☑ Add to Existing ☐

Contact:	James Burgess	Site Number:	CT1420
Email	jamesb@blueskytower.com	Site Name:	
Office:	617-549-2800	Submittal Date	
Fax:		Revision Date(s)	

PLEASE SUBMIT THIS APPLICATION VIA E-MAIL, Include Drawings, Specification Sheets, RFDS, Antenna Data Sheets

Applicant Information

Applicant Name:	DISH Wireless LLC	Primary Contact/Agent Name:	Debra Holden
Applicant Site Name:	NJJER01083C	Contact/Agent Company Name:	Tectonic Engineering
Applicant Site Number:	NJJER01083C	Contact/Agent Number:	845-325-4789
Proposed ON AIR Date:		Contact Email:	dholden@tectonicengineering.com

Applicant Contact Information

Leasing Contact Name:	Denise Fuller	Email:	leaseadmin@dish.com	Number:	(303) 703-1352
RF Contact Name:	Vishal Kataria	Email:	Vishal.kataria@dish.com	Number:	201-628-4336
Construction Contact Name:	Joseph DiPiazza	Email:	Joseph.dipiazza@dish.com	Number:	(914) 843-4134
Emergency Contact Name:	NOC	Email:		Number:	866.624.6874
Account Payable Contact Name:		Email:	WirelessAPHelpDesk@Dish.com	Number:	720-514-6400

Tower Information

Latitude:	41.31778	N	Structure Type:	Flagpole	
Longitude:	-73.38333	W	Structure Height:	181.3	
AMSL:	799	FT	Site Address:	28 GREAT OAK LANE, Redding	

EQUIPMENT SPECIFICATIONS

Summary of Work to be Completed:

EXISTING CONDITIONS - List all installed equipment prior to proposed modification. If this is a new installation, proceed to FINAL CONFIGURATION.

	SECTOR 1	SECTOR 2	SECTOR 3	SECTOR 4 (If necessary)
Current RAD Center (Ft AGL)				
Tower Mount Height (If different than RAD ctr)				
Mount Type (Label "Existing" if no change)				
Mount Model #				
Antenna Manufacturer				
Antenna Model# (Attach Specs)				
Antenna Dimensions (WxDxD in inches)				
Antenna Weight (Lbs.)				
Antenna Quantity				
Dish Manufacturer				
Dish Model# (attach Specs)				
Dish Diameter (Ft)				
Dish Weight (Lbs.)				
Dish Mount Height				
Azimuths				
Total # of Coax Lines per Sector				
Diameter Of Coax Cables (in)				
Total # of Hybrid Cables per Sector				
Diameter Of Hybrid Cables (in)				
Total # of other Cables per Sector				
Diameter Of Other Cables (in)				
Quantity of RRUs per Sector				
Manufacturer				
Model				
Dimensions				
Weight (Lbs.)				
Quantity of TMAs per Sector				
Manufacturer				
Model				
Dimensions				
Weight (Lbs.)				
Quantity of Surge Arrestors per Sector				
Manufacturer				
Model				
Antenna Model & Quantity to be Removed per Sector (If Applicable)				
RRU Model & Quantity to be Removed per Sector (If Applicable)				
Line/Cable Type, Size & Quantity to be Removed (If Applicable)				
List Any Other Equipment to be Removed (If Applicable)				

FINAL CONFIGURATION - List all installed equipment after proposed modification or initial installation.

	SECTOR 1	SECTOR 2	SECTOR 3	SECTOR 4 (If necessary)
Current/Proposed RAD Center (Ft AGL)	129	129	129	
Tower Mount Height (If different than RAD ctr)				
Mount Type (Label "Existing" if no change)				
Mount Model #				
Antenna Manufacturer	Comscope	Comscope	Comscope	
Antenna Model# (Attach Specs)	FVV-65B-R3	FVV-65B-R3	FVV-65B-R3	
Antenna Dimensions (WxDxD in inches)	71.97'' x 11.81'' x 7.12''	71.97'' x 11.81'' x 7.12''	71.97'' x 11.81'' x 7.12''	
Antenna Weight (Lbs.)	43.87	43.87	43.87	
Antenna Quantity	1	1	1	
Dish Manufacturer				
Dish Model# (attach Specs)				
Dish Diameter (Ft)				
Dish Weight (Lbs.)				
Dish Mount Height				
Azimuths	0	120	240	

LPD

Total # of Coax Lines per Sector	4	4	4	
Diameter Of Coax Cables (in)	7/8"	7/8"	7/8"	
Total # of Hybrid Cables per Sector				
Diameter Of Hybrid Cables (in)				
Total # of other Cables per Sector				
Diameter Of Other Cables (in)				
Quantity of RRUs per Sector				
Manufacturer				
Model				
Quantity of TMAs per Sector				
Manufacturer				
Model				
Quantity of Surge Arresters per Sector				
Manufacturer				
Model				
Transmit Frequency (MHz)	32-652,1995-2020,2155-2165,2180-220			
Receive Frequency (MHz)	678-698,1695-1710,1755-1765			
Antenna Gain (dB)				
Type of Technology				
TX Power Output				
ERP (Watts)				
Electric Service Required (Amps/Volts)				

GROUND SPACE REQUIREMENTS

Existing Lease Area: DIMS: L(ft) _____ W(ft) _____ OR _____ Square footage

New/Add 'l Lease Area being requested: DIMS: L(ft) 10x15 W(ft) _____ OR _____ Square footage

Shelter: DIMS: L(ft) _____ W(ft) _____ H(ft) _____

Concrete Pad for Shelter/Cabinets: DIMS: L(ft) _____ W(ft) _____

POWER REQUIREMENTS

Power Provided by: Power Company Electrical Service Provider: Eversource Electrical Service Telephone Number: _____

Average Monthly Power Consumption: _____ KWH units

Is a multi-tenant meter rack present: Yes How many, if any, empty meter banks are present: _____

Telco/Interconnect Requirements: POTS ☐ T1 ☐ MICROWAVE ☐ FIBER OPTIC☑

Fiber Provider: _____

BACK-UP POWER INFORMATION

Generator Required: No Generation Location: _____

Generator Ground Space Requirement: DIMS: L(ft) _____ W(ft) _____ H(ft) _____ **Fuel Type:** _____

BST Generator: _____ Generator Owner: _____ Shared Generator Peak Usage: _____ KW

Generator Capacity: _____ KW Generator Make: _____ Generator Model: _____

Fuel Tank Location: _____ Fuel Tank Size: DIMS: L(f _____ W(ft) _____ Fuel Tank S _____ Gallons

Pad for Fuel Tank (if required) DIMS: L(ft _____ W(ft) _____

Comments: _____

Comments: List any pertinent information that was not included above.

DISH is requesting a canistor expanson of 48". 1 Commscope Diplexer per sector CDX623T-DS-T | E15V95263 8.86" x 4.96" x 4.53" 10.141 lbs./ 1 Kaelus Bias T per sector 2.40 x 3.27 x 1.89 0.88; All other equipment will be on the ground.

LPD

SRR Site #: CT-1420
SRR Site Name: Redding
DISH Site #: NJJER01083C

SCHEDULE A-2 TO SLA

STRUCTURE ELEVATION AND SITE PLAN

[Attached Hereafter]

SRR Site #: CT-1420
SRR Site Name: Redding
DISH Site #: NJJER01083C

SCHEDULE A-3 TO SLA

REDACTED PRIME AGREEMENT

[Attached Hereafter]

Market: Connecticut
Cell Site Number: SR943
Cell Site Name: Redding – Town Garage
Fixed Asset Number: 10092042

LEASE AGREEMENT

THIS LEASE AGREEMENT ("**Agreement**"), dated as of the latter of the signature dates below ("**Effective Date**"), is entered into by the Town of Redding, having a mailing address of P.O. Box 1028, Redding, CT 06875-1028 (hereinafter referred to as "**Landlord**") and New Cingular Wireless PCS, LLC, a Delaware limited liability company, having a mailing address of 12555 Cingular Way, Suite 1300, Alpharetta, GA 30004 (hereinafter referred to as "**Tenant**").

BACKGROUND

Landlord owns or controls that certain plot, parcel or tract of land, together with all rights and privileges arising in connection therewith, located at 28 Great Oak Lane, in the Town of Redding, County of Fairfield, State of Connecticut (collectively, the "**Property**"). Tenant desires to use a portion of the Property in connection with its federally licensed communications business. Landlord desires to grant to Tenant the right to use a portion of the Property in accordance with this Agreement.

The parties agree as follows:

1. **LEASE OF PREMISES.** Landlord leases to Tenant a certain portion of the Property containing approximately 2,410 square feet including the air space above such room/cabinet/ground space as described and shown as "Proposed 33' x 73' Lease Area" on attached **Exhibit 1** , together with unrestricted access for Tenant's uses from the nearest public right-of-way along the Property to the Proposed 33' x 73' Lease Area as described on Exhibit 1 (collectively, the "**Premises**").

2. **PERMITTED USE.** Tenant may use the Premises for the transmission and reception of communications signals and the installation, construction, maintenance, operation, repair and replacement and upgrade of a not greater than 180 foot "stealth" monopole design telecommunications tower and related communication fixtures and related equipment cables, accessories and improvements, which may include suitable support structure, associated antennas, equipment shelters or cabinets and fencing and any other items necessary to the successful and secure use of the Premises(collectively, the "**Communication Facility**") and may use the Premises for the installation, construction, maintenance, operation, repair, replacement and upgrade of such utility service necessary for the transmission and reception of communications signals and the operation of the Communication Facility. Tenant shall have the right to conduct tests to the Premises and to survey and review title to the Property. Tenant further has the right but not the obligation to add, modify and/or replace equipment in order to be in compliance with any current or future federal, state or local mandated application, including, but not limited to, emergency 911 communication services, at no additional cost to Tenant or Landlord, except to the extent that Tenant receives any payment for such mandated application the same shall be subject to the provisions of Paragraph 4(c) herein (collectively, the "**Permitted Use**"). Tenant agrees to install police, fire or other emergency municipal service provider whip antenna at the top of the telecommunications tower at no cost and expense to Landlord. Landlord and Tenant agree that any portion of the Communication Facility that may be conceptually described on **Exhibit 1** will not be deemed to limit Tenant's Permitted Use. If **Exhibit 1** includes drawings of the initial installation of the Communication Facility, Landlord's execution of this Agreement will signify Landlord's approval of **Exhibit 1**. For a period of ninety (90) days following the start of construction, Landlord grants Tenant, its subtenants, licensees and sublicensees, the right to use such portions of Landlord's contiguous, adjoining or surrounding property as described on **Exhibit 1** hereto (the "**Surrounding Property**"), as may reasonably be required during construction and installation of the Communications Facility provided, other than necessary for clearing and grading for use of the Surrounding Property for construction related equipment, there shall be no alteration or construction within the Surrounding Property. Tenant has the right to install and operate transmission cables from

the equipment shelter or cabinet to the antennas, electric lines from the main feed to the equipment shelter or cabinet and communication lines from the main entry point to the equipment shelter or cabinet, and to make improvements, alterations, upgrades or additions appropriate for Tenant's use to the Premises ("**Tenant Changes**").. Tenant Changes include the right to construct a fence around the Premises and undertake any other appropriate means to secure the Premises, at Tenant's expense. Tenant agrees to comply with all applicable governmental laws, rules, statutes and regulations, relating to its use of the Communication Facility on the Property. Tenant has the right to modify, supplement, replace, upgrade, expand the equipment, increase the number of antennas or relocate the Communication Facility within the Premises at any time during the term of this Agreement, provided such relocation will not interfere with Landlord's use and enjoyment of the remainder of the Property. Tenant will be allowed to make such alterations to the Premises in order to accomplish Tenant's Changes or to insure that Tenant's Communication Facility complies with all applicable federal, state or local laws, rules or regulations.

3. **TERM.**

(a) The initial lease term will be five (5) years ("**Initial Term**"), commencing on the Effective Date. The Initial Term will terminate on the fifth (5th) annual anniversary of the Effective Date.

(b) This Agreement will automatically renew for four (4) additional five (5) year term(s) (each five (5) year term shall be defined as the "**Extension Term**"), upon the same terms and conditions unless the Tenant notifies the Landlord in writing of Tenant's intention not to renew this Agreement at least ninety (90) days prior to the expiration of the existing Term.

(c) If, at least ninety (90) days prior to the end of the fourth (4th) extended term, either Landlord or Tenant has not given the other written notice of its desire that the term of this Agreement end at the expiration of the fourth (4th) extended term, then upon the expiration of the fourth (4th) extended term this Agreement shall continue in force upon the same covenants, terms and conditions for a further term of one (1) year, and for annual terms thereafter until terminated by either party by giving to the other written notice of its intention to so terminate at least six (6) months prior to the end of any such annual term If Tenant remains in possession of the Premises after the termination of this Agreement then Tenant will be deemed to be occupying the Premises on a month to month basis (the "**Holdover Term**"), subject to the terms and conditions of this Agreement. Rent due during any Holdover Term shall be payable as provided for in Paragraph 4 and shall be subject to the three (3%) percent per annum increases as provided in Paragraph 4(b).

(d) The Initial Term, the Extension Term and the Holdover Term are collectively referred to as the Term ("**Term**").

4. **RENT.**

(a) [redacted]

(b) [redacted]

(c) Tenant shall pay, as additional rent under this Agreement, thirty percent (30%) of the gross rental for the first subtenant or licensee at the Premises, and thirty-five percent (35%) of the gross rental for each subsequent subtenant or licensee at the Premises (herein "Collocation Fees"). Such payment shall be made together with each installment of Base Rent beginning for each subtenant and/or licensee on the earlier of, (i) the date such subtenant or licensee commences construction and/or installation of its communication equipment at the Premises or (ii) the date such subtenant or licensee commences the payment of rent or other consideration for its

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collocation at the Premises. Collocation Fees shall be adjusted in the same manner as the Base Rent as provided for in Paragraph 4(b) of this Agreement. Tenant shall endeavor to seek and secure in good faith and at market rental rates subtenants for the Communication Facility.

