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March 29, 2023

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

Re: **Notice of Exempt Modification – Facility Modification**
54 Meadow Street, New Haven, Connecticut

Dear Attorney Bachman:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") currently maintains an existing wireless telecommunications facility at the above-referenced property address (the "Property"). The existing facility consists of antennas and remote radio heads at various locations on the roof of the existing building and associated equipment located inside the building. The facility was originally approved by the Siting Council (the "Council") in April of 1991 (Docket No. 140). In December of 2020 the Council approved Cellco's request to modify its existing facility in Petition No. 1430. Copies of the Council's Decision and Order in Docket No. 140 and its approval letter for Petition No. 1430 are included in Attachment 1.

Cellco now intends to modify its facility further by removing three (3) existing antennas and installing four (4) new Samsung MT6407-77A antennas on existing antenna masts on the roof of the building. Other Cellco antennas will be re-oriented in their current locations. A set of project plans showing Cellco's proposed facility modifications and new antennas specifications are included in Attachment 2.

Please accept this letter as notification pursuant to R.C.S.A. § 16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to New Haven's Chief Elected Official and Land Use Officer.

The planned modifications to the facility fall squarely within those activities explicitly provided for in R.C.S.A. § 16-50j-72(b)(2).

1. The proposed modifications will not result in an increase in the height of Cellco's existing antenna mounts. Cellco's replacement antennas will be installed on its existing antenna masts or on the building façade.

2. The proposed modifications will not involve any change to ground-mounted equipment and, therefore, will not require the extension of the site boundary.

3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The installation of Cellco's new antennas will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. Cellco's far field analysis for its modified facility is included in Attachment 3. The modified facility will be capable of providing Cellco's 5G wireless service.

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the property.

6. According to the attached Structural Analysis Report ("SA"), the host building, screen wall and parapet wall can support Cellco's proposed modifications. Also attached is a Antenna Mount Analysis Report ("MA") stating that the existing antenna mounts can support the proposed modifications. A copy of the SA and MA are included in Attachment 4.

A copy of the parcel map and Property owner information is included in Attachment 5. A Certificate of Mailing verifying that this filing was sent to municipal officials and the property owner is included in Attachment 6.

For the foregoing reasons, Cellco respectfully submits that the proposed modifications to the above-referenced telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2).

Sincerely,

Kenneth C. Baldwin

Enclosures
Copy to:
Justin Elicker, New Haven Mayor
Laura Brown, Executive Director of City Plan
Gateway Partners LLC, Property Owner
MCM Holdings LLC, Rooftop Manager
Alex Tyurin, Verizon Wireless

ATTACHMENT 1

DOCKET NO. 140 - An application of Metro Mobile CTS of New Haven, Inc., for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of cellular telephone antennas and associated equipment in the City of New Haven, Connecticut.

Connecticut Siting Council

ORIGINAL

April 1, 1991

DECISION AND ORDER

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council finds that the effects associated with the construction, operation, and maintenance of a cellular telecommunications facility at the proposed site in New Haven, Connecticut, including effects on the natural environment; ecological balance; public health and safety; scenic, historic, and recreational values; 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 proposed New Haven site in this application, and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by Section 16-50k of the Connecticut General Statutes (CGS), be issued to Metro Mobile CTS of New Haven, Inc., for the construction, operation, and maintenance of a cellular telephone facility at the proposed site at the Gateway Center Building, 54 Meadow Street, New Haven, Connecticut.

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

1. The facility shall be constructed in accordance with applicable sections of the State of Connecticut Basic Building Code.

2. The Certificate Holder shall notify the Council if and when any equipment other than that listed in this application is added to this facility.

3. The omnidirectional antenna bases shall be mounted no higher than 157 feet above ground level (AGL) or 167 feet above mean sea level (AMSL). The panel antennas shall not extend higher than the rooftop's parapet railing. The total height of the antennas shall not extend above 163.3 feet AGL or 173.3 feet AMSL.

4. If this facility does not initially provide, or permanently ceases to provide, cellular service following

the completion of construction, this Decision and Order shall be void, and the antennas and all associated equipment in this application shall be dismantled and removed or reapplication for any new use shall be made to the Council and approval granted before any such new use is made.

5. The Certificate Holder shall comply with any applicable radio frequency (RF) standard promulgated by State or federal regulatory agencies. Upon the establishment of any new governmental RF standards, the facility granted in this Decision and Order shall be brought into compliance with such standards.

6. The Certificate Holder shall provide the Council with a report of recalculated power density if and when additional channels over the proposed 90 channels, higher wattage over the proposed 100 watts per channel, or if other circumstances in operation cause change in power density above the levels originally calculated in the application.

7. The Certificate Holder shall provide a final report to the Council upon completion of construction, including the final construction costs and date of commercial operation.

Unless otherwise approved by the Council, this Decision and Order shall be void if all construction authorized herein is not completed within three years of the effective date of this Decision and Order.

Pursuant to Section 16-50p, we hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below and notice of issuance be published in the New Haven Register.

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 State Agencies.

The parties or intervenors to this proceeding are:

(Applicant)	(Its Representative)
Metro Mobile CTS of New Haven 20 Alexander Drive Wallingford, CT 06492 Attn: David S. Malko, Mgr. Engineering & Regulatory Services	Robinson & Cole One Commercial Plaza Hartford, CT 06103-3597 Attn: Earl W. Phillips, Jr. (203) 275-8200

(Intervenor)

SNET Cellular, Inc.
237 Church Street
New Haven, CT 06506

(Its Representative)

Peter J. Tyrrell
Senior Attorney
SNET Cellular, Inc.
227 Church Street
Room 1021
New Haven, CT 06506

5200E

cp

CERTIFICATION

The undersigned members of the Connecticut Siting Council hereby certify that they have heard this case in Docket No. 140 or read the record thereof, and that we voted as follows:

Dated at New Britain, Connecticut the 1st day of April, 1991.

Council Members	Vote Cast
Gloria Dibble Pond Chairperson	Yes
Commissioner Peter Boucher Designee: Mark Marcus	Yes
Commissioner Timothy R.E. Keeney Designee: Brian Emerick	Yes
Harry E. Covey	Yes
Mortimer A. Gelston	Yes
Daniel P. Lynch, Jr.	Yes
Paulann H. Sheets	Yes
William H. Smith	Yes
Colin C. Tait	Yes

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
Web Site: www.ct.gov/csc

VIA ELECTRONIC MAIL

December 4, 2020

Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103-3597

RE: **PETITION NO. 1430** - Cellco Partnership d/b/a Verizon Wireless petition for a declaratory ruling, pursuant to Connecticut General Statutes §4-176 and §16-50k, for proposed modifications to an existing rooftop telecommunications facility located at 54 Meadow Street, New Haven, Connecticut.

Dear Attorney Baldwin:

At a public meeting held on December 3, 2020 the Connecticut Siting Council (Council) considered and ruled that the above-referenced proposal would not have a substantial adverse environmental effect, and pursuant to Connecticut General Statutes § 16-50k, would not require a Certificate of Environmental Compatibility and Public Need with the following conditions:

1. Approval of any project changes be delegated to Council staff;

2. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed within three years from the date of the mailing of the Council's decision, this decision shall be void, and the facility owner/operator shall dismantle the facility 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 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 facility owner/operator shall provide written notice to the Executive Director of any schedule changes as soon as is practicable;

3. Any request for extension of the time period to fully construct the facility shall be filed with the Council not later than 60 days prior to the expiration date of this decision and shall be served on all parties and intervenors, if applicable, and the City of New Haven

4. Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;

5. Any nonfunctioning antenna and associated antenna mounting equipment on this facility owned and operated by the Petitioner shall be removed within 60 days of the date the antenna ceased to function;

6. The facility owner/operator 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;

7. If the facility ceases to provide wireless services for a period of one year the Petitioner shall dismantle the facility and remove all associated equipment or reapply for any continued or new use to the Council within 90 days from the one year period of cessation of service. The Petitioner may submit a written request to the Council for an extension of the 90 day period not later than 60 days prior to the expiration of the 90 day period; and

8. This Declaratory Ruling may be transferred or partially transferred, provided both the facility owner/operator/transferor and the transferee are current with payments to the Council for their respective annual assessments and invoices under Conn. Gen. Stat. §16-50v. 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 facility within 30 days of the sale and/or transfer. Both the facility owner/operator/transferor and the transferee shall provide the Council with 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.

This decision is under the exclusive jurisdiction of the Council and is not applicable to any other modification or construction. All work is to be implemented as specified in the petition dated August 26, 2020, and additional information received October 26, 2020.

Enclosed for your information is a copy of the staff report on this project.

Sincerely,

s/ Melanie A. Bachman

Melanie A. Bachman
Executive Director

MAB/CMW/emr

Enclosure: Staff Report dated December 3, 2020

c: The Honorable Justin Elicker, Mayor, City of New Haven (jelicker@newhavenct.gov)
Scott Jackson, Acting Chief Administrative Officer, City of New Haven (sjackson@newhavenct.gov)
Aïcha Woods, A.I.A., Executive Director, City Plan Department, City of New Haven (awoods@newhavenct.gov)

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
Web Site: portal.ct.gov/csc

Petition No. 1430
Cellco Partnership d/b/a Verizon Wireless
54 Meadow Street, New Haven

Staff Report
December 3, 2020

Introduction

On August 26, 2020, the Connecticut Siting Council (Council) received a petition from Cellco Partnership d/b/a Verizon Wireless (Cellco) for a declaratory ruling pursuant to Connecticut General Statutes §4-176 and §16-50k, for the proposed modifications to its existing wireless telecommunications facility on the roof of a building located at 54 Meadow Street, New Haven, Connecticut.

On August 26, 2020, Cellco provided notice of the project to abutting property owners and City of New Haven (City) officials.

On August 27, 2020, the Council sent correspondence to the City stating that the Council has received the petition and invited the municipality to contact the Council with any questions or comments by September 25, 2020. No comments have been received.

The Council issued interrogatories to Cellco on October 22, 2020. Cellco provided responses to the Council's interrogatories on October 26, 2020.

Existing Facility

On April 1, 1991, the Council approved the existing facility in Docket No. 140. Cellco currently maintains 12 antennas located on the façade of the rooftop penthouse of the building owned by Gateway Partners LLC located within a BE Wholesale and Distribution zone. MCM Holdings LLC manages the facility for the property owner.

Cellco's existing equipment is located in an equipment room inside the building.

The host building is an office building. Surrounding land use includes New Haven Police Department Headquarters to the east, the New Haven Train Station and a parking garage to the south, a commercial building owned by the Knights of Columbus to the north and vacant land along South Orange Street to the west.

Proposed Facility

Cellco proposes to remove nine existing antennas (leaving three antennas) and install 12 new antennas and 10 remote radio heads at various locations on the roof of the building. Three of the existing antennas would remain on the façade of the rooftop penthouse. Four new antennas would be attached to the penthouse façade. Two existing antennas and four new antennas would be attached to the existing mechanical screen wall in the northwest corner of the building rooftop. One existing antenna and one new antenna would be attached to the building façade on the southeast corner of the building.

Cellco would provide wireless services in the 850 MHz, 1900 MHz, 2100 MHz and 28 GHz frequency ranges. The facility would provide 5G services in the 850 MHz, 2100 MHz and 28 GHz frequency bands.

Emergency backup power is supplied by the facility's existing battery backup power system and is connected to the building's backup generator. No change to backup power is proposed. Commercial Mobile Radio Service (CMRS) providers are licensed by and are under the jurisdiction and authority of the Federal Communications Commission (FCC). At present, no standards for backup power for CMRS providers have been promulgated by the FCC. Every year since 2006, AT&T, T-Mobile and Verizon have certified their compliance with the CTIA Business Continuity/Disaster Recovery Program and the Communications Security, Reliability and Interoperability Council standards and best practices to ensure network reliability during power outages.

The proposed installation may be visible from surrounding properties; however, the building currently has multiple antennas and equipment installed on the penthouse façade, therefore, the proposed modifications would not increase visibility of the facility.

The installation would not be a hazard to air navigation and no notice to the Federal Aviation Administration is required.

A Professional Engineer duly licensed in the State of Connecticut has certified that the existing building and antenna mounting systems are adequate to support the proposed loading.

The highest calculated power density level for Cellco's proposed antennas would be 4.05 percent of the applicable exposure limit established by the FCC at ground level with a -10 dB off-beam adjustment.

Cellco contends that this proposed project would not have a substantial adverse environmental impact.

If approved, staff recommends the following condition:

1. Approval of any project changes be delegated to Council staff.

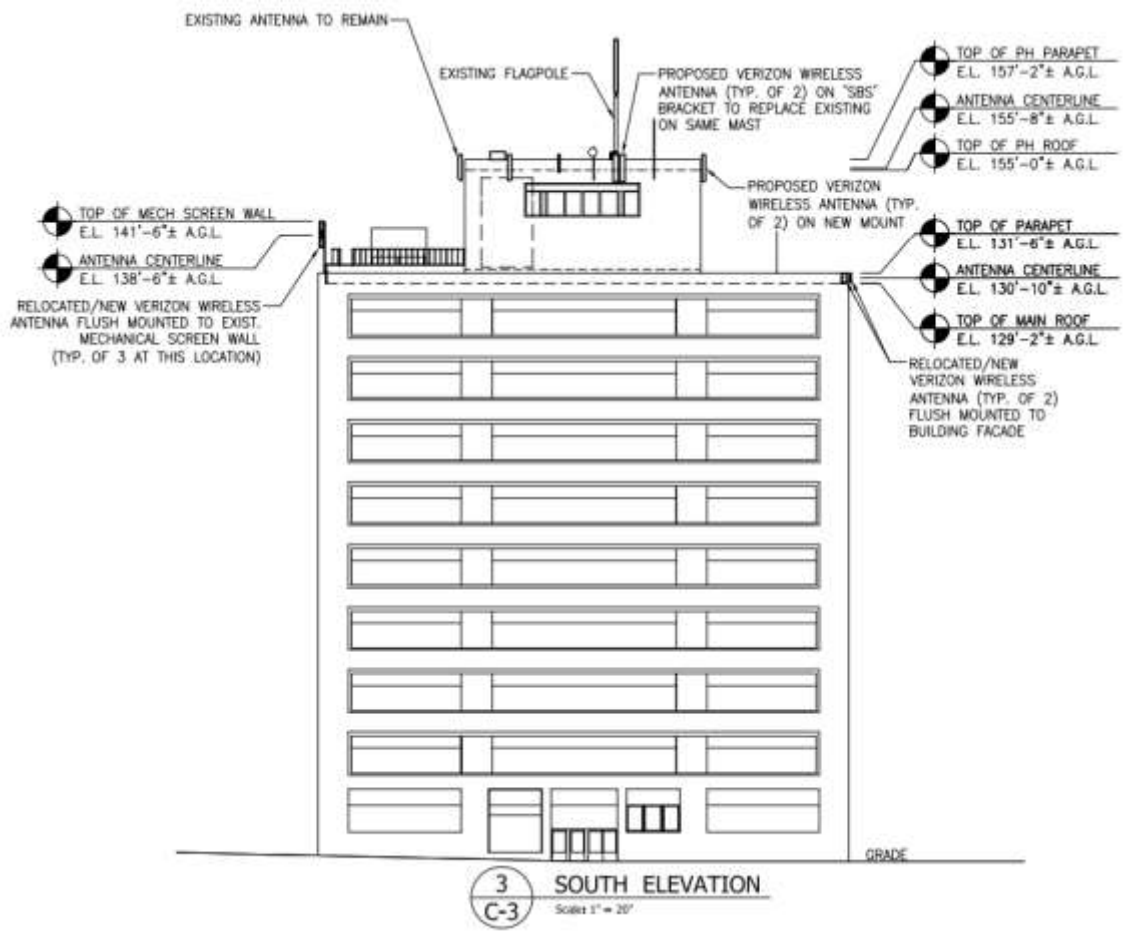


Figure 1. Facility elevation drawing.

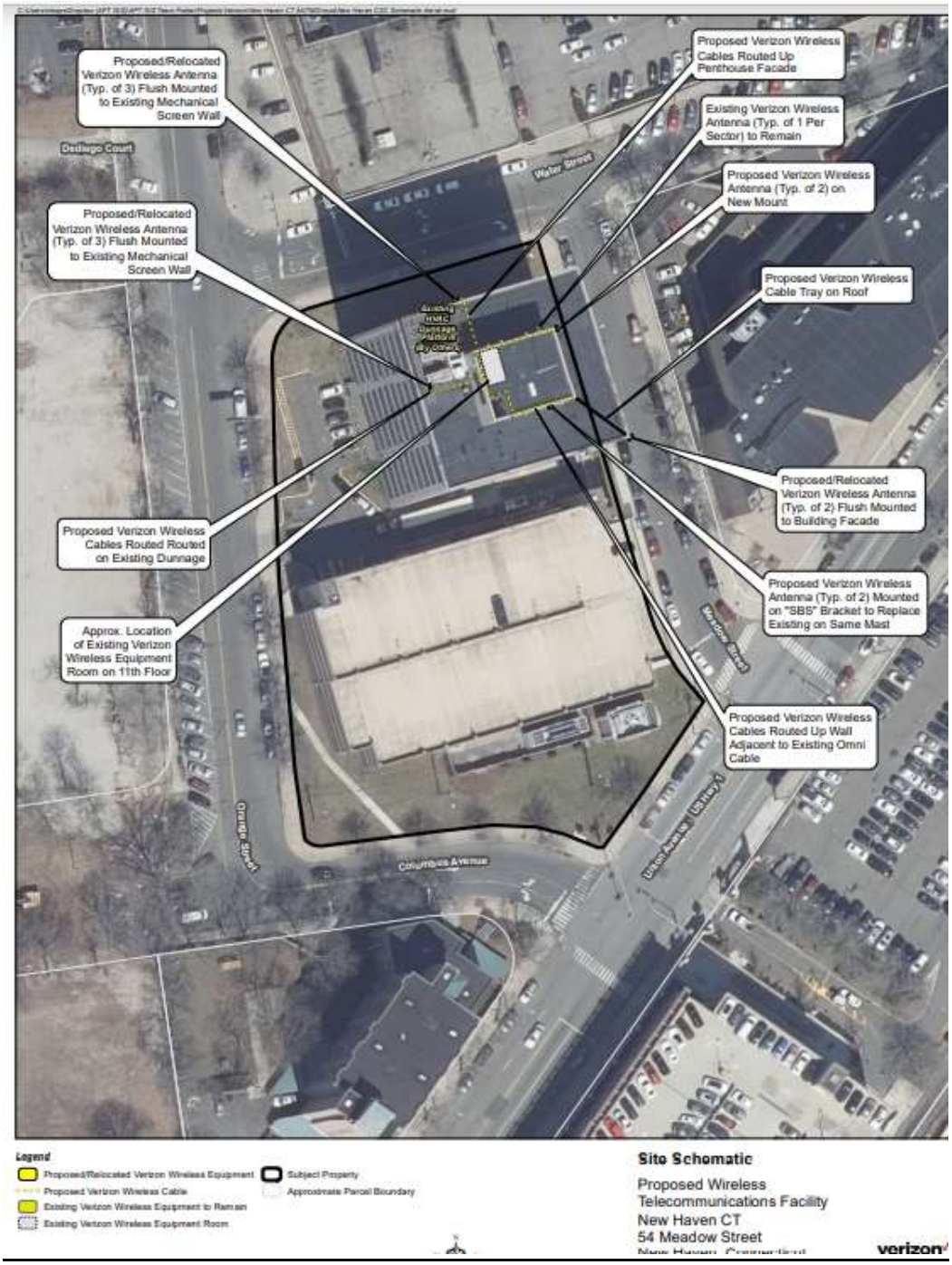


Figure 2. Site schematic

Figure 3. Existing facility.

Figure 4. Proposed facility.

ATTACHMENT 2

WIRELESS COMMUNICATIONS FACILITY

SITE NAME: NEW HAVEN CT

54 MEADOW ST.
NEW HAVEN, CT 06519

REFERENCED CODES & STRUCTURAL REPORTS

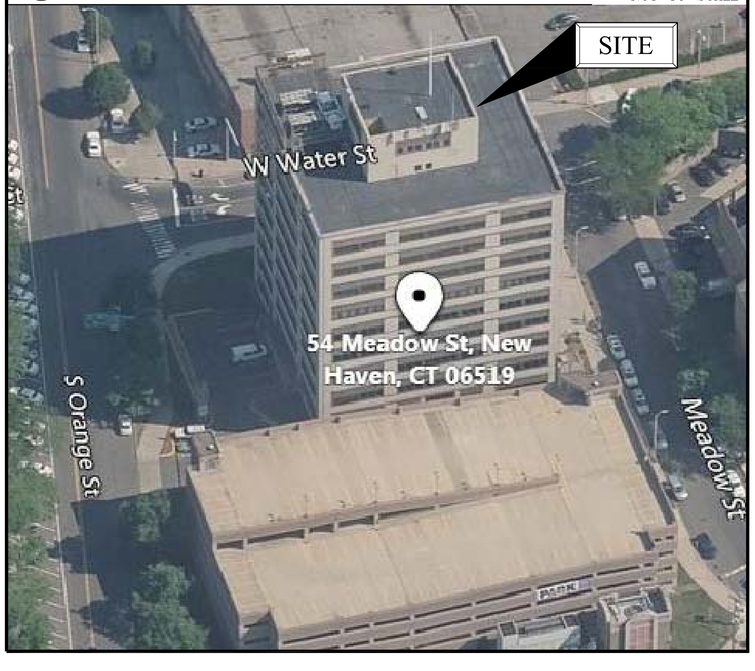
- CONNECTICUT STATE BUILDING CODE, OCTOBER 1, 2022 (LATEST EDITION)
- REFER TO STRUCTURAL ANALYSIS ("SA") AND MOUNT ANALYSIS ("MA") REPORTS (BOTH PASSING, UNDER SEPARATE COVER)

PROJECT DESCRIPTION

- INSTALLATION OF (4) NEW ANTENNAS MOUNTED ON EXISTING MASTS WITH EXISTING ANTENNAS.
- EXISTING (12) ANTENNAS TO REMAIN.
- EXISTING (3) 850-CDMA ANTENNAS TO BE REMOVED.
- EXISTING ACCESSORY EQUIPMENT (RRH's, CABLE BOXES, ETC.) TO REMAIN.

BIRDSEYE VIEW LOOKING NORTH

NOT-TO-SCALE



PROJECT SUMMARY

SITE NAME:	NEW HAVEN CT
SITE ADDRESS:	54 MEADOW ST. NEW HAVEN, CT 06519
PROPERTY OWNER:	GATEWAY PARTNERS LLC C/O LEXINGTON PROPERTY MGMT. 30 LEWIS ST. HARTFORD, CT 06103
ROOFTOP MGMT:	MCM HOLDINGS, LLC
PARCEL ID:	238/ 0106/ 00101-00106
TOWER COORDINATES:	41° 17' 59.3484" N 72° 55' 35.3676" W
APPLICANT:	CELLCO PARTNERSHIP d.b.a. VERIZON WIRELESS 20 ALEXANDER DR. WALLINGFORD, CT 06492
VERIZON WIRELESS CONTACTS:	BRYON MORAWSKI - CONSTRUCTION ALEKSEY TYURIN - LEASING
LEGAL/REGULATORY COUNSEL:	KENNETH C. BALDWIN, ESQ. ROBINSON & COLE, LLP (860) 275-8345

DRAWING SCHEDULE

SHEET NO.	SHEET DESCRIPTION
T-1	TITLE SHEET
G-1	GENERAL NOTES, B.O.M. & RF PLUMBING DIAGRAM
A-1	ROOF PLAN
A-2	ELEVATIONS
S-1	ANTENNA PLANS & SECTIONS

Cellco Partnership
d/b/a Verizon Wireless

WIRELESS COMMUNICATIONS FACILITY
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

On Air Engineering, LLC
88 Foundry Pond Road
Cold Spring, NY 10516
onair@optonline.net
201-456-4624

LICENSURE

STATE OF CONNECTICUT · DAVID A. WEINPAHL · NO. 22144 · LICENSED PROFESSIONAL ENGINEER

DAVID WEINPAHL, P.E.
CT LIC. NO. 22144

NO.:	DATE:	SUBMISSIONS
0	06.04.21	REVIEW SET
1	10.28.21	REVISED PER RF COMMENTS
2	06.15.22	REVISED AZIMUTHS PER NEW RFDS
3	10.19.22	REMOVED 850-CDMA ANTENNAS
4	03.22.23	REVISED FOR CSC FILING

DRAWN BY:	CHECKED BY:
MF	DW

ANTMO MT6407
CONSTRUCTION
DRAWINGS

SITE NAME:
NEW HAVEN CT

PROJECT INFORMATION:
54 MEADOW ST.
NEW HAVEN, CT 06519

DRAWING TITLE:
TITLE SHEET

SHEET NUMBER:
T-1

GENERAL CONSTRUCTION NOTES:

1. CONTRACTOR SHALL NOT COMMENCE ANY WORK UNTIL HE OBTAINS, AT HIS OWN EXPENSE, ALL INSURANCE REQUIRED BY *CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS*, THE PROPERTY OWNER AND/OR PROPERTY MANAGEMENT COMPANY.

2. ALL WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE CODES AND REGULATIONS AND ALL LOCAL LAWS AND REGULATIONS, CURRENT EDITIONS.

3. CONTRACTOR SHALL VISIT THE JOB SITE AND FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED WORK AND MAKE PROVISIONS AS TO THE COST THEREOF. CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO THE COMMENCEMENT OF WORK.

4. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, ANGLES AND EXISTING CONDITIONS AT THE SITE PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY WORK IN THE CONTRACT AREA AND SUBMIT TO THE ENGINEER ANY DISCREPANCIES FROM THE DRAWINGS.

5. CONTRACTOR IS TO REVIEW ALL DRAWINGS AND SPECIFICATIONS IN THE CONTRACT DOCUMENT SET. CONTRACTOR SHALL COORDINATE ALL WORK SHOWN IN THE SET OF DRAWINGS. CONTRACTOR SHALL PROVIDE A COMPLETE SET OF DRAWINGS TO ALL SUB-CONTRACTORS AND ALL RELATED PARTIES. THE SUB-CONTRACTORS SHALL EXAMINE ALL THE DRAWINGS AND SPECIFICATIONS FOR THE INFORMATION THAT AFFECTS THEIR WORK.

6. CONTRACTOR SHALL PROVIDE A COMPLETE BUILD-OUT WITH ALL FINISHES, STRUCTURAL, MECHANICAL AND ELECTRICAL COMPONENTS AND PROVIDE ALL ITEMS AS SHOWN OR INDICATED ON DRAWINGS OR WRITTEN IN SPECIFICATIONS.

7. CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR AND EQUIPMENT TO COMPLETE THE WORK AND FURNISH A COMPLETED JOB IN ACCORDANCE WITH LOCAL AND STATE GOVERNING AUTHORITIES AND OTHER AUTHORITIES HAVING LAWFUL JURISDICTION OVER THE WORK.

8. CONTRACTOR SHALL OBTAIN AT HIS OWN EXPENSE ALL PERMITS AND ALL INSPECTIONS REQUIRED FROM FEDERAL AND STATE GOVERNMENTS, COUNTIES, MUNICIPALITIES AND OTHER REGULATORY AGENCIES WHICH MAY BE REQUIRED FOR THE PROJECT.

10. DETAILS ARE INTENDED TO SHOW END RESULT OF DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK.

11. ALL MATERIAL PROVIDED BY *CELLCO PARTNERSHIP d/b/a VERIZON WIRELESS* IS TO BE REVIEWED BY CONTRACTOR AND ALL APPLICABLE SUB-CONTRACTOR PRIOR TO INSTALLATION. ANY DEFICIENCIES TO PROVIDED MATERIALS SHALL BE BROUGHT TO THE CONSTRUCTION MANAGERS ATTENTION IMMEDIATELY.

12. THE MATERIALS INSTALLED IN THE WORK SHALL MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. NO SUBSTITUTIONS ARE ALLOWED.

13. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION, FOR SEQUENCES AND PROCEDURES TO BE USED, AND TO ENSURE THE SAFETY OF THE EXISTING BUILDING AND ITS COMPONENT DURING CONSTRUCTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, BRACING, UNDERPINNING, ETC. THAT MAY BE NECESSARY.

14. CONTRACTOR SHALL COORDINATE ALL CIVIL, STRUCTURAL AND ELECTRICAL DRAWINGS FOR THE LOCATION OF ALL OPENINGS, RECESSES, BUILT-IN WORK, ETC.

15. CONTRACTOR SHALL RECEIVE CLARIFICATION IN WRITING AND SHALL RECEIVE IN WRITING AUTHORIZATION TO PROCEED BEFORE STARTING WORK ON ANY ITEMS NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONTRACT DOCUMENTS.

16. CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER OF ALL PRODUCTS OR ITEMS NOTED AS "EXISTING" WHICH ARE NOT FOUND TO BE IN THE FIELD.

17. ERECTION SHALL BE DONE IN A WORKMANLIKE MANNER BY COMPETENT EXPERIENCED WORKMEN IN ACCORDANCE WITH APPLICABLE CODES AND THE BEST-ACCEPTED PRACTICE. ALL MEMBERS SHALL BE LAID PLUMB AND TRUE AS INDICATED ON THE DRAWINGS.

18. CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF THE WORK AREA, ADJACENT AREAS, AND BUILDING OCCUPANTS THAT ARE LIKELY TO BE AFFECTED BY THE WORK UNDER THIS CONTRACT. WORK SHALL CONFORM TO ALL O.S.H.A REQUIREMENTS.

19. CONTRACTOR SHALL COORDINATE HIS WORK AND SCHEDULE HIS ACTIVITIES AND WORKING HOURS IN ACCORDANCE WITH THE REQUIREMENTS OF THE PROPERTY OWNER AND/OR PROPERTY MANAGEMENT COMPANY.

20. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS WORK WITH THE WORK OF OTHERS AS IT MAY RELATE TO RADIO EQUIPMENT, ANTENNAS AND ANY OTHER PORTIONS OF THE WORK.

21. CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY INDICATED OR WHERE LOCAL CODES OR REGULATIONS MAY TAKE PRECEDENCE.

22. CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING SURFACES, EQUIPMENT, IMPROVEMENTS, PIPING, ANTENNA AND ANTENNA CABLES AND REPAIR ANY DAMAGE THAT OCCURS DURING CONSTRUCTION.

23. CONTRACTOR SHALL REPAIR ALL EXISTING SURFACES DAMAGED DURING CONSTRUCTION SUCH THAT THEY MATCH AND BLEND WITH ADJACENT SURFACES.

24. CONTRACTOR SHALL KEEP CONTRACT AREA CLEAN, HAZARD FREE AND DISPOSE OF ALL DEBRIS AND RUBBISH. EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY OF THE OWNER SHALL BE REMOVED. LEAVE PREMISES IN CLEAN CONDITIONS AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL ITEMS UNTIL COMPLETION OF CONSTRUCTION.

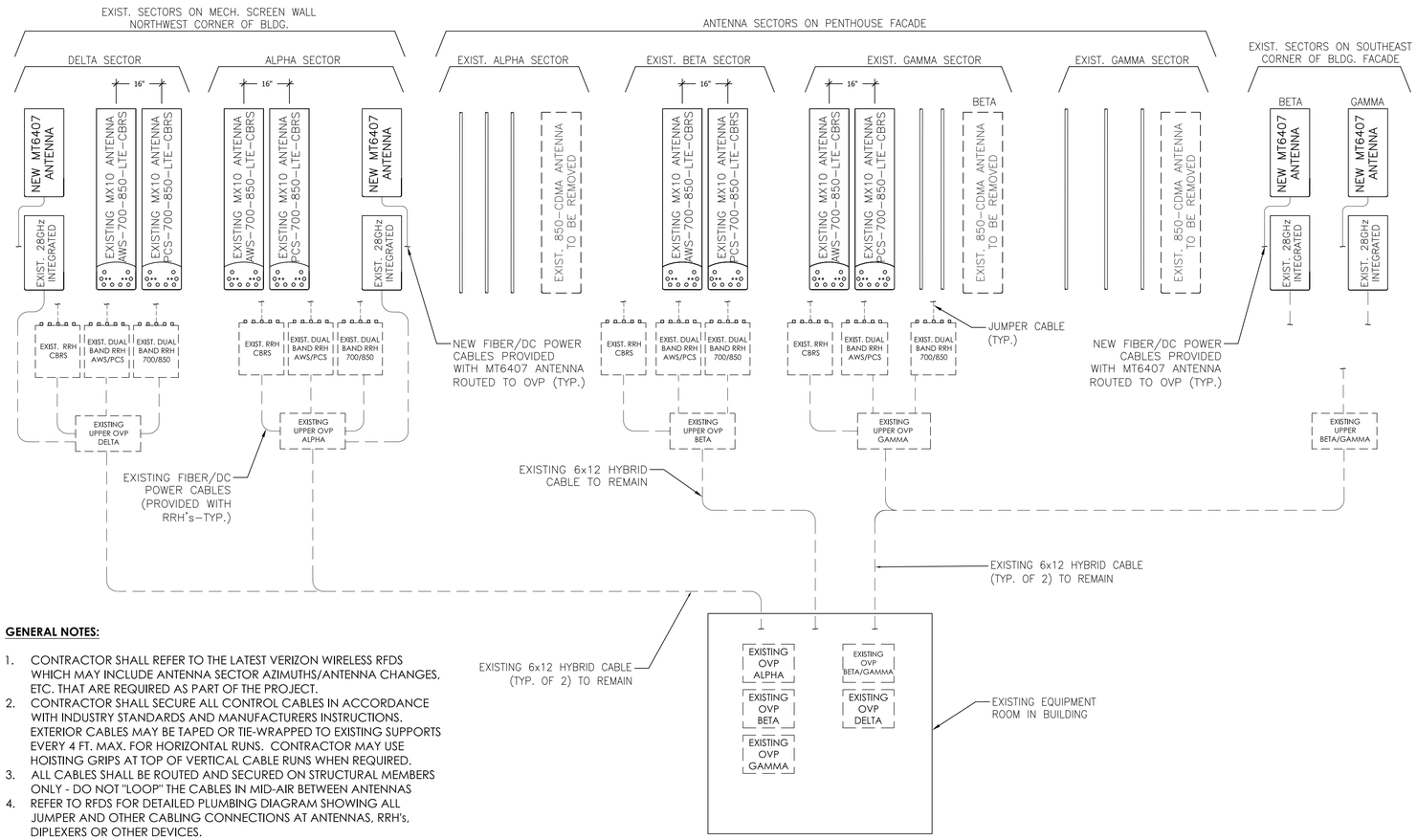
25. BEFORE FINAL ACCEPTANCE OF THE WORK, CONTRACTOR SHALL REMOVE ALL EQUIPMENT, TEMPORARY WORKS, UNUSED AND USELESS MATERIALS, RUBBISH AND TEMPORARY STRUCTURES.

