

KENNETH C. BALDWIN

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Also admitted in Massachusetts and New York

February 26, 2024

Via Electronic Mail

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 411 West Putnam Avenue, Greenwich, Connecticut

Dear Attorney Bachman:

Cellco Partnership d/b/a Verizon Wireless ("Cellco") currently maintains a wireless telecommunications facility at the above-referenced property address (the "Property"). The facility consists of antennas and remote radio heads attached ballast-mount frame on the roof of the building and related equipment inside the building. In 1992, the Council approved the AT&T rooftop facility at the Property and, since that time, has maintained jurisdiction over this roof-top. Cellco's rooftop facility was originally approved by the Town of Greenwich ("Town"). Cellco's representatives attempted to obtain a copy of its original approval from the Town. After an extensive search by Town staff, in various departments, a copy of the local approval could not be located.

Cellco now intends to modify its facility by replacing twelve (12) antennas and six (6) remote radio heads ("RRHs") with twelve (12) new antennas and nine (9) RRHs on Cellco's existing mounting frames. A set of project plans showing Cellco's proposed facility modifications and the specifications for Cellco's new antenna and RRHs are included in <u>Attachment 1</u>.

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 Greenwich's Chief Elected Official and Land Use Officer. A copy of this letter is being sent to the owner of the Property.

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

28647278-v1

Robinson+Cole

Melanie A. Bachman, Esq. February 26, 2024 Page 2

- 1. The proposed modifications will not result in an increase in the height of the existing antennas. Cellco's new antennas and Filters will be installed at the same height on the antenna mounts.
- 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. Included in <u>Attachment 2</u> is a Calculated Radio Frequency Emissions Report demonstrating that the proposed modified facility will comply with the FCC safety standards. 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 site.
- 6. According to the attached Support Structure Structural Evaluation ("SA") and Antenna Mount Analysis Report ("MA"), the existing building and antenna mounting frames can support Cellco's proposed modifications. Copies of the SA and MA are included in <u>Attachment 3</u>.

A copy of the parcel map and Property owner information is included in <u>Attachment 4</u>. A Certificate of Mailing verifying that this filing was sent to municipal officials and the property owner is included in <u>Attachment 5</u>.

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

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Enclosures Copy to:

Fred Camillo, Greenwich First Selectman Patrick LaRow, Director of Planning & Zoning West Putnam Owner LLC, Property Owner Aleksey Tyurin

ATTACHMENT 1

verizon

SUPPORTING DOCUMENTS

20 ALEXANDER DRIVE, 2ND FLOOR INALIANSPORM, GT 00402 (203) 741—7338

NGENNA SUPPORT STRUCTURE (NOOFTOP) STRUCTURAL ANALYSIS DATE: DURING

WITENNA MOUNT STRUCTURAL ANALYSIS DATE, 0150004

JADIO FREGUENCY (IV) DESIGN DATE: 109109

20 ALEXANDER DRIVE, 2nd FLOOR WALLINGFORD, CT 06492

GREENWICH SOUTHWEST CT

CHAPPELL ENGHALERING AREOGIATES, LLO

SBA 🔊

SBA CEMALMICATIONS CORP. 134 FLANDERS REDAU, SUITE 19 MESTBORICHA, MA 01681 (508) 251—0720

ALC DECUPA CONTR.
201 BOTTON FOR AND MET, SUIT 101
WHILDSHOOM, M. 01722
(DOD) 481-7400
WHILDSHOOM CONTRACTOR
W

411 WEST PUTNAM AVENUE GREENWICH, CT 06830 FAIRFIELD COUNTY

PROJECT TYPE: UPGRADE TO EXISTING WIRELESS TELECOMMUNICATIONS INSTALLATION ON EXISTING ROOFTOP

SITE INFORMATION

VEHIZON LOCATION CODE:	4673Œ
VEHIZON SITE NAME:	GHEENWICH SOUTHWEST CT
SBA SITE NUMBER:	CT95823 M
SBA SITE NAME:	GREENWICH (PUTNAM)
SDA COLLO APP NUMBEH:	NA
MDG LOCATION ID:	5000005810
FUZE PROJECT ID:	2034809
SITE ADDRESS;	411 WEST PUTNAM AVENUE GREENWCH, CT 03830
PHOPEHTY OWNER:	WEST PUTNAM OWNER LLC 218 EAST 45TH STREET, 12TH FLOON NEW YORK, NY 10017
TOWER OWNED:	MCM ACOULSTTON 2017, LLC 8501 CONGHESS AVENUE BOCA FATON, FL 33407 PHONE: 561-226 9523
COUNTY	FAIRFIELD, CT
ZONING DISTRICT:	(GL) GENERAL DUSINESS
STRUCTURE TYPE:	NOOFTOP
STRUCTURE HEIGHT:	50.±
STRUCTURE HEIGHT W/APPURTENANCE:	17.±
GROUND ELEVATION:	I20±
TOTAL AMSL:	205:
SITE CONTROL POINT:	EXISTING BUILDING N 41°-DI'-17.70' (41.021G') (NAD 83) W 73°-38°-27.12' (~73.6409') (NAD 83)
AND WEST/DERESED.	CLIAPPELL ENGINEERING ASSOCIATES, LLC 201 BOSTON POST HOAD WEST, SUITE 101

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A05 ST	SITE DETAILS	-
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20 ALEMBER DRYE, 2ND FLDOR WALLINGFLYED, OT 08462 (203) 74 1—7338



SAN COMPUNICATIONS CORP.

1.M. FLANDERS FRAM, SUITE 125:
WESTROUMLON, MA. 01561
(000) 251-0720

CHAPPELL, EHGINEERSHO A880CIATES, LLC

EX. DECUME COCKS.