(d) [redacted]

5. **APPROVALS.**

(a) Landlord agrees that Tenant's ability to use the Premises is contingent upon the suitability of the Premises for Tenant's Permitted Use and Tenant's ability to obtain and maintain all governmental licenses, permits, approvals or other relief required of or deemed necessary or appropriate by Tenant for its use of the Premises, including without limitation applications for zoning variances, zoning ordinances, amendments, special use permits, and construction permits (collectively, the "**Government Approvals**"). Landlord authorizes Tenant to prepare, execute and file, at Tenant's expense, and agrees to reasonably assist Tenant, at no cost to Landlord, all required applications to obtain Governmental Approvals for Tenant's Permitted Use under this Agreement and agrees to reasonably assist Tenant with such applications and with obtaining and maintaining the Government Approvals. In addition, Tenant shall have the right to initiate the ordering and/or scheduling of necessary utilities. Tenant shall endeavor to diligently pursue all Government Approvals and the commencement of construction of the Communication Facility. Tenant shall promptly notify Landlord of the granting or denying of any Government Approval. If the Tenant has failed to obtain all Government Approvals and commence construction of the Communication Facility within twenty-four (24) months of the Effective Date then, at the option of Landlord, this Agreement shall terminate and there shall be no further obligations of the parties hereunder, provided, however, that if the Tenant has been diligently pursuing such Government Approvals, has not been denied any such Government Approval, and has not received a final determination from the Connecticut Siting Council or other agency having jurisdiction, then such twenty-four (24) month period shall be extended for an additional period of six (6) months.

(b) Tenant has the right to obtain a title report or commitment for a leasehold title policy from a title insurance company of its choice and to have the Property surveyed by a surveyor of Tenant's choice. In the event Tenant determines, in its sole discretion, due to the title report results or survey results, that the condition of the Premises is unsatisfactory, Tenant will have the right to terminate this Agreement upon notice to Landlord within sixty (60) days of the Effective Date. If Tenant has failed to give such notice to Landlord within such sixty (60) day period this contingency shall be deemed satisfied.

(c) Tenant may also perform and obtain, at Tenant's sole cost and expense, soil borings, percolation tests, engineering procedures, environmental investigation or other tests or reports on, over, and under the Property, necessary to determine if the Tenant's use of the Premises will be compatible with Tenant's engineering specifications, system, design, operations or Governmental Approvals. Tenant shall indemnify and hold Landlord harmless against any loss or damages for personal injury or physical damage to the Premises, the Surrounding Property or the property of third parties resulting from any such test, investigations, or similar activities, and shall be responsible for compliance with all environmental laws, regulations and ordinances during the construction of the Communication Facility. Tenant covenants and agrees to restore the Property to the original condition following any testing hereunder and shall at Landlord's request deliver copies of all reports, tests, studies or information involving the Premises or property of the Landlord. In the event Tenant determines, in its sole discretion, that as a result of any such tests that the condition of the Premises is unsatisfactory, Tenant will have the right to terminate this Agreement upon notice to Landlord within one hundred twenty (120) days of the Effective Date. If Tenant has failed to give such notice to Landlord within the applicable period herein this contingency shall be deemed satisfied.

(d) In the event that as a result of (i) the requirements of any Governmental Approval; (ii) the requirements of a utility provider to the Communication Facility; or (iii) the results of any tests performed on the Property, the Leased Parcel or Easement Parcel needs to be relocated on the Property, Tenant shall request

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Landlord's approval of a modification to the location of the Leased Parcel and/or Easement Parcel by written notice to Landlord accompanied by a survey showing such revisions. Provided there is no material change in the size or burden to the Property or a material increase in the impact to Landlord's use and enjoyment of the Property, Landlord, at Tenant's expense, shall cooperate with Tenant in order to allow Tenant to obtain the permits and approvals necessary for such relocation, and upon the obtaining of such approvals, Landlord shall consent to such modification. Such modification shall be evidenced by an amendment to this Agreement and to the Memorandum of Lease recorded with the Redding Land Records.

6. **TERMINATION.** This Agreement may be terminated, without penalty or further liability, as follows:

(a) by either party on thirty (30) days prior written notice, if the other party remains in default under Paragraph 15 of this Agreement after the applicable cure periods.

(b) by Tenant upon written notice to Landlord, if Tenant is unable to obtain, or maintain, other than as a result of Tenant's failure to renew, any required approval(s) or the issuance of a license or permit by any agency, board, court or other governmental authority necessary for the construction or operation of the Communication Facility as now or hereafter intended by Tenant;

(c) by Tenant upon sixty (60) days prior written notice to Landlord if Tenant determines, in its commercially reasonable discretion, that based upon technical considerations, Tenant will be unable to use the Property for its intended purposes under this Agreement, , so long as Tenant pays Landlord a termination fee equal to one (1) year's Rent, at the then current rate.

7. **INSURANCE.**

Tenant will carry during the Term, at its own cost and expense, the following insurance: (i) "All Risk" property insurance for its property's replacement cost; (ii) commercial general liability insurance with a minimum limit of liability of Two Million Five Hundred Thousand Dollars $2,500,000 combined single limit for bodily injury or death/property damage arising out of any one occurrence; and (iii) Workers' Compensation Insurance as required by law. The coverage afforded by Tenant's commercial general liability insurance shall apply to Landlord as an additional insured, but only with respect to Landlord's liability arising out of its interest in the Property.

8. **INTERFERENCE.**

(a) Where there are existing radio frequency user(s) on the Property, the Landlord will provide Tenant with a list of all existing radio frequency user(s) on the Property to allow Tenant to evaluate the potential for interference. Tenant warrants that its use of the Premises will not interfere with existing radio frequency user(s) on the Property so disclosed by Landlord, as long as the existing radio frequency user(s) operate and continue to operate within their respective frequencies and in accordance with all applicable laws and regulations.

(b) Landlord will not grant, after the date of this Agreement, a lease, license or any other right to any third party for the use of the Property, if such use may in any way adversely affect or interfere with the Communication Facility, the operations of Tenant or the rights of Tenant under this Agreement. Landlord will notify Tenant in writing prior to granting any third party the right to install and operate communications equipment on the Property.

(c) Landlord will not use, nor will Landlord permit its employees, tenants, licensees, invitees or agents to use, any portion of the Property in any way which interferes with the Communication Facility, the operations of Tenant or the rights of Tenant under this Agreement. Landlord will cause such interference to cease within twenty-four (24) hours after receipt of notice of interference from Tenant. In the event any such interference does not cease within the aforementioned cure period then the parties acknowledge that Tenant will suffer irreparable injury, and therefore, Tenant will have the right, in addition to any other rights that it may have at law or in equity, for Landlord's breach of this Agreement, to elect to enjoin such interference or to terminate this Agreement upon notice to Landlord.

9. **INDEMNIFICATION.**

(a) Tenant agrees to indemnify, defend and hold Landlord harmless from and against any and all injury, loss, damage or liability (or any claims in respect of the foregoing), costs or expenses (including reasonable attorneys' fees and court costs) arising directly from the installation, use, maintenance, repair or removal of the Communication Facility or Tenant's breach of any provision of this Agreement, except to the extent attributable to the negligent or intentional act or omission of Landlord, its employees, agents or independent contractors.

(b) Landlord agrees to indemnify, defend and hold Tenant harmless from and against any and all injury, loss, damage or liability (or any claims in respect of the foregoing), costs or expenses (including reasonable attorneys' fees and court costs) arising directly from the actions or failure to act of Landlord or its employees or agents, or Landlord's breach of any provision of this Agreement, except to the extent attributable to the negligent or intentional act or omission of Tenant, its employees, agents or independent contractors.

(c) Notwithstanding anything to the contrary in this Agreement, Tenant and Landlord each waives any claims that each may have against the other with respect to consequential, incidental or special damages.

10. **WARRANTIES.**

(a) Tenant and Landlord each acknowledge and represent that it is duly organized, validly existing and in good standing and has the right, power and authority to enter into this Agreement and bind itself hereto through the party set forth as signatory for the party below.

(b) Landlord represents and warrants that: (i) Landlord solely owns the Property as a legal lot in fee simple, or controls the Property by lease or license; (ii) the Property is not encumbered by any liens, restrictions, mortgages, covenants, conditions, easements, leases, or any other agreements of record or not of record, which would adversely affect Tenant's Permitted Use and enjoyment of the Premises under this Agreement; (iii) as long as Tenant is not in default then Landlord grants to Tenant sole, actual, quiet and peaceful use, enjoyment and possession of the Premises; (iv) Landlord's execution and performance of this Agreement will not violate any laws, ordinances, covenants or the provisions of any mortgage, lease or other agreement binding on the Landlord; and (v) if the Property is or becomes encumbered by a deed to secure a debt, mortgage or other security interest, Landlord will use best efforts to provide promptly to Tenant a mutually agreeable Subordination, Non-Disturbance and Attornment Agreement.

11. **ENVIRONMENTAL.**

(a) Landlord represents and warrants that it is unaware of any hazardous substances at the Property as of the date of this Agreement, and, to the best of Landlord's knowledge, the Property has never been subject to any contamination or hazardous conditions resulting in any environmental investigation, inquiry or remediation. Landlord and Tenant agree that each will be responsible for 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 condition or other matters as may now or at any time hereafter be in effect, that are now or were related to that party's activity conducted in or on the Property.

(b) Landlord and Tenant agree to hold harmless and indemnify the other from, and to assume all duties, responsibilities and liabilities at the sole cost and expense of the indemnifying party 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 related to (i) the indemnifying party's 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 conditions or matters as may now or hereafter be in effect, or (ii) any environmental or industrial hygiene conditions that arise out of or are in any way related to the condition of the Property and activities conducted by the party thereon, unless the environmental conditions are caused by the other party.

(c) The indemnifications of this Paragraph 11 specifically include reasonable costs, expenses and fees incurred in connection with any investigation of Property conditions or any clean-up, remediation, removal or

restoration work required by any governmental authority. The provisions of this Paragraph 11 will survive the expiration or termination of this Agreement.

(d) In the event Tenant becomes aware of any hazardous materials on the Property, or any environmental or industrial hygiene condition or matter relating to the Property that, in Tenant's reasonable determination, renders the condition of the Premises or Property unsuitable for Tenant's use, or if Tenant reasonably believes that the leasing or continued leasing of the Premises would expose Tenant to undue risks of government action, intervention or third party liability, Tenant will have the right, in addition to any other rights it may have at law or in equity, to terminate the Agreement upon notice to Landlord whereupon there shall be no further obligations of the parties under this Agreement.

12. **ACCESS.** At all times throughout the Term of this Agreement, and at no additional charge to Tenant, Tenant and its employees, agents, and subcontractors, will have twenty-four (24) hour per day, seven (7) day per week pedestrian and vehicular access to and over the Premises, for the installation, maintenance and operation of the Communication Facility and any utilities serving the Premises. Landlord grants to Tenant an easement for such access and Landlord agrees to provide to Tenant such codes, keys and other instruments necessary for such access at no additional cost to Tenant. Landlord acknowledges that in the event Tenant cannot access the Premises, Tenant shall incur significant damage. If Landlord fails to provide the access granted by this Paragraph 12, such failure shall be a default under this Lease. In connection with such default, in addition to any other rights or remedies available to Tenant under this Lease or at law or equity, Landlord shall pay Tenant, as liquidated damages and not as a penalty, $500.00 per day in consideration of Tenant's damages, including, but not limited to, its lost profits, until Landlord cures such default. Landlord and Tenant agree that Tenant's damages in the event of a denial of access are difficult, if not impossible, to ascertain, and the liquidated damages set forth herein are a reasonable approximation of such damages. In the event any public utility is unable to use the access or easement provided to Tenant then the Landlord agrees to grant additional access or an easement either to Tenant or to the public utility, for the benefit of Tenant, at no cost to Tenant. Tenant shall be solely responsible for the removal of snow or ice, or for any improvements necessary to utilize such access.

13. **REMOVAL/RESTORATION.** All portions of the Communication Facility brought onto the Property by Tenant will be and remains Tenant's personal property and, at Tenant's option, may be removed by Tenant at any time during the Term. Landlord covenants and agrees that no part of the Communication Facility constructed, erected or placed on the Premises by Tenant will become, or be considered as being affixed to or a part of, the Property, it being the specific intention of the Landlord that all improvements of every kind and nature constructed, erected or placed by Tenant on the Premises will be and remain the property of the Tenant and may be removed by Tenant, subject to the terms hereof, at any time during the Term. Within one hundred twenty (120) days of the termination of this Agreement, Tenant will remove all of Tenant's above-ground improvements, and Tenant will, to the extent reasonable, restore the Premises to its condition at the commencement of the Agreement, reasonable wear and tear and loss by casualty or other causes beyond Tenant's control excepted. Notwithstanding the foregoing, Tenant will not be responsible for the replacement of any trees, shrubs or other vegetation, nor will Tenant be required to remove from the Premises or the Property any foundations or underground utilities. If such time for removal causes Tenant to remain on the Property after termination of this Agreement, Tenant shall pay rent at the then existing monthly rate (including any increase which would be in effect under Paragraph 4(b) if this Agreement had not terminated), until such time as the removal of the cabinets, antenna structure, fixtures and all personal property is completed.

14. **MAINTENANCE/UTILITIES.**

(a) Tenant will keep and maintain the Premises in good condition, reasonable wear and tear and damage from the elements excepted.

(b) Tenant will be responsible for paying on a monthly or quarterly basis all utilities charges for electricity, telephone service or any other utility used or consumed by Tenant on the Premises. Tenant shall secure its own metered electrical supply. Landlord acknowledges that Tenant provides a communication service which

requires electrical power to operate and must operate twenty-four (24) hour per day, seven (7) day per week. If the interruption is for an extended period of time, in Tenant's reasonable determination, the Landlord agrees to allow Tenant the right to bring in a temporary source of power for the duration of the interruption. Landlord will fully cooperate with any utility company requesting an easement over, under and across the Premises in order for the utility company to provide service to the Tenant. Landlord will not be responsible for interference with, interruption of or failure, beyond the reasonable control of Landlord, of such services to be furnished or supplied by Landlord.