BILL OF MATERIALS

SITE NAME: NEW HAVEN CT		ANTMO MT6407	EMBEDDED BASE
DESCRIPTION	QTY	LENGTH	COMMENTS
6-CKT. LOWER OVP	-	-	EXISTING (5) TO REMAIN - RACK MOUNT
6-CKT. UPPER OVP	-	-	EXISTING (5) TO REMAIN - 1 PER SECTOR
6x12 L.I. HYBRID CABLE	-	-	EXISTING (5) TO REMAIN - 1 PER SECTOR
1/2" PRE-FAB JUMPERS	-	-	SEE NOTE 2
CBRS RRH	-	-	EXISTING (4) TO REMAIN - 1 PER SECTOR
AWS/PCS RRH	-	-	EXISTING (4) TO REMAIN - 1 PER SECTOR
700/850 RRH	-	-	EXISTING (4) TO REMAIN - 1 PER SECTOR
SAMSUNG INTEGRATED MT6407-77A	4	-	REFER TO RFDS - 1 PER SECTOR
SAMSUNG INTEGRATED VZ-AT1K01	-	-	EXISTING (4) TO REMAIN - 1 PER SECTOR
MX10FIT665	-	-	EXISTING (8) TO REMAIN - 2 PER SECTOR
DUAL MOUNTING BRACKET	-	-	EXISTING (4) TO REMAIN - 1 PER SECTOR
850-CDMA ANTENNA	-	-	EXISTING (3) TO BE REMOVED - 1 PER SECTOR

NOTES:
1. ITEMS SHOWN ARE FOR MAJOR DESIGN ELEMENTS ONLY. REFER TO VERIZON WIRELESS RFDS FOR ALL MANUFACTURER PART NUMBERS AND ACCESSORY ITEMS REQUIRED FOR A COMPLETE INSTALLATION.
2. CONTRACTOR SHALL DETERMINE AND PROVIDE ALL REQUIRED PRE-FAB JUMPER QUANTITIES AND LENGTHS, KEEPING ALL LENGTHS TO A MINIMUM.

NOTE: ALL ANTENNAS VIEWED FROM REAR



GENERAL NOTES:

1. CONTRACTOR SHALL REFER TO THE LATEST VERIZON WIRELESS RFDS WHICH MAY INCLUDE ANTENNA SECTOR AZIMUTHS/ANTENNA CHANGES, ETC. THAT ARE REQUIRED AS PART OF THE PROJECT.
2. CONTRACTOR SHALL SECURE ALL CONTROL CABLES IN ACCORDANCE WITH INDUSTRY STANDARDS AND MANUFACTURERS INSTRUCTIONS. EXTERIOR CABLES MAY BE TAPED OR TIE-WRAPPED TO EXISTING SUPPORTS EVERY 4 FT. MAX. FOR HORIZONTAL RUNS. CONTRACTOR MAY USE HOISTING GRIPS AT TOP OF VERTICAL CABLE RUNS WHEN REQUIRED.
3. ALL CABLES SHALL BE ROUTED AND SECURED ON STRUCTURAL MEMBERS ONLY - DO NOT "LOOP" THE CABLES IN MID-AIR BETWEEN ANTENNAS
4. REFER TO RFDS FOR DETAILED PLUMBING DIAGRAM SHOWING ALL JUMPER AND OTHER CABLING CONNECTIONS AT ANTENNAS, RRH's, DIPLEXERS OR OTHER DEVICES.

1 / G-1 RF PLUMBING DIAGRAM
Scale: N.T.S.

Cellco Partnership
d/b/a Verizon Wireless

verizon

WIRELESS COMMUNICATIONS FACILITY
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

On Air Engineering, LLC
88 Foundry Pond Road
Cold Spring, NY 10516
onair@optonline.net
201-456-4624

LICENSURE

STATE OF CONNECTICUT · DAVID A. WEINPAHL · NO. 22144 · LICENSED PROFESSIONAL ENGINEER

DAVID WEINPAHL, P.E.
CT LIC. NO. 22144

NO.:	DATE:	SUBMISSIONS
0	06.04.21	REVIEW SET
1	10.28.21	REVISED PER RF COMMENTS
2	06.15.22	REVISED AZIMUTHS PER NEW RFDS
3	10.19.22	REMOVED 850-CDMA ANTENNAS
4	03.22.23	REVISED FOR CSC FILING

DRAWN BY:	CHECKED BY:
MF	DW

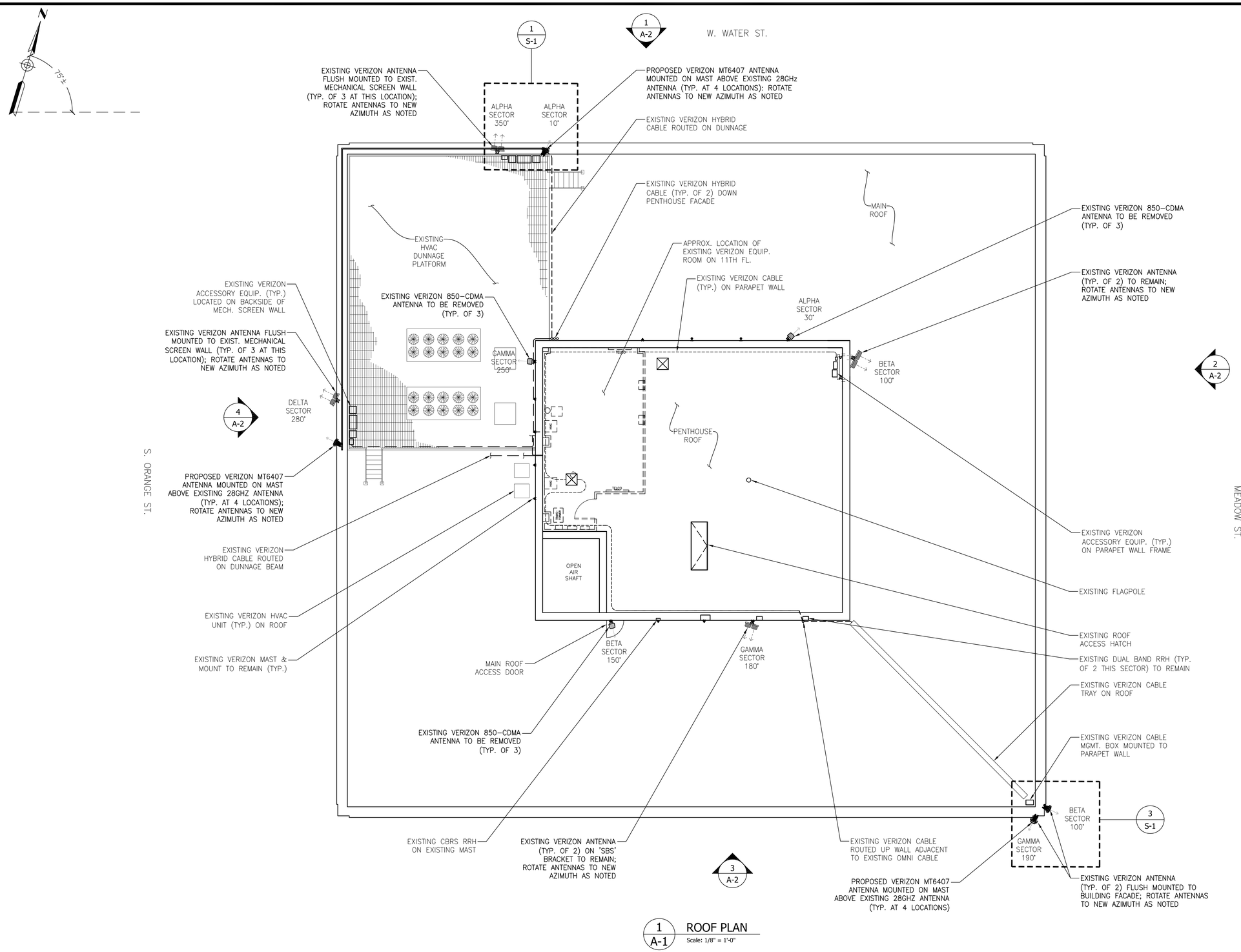
ANTMO MT6407 CONSTRUCTION DRAWINGS

SITE NAME:
NEW HAVEN CT

PROJECT INFORMATION:
54 MEADOW ST.
NEW HAVEN, CT 06519

DRAWING TITLE:
GENERAL NOTES, B.O.M. & RF PLUMBING DIAGRAM

SHEET NUMBER:
G-1



1 A-1 ROOF PLAN

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

Cellco Partnership
d/b/a Verizon Wireless

verizon

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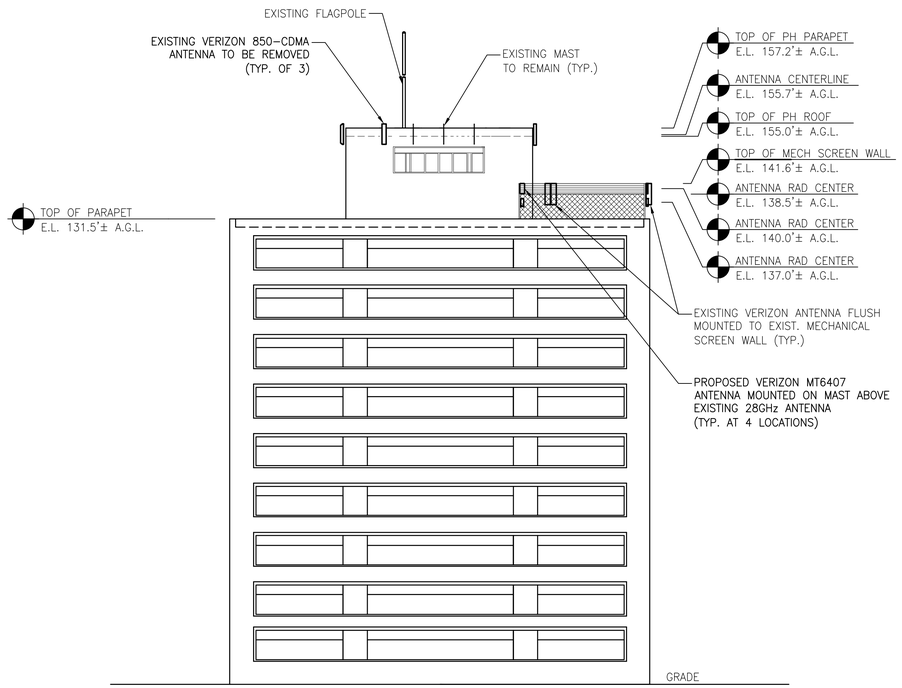
NEW HAVEN, CT 06519

DRAWING TITLE:

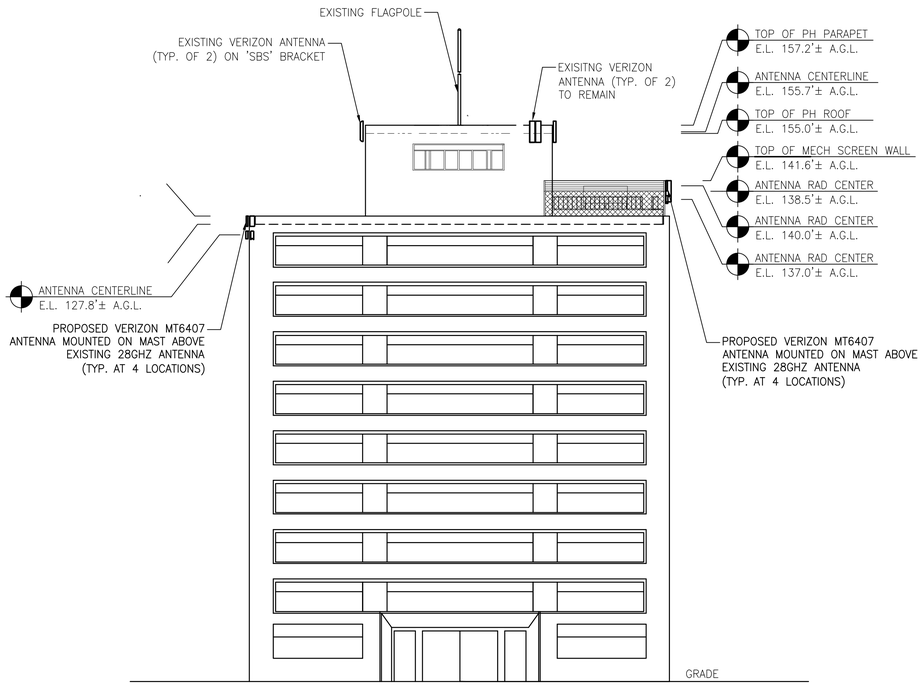
ROOF PLAN

SHEET NUMBER:

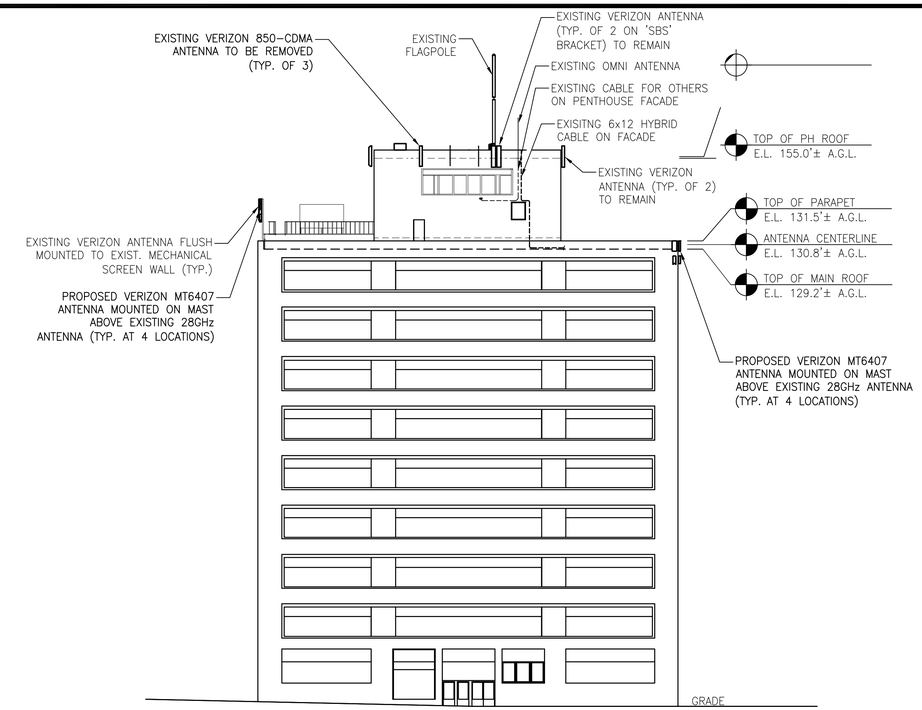
A-1



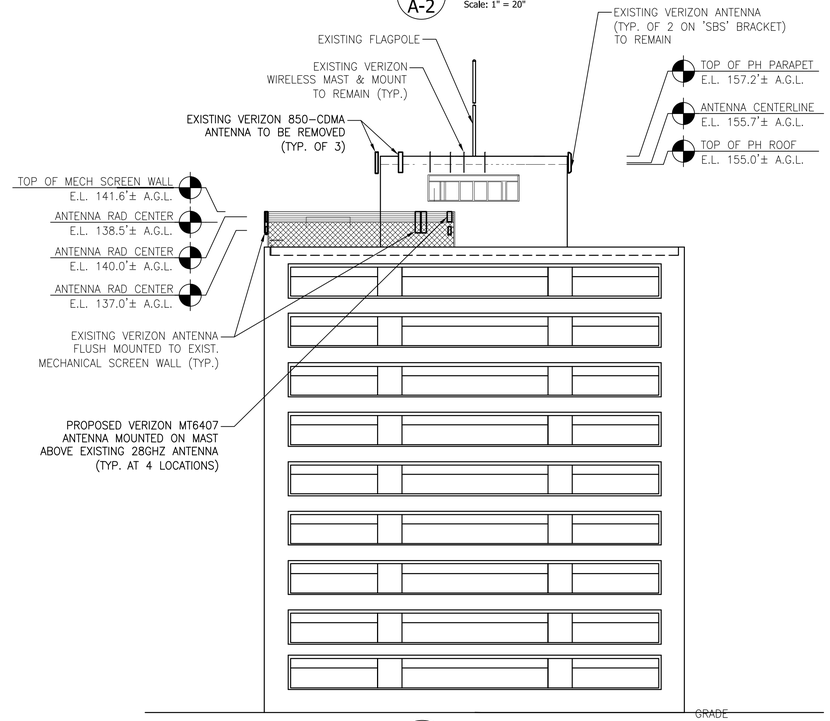
1 A-2 NORTH ELEVATION
Scale: 1" = 20"



2 A-2 EAST ELEVATION
Scale: 1" = 20"



3 A-2 SOUTH ELEVATION
Scale: 1" = 20"



4 A-2 WEST ELEVATION
Scale: 1" = 20"

Cellco Partnership
d/b/a Verizon Wireless

WIRELESS COMMUNICATIONS FACILITY
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ANTMO MT6407 CONSTRUCTION DRAWINGS

SITE NAME:
NEW HAVEN CT

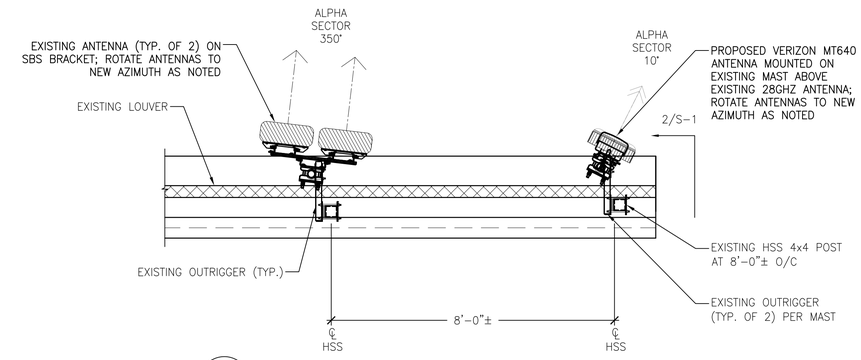
PROJECT INFORMATION:
54 MEADOW ST.
NEW HAVEN, CT 06519

DRAWING TITLE:
ELEVATIONS

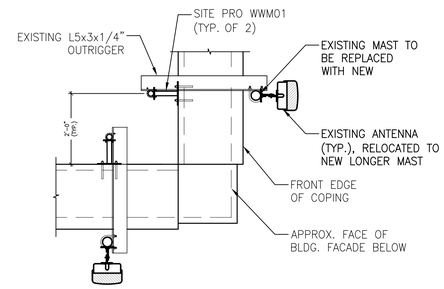
SHEET NUMBER:
A-2

STRUCTURAL NOTES

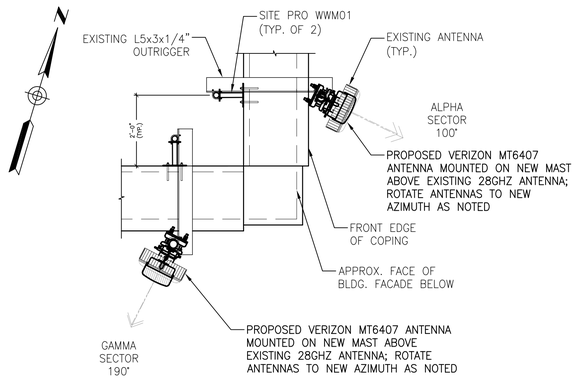
1. DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, ANSI/ASCE7, TIA-222-G STRUCTURAL STANDARDS FOR STEEL ANTENNA SUPPORTING STRUCTURES.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE CONSTRUCTION MANAGER.
3. DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS."
4. WIDE FLANGE STRUCTURAL STEEL SHALL CONFORM TO ASTM A992. MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36.
5. STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING"' GRADE A, OR ASTM S53 PIPE STEEL BLACK AND HOT-DIPPED ZINC-COATED WELDED AND SEAMLESS TYPE E OR S, GRADE B. PIPE SIZES INDICATED ARE NOMINAL. ACTUAL OUTSIDE DIAMETER OS LARGER.
6. STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS (BEARING TYPE) AND CONFORM TO ASTM A325 "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS." ALL BOLTS SHALL BE 3/4"ø (U.O.N.)
7. ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.
8. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZONC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.
9. FIELD WELDS, DRILL HOLES, SAW CUTS AND ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED WITH AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH REQUIREMENTS OF ATM A780. GALVANIZING REPAIR PAINT SHALL HAVE 65 PERCENT ZINC BY WEIGHT, ZIRP BY DUNCAN GALVANIZING, GALVA BRIGHT PREMIUM BY CROWN OR EQUAL. THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NOT LESS THAN 4 COATS (ALLOW TIME TO DRY BETWEEN COATS) WITH A RESULTING COATING THICKNESS REQUIRED BY ASTM A123 OF A153 AS APPLICABLE.
10. CONTRACTOR SHALL COMPLY WITH AWS CODE PROCEDURES, APPEARANCE AND QUALITY OF WELDS AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND DI.I. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION". 9TH EDITION.
11. INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE CONSTRUCTION MANAGER APPROVAL.
12. UNISTRUTS SHALL BE FORMED STEEL CHANNEL STRUT FRAMING AS MANUFACTURED BY UNITSTRUT CORP, WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1 5/8"x1 5/8"x12GA, UNLESS OTHERWISE NOTED, AND SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION.



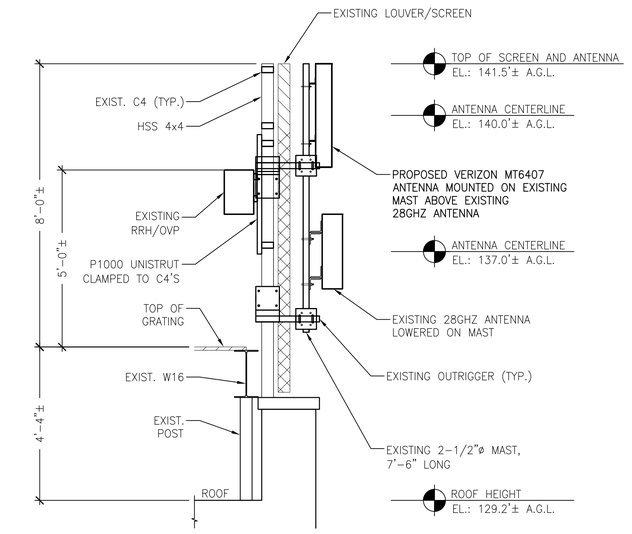
1 S-1 ANTENNA PLAN AT SCREEN WALL
Scale: 1/2" = 1'-0"



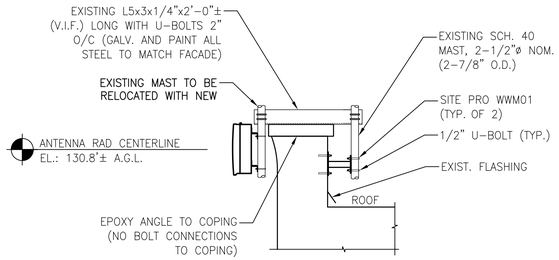
3 S-1 ANTENNA PLAN AT BUILDING FACADE - EXISTING
Scale: 1/2" = 1'-0"



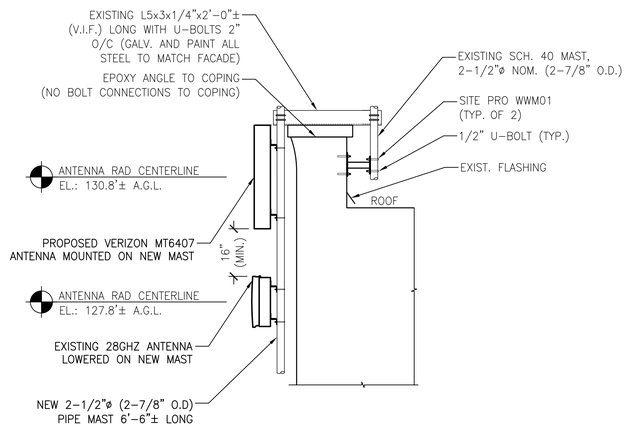
4 S-1 ANTENNA PLAN AT BUILDING FACADE - PROPOSED
Scale: 1/2" = 1'-0"



2 S-1 ALPHA SECTOR AT SCREEN WALL
Scale: 1/2" = 1'-0"



5 S-1 ANTENNA SECTION AT BUILDING FACADE - EXISTING
Scale: 1/2" = 1'-0"



6 S-1 ANTENNA SECTION AT BUILDING FACADE - PROPOSED
Scale: 1/2" = 1'-0"

Cellco Partnership
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verizon
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54 MEADOW ST.
NEW HAVEN, CT 06519

DRAWING TITLE:
ANTENNA PLANS & SECTIONS

SHEET NUMBER:
S-1

SAMSUNG

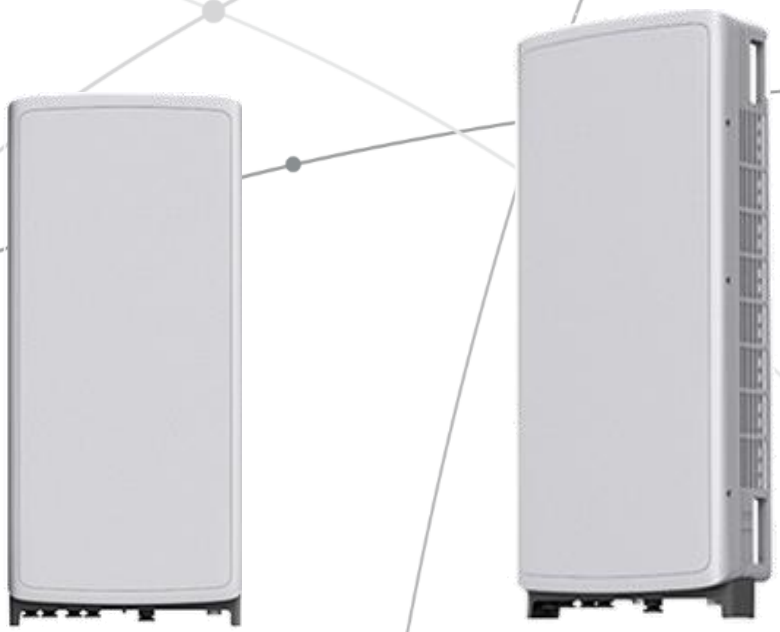
SAMSUNG

C-Band 64T64R Massive MIMO Radio

for High Capacity and Wide Coverage

Samsung C-Band 64T64R Massive MIMO Radio enables mobile operators to increase coverage range, boost data speeds and ultimately offer enriched 5G experiences to users in the U.S..

Model Code : MT6407-77A

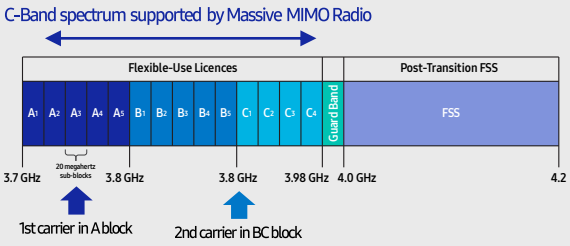


Points of Differentiation

Wide Bandwidth

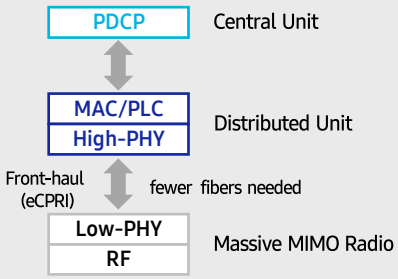
With capability to support up to 2 CC carrier configuration, Samsung C-Band massive MIMO Radio supports 200 MHz bandwidth in the C-Band spectrum.

Samsung C-Band massive MIMO Radio covers the entire C-Band 280 MHz spectrum, so it can meet the operator's needs in current A block and future B/C blocks



Future Proof Product

Samsung C-Band 64T64R Massive MIMO radio supports not only CPRI but also eCPRI as front-haul interface.
It enables operators can cut down on OPEX/CAPEX by reducing front-haul bandwidth through low layer split and using ethernet based higher efficient line.



Enhanced Performance

C-Band massive MIMO Radio creates sharp beams and extends networks' coverage on the critical mid-band spectrum using a large number of antenna elements and high output power to boost data speeds.

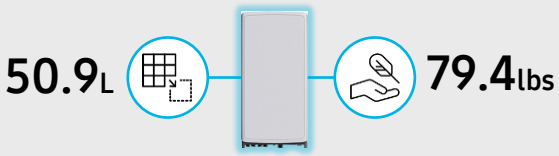
This helps operators reduce their CAPEX as they now need less products to cover the same area than before.

Furthermore, as C-Band massive MIMO Radio supports MU-MIMO(Multi-user MIMO) , it enables to increase user throughput by minimizing interference.

Well Matched Design

Samsung C-Band Massive MIMO radio utilizes 64 antennas, supports up to 280MHz bandwidth, and delivers a 200W output power. despite the above advanced performance, the Radio has a compact size of 50.9L and 79.4lbs. This makes it easy to install the Radio.

It is designed to look solid and compact, with a low profile appearance so that, when installed, harmonizes well with the surrounding environment..



Technical Specifications

Item	Specification
Tech	NR
Band	n77
Frequency Band	3700 - 3980 MHz
EIRP	78.5dBm (53.0 dBm+25.5 dBi)
IBW/OBW	280 MHz / 200 MHz
Installation	Pole/Wall
Size/ Weight	16.06 x 35.06 x 5.51 inch (50.86L)/ 79.4 lbs

SAMSUNG

About Samsung Electronics Co., Ltd.

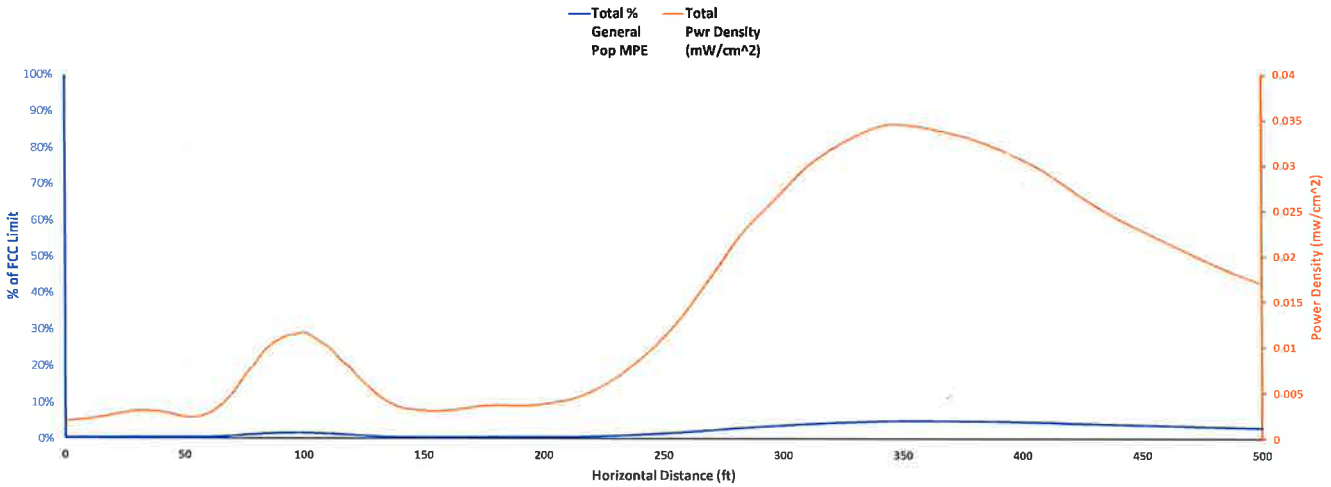
Samsung inspires the world and shapes the future with transformative ideas and technologies. The company is redefining the worlds of TVs, smartphones, wearable devices, tablets, digital appliances, network systems, and memory, system LSI, foundry and LED solutions.