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GREENWICH NAMES OF BRIDE

GREENWICH, CT 08830

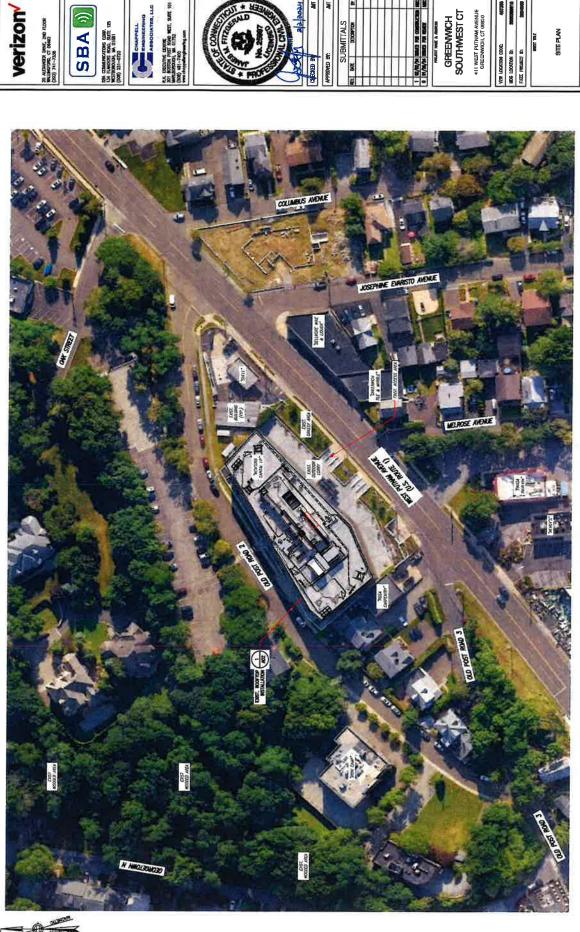
SOUTHWEST CT

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GENERAL NOTES

GN01



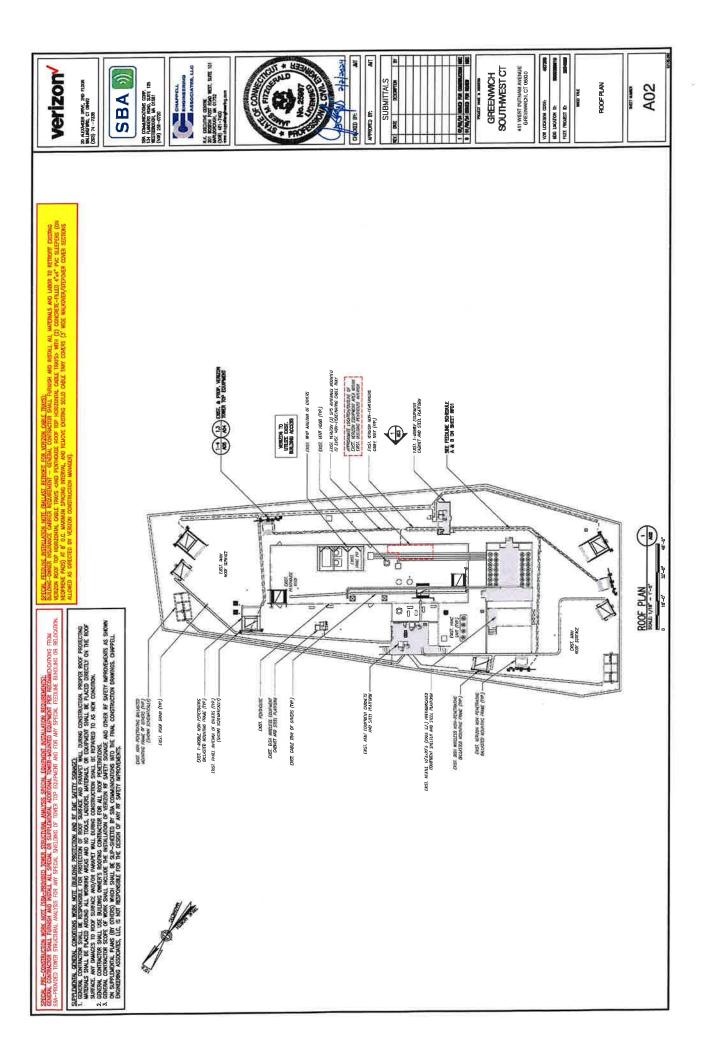


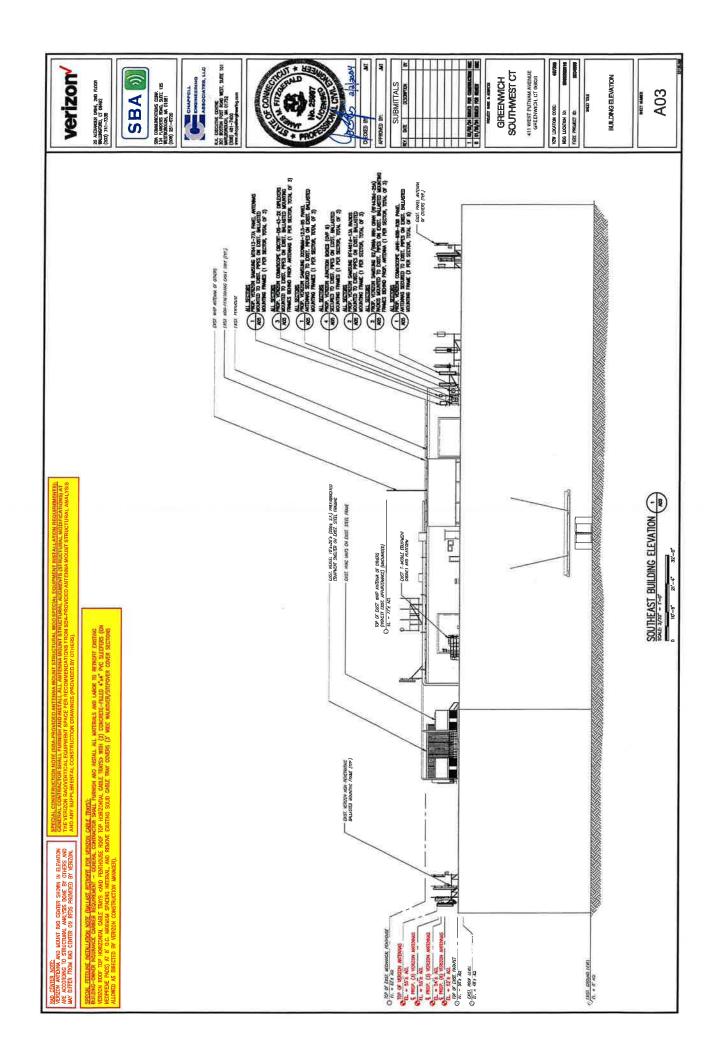
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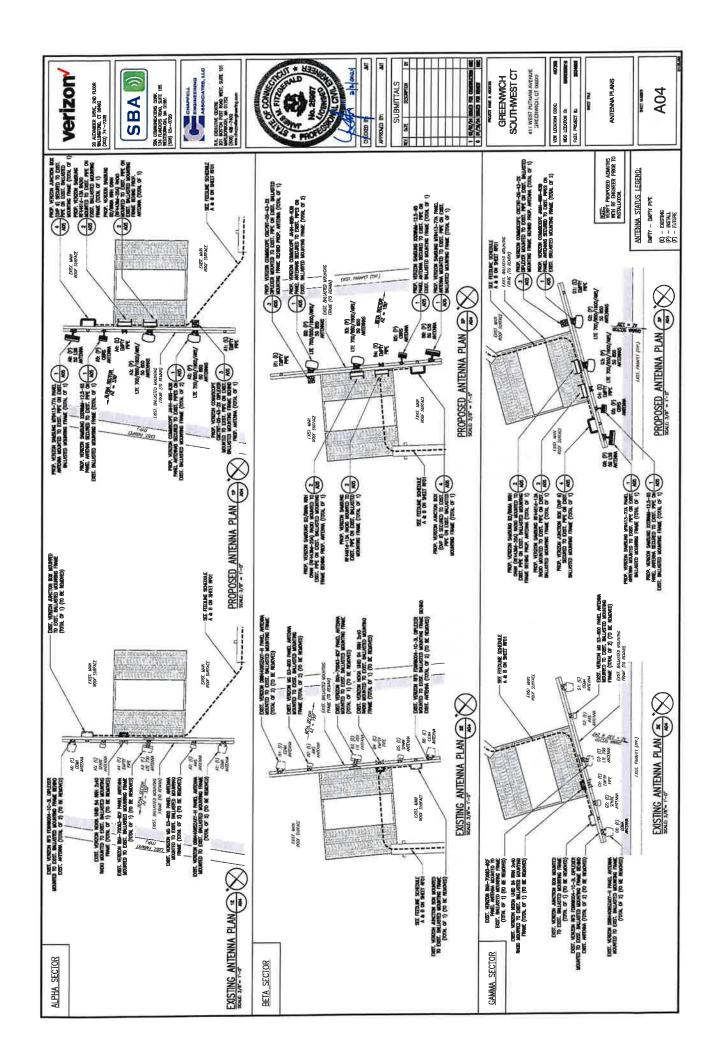
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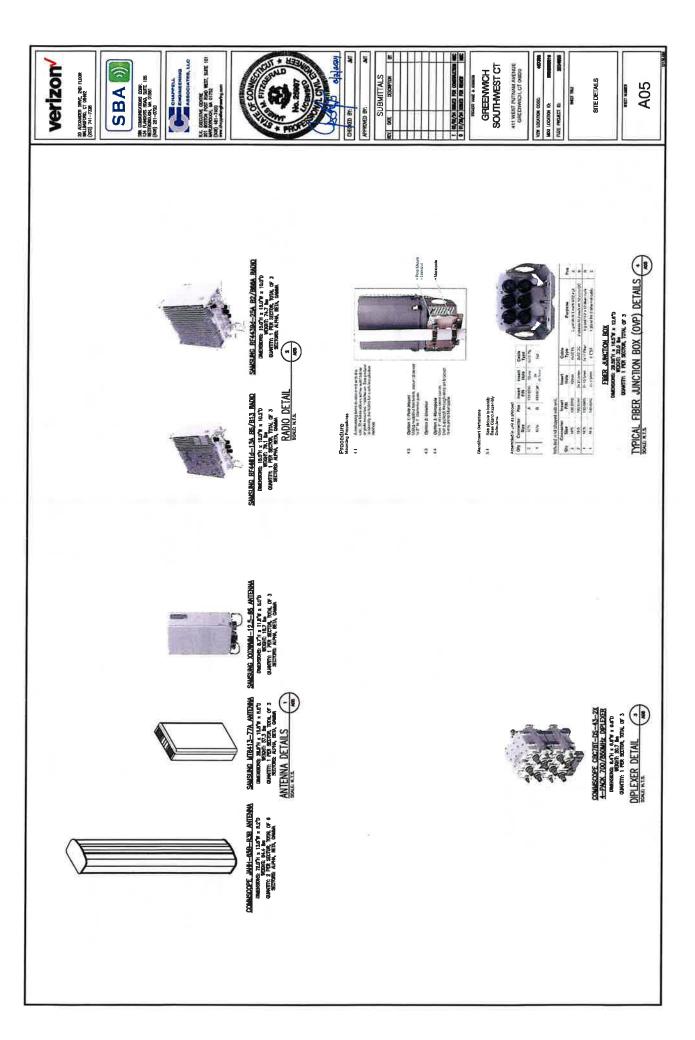
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SITE PLAN









SECTOR EN											Ì	I	
2121	EQUIPMENT MAKE & MODEL	ΔĐ	AZIMUTH (TRUE NORTH)	ANTENNA	BAND	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	EQUIPMENT STATUS	Ξĝ	≆Ê	<u>∩ (2</u>	(BS)	HYBRID CABLE SIZE & QTY
1.31	PETER SPRINGERS II AND DAY	-	335	15V ∓.25	COUN 850		k	CINE	48.0	10.0	8.0	12.0	
_	EACH RG 50-000 ARRIVA	-	202	27 1,35	AWS	5	ь	SILLS	87.8	6.3	1.5	17.6	
•	AUPHENOL BOA-7006J 6CF ANTIDOM	-	arr	DY 1,65	100 300	٠,	6	203	21.0	113	0.5	17.0	
Smith	INCH MC 83-489 ANNWAY	2	ATT	27.12	3006	0	is:	THE	52.8	6.3	3.5	17.6	
9000	ACCES 2004/CSSSAT II AVERNA		207	27.8.02	COM MICH			300	9	100	8.5	12.0	
do	DECISE SIGNACESCAY IS ANDWARD		951	277.43	CENT AND			ZHZ	49.0	10.0	8.0	12.0	
Anthre	PHICK MC 63-630 ANIENIA		150	20,7,12	SHP	۸.	ti	ETPE	528	5.9	3.5	17.6	
BETA	METERS SEC-7002-ED ANDRES	,	100	52.4 AGE	11E 100	5		1776	21.0	113	9.0	17.0	CHEST (6) 1-34" COUNT CABLES
KING	THE AC OF SEC AND ME	1	252	27.842	SPANT	.0	b	Jack Usek	32.5	63	3.5	17.5	LIGHT (3) GAIZ HYBRID CHILLS
- Secta	DESCRIPT SERVICES SERVICES SERVICES	,	700	37.2 400	CORT TOO			2007	48.0	10.0	8.0	12.0	
2000	picalit conscionir il vilbini	`	376	SV K/S	CDMK 953	×		360	48.0	gar	3.0	12.0	
SAID	KINSK DC KIS-RDS AND/ANK	,	232	20.1.02	JAC	2	.0:	360	32.8	13	12	17.6	
GAMMA	MANUAL SEE - 2001 - DOT WITHOUT SEE		345	27.5 102	61E 700	1.0	6	13	211	113	8.0	17.0	
SAPPLA	WHICH DE GRANDS AND MICH.	-	230	20.142	anis	ь		138	20.	3	ą	1/4	
DOC	DOCUEL CIRENCOLOURY IN AVIDANCE	•	110	259.400	CCUP ACCO			ZELI	44.0	001	90	(22)	
900	NOW INCIDENT ON A MAD AND SECURE	75		4	31.		(8)	2007	34.6	404	79	940	
ALL	AS TOWNSONS I CANADAS					+1	-	Diff.	31	63	2	2.5	
OVD	ONP BOX	-		4	3		4	(36	324	163	24	27.0	