15. **DEFAULT AND RIGHT TO CURE.**

(a) The following will be deemed a default by Tenant and a breach of this Agreement: (i) non-payment of Rent if such Rent remains unpaid for more than thirty (30) days after receipt of written notice from Landlord of such failure to pay; or (ii) Tenant's failure to perform any other term or condition under this Agreement within forty-five (45) days after receipt of written notice from Landlord specifying the failure. No such failure, however, will be deemed to exist if Tenant has commenced to cure such default within such period and provided that such efforts are prosecuted to completion with reasonable diligence. Delay in curing a default will be excused if due to causes beyond the reasonable control of Tenant. If Tenant remains in default beyond any applicable cure period, Landlord will have the right to exercise any and all rights and remedies available to it under law and equity.

(b) The following will be deemed a default by Landlord and a breach of this Agreement: (i) failure to provide access to the Premises or to cure an interference problem under Paragraph 8(a) within twenty-four (24) hours after receipt of written notice of such default; or (ii) Landlord's failure to perform any term, condition or breach of any warranty or covenant under this Agreement within forty-five (45) days after receipt of written notice from Tenant specifying the failure. No such failure, however, will be deemed to exist if Landlord has commenced to cure the default within such period and provided such efforts are prosecuted to completion with reasonable diligence. Delay in curing a default will be excused if due to causes beyond the reasonable control of Landlord. If Landlord remains in default beyond any applicable cure period, Tenant will have the right to exercise any and all rights available to it under law and equity, including the right to cure Landlord's default and to deduct the costs of such cure from any monies due to Landlord from Tenant.

16. **ASSIGNMENT/SUBLEASE.** This Agreement may be assigned or transferred by the Tenant without any approval or consent of the Landlord to any "Tenant-Related Party," defined as the Tenant's principal, subsidiaries, affiliates, or to any party controlling, controlled by, or under common control with Tenant, or to any entity which acquires all or substantially all of Tenant's assets in the market defined by the Federal Communications Commission in which the Property is located by reason of merger, acquisition or other business organization . Provided that the Tenant-Related Party assumes, recognizes and also agrees to become responsible to the Landlord for the performance of all terms and conditions of this Agreement, upon notification to Landlord by Tenant of any such assignment, Tenant will be relieved of all future performance, liabilities and obligations under this Agreement to the extent of such assignment. Tenant shall have the right to assign this Agreement to any party that is not a Tenant-Related Party upon the written consent of Landlord, which consent shall not be unreasonably withheld or delayed, provided , however, that no such assignment to a party that is not a Tenant-Related Party shall relieve Tenant of its obligations and liabilities under this Agreement unless such assignee party demonstrates that it has both(i) continuously operated in the business of development and/or ownership of telecommunication towers and facilities for not less than ten (10) years and (ii) a tangible net worth, as determined in accordance with generally accepted accounting principles, of not less than $10,000,000.00. Landlord may at any time sell or assign this Agreement and Tenant agrees to attorn to such purchaser or assignee as the Landlord under this agreement and to remain bound by all the terms and conditions hereof.

17. **NOTICES.** All notices, requests, demands and communications hereunder will be given by first class certified or registered mail, return receipt requested, or by a nationally recognized overnight courier, postage prepaid, to be effective when properly sent and received, refused or returned undelivered. Notices will be addressed to the parties as follows:

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If to Tenant: New Cingular Wireless PCS, LLC
Attn: Network Real Estate Administration
Re: Cell Site #: SR943; Cell Site Name: Redding-Great Oak Ln/Highway Dept. (CT)
Fixed Asset No: 10092042
12555 Cingular Way, Suite 1300
Alpharetta, GA 30004

With a copy to: New Cingular Wireless PCS, LLC
Attn.: Legal Department
Re: Cell Site #: SR943; Cell Site Name: Redding-Great Oak Ln/Highway Dept (CT)
Fixed Asset No: 10092042
340 Mt. Kemble Ave.
Morristown, NJ 07960-6656

If to Landlord: Town of Redding
Town Hall
P. O. Box 1028
Redding, CT 06875-1028

Either party hereto may change the place for the giving of notice to it by thirty (30) days prior written notice to the other as provided herein.

In the event of a change in ownership, transfer or sale of the Property or this Agreement, within ten (10) days of such transfer, Landlord will send the below documents to Tenant. In the event Tenant does not receive such appropriate documents, Tenant shall not be responsible for any failure to pay the current landlord

a. New deed to Property
b. Bill of Sale or Transfer
c. Copy of current Tax Bill
d. New W-9
e. New Payment Direction Form
f. Full contact information for new Landlord including all phone numbers

18. **CONDEMNATION.** In the event Landlord receives notification of any condemnation proceedings affecting the Property, Landlord will provide notice of the proceeding to Tenant within forty-eight (48) hours. If a condemning authority takes all of the Property, or a portion sufficient, in Tenant's sole determination, to render the Premises unsuitable for Tenant, this Agreement will terminate as of the date the title vests in the condemning authority. The parties will each be entitled to pursue their own separate awards in the condemnation proceeds, which for Tenant will include, where applicable, the value of its Communication Facility, moving expenses, prepaid Rent, and business dislocation expenses, provided that any award to Tenant will not diminish Landlord's recovery. Tenant will be entitled to reimbursement for any prepaid Rent on a prorata basis.

19. **CASUALTY.** Landlord will provide notice to Tenant of any casualty affecting the Property within forty-eight (48) hours of the casualty. If any part of the Communication Facility or Property is damaged by fire or other casualty so as to render the Premises unsuitable, in Tenant's sole determination, then Tenant may terminate this Agreement by providing written notice to the Landlord, which termination will be effective as of the date of such

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damage or destruction. Upon such termination, Tenant will be entitled to collect all insurance proceeds payable to Tenant on account thereof and to be reimbursed for any prepaid Rent on a prorata basis. If Tenant undertakes to rebuild the Communications Facility, Landlord agrees to use its reasonable efforts to permit Tenant to place temporary transmission and reception facilities on the Property at no additional Rent until such time as reconstruction of the Communication Facility is completed.

20. **WAIVER OF LANDLORD'S LIENS.** Landlord waives any and all lien rights it may have for nonpayment of rent, collocation fees or utilities under this Agreement, statutory or otherwise. The Communication Facility shall be deemed personal property for purposes of this Agreement, regardless of whether any portion is deemed real or personal property under applicable law and Landlord consents to Tenant's right to remove all or any portion of the Communication Facility from time to time in Tenant's sole discretion and without Landlord's consent.

21. **TAXES.** Landlord shall be responsible for payment of all ad valorem taxes levied upon the lands, improvements and other property of Landlord. Tenant shall be responsible for all taxes levied upon Tenant's leasehold estate and improvements (including Tenant's equipment building and tower) on the Premises. Tenant shall reimburse Landlord, as additional rent for any increase in ad valorem real estate taxes levied against the Property which are directly attributable to the improvements constructed by Tenant on the Property, and which such taxes are not separately levied or assessed by the taxing authorities against Tenants or the improvements of Tenant. Landlord shall provide Tenant with copies of all assessment notices on or including the Premises immediately upon receipt, but in no event later than thirty (30) days after receipt by Landlord. Tenant shall have the right to contest, in good faith, the validity or the amount of any tax or assessment levied against the Premises by such appellate or other proceedings as may be appropriate in the jurisdiction, provided Tenant shall pay the minimum amount of any such tax required by law to avoid the accrual of interest during such appeal and shall pay any unpaid tax and accrued interest owing at the conclusion of such appeal. This right shall include the ability to institute any legal, regulatory or informal action in the name of Landlord, Tenant, or both, with respect to the valuation of the Premises. Landlord shall cooperate at no expense to the Landlord in the institution and prosecution of any such proceedings and will execute any documents required therefore. The expense of any such proceedings shall be borne by Tenant and any refunds or rebates secured as a result of Tenant's action shall belong to Tenant.

22. **SALE OF PROPERTY.**
If Landlord, at any time during the Term of this Agreement, decides to sell, subdivide or rezone any of the Premises, all or any part of the Property or Surrounding Property, to a purchaser other than Tenant, Landlord shall promptly notify Tenant in writing, and such sale, subdivision or rezoning shall be subject to this Agreement and Tenant's rights hereunder. Landlord agrees not to sell, lease or use any areas of the Property or Surrounding Property for the installation, operation or maintenance of other wireless communications facilities if such installation, operation or maintenance would interfere with Tenant's Permitted Use or communications equipment as determined by radio propagation tests performed by Tenant in its sole discretion, any such testing to be at the expense of Landlord or Landlord's prospective purchaser, and not Tenant. If the radio frequency propagation tests demonstrate levels of interference unacceptable to Tenant, Landlord shall be prohibited from selling, leasing or using any areas of the Property or the Surrounding Property for purposes of any installation, operation or maintenance of any other wireless communications facility or equipment. Landlord shall not be prohibited from the selling, leasing or use of any of the Property or the Surrounding Property for non-wireless communication use. In the event the Property is transferred, the new landlord shall have a duty at the time of such transfer to provide Tenant with a completed IRS Form W-9, or its equivalent, and other related paper work to effect a transfer in Rent to the new landlord. The provisions of this Paragraph 22 shall in no way limit or impair the obligations of Landlord under Paragraph 8 above.

23. **MISCELLANEOUS.**
(a) **Amendment/Waiver.** This Agreement cannot be amended, modified or revised unless done in writing and signed by an authorized agent of the Landlord and an authorized agent of the Tenant. No provision may be waived except in a writing signed by both parties.

(b) **Memorandum/Short Form Lease.** Either party will, at any time upon fifteen (15) business days prior written notice from the other, execute, acknowledge and deliver to the other a recordable Memorandum or Short Form of Lease. Either party may record this Memorandum or Short Form of Lease at any time, in its absolute discretion.

(c) **Bind and Benefit.** The terms and conditions contained in this Agreement will run with the Property and bind and inure to the benefit of the parties, their respective heirs, executors, administrators, successors and assigns.

(d) **Entire Agreement.** This Agreement and the exhibits attached hereto, all being a part hereof, constitute the entire agreement of the parties hereto and will supersede all prior offers, negotiations and agreements with respect to the subject matter of this Agreement.

(e) **Governing Law.** This Agreement will be governed by the laws of the state in which the Premises are located, without regard to conflicts of law.

(f) **Interpretation.** Unless otherwise specified, the following rules of construction and interpretation apply: (i) captions are for convenience and reference only and in no way define or limit the construction of the terms and conditions hereof; (ii) use of the term "including" will be interpreted to mean "including but not limited to"; (iii) whenever a party's consent is required under this Agreement, except as otherwise stated in the Agreement or as same may be duplicative, such consent will not be unreasonably withheld, conditioned or delayed; (iv) exhibits are an integral part of the Agreement and are incorporated by reference into this Agreement; (v) use of the terms "termination" or "expiration" are interchangeable; and (vi) reference to a default will take into consideration any applicable notice, grace and cure periods; and (vii) to the extent there is any issue with respect to any alleged, perceived or actual ambiguity in this Agreement, the ambiguity shall not be resolved on the basis of who drafted the Agreement.

(g) **Estoppel.** Either party will, at any time upon twenty (20) business days prior written notice from the other, execute, acknowledge and deliver to the other a statement in writing (i) certifying that this Agreement is unmodified and in full force and effect (or, if modified, stating the nature of such modification and certifying this Agreement, as so modified, is in full force and effect) and the date to which the Rent and other charges are paid in advance, if any, and (ii) acknowledging that there are not, to such party's knowledge, any uncured defaults on the part of the other party hereunder, or specifying such defaults if any are claimed. Any such statement may be conclusively relied upon by any prospective purchaser or encumbrance of the Premises. The requested party's failure to deliver such a statement within such time will be conclusively relied upon by the requesting party that (i) this Agreement is in full force and effect, without modification except as may be properly represented by the requesting party, (ii) there are no uncured defaults in either party's performance, and (iii) no more than one month's Rent has been paid in advance.

(h) **W-9.** Landlord agrees to provide Tenant with a completed IRS Form W-9, or its equivalent, upon execution of this Agreement and at such other times as may be reasonably requested by Tenant.

(i) **No Electronic Signature/No Option.** The submission of this Agreement to any party for examination or consideration does not constitute an offer, reservation of or option for the Premises based on the terms set forth herein. This Agreement will become effective as a binding Agreement only upon the handwritten legal execution, acknowledgment and delivery hereof by Landlord and Tenant.

(j) **Severability.** If any term or condition of this Agreement is found unenforceable, the remaining terms and conditions will remain binding upon the parties as though said unenforceable provision were not contained herein. However, if the invalid, illegal or unenforceable provision materially affects this Agreement then the Agreement may be terminated by either party on ten (10) business days prior written notice to the other party hereto.

(k) **Counterparts.** This Agreement may be executed in two (2) or more counterparts, all of which shall be considered on and the same agreement and shall become effective when one or more counterparts have been signed by each of the parties. It being understood that all parties need not sign the same counterpart.

[SIGNATURES APPEAR ON THE NEXT PAGE]

IN WITNESS WHEREOF, the parties have caused this Agreement to be effective as of the last date written below.

WITNESSES:

Print Name: MICHELE K. GRANGE

Print Name: Susan C. Henderson

"LANDLORD"

Town of Redding

By: Natalie Ketchum
Print Name: Natalie Ketchum
Its: First Selectman
Date: Dec 30, 2009

Print Name: Kevin L. Mason

Print Name: Daniel F. Chiappetta

"TENANT"

New Cingular Wireless PCS, LLC,
By: AT&T Mobility Corporation
Its: Manager

By:
Print Name: Robert W. Donovan
Its: RECON Manager

Date: 12-31-09

[ACKNOWLEDGMENTS APPEAR ON THE NEXT PAGE]

8-10-07
Rev. 2007
Land Lease

LPD

TENANT ACKNOWLEDGMENT

STATE OF Massachusetts)
) ss:
COUNTY OF Middlesex)

On the 31st day of Dec, 2009, before me personally appeared Robert W. Donovan, and acknowledged under oath that he is the RECON Manager of New Cingular Wireless PCS, the Tenant named in the attached instrument, and as such was authorized to execute this instrument on behalf of the LLC.