129 Samsung-ro, Yeongtong-gu, Suwon-si Gyeonggi-do, Korea

ATTACHMENT 3

Location	New Haven CT - Part 1 of 3						
Date	3/22/2023						
Band	28GHZ	C-Band	CBRS	AWS	PCS	850-LTE	700
Operating Frequency (MHz)	27,500	3,700	3,550	2,145	1,970	880	746
General Population MPE (mW/cm^2)	1	1	1	1	1	0.586666667	0.497333333
ERP Per Transmitter (Watts)	251	21,878	68	2,291	1,622	1,047	1,622
Number of Transmitters	4	2	4	4	4	4	4
Antenna Centerline (feet)	138	138	138	138	138	138	138
Total ERP (Watts)	1,004	43,755	270	9,163	6,487	4,189	6,487
Total ERP (dBm)	60	76	54	70	68	66	68
Maximum % of General Population Limit	6.0%						

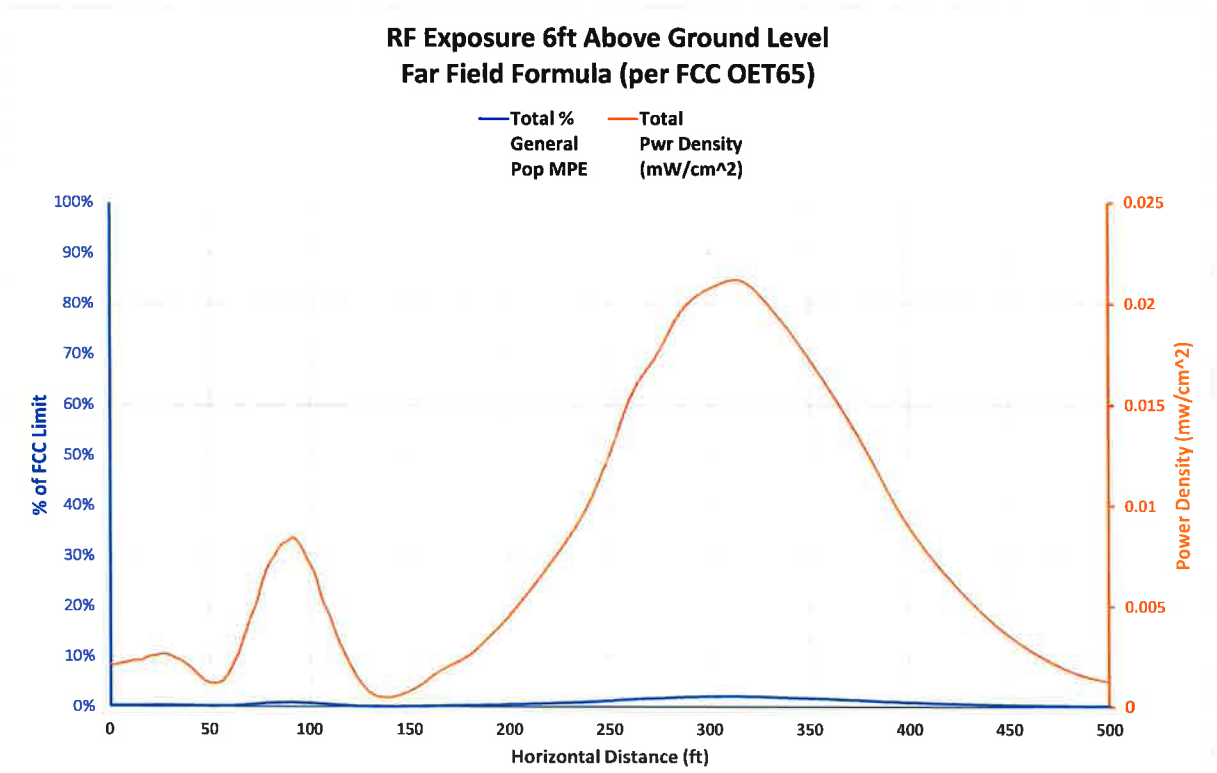
RF Exposure 6ft Above Ground Level
Far Field Formula (per FCC OET65)



Angle Above Horizon	Power Density (mW/cm^2)							Percent of General Population MPE									Distance	Total Pwr Density (mW/cm^2)	Total % General Pop MPE
	28GHz	C-Band	CBRS	AWS	PCS	850-LTE	700 MHz	850-LTE	28GHz	C-Band	CBRS	AWS	PCS	Cellular	CDMA	700 MHz			
90	1.9211E-05	0.001760865	2.37893E-06	7.3749E-05	3.21186E-05	6.726E-06	4.14721E-05	0.00%	0.00%	0.18%	0.00%	0.01%	0.00%	0.00%	0.00%	0.01%	0	0.001936521	0.20%
89	2.01103E-05	0.001760329	3.20811E-06	0.000103902	4.04225E-05	5.45286E-06	4.44246E-05	0.00%	0.00%	0.18%	0.00%	0.01%	0.00%	0.00%	0.00%	0.01%	2.304068571	0.001977849	0.20%
88	2.08459E-05	0.001799686	4.32366E-06	0.000125091	4.85542E-05	3.68322E-06	4.85542E-05	0.00%	0.00%	0.18%	0.00%	0.01%	0.00%	0.00%	0.00%	0.01%	4.609541573	0.002050739	0.21%
87	2.13973E-05	0.001838802	5.19027E-06	0.000124901	5.57911E-05	2.26759E-06	5.43957E-05	0.00%	0.00%	0.18%	0.00%	0.01%	0.01%	0.00%	0.00%	0.01%	6.917826865	0.002102744	0.22%
86	2.16986E-05	0.00187762	6.08503E-06	0.000118751	6.5409E-05	1.92592E-06	6.09028E-05	0.00%	0.00%	0.19%	0.00%	0.01%	0.01%	0.00%	0.00%	0.01%	9.230339177	0.002152352	0.22%
85	2.1739E-05	0.001916084	7.29575E-06	0.000129851	8.21191E-05	2.84083E-06	6.98947E-05	0.00%	0.00%	0.19%	0.00%	0.01%	0.01%	0.00%	0.00%	0.01%	11.54850359	0.002229824	0.23%
84	2.1418E-05	0.001954136	9.15398E-06	0.000162924	0.000102798	5.03484E-06	8.18436E-05	0.00%	0.00%	0.20%	0.00%	0.02%	0.01%	0.00%	0.00%	0.02%	13.87375906	0.002337308	0.24%
83	2.07516E-05	0.001946379	1.14784E-05	0.000204295	0.000123384	8.51644E-06	9.12551E-05	0.00%	0.00%	0.19%	0.00%	0.02%	0.01%	0.00%	0.00%	0.02%	16.20756204	0.00240606	0.25%
82	1.97268E-05	0.002028764	1.40568E-05	0.000228172	0.000143967	1.34358E-05	0.00010192	0.00%	0.00%	0.20%	0.00%	0.02%	0.01%	0.00%	0.00%	0.02%	18.55139018	0.002550042	0.27%
81	1.82722E-05	0.002113323	1.60554E-05	0.000243779	0.000168266	1.88798E-05	0.000111172	0.00%	0.00%	0.21%	0.00%	0.02%	0.02%	0.00%	0.00%	0.02%	20.90674612	0.002689747	0.28%
80	1.63777E-05	0.002149953	1.83267E-05	0.00026513	0.000196544	2.41802E-05	0.000118429	0.00%	0.00%	0.21%	0.00%	0.03%	0.02%	0.00%	0.00%	0.02%	23.27516145	0.002788941	0.29%
79	1.60858E-05	0.002185844	2.18914E-05	0.000303144	0.000229429	2.95563E-05	0.000123211	0.00%	0.00%	0.22%	0.00%	0.03%	0.02%	0.01%	0.00%	0.02%	25.65820081	0.002909162	0.31%
78	1.82541E-05	0.00222093	2.43888E-05	0.000337727	0.000255602	3.69458E-05	0.000128105	0.00%	0.00%	0.22%	0.00%	0.03%	0.03%	0.01%	0.00%	0.03%	28.05746614	0.003021952	0.32%
77	2.04644E-05	0.002203809	2.71537E-05	0.000358265	0.000271771	4.844E-05	0.000133108	0.00%	0.00%	0.22%	0.00%	0.04%	0.03%	0.01%	0.00%	0.03%	30.47460123	0.003063011	0.32%
76	2.2561E-05	0.002135671	3.09164E-05	0.00036355	0.000288778	6.31778E-05	0.000138218	0.00%	0.00%	0.21%	0.00%	0.04%	0.03%	0.01%	0.00%	0.03%	32.91129638	0.003042872	0.32%
75	2.4459E-05	0.00202122	3.43771E-05	0.00038605	0.00030665	8.25361E-05	0.000150191	0.00%	0.00%	0.20%	0.00%	0.04%	0.03%	0.01%	0.00%	0.03%	35.3692934	0.003005464	0.32%
74	2.59558E-05	0.001956182	3.56504E-05	0.00041062	0.000326166	0.000102906	0.00016347	0.00%	0.00%	0.20%	0.00%	0.04%	0.03%	0.02%	0.00%	0.03%	37.85039092	0.003020951	0.33%
73	2.82972E-05	0.001806836	3.52837E-05	0.000414905	0.000337247	0.000122447	0.000185331	0.00%	0.00%	0.18%	0.00%	0.04%	0.03%	0.02%	0.00%	0.04%	40.35644995	0.002930348	0.32%
72	3.53968E-05	0.00166778	3.11024E-05	0.000391894	0.000333556	0.000142288	0.00021046	0.00%	0.00%	0.17%	0.00%	0.04%	0.03%	0.02%	0.00%	0.04%	42.8893999	0.002812477	0.31%
71	4.28441E-05	0.00146915	2.6165E-05	0.00036991	0.00031557	0.000161844	0.000250666	0.00%	0.00%	0.15%	0.00%	0.04%	0.03%	0.03%	0.00%	0.05%	45.45124495	0.00263615	0.30%
70	4.99485E-05	0.001263856	2.30331E-05	0.000365366	0.00029698	0.000179361	0.00029698	0.00%	0.00%	0.13%	0.00%	0.04%	0.03%	0.03%	0.00%	0.06%	48.04407092	0.002475525	0.29%
69	5.62153E-05	0.001086499	2.07341E-05	0.000360628	0.000274195	0.000198637	0.000360628	0.00%	0.01%	0.11%	0.00%	0.04%	0.03%	0.03%	0.00%	0.07%	50.67005262	0.002357537	0.29%
68	6.06572E-05	0.000977367	2.09273E-05	0.000347607	0.000251819	0.000224434	0.000447804	0.00%	0.01%	0.10%	0.00%	0.03%	0.03%	0.04%	0.00%	0.09%	53.33146181	0.002330614	0.29%

67	6.27484E-05	0.000941409	2.8473E-05	0.000342617	0.000242554	0.000259901	0.000555659	0.00%	0.01%	0.09%	0.00%	0.03%	0.02%	0.04%	0.00%	0.11%	56.03067574	0.002433361	0.32%
66	6.18032E-05	0.000970927	4.25443E-05	0.000337456	0.0002389	0.000293912	0.000705044	0.00%	0.01%	0.10%	0.00%	0.03%	0.02%	0.05%	0.00%	0.14%	58.77018646	0.002650586	0.36%
65	5.76902E-05	0.001097179	5.50722E-05	0.000309962	0.000258409	0.000339866	0.000873589	0.00%	0.01%	0.11%	0.01%	0.03%	0.03%	0.06%	0.00%	0.18%	61.55261088	0.002991767	0.41%
64	6.29319E-05	0.001422481	5.41629E-05	0.000242146	0.000291123	0.000383775	0.001081624	0.00%	0.01%	0.14%	0.01%	0.02%	0.03%	0.07%	0.00%	0.22%	64.38070169	0.003538243	0.49%
63	6.73461E-05	0.001842841	4.04709E-05	0.000168468	0.000343968	0.000413541	0.00133819	0.00%	0.01%	0.18%	0.00%	0.02%	0.03%	0.07%	0.00%	0.27%	67.25735933	0.004214824	0.59%
62	6.68992E-05	0.002385591	2.38919E-05	0.000119847	0.000406093	0.000435137	0.001616686	0.00%	0.01%	0.24%	0.00%	0.01%	0.04%	0.07%	0.00%	0.33%	70.18564498	0.005054145	0.70%
61	6.05605E-05	0.003085777	1.47918E-05	0.000107497	0.00046816	0.000457504	0.001951616	0.00%	0.01%	0.31%	0.00%	0.01%	0.05%	0.08%	0.00%	0.39%	73.16879479	0.006145907	0.84%
60	4.88216E-05	0.003808792	1.41724E-05	0.000107601	0.000528223	0.000448557	0.002305776	0.00%	0.00%	0.38%	0.00%	0.01%	0.05%	0.08%	0.00%	0.46%	76.21023553	0.007261944	0.99%
59	4.19452E-05	0.004383866	1.83026E-05	0.00011295	0.000580614	0.000420618	0.00258754	0.00%	0.00%	0.44%	0.00%	0.01%	0.06%	0.07%	0.00%	0.52%	79.31360171	0.008145836	1.11%
58	4.89093E-05	0.005279187	1.96437E-05	0.00011577	0.000621723	0.000383352	0.002908017	0.00%	0.00%	0.53%	0.00%	0.01%	0.06%	0.07%	0.00%	0.58%	82.48275445	0.009376601	1.26%
57	5.12547E-05	0.005928009	1.52603E-05	0.000121322	0.000636706	0.000326542	0.00311845	0.00%	0.01%	0.59%	0.00%	0.01%	0.06%	0.06%	0.00%	0.63%	85.7218023	0.010197544	1.36%
56	4.77199E-05	0.006351473	9.85212E-06	0.000136428	0.000636655	0.000259361	0.003348917	0.00%	0.00%	0.64%	0.00%	0.01%	0.06%	0.04%	0.00%	0.67%	89.03512422	0.010790407	1.44%
55	3.8219E-05	0.006799157	9.61857E-06	0.000171193	0.000621563	0.000192524	0.003415741	0.00%	0.00%	0.68%	0.00%	0.02%	0.06%	0.03%	0.00%	0.69%	92.42739504	0.011248016	1.48%
54	5.45087E-05	0.006944506	1.55703E-05	0.000225254	0.000620399	0.00018779	0.003331741	0.00%	0.01%	0.69%	0.00%	0.02%	0.06%	0.03%	0.00%	0.67%	95.9036137	0.011379768	1.49%
53	6.87461E-05	0.007086361	2.35006E-05	0.00029611	0.000647818	0.000240688	0.003246782	0.00%	0.01%	0.71%	0.00%	0.03%	0.06%	0.04%	0.00%	0.65%	99.46913461	0.011610006	1.51%
52	7.93625E-05	0.006742025	3.08635E-05	0.000389781	0.00066042	0.000288284	0.003025661	0.00%	0.01%	0.67%	0.00%	0.04%	0.07%	0.05%	0.00%	0.61%	103.1297027	0.011216397	1.45%
51	0.000103408	0.006119716	3.45451E-05	0.00052211	0.000688274	0.00032193	0.002740067	0.00%	0.01%	0.61%	0.00%	0.05%	0.07%	0.05%	0.00%	0.55%	106.8914924	0.010530049	1.35%
50	0.00011404	0.005549246	3.84494E-05	0.000716579	0.000684327	0.00032754	0.002428085	0.00%	0.01%	0.55%	0.00%	0.07%	0.07%	0.06%	0.00%	0.49%	110.7611513	0.009858268	1.25%
49	0.000105466	0.00448008	4.60194E-05	0.000984728	0.000664226	0.000317919	0.002052654	0.00%	0.01%	0.45%	0.00%	0.10%	0.07%	0.05%	0.00%	0.41%	114.7458494	0.008651091	1.09%
48	7.88311E-05	0.003783319	5.61731E-05	0.00125575	0.000616457	0.000294377	0.0016554	0.00%	0.01%	0.38%	0.01%	0.13%	0.06%	0.05%	0.00%	0.33%	118.8533338	0.007740307	0.96%
47	8.76609E-05	0.002844336	6.67784E-05	0.001465586	0.000543264	0.00026608	0.001273535	0.00%	0.01%	0.28%	0.01%	0.15%	0.05%	0.05%	0.00%	0.26%	123.0919914	0.00654724	0.80%
46	9.89507E-05	0.002087345	7.76693E-05	0.001590833	0.000468408	0.000229417	0.000915428	0.00%	0.01%	0.21%	0.01%	0.16%	0.05%	0.04%	0.00%	0.18%	127.4709183	0.00546805	0.66%
45	9.11005E-05	0.001395391	9.23318E-05	0.001724751	0.000385235	0.00018868	0.000611964	0.00%	0.01%	0.14%	0.01%	0.17%	0.04%	0.03%	0.00%	0.12%	132	0.004489454	0.52%
44	6.50269E-05	0.000869498	9.54825E-05	0.001906773	0.000302899	0.000158599	0.000371791	0.00%	0.01%	0.09%	0.01%	0.19%	0.03%	0.03%	0.00%	0.07%	136.6900014	0.003770069	0.43%
43	8.4941E-05	0.000482273	8.9939E-05	0.002110197	0.000226111	0.000130114	0.000196935	0.00%	0.01%	0.05%	0.01%	0.21%	0.02%	0.02%	0.00%	0.04%	141.5526697	0.00332051	0.36%
42	0.000165414	0.000261065	8.26805E-05	0.002279178	0.000181041	0.000106605	8.66518E-05	0.00%	0.02%	0.03%	0.01%	0.23%	0.02%	0.02%	0.00%	0.02%	146.600852	0.003162635	0.33%
41	0.000237376	0.000169673	8.51662E-05	0.002242034	0.000182239	7.95504E-05	2.95557E-05	0.00%	0.02%	0.02%	0.01%	0.22%	0.02%	0.01%	0.00%	0.01%	151.8486298	0.003025594	0.31%
40	0.000268959	0.000252267	8.56084E-05	0.002152243	0.000241485	5.66098E-05	1.1038E-05	0.00%	0.03%	0.03%	0.01%	0.22%	0.02%	0.01%	0.00%	0.00%	157.3114742	0.003068211	0.31%
39	0.000237845	0.000460755	7.83655E-05	0.002016044	0.000358509	4.31023E-05	1.6014E-05	0.00%	0.02%	0.05%	0.01%	0.20%	0.04%	0.01%	0.00%	0.00%	163.0064247	0.003210634	0.33%
38	0.000182909	0.00078417	6.68444E-05	0.001800696	0.000507504	5.45055E-05	2.9953E-05	0.00%	0.02%	0.08%	0.01%	0.18%	0.05%	0.01%	0.00%	0.01%	168.9522954	0.003426582	0.35%
37	0.000233602	0.001108287	5.69256E-05	0.001431141	0.000684986	6.84987E-05	4.0335E-05	0.00%	0.02%	0.11%	0.01%	0.14%	0.07%	0.01%	0.00%	0.01%	175.1699165	0.003623776	0.37%
36	0.000229609	0.001426144	4.31339E-05	0.001035604	0.000822609	8.03885E-05	3.93725E-05	0.00%	0.02%	0.14%	0.00%	0.10%	0.08%	0.01%	0.00%	0.01%	181.6824135	0.003676861	0.38%
35	0.000163958	0.001749479	2.59158E-05	0.000666713	0.000901444	8.78899E-05	3.34148E-05	0.00%	0.02%	0.17%	0.00%	0.07%	0.09%	0.01%	0.00%	0.01%	188.5155369	0.003628814	0.37%
34	0.000434184	0.001823263	1.41744E-05	0.000409147	0.000876757	9.37303E-05	3.73146E-05	0.00%	0.04%	0.18%	0.00%	0.04%	0.09%	0.02%	0.00%	0.01%	195.6980478	0.003688571	0.38%
33	0.001001771	0.001811105	1.04376E-05	0.000239317	0.000724392	8.68909E-05	8.10912E-05	0.00%	0.10%	0.18%	0.00%	0.02%	0.07%	0.01%	0.00%	0.02%	203.2621752	0.003955004	0.41%
32	0.00175376	0.001675504	9.881E-06	0.000133406	0.000507195	5.82339E-05	0.000206621	0.00%	0.18%	0.17%	0.00%	0.01%	0.05%	0.01%	0.00%	0.04%	211.2441578	0.004344602	0.46%
31	0.002559938	0.001619589	9.77372E-06	6.03164E-05	0.000309339	0.000155037	0.000458601	0.00%	0.26%	0.16%	0.00%	0.01%	0.03%	0.03%	0.00%	0.09%	219.6848917	0.005172593	0.57%
30	0.003247064	0.001793354	1.30113E-05	1.88233E-05	0.000163944	0.000342528	0.000880432	0.00%	0.32%	0.18%	0.00%	0.00%	0.02%	0.06%	0.00%	0.18%	228.6307066	0.006459157	0.76%
29	0.003653367	0.002381598	1.72792E-05	5.72663E-05	7.90494E-05	0.000613619	0.001471968	0.00%	0.37%	0.24%	0.00%	0.01%	0.01%	0.10%	0.00%	0.30%	238.1343037	0.008274147	1.02%
28	0.003670873	0.003458953	2.28876E-05	0.000239869	3.89919E-05	0.000999943	0.00223859	0.00%	0.37%	0.35%	0.00%	0.02%	0.00%	0.17%	0.00%	0.45%	248.2558934	0.010670107	1.36%
27	0.003300991	0.005245895	4.17325E-05	0.000539324	3.02586E-05	0.001482006	0.003249746	0.00%	0.33%	0.52%	0.00%	0.05%	0.00%	0.25%	0.00%	0.65%	259.0645867	0.013889954	1.82%
26	0.003084855	0.007575477	7.76364E-05	0.000852001	4.8022E-05	0.002091416	0.004379655	0.00%	0.31%	0.76%	0.01%	0.09%	0.00%	0.36%	0.00%	0.88%	270.6401071	0.018109062	2.40%
25	0.003079267	0.010177065	0.000111758	0.000996903	0.000102012	0.00275203	0.005478384	0.00%	0.31%	1.02%	0.01%	0.10%	0.01%	0.47%	0.00%	1.10%	283.0749135	0.022697419	3.02%
24	0.002730093	0.012143745	0.000136461	0.000923385	0.000211535	0.003438612	0.006704749	0.00%	0.27%	1.21%	0.01%	0.09%	0.02%	0.59%	0.00%	1.35%	296.4768542	0.02628858	3.55%
23	0.002389499	0.01443717	0.000173835	0.000662998	0.000372831	0.004280678	0.007789543	0.00%	0.24%	1.44%	0.02%	0.07%	0.04%	0.73%	0.00%	1.57%	310.9725123	0.030106554	4.10%
22	0.002504388	0.015236208	0.000230958	0.00034987	0.000543134	0.004953446	0.009013776	0.00%	0.25%	1.52%	0.02%	0.03%	0.05%	0.84%	0.00%	1.81%	326.7114647	0.032831779	4.54%
21	0.002323855	0.015645317	0.00027928	0.000143356	0.000670524	0.005564356	0.009917775	0.00%	0.23%	1.56%	0.03%	0.01%	0.07%	0.95%	0.00%	1.99%	343.8717565	0.034544463	4.85%
20	0.001890837	0.014582414	0.000312957	0.000116375	0.000668127	0.00610745	0.010371924	0.00%	0.19%	1.46%	0.03%	0.01%	0.07%	1.04%	0.00%	2.09%	362.6670194	0.034050084	4.88%
19	0.00192236	0.012331329	0.000332403	0.000200466	0.00053956	0.006486948	0.010790455	0.00%	0.19%	1.23%	0.03%	0.02%	0.05%	1.11%	0.00%	2.17%	383.3558359	0.032603521	4.81%
18	0.001743876	0.009675887	0.000336005	0.000255106	0.000336295	0.006557243	0.010907386	0.00%	0.17%	0.97%	0.03%	0.03%	0.03%	1.12%	0.00%	2.19%	406.2542269	0.029811798	4.55%
17	0.00138491	0.006420912	0.000330561	0.000203529	0.000144088	0.006451003	0.010462287	0.00%	0.14%	0.64%	0.03%	0.02%	0.01%	1.10%	0.00%	2.10%	431.7525456	0.02539729	4.05%
16	0.001377929	0.003600826	0.000329653	0.00010652	3.21686E-05	0.006143738	0.009963963	0.00%	0.14%	0.36%	0.03%	0.01%	0.00%	1.05%	0.00%	2.00%	460.3387066	0.021554799	3.60%
15	0.001307806	0.001418138	0.000318694	5.93949E-05	1.26692E-06	0.005672167	0.00896909	0.00%	0.13%	0.14%	0.03%	0.01%	0.00%	0.97%	0.00%	1.80%	492.6307066	0.017746557	3.08%
14	0.001078701	0.000210415	0.000304601	0.000108419	2.91814E-06	0.005059492	0.007836214	0.00%	0.11%	0.02%	0.03%	0.01%	0.00%	0.86%	0.00%	1.58%	529.4230832	0.014600761	2.61%
13	0.000919871	6.02424E-05	0.000276412	0.000187039	3.98962E-07	0.004284821	0.006636392	0.00%	0.09%	0.01%	0.03%	0.02%	0.00%	0.73%	0.00%	1.33%	571.7548154	0.012365176	2.21%
12	0.000843934	0.000834611	0.000241068	0.000179273	1.35992E-05	0.003495541	0.005413944	0.00%	0.08%	0.08%	0.02%	0.02%	0.00%	0.60%	0.00%	1.09%	621.0111745	0.011021969	1.90%
11	0.000669497	0.00217232	0.000198874	6.74457E-05	0.000111932	0.002747605	0.004158662	0.00%	0.07%	0.22%	0.02%	0.01%	0.01%	0.47%	0.00%	0.84%	679.0811301	0.010126335	1.63%
10	0.000570022	0.003846507	0.000164711	1.50348E-06	0.000360659	0.002070604	0.003141206	0.00%	0.06%	0.38%	0.02%	0.00%	0.04%	0.35%	0.00%	0.63%	748.6092002	0.010155211	1.48%
9	0.000496839	0.00542489	0.000130631	0.000171958	0.000752352	0.001466971	0.002272065	0.00%	0.05%	0.54%	0.01%	0.02%	0.08%	0.25%	0.00%	0.46%	833.4151999	0.010715705	1.40%
8	0.00036954	0.00635092	0.000100807	0.00060935	0.001134662	0.000988251	0.001530617	0.00%	0.04%	0.64%	0.01%	0.06%	0.11%	0.17%	0.00%	0.31%	939.2288034	0.011084148	1.33%
7	0.000278189	0.006878837	7.38194E-05	0.001118267	0.00134755	0.000601929	0.000953992	0.00%	0.03%	0.69%	0.01%	0.11%	0.13%	0.10%	0.00%	0.19%	1075.053728	0.011252583	1.26%
6	0.000219796	0.006519213	5.19817E-05	0.001400314	0.001303842	0.00033514	0.000557475	0.00%	0.02%	0.65%	0.01%	0.14%	0.13%	0.06%	0.00%	0.11%	1255.896108	0.010387762	1.12%
5	0.000142936	0.005324981	3.29589E-05	0.001313253	0.001017063	0.000165329	0.000294	0.00%	0.01%	0.53%	0.00%	0.13%	0.10%	0.03%	0.00%	0.06%	1508.766904	0.008290522	0.87%
4	9.39117E-05	0.004007699	1.9211E-05	0.000920292	0.000638153	6.99722E-05	0.000133022	0.00%	0.01%	0.40%	0.00%	0.09%	0.06%	0.01%	0.00%	0.03%	1887.687946	0.005882261	0.61%
3	5.67742E-05	0.002362253	9.44021E-06	0.000483456	0.000298783	2.31397E-05	4.95857E-05	0.00%	0.01%	0.24%	0.00%	0.05%	0.03%	0.00%	0.00%	0.01%	2518.710043	0.003283432	0.33%
2	2.35608E-05	0.001074891	3.56467E-06	0.000159733	9.40577E-05	5.5258E-06	1.29537E-05	0.00%	0.00%	0.11%	0.00%	0.02%	0.01%	0.00%	0.00%	0.00%	3779.985433	0.001374287	0.14%
1	5.77114E-06	0.000275066	7.43176E-07	2.35216E-05	1.41732E-05	6.17259E-07	1.623556E-06	0.00%	0.00%	0.03%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	7562.274935	0.000321515	0.03%

Location	New Haven CT - Part 2 of 3	
Date	3/22/2023	
Band	28GHZ	C-Band
Operating Frequency (MHz)	27,500	3,700
General Population MPE (mW/cm^2)	1	1
ERP Per Transmitter (Watts)	251	21,878
Number of Transmitters	4	2
Antenna Centerline (feet)	127.8	127.8
Total ERP (Watts)	1,004	43,755
Total ERP (dBm)	60	76
Maximum % of General Population Limit	2.1%	

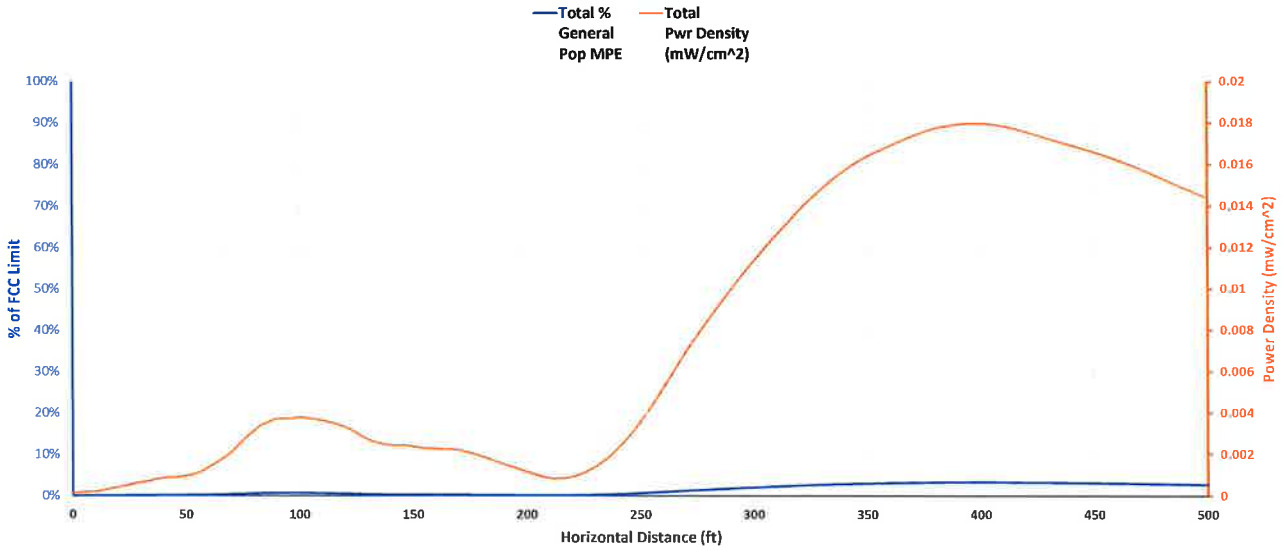


Angle Below Horizon	Power Density (mW/cm^2)		Percent of General Population MPE									Distance	Total Pwr Density (mW/cm^2)	Total % General Pop MPE
	28GHz	C-Band	39GHz	28GHz	C-Band	CBRS	AWS	PCS	Cellular	CDMA	700 MHz			
90	2.25634E-05	0.002068137	0.00%	0.00%	0.21%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0	0.0020907	0.21%
89	2.36196E-05	0.002067507	0.00%	0.00%	0.21%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.126026908	0.002091127	0.21%
88	2.44836E-05	0.002113733	0.00%	0.00%	0.21%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	4.253349724	0.002138216	0.21%
87	2.51312E-05	0.002159674	0.00%	0.00%	0.22%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	6.383267517	0.002184805	0.22%
86	2.54851E-05	0.002205266	0.00%	0.00%	0.22%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	8.517085695	0.002230751	0.22%
85	2.55325E-05	0.002250442	0.00%	0.00%	0.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	10.65611922	0.002275974	0.23%
84	2.51555E-05	0.002295134	0.00%	0.00%	0.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	12.80169586	0.002320289	0.23%
83	2.43728E-05	0.002286024	0.00%	0.00%	0.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	14.95515952	0.002310397	0.23%
82	2.31691E-05	0.002382785	0.00%	0.00%	0.24%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	17.11787367	0.002405954	0.24%
81	2.14607E-05	0.002482099	0.00%	0.00%	0.25%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	19.29122483	0.00250356	0.25%
80	1.92357E-05	0.002525121	0.00%	0.00%	0.25%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	21.47662625	0.002544357	0.25%
79	1.88928E-05	0.002567276	0.00%	0.00%	0.26%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	23.67552165	0.002586168	0.26%
78	2.14394E-05	0.002608484	0.00%	0.00%	0.26%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	25.88938921	0.002629923	0.26%
77	2.40354E-05	0.002588375	0.00%	0.00%	0.26%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	28.11974568	0.00261241	0.26%
76	2.6498E-05	0.002508347	0.00%	0.00%	0.25%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	30.36815075	0.002534845	0.25%
75	2.87271E-05	0.002373924	0.00%	0.00%	0.24%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	32.63621164	0.002402652	0.24%
74	3.04851E-05	0.002297537	0.00%	0.00%	0.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	34.92558799	0.002328023	0.23%
73	3.32351E-05	0.00212213	0.00%	0.00%	0.21%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	37.237997	0.002155365	0.22%
72	4.15735E-05	0.001958809	0.00%	0.00%	0.20%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	39.575219	0.002000382	0.20%
71	5.03204E-05	0.001725518	0.00%	0.01%	0.17%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	41.9391033	0.001775838	0.18%
70	5.86645E-05	0.0014844	0.00%	0.01%	0.15%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	44.33157453	0.001543065	0.15%
69	6.60249E-05	0.001276094	0.00%	0.01%	0.13%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	46.75463947	0.001342119	0.13%
68	7.12419E-05	0.001147918	0.00%	0.01%	0.11%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	49.21039431	0.00121916	0.12%
67	7.36981E-05	0.001105685	0.00%	0.01%	0.11%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	51.70103261	0.001179383	0.12%
66	7.25879E-05	0.001140354	0.00%	0.01%	0.11%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	54.22885387	0.001212942	0.12%
65	6.77572E-05	0.001288637	0.00%	0.01%	0.13%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	56.79627276	0.001356395	0.14%
64	7.39136E-05	0.001670705	0.00%	0.01%	0.17%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	59.40582929	0.001744618	0.17%
63	7.90981E-05	0.002164418	0.00%	0.01%	0.22%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	62.06019975	0.002243516	0.22%
62	7.85731E-05	0.002801878	0.00%	0.01%	0.28%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	64.76220878	0.002880451	0.29%
61	7.11283E-05	0.003624247	0.00%	0.01%	0.36%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	67.51484247	0.003695376	0.37%
60	5.7341E-05	0.004473429	0.00%	0.01%	0.45%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	70.32126279	0.00453077	0.45%
59	4.92646E-05	0.005148853	0.00%	0.00%	0.51%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	73.1848234	0.005198118	0.52%
58	5.7444E-05	0.006200408	0.00%	0.01%	0.62%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	76.10908706	0.006257852	0.63%
57	6.01987E-05	0.006962451	0.00%	0.01%	0.70%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	79.09784485	0.007022649	0.70%
56	5.6047E-05	0.00745981	0.00%	0.01%	0.75%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	82.15513735	0.007515857	0.75%
55	4.48883E-05	0.007985615	0.00%	0.00%	0.80%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	85.28527815	0.008030503	0.80%
54	6.40205E-05	0.008156327	0.00%	0.01%	0.82%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	88.49287991	0.008220347	0.82%
53	8.07423E-05	0.008322936	0.00%	0.01%	0.83%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	91.7828833	0.008403678	0.84%
52	9.32113E-05	0.007918513	0.00%	0.01%	0.79%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	95.16058931	0.008011724	0.80%
51	0.000121453	0.00718761	0.00%	0.01%	0.72%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	98.63169524	0.007309064	0.73%
50	0.000133941	0.006517593	0.00%	0.01%	0.65%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	102.2023351	0.006651534	0.67%
49	0.000123869	0.005261857	0.00%	0.01%	0.53%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	105.8791247	0.005385727	0.54%
48	9.25872E-05	0.004443511	0.00%	0.01%	0.44%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	109.6692126	0.004536098	0.45%
47	0.000102958	0.003340675	0.00%	0.01%	0.33%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	113.5803375	0.003443633	0.34%
46	0.000116218	0.002451588	0.00%	0.01%	0.25%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	117.6208928	0.002567806	0.26%
45	0.000106998	0.001638888	0.00%	0.01%	0.16%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	121.8	0.001745886	0.17%
44	7.63742E-05	0.001021226	0.00%	0.01%	0.10%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	126.1275922	0.0010976	0.11%
43	9.97633E-05	0.00056643	0.00%	0.01%	0.06%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	130.6145089	0.000666193	0.07%
42	0.000194279	0.00030662	0.00%	0.02%	0.03%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	135.2726043	0.000500899	0.05%
41	0.000278798	0.000199281	0.00%	0.03%	0.02%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	140.114872	0.000478079	0.05%
40	0.000315892	0.000296288	0.00%	0.03%	0.03%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	145.1555876	0.00061218	0.06%
39	0.000279349	0.000541157	0.00%	0.03%	0.05%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	150.4104737	0.000820506	0.08%
38	0.000214827	0.000921008	0.00%	0.02%	0.09%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	155.8968908	0.001135834	0.11%
37	0.000274366	0.001301683	0.00%	0.03%	0.13%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	161.6340593	0.001576049	0.16%