SECTION COLINIMENT WAKE & MODE] ANY EAR WORTH) ANY EAR WORTH) ANY EAR WORTH ANY EA	COMPONENT MAKE & MODE: OTY (TRUE NORTH) OTHERNA DANID MECHANICAL ELETRICAL STANDS (N) (N) (N) (NS)					Ē	FINAL EQUIPMENT CONFIGURATION	CONFIGURA	NOIT						
COMMENCING MARK-MASS 1 3337 SEY & MA. LT 700/800/100/MRS G/T/G/T/T Z/T/G/T/T T/T/G/T/T	COMMISCONE_AMM-LSSM-FIZE MATIROWS 1 3357 502± AG. TOT TOM/PRO/PROF/PROF 2/7/2/10 1887 72.0 13.0 6.3 14.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6.0 6	ECTOR	EQUIPMENT MAKE & MODEL	ě	_	ANTENNA	BAND	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	EQUIPMENT	ΞΞ		٩ĝ	WEIGHT (LBS)	Hybrid Cable Size & QTY
Contaction with teach with the contaction wi	COMMERCINE WARRIAGE ANTIDAM 1 330		COMMERCENTE, AMEL-628-828 ANTOMAS	-	330	52'± AGL	LIE 700/800/1800/485	0/0/0/0	2/2/2/2	NSW	22	-	3	3	
Section Decombe-123-69 APRDAM 1 3307 SS-2 AG UT CORDS 0° 0° 0° 0° 0° 0° 1° 1° 1° 1° 1° 1° 1° 1° 1° 1° 1° 1° 1°	Secretary Comment-123-66 MFIDNA 1 3377 55% AZ LEC CORFC 7 7 7 7 7 7 7 7 7	LP.HA	COMMISSIONE WHILESPIND AND MISSION	-	330	EV. ± AG.	LTE 700/1800/1800/ARS 8G 880	מ/נמ/נמ	2/2/0/4		2	-	3	64.3	
Section With 13-TTA MTDNAM 1 3307 54'5 MA 10 0 0 5 0 0 0 0 0 0	Secretary articles - Transmission 1 387 54° 40. 26 158 0° 0° 0° 0° 0° 0° 0° 0		SAKSUNG XXXMAN-12.5-45 AVEXMA	-	370	26's AG.	UE CHES	b		HEN.	6.7		_	16.7	
COMMISSIONE JANE - SER - MITTER 1 1 1 1 1 1 1 1 1	COMMISCIPET, WHILE-MED ANTIDAME 1 100		SAMSUNG MISA13-77A ANTENNA	-	330	54'± AQL	96 LS6	b	ь	MEN	8	-	2	67.3	
COMMERCING WHINT-SEA-NEW MITTONN 1 1 100° CET A.C. ITE TOO/DECUPON/WES GF/TG/FT NEW 710 133 E2 643 SWELSHOW TOOMER-1-124-66 AMTERNA 1 1 100° CET A.C. ITE COMB TO FT/TG/FT NEW 710 134 E3 134 E	COMMERCING MATCHING 1 100 CC ± AQ, TE TONORMO FURTH TOTOR TOTOR		COMMISCORY, AMEN-BIB-RUS ANTIDENS	-	190	52,7 VO	LTE 700/800/1800/NES SG 650	0/0/0/0	3/10/2/2	15	2	-	2	64.3	
SHESTHON XCONNELL-123-66 AFTIDONA	Section communication 1870 66 ± An. 18 CGPS 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	BETA	COMMETCES ANN ASS-NUS ANTENNES	-	291	62'± AGL	LTE 700/800/1800/885 80 850	0/0/0/0	3/10/2/2	ğ	22	_	\vdash	2	
Section with 13-77A MTDON. 1 1507 561-5 AG 56 CS 7 7 7 7 7 7 7 7 7	Substance with 1-770, with the conditions 1 1907 194-404, 190 190		SMSS,No xxXXM4-12.5-65 AITDBM	-	190	10V = 100	DE CRES	ь	to	HEN	130		_	18.7	
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SAME	Substance Ministration Parison 1 2355 592 AG. UTC GOSS 6 6 7 7 14 3.0	AMMA	COMPROSE JANN-459-R39 ANTINAMS	-	8	10V ∓ VOT	LTE 700/1000/1600/MIS	_	2/2/21/2	5	5	-	-	3	
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PROPOSED:	é	(5) BLIZ HYDRID CABLES	
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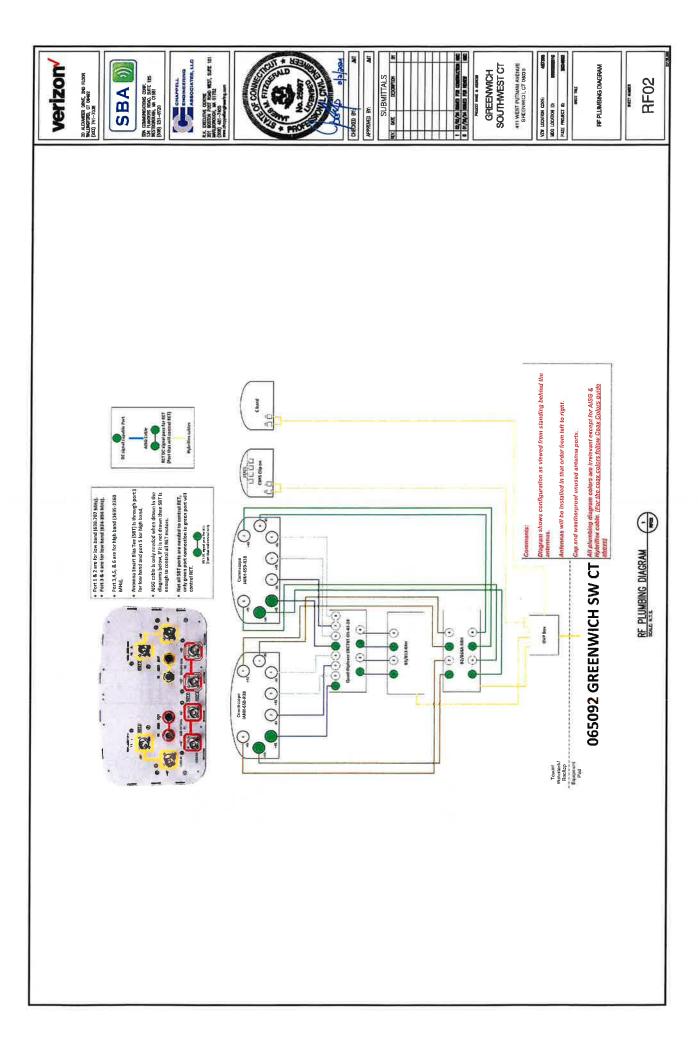
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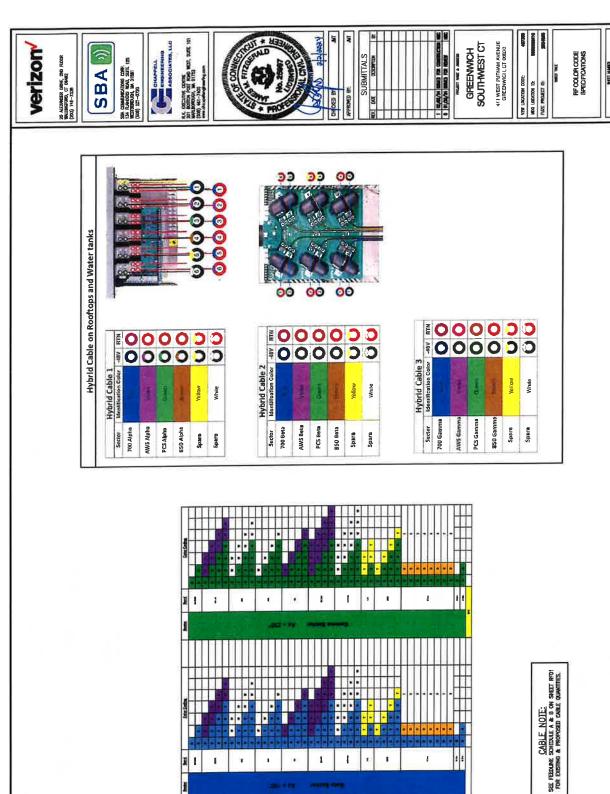
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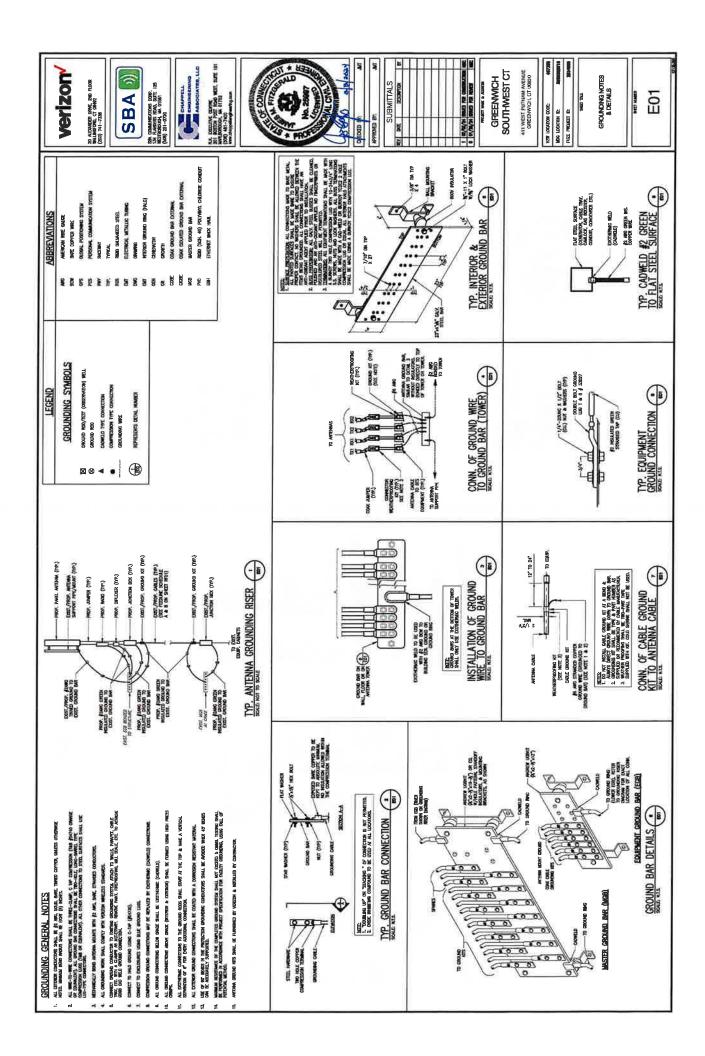
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LINE COLOR CODE SPECIFICATIONS (**)

HYBRID CABLE COLOR CODE SPECIFICATIONS

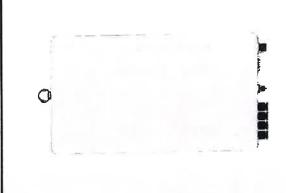
RF03



C-band 64T64R

Gen 2

Gen 2 : Higher conducted power radio with reduced size/volume/weight vs Gen 1 and also SOC embedded for flexibility to support new features



* Preliminary Design: External appearance and mechanical design can be subject to change

OXHXM	x 28.90 x 5.51 (nch)
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Item	Gen 2 64T64R (MT6413-77A)
Air Technology	NR n77/TDD
Frequency	3700 – 3980 MHz
Wei	200 MHz
OBW	200 MHz
Carrier Bandwidth	20(HW ready)/40/60/R0/100 MHz
# of Carriers	2 carriers
Layer	סר: 16ן, טר: לפּתא (פּר)
RF Chain	64T64R
Antenna Configuration	4V16H with 192 AE
EIRP	80,5 d8m @320W (55 d8m + 25.5 d8i)
Conductive Power	320W
Spectrum Analyzer	TX/RX support
RX Sensitivity	Typical -97.8dBm @(1Rx, 18.36MHz with 30kHz,51RBs)
Modulation	DL 256QAM support, (DL 1024QAM with 1~2dB power back-off)
Function Split	DL/UL option 7-2x
Input Power	-48 VDC (-38 VDC to -57 VDC)
Power Consumption	1,287W (100% load, room temp.)
Size (WHD)	400 x 734 x 149 mm (15.75 x 28.90 x 5.51 inch)
Volume	41.11
Weight	26kg (57.3 lb)
Operating Temperature	-40°C - 55°C (w/o solar load)
Coaling	Natural convection
	3GPP 38.104
	FCC 47 CFR 27.53 : < -13d8m/MHz
Unwanted Emission	 -40 dBm/MHz @ above 4 GHz -50 dBm /MHz @ 4,040 ~ 4,050 MHz, -50 dBm /MHz @ above 4,050 MHz
Optic Interface	15km, 4 ports (25Gbps x 4), SFP28, single mode, Bi-di (Option: Duplex)
Mounting Options	Pole, wall
NB-IoT	Not support
External Alarm	4ŘX
Fronthaul Interface	eCP81



8-port sector antenna, 2x 698–787, 2x 824-894 and 4x 1695–2360 MHz, 65° HPBW, 3x RET and low bands have diplexers. Internal SBT's on first LB(Port 1) and first HB(Port 5).