Notary Public: Consuelo M. Wappel
My Commission Expires:

CONSUELO M. WAPPEL
Notary Public
Commonwealth of Massachusetts
My Commission Expires
August 24, 2012

LANDLORD ACKNOWLEDGMENT

FOR CORPORATION:

Witnessed by:

Michele R Grande
Name: MICHELE R GRANDE

Susan C. Henderson
Name: Susan C. Henderson

Town of Redding,
a Connecticut corporation

By: Natalie Ketcham
Name: Natalie Ketcham
Title: first Selectman

STATE OF CONNECTICUT
COUNTY OF FAIRFIELD

The foregoing instrument was acknowledged before me this 30TH day of DECEMBER, 2009, by NATALIE KETCHAM, FIRST SELECTMAN of the Town of Redding, a Connecticut corporation, on behalf of the corporation.

Kathleen V. Miscendeis
Name:
Notary Public

Serial No.: MY COMMISSION EXPIRES MAY 31, 2011

My Commission Expires:

[NOTARIAL SEAL]

8-10-07
Rev. 2007
Land Lease

LPD

EXHIBIT 1

DESCRIPTION OF PREMISES

to the Agreement dated December 31, 2009, by and between Town of Redding, a Connecticut corporation, as Landlord, and New Cingular Wireless PCS, LLC, a Delaware liability company, as Tenant.

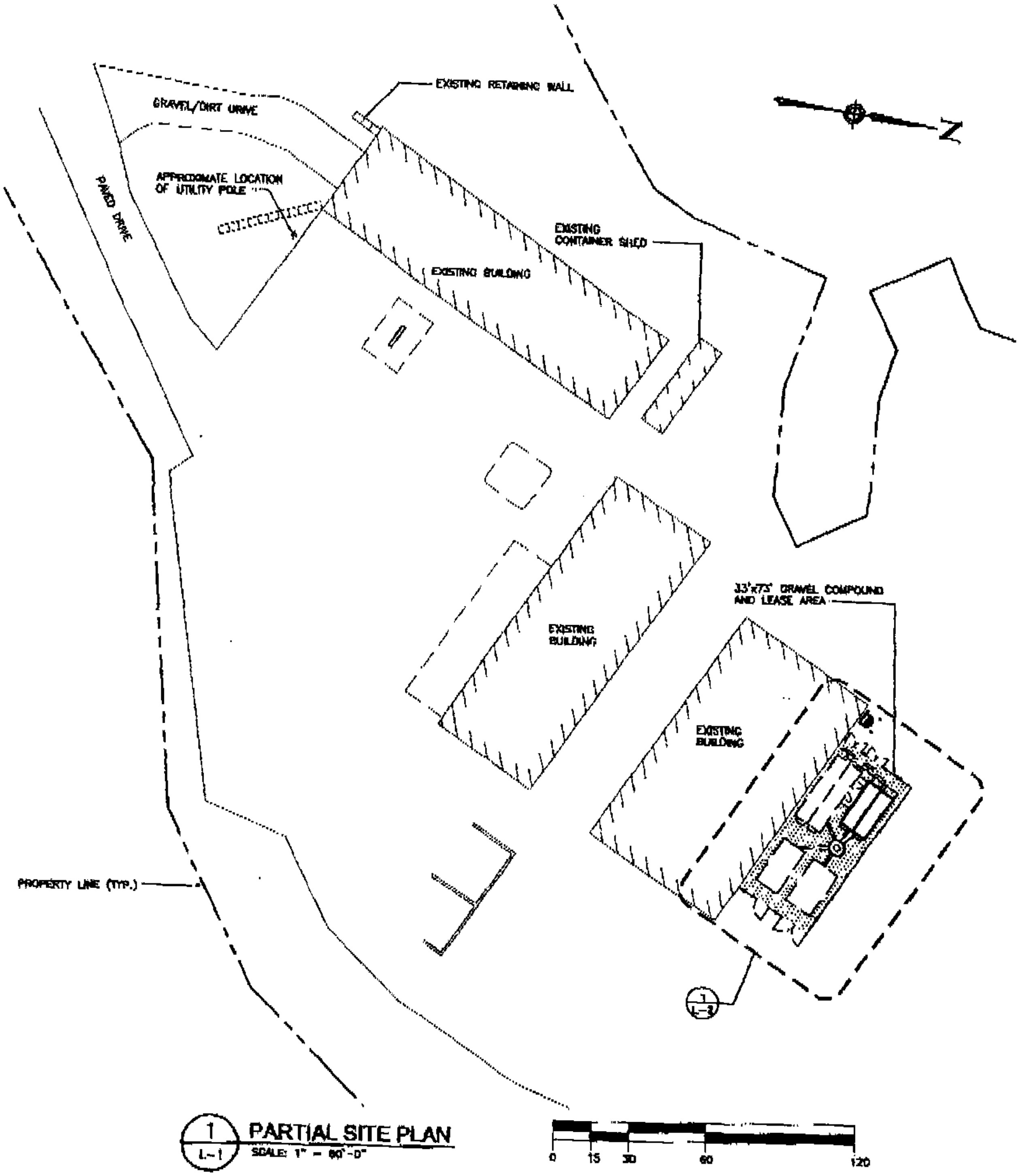
The Premises are described and/or depicted as follows:

See Attached

Notes:

1. This Exhibit may be replaced by a land survey and/or construction drawings of the Premises once received by Tenant.
2. Any setback of the Premises from the Property's boundaries shall be the distance required by the applicable governmental authorities.
3. Width of access road shall be the width required by the applicable governmental authorities, including police and fire departments.
4. The type, number and mounting positions and locations of antennas and transmission lines are illustrative only. Actual types, numbers and mounting positions may vary from what is shown above.

NOTE:
THIS LEASE EXHIBIT IS DIAGRAMMATIC IN NATURE AND IS INTENDED TO PROVIDE GENERAL INFORMATION REGARDING THE LOCATION AND SIZE OF THE PROPOSED WIRELESS COMMUNICATIONS EQUIPMENT FACILITY.



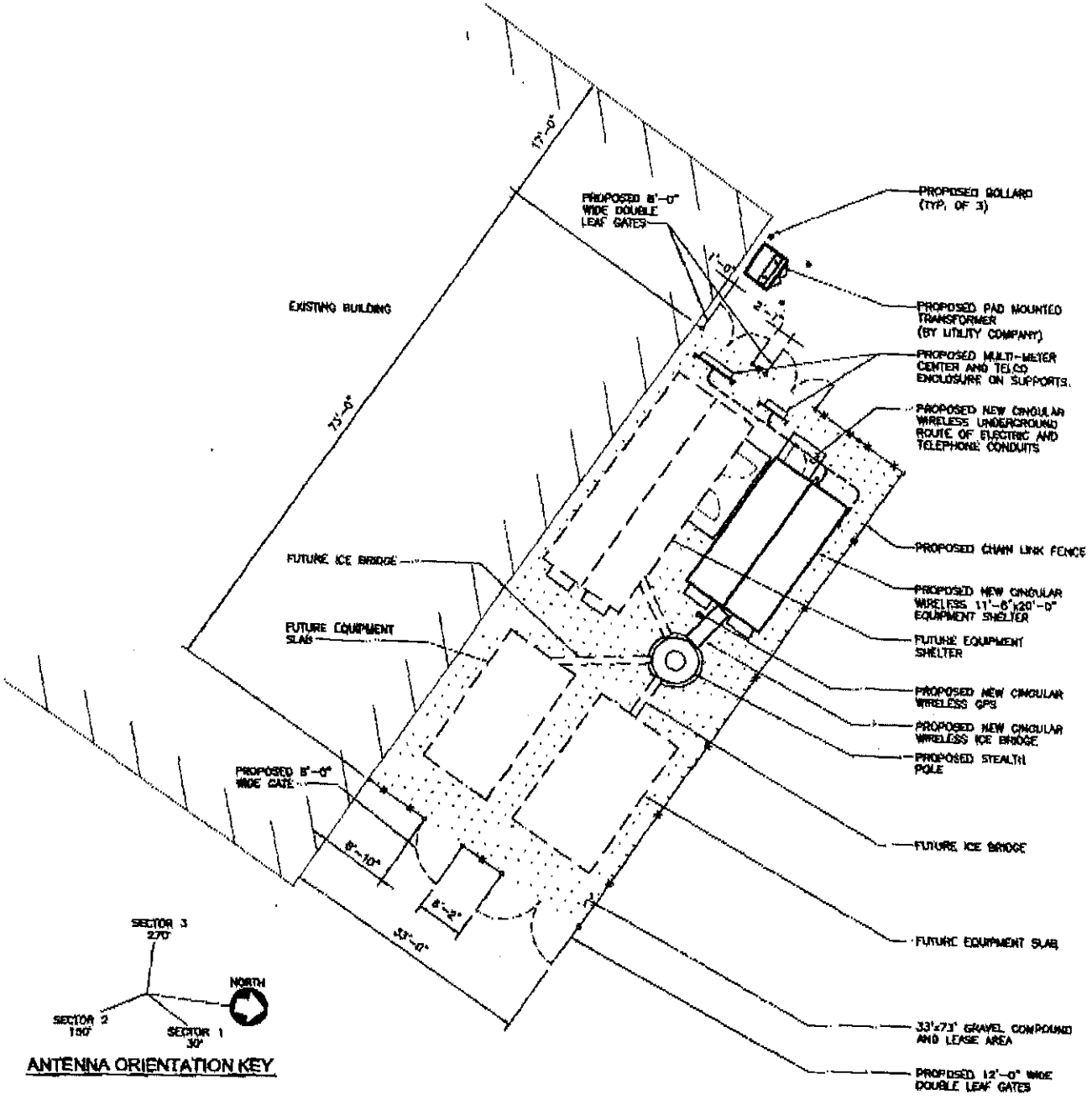
1 / L-1 PARTIAL SITE PLAN
SCALE: 1" = 60'-0"

PROJECT NO. 36921837 Designed by: Drawn by: RJS Checked by: Approved by:	URS CORPORATION AES 500 ENTERPRISE DRIVE ROCKY HILL, CONNECTICUT 1-(860)-529-8882	cingular / at&t REDDING HIGHWAY DEPT. SITE ADDRESS: 28 GREAT OAK ROAD REDDING, CONNECTICUT 06896	Dwg. No. L-1

REV.	DATE	DESCRIPTION
3	11/18/08	REVISED
2	01/28/08	REVISED
1	02/17/06	REVISED

Scale: AS NOTED | Date: 02-17-06
Job No. CW1 073 | File No. | Dwg. 1 of 3

LPD



PROJECT NO. 36021837
Designed by:
Drawn by: PJS
Checked by:
Approved by:

AES CORPORATION AES
500 ENTERPRISE DRIVE
ROCKY HILL, CONNECTICUT
1-(860)-529-8882

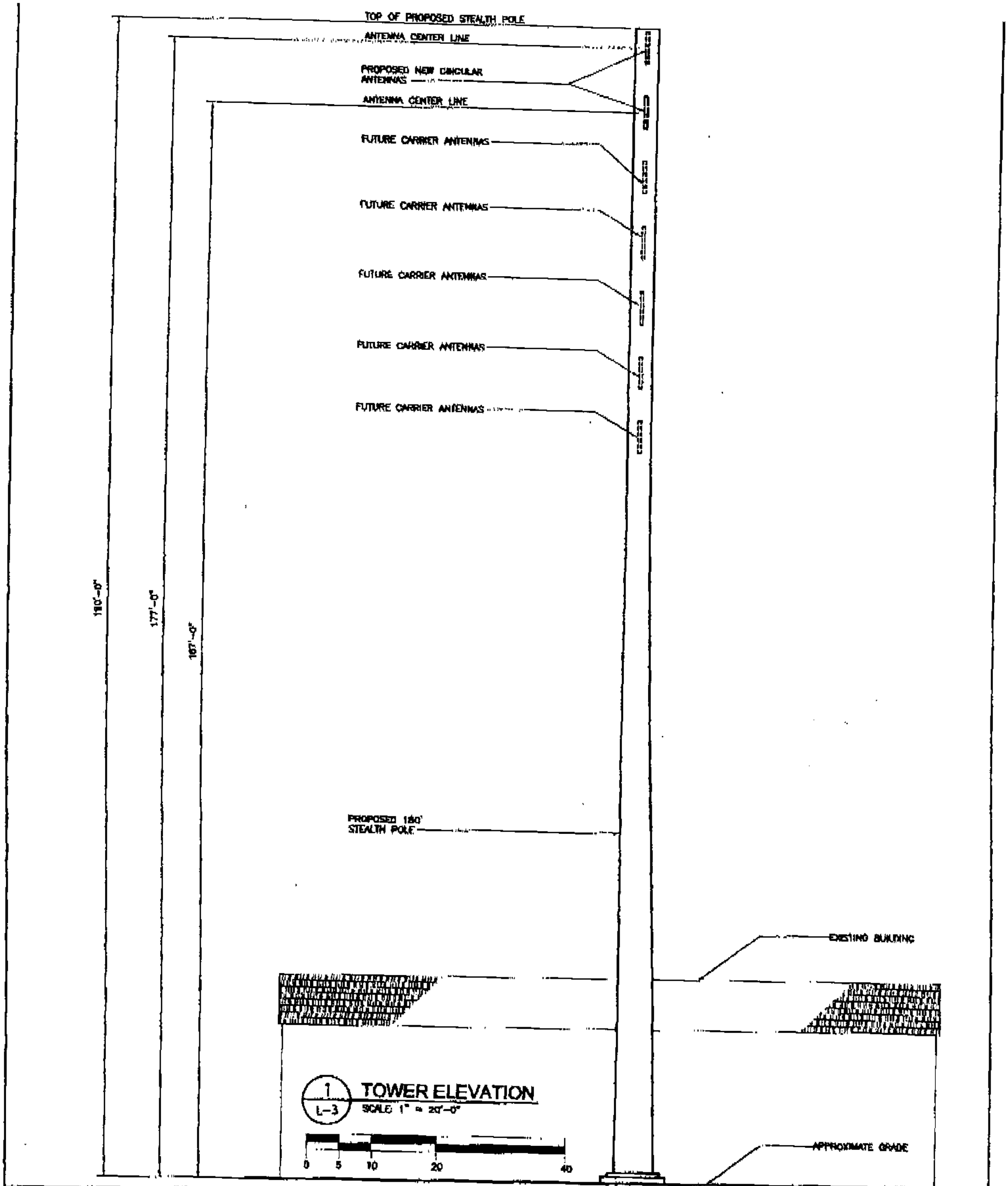
cingular wireless | at&t

REDDING HIGHWAY DEPT.
SITE ADDRESS: 28 GREAT OAK ROAD
REDDING, CONNECTICUT 06896

REV.	DATE	DESCRIPTION
3	11/16/06	REVISED
2	01/26/06	REVISED
1	02/17/06	REVISED

Scale: AS NOTED | Date: 02-17-06
Job No. CW1 073 | File No.
Dwg. No. L-2
Dwg. 2 of 3