36	0.000269675	0.001675007	0.00%	0.03%	0.17%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	167.6433179	0.001944683	0.19%
35	0.000192569	0.002054764	0.00%	0.02%	0.21%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	173.9484272	0.002247333	0.22%
34	0.00050995	0.002141424	0.00%	0.05%	0.21%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	180.575926	0.002651374	0.27%
33	0.00117658	0.002127144	0.00%	0.12%	0.21%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	187.5555526	0.003303724	0.33%
32	0.002059793	0.001967881	0.00%	0.21%	0.20%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	194.9207456	0.004027673	0.40%
31	0.003006649	0.001902208	0.00%	0.30%	0.19%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	202.709241	0.004908857	0.49%
30	0.003813679	0.002106296	0.00%	0.38%	0.21%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	210.9637884	0.005919974	0.59%
29	0.004290882	0.002797189	0.00%	0.43%	0.28%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	219.7330166	0.00708807	0.71%
28	0.004311443	0.004062542	0.00%	0.43%	0.41%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	229.0724835	0.008373986	0.84%
27	0.003877016	0.006161307	0.00%	0.39%	0.62%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	239.0459596	0.010038323	1.00%
26	0.003623164	0.008897403	0.00%	0.36%	0.89%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	249.7270079	0.012520567	1.25%
25	0.003616601	0.011952971	0.00%	0.36%	1.20%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	261.2009429	0.015569571	1.56%
24	0.003206496	0.014262837	0.00%	0.32%	1.43%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	273.5672791	0.017469333	1.75%
23	0.002806468	0.016956466	0.00%	0.28%	1.70%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	286.9428182	0.019762934	1.98%
22	0.002941406	0.017894937	0.00%	0.29%	1.79%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	301.4655787	0.020836342	2.08%
21	0.00272937	0.018375436	0.00%	0.27%	1.84%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	317.2998481	0.021104806	2.11%
20	0.00222079	0.017127055	0.00%	0.22%	1.71%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	334.6427497	0.019347845	1.93%
19	0.002257813	0.014483155	0.00%	0.23%	1.45%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	353.7328849	0.016740967	1.67%
18	0.002048183	0.011364336	0.00%	0.20%	1.14%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	374.8618548	0.013412519	1.34%
17	0.001626577	0.007541366	0.00%	0.16%	0.75%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	398.3898489	0.009167943	0.92%
16	0.001618379	0.004229173	0.00%	0.16%	0.42%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	424.7670793	0.005847552	0.58%
15	0.001536019	0.001665604	0.00%	0.15%	0.17%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	454.5637884	0.003201623	0.32%
14	0.001266935	0.000247132	0.00%	0.13%	0.02%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	488.5131177	0.001514068	0.15%
13	0.001080389	7.07547E-05	0.00%	0.11%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	527.5737615	0.001151144	0.12%
12	0.000991201	0.000980251	0.00%	0.10%	0.10%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	573.0239473	0.001971452	0.20%
11	0.000786324	0.002551391	0.00%	0.08%	0.26%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	626.6066791	0.003337715	0.33%
10	0.000669491	0.004517725	0.00%	0.07%	0.45%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	690.7621256	0.005187216	0.52%
9	0.000583538	0.006371537	0.00%	0.06%	0.64%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	769.0149345	0.006955075	0.70%
8	0.000434025	0.00745916	0.00%	0.04%	0.75%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	866.6520322	0.007893185	0.79%
7	0.000326733	0.008079198	0.00%	0.03%	0.81%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	991.9813949	0.008405931	0.84%
6	0.000258151	0.00765682	0.00%	0.03%	0.77%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1158.849591	0.007914971	0.79%
5	0.000167879	0.006254194	0.00%	0.02%	0.63%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1392.18037	0.006422073	0.64%
4	0.000110299	0.004707045	0.00%	0.01%	0.47%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1741.82115	0.004817345	0.48%
3	6.66814E-05	0.002774468	0.00%	0.01%	0.28%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2324.082449	0.002841149	0.28%
2	2.76721E-05	0.00126246	0.00%	0.00%	0.13%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3487.89565	0.001290132	0.13%
1	6.77821E-06	0.000323065	0.00%	0.00%	0.03%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	6977.917327	0.000329843	0.03%

Location	New Haven CT - Part 3 of 3				
Date	3/22/2023				
Band	CBRS	AWS	PCS	850-LTE	700
Operating Frequency (MHz)	3,550	2,145	1,970	880	746
General Population MPE (mW/cm^2)	1	1	1	0.586666667	0.497333333
ERP Per Transmitter (Watts)	68	2,291	1,622	1,047	1,622
Number of Transmitters	4	4	4	4	4
Antenna Centerline (feet)	155	155	155	155	155
Total ERP (Watts)	270	9,163	6,487	4,189	6,487
Total ERP (dBm)	54	70	68	66	68
Maximum % of General Population Limit	3.0%				

RF Exposure 6ft Above Ground Level
Far Field Formula (per FCC OET65)



Angle Below Horizon	Power Density (mW/cm^2)					Percent of General Population MPE									Distance	Total Pwr Density (mW/cm^2)	Total % General Pop MPE
	CBRS	AWS	PCS	850-LTE	700 MHz	39GHz	28GHz	C-Band	CBRS	AWS	PCS	Cellular	CDMA	700 MHz			
90	1.86705E-06	5.78804E-05	2.52076E-05	5.27876E-06	3.25485E-05	0.00%	0.00%	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%	0.01%	0	0.000122782	0.02%
89	2.51798E-06	8.15507E-05	3.17269E-05	4.27985E-06	3.4868E-05	0.00%	0.00%	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%	0.01%	2.304068571	0.000154943	0.02%
88	3.39423E-06	9.82011E-05	3.81167E-05	2.89146E-06	3.81167E-05	0.00%	0.00%	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%	0.01%	4.609541573	0.00018072	0.02%
87	4.07588E-06	9.80836E-05	4.38123E-05	1.78072E-06	4.27165E-05	0.00%	0.00%	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%	0.01%	6.917826865	0.000190469	0.02%
86	4.78072E-06	9.32971E-05	5.13887E-05	1.5131E-06	4.78484E-05	0.00%	0.00%	0.00%	0.00%	0.01%	0.01%	0.00%	0.00%	0.01%	9.230339177	0.000198828	0.02%
85	5.73529E-06	0.000102078	6.4555E-05	2.23322E-06	5.49452E-05	0.00%	0.00%	0.00%	0.00%	0.01%	0.01%	0.00%	0.00%	0.01%	11.54850359	0.000229546	0.03%
84	7.20124E-06	0.000128169	8.0869E-05	3.9608E-06	6.43846E-05	0.00%	0.00%	0.00%	0.00%	0.01%	0.01%	0.00%	0.00%	0.01%	13.87375906	0.000284585	0.04%
83	9.0375E-06	0.000160851	9.71455E-05	6.70538E-06	7.18493E-05	0.00%	0.00%	0.00%	0.00%	0.02%	0.01%	0.00%	0.00%	0.01%	16.20756204	0.000345589	0.04%
82	1.10784E-05	0.000179825	0.000113462	1.05889E-05	8.0325E-05	0.00%	0.00%	0.00%	0.00%	0.02%	0.01%	0.00%	0.00%	0.02%	18.55139018	0.00039528	0.05%
81	1.26675E-05	0.000192338	0.000132759	1.48958E-05	8.7713E-05	0.00%	0.00%	0.00%	0.00%	0.02%	0.01%	0.00%	0.00%	0.02%	20.90674612	0.000440373	0.05%
80	1.44773E-05	0.000209441	0.000155261	1.91012E-05	9.35537E-05	0.00%	0.00%	0.00%	0.00%	0.02%	0.02%	0.00%	0.00%	0.02%	23.27516145	0.000491834	0.06%
79	1.73167E-05	0.000239795	0.000181485	2.33798E-05	9.74631E-05	0.00%	0.00%	0.00%	0.00%	0.02%	0.02%	0.00%	0.00%	0.02%	25.65820081	0.00055544	0.07%
78	1.93207E-05	0.000267546	0.000202488	2.92684E-05	0.000101484	0.00%	0.00%	0.00%	0.00%	0.03%	0.02%	0.00%	0.00%	0.02%	28.05746614	0.000620307	0.07%
77	2.15456E-05	0.000284272	0.000215642	3.84357E-05	0.000105617	0.00%	0.00%	0.00%	0.00%	0.03%	0.02%	0.01%	0.00%	0.02%	30.47460123	0.000665513	0.08%

76	2.45736E-05	0.000288964	0.000229532	5.02162E-05	0.000109861	0.00%	0.00%	0.00%	0.00%	0.03%	0.02%	0.01%	0.00%	0.02%	32.91129638	0.000703147	0.08%
75	2.73747E-05	0.000307415	0.000244188	6.57241E-05	0.000119598	0.00%	0.00%	0.00%	0.00%	0.03%	0.02%	0.01%	0.00%	0.02%	35.3692934	0.0007643	0.09%
74	2.84445E-05	0.000327622	0.000260239	8.21058E-05	0.000130429	0.00%	0.00%	0.00%	0.00%	0.03%	0.03%	0.01%	0.00%	0.03%	37.85039092	0.000828841	0.10%
73	2.82106E-05	0.000331732	0.000269641	9.79009E-05	0.000148179	0.00%	0.00%	0.00%	0.00%	0.03%	0.03%	0.02%	0.00%	0.03%	40.35644995	0.000875663	0.11%
72	2.49222E-05	0.000314022	0.000267276	0.000114015	0.00016864	0.00%	0.00%	0.00%	0.00%	0.03%	0.03%	0.02%	0.00%	0.03%	42.8893999	0.000888875	0.11%
71	2.10144E-05	0.000297092	0.000253449	0.000129985	0.000201322	0.00%	0.00%	0.00%	0.00%	0.03%	0.03%	0.02%	0.00%	0.04%	45.45124495	0.000902862	0.12%
70	1.85438E-05	0.000294154	0.000239097	0.000144403	0.000239097	0.00%	0.00%	0.00%	0.00%	0.03%	0.02%	0.02%	0.00%	0.05%	48.04407092	0.000935294	0.13%
69	1.67352E-05	0.000291075	0.000221312	0.000160327	0.000291075	0.00%	0.00%	0.00%	0.00%	0.03%	0.02%	0.03%	0.00%	0.06%	50.67005262	0.000980524	0.14%
68	1.69357E-05	0.000281306	0.000203788	0.000181626	0.000362392	0.00%	0.00%	0.00%	0.00%	0.03%	0.02%	0.03%	0.00%	0.07%	53.33146181	0.001046048	0.15%
67	2.31055E-05	0.000278029	0.000196829	0.000210907	0.00045091	0.00%	0.00%	0.00%	0.00%	0.03%	0.02%	0.04%	0.00%	0.09%	56.03067574	0.00115978	0.18%
66	3.46225E-05	0.000274621	0.000194416	0.000239185	0.000573763	0.00%	0.00%	0.00%	0.00%	0.03%	0.02%	0.04%	0.00%	0.12%	58.77018646	0.001316608	0.21%
65	4.49498E-05	0.00025299	0.000210912	0.000277398	0.000713021	0.00%	0.00%	0.00%	0.00%	0.03%	0.02%	0.05%	0.00%	0.14%	61.55261088	0.00149927	0.24%
64	4.43421E-05	0.00019824	0.000238337	0.00031419	0.000885505	0.00%	0.00%	0.00%	0.00%	0.02%	0.02%	0.05%	0.00%	0.18%	64.38070169	0.001680614	0.28%
63	3.32368E-05	0.000138355	0.000282484	0.000339621	0.001098989	0.00%	0.00%	0.00%	0.00%	0.01%	0.03%	0.06%	0.00%	0.22%	67.25735933	0.001892685	0.32%
62	1.96846E-05	9.8742E-05	0.000334581	0.000358511	0.001331992	0.00%	0.00%	0.00%	0.00%	0.01%	0.03%	0.06%	0.00%	0.27%	70.18564498	0.002143511	0.37%
61	1.22274E-05	8.88606E-05	0.000386998	0.000378189	0.001613276	0.00%	0.00%	0.00%	0.00%	0.01%	0.04%	0.06%	0.00%	0.32%	73.16879479	0.002479551	0.44%
60	1.17552E-05	8.92497E-05	0.000438133	0.000372055	0.001912521	0.00%	0.00%	0.00%	0.00%	0.01%	0.04%	0.06%	0.00%	0.38%	76.21023553	0.002823714	0.50%
59	1.52339E-05	9.40127E-05	0.000483266	0.000350096	0.002153705	0.00%	0.00%	0.00%	0.00%	0.01%	0.05%	0.06%	0.00%	0.43%	79.31360171	0.003096314	0.55%
58	1.64084E-05	9.67031E-05	0.000519326	0.000320214	0.002429069	0.00%	0.00%	0.00%	0.00%	0.01%	0.05%	0.05%	0.00%	0.49%	82.48275445	0.00338172	0.61%
57	1.27933E-05	0.000101709	0.000533774	0.000273753	0.002614314	0.00%	0.00%	0.00%	0.00%	0.01%	0.05%	0.05%	0.00%	0.53%	85.7218023	0.003536343	0.64%
56	8.29001E-06	0.000114797	0.00053571	0.000218238	0.002817928	0.00%	0.00%	0.00%	0.00%	0.01%	0.05%	0.04%	0.00%	0.57%	89.03512422	0.003694963	0.67%
55	8.12403E-06	0.000144593	0.000524984	0.00016261	0.002885001	0.00%	0.00%	0.00%	0.00%	0.01%	0.05%	0.03%	0.00%	0.58%	92.42739504	0.003725311	0.68%
54	1.32014E-05	0.000190983	0.000526011	0.000159219	0.002824847	0.00%	0.00%	0.00%	0.00%	0.02%	0.05%	0.03%	0.00%	0.57%	95.9036137	0.003714261	0.67%
53	2.00028E-05	0.000252038	0.000551398	0.000204864	0.002763535	0.00%	0.00%	0.00%	0.00%	0.03%	0.06%	0.03%	0.00%	0.56%	99.46913461	0.003791837	0.67%
52	2.63736E-05	0.000333077	0.000564344	0.000246345	0.002585496	0.00%	0.00%	0.00%	0.00%	0.03%	0.06%	0.04%	0.00%	0.52%	103.1297027	0.003755635	0.65%
51	2.96376E-05	0.000447939	0.000590498	0.000276197	0.002350815	0.00%	0.00%	0.00%	0.00%	0.04%	0.06%	0.05%	0.00%	0.47%	106.8914924	0.003695086	0.63%
50	3.31207E-05	0.00061727	0.000589488	0.000282147	0.002091581	0.00%	0.00%	0.00%	0.00%	0.06%	0.06%	0.05%	0.00%	0.42%	110.7611513	0.003613606	0.59%
49	3.98037E-05	0.000851723	0.000574511	0.000274978	0.001775408	0.00%	0.00%	0.00%	0.00%	0.09%	0.06%	0.05%	0.00%	0.36%	114.7458494	0.003516424	0.55%
48	4.87863E-05	0.00109062	0.000535393	0.000255666	0.001437715	0.00%	0.00%	0.00%	0.00%	0.11%	0.05%	0.04%	0.00%	0.29%	118.8533338	0.003368181	0.50%
47	5.82382E-05	0.001278153	0.000473786	0.000232051	0.001110664	0.00%	0.00%	0.00%	0.01%	0.13%	0.05%	0.04%	0.00%	0.22%	123.0919914	0.003152892	0.44%
46	6.80197E-05	0.001393188	0.000410213	0.000200914	0.000801695	0.00%	0.00%	0.00%	0.01%	0.14%	0.04%	0.03%	0.00%	0.16%	127.4709183	0.00287403	0.38%
45	8.12007E-05	0.001516823	0.000338793	0.000165934	0.000538189	0.00%	0.00%	0.00%	0.01%	0.15%	0.03%	0.03%	0.00%	0.11%	132	0.00264094	0.33%
44	8.43264E-05	0.001683987	0.000267509	0.000140068	0.000328351	0.00%	0.00%	0.00%	0.01%	0.17%	0.03%	0.02%	0.00%	0.07%	136.6900014	0.002504241	0.29%
43	7.97672E-05	0.001871541	0.000200539	0.000115398	0.000174662	0.00%	0.00%	0.00%	0.01%	0.19%	0.02%	0.02%	0.00%	0.04%	141.5526697	0.002441907	0.27%
42	7.36409E-05	0.002029992	0.000161248	9.49499E-05	7.71781E-05	0.00%	0.00%	0.00%	0.01%	0.20%	0.02%	0.02%	0.00%	0.02%	146.600852	0.002437009	0.26%
41	7.61771E-05	0.002005392	0.000163004	7.1154E-05	2.64362E-05	0.00%	0.00%	0.00%	0.01%	0.20%	0.02%	0.01%	0.00%	0.01%	151.8486298	0.002342163	0.24%
40	7.68976E-05	0.00193325	0.000216914	5.08497E-05	9.91488E-06	0.00%	0.00%	0.00%	0.01%	0.19%	0.02%	0.01%	0.00%	0.00%	157.3114742	0.002287827	0.23%
39	7.069E-05	0.001818582	0.000323394	3.88806E-05	1.44455E-05	0.00%	0.00%	0.00%	0.01%	0.18%	0.03%	0.01%	0.00%	0.00%	163.0064247	0.002265992	0.23%
38	6.0552E-05	0.001631186	0.00045973	4.93746E-05	2.71333E-05	0.00%	0.00%	0.00%	0.01%	0.16%	0.05%	0.01%	0.00%	0.01%	168.9522954	0.002227976	0.23%
37	5.17836E-05	0.00130187	0.000623114	6.23114E-05	3.66916E-05	0.00%	0.00%	0.00%	0.01%	0.13%	0.06%	0.01%	0.00%	0.01%	175.1699165	0.00207577	0.22%
36	3.94017E-05	0.000945999	0.000751433	7.34329E-05	3.59658E-05	0.00%	0.00%	0.00%	0.00%	0.09%	0.08%	0.01%	0.00%	0.01%	181.6824135	0.001846232	0.19%
35	2.37716E-05	0.000611553	0.000826863	8.06184E-05	3.06502E-05	0.00%	0.00%	0.00%	0.00%	0.06%	0.08%	0.01%	0.00%	0.01%	188.5155369	0.001573457	0.17%
34	1.30552E-05	0.000376841	0.000807528	8.63293E-05	3.43683E-05	0.00%	0.00%	0.00%	0.00%	0.04%	0.08%	0.01%	0.00%	0.01%	195.6980478	0.001318122	0.14%
33	9.65256E-06	0.000221318	0.000669911	8.03559E-05	7.49924E-05	0.00%	0.00%	0.00%	0.00%	0.02%	0.07%	0.01%	0.00%	0.02%	203.2621752	0.00105623	0.12%
32	9.17465E-06	0.00012387	0.000470939	5.40711E-05	0.000191851	0.00%	0.00%	0.00%	0.00%	0.01%	0.05%	0.01%	0.00%	0.04%	211.2441578	0.000849905	0.11%
31	9.11111E-06	5.62272E-05	0.000288367	0.000144526	0.00042751	0.00%	0.00%	0.00%	0.00%	0.01%	0.03%	0.02%	0.00%	0.09%	219.6848917	0.000925742	0.15%
30	1.21767E-05	1.76159E-05	0.000153428	0.000320557	0.000823958	0.00%	0.00%	0.00%	0.00%	0.00%	0.02%	0.05%	0.00%	0.17%	228.6307066	0.001327736	0.24%
29	1.62332E-05	5.37995E-05	7.42639E-05	0.000576472	0.001382858	0.00%	0.00%	0.00%	0.00%	0.01%	0.01%	0.10%	0.00%	0.28%	238.1343037	0.002103626	0.39%
28	2.15834E-05	0.000226201	3.677E-05	0.000942963	0.002111028	0.00%	0.00%	0.00%	0.00%	0.02%	0.00%	0.16%	0.00%	0.42%	248.2558934	0.003338546	0.61%
27	3.95005E-05	0.000510479	2.86403E-05	0.001402742	0.003075935	0.00%	0.00%	0.00%	0.00%	0.05%	0.00%	0.24%	0.00%	0.62%	259.0645867	0.005057297	0.92%
26	7.37508E-05	0.00080936	4.56185E-05	0.001986744	0.004160459	0.00%	0.00%	0.00%	0.01%	0.08%	0.00%	0.34%	0.00%	0.84%	270.6401071	0.007075932	1.27%
25	0.000106541	0.000950366	9.72502E-05	0.002623561	0.005222646	0.00%	0.00%	0.00%	0.01%	0.10%	0.01%	0.45%	0.00%	1.05%	283.0749135	0.009000365	1.61%
24	0.00013054	0.000883322	0.000202357	0.003289417	0.006413843	0.00%	0.00%	0.00%	0.01%	0.09%	0.02%	0.56%	0.00%	1.29%	296.4768542	0.01091948	1.97%
23	0.000166851	0.000636362	0.000357852	0.004108702	0.007476598	0.00%	0.00%	0.00%	0.02%	0.06%	0.04%	0.70%	0.00%	1.50%	310.9725123	0.012746366	2.32%
22	0.000222401	0.000336908	0.000523012	0.004769931	0.008679835	0.00%	0.00%	0.00%	0.02%	0.03%	0.05%	0.81%	0.00%	1.75%	326.7114647	0.014532088	2.67%
21	0.000269781	0.00013848	0.000647718	0.005375099	0.009580448	0.00%	0.00%	0.00%	0.03%	0.01%	0.06%	0.92%	0.00%	1.93%	343.8717565	0.016011525	2.95%
20	0.000303232	0.000112759	0.000647366	0.005917666	0.010049623	0.00%	0.00%	0.00%	0.03%	0.01%	0.06%	1.01%	0.00%	2.02%	362.6670194	0.017030646	3.14%
19	0.000323016	0.000194805	0.000524323	0.006303762	0.010485743	0.00%	0.00%	0.00%	0.03%	0.02%	0.05%	1.07%	0.00%	2.11%	383.3558359	0.01783165	3.29%
18	0.000327433	0.000248598	0.000327716	0.006389953	0.010629114	0.00%	0.00%	0.00%	0.03%	0.02%	0.03%	1.09%	0.00%	2.14%	406.2542269	0.017922814	3.32%
17	0.000322992	0.000198869	0.000140788	0.006303281	0.01022271	0.00%	0.00%	0.00%	0.03%	0.02%	0.01%	1.07%	0.00%	2.06%	431.7525456	0.01718864	3.20%
16	0.000322927	0.000104347	3.15122E-05	0.006018377	0.009760651	0.00%	0.00%	0.00%	0.03%	0.01%	0.00%	1.03%	0.00%	1.96%	460.3387066	0.016237814	3.03%
15	0.000312947	5.83237E-05	1.24407E-06	0.005569874	0.00880734	0.00%	0.00%	0.00%	0.03%	0.01%	0.00%	0.95%	0.00%	1.77%	492.6307066	0.014749729	2.76%
14	0.000299791	0.000106707	2.87206E-06	0.004979591	0.007712463	0.00%	0.00%	0.00%	0.03%	0.01%	0.00%	0.85%	0.00%	1.55%	529.4230832	0.013101424	2.44%
13	0.00027263	0.00018448	3.93503E-07	0.004226189	0.006545582	0.00%	0.00%	0.00%	0.03%	0.02%	0.00%	0.72%	0.00%	1.32%	571.7548154	0.011229274	2.08%
12	0.000238244	0.000177173	1.34399E-05	0.003454599	0.005350533	0.00%	0.00%	0.00%	0.02%	0.02%	0.00%	0.59%	0.00%	1.08%	621.0111745	0.00923399	1.71%
11	0.000196909	6.67791E-05	0.000110826	0.00272045	0.004117562	0.00%	0.00%	0.00%	0.02%	0.01%	0.01%	0.46%	0.00%	0.83%	679.0811301	0.007212525	1.33%
10	0.00016336	1.49115E-06	0.000357702	0.002053627	0.00311545	0.00%	0.00%	0.00%	0.02%	0.00%	0.04%	0.35%	0.00%	0.63%	748.6092002	0.00569163	1.03%
9	0.00012976	0.000170812	0.000747337	0.001457194	0.002256923	0.00%	0.00%	0.00%	0.01%	0.02%	0.07%	0.25%	0.00%	0.45%	833.4151999	0.004762027	0.81%
8	0.000100275	0.000606132	0.001128669	0.000983031	0.001522532	0.00%	0.00%	0.00%	0.01%	0.06%	0.11%	0.17%	0.00%	0.31%	939.2288034	0.004340637	0.66%
7	7.352E-05	0.001113732	0.001342085	0.000599488	0.000950124	0.00%	0.00%	0.00%	0.01%	0.11%	0.13%	0.10%	0.00%	0.19%	1075.053728	0.004078949	0.55%
6	5.18264E-05	0.001396132	0.001299948	0.000334139	0.00055581	0.00%	0.00%	0.00%	0.01%	0.14%	0.13%	0.06%	0.00%	0.11%	1255.896108	0.003637855	0.44%

5	3.28905E-05	0.001310524	0.00101495	0.000164985	0.000293389	0.00%	0.00%	0.00%	0.00%	0.13%	0.10%	0.03%	0.00%	0.06%	1508.766904	0.002816738	0.32%
4	1.91854E-05	0.000919065	0.000637303	6.9879E-05	0.000132845	0.00%	0.00%	0.00%	0.00%	0.09%	0.06%	0.01%	0.00%	0.03%	1887.687946	0.001778278	0.20%
3	9.43313E-06	0.000483093	0.000298559	2.31223E-05	4.95485E-05	0.00%	0.00%	0.00%	0.00%	0.05%	0.03%	0.00%	0.00%	0.01%	2518.710043	0.000863756	0.09%
2	3.56348E-06	0.00015968	9.40263E-05	5.52395E-06	1.29494E-05	0.00%	0.00%	0.00%	0.00%	0.02%	0.01%	0.00%	0.00%	0.00%	3779.985433	0.000275743	0.03%
1	7.43114E-07	2.35196E-05	1.4172E-05	6.17207E-07	1.62342E-06	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	7562.274935	4.06754E-05	0.00%

ATTACHMENT 4

STRUCTURAL ANALYSIS REPORT

FOR

SITE NAME: NEW HAVEN CT
54 MEADOW STREET
NEW HAVEN, CT 06519

PREPARED FOR:

verizon

WIRELESS COMMUNICATIONS FACILITY
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

On Air Engineering, LLC
88 FOUNDRY POND ROAD
COLD SPRING, NY 10516
ONAIR@OPTONLINE.NET
201-456-4624

PBA ENGINEERING, P.C
Structural Engineers

12 KULICK ROAD
FAIRFIELD, NEW JERSEY 07004-3363
PHONE: (973) 276-1700
FAX: (973) 276-9766

PROJECT NO. N-585
DATE: 3/22/2023

Paul C. Beck, P.E.
Connecticut Professional Engineer
License No: 12949

CONTENTS

1. PURPOSE

The purpose of this analysis is to determine whether the existing screen wall framing and the penthouse façade located at 54 Meadow Street, New Haven, Ct 06519, are adequate to support the proposed modifications to Verizon's antennas and equipment.

2. REFERENCES

1. Verizon CD's by On Air Engineering, LLC, dated: October 19, 2022.
2. Photographs and antenna frame supports.
3. New Haven CT Structural Assessment Letter by On Air Engineering, LLC dated: July 13, 2020.

3. BUILDING CODES

1. 2021 International Building Code.
2. CT State Building Code, October 1, 2022
3. ASCE/SEI 7-16 (Minimum Design Loads for Buildings and Other Structures).

4. EXISTING STRUCTURE & FIELD OBSERVATIONS

Verizon has a 4-sector antenna configuration on the above referenced roof which are split into mounts on the central penthouse facade, main roof mechanical screen wall and main roof parapet wall. Verizon is proposing to add (4) integrated antennas to the sectors on the mechanical screen wall and parapet wall, which will be located above existing Verizon antennas on shared 2-1/2" nominal steel pipe masts. Details for these mounts are noted within the above referenced CD's. There are no other proposed changes to Verizon's existing antennas or accessory equipment. Verizon also proposes to remove (3) 850-CDMA antennas which are no longer in use.

5. PROPOSED VERIZON ANTENNA/EQUIPMENT CONFIGURATION (TYP. EA. SECTOR)

a. (1) MT6407 Antenna.
b. (1)28HZ Integrated Antenna/RRH.
c. (2) MX10FR0660 Antennas on Dual Mounting brackets.
d. (1) AWS/PCS Dual-Band RRH.
e. (1) 700/850 Dual-Band RRH.
f. (1) RRH CBRS.
g. Raycap 6-ckt. OVP.

6. RESULTS

A structural analysis was completed on the Parapet wall and the HSS 4x4 posts supporting the antenna. Our analysis was performed against the wind and gravity loads caused by Verizon's equipment.

The HSS 4x4 post supporting the mechanical screen wall and antennas is at 29.5% capacity, which is adequate.

The parapet wall mounts support short horizontal outriggers located over the top of the parapet with antennas extending down in front of the South-East corner of the building facade to simulate a "flush mount" appearance. The parapet connection is at 73% capacity, which is structurally adequate.

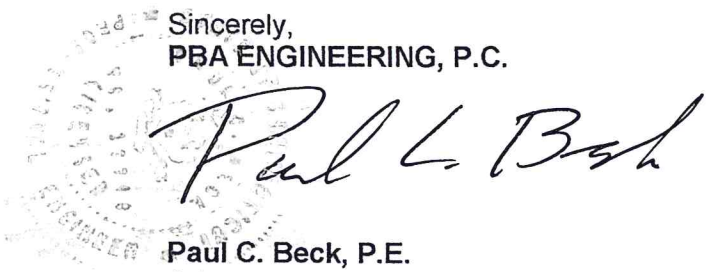
7. CONCLUSION

The host building, the screen wall and the parapet wall are capable of supporting the existing and proposed equipment.