- Internal SBT on low and high band allow remote RET control from the radio over the RF jumper cable
- One RET for 700MHz, one RET for 850MHz, and one RET for both high bands to ensure same tilt level for 4x Rx or 4x MIMO
- Internal filter on low band and interleaved dipole technology providing for attractive, low wind load mechanical package
- Separate RS-485 RET input/output for low and high band

General Specifications

Antenna Type Sector

Band Multiband

Color Light gray

Effective Projective Area (EPA), frontal0.28 m² | 3.014 ft² **Effective Projective Area (EPA), lateral**0.24 m² | 2.583 ft²

Grounding TypeRF connector body grounded to reflector and mounting bracket

Performance Note Outdoor usage | Wind loading figures are validated by wind tunnel

measurements described in white paper WP-112534-EN

Radome Material Fiberglass, UV resistant

Radiator Material Aluminum | Low loss circuit board

Reflector Material Aluminum

RF Connector Interface 4.3-10 Female

RF Connector Location Bottom

RF Connector Quantity, high band 4
RF Connector Quantity, low band 4

Remote Electrical Tilt (RET) Information, General

RET Interface 8-pin DIN Female | 8-pin DIN Male

RET Interface, quantity 2 female | 2 male

Dimensions

RF Connector Quantity, total

Width 350 mm | 13.78 in

Page 1 of 4



Length

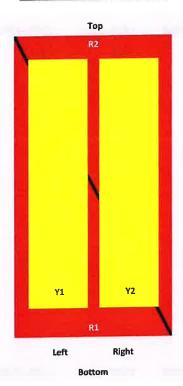
Depth

1828 mm | 71.969 in

208 mm | 8.189 in

Array Layout

JAHH-65A-R3B JAHH-65B-R3B JAHH-65C-R3B



Array	Freq (MHz)	Cann	(SRET)	AISG RET UID
RI	6/95-795	1.2	1	ANnounnement
82	874,894	3-4	1	Avenumenter
VI	1695-2360	5-6	3.	Almannanna
V2	1695-2360	7.8		

View from the front of the antenna

(Sizes of colored boxes are not true depictions of array sizes)

Electrical Specifications

Impedance

Polarization

50 ohm

Operating Frequency Band

1695 – 2360 MHz | 698 – 787 MHz | 824 – 894 MHz

±45°

Remote Electrical Tilt (RET) Information, Electrical

Protocol

3GPP/AISG 2.0 (Single RET)

Power Consumption, idle state, maximum

2 W

Page 2 of 4

Power Consumption, normal conditions, maximum

Input Voltage 10–30 Vdc

Internal Bias Tee Port 1 | Port 5

Internal RET High band (1) | Low band (2)

Electrical Specifications

Frequency Band, MHz	698-787	824-894	1695-1880	1850-1990	1920–2200	2300-2360
Gain, dBi	14.5	15.8	18	18.4	18.5	18.8
Beamwidth, Horizontal, degrees	67	65	63	63	65	68
Beamwidth, Vertical, degrees	12.4	10.5	5.7	5.2	4.9	4.4
Beam Tilt, degrees	2–14	2–14	0–10	0–10	0–10	0–10
USLS (First Lobe), dB	18	18	20	20	21	23
Front-to-Back Ratio at 180°, dB	32	34	31	35	36	38
Isolation, Cross Polarization, dB	25	25	25	25	25	25
Isolation, Inter-band, dB	30	30	30	30	30	30
VSWR Return loss, dB	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0	1.5 14.0
PIM, 3rd Order, 2 x 20 W, dBc	-153	-153	-153	-153	-153	-153
Input Power per Port at 50° C, maximum, watts	200	200	300	300	300	250

13 W

Electrical Specifications, BASTA

Electrical Specification	3. 13, 2, t3	•				
Frequency Band, MHz	698–787	824–894	1695–1880	1850-1990	1920-2200	2300–2360
Gain by all Beam Tilts, average, dBi	14.3	14.9	17.6	18.1	18.2	18.5
Gain by all Beam Tilts Tolerance, dB	±0.3	±0.5	±0.6	±0.4	±0,5	±0.6
Gain by Beam Tilt, average, dBi	2 ° 14.3 8 ° 14.3 14 ° 14.3	2 ° 15.0 8 ° 14.9 14 ° 15.4	0° 17.2 5° 17.6 10° 17.6	0° 17.6 5° 18.2 10° 18.2	0 ° 17.7 5 ° 18.3 10 ° 18.3	0 ° 17.9 5 ° 18.7 10 ° 18.7
Beamwidth, Horizontal Tolerance, degrees	±1.2	±1.4	±4	±2.4	±2.9	±2.7
Beamwidth, Vertical Tolerance, degrees	±0.9	±0.5	±0.3	±0.2	±0.3	±0,1
USLS, beampeak to 20° above beampeak, dB	18	17	17	18	19	18
Front-to-Back Total Power at 180° ± 30°, dB	25	24	26	29	27	29
CPR at Boresight, dB	22	23	20	21	21	24

Page 3 of 4



CPR at Sector, dB 11	12	11	11	11	8
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Mechanical Specifications

301.0 N @ 150 km/h | 67.7 lbf @ 150 km/h Wind Loading at Velocity, frontal 254.0 N @ 150 km/h | 57.1 lbf @ 150 km/h Wind Loading at Velocity, lateral

143.4 lbf @ 150 km/h | 638.0 N @ 150 km/h Wind Loading at Velocity, maximum

241 km/h | 149.75 mph Wind Speed, maximum

Packaging and Weights

456 mm | 17.953 in Width, packed 357 mm | 14.055 in Depth, packed 1975 mm | 77.756 in Length, packed 29.2 kg | 64.375 lb Net Weight, without mounting kit 42.5 kg | 93.696 lb Weight, gross

Regulatory Compliance/Certifications

Classification

Above maximum concentration value CHINA-ROHS

Designed, manufactured and/or distributed under this quality management system ISO 9001:2015

Compliant/Exempted **ROHS**



Agency



Included Products

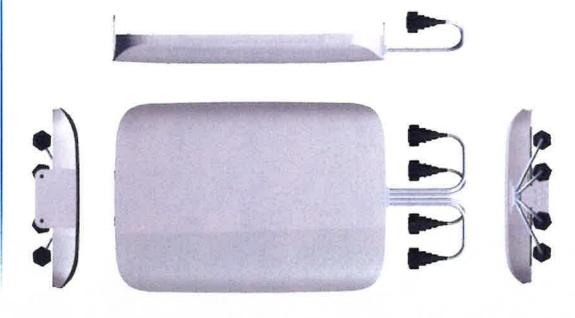
Wide Profile Antenna Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor top bracket set and one bottom bracket set.

* Footnotes

Severe environmental conditions may degrade optimum performance **Performance Note**

[CBRS] Clip-on Antenna Specifications

VzW accepted IP45 in FLD, but IP55 is Samsung Spec.



Items	Clip-on Antenna, BASTA**
Antenna Gain	12.5 ± 0.5 dBi (Max 13 dBi)
Horizontal BW (-3dB)	65° ± 5°
Vertical BW (-3dB)	17° ±3°
Electrical Tilt	8° (fixed) ±2°
Front-to-Back Ratio	> 25 dB
Port-to-Port Tracking	< 3 dB
VSWR	< 1.5
Isolation	> 25 dB
Ingress Protection	IP55
Size	220(W)×313(H)×34.3(D) mm (*) (8.7 × 12.3 × 1.4 inch.)
Weight	< 2.0 kg [Typ. 1.3 kg]
It is required that the radio with JMA WPS Boo	It is required that the radio should be weatherproofed properly with JMA WPS Boot with external antenna or
with Weatherproof	with Weatherproof Boot for clip-on antennas.

Antenna includes integrated cable with connector * Design is subject to minor change

** Ant. spec. follows NGMN recommendations on Base Station Antenna Standards (BASTA). For example, 'mean ± tolerance of 86.6%' is applied to double-sided specification of statistical RF parameters.

SAMSUNG

Samsung Micro Radio

CBRS(N48) 4T4R Micro Radio

Samsung's CBRS 4T4R Micro Radio provides mobile operators with a cost-effective solution to fill coverage gaps encountered when Macro Radios are in use.

Model Code

RT4423-48A(DC) RT4423-48B(AC)





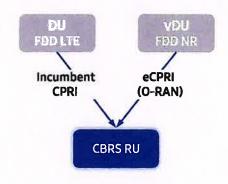




Points of Differentiation

Dual Personality

The new CBRS Radio supports existing CPRI and advanced eCPRI interfaces providing installation options for both legacy LTE and NR network equipment.



network investments.

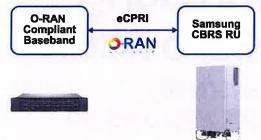
Samsung O-RAN products ensure state-of-the-art O-RAN technology will accelerate efforts for creating solid O-RAN ecosystems.

O-RAN Compliant

A standardized O-RAN radio supports implementing

cost-effective networks capable of enhanced data

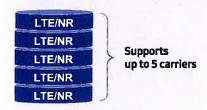
throughput without compromising existing or new



High Capacity

The number of carriers required varies according to site(region). Supporting multiple carriers is essential to customers as they seek to utilize all frequencies available to them.

The new CBRS radio can support up to 5 carriers which is and increase of 3 carriers over the capacity of the previous CBRS product.

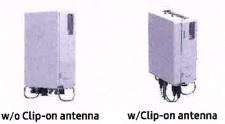


Compact and Easy Installation

New CBRS RU is compact in it's design with a volume of 6L and weighing only about 7kg.