LPD



1 L-3 TOWER ELEVATION
SCALE: 1" = 20'-0"

PROJECT NO. 36921837	OIS CORPORATION AES	cingular WIRELESS / at&t	Dwg. No. L-3
Designed by:	500 ENTERPRISE DRIVE	REDDING HIGHWAY DEPT.	
Drawn by: RJS	ROCKY HILL, CONNECTICUT	SITE ADDRESS: 28 GREAT OAK ROAD	
Checked by:	1-(860)-529-8882	REDDING, CONNECTICUT 06896	
Approved by:			

REV.	DATE:	DESCRIPTION
3	11/18/08	REVISED
2	01/28/08	REVISED
1	03/17/06	REVISED

Scale: AS NOTED | Date: 02-17-06
Job No. CWT 073 | File No. | Dwg. 3 of 3

LPD

OMNIBUS BILL OF SALE, ASSIGNMENT AND ASSUMPTION AGREEMENT

THIS OMNIBUS BILL OF SALE, ASSIGNMENT AND ASSUMPTION AGREEMENT (this "Bill of Sale") is made effective as of June 30, 2020 ("Effective Date"), by and between each Affiliate of AT&T, Inc. ("AT&T") signing this Bill of Sale as an "Assignor" on the signature pages hereto (each, an "Assignor" and collectively, the "Assignors"), on the one hand, and each Affiliate of Octagon Towers, LLC ("Octagon") signing this Bill of Sale as an "Assignee" on the signature pages hereto (each an "Assignee" and collectively, the "Assignees"), on the other hand.

BACKGROUND RECITALS

A. This Bill of Sale is made pursuant to that certain Asset Purchase Agreement dated as of October 22, 2019 between AT&T and certain of its Tower Site Subsidiaries (including the other Assignors), as sellers, and Octagon and certain other Buyers, as buyers (the "Purchase Agreement").

B. Capitalized terms used herein but not otherwise defined herein, shall have the meanings ascribed to them in the Purchase Agreement.

C. Pursuant to the Purchase Agreement, Assignors have agreed, among other things, to transfer and assign to the applicable Assignees all of the Assignors' right, title and interest in and to the Tower Site Assets of each Assignable Site transferred at the Subsequent Site Closing taking place on the Effective Date (the "Transferred Assets"), as set forth on Exhibits A - L attached hereto and incorporated herein by reference. Exhibit A - L indicate the particular Assignor and Assignee for each Assignable Site and the related Transferred Assets thereto.

D. Pursuant to the Purchase Agreement, each Assignee has agreed, among other things, to assume all of the Assumed Liabilities related to each Assignable Site transferred to such Assignee at the Subsequent Site Closing taking place on the Effective Date (the "Transferred Liabilities" and together with the Transferred Assets, the "Transferred Towers").

E. The terms of the Purchase Agreement, including, but not limited to, the representations, warranties, covenants, agreements and indemnities relating to the Transferred Towers, are incorporated herein by this reference. The Assignors and Assignees acknowledge and agree that the representations, warranties, covenants, agreements and indemnities contained in the Purchase Agreement shall not be superseded hereby, but shall remain in full force and effect to the full extent provided therein. In the event of any conflict or inconsistency between the terms of the Purchase Agreement and the terms hereof, the terms of the Purchase Agreement shall govern and control.

OPERATIVE PROVISIONS

NOW, THEREFORE, in consideration of the mutual covenants and conditions contained herein, as well as other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

LPD

1. The Background Recitals are true and correct and are incorporated herein by this reference.

2. Assignors hereby sell, assign, grant, convey and transfer to the applicable Assignees as of the Effective Date and as set forth on Exhibit A - L all of the Assignors' right, title and interest in and to the Transferred Assets, and the Assignees hereby accept such assignment.

3. Each Assignee hereby accepts as of the Effective Date the Transferred Liabilities related to each Assignable Site transferred to such Assignee as set forth on Exhibit A - L.

4. Assignors hereby confirm that all of the representations made in the Purchase Agreement regarding the Transferred Towers as of the Site Closing for such Transferred Towers are true and correct as of the date of this Bill of Sale. Assignors and the Assignees acknowledge and agree that nothing in this Bill of Sale shall be deemed to contravene or supersede the terms of the Purchase Agreement.

5. Each of the parties hereto shall execute and deliver, at the reasonable request of any other party hereto, such additional documents, instruments, conveyances and assurances, and take such further actions as such other party may reasonably request, to carry out the provisions hereof and give effect to the transactions contemplated by the Purchase Agreement and this Bill of Sale with respect to the Assignable Sites set forth on Exhibit A - L. Without limiting the generality of the foregoing, Assignors shall, or shall cause any relevant Affiliate of Assignors to, within five (5) days of the date hereof, take such actions as are required to update the Antenna Structure Registrations for each Assignable Site on Exhibit A - L so that the Assignees are indicated by its FCC registration number as the registered owner of such structure.

6. This Bill of Sale shall bind and inure to the benefit of Assignors, the Assignees, and their respective successors and assigns.

7. This Bill of Sale may be executed in multiple counterparts, each of which will be deemed an original document, but all of which will constitute a single document.

** * * Remainder of Page Blank – Signature Pages Follow * * **

LPD

** * * Assignor's Signature Page for Bill of Sale* * **

IN WITNESS WHEREOF, the parties hereto have caused this Bill of Sale to be duly executed as of the date first above written.

ASSIGNOR

NEW CINGULAR WIRELESS PCS, LLC

By: AT&T Mobility Corporation, its Manager

By: _____

Name: Thomas H. Lowe

Title: Vice President – Corporate Development

LPD

** * * Assignor's Signature Page for Bill of Sale* * **

N WITNESS WHEREOF, the parties hereto have caused this Bill of Sale to be duly executed as of the date first above written.

ASSIGNOR

ILLINOIS BELL TELEPHONE COMPANY, LLC

By: _____

Name: Jeston B. Dumas

Title: Treasurer

LPD

** * * Assignor's Signature Page for Bill of Sale* * **

IN WITNESS WHEREOF, the parties hereto have caused this Bill of Sale to be duly executed as of the date first above written.

ASSIGNOR

SOUTHWESTERN BELL TELEPHONE COMPANY

By: _____
Name: Jeston B. Dumas
Title: Treasurer

LPD

** * * Assignor's Signature Page for Bill of Sale * * **

IN WITNESS WHEREOF, the parties hereto have caused this Bill of Sale to be duly executed as of the date first above written.

ASSIGNOR

AT&T MOBILITY WIRELESS OPERATIONS HOLDINGS INC.

By: _____
Name: Jackie A. Begue
Title: Secretary

LPD

** * * Assignor's Signature Page for Bill of Sale* * **

IN WITNESS WHEREOF, the parties hereto have caused this Bill of Sale to be duly executed as of the date first above written.

ASSIGNOR

OKLAHOMA CITY SMSA LIMITED PARTERSHIP

By: New Cingular Wireless PCS, LLC, its General Partner

By: AT&T Mobility Corporation, its Manager

By: _____

Name: Thomas H. Lowe
Title: Vice President – Corporate Development

LPD

** * * Assignor's Signature Page for Bill of Sale* * **

IN WITNESS WHEREOF, the parties hereto have caused this Bill of Sale to be duly executed as of the date first above written.

ASSIGNOR

LAKE MOBILITY LLC

By: AT&T Mobility Corporation, its Manager

By: _____

Name: Thomas H. Lowe
Title: Vice President –
Corporate Development

LPD

** * * Assignor's Signature Page for Bill of Sale * * **

IN WITNESS WHEREOF, the parties hereto have caused this Bill of Sale to be duly executed as of the date first above written.

ASSIGNOR

AT&T MOBILITY II LLC

By: AT&T Mobility Corporation, its Manager

By: _____

Name: Thomas H. Lowe

Title: Vice President – Corporate Development

LPD

** * * Assignor's Signature Page for Bill of Sale * * **

IN WITNESS WHEREOF, the parties hereto have caused this Bill of Sale to be duly executed as of the date first above written.

ASSIGNOR

ORLANDO SMSA LIMITED PARTNERSHIP

By: New Cingular Wireless PCS, LLC, its General Partner

By: AT&T Mobility Corporation, its Manager

By: _____

Name: Thomas H. Lowe
Title: Vice President – Corporate Development

LPD

** * * Assignor's Signature Page for Bill of Sale* * **

IN WITNESS WHEREOF, the parties hereto have caused this Bill of Sale to be duly executed as of the date first above written.

ASSIGNOR

MILWAUKEE SMSA LIMITED PARTNERSHIP

By: New Cingular Wireless PCS, LLC, its General Partner

By: AT&T Mobility Corporation, its Manager

By: _____

Name: Thomas H. Lowe
Title: Vice President – Corporate Development

LPD

** * * Assignor's Signature Page for Bill of Sale* * **

IN WITNESS WHEREOF, the parties hereto have caused this Bill of Sale to be duly executed as of the date first above written.

ASSIGNOR

MISSOURI RSA 11/12 LIMITED PARTNERSHIP

By: New Cingular Wireless PCS, LLC, its General Partner

By: AT&T Mobility Corporation, its Manager

By: _____

Name: Thomas H. Lowe
Title: Vice President – Corporate Development

LPD

** * * Assignor's Signature Page for Bill of Sale* * **

IN WITNESS WHEREOF, the parties hereto have caused this Bill of Sale to be duly executed as of the date first above written.

ASSIGNOR

MADISON SMSA LIMITED PARTNERSHIP

By: New Cingular Wireless PCS, LLC, its General Partner

By: AT&T Mobility Corporation, its Manager

By: _____

Name: Thomas H. Lowe
Title: Vice President – Corporate Development

LPD

** * * Assignee's Signature Page for Bill of Sale * * **

IN WITNESS WHEREOF, the parties hereto have caused this Bill of Sale to be duly executed as of the date first above written.

ASSIGNEE:

[redacted]

By:_____
Name: F. Howard Mandel
Title: Co-President

LPD

** * * Assignee's Signature Page for Bill of Sale * * **

IN WITNESS WHEREOF, the parties hereto have caused this Bill of Sale to be duly executed as of the date first above written.

ASSIGNEE:

[redacted]

By:_____
Name: F. Howard Mandel
Title: Co-President

LPD

** * * Assignee's Signature Page for Bill of Sale * * **

IN WITNESS WHEREOF, the parties hereto have caused this Bill of Sale to be duly executed as of the date first above written.

ASSIGNEE:

[redacted]

By:_____
Name: F. Howard Mandel
Title: Vice President

LPD

** * * Assignee's Signature Page for Bill of Sale * * **

IN WITNESS WHEREOF, the parties hereto have caused this Bill of Sale to be duly executed as of the date first above written.

ASSIGNEE:

[redacted]

By: _____
Name: F. Howard Mandel
Title: Vice President

LPD

** * * Assignee's Signature Page for Bill of Sale * * **

IN WITNESS WHEREOF, the parties hereto have caused this Bill of Sale to be duly executed as of the date first above written.

ASSIGNEE:

[redacted]

By:_____
Name: F. Howard Mandel
Title: Vice President

LPD

** * * Assignee's Signature Page for Bill of Sale * * **

IN WITNESS WHEREOF, the parties hereto have caused this Bill of Sale to be duly executed as of the date first above written.

ASSIGNEE:

[redacted]

By:_____
Name: F. Howard Mandel
Title: Vice President

LPD

** * * Assignee's Signature Page for Bill of Sale * * **

IN WITNESS WHEREOF, the parties hereto have caused this Bill of Sale to be duly executed as of the date first above written.

ASSIGNEE:

[redacted]

By:_____
Name: F. Howard Mandel
Title: Vice President

LPD

** * * Assignee's Signature Page for Bill of Sale * * **

IN WITNESS WHEREOF, the parties hereto have caused this Bill of Sale to be duly executed as of the date first above written.

ASSIGNEE:

[redacted]

By:_____
Name: F. Howard Mandel
Title: Vice President

LPD

** * * Assignee's Signature Page for Bill of Sale * * **

IN WITNESS WHEREOF, the parties hereto have caused this Bill of Sale to be duly executed as of the date first above written.

ASSIGNEE:

[redacted]

By:_____
Name: F. Howard Mandel
Title: Vice President

LPD

** * * Assignee's Signature Page for Bill of Sale * * **

IN WITNESS WHEREOF, the parties hereto have caused this Bill of Sale to be duly executed as of the date first above written.

ASSIGNEE:

[redacted]

By:_____
Name: F. Howard Mandel
Title: Vice President

LPD

** * * Assignee's Signature Page for Bill of Sale * * **

IN WITNESS WHEREOF, the parties hereto have caused this Bill of Sale to be duly executed as of the date first above written.

ASSIGNEE:

[redacted]

By:_____
Name: F. Howard Mandel
Title: Vice President

LPD

** * * Assignee's Signature Page for Bill of Sale * * **

IN WITNESS WHEREOF, the parties hereto have caused this Bill of Sale to be duly executed as of the date first above written.