This analysis is based on the information provided to our office and is assumed to correctly depict the existing condition. The existing roof, subsequent floors, and foundation are assumed to be installed properly and in a professional manner.

Should you have any questions concerning the items contained within this report, please do not hesitate to contact our office.

Sincerely,
PBA ENGINEERING, P.C.



Paul C. Beck, P.E.
Connecticut Professional Engineer
License No: 12949

PCB/nf

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APPENDIX (A)

Municipality	Basic Design Wind Speeds, V (mph)				Allowable Stress Design Wind Speeds, V_{asd} (mph)				Ground Snow Load p_g (psf)	MCE Ground Accelerations		Wind-Borne Debris Region[1]		Hurricane-Prone Region
	Risk Cat. I	Risk Cat. II	Risk Cat. III	Risk Cat. IV	Risk Cat. I	Risk Cat. II	Risk Cat. III	Risk Cat. IV		S_S (g)	S_1 (g)	Risk Cat. III Occup. I-2	Risk Cat. IV	
Hampton	115	125	130	135	89	97	101	105	35	0.184	0.054			Yes
Hartford	110	120	130	135	85	93	101	105	30	0.189	0.055			Yes
Hartland	110	115	125	130	85	89	97	101	35	0.167	0.054			
Harwinton	110	120	125	130	85	93	97	101	35	0.177	0.054			Yes
Hebron	115	125	130	135	89	97	101	105	30	0.200	0.055			Yes
Kent	105	115	125	130	81	89	97	101	40	0.184	0.054			
Killingly	115	125	135	140	89	97	105	108	35	0.186	0.055			Yes
Killingworth	115	125	135	140	89	97	105	108	30	0.210	0.055			Yes
Lebanon	115	125	135	135	89	97	105	105	30	0.196	0.055			Yes
Ledyard	120	130	140	140	93	101	108	108	30	0.190	0.053			Yes
Lisbon	115	125	135	140	89	97	105	108	30	0.190	0.054			Yes
Litchfield	110	115	125	130	85	89	97	101	35	0.178	0.054			
Lyme	115	125	135	140	89	97	105	108	30	0.207	0.054			Yes
Madison	115	125	135	140	89	97	105	108	30	0.206	0.054	Type B	Type B	Yes
Manchester	110	120	130	135	85	93	101	105	30	0.190	0.055			Yes
Mansfield	110	120	130	135	85	93	101	105	35	0.186	0.055			Yes
Marlborough	110	125	130	135	85	97	101	105	30	0.205	0.056			Yes
Meriden	110	120	130	135	85	93	101	105	30	0.203	0.055			Yes
Middlebury	110	120	130	130	85	93	101	101	35	0.194	0.054			Yes
Middlefield	110	120	130	135	85	93	101	105	30	0.209	0.055			Yes
Middletown	110	120	130	135	85	93	101	105	30	0.209	0.056			Yes
Milford	110	120	130	135	85	93	101	105	30	0.202	0.053	Type B	Type B	Yes
Monroe	110	120	130	135	85	93	101	105	30	0.208	0.055			Yes
Montville	120	125	135	140	93	97	105	108	30	0.198	0.054			Yes
Morris	110	115	125	130	85	89	97	101	35	0.182	0.054			
Naugatuck	110	120	130	135	85	93	101	105	30	0.197	0.054			Yes
New Britain	110	120	130	135	85	93	101	105	30	0.195	0.055			Yes
New Canaan	110	120	130	135	85	93	101	105	30	0.252	0.058			Yes
New Fairfield	110	115	125	130	85	89	97	101	30	0.219	0.056			
New Hartford	110	115	125	130	85	89	97	101	35	0.172	0.054			
New Haven	110	125	130	135	85	97	101	105	30	0.201	0.054	Type B	Type B	Yes
New London	120	130	140	140	93	101	108	108	30	0.191	0.053	Type B	Type A	Yes

MecaWind v2405

Calculations Prepared by:
True
Address
City, State,
Date: Mar 22, 2023
Designer: Engineer

Calculations Prepared For:
Client: Customer
Project #: JobNo
Location: Location
Description:
Description

File Location:
T:\01-Telecomm-Clients\On Air Engineering (N)\Documents\N-585 - New Haven CT\Calcs\
N-585 - New Haven CT MecaWind_v2405.wnd

Basic Wind Parameters

Wind Load Standard	= ASCE 7-16	Exposure Category	= B
Wind Design Speed	= 125.0 mph	Risk Category	= II
Structure Type	= Other	Other Structure Type	= Solid Sign

General Wind Settings

Incl_LF	= Include ASD Load Factor of 0.6 in Pressures	= True
DynType	= Dynamic Type of Structure	= Rigid
Zg	= Altitude (Ground Elevation) above Sea Level	= 1200.000 ft
Bdist	= Base Elevation of Structure	= 158.000 ft
MWFRSType	= MWFRS Method Selected	= Ch 29

Topographic Factor per Fig 26.8-1

Topo	= Topographic Feature	= None
Kzt	= Topographic Factor	= 1.000

Solid Sign Inputs

h	: Height to Top of Sign	= 6.000 ft	B	: Horizontal Width of Sign	= 1.000 ft
Lr	: Dimension of return corner	= 1.000 ft	s	: Vertical Height of Sign	= 10.000 ft
e	: Solidity Ratio	= 1.000	t	: Thickness of Sign	= 0 ft
Att	: Attached to Wall	= False	Dbl	: Double Faced & all sides enclosed	= False
IsCol: Is the Sign Supported on Columns= False					

Exposure Constants per Table 26.11-1:

Alpha:	Table 26.11-1 Const	= 7.000	Zg:	Table 26.11-1 Const	= 1200.000 ft
At:	Table 26.11-1 Const	= 0.143	Bt:	Table 26.11-1 Const	= 0.840
Am:	Table 26.11-1 Const	= 0.250	Bm:	Table 26.11-1 Const	= 0.450
C:	Table 26.11-1 Const	= 0.300	Eps:	Table 26.11-1 Const	= 0.333

Gust Factor Calculation:

Gust Factor Category I Rigid Structures - Simplified Method

G1	= For Rigid Structures (Nat. Freq.>1 Hz) use 0.85	= 0.85

Gust Factor Category II Rigid Structures - Complete Analysis

Zm	= Max(0.6 * Ht, Zmin)	= 30.000 ft
Izm	= Cc * (33 / Zm) ^ 0.167	= 0.305
Lzm	= L * (Zm / 33) ^ Eps	= 309.993
B	= Structure Width Normal to Wind	= 1.000 ft
Q	= (1 / (1 + 0.63 * ((B + Ht) / Lzm)^0.63))^0.5	= 0.972
G2	= 0.925*((1+0.7*Izm*3.4*Q)/(1+0.7*3.4*Izm))	= 0.909

Gust Factor Used in Analysis

G	= Lessor Of G1 Or G2	= 0.850

Main Wind Force Resisting System (MWFRS) Calculations for Solid Sign per Ch 29:

LF	= Load Factor based upon ASD Design	= 0.60
hs	= Overall height of structure	= 6.000 ft
h	= Mean Roof Height above grade	= 164.000 ft
Kh	= 15 ft [4.572 m]< Z <Zg -->(2.01*(Z/zg)^(2/Alpha) {Table 26.10-1}	= 1.138
Kzt	= Topographic Factor is 1 since no Topographic feature specified	= 1.000
Kd	= Wind Directionality Factor per Table 26.6-1	= 0.85
qh	= (0.00256 * Kh * Kzt * Kd * Ke * V^2) * LF	= 22.23 psf

MWFRS Pressures on Solid Sign per Fig 29.3-1:

R	= Reduction factor to account for openings: (1-(1-e)^1.5)	= 1.000
Rc	= Reduction factor for Case C since s/h > 0.8: (1.8-s/h)	= 0.133
As	= Gross Area of Sign: B * s	= 10.00 sq ft
B/s	= Aspect Ratio: B / s	= 0.100
s/h	= Clearance Ratio: s / h	= 1.667

Cf	= Net Force Coefficient for Case A and B per Fig 29.3-1	= 1.700
e	= Not Double Faced, Case B eccentricity is 0.2	= 0.2

Case A: Resultant force acts normal to face through geometric center

F	= Design Wind force: qh * G * Cf * As * R	= 321 lb

Case B: Resultant force acts normal to face at a distance from the geometric center toward the windward edge equal to e times the average width

Dx	= Force Offset from Center toward windward edge: e * B	= 0.200 ft
F	= Design Wind force: qh * G * Cf * As * R	= 321 lb

Case C: Since B/s < 2 then Case C need not be considered

Project Title:
Engineer:
Project ID:
Project Descr:

Steel Beam

Project File: N-585 - New Haven CT.ec6

DESCRIPTION: Existing Screen Verticals

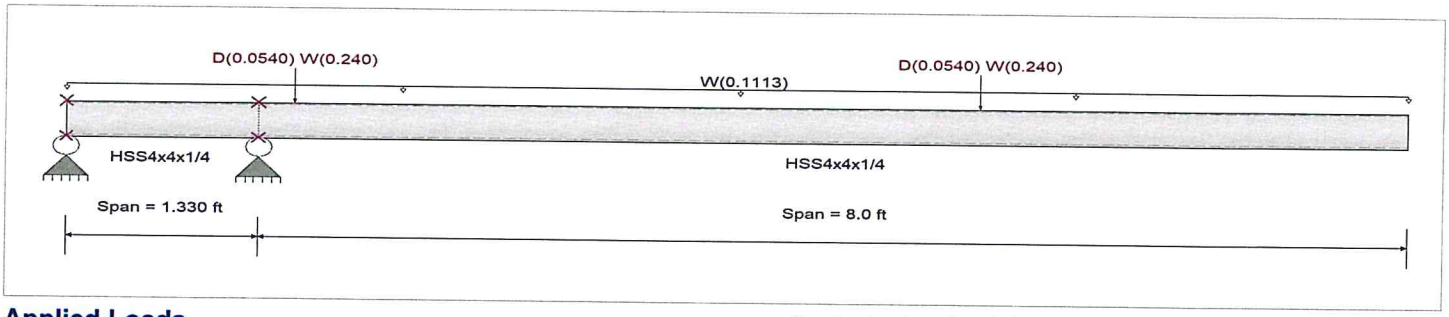
CODE REFERENCES

Calculations per AISC 360-16, IBC 2021, ASCE 7-16
Load Combination Set : ASCE 7-16

Material Properties

Analysis Method : Allowable Strength Design
Beam Bracing : Completely Unbraced
Bending Axis : Major Axis Bending

Fy : Steel Yield : 46.0 ksi
E: Modulus : 29,000.0 ksi



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight NOT internally calculated and added
Loads on all spans...
Uniform Load on ALL spans : W = 0.01855 ksf, Tributary Width = 6.0 ft

Load(s) for Span Number 2
Point Load : D = 0.0540, W = 0.240 k @ 0.250 ft

Point Load : D = 0.0540, W = 0.240 k @ 5.0 ft

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio =	0.295 : 1	Maximum Shear Stress Ratio =	0.096 : 1
Section used for this span	HSS4x4x1/4	Section used for this span	HSS4x4x1/4
Ma : Applied	3.176 k-ft	Va : Applied	2.433 k
Mn / Omega : Allowable	10.765 k-ft	Vn/Omega : Allowable	25.423 k
Load Combination	+D+0.60W	Load Combination	+D+0.60W
		Location of maximum on span	1.330 ft
Span # where maximum occurs	Span # 1	Span # where maximum occurs	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.709 in	Ratio =	270	>=180.	Span: 2 : W Only
Max Upward Transient Deflection	-0.004 in	Ratio =	3,829	>=180.	Span: 2 : W Only
Max Downward Total Deflection	0.466 in	Ratio =	412	>=180.	Span: 2 : +D+0.60W
Max Upward Total Deflection	-0.003 in	Ratio =	5809	>=180.	Span: 2 : +D+0.60W

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Max Stress Ratios M	V	Summary of Moment Values Mmax +	Mmax -	Ma Max	Mnx	Mnx/Omega	Cb	Rm	Summary of Shear Values Va Max	VnxVnx/Omega	
D Only													
Dsgn. L = 1.33 ft	1	0.026	0.008		-0.28	0.28	17.98	10.77	1.67	1.00	0.21	42.46	25.42
Dsgn. L = 8.00 ft	2	0.026	0.004		-0.28	0.28	17.98	10.77	1.00	1.00	0.11	42.46	25.42
+D+0.60W													
Dsgn. L = 1.33 ft	1	0.295	0.096		-3.18	3.18	17.98	10.77	1.68	1.00	2.43	42.46	25.42
Dsgn. L = 8.00 ft	2	0.295	0.037		-3.18	3.18	17.98	10.77	1.00	1.00	0.93	42.46	25.42
+D+0.450W													
Dsgn. L = 1.33 ft	1	0.228	0.074		-2.45	2.45	17.98	10.77	1.68	1.00	1.88	42.46	25.42
Dsgn. L = 8.00 ft	2	0.228	0.029		-2.45	2.45	17.98	10.77	1.00	1.00	0.72	42.46	25.42
+0.60D+0.60W													
Dsgn. L = 1.33 ft	1	0.285	0.092		-3.06	3.06	17.98	10.77	1.68	1.00	2.35	42.46	25.42
Dsgn. L = 8.00 ft	2	0.285	0.035		-3.06	3.06	17.98	10.77	1.00	1.00	0.89	42.46	25.42
+0.60D													
Dsgn. L = 1.33 ft	1	0.016	0.005		-0.17	0.17	17.98	10.77	1.67	1.00	0.13	42.46	25.42
Dsgn. L = 8.00 ft	2	0.016	0.003		-0.17	0.17	17.98	10.77	1.00	1.00	0.06	42.46	25.42

Project Title:
Engineer:
Project ID:
Project Descr:

Steel Beam

Project File: N-585 - New Haven CT.ec6

DESCRIPTION: Existing Screen Verticals

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
	1	0.0000	0.000	W Only	-0.0042	0.771
W Only	2	0.7094	8.000		0.0000	0.771

Maximum Deflections for Load Combinations

Load Combination	Span	Max. Downward Defl	Location in Span	Span	Max. Upward Defl	Location in Span
D Only	2	0.0404	8.000	1	-0.0002	0.771
+D+0.60W	2	0.4660	8.000	1	-0.0027	0.771
+D+0.450W	2	0.3596	8.000	1	-0.0021	0.771
+0.60D+0.60W	2	0.4498	8.000	1	-0.0026	0.771
+0.60D	2	0.0242	8.000	1	-0.0001	0.771
W Only	2	0.7094	8.000	1	-0.0042	0.771

Vertical Reactions

Support notation : Far left is #1 Values in KIPS

Load Combination	Support 1	Support 2	Support 3
Max Upward from all Load Conditions		5.070	
Max Upward from Load Combinations		3.363	
Max Upward from Load Cases		5.070	
Max Downward from all Load Conditions (Resis	-3.551		
Max Downward from Load Combinations (Resi:	-2.344		
Max Downward from Load Cases (Resisting Up	-3.551		
D Only	-0.213	0.321	
+D+0.60W	-2.344	3.363	
+D+0.450W	-1.811	2.603	
+0.60D+0.60W	-2.259	3.235	
+0.60D	-0.128	0.193	
W Only	-3.551	5.070	

Steel Section Properties : HSS4x4x1/4

Depth	=	4.000 in	I xx	=	7.80 in^4	J	=	12.800 in^4
			S xx		3.90 in^3			
Width	=	4.000 in	R xx	=	1.520 in			
Wall Thick	=	0.233 in	Zx	=	4.690 in^3			
Area	=	3.370 in^2	I yy	=	7.800 in^4	C	=	0.000 in^3
Weight	=	12.210 plf	S yy	=	3.900 in^3			
			R yy	=	1.520 in			
Ycg	=	2.000 in						

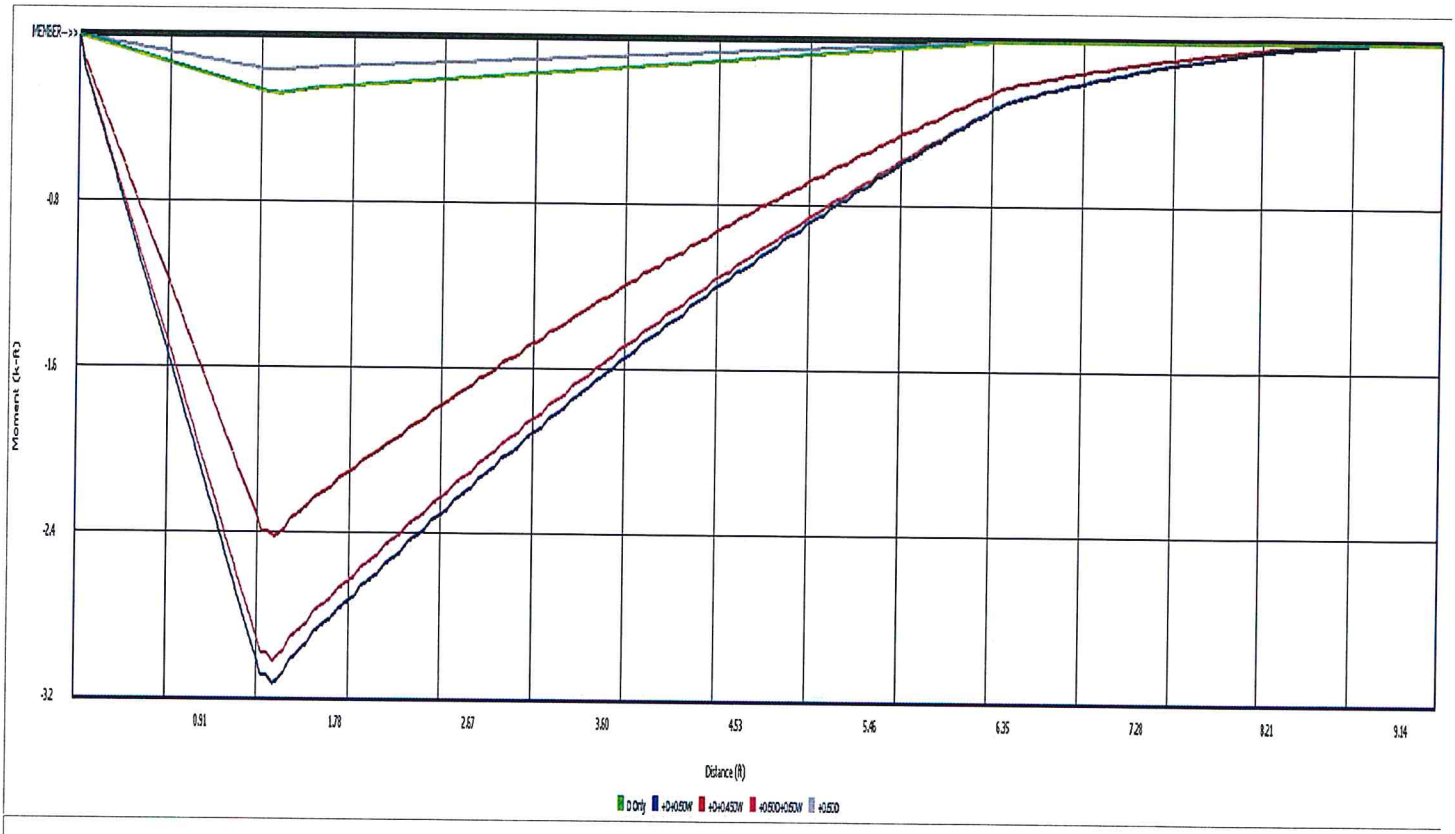
Project Title:
Engineer:
Project ID:
Project Descr:

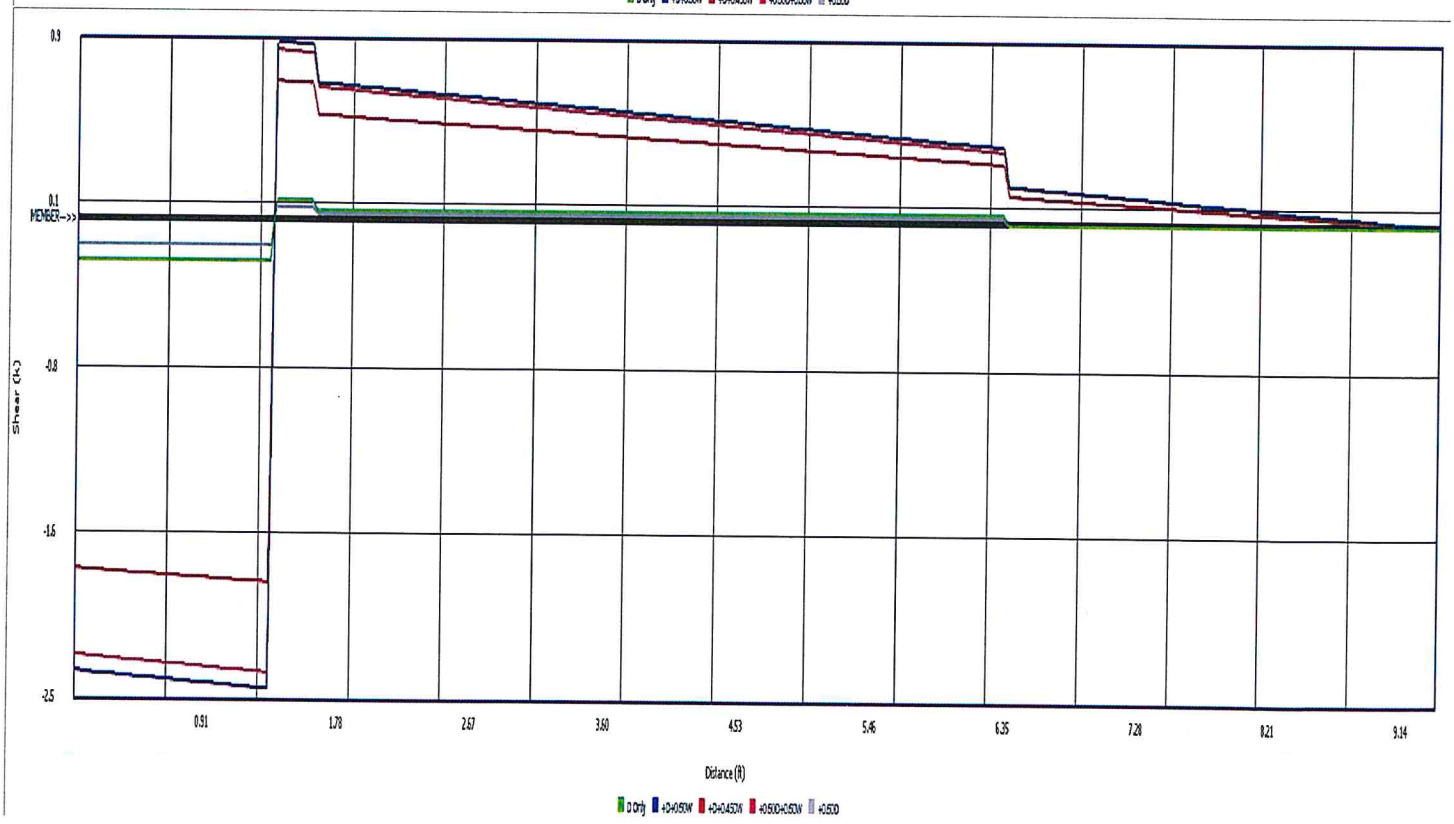
Steel Beam

Project File: N-585 - New Haven CT.ec6

LIC# : KW-06014238, Build:20.22.12.28 PBA ENGINEERING, P.C. (c) ENERCALC INC 1983-2022

DESCRIPTION: Existing Screen Verticals





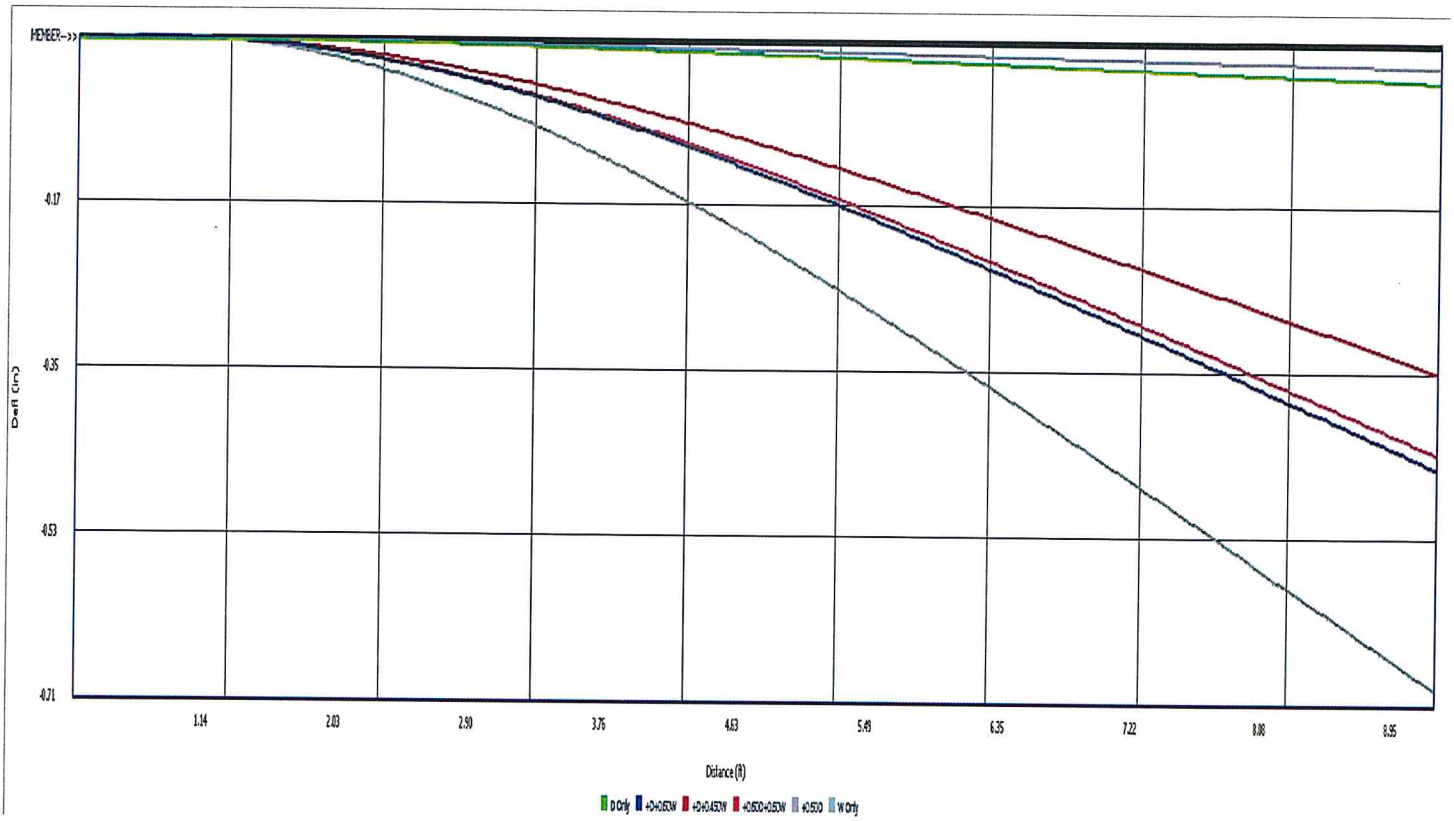
Project Title:
Engineer:
Project ID:
Project Descr:

Steel Beam

Project File: N-585 - New Haven CT.ec6

LIC# : KW-06014238, Build:20.22.12.28 PBA ENGINEERING, P.C. (c) ENERCALC INC 1983-2022

DESCRIPTION: Existing Screen Verticals



Project Title:
Engineer:
Project ID:
Project Descr:

Steel Beam

Project File: N-585 - New Haven CT.ec6

LIC# : KW-06014238, Build:20.22.12.28 PBA ENGINEERING, P.C. (c) ENERCALC INC 1983-2022

DESCRIPTION: Parapet Mount Angle

CODE REFERENCES

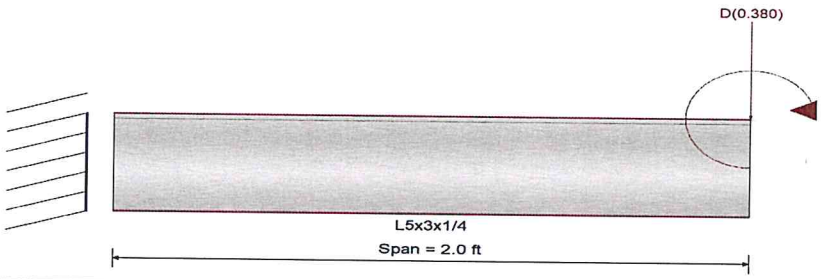
Calculations per AISC 360-16, IBC 2021, ASCE 7-16
Load Combination Set : ASCE 7-16

Material Properties

Analysis Method : Allowable Strength Design
Beam Bracing : Beam is Fully Braced against lateral-torsional buckling
Bending Axis : Major Axis Bending

Fy : Steel Yield : 35.0 ksi
E: Modulus : 29,000.0 ksi

Vertical Leg Up



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loading
Load(s) for Span Number 1
Point Load : D = 0.380 k @ 2.0 ft

Moment : D = 1.240 k-ft, Loc = 2.0 ft in span

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio =	0.507 : 1	Maximum Shear Stress Ratio =	0.025 : 1
Section used for this span	L5x3x1/4	Section used for this span	L5x3x1/4
Ma : Applied	2.013 k-ft	Va : Applied	0.3932 k
Mn / Omega : Allowable	3.969 k-ft	Vn/Omega : Allowable	15.719 k
Load Combination	D Only	Load Combination	D Only
		Location of maximum on span	0.000 ft
Span # where maximum occurs	Span # 1	Span # where maximum occurs	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.000 in	Ratio =	0	<360.0
Max Upward Transient Deflection	0.000 in	Ratio =	0	<360.0
Max Downward Total Deflection	0.041 in	Ratio =	1172	>=180. Span: 1 : D Only
Max Upward Total Deflection	0.000 in	Ratio =	0	<180.0

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Max Stress Ratios M	V	Summary of Moment Values Mmax +	Mmax -	Ma Max	Mnx	Mnx/Omega	Cb	Rm	Summary of Shear Values Va Max	VnxVnx/Omega	
D Only													
Dsgn. L = 2.00 ft	1	0.507	0.025	-0.00	-2.01	2.01	6.63	3.97	1.00	1.00	0.39	26.25	15.72
+0.60D													
Dsgn. L = 2.00 ft	1	0.304	0.015	-0.00	-1.21	1.21	6.63	3.97	1.00	1.00	0.24	26.25	15.72

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
D Only	1	0.0409	2.000		0.0000	0.000

Maximum Deflections for Load Combinations

Load Combination	Span	Max. Downward Defl	Location in Span	Span	Max. Upward Defl	Location in Span
D Only	1	0.0409	2.000		0.0000	0.000
+0.60D	1	0.0246	2.000		0.0000	0.000

Vertical Reactions

Support notation : Far left is #
Values in KIPS

Load Combination	Support 1	Support 2
Max Upward from all Load Conditions	0.393	
Max Upward from Load Combinations	0.236	
Max Upward from Load Cases	0.393	

Project Title:
Engineer:
Project ID:
Project Descr:

Steel Beam

Project File: N-585 - New Haven CT.ec6

DESCRIPTION: Parapet Mount Angle

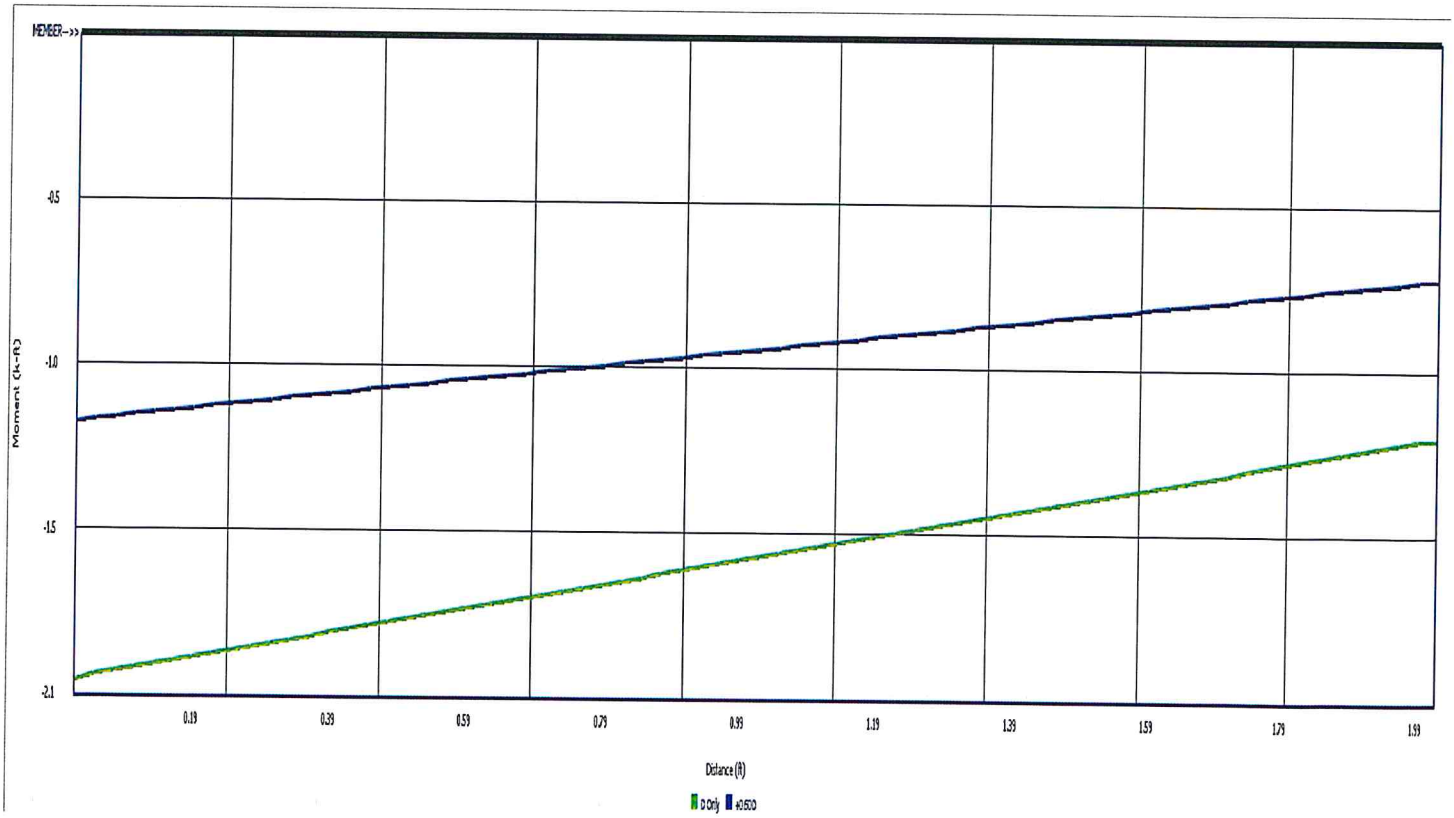
Vertical Reactions

Support notation : Far left is #' Values in KIPS

Load Combination	Support 1	Support 2
D Only	0.393	
+0.60D	0.236	

Steel Section Properties : L5x3x1/4

Depth	=	5.000 in	I xx	=	5.09 in^4	J	=	0.044 in^4
			S xx		1.51 in^3	Cw	=	0.06 in^6
Leg Width	=	3.000 in	R xx	=	1.620 in	Ro	=	2.430 in
Thickness	=	0.250 in	Zx	=	2.680 in^3			
Area	=	1.940 in^2	I yy	=	1.410 in^4			
Weight	=	6.600 plf	S yy	=	0.600 in^3			
Kdesign	=	0.688 in	R yy	=	0.853 in			
			Zy	=	1.050 in^3			
Ycg	=	1.640 in	Qs	=	0.804			
Xcg	=	0.648 in	Iz	=	0.825 in^4			
Xp	=	0.194 in	Sz	=	0.491 in^3			
Yp	=	1.120 in	Rz	=	0.652 in			
			Tanα	=	0.37 deg			
Eo	=	0.194 in						



Project Title:
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Project Descr:

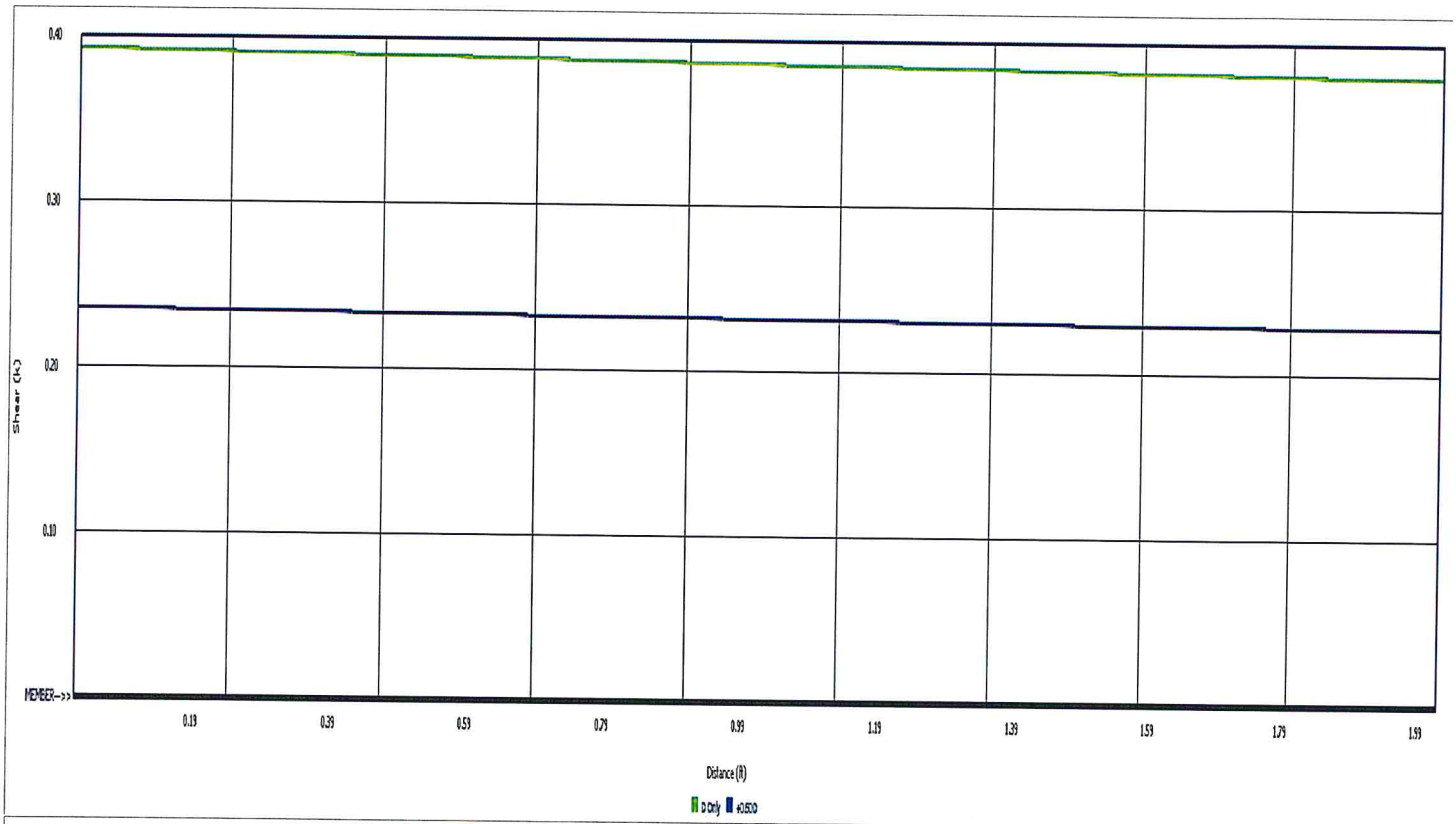
Steel Beam

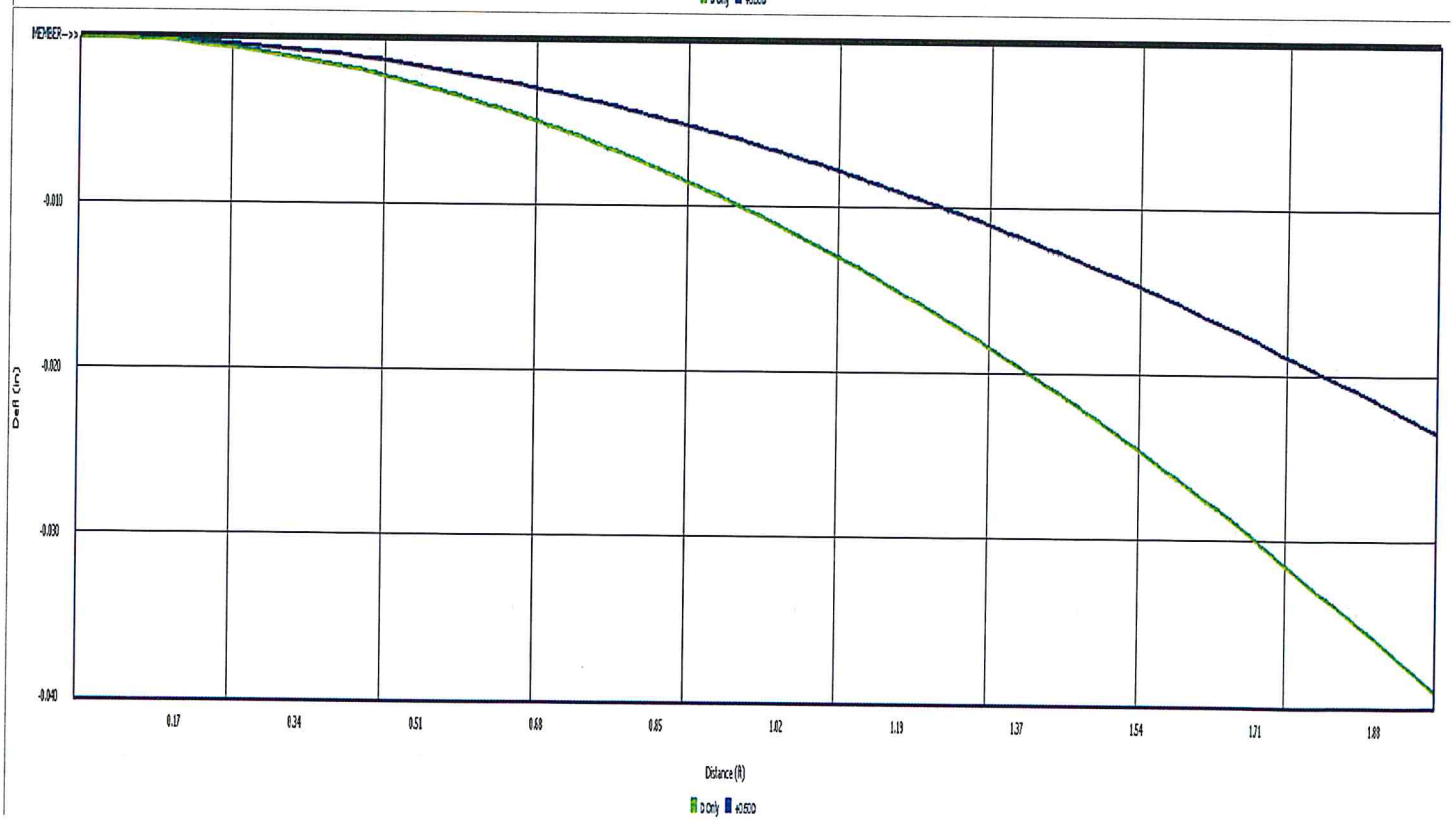
Project File: N-585 - New Haven CT.ec6

LIC# : KW-06014238, Build:20.22.12.28

PBA ENGINEERING, P.C.

DESCRIPTION: Parapet Mount Angle





ANTENNA MOUNT ANALYSIS REPORT

FOR

SITE NAME: NEW HAVEN CT
54 MEADOW STREET
NEW HAVEN, CT 06519

PREPARED FOR:

verizon

WIRELESS COMMUNICATIONS FACILITY
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

On Air Engineering, LLC
88 FOUNDRY POND ROAD
COLD SPRING, NY 10516
ONAIR@OPTONLINE.NET
201-456-4624

PBA ENGINEERING, P.C
Structural Engineers

12 KULICK ROAD
FAIRFIELD, NEW JERSEY 07004-3363
PHONE: (973) 276-1700
FAX: (973) 276-9766

PROJECT NO. N-585
DATE: 3/22/2023

Paul C. Beck, P.E.
Connecticut Professional Engineer
License No: 12949

CONTENTS

1. PURPOSE

The purpose of this analysis is to determine whether the antenna support mounts located at 54 Meadow Street, New Haven, Ct 06519, are adequate to support the proposed modifications to Verizon's antennas and equipment.

2. REFERENCES

1. Verizon CD's by On Air Engineering, LLC, dated: October 19, 2022.
2. Photographs and antenna frame supports.
3. New Haven CT Structural Assessment Letter by On Air Engineering, LLC dated: July 13, 2020.

3. BUILDING CODES

1. 2021 International Building Code.
2. CT State Building Code, October 1, 2022
3. ASCE/SEI 7-16 (Minimum Design Loads for Buildings and Other Structures).

4. EXISTING STRUCTURE & FIELD OBSERVATIONS

Verizon has a 4-sector antenna configuration on the above referenced roof which are split into mounts on the central penthouse facade, main roof mechanical screen wall and main roof parapet wall. Verizon is proposing to add (4) integrated antennas to the sectors on the mechanical screen wall and parapet wall, which will be located above existing Verizon antennas on shared 2-1/2" nominal steel pipe masts. Details for these mounts are noted within the above referenced CD's. There are no other proposed changes to Verizon's existing antennas or accessory equipment. Verizon also proposes to remove (3) 850-CDMA antennas which are no longer in use.

5. PROPOSED VERIZON ANTENNA/EQUIPMENT CONFIGURATION (TYP. EA. SECTOR)

a. (1) MT6407 Antenna.
b. (1)28HZ Integrated Antenna/RRH.
c. (2) MX10FR0660 Antennas on Dual Mounting brackets.
d. (1) AWS/PCS Dual-Band RRH.
e. (1) 700/850 Dual-Band RRH.
f. (1) RRH CBRS.
g. Raycap 6-ckt. OVP.

6. RESULTS

A mount analysis was completed on the 2 1/2" diameter steel pipes supporting the antennas/equipment. The mounts are modeled against the wind and gravity loads caused by the equipment. The max bending moment stressess for the parapet pipe masts are at 27% capacity which is adequate.

7. CONCLUSION

The pipe masts are structurally adequate and safe to support the forces applied to them.

This analysis is based on the information provided to our office and is assumed to correctly depict the existing condition. The existing roof, subsequent floors, and foundation are assumed to be installed properly and in a professional manner.

Should you have any questions concerning the items contained within this report, please do not hesitate to contact our office.

Sincerely,
PBA ENGINEERING, P.C.

Paul C. Beck, P.E.
Connecticut Professional Engineer
License No: 12949

PCB/nf

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APPENDIX (A)

Municipality	Basic Design Wind Speeds, V (mph)				Allowable Stress Design Wind Speeds, V_{asd} (mph)				Ground Snow Load p_g (psf)	MCE Ground Accelerations		Wind-Borne Debris Region[1]		Hurricane-Prone Region
	Risk Cat. I	Risk Cat. II	Risk Cat. III	Risk Cat. IV	Risk Cat. I	Risk Cat. II	Risk Cat. III	Risk Cat. IV		S_S (g)	S_1 (g)	Risk Cat. III Occup. I-2	Risk Cat. IV	
Hampton	115	125	130	135	89	97	101	105	35	0.184	0.054			Yes
Hartford	110	120	130	135	85	93	101	105	30	0.189	0.055			Yes
Hartland	110	115	125	130	85	89	97	101	35	0.167	0.054			
Harwinton	110	120	125	130	85	93	97	101	35	0.177	0.054			Yes
Hebron	115	125	130	135	89	97	101	105	30	0.200	0.055			Yes
Kent	105	115	125	130	81	89	97	101	40	0.184	0.054			
Killingly	115	125	135	140	89	97	105	108	35	0.186	0.055			Yes
Killingworth	115	125	135	140	89	97	105	108	30	0.210	0.055			Yes
Lebanon	115	125	135	135	89	97	105	105	30	0.196	0.055			Yes
Ledyard	120	130	140	140	93	101	108	108	30	0.190	0.053			Yes
Lisbon	115	125	135	140	89	97	105	108	30	0.190	0.054			Yes
Litchfield	110	115	125	130	85	89	97	101	35	0.178	0.054			
Lyme	115	125	135	140	89	97	105	108	30	0.207	0.054			Yes
Madison	115	125	135	140	89	97	105	108	30	0.206	0.054	Type B	Type B	Yes
Manchester	110	120	130	135	85	93	101	105	30	0.190	0.055			Yes
Mansfield	110	120	130	135	85	93	101	105	35	0.186	0.055			Yes
Marlborough	110	125	130	135	85	97	101	105	30	0.205	0.056			Yes
Meriden	110	120	130	135	85	93	101	105	30	0.203	0.055			Yes
Middlebury	110	120	130	130	85	93	101	101	35	0.194	0.054			Yes
Middlefield	110	120	130	135	85	93	101	105	30	0.209	0.055			Yes
Middletown	110	120	130	135	85	93	101	105	30	0.209	0.056			Yes
Milford	110	120	130	135	85	93	101	105	30	0.202	0.053	Type B	Type B	Yes
Monroe	110	120	130	135	85	93	101	105	30	0.208	0.055			Yes
Montville	120	125	135	140	93	97	105	108	30	0.198	0.054			Yes
Morris	110	115	125	130	85	89	97	101	35	0.182	0.054			
Naugatuck	110	120	130	135	85	93	101	105	30	0.197	0.054			Yes
New Britain	110	120	130	135	85	93	101	105	30	0.195	0.055			Yes
New Canaan	110	120	130	135	85	93	101	105	30	0.252	0.058			Yes
New Fairfield	110	115	125	130	85	89	97	101	30	0.219	0.056			
New Hartford	110	115	125	130	85	89	97	101	35	0.172	0.054			
New Haven	110	125	130	135	85	97	101	105	30	0.201	0.054	Type B	Type B	Yes
New London	120	130	140	140	93	101	108	108	30	0.191	0.053	Type B	Type A	Yes

MecaWind v2405

Calculations Prepared by:
True
Address
City, State,
Date: Mar 22, 2023
Designer: Engineer

Calculations Prepared For:
Client: Customer
Project #: JobNo
Location: Location
Description:
Description

File Location:
T:\01-Telecomm-Clients\On Air Engineering (N)\Documents\N-585 - New Haven CT\Calcs\N-585 - New Haven CT MecaWind_v2405.wnd

Basic Wind Parameters

Wind Load Standard	= ASCE 7-16	Exposure Category	= B
Wind Design Speed	= 125.0 mph	Risk Category	= II
Structure Type	= Other	Other Structure Type	= Solid Sign

General Wind Settings

Incl_LF	= Include ASD Load Factor of 0.6 in Pressures	= True
DynType	= Dynamic Type of Structure	= Rigid
Zg	= Altitude (Ground Elevation) above Sea Level	= 1200.000 ft
Bdist	= Base Elevation of Structure	= 158.000 ft
MWFRSType	= MWFRS Method Selected	= Ch 29

Topographic Factor per Fig 26.8-1

Topo	= Topographic Feature	= None
Kzt	= Topographic Factor	= 1.000

Solid Sign Inputs

h	: Height to Top of Sign	= 6.000 ft	B	: Horizontal Width of Sign	= 1.000 ft
Lr	: Dimension of return corner	= 1.000 ft	s	: Vertical Height of Sign	= 10.000 ft
e	: Solidity Ratio	= 1.000	t	: Thickness of Sign	= 0 ft
Att	: Attached to Wall	= False	Dbl	: Double Faced & all sides enclosed	= False
IsCol: Is the Sign Supported on Columns= False					

Exposure Constants per Table 26.11-1:

Alpha:	Table 26.11-1 Const	= 7.000	Zg:	Table 26.11-1 Const	= 1200.000 ft
At:	Table 26.11-1 Const	= 0.143	Bt:	Table 26.11-1 Const	= 0.840
Am:	Table 26.11-1 Const	= 0.250	Bm:	Table 26.11-1 Const	= 0.450
C:	Table 26.11-1 Const	= 0.300	Eps:	Table 26.11-1 Const	= 0.333

Gust Factor Calculation:

Gust Factor Category I Rigid Structures - Simplified Method		
G1	= For Rigid Structures (Nat. Freq.>1 Hz) use 0.85	= 0.85
Gust Factor Category II Rigid Structures - Complete Analysis		
Zm	= Max(0.6 * Ht, Zmin)	= 30.000 ft
Izm	= Cc * (33 / Zm) ^ 0.167	= 0.305
Lzm	= L * (Zm / 33) ^ Eps	= 309.993
B	= Structure Width Normal to Wind	= 1.000 ft
Q	= (1 / (1 + 0.63 * ((B + Ht) / Lzm)^0.63))^0.5	= 0.972
G2	= 0.925*((1+0.7*Izm*3.4*Q)/(1+0.7*3.4*Izm))	= 0.909
Gust Factor Used in Analysis		
G	= Lessor Of G1 Or G2	= 0.850

Main Wind Force Resisting System (MWFRS) Calculations for Solid Sign per Ch 29:

LF	= Load Factor based upon ASD Design	= 0.60
hs	= Overall height of structure	= 6.000 ft
h	= Mean Roof Height above grade	= 164.000 ft
Kh	= 15 ft [4.572 m]< Z <Zg -->(2.01*(Z/zg)^(2/Alpha) {Table 26.10-1}	= 1.138
Kzt	= Topographic Factor is 1 since no Topographic feature specified	= 1.000
Kd	= Wind Directionality Factor per Table 26.6-1	= 0.85
qh	= (0.00256 * Kh * Kzt * Kd * Ke * V^2) * LF	= 22.23 psf

MWFRS Pressures on Solid Sign per Fig 29.3-1:

R	= Reduction factor to account for openings: (1-(1-e)^1.5)	= 1.000
Rc	= Reduction factor for Case C since s/h > 0.8: (1.8-s/h)	= 0.133
As	= Gross Area of Sign: B * s	= 10.00 sq ft
B/s	= Aspect Ratio: B / s	= 0.100
s/h	= Clearance Ratio: s / h	= 1.667

Cf	= Net Force Coefficient for Case A and B per Fig 29.3-1	= 1.700
e	= Not Double Faced, Case B eccentricity is 0.2	= 0.2

Case A: Resultant force acts normal to face through geometric center

F	= Design Wind force: qh * G * Cf * As * R	= 321 lb

Case B: Resultant force acts normal to face at a distance from the geometric center toward the windward edge equal to e times the average width

Dx	= Force Offset from Center toward windward edge: e * B	= 0.200 ft
F	= Design Wind force: qh * G * Cf * As * R	= 321 lb

Case C: Since B/s < 2 then Case C need not be considered

Project Title:
Engineer:
Project ID:
Project Descr:

Steel Beam

Project File: N-585 - New Haven CT.ec6

LIC# : KW-06014238, Build:20.22.12.28 PBA ENGINEERING, P.C. (c) ENERCALC INC 1983-2022

DESCRIPTION: New Antenna Pipe Mast

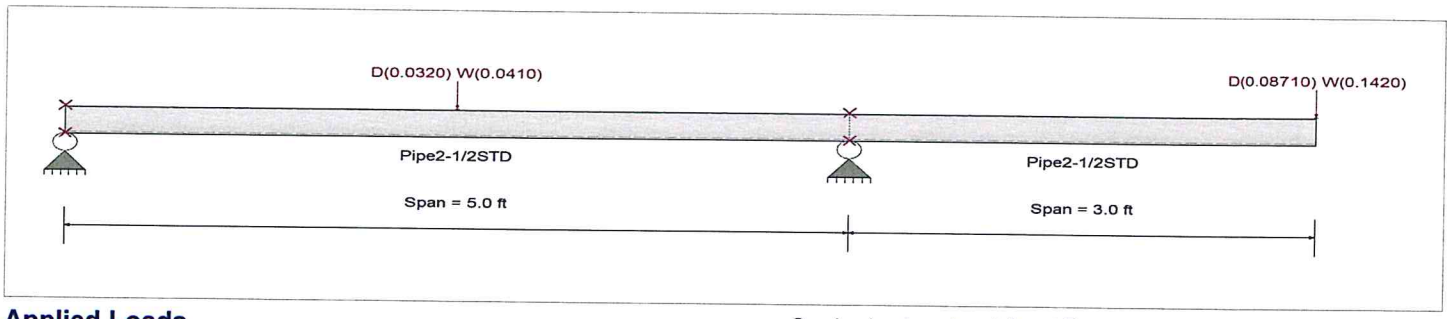
CODE REFERENCES

Calculations per AISC 360-16, IBC 2021, ASCE 7-16
Load Combination Set : IBC 2021

Material Properties

Analysis Method : Allowable Strength Design
Beam Bracing : Completely Unbraced
Bending Axis : Major Axis Bending

Fy : Steel Yield : 35.0 ksi
E: Modulus : 29,000.0 ksi



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight NOT internally calculated and added
Load(s) for Span Number 1
Point Load : D = 0.0320, W = 0.0410 k @ 2.50 ft

Load(s) for Span Number 2
Point Load : D = 0.08710, W = 0.1420 k @ 3.0 ft

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio =	0.216 : 1	Maximum Shear Stress Ratio =	0.017 : 1
Section used for this span	Pipe2-1/2STD	Section used for this span	Pipe2-1/2STD
Ma : Applied	0.517 k-ft	Va : Applied	0.1723 k
Mn / Omega : Allowable	2.393 k-ft	Vn/Omega : Allowable	10.123 k
Load Combination	+D+0.60W	Load Combination	+D+0.60W
		Location of maximum on span	5.000 ft
Span # where maximum occurs	Span # 1	Span # where maximum occurs	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.132 in	Ratio =	545	>=360.	Span: 2 : W Only
Max Upward Transient Deflection	-0.024 in	Ratio =	2,501	>=360.	Span: 2 : W Only
Max Downward Total Deflection	0.159 in	Ratio =	453	>=180.	Span: 2 : +D+0.60W
Max Upward Total Deflection	-0.028 in	Ratio =	2112	>=180.	Span: 2 : +D+0.60W

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Max Stress Ratios M	V	Summary of Moment Values Mmax +	Mmax -	Ma Max	Mnx	Mnx/Omega	Cb	Rm	Summary of Shear Values Va Max	VnxVnx/Omega
D Only												
Dsgn. L = 5.00 ft	1	0.109	0.009		-0.26	0.26	4.00	2.39	1.94	1.00	0.09	16.91 10.12
Dsgn. L = 3.00 ft	2	0.109	0.009		-0.26	0.26	4.00	2.39	1.00	1.00	0.09	16.91 10.12
+D+0.60W												
Dsgn. L = 5.00 ft	1	0.216	0.017		-0.52	0.52	4.00	2.39	1.91	1.00	0.17	16.91 10.12
Dsgn. L = 3.00 ft	2	0.216	0.017		-0.52	0.52	4.00	2.39	1.00	1.00	0.17	16.91 10.12
+D+0.450W												
Dsgn. L = 5.00 ft	1	0.189	0.015		-0.45	0.45	4.00	2.39	1.92	1.00	0.15	16.91 10.12
Dsgn. L = 3.00 ft	2	0.189	0.015		-0.45	0.45	4.00	2.39	1.00	1.00	0.15	16.91 10.12
+0.60D+0.60W												
Dsgn. L = 5.00 ft	1	0.172	0.014		-0.41	0.41	4.00	2.39	1.90	1.00	0.14	16.91 10.12
Dsgn. L = 3.00 ft	2	0.172	0.014		-0.41	0.41	4.00	2.39	1.00	1.00	0.14	16.91 10.12
+0.60D												
Dsgn. L = 5.00 ft	1	0.066	0.005		-0.16	0.16	4.00	2.39	1.94	1.00	0.05	16.91 10.12
Dsgn. L = 3.00 ft	2	0.066	0.005		-0.16	0.16	4.00	2.39	1.00	1.00	0.05	16.91 10.12

Project Title:
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Steel Beam

Project File: N-585 - New Haven CT.ec6

DESCRIPTION: New Antenna Pipe Mast

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
	1	0.0000	0.000	+D+0.60W	-0.0284	3.000
+D+0.60W	2	0.1588	3.000		0.0000	3.000

Maximum Deflections for Load Combinations

Load Combination	Span	Max. Downward Defl	Location in Span	Span	Max. Upward Defl	Location in Span
D Only	2	0.0796	3.000	1	-0.0140	3.020
+D+0.60W	2	0.1588	3.000	1	-0.0284	3.000
+D+0.450W	2	0.1390	3.000	1	-0.0248	3.000
+0.60D+0.60W	2	0.1270	3.000	1	-0.0228	3.000
+0.60D	2	0.0478	3.000	1	-0.0084	3.020
W Only	2	0.1320	3.000	1	-0.0240	2.980

Vertical Reactions

Support notation : Far left is #' Values in KIPS

Load Combination	Support 1	Support 2	Support 3
Max Upward from all Load Conditions		0.304	
Max Upward from Load Combinations		0.304	
Max Upward from Load Cases		0.248	
Max Downward from all Load Conditions (Resis	-0.075		
Max Downward from Load Combinations (Resi	-0.075		
Max Downward from Load Cases (Resisting Up	-0.065		
D Only	-0.036	0.155	
+D+0.60W	-0.075	0.304	
+D+0.450W	-0.065	0.267	
+0.60D+0.60W	-0.061	0.242	
+0.60D	-0.022	0.093	
W Only	-0.065	0.248	

Steel Section Properties : Pipe2-1/2STD

Depth	=	2.880 in	I xx	=	1.45 in^4	J	=	2.890 in^4
			S xx		1.01 in^3			
Diameter	=	2.880 in	R xx	=	0.952 in			
Wall Thick	=	0.203 in	Zx	=	1.370 in^3			
Area	=	1.610 in^2	I yy	=	1.450 in^4			
Weight	=	5.800 plf	S yy	=	1.010 in^3			
			R yy	=	0.952 in			
Ycg	=	1.440 in						

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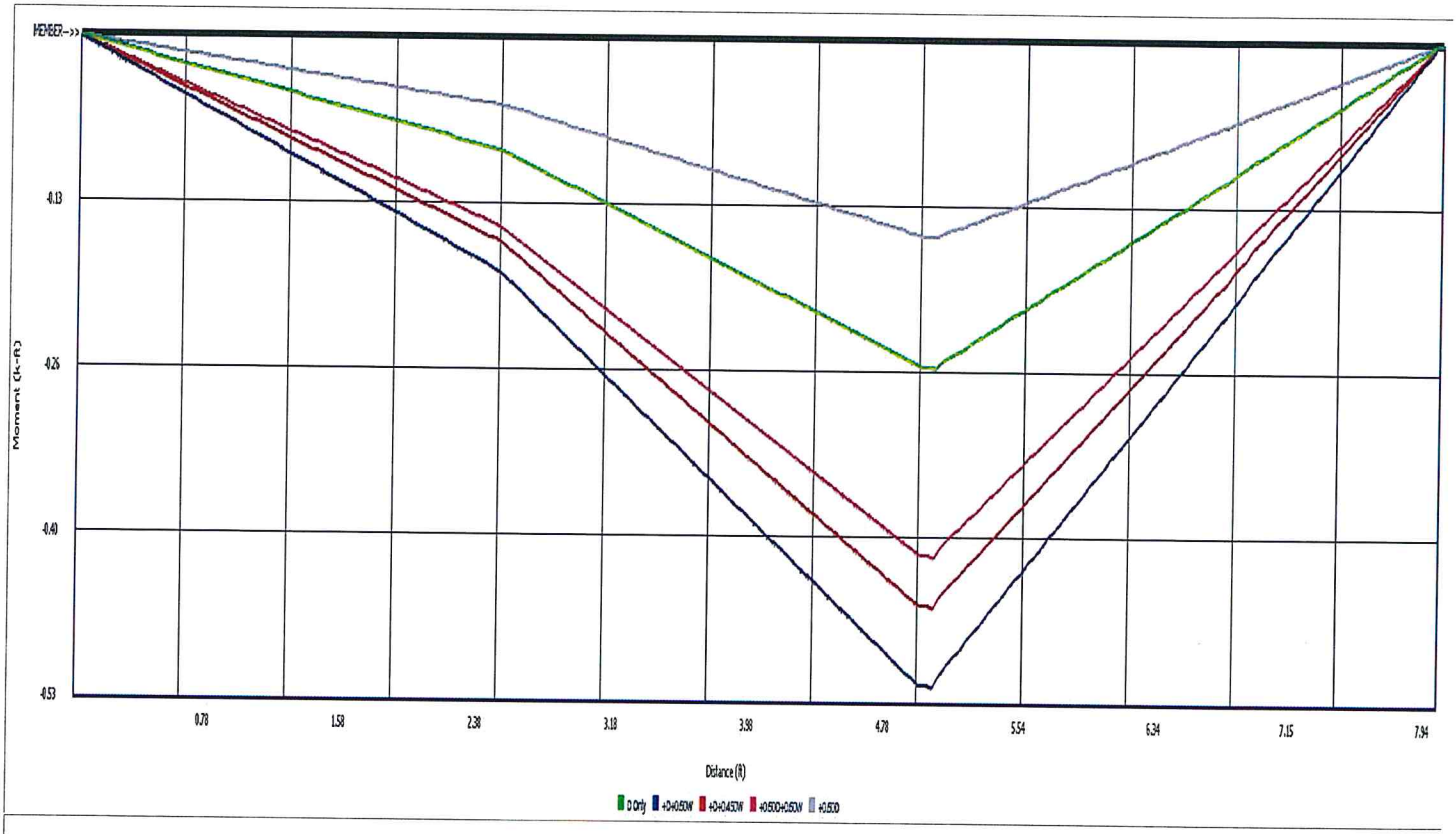
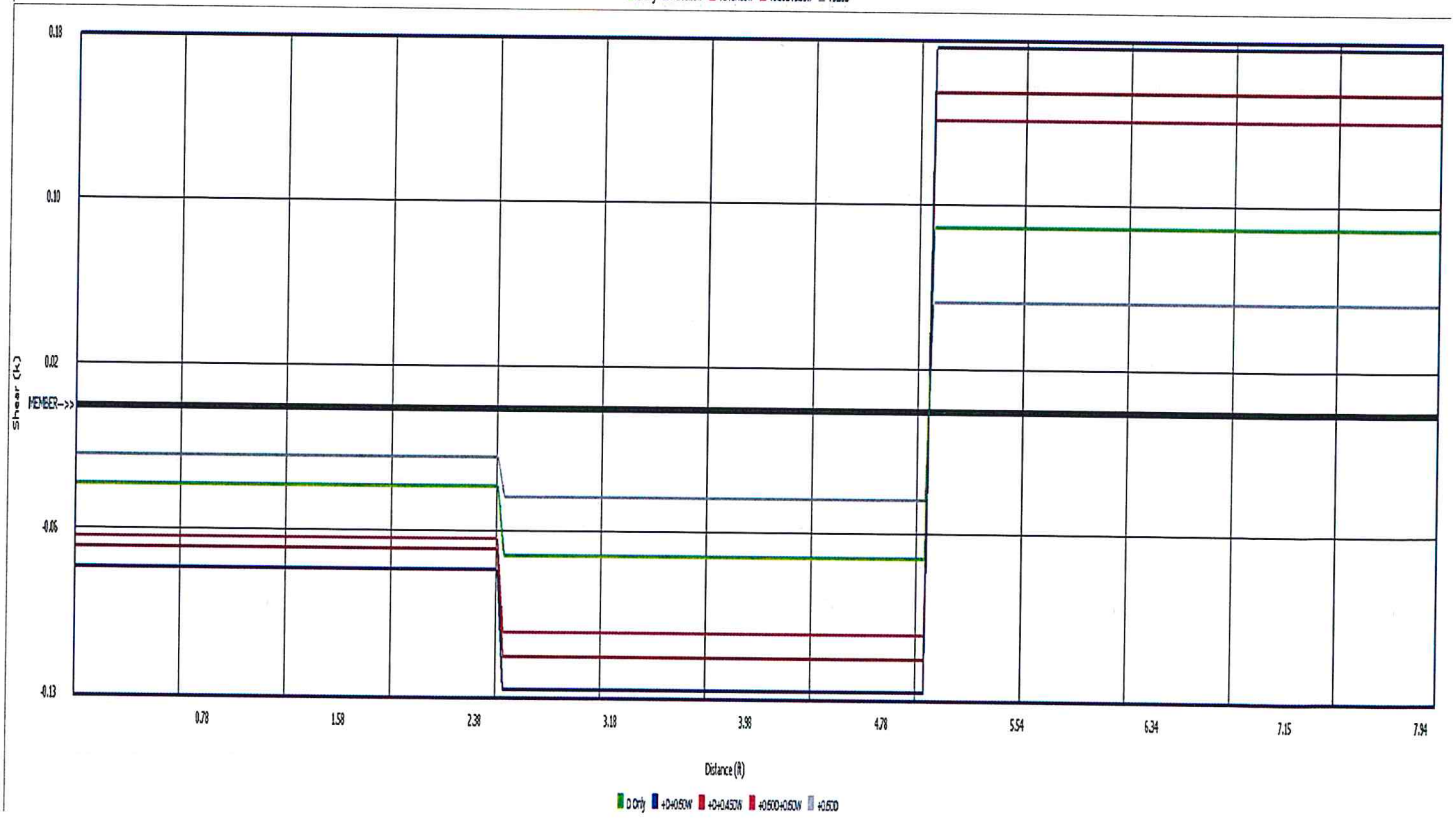
LIC# : KW-06014238, Build:20.22.12.28 PBA ENGINEERING, P.C. (c) ENERCALC INC 1983-2022