This compact design allows for various installation options including, tower, rooftop, pole, wall and

A clip on antenna is available providing flexibility to installation requirements.



Technical Specifications

Item	Specification	
Tech	LTE / NR	
Band	B48, n48 / TDD	
Frequency Band	3,550 – 3,700 MHz	50
RF Power	20 W (5 W x 4 Ports)	
IBW/OBW	150MHz / 100MHz	
Installation	Pole, Wall, Side by side (max 3 radio)	
Cing / Wainle	[Radio] w/o Clip-on antenna: 8.7 x 11.8 x 3.6 inch, 5.97L, 7kg w/ Clip-on antenna: 8.7 x 11.8 x 5.0 inch, 8.42L, 8.5kg *AC and DC type have same size and weight	
Size/ Weight	[Bracket Weight] Tilting & Swivel (EP97-02038A) : 2.51kg Fixed (EP97-02037A) : 1.31kg Side by side (EP97-02089A) : 8.0kg	

SAMSUNG

AWS/PCS MACRO RADIO

DUAL-BAND AND HIGH POWER FOR MACRO COVERAGE

Samsung's future proof dual-band radio is designed to help effectively increase the coverage areas in wireless networks. This AWS/PCS 4T4R dual-band radio has 4Tx/4Rx to 2Tx/2Rx RF chains options and a total output power of 320W, making it ideal for macro sites.

Model Code

RF4439d-25A



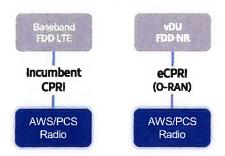




Points of Differentiation

Continuous Migration

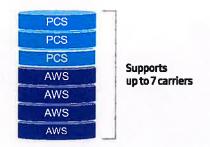
Samsung's AWS/PCS macro radio can support each incumbent CPRI interface as well as advanced eCPRI interfaces. This feature provides installable options for both legacy LTE networks and added NR networks.



Optimum Spectrum Utilization

The number of required carriers varies according to site (region). Supporting many carriers is essential for using all frequencies that the operator has available.

The new AWS/PCS dual-band radio can support up to 3 carriers in the PCS (1.9GHz) band and 4 carriers in the AWS (2.1GHz) band, respectively.



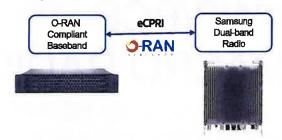
Technical Specifications

Item	Specification
Tech	LTE/NR
Brand	B25(PCS), B66(AWS)
Frequency Band	DL: 1930 – 1995MHz, UL: 1850 – 1915MHz DL: 2110 – 2200MHz, UL: 1710 – 1780MHz
RF Power	(B25) 4 × 40W or 2 × 60W (B66) 4 × 60W or 2 × 80W
IBW/OBW	(B25) 65MHz / 30MHz (B66) DL 90MHz, UL 70MHz / 60MHz
Installation	Pole, Wall
Size/ Weight	14.96 x 14.96 x 10.04inch (36.8L) / 74.7lb

O-RAN Compliant

A standardized O-RAN radio can help in implementing costeffective networks, which are capable of sending more data without compromising additional investments.

Samsung's state-of-the-art O-RAN technology will help accelerate the effort toward constructing a solid O-RAN ecosystem.



Brand New Features in a Compact Size

Samsung's AWS/PCS macro radio offers several features, such as dual connectivity for baseband for both CDU and vDU, O-RAN capability, more carriers and an enlarged PCS spectrum, combined into an incumbent radio volume of 36.8L



Same as an incumbent radio volume

700/850 4T4R Macro 320W ORU - New Filter (RF4461d-13A)

Specifications



* 5MHz supporting in B13(700MHz) depends on 3GPP std. and UE capability. External filters in interferent and victim sides for Mexican boarder to support 5MHz service need to be considered. ** Finger guard is not needed.

Item	Spedi	Specification
Air Interface	LTE, NR(HW r	LTE, NR(HW resource ready)
Band	Band13 (700MHz)	8and5 (850MHz)
	DI: 746~756MHz	DI 869-894MH7
Frequency	UL 777~787MHz	UL: 824~849MHz
IBW	TOMHZ	25MHz
OBW	10MHz	25MHz
Carrier Bandwidth	LTE/NR 5*/10MHz	LTE 5/10MHz NR 5/10/15/20MHz
# of carriers	5C+	30
Total # of carriers	4C + 81	4C + B13 (SDI) 1C
RF Chain	4T4R/2T4R 2T2R+2T	414R/214R/212R/112R 212R+212R Di-sector
RF Output Power	A v 400M or 2 v 800M	Total : 320W 4 × 40W or 2 × 60M
Spectrum Analyzer		TX/8X Support
RX Sensitivity	Tvp104.5dBm (Typ104.5dBm @1Rx (25RBs 5MHz)
Modulation	256QAM support, (1024QAI	256QAM support, (1024QAM with 1~2dB power back-off)
Input Power	-48VDC (-38)	-48VDC (-38VDC to -57VDC)
Power Consumption	1,165 Watt @ 100% R	1,165 Watt @ 100% RF load, room temperature
Size (WHD)	380 x 380 x 260 mm (1	380 x 380 x 260 mm (14.96 x 14.96 x 10.23 (nch)
Volume	37	37.5 L
Weight (W/o Solar Shield & finger quard)	35.9 kg	35.9 kg (79.1 lb)
Operating Temperature	-40°C (-40°F) ~ 55°C (1	-40°C (-40°F) ~ 55°C (131°F) (Without solar load)
Cooling	Natural	Natural convection
	3GPP 36,104	3GPP 36,104
Unwanted Emission	FCC 47 CFR 27.53 c), f)	FCC 47 CFR 22.917
	•	-69 d8m/100 kHz per path @ 896 ~901MHz
CPRI Cascade	Not s	Not supported
Optic Interface	20km, 2 ports (9.8Gbps x 2), SFP+	20km, 2 ports (9.8Gbps x 2), SFP+, single mode, Duplex (Option: Bi-di)
RET & TMA Interface	M.	AJSG 3.0
Bias-T	4 ports (2 p	4 ports (2 ports per band)
Mounting Options	Po	Pole, wall
N8-loT	2GB+2IB or 4IS	2SA+2GB or 2GB+2JB or 4GB
PIM Cancellation	SL	Support
# of antenna port		P
External Alarm		4
Fronthaul Interface	Opt. 8 CPRI / Opt. 7-2x selec	Opt. 8 CPRI / Opt. 7-2x selectable (not simultaneous support)
CPRI compression	Not	Not Support

ATTACHMENT 2



C Squared Systems, LLC
65 Dartmouth Drive
Auburn, NH 03032
(603) 644-2800
support@csquaredsystems.com

Calculated Radio Frequency Emissions Report



Greenwich SW CT
411 West Putnam Avenue, Greenwich, CT 06830

January 12, 2024

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1. Introduction

The purpose of this report is to investigate compliance with applicable FCC regulations for the proposed modification of Verizon's antenna arrays to be mounted at 52',53.5', and 54.5' on an existing rooftop located at 411 West Putnam Avenue in Greenwich, CT. The coordinates of the tower are 41° 1' 17.32" N, 73° 38' 27.68" W.

Verizon is proposing the following:

1) Install twelve (12) multi-band antennas, four (4) per sector to support its commercial LTE and 5G network.

This report considers the planned antenna configuration for Verizon¹ as well as existing antenna configuration for DISH², T-Mobile³ and Other⁴ to derive the resulting % MPE of its proposed modification.

2. FCC Guidelines for Evaluating RF Radiation Exposure Limits

In 1985, the FCC established rules to regulate radio frequency (RF) exposure from FCC licensed antenna facilities. In 1996, the FCC updated these rules, which were further amended in August 1997 by OET Bulletin 65 Edition 97-01. These new rules include Maximum Permissible Exposure (MPE) limits for transmitters operating between 300 kHz and 100 GHz. The FCC MPE limits are based upon those recommended by the National Council on Radiation Protection and Measurements (NCRP), developed by the Institute of Electrical and Electronics Engineers, Inc., (IEEE) and adopted by the American National Standards Institute (ANSI).

The FCC general population/uncontrolled limits set the maximum exposure to which most people may be subjected. General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

Public exposure to radio frequencies is regulated and enforced in units of milliwatts per square centimeter (mW/cm²). The general population exposure limits for the various frequency ranges are defined in the attached "FCC Limits for Maximum Permissible Exposure (MPE)" in Attachment C of this report.

Higher exposure limits are permitted under the occupational/controlled exposure category, but only for persons who are exposed as a consequence of their employment and who have been made fully aware of the potential for exposure, and they must be able to exercise control over their exposure. General population/uncontrolled limits are five times more stringent than the levels that are acceptable for occupational, or radio frequency trained individuals. Attachment C contains excerpts from OET Bulletin 65 and defines the Maximum Exposure Limit.

Finally, it should be noted that the MPE limits adopted by the FCC for both general population/uncontrolled exposure and for occupational/controlled exposure incorporate a substantial margin of safety and have been established to be well below levels generally accepted as having the potential to cause adverse health effects.

2022

¹ As referenced to Verizon's Radio Frequency Design Sheet updated 10/31/2023.

² As referenced to DISH's Connecticut Siting Council Notice of Exempt Modification – 411 West Putnam Avenue, Greenwich, Connecticut, dated April 28, 2022.

³ As referenced to T-Mobile's Connecticut Siting Council Notice of Exempt Modification – 411 West Putnam Avenue, Greenwich, Connecticut, dated April 25, 2022.

⁴ As referenced to Verizon's Connecticut Siting Council Notice of Exempt Modification – 411 West Putnam Avenue, Greenwich, Connecticut, dated June 28, 2021.



3. RF Exposure Prediction Methods

The emission field calculation results displayed in the following figures were generated using the following formula as outlined in FCC bulletin OET 65:

Power Density =
$$\left(\frac{GRF^2 \times 1.64 \times ERP}{4\pi \times R^2}\right)$$
 X Off Beam Loss

Where:

EIRP = Effective Isotropic Radiated Power

R = Radial Distance =
$$\sqrt{(H^2 + V^2)}$$

H = Horizontal Distance from antenna in meters

V = Vertical Distance from radiation center of antenna in meters

Off Beam Loss is determined by the selected antenna patterns

Ground reflection factor (GRF) of 1.6

These calculations assume that the antennas are operating at 100 percent capacity, that all antenna channels are transmitting simultaneously, and that the radio transmitters are operating at full power. Obstructions (trees, buildings, etc.) that would normally attenuate the signal are not taken into account. The calculations assume even terrain in the area of study and do not take into account actual terrain elevations which could attenuate the signal. As a result, the predicted signal levels reported below are much higher than the actual signal levels will be from the final installations.