ASSIGNEE:

[redacted]

By:_____
Name: F. Howard Mandel
Title: Vice President

LPD

** * * Assignee's Signature Page for Bill of Sale * * **

IN WITNESS WHEREOF, the parties hereto have caused this Bill of Sale to be duly executed as of the date first above written.

ASSIGNEE:

SRR TOWERS, LLC

By:_____
Name: F. Howard Mandel
Title: Vice President

LPD

EXHIBIT A

[redacted]

AT&T FA #	USID	Site Name	Buyer Site ID	Assignor	Assignee
[redacted]					

LPD

[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

LPD

EXHIBIT B

[redacted]

AT&T FA #	USID	Site Name	Buyer Site ID	Assignor	Assignee
[redacted]					

LPD

EXHIBIT C

[redacted]

AT&T FA #	USID	Site Name	Buyer Site ID	Assignor	Assignee
[redacted]					

LPD

[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
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[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

LPD

EXHIBIT D

[redacted]

AT&T FA #	USID	Site Name	Buyer Site ID	Assignor	Assignee
[redacted]					

LPD

LPD

EXHIBIT E

[redacted]

AT&T FA #	USID	Site Name	Buyer Site ID	Assignor	Assignee
[redacted]					

LPD

EXHIBIT F

[redacted]

AT&T FA #	USID	Site Name	Buyer Site ID	Assignor	Assignee
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
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[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

LPD

EXHIBIT G

[redacted]

AT&T FA #	USID	Site Name	Buyer Site ID	Assignor	Assignee
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

LPD

EXHIBIT H

[redacted]

AT&T FA #	USID	Site Name	Buyer Site ID	Assignor	Assignee
[redacted]					

LPD

EXHIBIT I

[redacted]

AT&T FA #	USID	Site Name	Buyer Site ID	Assignor	Assignee
[redacted]					

LPD

[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
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[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

LPD

EXHIBIT J

[redacted]

AT&T FA #	USID	Site Name	Buyer Site ID	Assignor	Assignee
[redacted]					

LPD

LPD

EXHIBIT K

SRR Towers, LLC Assignable Sites

AT&T FA #	USID	Site Name	Buyer Site ID	Assignor	Assignee
10050764	97417	REDDING	CT-1420	NEW CINGULAR WIRELESS PCS, LLC	SRR Towers, LLC
10063374	81894	DEERFILED NH-ROLLINS EXCAVATION	NH-1422	NEW CINGULAR WIRELESS PCS, LLC	SRR Towers, LLC
10122426	141271	NF399	VA-1443	NEW CINGULAR WIRELESS PCS, LLC	SRR Towers, LLC
10128409	101398	WHITESTONE FARMS	AK-1446	NEW CINGULAR WIRELESS PCS, LLC	SRR Towers, LLC
10128413	101395	SHAW CREEK	AK-1378	NEW CINGULAR WIRELESS PCS, LLC	SRR Towers, LLC
10129359	103704	NF290/LONGHILL	VA-1449	NEW CINGULAR WIRELESS PCS, LLC	SRR Towers, LLC
10141440	113581	DORSET VT	VT-1467	NEW CINGULAR WIRELESS PCS, LLC	SRR Towers, LLC
10141931	122379	CV429	VA-1468	NEW CINGULAR WIRELESS PCS, LLC	SRR Towers, LLC
10145616	112994	SAS FABRICS	AZ-1470	NEW CINGULAR WIRELESS PCS, LLC	SRR Towers, LLC
10547003	125834	I-39 NORTH MOUNDVILLE	WI-1481	Lake Mobility LLC	SRR Towers, LLC
10547004	123863	I-39 SUMMERTON BOG	WI-1482	Lake Mobility LLC	SRR Towers, LLC
10547011	122524	I39 NW PLAINFIELD	WI-1483	Lake Mobility LLC	SRR Towers, LLC
10548038	114175	SLG07 PASO LANDFILL	CA-1392	NEW CINGULAR WIRELESS PCS, LLC	SRR Towers, LLC

LPD

12798061	158149	MARSHFIELD SOUTH	WI-1488	Lake Mobility LLC	SRR Towers, LLC
12798099	158133	BABCOCK SW	WI-1491	Lake Mobility LLC	SRR Towers, LLC
10039348	54675	WESTON POLICE STATION	MA-1513	NEW CINGULAR WIRELESS PCS, LLC	SRR Towers, LLC
10042917	82922	WI0323	WI-1514	Milwaukee SMSA, LP	SRR Towers, LLC
10139938	109073	PAYSON #2	AZ-1526	NEW CINGULAR WIRELESS PCS, LLC	SRR Towers, LLC
10145355	129351	WASHBURN STREET	WI-1528	NEW CINGULAR WIRELESS PCS, LLC	SRR Towers, LLC
10547005	123869	SOUTH WESTFIELD	WI-1532	Lake Mobility LLC	SRR Towers, LLC

LPD

SCHEDULE A-4 TO SLA

LEGAL DESCRIPTION OF PARCEL AND/OR SURVEY

[Attached Hereafter]

The Land referred to herein below is situated in the County of FAIRFIELD, State of Connecticut, and is described as follows:

All that certain piece, parcel or tract of land with the buildings and improvements thereon situated on Lonetown Road (Route 107) in the Town of Redding, County of Fairfield and State of Connecticut as shown on a certain map entitled, "Property Survey Prepared for James H. Gianninoto, Trustee, 80 Lonetown Road, Town of Redding, Fairfield County, CT June 18, 1993, Revised July 21, 1995, Revised April 9, 1999, Scale 1"=50', Area = 982,790 Sq. Ft., 22,5618 Acres" and which is certified substantially correct by Paul A. Hiro Conn. Reg. No: 15167, which map is filed in the Office of the Redding Town Clerk as the map numbered 3952, reference thereto being had.

Together with a certain easement of access as set forth in a Warranty Deed from Robert C. Goodale to Frank A. Gianninoto dated December 23, 1944 and recorded in Book 43 at Page 13 of the Redding Land Records as amended and shown on a certain map entitled, "Map Prepared for John J. & Barbara J. Redmond, Redding, Connecticut Scale 1"= 100' February 18, 1978" certified substantially correct by John W. Fuller which map is on file in the Office of the Town Clerk of Redding as the map numbered 1864.

Being the same property conveyed to Andrew C. Mound & Elizabeth C. Mound, who acquired title from Patricia Carmela Muller & James H. Gianninoto & Gordon J. Gianninoto, by Warranty Deed dated May 3, 1999 and recorded on May 4, 1999 in Book 229, Page 721.

Exhibit F

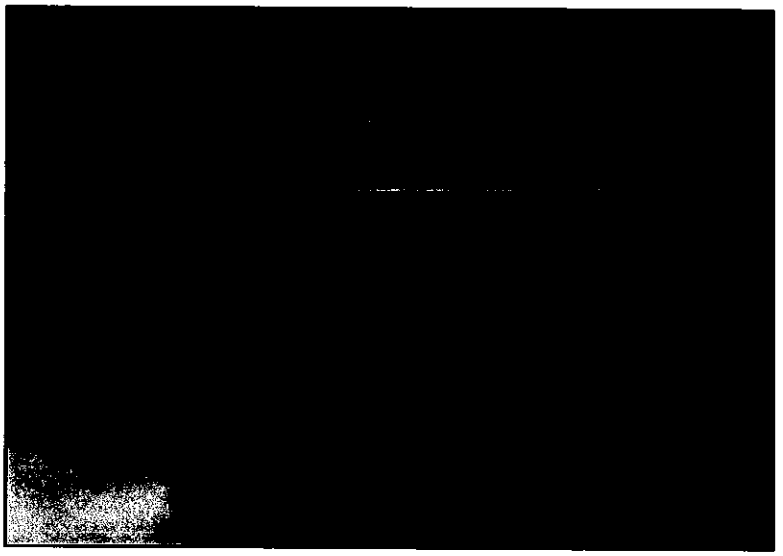
Emissions Report

Pinnacle Telecom Group

Professional and Technical Services

Telecom Consulting

Antenna Site FCC RF Compliance Assessment and Report for Municipal Submission



Prepared for:	DISH Wireless, LLC
Site ID:	NJJER01083C
Site Address:	28 Great Oak Lane Redding, CT
Latitude:	N 41.306833
Longitude:	W 73.386297
Structure type:	Concealment Pole
Report date:	September 23, 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 report.

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

Contents

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 in an existing concealment pole located at 28 Great Oak Lane in Redding, CT. DISH refers to the antenna site by the code "NJJER01083C", 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 AT&T and 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 1.2391 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 80 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 a NOC Information sign be installed at the base of the concealment pole.
- The results of the calculations, along with the proposed mitigation, combine to satisfy the FCC requirements and associated guidelines on RF compliance at street level around the site and on the subject roof. 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 other existing 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.

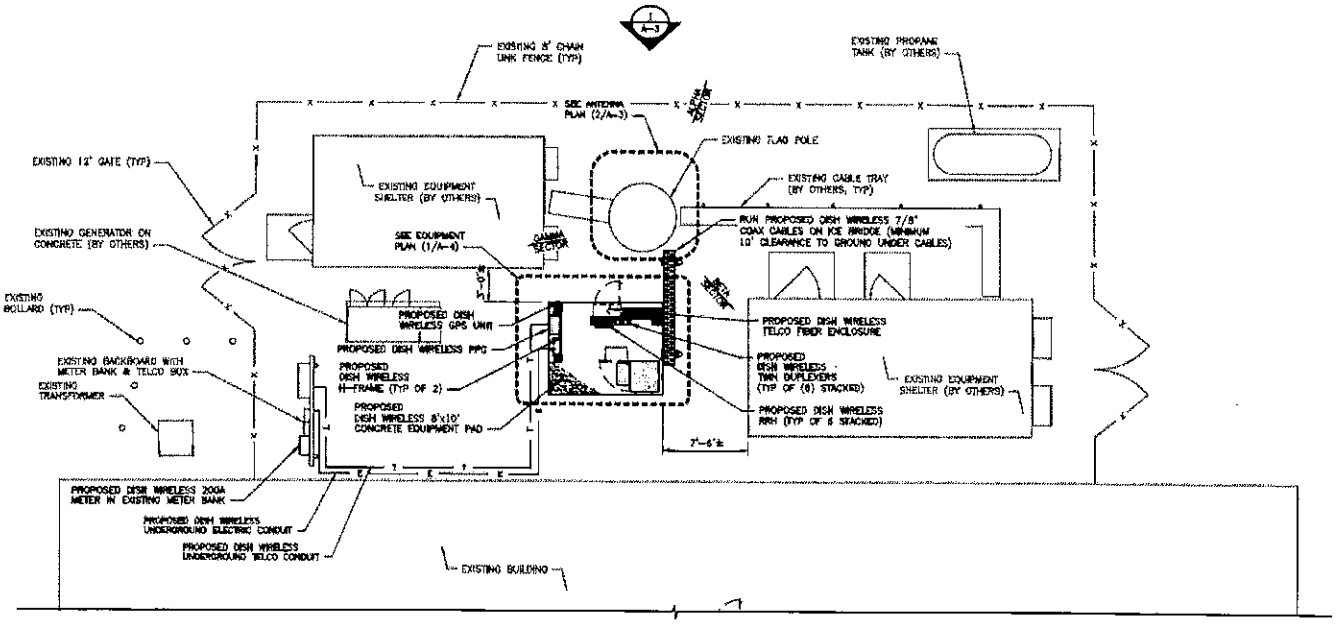
In addition, four Appendices are included. Appendix A provides information on the documents used to prepare the analysis. Appendix B provides background on the FCC MPE limit. Appendix C details the proposed mitigation to satisfy the FCC requirements and associated guidelines on RF compliance. Appendix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

a summary of the qualifications of the expert certifying FCC compliance for this site.