DESCRIPTION: New Antenna Pipe Mast





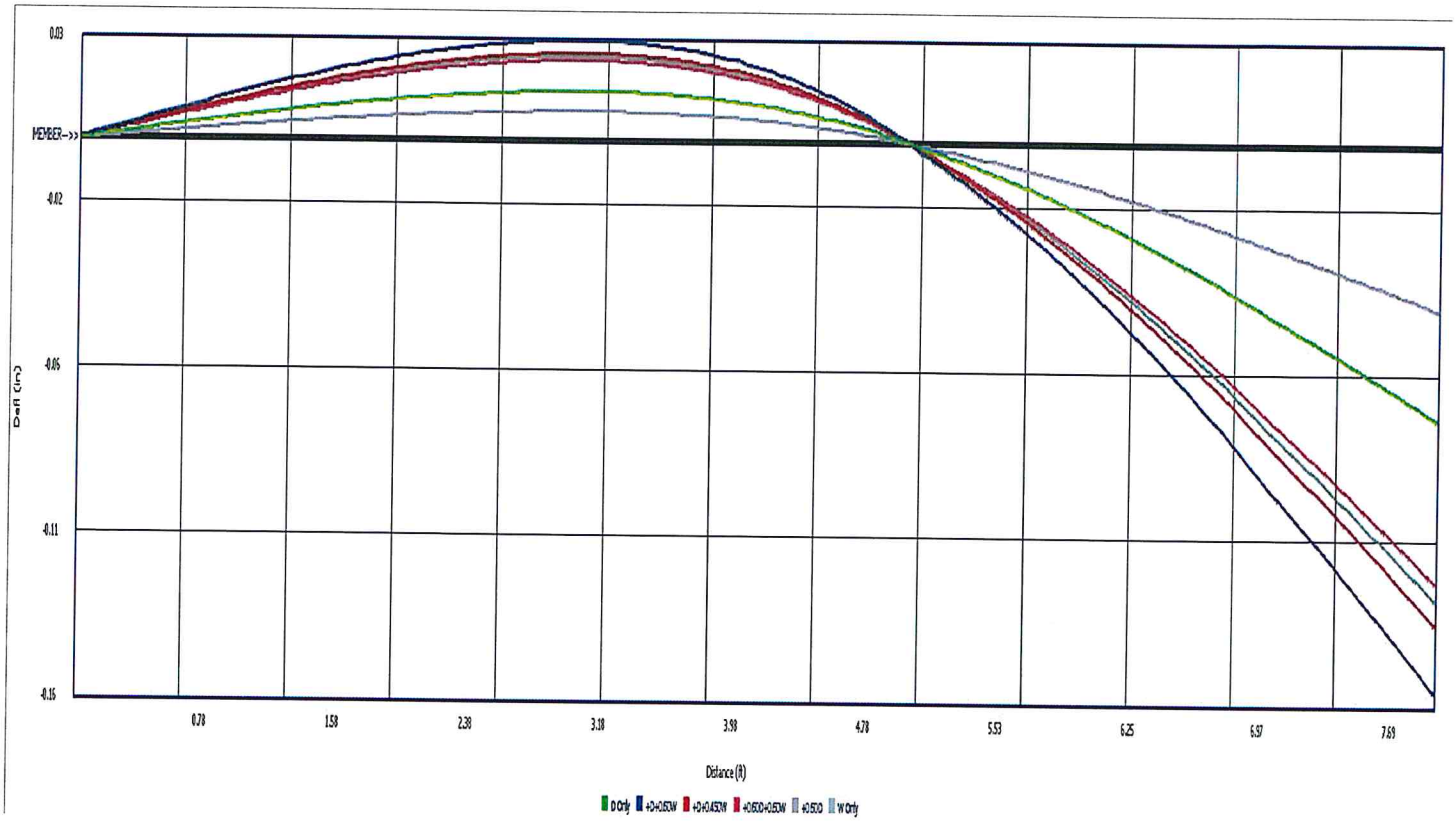
Project Title:
Engineer:
Project ID:
Project Descr:

Steel Beam

Project File: N-585 - New Haven CT.ec6

LIC# : KW-06014238, Build:20.22.12.28 PBA ENGINEERING, P.C. (c) ENERCALC INC 1983-2022

DESCRIPTION: New Antenna Pipe Mast



Project Title:
Engineer:
Project ID:
Project Descr:

Steel Beam

Project File: N-585 - New Haven CT.ec6

DESCRIPTION: Parapet Mount Pipes

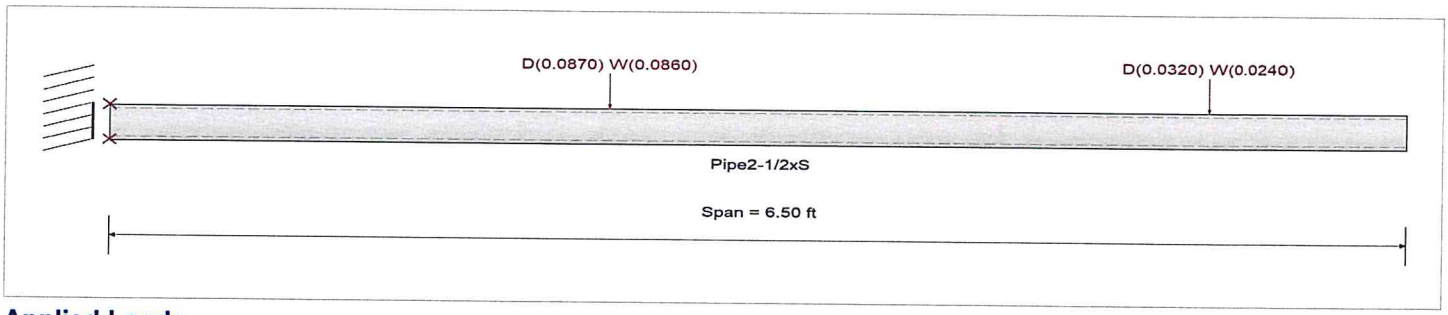
CODE REFERENCES

Calculations per AISC 360-16, IBC 2021, ASCE 7-16
Load Combination Set : ASCE 7-16

Material Properties

Analysis Method : Allowable Strength Design
Beam Bracing : Completely Unbraced
Bending Axis : Major Axis Bending

Fy : Steel Yield : 35.0 ksi
E: Modulus : 29,000.0 ksi



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loading
Load(s) for Span Number 1
Point Load : D = 0.0320, W = 0.0240 k @ 5.50 ft, (Antenna Loads)

Point Load : D = 0.0870, W = 0.0860 k @ 2.50 ft, (Antenna Loads)

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio =	0.247 : 1	Maximum Shear Stress Ratio =	0.018 : 1
Section used for this span	Pipe2-1/2xS	Section used for this span	Pipe2-1/2xS
Ma : Applied	0.764 k-ft	Va : Applied	0.2349 k
Mn / Omega : Allowable	3.091 k-ft	Vn/Omega : Allowable	13.204 k
Load Combination	+D+0.60W	Load Combination	+D+0.60W
		Location of maximum on span	0.000 ft
Span # where maximum occurs	Span # 1	Span # where maximum occurs	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.105 in	Ratio =	1,492	>=360.
Max Upward Transient Deflection	0.000 in	Ratio =	0	<360.0
Max Downward Total Deflection	0.242 in	Ratio =	645	>=180.
Max Upward Total Deflection	0.000 in	Ratio =	0	<180.0

Span: 1 : W Only
Span: 1 : +D+0.60W

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Max Stress Ratios M	V	Summary of Moment Values Mmax +	Mmax -	Ma Max	Mnx	Mnx/Omega	Cb	Rm	Summary of Shear Values Va Max	VnxVnx/Omega
D Only												
Dsgn. L = 6.50 ft	1	0.180	0.013		-0.56	0.56	5.16	3.09	1.00	1.00	0.17	22.05 13.20
+D+0.60W												
Dsgn. L = 6.50 ft	1	0.247	0.018		-0.76	0.76	5.16	3.09	1.00	1.00	0.23	22.05 13.20
+D+0.450W												
Dsgn. L = 6.50 ft	1	0.230	0.017		-0.71	0.71	5.16	3.09	1.00	1.00	0.22	22.05 13.20
+0.60D+0.60W												
Dsgn. L = 6.50 ft	1	0.175	0.013		-0.54	0.54	5.16	3.09	1.00	1.00	0.17	22.05 13.20
+0.60D												
Dsgn. L = 6.50 ft	1	0.108	0.008		-0.33	0.33	5.16	3.09	1.00	1.00	0.10	22.05 13.20

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+0.60W	1	0.2418	6.500		0.0000	0.000

Maximum Deflections for Load Combinations

Load Combination	Span	Max. Downward Defl	Location in Span	Span	Max. Upward Defl	Location in Span
D Only	1	0.1791	6.500		0.0000	0.000
+D+0.60W	1	0.2418	6.500		0.0000	0.000

Project Title:
Engineer:
Project ID:
Project Descr:

Steel Beam

Project File: N-585 - New Haven CT.ec6

DESCRIPTION: Parapet Mount Pipes

Maximum Deflections for Load Combinations

Load Combination	Span	Max. Downward Defl	Location in Span	Span	Max. Upward Defl	Location in Span
+D+0.450W	1	0.2261	6.500		0.0000	0.000
+0.60D+0.60W	1	0.1702	6.500		0.0000	0.000
+0.60D	1	0.1075	6.500		0.0000	0.000
W Only	1	0.1046	6.500		0.0000	0.000

Vertical Reactions

Support notation : Far left is #

Values in KIPS

Load Combination	Support 1	Support 2
Max Upward from all Load Conditions	0.235	
Max Upward from Load Combinations	0.235	
Max Upward from Load Cases	0.169	
D Only	0.169	
+D+0.60W	0.235	
+D+0.450W	0.218	
+0.60D+0.60W	0.167	
+0.60D	0.101	
W Only	0.110	

Steel Section Properties : Pipe2-1/2xS

Depth	=	2.880 in	I xx	=	1.83 in^4	J	=	3.660 in^4
			S xx		1.27 in^3			
Diameter	=	2.880 in	R xx	=	0.930 in			
Wall Thick	=	0.276 in	Zx	=	1.770 in^3			
Area	=	2.100 in^2	I yy	=	1.830 in^4			
Weight	=	7.670 plf	S yy	=	1.270 in^3			
			R yy	=	0.930 in			
Ycg	=	1.440 in						

Project Title:
Engineer:
Project ID:
Project Descr:

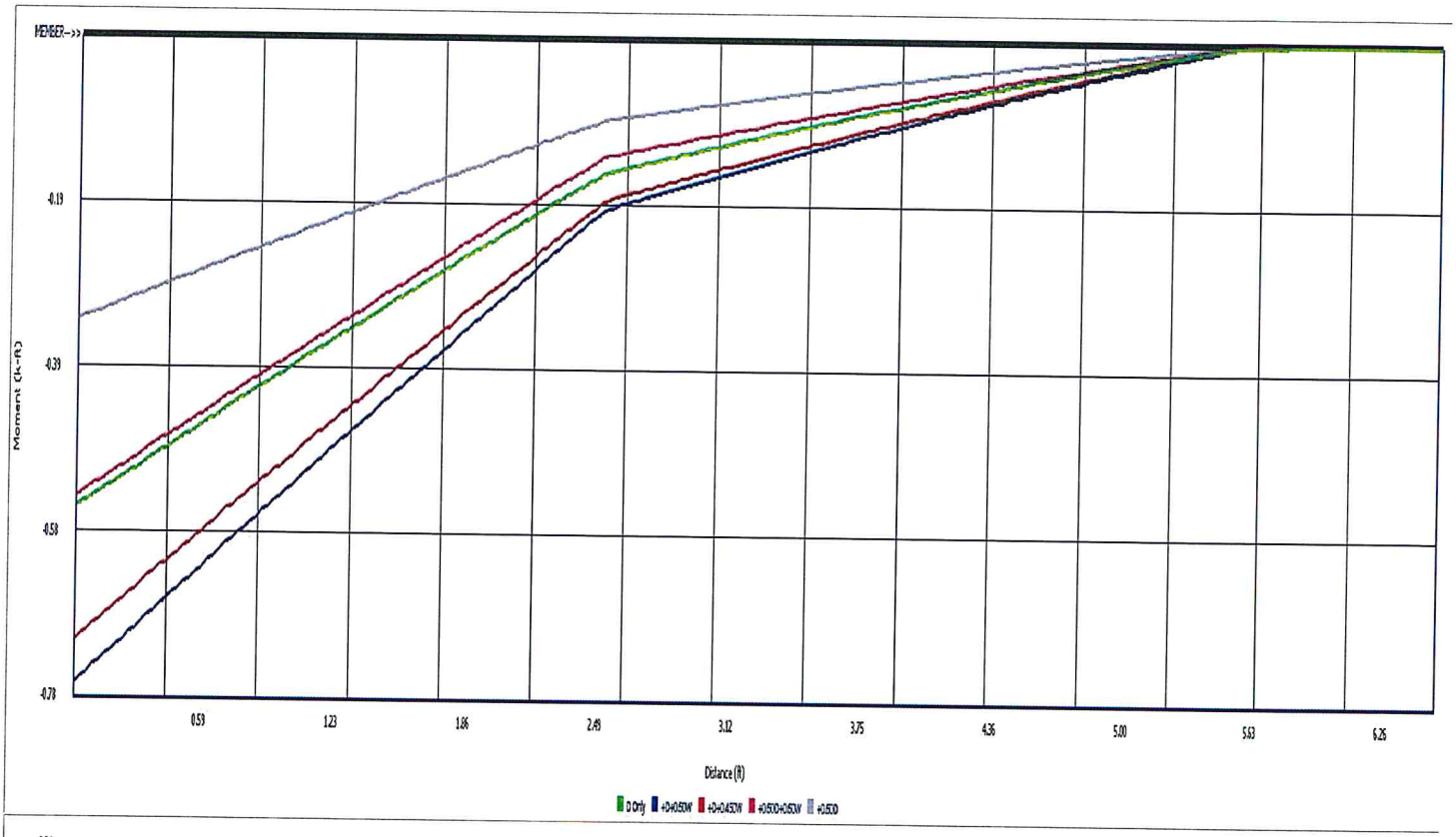
Steel Beam

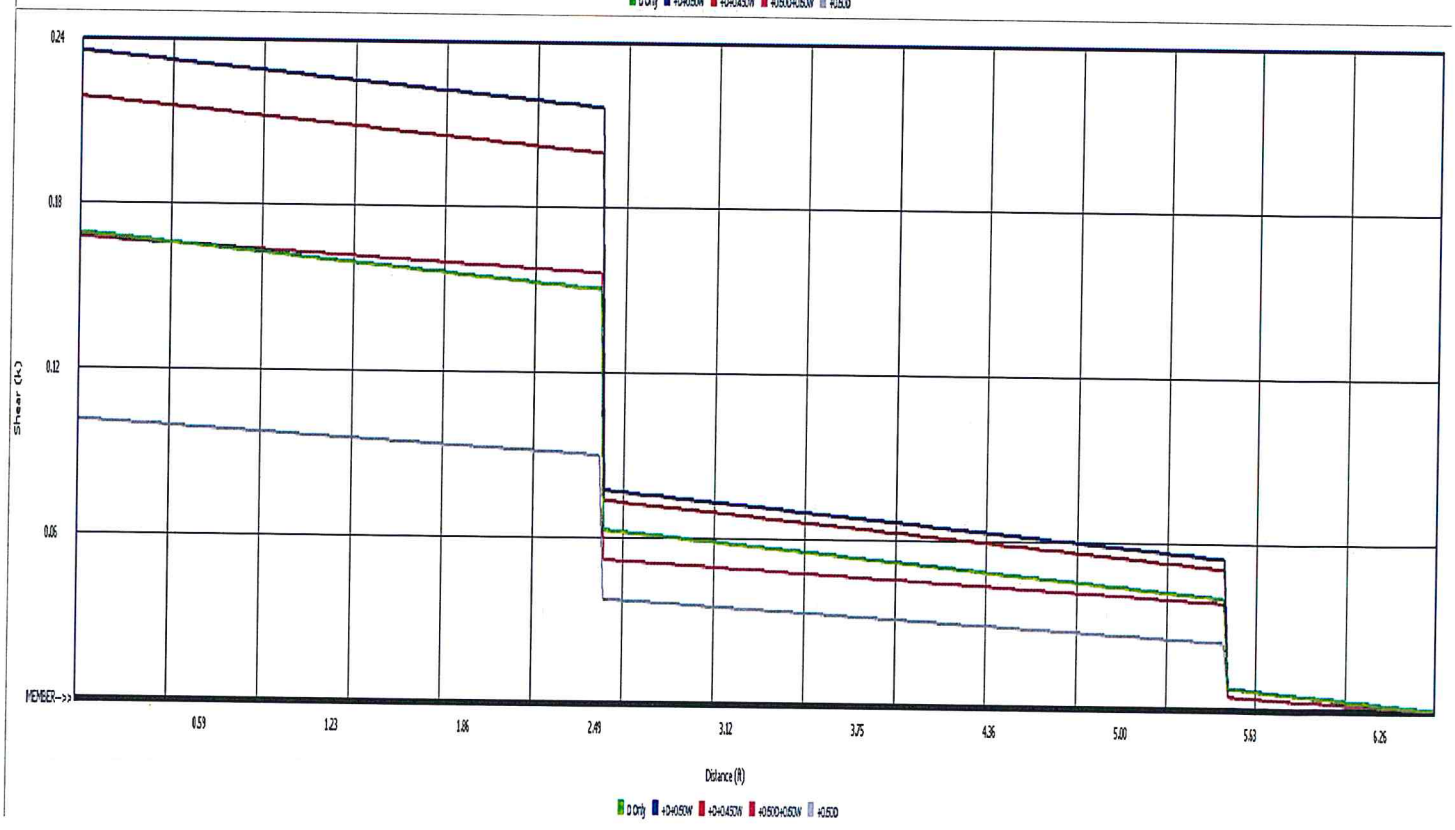
Project File: N-585 - New Haven CT.ec6

LIC# : KW-06014238, Build:20.22.12.28

PBA ENGINEERING, P.C.

DESCRIPTION: Parapet Mount Pipes





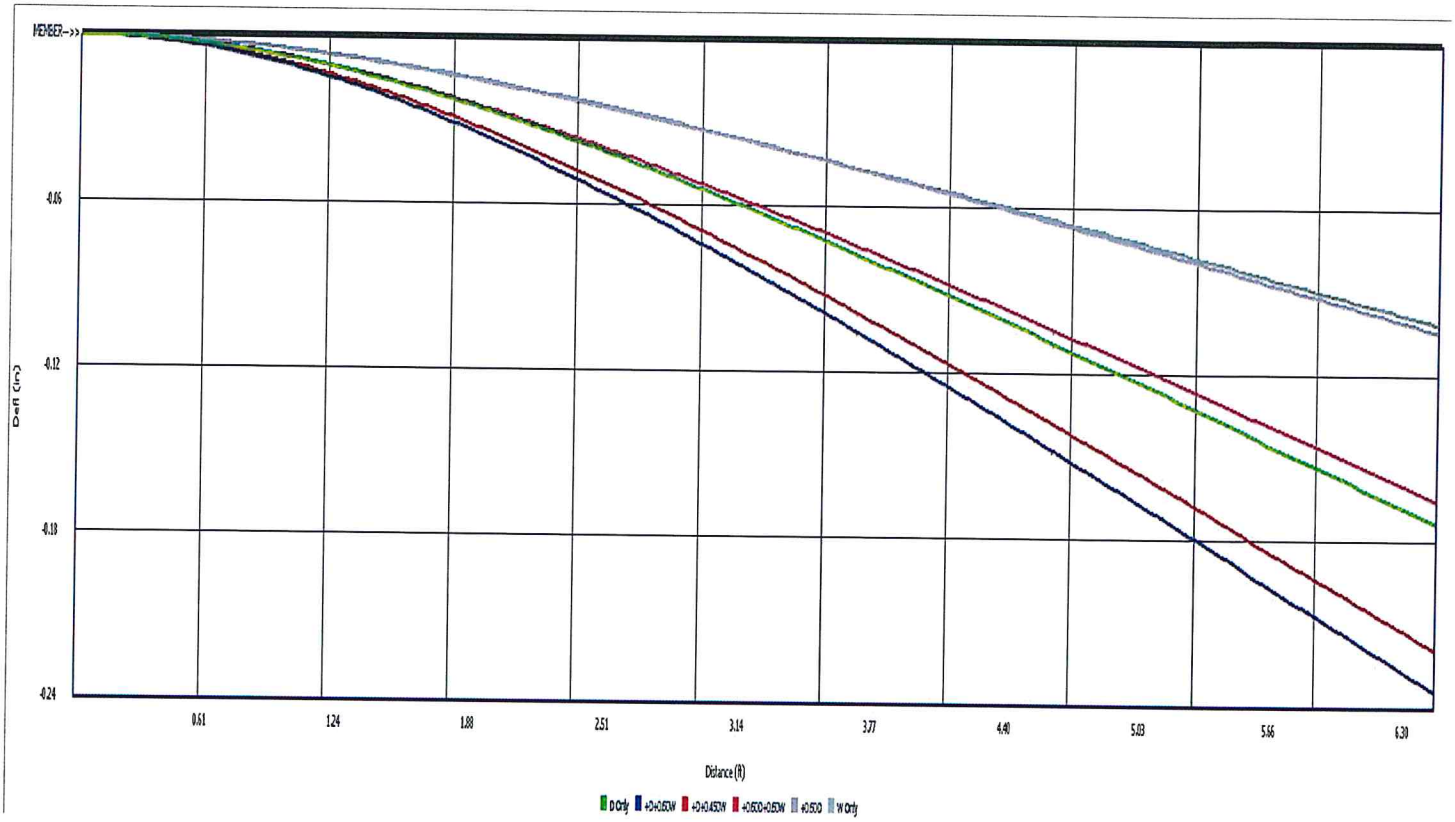
Project Title:
Engineer:
Project ID:
Project Descr:

Steel Beam

Project File: N-585 - New Haven CT.ec6

LIC# : KW-06014238, Build:20.22.12.28 PBA ENGINEERING, P.C. (c) ENERCALC INC 1983-2022

DESCRIPTION: Parapet Mount Pipes



Project Title:
Engineer:
Project ID:
Project Descr:

Steel Beam

Project File: N-585 - New Haven CT.ec6

DESCRIPTION: Parapet Mount Pipes

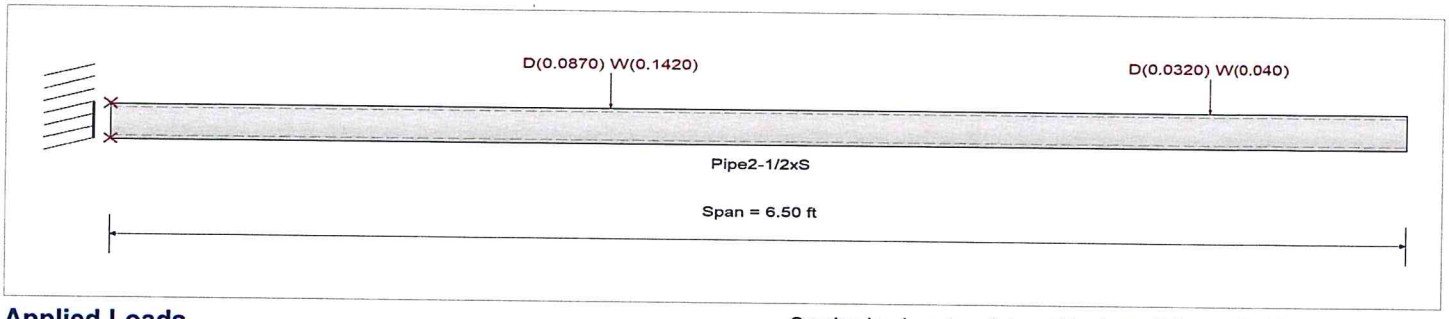
CODE REFERENCES

Calculations per AISC 360-16, IBC 2021, ASCE 7-16
Load Combination Set : ASCE 7-16

Material Properties

Analysis Method :Load Resistance Factor Design
Beam Bracing : Completely Unbraced
Bending Axis : Major Axis Bending

Fy : Steel Yield : 35.0 ksi
E: Modulus : 29,000.0 ksi



Applied Loads

Service loads entered. Load Factors will be applied for calculations.

Beam self weight calculated and added to loading
Load(s) for Span Number 1
Point Load : D = 0.0320, W = 0.040 k @ 5.50 ft, (Antenna Loads)

Point Load : D = 0.0870, W = 0.1420 k @ 2.50 ft, (Antenna Loads)

DESIGN SUMMARY

Design OK

Maximum Bending Stress Ratio =	0.267 : 1	Maximum Shear Stress Ratio =	0.019 : 1
Section used for this span	Pipe2-1/2xS	Section used for this span	Pipe2-1/2xS
Mu : Applied	1.242 k-ft	Vu : Applied	0.3846 k
Mn * Phi : Allowable	4.646 k-ft	Vn * Phi : Allowable	19.845 k
Load Combination	+1.20D+W	Load Combination	+1.20D+W
		Location of maximum on span	0.000 ft
Span # where maximum occurs	Span # 1	Span # where maximum occurs	Span # 1

Maximum Deflection

Max Downward Transient Deflection	0.173 in	Ratio =	899	>=360.
Max Upward Transient Deflection	0.000 in	Ratio =	0	<360.0
Max Downward Total Deflection	0.283 in	Ratio =	551	>=180.
Max Upward Total Deflection	0.000 in	Ratio =	0	<180.0

Span: 1 : W Only
Span: 1 : +D+0.60W

Maximum Forces & Stresses for Load Combinations

Load Combination / Segment Length	Span #	Max Stress Ratios M	V	Summary of Moment Values max Mu +	max Mu -	Mu Max	Mnx	Phi*Mnx	Cb	Rm	Summary of Shear Values VuMax	Vnx	Phi*Vnx
+1.40D													
Dsgn. L = 6.50 ft	1	0.167	0.012		-0.78	0.78	5.16	4.65	1.00	1.00	0.24	22.05	19.85
+1.20D													
Dsgn. L = 6.50 ft	1	0.143	0.010		-0.67	0.67	5.16	4.65	1.00	1.00	0.20	22.05	19.85
+1.20D+0.50W													
Dsgn. L = 6.50 ft	1	0.205	0.015		-0.95	0.95	5.16	4.65	1.00	1.00	0.29	22.05	19.85
+1.20D+W													
Dsgn. L = 6.50 ft	1	0.267	0.019		-1.24	1.24	5.16	4.65	1.00	1.00	0.38	22.05	19.85
+0.90D+W													
Dsgn. L = 6.50 ft	1	0.231	0.017		-1.07	1.07	5.16	4.65	1.00	1.00	0.33	22.05	19.85
+0.90D													
Dsgn. L = 6.50 ft	1	0.108	0.008		-0.50	0.50	5.16	4.65	1.00	1.00	0.15	22.05	19.85

Overall Maximum Deflections

Load Combination	Span	Max. "-" Defl	Location in Span	Load Combination	Max. "+" Defl	Location in Span
+D+0.60W	1	0.2832	6.500		0.0000	0.000

Project Title:
Engineer:
Project ID:
Project Descr:

Steel Beam

Project File: N-585 - New Haven CT.ec6

LIC# : KW-06014238, Build:20.22.12.28 PBA ENGINEERING, P.C. (c) ENERCALC INC 1983-2022

DESCRIPTION: Parapet Mount Pipes

Maximum Deflections for Load Combinations

Load Combination	Span	Max. Downward Defl	Location in Span	Span	Max. Upward Defl	Location in Span
D Only	1	0.1791	6.500		0.0000	0.000
+D+0.60W	1	0.2832	6.500		0.0000	0.000
+D+0.450W	1	0.2572	6.500		0.0000	0.000
+0.60D+0.60W	1	0.2116	6.500		0.0000	0.000
+0.60D	1	0.1075	6.500		0.0000	0.000
W Only	1	0.1735	6.500		0.0000	0.000

Vertical Reactions

Support notation : Far left is #

Values in KIPS

Load Combination	Support 1	Support 2
Max Upward from all Load Conditions	0.278	
Max Upward from Load Combinations	0.278	
Max Upward from Load Cases	0.182	
D Only	0.169	
+D+0.60W	0.278	
+D+0.450W	0.251	
+0.60D+0.60W	0.211	
+0.60D	0.101	
W Only	0.182	

Steel Section Properties : Pipe2-1/2xS

Depth	=	2.880 in	I xx	=	1.83 in^4	J	=	3.660 in^4
			S xx		1.27 in^3			
Diameter	=	2.880 in	R xx	=	0.930 in			
Wall Thick	=	0.276 in	Zx	=	1.770 in^3			
Area	=	2.100 in^2	I yy	=	1.830 in^4			
Weight	=	7.670 plf	S yy	=	1.270 in^3			
			R yy	=	0.930 in			
Ycg	=	1.440 in						