4. Antenna Inventory

Table 1 below outlines Verizon's proposed antenna configuration for the site. The associated data sheets and antenna patterns for these specific antenna models are included in Attachments C.

Operator	Sector	TX Freq (MHz)	Power at Antenna (Watts)	Ant Gain (dBi)	Power EIRP (Watts)	Antenna Model Width		Mech. Tilt	Length (ft)	Antenna Centerline Height (ft)
		750	160	14.5	4509		67	0		
	Alpha	850	160	15.8	6083	JAHH-65B-R3B	65		5.99	52
		1900	160	18.4	11069	JAHH-05D-K5D	63	0		32
		2100	240	18.5	16991		65			
		3500	20	12.5	356	XXDWMM-12.5-65-8T	65	_ 0		54.5
		3700	320	25.5	113540	MT6413-77A	2	0	1611	53.5
	Beta	750	160	14.5	4509		67	0	5.99	52
Verizon		850	160	15.8	6083	JAHH-65B-R3B	65			
		1900	160	18.4	11069	JAHH-03D-K3D	63			
		2100	240	18.5	16991		65			
		3500	20	12.5	356	XXDWMM-12.5-65-8T	65	0	5#1	54.5
		3700	320	25.5	113540	MT6413-77A	-	0	845	53.5
		750	160	14.5	4509		67	0		52
		850	160	15.8	6083	TATITI CED DOD	65		5.99	
	Gamma	1900	160	18.4	11069	JAHH-65B-R3B	63	0		22
	Gaiinia	2100	240	18.5	16991		65			
		3500	20	12.5	356	XXDWMM-12.5-65-8T	65	0	:#:	54.5
		3700	320	25.5	113540	MT6413-77A	2	0	72.	53.5

Table 1: Proposed Antenna Inventory⁵⁶

Greenwich SW CT 3 January 12, 2024

⁵ Antenna heights are in reference to Verizon's Radio Frequency Design Sheet updated 10/31/2023.

⁶ Transmit power assumes 0 dB of cable loss.



5. Calculation Results

The calculated power density results are shown in Figure 1 below. For completeness, the calculations for this analysis range from 0 feet horizontal distance (directly below the antennas) to a value of 3,000 feet horizontal distance from the site. In addition to the other worst-case scenario considerations that were previously mentioned, the power density calculations to each horizontal distance point away from the antennas was completed using a local maximum off beam antenna gain (within \pm 5 degrees of the true mathematical angle) to incorporate a realistic worst-case scenario.

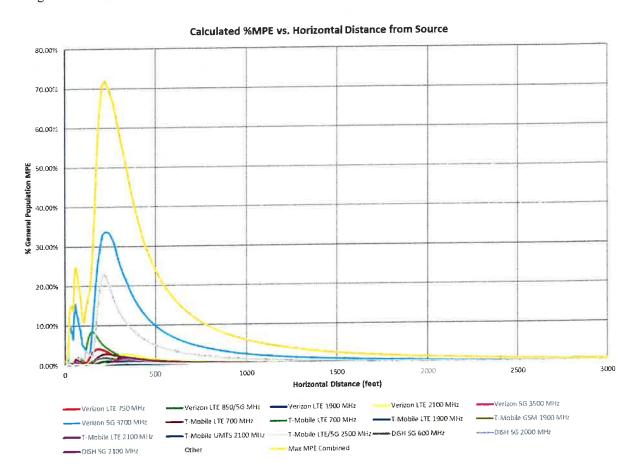


Figure 1: Graph of General Population % MPE vs. Distance

The highest percent of MPE (71.90% of the General Population limit) is calculated to occur at a horizontal distance of 221 feet from antennas. Please note that the percent of MPE calculations close to the site take into account off beam loss, which is determined from the vertical pattern of the antennas used. Therefore, RF power density levels may increase as the distance from the site increases. At distances of approximately 800 feet and beyond, one would now be in the main beam of the antenna pattern and off beam loss is no longer considered. Beyond this point, RF levels become calculated solely on distance from the site and the percent of MPE decreases significantly as distance from the site increases.



Table 2 below lists percent of MPE values as well as the associated parameters that were included in the calculations. The highest percent of MPE value was calculated to occur at a horizontal distance of 221 feet from the site (reference Figure 1).

As stated in Section 3, all calculations assume that the antennas are operating at 100 percent capacity, that all antenna channels are transmitting simultaneously, and that the radio transmitters are operating at full power. Obstructions (trees, buildings etc.) that would normally attenuate the signal are not taken into account. In addition, a six foot height offset was considered in this analysis to account for average human height. As a result, the predicted signal levels are significantly higher than the actual signal levels will be from the final configuration. The results presented in Figure 1 and Table 2 assume level ground elevation from the base of the tower out to the horizontal distances calculated.

Carrier	Number of Transmitte	Power out of Base Station Per Transmitter (Watts)	Antenna Height (Feet)	Distance to the Base of Antennas (Feet)	Power Density (mW/cm²)	Limit (mW/cm²)	% MPE
DISH 5G 2000 MHz	1	160.0	55.5	221	0.000997	1.000	0.10%
DISH 5G 2100 MHz	1	160.0	55.5	221	0.000716	1.000	0.07%
DISH 5G 600 MHz	1	120.0	55.5	221	0.007289	0.400	1.82%
Other *	2	100.0	73.0	221	0.000717	0.300	0.24%
T-Mobile GSM 1900 MHz	1	10.0	53.0	221	0.000170	1.000	0.02%
T-Mobile LTE 1900 MHz	1	160.0	53.0	221	0.002713	1.000	0.27%
T-Mobile LTE 2100 MHz	1	160.0	53.0	221	0.001817	1.000	0.18%
T-Mobile LTE 700 MHz	1	120.0	51.0	221	0.011205	0.400	2.80%
T-Mobile LTE 700 MHz	1	40.0	51.0	221	0.004499	0.467	0.96%
T-Mobile LTE/5G 2500 MHz	1	160.0	53.0	221	0.228358	1.000	22.84%
T-Mobile UMTS 2100 MHz	1	10.0	53.0	221	0.000114	1.000	0.01%
Verizon 5G 3500 MHz	1	20.0	52.0	221	0.001640	1.000	0.16%
Verizon 5G 3700 MHz	1	320.0	53.5	221	0.336775	1.000	33.68%
Verizon LTE 1900 MHz	1	160.0	52.0	221	0.002437	1.000	0.24%
Verizon LTE 2100 MHz	1	240.0	52.0	221	0.003082	1.000	0.31%
Verizon LTE 750 MHz	1	160.0	52.0	221	0.017794	0.500	3.56%
Verizon LTE 850/5G MHz	1	160.0	52.0	221	0.026237	0.567	4.63%
						Total	71.90%

Table 2: Maximum Percent of General Population Exposure Values⁷⁸

January 12, 2024

Greenwich SW CT 5

⁷ In the case where antenna pattern data was unavailable from the manufacturer, generic antenna pattern was used based on the frequency, bandwidth and gain of the antenna.

^{8 *} Reasonable assumptions were made when antenna model, frequency, power, and height information was unavailable.



6. Conclusion

The above analysis verifies that RF exposure levels from the site with Verizon's proposed antenna configuration will be well below the maximum permissible levels as outlined by the FCC in the OET Bulletin 65 Ed. 97-01. Using the conservative calculation methods and parameters detailed above, the maximum cumulative percent of MPE in consideration of all transmitters is calculated to be 71.90% of the FCC limit (General Population/Uncontrolled). This maximum cumulative percent of MPE value is calculated to occur 221 feet away from the site.

7. Statement of Certification

I certify to the best of my knowledge that the statements in this report are true and accurate. The calculations follow guidelines set forth in ANSI/IEEE Std. C95.3, ANSI/IEEE Std. C95.1 and FCC OET Bulletin 65 Edition 97-01.

Report Prepared By:

Ram Acharya

RF Engineer

C Squared Systems, LLC

Mach J Law

January 11, 2024

Date

Reviewed/Approved By:

Martin Lavin

Senior RF Engineer
C Squared Systems, LLC

January 12, 2024 Date



Attachment A: References

OET Bulletin 65 - Edition 97-01 - August 1997 Federal Communications Commission Office of Engineering & Technology

IEEE C95.1-2005, IEEE Standard Safety Levels With Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz IEEE-SA Standards Board

IEEE C95.3-2002 (R2008), IEEE Recommended Practice for Measurements and Computations of Radio Frequency Electromagnetic Fields With Respect to Human Exposure to Such Fields, 100 kHz-300 GHz IEEE-SA Standards Board

Greenwich SW CT 7 January 12, 2024



Attachment B: FCC Limits for Maximum Permissible Exposure (MPE)

(A) Limits for Occupational/Controlled Exposure9

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time $ E ^2$, $ H ^2$ or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	$(900/f^2)*$	6
30-300	61.4	0.163	1.0	6
300-1500	£	-	f/300	6
1500-100,000	= = = =		5	6

(B) Limits for General Population/Uncontrolled Exposure 10

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (E) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time $ E ^2$, $ H ^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	$(180/f^2)*$	30
30-300	27.5	0.073	0.2	30
300-1500	-	-	f/1500	30
500-100,000	-		1.0	30

f = frequency in MHz * Plane-wave equivalent power density

Table 3: FCC Limits for Maximum Permissible Exposure

Greenwich SW CT 8 January 12, 2024

Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

¹⁰ General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.