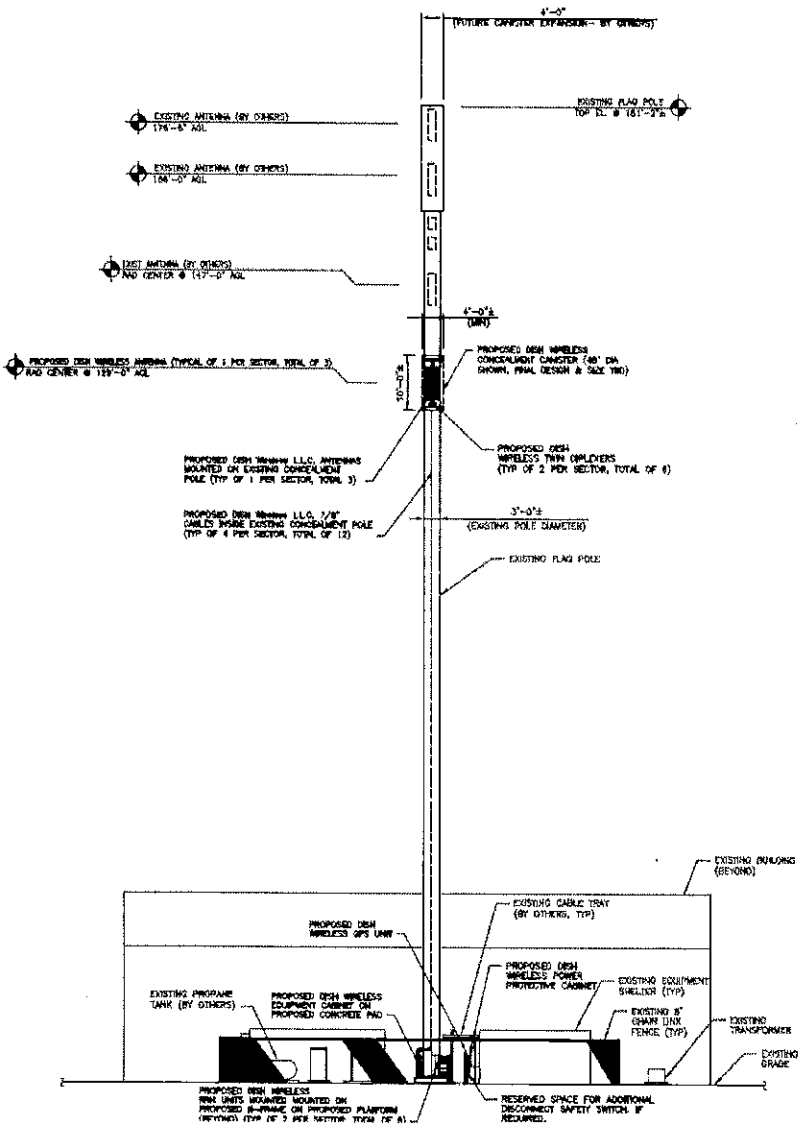
Antenna and Transmission Data

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. ID	Carrier	Antenna Manufacturer	Antenna Model	Type	Freq (MHz)	Ant. Dim. (ft)	Total Input Power (watts)	ERP (watts)	Z AGL (ft)	Ant. Gain (dBd)	BW	Azimuth	EDT	MDT
1	DISH	Commscope	FVV-65B-R3	Panel	600	6	120	1687	129.0	11.48	70	0	2	0
1	DISH	Commscope	FVV-65B-R3	Panel	2000	6	160	8630	129.0	15.17	64	0	2	0
1	DISH	Commscope	FVV-65B-R3	Panel	2100	6	160	10739	129.0	16.12	62	0	2	0
2	DISH	Commscope	FVV-65B-R3	Panel	600	6	120	1687	129.0	11.48	70	120	2	0
2	DISH	Commscope	FVV-65B-R3	Panel	2000	6	160	8630	129.0	15.17	64	120	2	0
2	DISH	Commscope	FVV-65B-R3	Panel	2100	6	160	10739	129.0	16.12	62	120	2	0
3	DISH	Commscope	FVV-65B-R3	Panel	600	6	120	1687	129.0	11.48	70	240	2	0
3	DISH	Commscope	FVV-65B-R3	Panel	2000	6	160	8630	129.0	15.17	64	240	2	0
3	DISH	Commscope	FVV-65B-R3	Panel	2100	6	160	10739	129.0	16.12	62	240	2	0

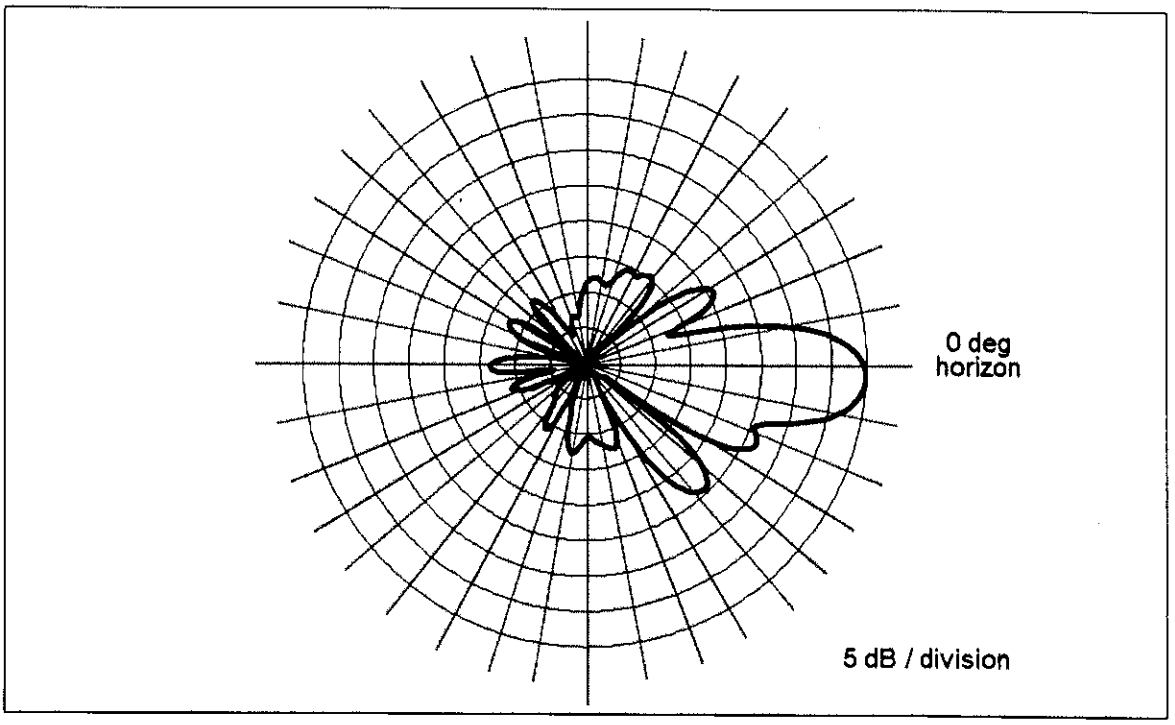
The area below the antennas, at street level, is of interest in terms of potential "uncontrolled" exposure of the general public, so the antenna's vertical-plane emission characteristic is used in the calculations, as it is a key determinant of the relative amount of RF emissions in the "downward" direction.

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. Commscope FVV-65B-R3 – 600 MHz Vertical-plane Pattern



As noted at the outset, there are other existing wireless antenna operations to include in the compliance assessment. For each of the wireless operators, we will conservatively assume operation with maximum channel capacity and at maximum transmitter power per channel to be used by each wireless operator in each of their respective FCC-licensed frequency bands.

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

Carrier	Antenna Manufacturer	Antenna Model	Type	Freq (MHz)	Total ERP (watts)	Ant. Gain (dBd)	Azimuth
AT&T	Generic	Generic	Panel	700	4945	11.26	N/A
AT&T	Generic	Generic	Panel	850	2400	11.76	N/A
AT&T	Generic	Generic	Panel	1900	5756	15.56	N/A
AT&T	Generic	Generic	Panel	2100	5890	15.66	N/A
AT&T	Generic	Generic	Panel	2300	4131	16.16	N/A
Verizon Wireless	Generic	Generic	Panel	746	2400	11.76	N/A
Verizon Wireless	Generic	Generic	Panel	869	5166	12.36	N/A
Verizon Wireless	Generic	Generic	Panel	1900	5372	15.26	N/A
Verizon Wireless	Generic	Generic	Panel	2100	5625	15.46	N/A

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 to the rooftop near 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:

$$MPE\% = (100 * Chans * TxPower * 10^{(Gmax-Vdisc/10)} * 4) / (MPE * 4\pi * R^2)$$

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.

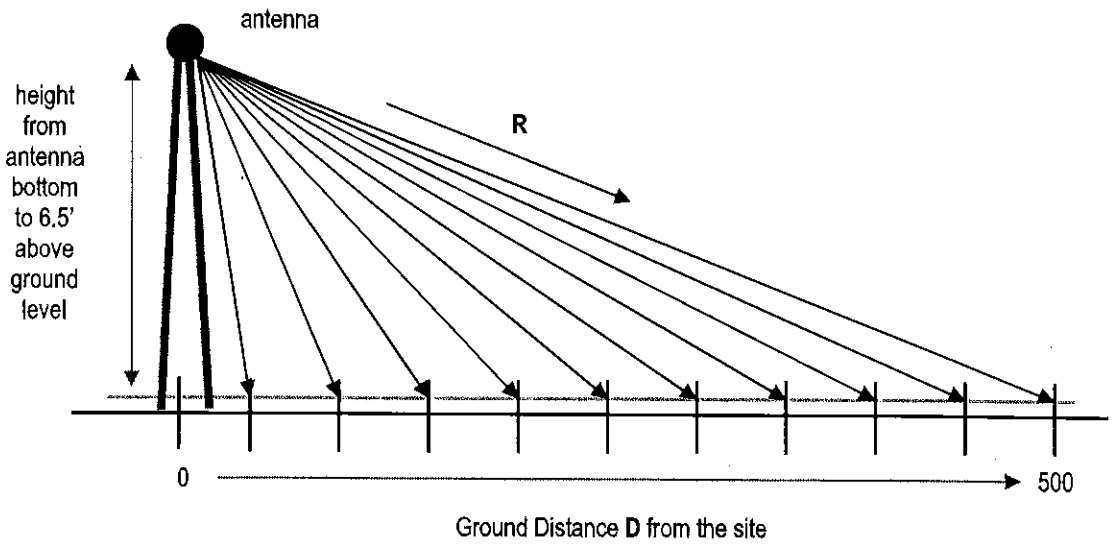


Figure 2. Street-level MPE% Calculation Geometry

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:

1. 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.

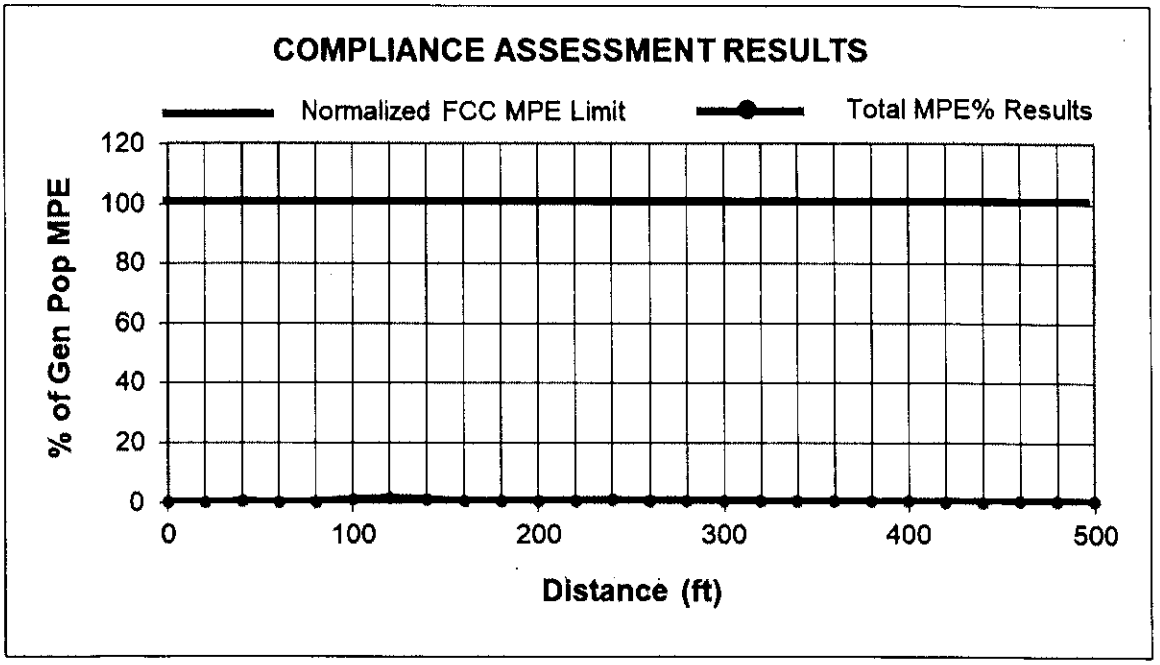
The net result of these assumptions is to intentionally and significantly overstate the calculated RF levels relative to the levels that will actually result from the antenna operations – and the purpose of this conservatism is to allow very "safe-side" conclusions about compliance.

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.

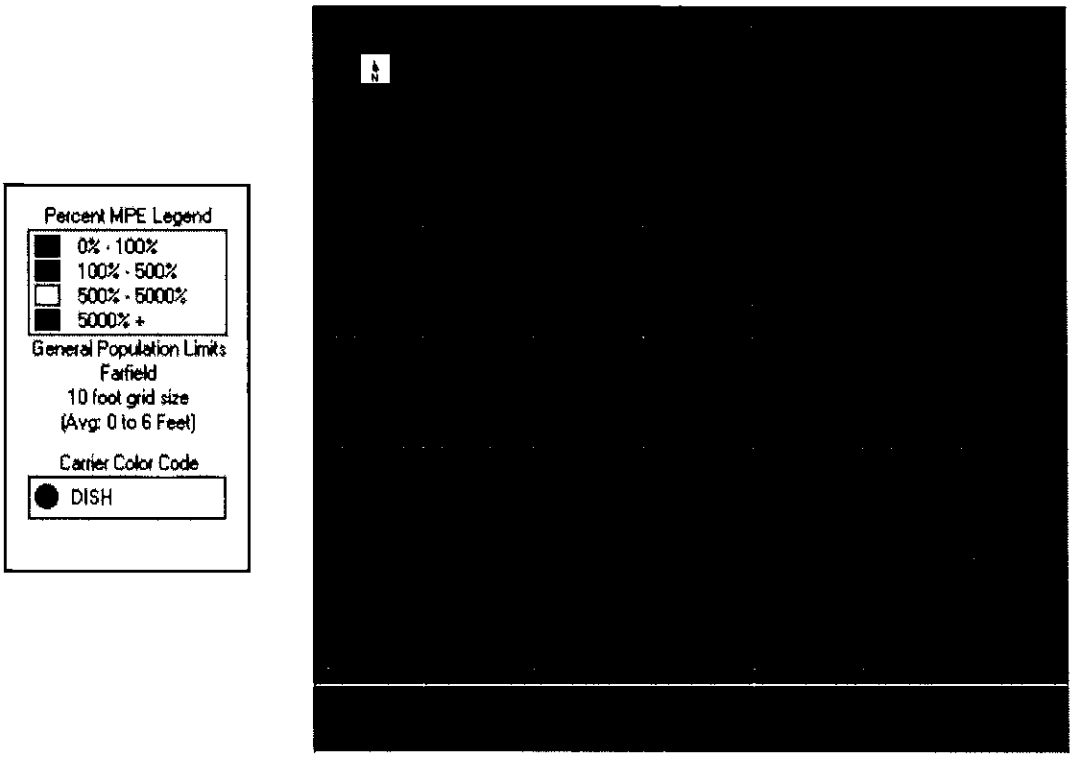
Ground Distance (ft)	DISH 600 MHz MPE%	DISH 2000 MHz MPE%	DISH 2100 MHz MPE%	AT&T MPE%	Verizon Wireless MPE%	Total MPE%
0	0.0212	0.0080	0.0228	0.0451	0.0050	0.1021
20	0.0246	0.0054	0.0521	0.0426	0.0112	0.1359
40	0.0302	0.0443	0.1722	0.0882	0.0207	0.3556
60	0.0067	0.0411	0.0207	0.1184	0.0149	0.2018
80	0.0743	0.0037	0.0120	0.1686	0.0736	0.3322
100	0.2439	0.0118	0.1708	0.2669	0.2559	0.9493
120	**0.2274**	**0.1413**	**0.1375**	**0.2535**	**0.4794**	**1.2391**
140	0.0932	0.0228	0.2192	0.1818	0.4241	0.9411
160	0.0034	0.1521	0.0662	0.1127	0.1839	0.5183
180	0.0253	0.1926	0.0365	0.1311	0.1010	0.4865
200	0.1073	0.0940	0.0755	0.2372	0.0441	0.5581
220	0.1515	0.0959	0.0355	0.3778	0.0285	0.6892
240	0.1644	0.0451	0.0484	0.4493	0.0713	0.7785
260	0.1443	0.0001	0.0179	0.4696	0.0852	0.7171
280	0.1190	0.0074	0.0049	0.4334	0.1195	0.6842
300	0.0890	0.0262	0.0359	0.3805	0.1316	0.6632
320	0.0793	0.0164	0.0425	0.3349	0.1215	0.5946
340	0.0813	0.0048	0.0295	0.2879	0.1099	0.5134
360	0.0958	0.0021	0.0102	0.2466	0.0945	0.4492
380	0.1230	0.0068	0.0004	0.1909	0.0739	0.3950
400	0.1611	0.0089	0.0016	0.1309	0.0502	0.3527
420	0.2095	0.0037	0.0033	0.0815	0.0328	0.3308
440	0.1921	0.0034	0.0031	0.0623	0.0328	0.2937
460	0.2435	0.0002	0.0005	0.0898	0.0484	0.3824
480	0.2998	0.0109	0.0046	0.0832	0.0448	0.4433
500	0.2775	0.0101	0.0043	0.1442	0.0582	0.4943