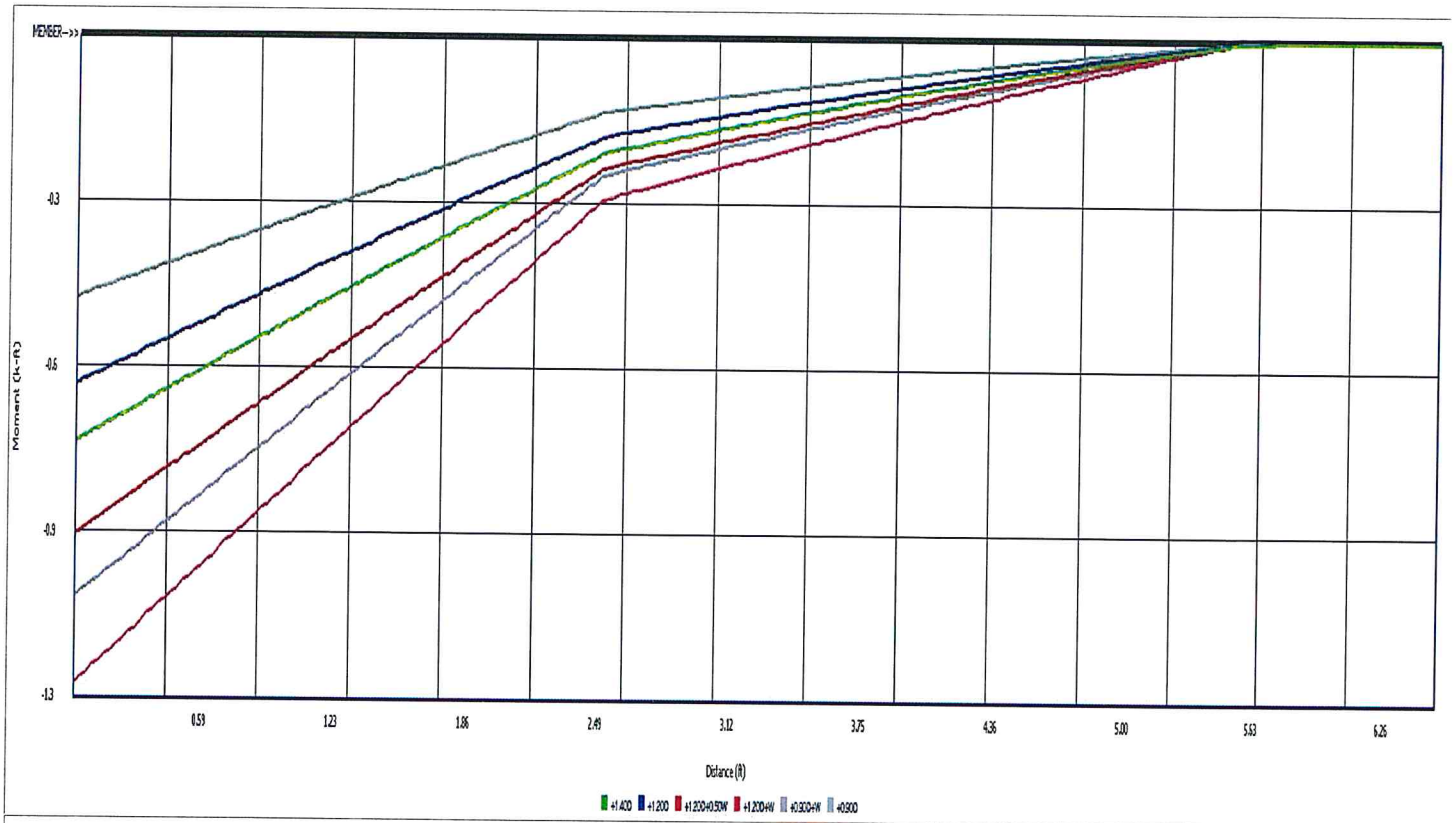
Project Title:
Engineer:
Project ID:
Project Descr:

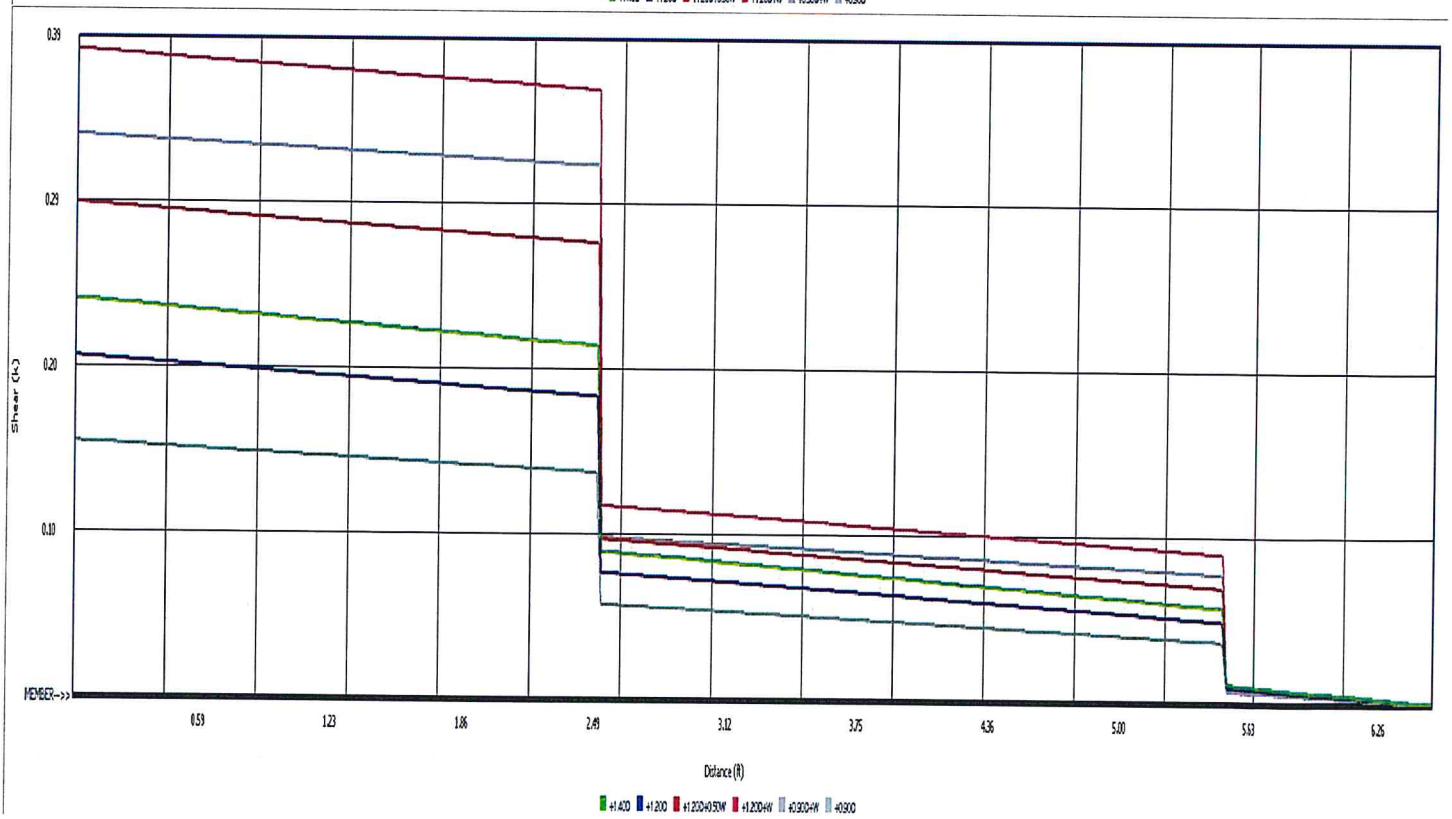
Steel Beam

Project File: N-585 - New Haven CT.ec6

LIC# : KW-06014238, Build:20.22.12.28 PBA ENGINEERING, P.C. (c) ENERCALC INC 1983-2022

DESCRIPTION: Parapet Mount Pipes





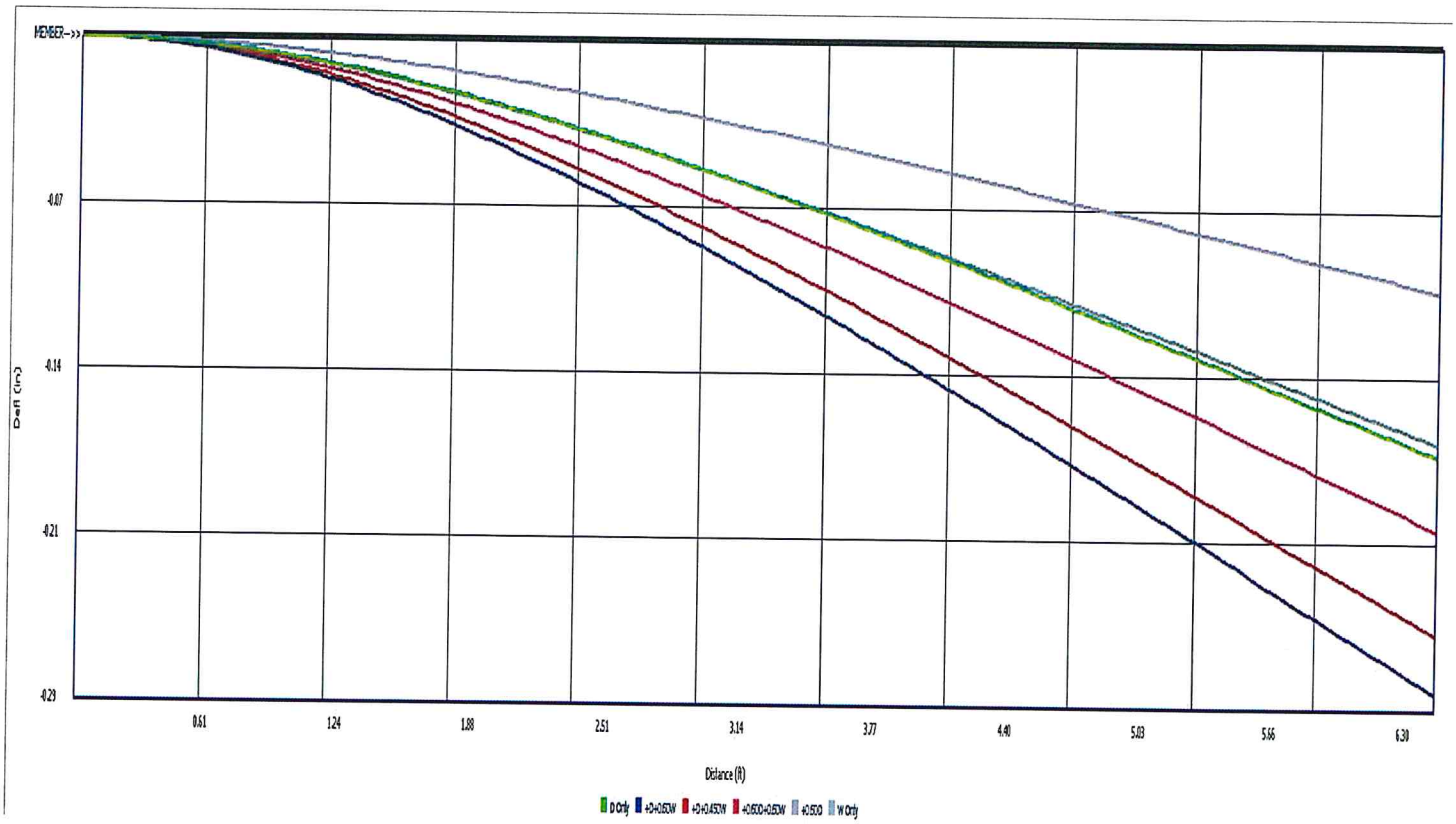
Project Title:
Engineer:
Project ID:
Project Descr:

Steel Beam

Project File: N-585 - New Haven CT.ec6

LIC# : KW-06014238, Build:20.22.12.28 PBA ENGINEERING, P.C. (c) ENERCALC INC 1983-2022

DESCRIPTION: Parapet Mount Pipes



Company:		Page:	1
Address:		Specifier:	
Phone I Fax:	|	E-Mail:	
Design:	N-545_Masonry - Jun 12, 2020	Date:	6/21/2021
Fastening point:			

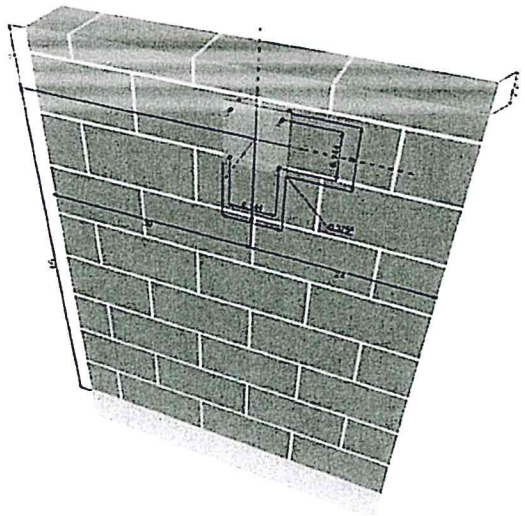
Specifier's comments:

1 Input data

Anchor type and diameter:	**HY 270 + threaded rod 5.8 1/2, HIT-SC 18x50**
Item number:	385422 HAS 5.8 1/2"x3-1/8" (element) / 2194247 HIT-HY 270 (adhesive) / 360485 HIT-SC 18x50 (sieve sleeve)
Effective embedment depth:	h_{ef} = 2.000 in.
Material:	5.8
Evaluation Service Report:	ESR-4143
Issued I Valid:	3/1/2021 | 1/1/2022
Proof:	Design Method ASD Masonry
Stand-off installation:	e_b = 0.000 in. (no stand-off); t = 0.375 in.
Anchor plate[R]:	l_x x l_y x t = 8.000 in. x 8.000 in. x 0.375 in.; (Recommended plate thickness: not calculated)
Profile:	no profile
Base material:	Hollow CMU, L x W x H: 16.000 in. x 8.000 in. x 8.000 in.; Joints: vertical: 0.375 in.; horizontal: 0.375 in. Base material temperature: 68 °F
Installation:	Face installation
Seismic loads	no

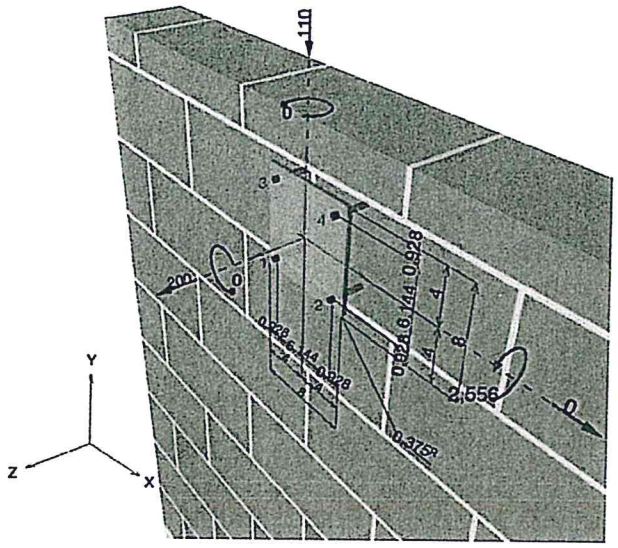
[R] - The anchor calculation is based on a rigid anchor plate assumption.

Geometry [in.]



Company:		Page:	2
Address:		Specifier:	
Phone I Fax:	I	E-Mail:	
Design:	N-545_Masonry - Jun 12, 2020	Date:	6/21/2021
Fastening point:			

Geometry [in.] & Loading [lb, in.lb]

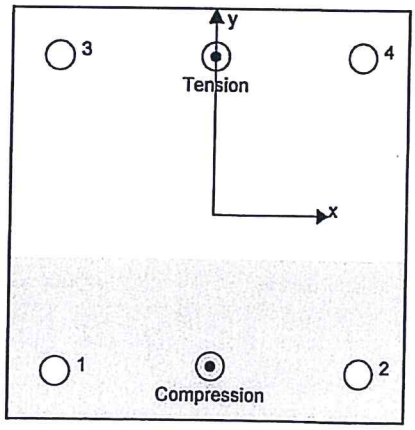


1.1 Design results

Case	Description	Forces [lb] / Moments [in.lb]	Seismic	Max. Util. Anchor [%]
1	Combination 1	N = 200; V_x = 0; V_y = -110; M_x = 2,556; M_y = 0; M_z = 0;	no	73

2 Load case/Resulting anchor forces

Load case: Service loads



Anchor reactions [lb]
Tension force: (+Tension, -Compression)

Anchor	Tension force	Shear force	Shear force x	Shear force y
1	0	27	0	-27
2	0	27	0	-27
3	261	27	0	-27
4	261	27	0	-27

max. compressive strain:	0.02 [‰]
max. compressive stress:	26 [psi]
resulting tension force in (x/y)=(0.000/3.072):	522 [lb]
resulting compression force in (x/y)=(0.000/-2.961):	322 [lb]

Company:		Page:	3
Address:		Specifier:	
Phone I Fax:		E-Mail:	
Design:	N-545_Masonry - Jun 12, 2020	Date:	6/21/2021
Fastening point:			

Anchor forces are calculated based on the assumption of a rigid anchor plate.

Company:		Page:	4
Address:		Specifier:	
Phone I Fax:		E-Mail:	
Design:	N-545_Masonry - Jun 12, 2020	Date:	6/21/2021
Fastening point:			

3 Tension load (Most utilized anchor 3)

	Load P_s [lb]	Capacity P_t [lb]	Utilization $\beta_P = P_s/P_t$ [%]	Status
Steel strength	261	4,700	6	OK
Bond strength	261	390	67	OK

3.1 Steel strength

$P_{t,s}$ = ESR Value refer to ICC-ES ESR-4143
$P_{t,s} \geq P_s$

Results

$P_{t,s}$ [lb]	P_s [lb]
4,700	261

3.2 Bond strength

$P_{t,b,Base}$ = ESR Value refer to ICC-ES ESR-4143
$P_{t,b} = P_{t,b,Base} \cdot f_{red,E} \cdot f_{red,s} \cdot f_{red,Temp}$
$P_{t,b} \geq P_s$

Variables

c_{min} [in.]	c_{cr} [in.]	s_{min} [in.]	s_{cr} [in.]	Temperature [°F]
4.000	-	4.000	-	68

Results

$P_{t,b}$ [lb]	$P_{t,b,Base}$ [lb]	P_s [lb]	$f_{red,E}$	$f_{red,s}$	$f_{red,Temp}$	$f_{red,TwoInOne}$
390	390	261	1.000	1.000	1.000	1.000

4 Shear load (Most utilized anchor 3)

	Load V_s [lb]	Capacity V_t [lb]	Utilization $\beta_V = V_s/V_t$ [%]	Status
Steel strength	27	2,420	2	OK
Bond strength para and perp, (Dir. x-)[1]	-	-	6	OK

[1]Shear utilization may result from parallel and perpendicular shear (see details)

4.1 Steel strength

$V_{t,s}$ = ESR Value refer to ICC-ES ESR-4143
$V_{t,s} \geq V_s$

Results

$V_{t,s}$ [lb]	V_s [lb]
2,420	27

4.2 Bond strength parallel

$V_{t,b,Base,\parallel}$ = ESR Value refer to ICC-ES ESR-4143
$V_{t,b,\parallel} = V_{t,b,Base,\parallel} \cdot f_{red,E,\parallel} \cdot f_{red,s,\parallel} \cdot f_{red,Temp}$
$V_{t,b,\parallel} \geq V_{s,\parallel}$

Variables

c_{min} [in.]	c_{cr} [in.]	s_{min} [in.]	s_{cr} [in.]	Temperature [°F]
4.000	12.000	4.000	-	68

Results

$V_{t,b,\parallel}$ [lb]	$V_{t,b,Base,\parallel}$ [lb]	$V_{s,\parallel}$ [lb]	$f_{red,E,\parallel}$	$f_{red,S,\parallel}$	$f_{red,Temp}$	Utilization $\beta_{V,\parallel}$ [%]
510	670	-27	0.761	1.000	1.000	5

4.3 Bond strength perpendicular

$V_{t,b,Base,\perp}$ = ESR Value refer to ICC-ES ESR-4143
$V_{t,b,\perp} = V_{t,b,Base,\perp} \cdot f_{red,E,\perp} \cdot f_{red,s,\perp} \cdot f_{red,Temp}$
$V_{t,b,\perp} \geq V_{s,\perp}$

Variables

c_{min} [in.]	c_{cr} [in.]	s_{min} [in.]	s_{cr} [in.]	Temperature [°F]
4.000	12.000	4.000	-	68

Results

$V_{t,b,\perp}$ [lb]	$V_{t,b,Base,\perp}$ [lb]	$V_{s,\perp}$ [lb]	$f_{red,E,\perp}$	$f_{red,S,\perp}$	$f_{red,Temp}$	Utilization $\beta_{V,\perp}$ [%]
0	670	0	0.000	0.000	1.000	0

4.4 Shear interaction

$\beta_{V,\parallel} = \frac{V_{s,\parallel}}{V_{t,\parallel}}$	$\beta_{V,\perp} = \frac{V_{s,\perp}}{V_{t,\perp}}$	δ	Utilization β_V [%]	Status
0.054	0.000	1.000	6	OK

$\beta_V = \beta_{V,\parallel}^{\delta} + \beta_{V,\perp}^{\delta} <= 1.0$

5 Combined tension and shear loads (Most utilized anchor 3)

$\beta_P = \frac{P_s}{P_t}$	$\beta_V = \frac{V_s}{V_t}$	α	Utilization $\beta_{P,V}$ [%]	Status
0.669	0.054	1.000	73	OK

$\beta_{P,V} = \beta_P^{\alpha} + \beta_V^{\alpha} <= 1.0$

6 Warnings

- The anchor design methods in PROFIS Engineering require rigid anchor plates per current regulations (AS 5216:2018, ETAG 001/Annex C, EOTA TR029 etc.). This means load re-distribution on the anchors due to elastic deformations of the anchor plate are not considered - the anchor plate is assumed to be sufficiently stiff, in order not to be deformed when subjected to the design loading. PROFIS Engineering calculates the minimum required anchor plate thickness with CBFEM to limit the stress of the anchor plate based on the assumptions explained above. The proof if the rigid anchor plate assumption is valid is not carried out by PROFIS Engineering. Input data and results must be checked for agreement with the existing conditions and for plausibility!
- Refer to the manufacturer's product literature for cleaning and installation instructions.
- For additional information about ACI 318 strength design provisions, please go to https://submittals.us.hilti.com/PROFISAnchorDesignGuide/
- The min. sizes of the bricks, the masonry compressive strength, the type / strength of the mortar and the grout (in case of fully grouted CMU walls) has to fulfill the requirements given in the relevant ESR-approval or in the PTG.
- Only the local load transfer from the anchor(s) to the wall is considered, a further load transfer in the wall is not covered by PROFIS!
- Wall is assumed as being perfectly aligned vertically – checking required(!): Noncompliance can lead to significantly different distribution of forces and higher tension loads than those calculated by PROFIS. Masonry wall must not have any damages (neither visible nor not visible)! While installation, the positioning of the anchors needs to be maintained as in the design phase i.e. either relative to the brick or relative to the mortar joints.
- The effect of the joints on the compressive stress distribution on the plate / bricks was not taken into consideration.
- If no significant resistance is felt over the entire depth of the hole when drilling (e.g. in unfilled butt joints), the anchor should not be set at this position or the area should be assessed and reinforced. Hilti recommends the anchoring in masonry always with sieve sleeve. Anchors can only be installed without sieve sleeves in solid bricks when it is guaranteed that it has not any hole or void.
- The accessories and installation remarks listed on this report are for the information of the user only. In any case, the instructions for use provided with the product have to be followed to ensure a proper installation.
- The compliance with current standards (e.g. 2015, 2012, 2009 and 2006 IBC) is the responsibility of the user.
- Drilling method (hammer, rotary) to be in accordance with the approval!
- Masonry needs to be built in a regular way in accordance with state-of the art guidelines!
- Warnings/Notes - OST in Masonry HNA!

Company:		Page:	7
Address:		Specifier:	
Phone I Fax:		E-Mail:	
Design:	N-545_Masonry - Jun 12, 2020	Date:	6/21/2021
Fastening point:			

Fastening meets the design criteria!

7 Installation data

Profile: no profile

Hole diameter in the fixture: d_f = 0.562 in.

Plate thickness (input): 0.375 in.

Drilling method: Drilled in rotary mode

Anchor type and diameter: HY 270 + threaded rod 5.8 1/2, HIT-SC 18x50

Item number: 385422 HAS 5.8 1/2"x3-1/8" (element) / 2194247 HIT-HY 270 (adhesive) / 360485 HIT-SC 18x50 (sieve sleeve)

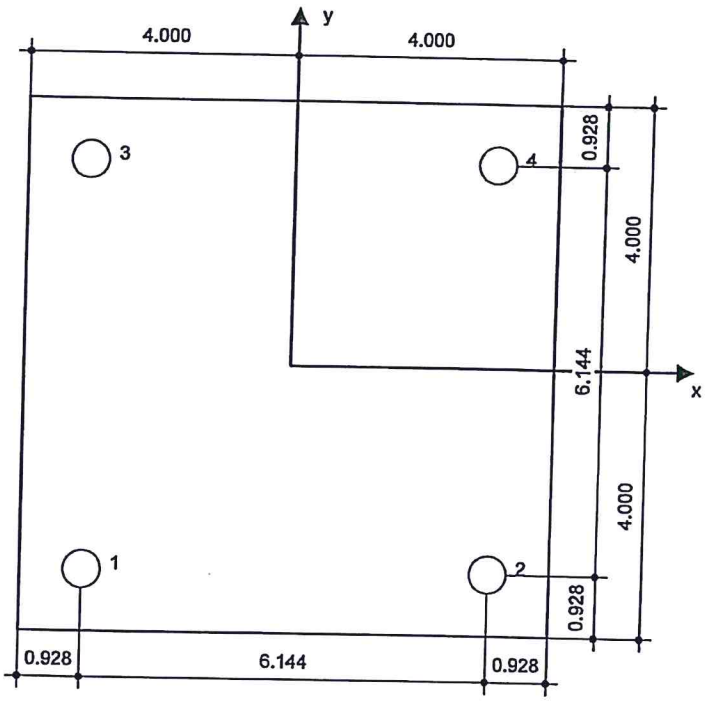
Maximum installation torque: 54 in.lb

Hole diameter in the base material: 0.687 in.

Hole depth in the base material: 2.375 in.

Minimum thickness of the base material: 7.625 in.

Hilti HIT-V threaded rod with HIT-HY 270 injection mortar and 1 HIT-SC 18x50 sieve sleeve(s) with 2 in embedment h_ef, 1/2, Steel galvanized, Rotary drilled installation per ESR-4143



Coordinates Anchor [in.]

Anchor	x	y	c_{-x}	c_{+x}	c_{-y}	c_{+y}
1	-3.072	-3.072	26.928	27.072	55.928	11.072
2	3.072	-3.072	33.072	20.928	55.928	11.072
3	-3.072	3.072	26.928	27.072	62.072	4.928
4	3.072	3.072	33.072	20.928	62.072	4.928

8 Remarks; Your Cooperation Duties

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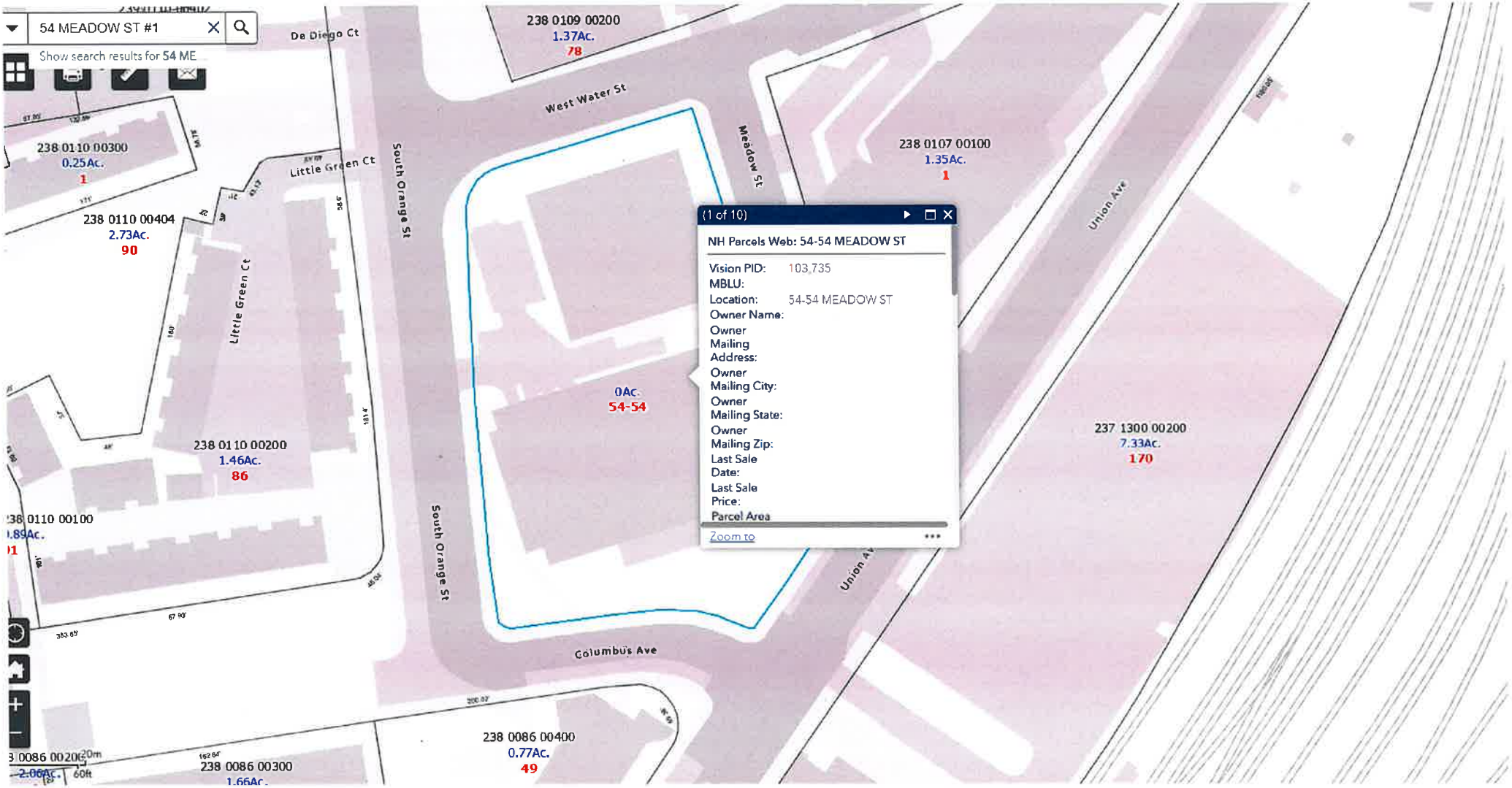
- You must take all necessary and reasonable steps to prevent or limit damage caused by the Software. In particular, you must arrange for the regular backup of programs and data and, if applicable, carry out the updates of the Software offered by Hilti on a regular basis. If you do not use the AutoUpdate function of the Software, you must ensure that you are using the current and thus up-to-date version of the Software in each case by carrying out manual updates via the Hilti Website. Hilti will not be liable for consequences, such as the recovery of lost or damaged data or programs, arising from a culpable breach of duty by you.

ATTACHMENT 5


54 MEADOW ST #1
Show search results for 54 ME
De Diego Ct
238 0109 00200
1.37Ac.
78
West Water St
Meadow St
238 0107 00100
1.35Ac.
1
238 0110 00300
0.25Ac.
1
Little Green Ct
South Orange St
238 0110 00404
2.73Ac.
90
Little Green Ct
(1 of 10)
NH Parcels Web: 54-54 MEADOW ST
Vision PID: 103,735
MBLU:
Location: 54-54 MEADOW ST
Owner Name:
Owner Mailing Address:
Owner Mailing City:
Owner Mailing State:
Owner Mailing Zip:
Last Sale Date:
Last Sale Price:
Parcel Area
Zoom to
0Ac.
54-54
Union Ave
238 0110 00200
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86
237 1300 00200
7.33Ac.
170
238 0110 00100
South Orange St
Union Ave
Columbus Ave
238 0086 00400
0.77Ac.
49
238 0086 00300
1.66Ac.

New Haven, CT

VISION GOVERNMENT SOLUTIONS

54 MEADOW ST

Sales | Print | Map It

Location	54 MEADOW ST	**Mblu**	238/ 0106/ 00112/ /
Acct#	238 0106 00112	**Owner**	GATEWAY PARTNERS LLC
Assessment	$231,000	**Appraisal**	$330,000
PID	105992	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2021	$330,000	$0	$330,000
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2021	$231,000	$0	$231,000

Owner of Record

Owner	GATEWAY PARTNERS LLC
Co-Owner	C/O LEXINGTON PROPERTY MGT
Address	755 MAIN ST STE 1245 HARTFORD, CT 06103

Sale Price	$0
Certificate	
Book & Page	6973/0194
Sale Date	10/18/2004
Instrument	

ATTACHMENT 6

Verizon/New Haven 08981.5373

UNITED STATES POSTAL SERVICE®

Certificate of Mailing — Firm

Name and Address of Sender	TOTAL NO. of Pieces Listed by Sender	TOTAL NO. of Pieces Received at Post Office™	Affix Stamp Here *Postmark with Date of Receipt.*
Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103	4	4	OLD STATE HOUSE STATION 06103 MAR 29 2023 USPS Postage 03/29/2023 POSTAGE $003.55 ZIP 06103 041L12203937
	Postmaster, per (name of receiving employee)		

USPS® Tracking Number Firm-specific Identifier	Address (Name, Street, City, State, and ZIP Code™)	Postage	Fee	Special Handling	Parcel Airlift
1.	Justin Elicker, Mayor City of New Haven 165 Church Street New Haven, CT 06510				
2.	Laura Brown, Executive Director City Plan, City of New Haven 165 Church Street New Haven, CT 06510				
3.	Gateway Partners LLC 54 Meadow Street New Haven, CT 06519				
4.	MCM Holdings LLC 40 Woodland Street Hartford, CT 06105				
5.					
6.					