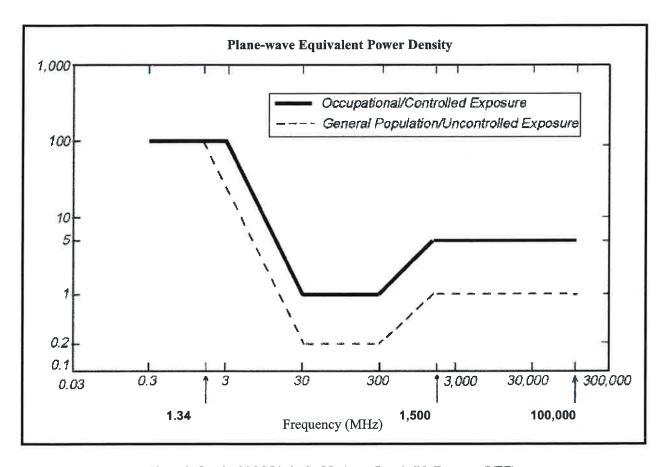


Figure 2: Graph of FCC Limits for Maximum Permissible Exposure (MPE)



Attachment C: Verizon Antenna Model Data Sheets and Electrical Patterns

LTE 750 MHz

Manufacturer: COMMSCOPE

Model #: JAHH-65B-R3B

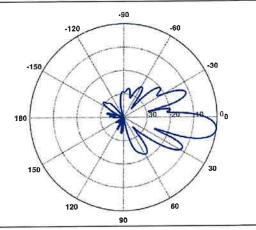
Frequency Band: 698-787 MHz

Gain: 14.5 dBi

Vertical Beamwidth: 12.4° Horizontal Beamwidth: 67°

Polarization: ±45°

Dimensions (L x W x D): 71.96" x 13.78" x 8.2"



LTE 850 MHz

Manufacturer: COMMSCOPE

Model #: JAHH-65B-R3B

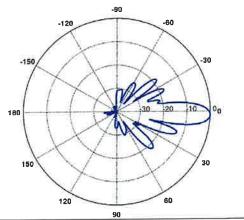
Frequency Band: 824-894 MHz

Gain: 15.8 dBi

Vertical Beamwidth: 5.7° Horizontal Beamwidth: 63°

Polarization: ±45°

Dimensions (L x W x D): 71.96" x 13.78" x 8.2"





LTE 1900 MHz

Manufacturer: COMMSCOPE

Model #: JAHH-65B-R3B

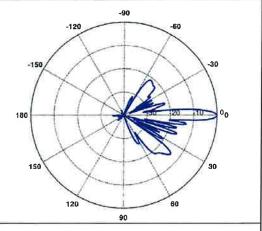
Frequency Band: 1850-1990 MHz

Gain: 18.4 dBi

Vertical Beamwidth: 4.9° Horizontal Beamwidth: 65°

Polarization: ±45°

Dimensions (L x W x D): 71.96" x 13.78" x 8.2"



LTE 2100 MHz

Manufacturer: COMMSCOPE

Model #: JAHH-65B-R3B

Frequency Band: 1920-2200 MHz

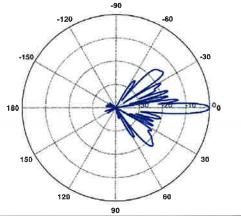
Gain: 18.5 dBi

Vertical Beamwidth: 4.9°

Horizontal Beamwidth: 65°

Polarization: ±45°

Dimensions (L x W x D): 71.96" x 13.78" x 8.2"



ATTACHMENT 3



January 26, 2024



RE:

Support Structure Structural Evaluation

Verizon Site Name: Greenwich Southwest CT

Site Address: 411 West Putnam Avenue, Greenwich, CT 06830

CEA Job Number: 22135.085

To whom it may concern:

Chappell Engineering Associates, LLC (CEA) has performed a structural evaluation of the existing multi-story commercial office building, in particular the load bearing elements of the building at roof level, located at the above referenced location in conjunction with Verizon's proposal to upgrade/re-configure their existing wireless telecommunications installation located on the rooftop of the building. The installation consists of three (3) steel mounted ballast frames (each housing a "sector" of panel antennas together with related ancillary equipment) with feedlines routed to each sector on non-penetrating cable trays originating from the existing equipment space located within the existing building penthouse.

CEA conducted a site visit on 01/11/24 to investigate the building and to gather information as it relates to both the existing and proposed site configurations on the rooftop. The existing wireless telecommunications installation as described above has been visually inspected and found to be in satisfactory condition at the time of the site visit.

Based upon our evaluation of the existing building, the information obtained from the aforementioned site visit and the magnitude of the anticipated loads, we consider the proposed upgrades to represent a negligible increase in the loads applied to the building and therefore consider the building to **have adequate capacity** to support the proposed site configuration as shown on the upgrade construction drawings (attached as Appendix B).

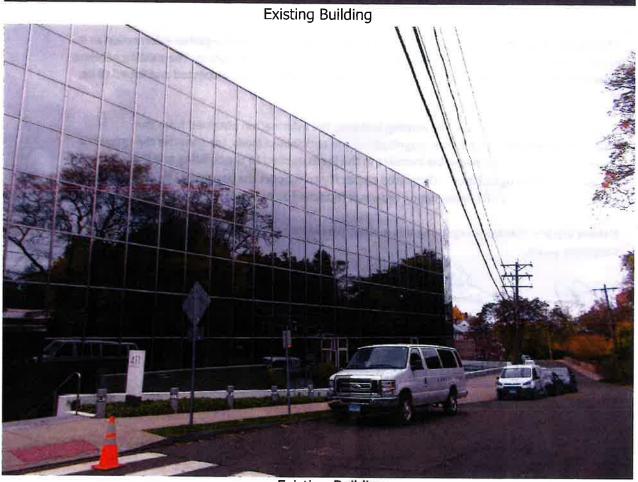
If there are any questions regarding this matter, please do not hesitate to call us.

Very truly yours,

Clement J. Salek, P.E.

Chappell Engineering Associates, LLC





Existing Building



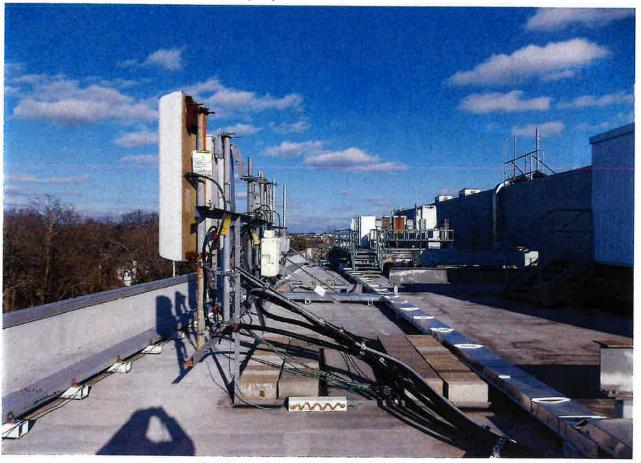
Existing Verizon Equipment in Penthouse Space



Existing Verizon Equipment in Penthouse Space



Existing Alpha Sector Antenna Frame



Existing Alpha Sector Antenna Frame



Existing Beta Sector Antenna Frame



Existing Beta Sector Antenna Frame



Existing Gamma Sector Antenna Frame



Existing Gamma Sector Antenna Frame





Verizon

ZO ALEVADEN DRYE, ZND FLOOR TRALIBATIOND, CT 06402 (ZDJ) 741-7228

ANTENNA SUPPORT STRUCTURE (RCOFTOP) STRUCTURAL ANALYSIS DATE: 01/26/24

ANTENNA MOUNT STRUCTURAL ANALYSIS DATE: 01/28/24

RADIO FREQUENCY (RF) DESIGN DATE: 10/31/23

SUPPORTING DOCUMENTS

SBA

SIGN COMMUNICATIONS CORP. 134 TAMESSES ROMS, SUITE 125 WESTERONOMEN, Mr. 01381 (100) 251-4770

20 ALEXANDER DRIVE, 2nd FLOOR WALLINGFORD, CT 06492

GREENWICH SOUTHWEST CT

411 WEST PUTNAM AVENUE GREENWICH, CT 06830 FAIRFIELD COUNTY

PAY, DODGSTAR CONTRY, SUITE 10 201 BOSERA POST RODG BEST, SUITE 10 201-201-1 LM 01733 (XXV) 951-7400 PYRACHING PORT SUITE 100

CHAPPELL ENGINEETING ANDOCATES, L

PROJECT TYPE: UPGRADE TO EXISTING WIRELESS TELECOMMUNICATIONS INSTALLATION ON EXISTING ROOFTOP

VICINITY MAP SCALE: 1'=1000'

SITE INFORMATION

WEST PUTNAM OWNER LLC 216 EAST 45TH STREET, 12TH FLOOR NEW YORK, NY 10017 E-E-ETHYO, RALLDING N 41° 01 17.70° (41 0216°) (NAD 83) W 75°-38-27 12° (-73 8468°) (NAD '03) 467308 GREENWICH SOUTHWEST CT CT95623 M MCM ACQUISTION 2017, LLC 0501 CONGRESS AVENUE BOCA RATON, FL 33487 PHONE: 661 228 9523 411 WEST PUTNAM AVENUE SREENWICH, CT 06030 GREENWICH (PUTNAM) 5000385610 VERIZON LOCATION CODE:
VERIZON STE NAMEE:
SEA STE NAMEE:
SEA COLLO APPRAMEE
MAGLICOATION ID
FUZE PROJECTIO
SITE ADDRESS: STRUCTURE HEIGHT: STRUCTURE HEIGHT IN ARCHITE CT/ENGINEER SHOUND ELEVATION SITE CONTROL POINT PROPERTY OWNER ZONING DISTRICT: STRUCTURE TYPE: FOWER OWNER:

GENERAL NOTES

- COMPACTOR SALL VIERPY LE LANG, EXCRING DIMENSIONS, AND CONDITIONS ON JOB STE.
 CONTRACTOR SALL, INFORMATION THE AND CONTRICTS CANDERS WITH WARRING OF ANY
 DOCESTANCES RECORDED FOR EXCRIBING THE WORK FALLOW FOR DIVIDE THE
 DISCRESSIONS THE CONTRACTOR IS SOVERED. TO A THE CONTRACTOR TO CORRECT THE
 DISCRESSION THE CONTRACTOR S DEPAIRS.
 - NEW CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES

 ELECTRICAL CODE ZOON MATIONAL ELECTRICAL CODE

 STRUCTURAL CODE: ZOON MATIONAL ELECTRICAL CODE

 SUPPORTIVAL CODE STRUCTURE STANDARDS FOR AUTENIA
 SUPPORTIVE STRUCTURES AND AVIETHANS

AT LEAST 72 HOURS PRIOR TO DIGGING, THE CONTRACTOR IS REQUIRED TO CALL DIG SAFE AT 811



SHEET INDEX

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RF02	OF PLANSING DIMERAL	9
HF03	RF COLOR CODE SPECIFICATIONS	0
E01	GROUNDING NOTES & DETAILS	0

Parent.

SUBMITTALS

DO NOT SCALE DRAWINGS

ALL PLAIS, EXISTING DMENSIONS AND CONDITIONS AT THE PROPOSED PROJECT SITE SHALL BE PRESENT THE FREE OUTSING THE CONSTRUCTION PAUSE. THE PROJECT OWNERS THE PRESENT THE SHALL S

SOUTHWEST CT

GREENWICH

411 WEST PUTMAMAVENUE GREENWICH, CT 08830

100 ST GIR 15/8/10 0

PROJECT DESCRIPTION

SCOPE OF WORK

- REMOVE

 1 FAMIENAS

 1 TAMIENAS

 1 OVP.JUNICTION BOXES

 6 OFFERSERS

 6 CAMAL CABLES

 7 HYBRID CABLES



THESTER

REA THE FURNISH OF CONTINUEND FAMOURS, THE FULLIMOSE DOTATIONS SHALL AFFOL CONTINUED - UNITAIN, CONTINUEN (CONTINUEND) SURCOMMENTER - CHARAL CONTINUEN (CONTINUEND)

A POOR TO THE ASSESTED OF BIDS, THE BEOMO SUBCONTRICTION SHALL WITH THE CELL SITT TO PASSESSEE WITH THE MOSTERIA AND TO COMPETE THE THE STATEMENT OF THE STATEMENT OF THE CONSTRUCTION DEPORTED. WITH THE WOODSTRANK THAT THE MOSTERIA OF THE CONSTRUCTION OF CONTRICTION.