As indicated, the maximum calculated overall RF level is 1.2391 percent of the FCC MPE limit – well below the 100-percent reference for compliance.

A graph of the overall calculation results, shown below, 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 reproduced on the next page.

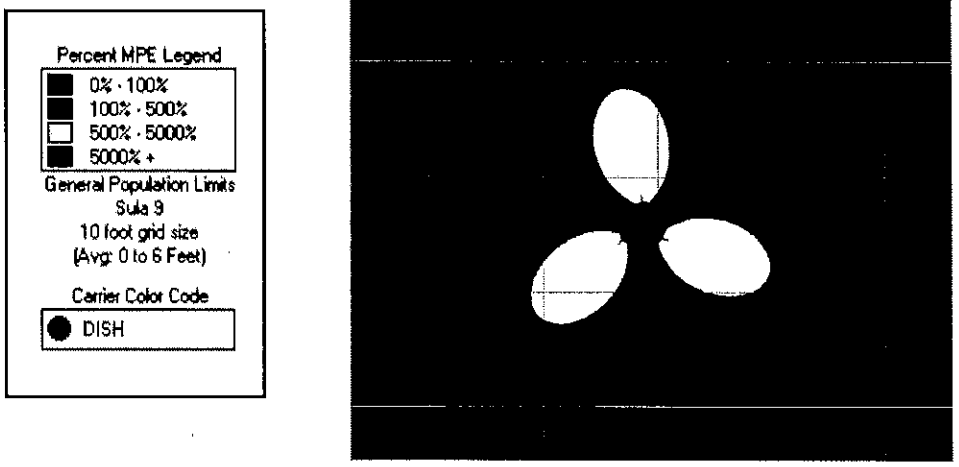


Near-field Analysis

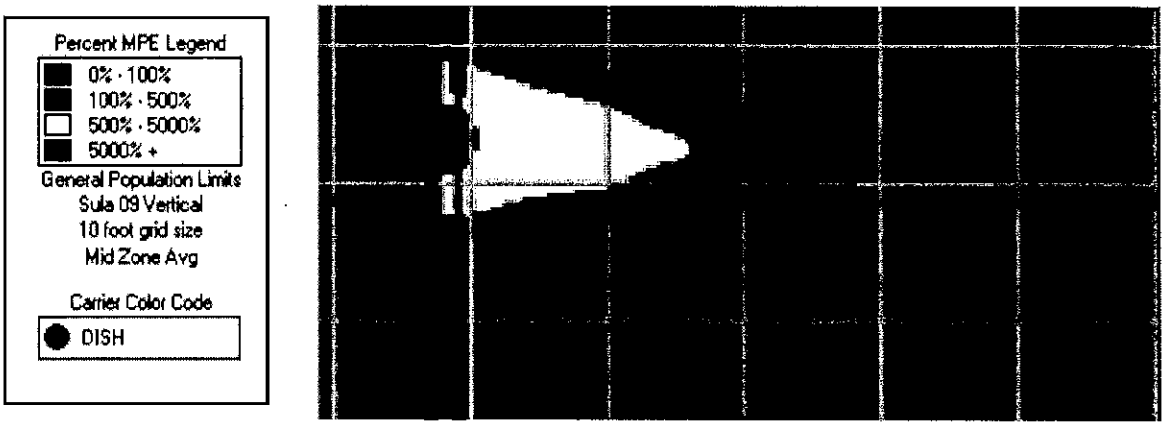
The compliance analysis for the same height as the antennas is performed using the RoofMaster program by Waterford Consultants.

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 above nearby roof, 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 1.2391 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 concealment pole.

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.
3. 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 C. Collins
Chief Technical Officer
Pinnacle Telecom Group, LLC

9/23/22
Date

Appendix A. Documents Used to Prepare the Analysis

RFDS: RFDS-NJJER01083C-RFDS

CD: NJJER01083C_ZD__Rev B_Redline_CM_20220503094916

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.

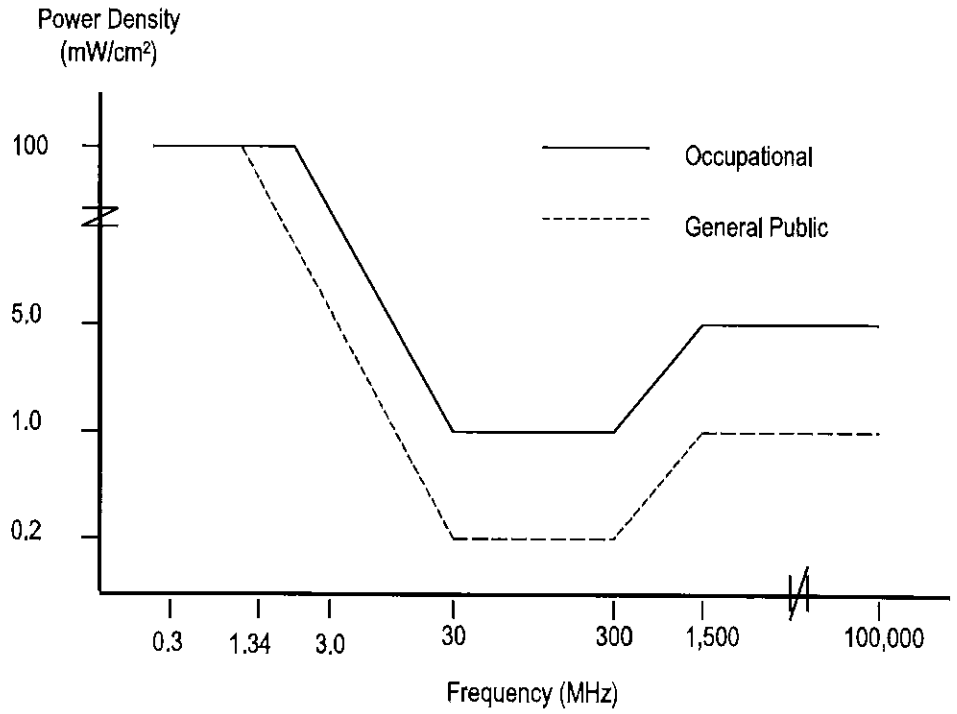
The specified continuous exposure MPE limits are based on known variation of human body susceptibility in different frequency ranges, and a Specific Absorption Rate (SAR) of 4 watts per kilogram, which is universally considered to accurately represent human capacity to dissipate incident RF energy (in 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/cm^2). The table on the next page lists the FCC limits for both occupational and general population exposures, using the mW/cm^2 reference, for the different radio frequency ranges.

Frequency Range (F) (MHz)	Occupational Exposure (mW/cm^2)	General Public Exposure (mW/cm^2)
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.

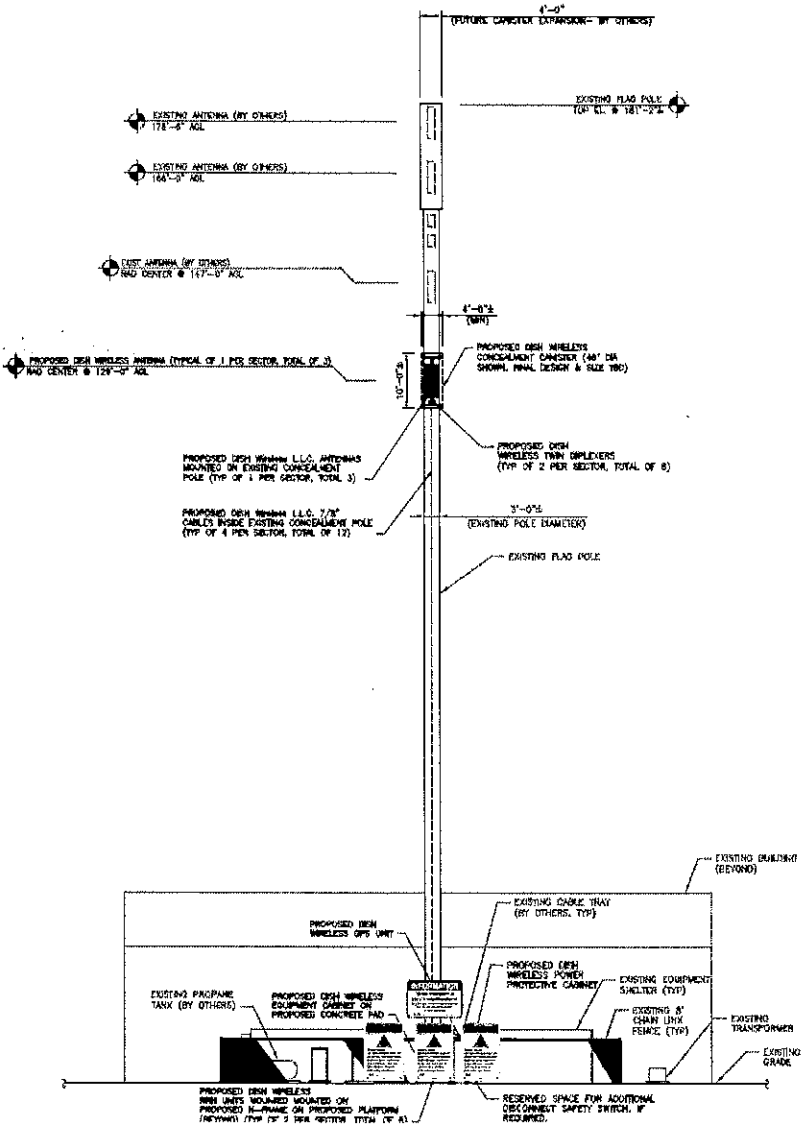
FCC Report and Order, Notice of Proposed Rulemaking, Memorandum Opinion and Order (FCC 19-126), *Proposed Changes in the Commission's Rules Regarding Human Exposure to Radiofrequency Electromagnetic Fields; Reassessment of Federal Communications Commission Radiofrequency Exposure Limits and Policies,* 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							
	GUIDELINES	NOTICE	CAUTION	WARNING	NOC INFO	BARRIER/MARKER	
Access Point(s)	0	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	0	



Appendix D. Summary of Expert Qualifications

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

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 Connecticut, New York, New Jersey, 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 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 / Compliance Experience:	• Involved in RF exposure matters since 1972 • 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

Exhibit G

Mailing Receipts

LTR 1 OF 1

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

SHIP TO:
HON. JULIE PEMBERTON
100 HILL RD.
REDDING CENTER CT 06875

CT 068 0-03

UPS 2ND DAY AIR **2**
TRACKING #: 1Z E05 345 02 6115 6386

BILLING: P/P

WS 22.0.17 SHARP MX-3070 40.0A 09/2022

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

1ZE053450261156386

Service

UPS 2nd Day Air®

Delivered On

10/04/2022 11:47 A.M.

Delivered To

100 HILL RD
REDDING, CT, 06896, US

Received By

PEMRTON

Left At

Store

Thank you for giving us this opportunity to serve you. Details are only available for shipments delivered within the last 120 days. Please print for your records if you require this information after 120 days.

Sincerely,

UPS

Tracking results provided by UPS: 10/05/2022 7:52 A.M. EST

LTR 1 OF 1

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

CT 068 0-03

SHIP TO:

REDDING LAND USE DIRECTOR
MS. AIMEE PARDEE
23 CROSS HIGHWAY
OLD TOWN HOUSE
REDDING CENTER CT 06875

UPS 2ND DAY AIR **2**
TRACKING #: 1Z E05 345 02 6239 8999

BILLING: P/P

WS 22.0.17 SHARP MX-3070 40.0A 09/2022

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

1ZE053450262398999

Service

UPS 2nd Day Air®

Delivered On

10/04/2022 5:19 P.M.

Delivered To

23 CROSS HWY
REDDING, CT, 06896, US

Left At

Front Door

Thank you for giving us this opportunity to serve you. Details are only available for shipments delivered within the last 120 days. Please print for your records if you require this information after 120 days.

Sincerely,

UPS

Tracking results provided by UPS: 10/05/2022 7:49 A.M. EST