I. ALI WIZK CARRED OUT SAUL COMEN' WITH ALL APPLICABLE WINNISPA, AND UTLITY COMPANY SPECIFICATIONS AND LOCAL INSTRUCTION, CODES, ORDINANCES AND APPLICABLE RESCURIONS. PROMIDED HERE ARE NOT TO BE SCALED AND ARE INTERDED TO SHOW OUTLINE CHEY.

s. Urress noted operate, the rook same accide transfaro landsals, equalish, applitishances, and labor addesiant to colabile all restaulations as indicated on the graduals.

THE SUCCHEMETER SHALL PECIALL ALL ENGENERIT AND INTERALS IN ACCREMANZ WITH IMMURACIURER'S EXTRIBUTIONS LINESS. SPECIFICALLY STATED OFFERINSE.

S, F THE SPECIFED EXHIPMENT CAMPET BE NETALLED AS SHOWN ON THESE DIMPMAS, THE SLINCOMPRATION SYML. PROPOSE AN ALTERNATINE RESILILATION FOR APPROPAL BY THE CONTINUEDOR.

BECONTRUCTOR SHALL DETERMINE ACTIVAL ROLITING OF CONNUIT, POINTS AND TO CALLES, GROWINGING OMBES AS SYMMY. THE CANNEL ROLLEGORS AND TILLED PAIN DIRECTIONS, ESCHORATIONS SHALL UNITER DESTING THINS AND/ORISHAND AND THE THE WAY OF SHALL AND THINS AS INSECTIONS AND THING THE THE CONTRUCTOR. IO, THE SUBCIMITATION SAML PROTECT EXISTING BEPOMBERTS, PROBLETTS, LURISS, LANDSLAPING AND STRUCTURES. ANY DAMIGED PART SAML BE REPARED. AT SUBCOMPLACTOR SEGRECTION OF THE OFFIRE. I. SECONTINUTOR SANL LEDILLY AND FROFEILY DEFYCE OF ALL STAFF IMERIALS SUCH AS COMMAL CHEES AND DEFICIENCE THE SECONTION TITLES FEDURED IN THE COMMETS DESIGNING.

NOTICE SHILL LEME FROMES IN CLEAR CONCINCH

SIRCOHTWATRIC SAML NOTRY CAMPOLL BACHEDING ASSICATES, LLG., 48 HOURS IN ADAMIS OF POVINGE CAMPETE. STANDED SOFT AND WALL PRETRAINERS & POST DOMIS. PRINCIPED NEW WALLS OR PAML THINGS, OR POST DOMIS. PRINCIPED NEW WALLS OR PAML THINGS. CAMPETINGE OF PART OF THE PART OF TH 13. THE SERONINGTON SHALL SYGENEZ NO DREST THE PROJECT PESCHEDO TREADED THEREN THE SUBCHTRACTON SHALL BE COCKNEWING THE WORLD SHALL SHALL BETTON TO THE SUBCHTURES THE COCKNEWING SHALL PRINCIPLE OF THE SHALL BETTON THE COCKNEWING SHALL PRINCIPLE OF THE SHALL SHALL

A CONTRACTOR SULL COUNTY WITH VISIDAN MEDIES INCROOK STANDAG (ASTORISE TO THE LIMINAM EXTENT FEASER.). PALES PEDILODE OF LIMITE OF DESIGN DOWN ON THESE CONNECT. A SECONTRUTA SALL YORY ALL EXTEND DIRECKING AND CHROTOPING PROR TO COMMENCE AMY WINK. ALL EXTENDIOLOGICAL SALL WINK AND SECONTRUCT SALL WITH THE WASHINGTON SALL E DETING COLL STE ÉS IN FOLL CAMAGNOM, ANY CONSTRUCTION WORK ET SJEGANTRACTION SAML, NOT THE EQUINGA PROMILE DESIGNALE, PREMIER NY BABLE ON LEGENDRA DEN BURNET EN COMPANION IN THE CONTRIBUTION IN THE CONTRIBUTION IN ANY SPECIAL DESIGNAL PRINCIPAL PROGRAFION AND THE CONTRIBUTION IN THE CONTRIBUTION IN THE CONTRIBUTION IN THE CONTRIBUTION IN ANY SPECIAL DESIGNAL AND THE CONTRIBUTION IN THE CONTRIBUTION IN

A SHOT, THE COLL STILL IS ACTIVE, ALL SAFETY PRECAUTIONS MADTHEF WOOD WERR WERROOM, MORNING SHOULD SHOULD SHOW THE WOOD SHOULD SHOW THE SAFETY SHOULD SHOW THE SAFETY SHOULD SHOW THE SAFETY S

STE WORK GENERAL HOTES.

. THE SUBGRAINMOTHEN SAMIL CONTINCT UTILITY LOCATING SERVICES PRICH TO THE START OF CONSTRUCTION.

A ML DERINA ADMY SPREN, WITH, CALL ELECTRIC, AND ORDER UNITED WORK DONARDED IN THE WORK SHALL THE WORK SHALL THE WORK SHALL THE WORK SHALL THE MEASURE OF THE WORK SHALL THE MEASURE OF THE WORK SHALL THE MEASURE OF THE WORK SHALL TH

). If medszent, rubbel, stuars, deber, sticks, stokes and other reduce saul, be reduced from the site and propes of legalst, A ALL STE WORK SHALL BE AS ELDICATED ON THE DRAWNS AND PROJECT SPECFROATONS

nd til or oddinjojent wydeni, syml er placid om frozem ground, frozem lantenia, smont or ret syml, mot Placed in amy fil or ddialhynddit. I, THE STE SHALL BE GRADED TO CAUSE SUFFACE WATER TO FLOW ABOY FROM THE BTS EQUAPMENT AND TOWER AREAS. 7. THE SIG ORADE SHALL BE COMPACTED AND BROUGHT TO A SAROTTH UNIFORM GRADE PROOR TO PASSAGD SARGYCE. APPLICATION. A AL DOSTING INCIDE, STREAL INCIDE, CISC, ELECTRIZE AND OTHERS UTILITIZE, WHICH INTEREDEE WITH THE DESCUINON OF THE TITORY, SULLE OF READISM, AND OFFED, UTILIZED OR OTHERSHELE DESCRIPTION, THE PRESENT WILL HAVE INFERENTE. WHITH THE DESCRIPTION THE WORKS, SELECT TO THE APPROVEM, OF DEPARENSMO, OWERE AND/ON LOCAL UTILITIES. II, SRECORTIVATOR SHAL MEMBLE DETINGUARE, TO ENSING STRE DURGO CONSTRUCTOR, ERECEND COMPILAL MEMBLES. II CONTINC. ORTHOL. e, the areas of the comesses property cistinged by the weak and catachers by the there, example to persons such that specific and symmetry such the roles such that specific property such that the specific property such that the specific property such that such that the specific property such that the specific propert

II. THE SUBCOMPACTOR SWAL PROVIDE STE SUBVICE IN ACCORDANCE WITH THE VERICON WRREESS SPEEDFATTON FOR STE SORVICE.

D, ALL COMICREE SHALL HHER A MANIBLO CONFESSIVE, STREACHT OF 2000 PER AL 22 BAYS, UNESSE HOTED OTHERWISE. A RECORDISTIONAL (MODRY) MAY BE USEN, ALL CONDICIEN WORK SHALL BE IN ACCOGNING. WITH THE AS 181 CADE. N, REPGROOMS STEEL SHALL CONFORM TO ASTA, A STA, CANAST, MA, GOTOWAD WALCH, WATER CIPAGES, MALES THEE TARRY NEW TOWNS THE RESEARCH TO ASTA IN CLASS TO A STANDARD TO ASSAULT BE STANDARD, INC.

A, THE TRAILWANN MAMBAIN CONNECTE CORTS SHALL BE FRONKED THE RESPONSED STEEL UNITES SHOWN UNFERFECT ON THE SHALL BE FRONKED THE TRAIL BE FROM THE SHALL BE F

A. A. CHANTEN IN" DIVIL BE PROVIDED AT ALL EXPOSED DIXES OF CONCIETE, UND, IN ACCORDANCE WITH ACI 301 SECTION 4.2.A. A LEGILLION OF CONCRIT, DEMONDAPLICE, MORRY, SHALL SE TON MANAZHARIT MRITIN RECOMBINED TO TOCKNING.
FOR ALONG, AND ALL ON THE OWNER WANTERFRINK THE MANAZHARIT FOR AND ASSOCIATION OF A THINK THE OWNERS, AS ARM SHALL IF CLIF READY PROVIDED AND ASSOCIATION AND ASSOCIATION OF THE OWNER, AND ASSOCIATION AND ASSOCIATION OF THE TOP ASSOCIATION OF THE PROPERTY OF THE TOP ASSOCIATION OF THE PROPERTY OF THE PROPERTY OF THE TOP ASSOCIATION OF THE PROPERTY OF THE PROPER

7) CONCRETE CLARGES TEST & NOT RETURNED. TON BLAG ON GROOK WHICH DOWNSTEE IS LIGHT NAME YOU CANNOT BE CHARLOLD. IN HIS HELD THE PROMODED IN INC. ROWNED SEPARATE. SAFPLINE, (1) ARROLD OF THE CHARLOLD OF THE THE PROMODED IN INC. SAFPLINES SAFPLINES. THE CHARLOLD OF THE SAFPLINES SAFPLINE

g. as an alternative to tieja 7. test charens shall be taken britaly and thereaften for every 30 yards of consene from each different plant.

A, EDLEWENT SYMLI, MITT BE PLACED ON NEW PLOS FOR SENDI DAYS, AFTER PLO IS POURED, UNLESS IT IS VERFED BY CALMOON TESTS THAT COMPRESSME SYNEROTH NAS BEEN ATTMED.

STRUCTURAL STEEL NOTES:

A. A. STILL WER SOLD, HE NATURE OLIVENMENT METANOWICK THE THE RESERVENCE WELLESS STEELING WITH STEELING WITH SECURIOR STEELING STEELING WITH SPILE AS STEELING WITH STEELING WITH SPILE AS STEELING WITH STEELING WITH STEELING WITH SECURIOR STEELING WITH SPILE OF STEELING WITH SECURIOR STEELING WITH

2. AL TRIJEM SWIL OF TROTONED LEAN DOOK ELETRORIS NO WELDING SWIL CONTRIN IN ARC NO ANS DIT, MUNEY. THE SELECT SWILL SWILL OF STELL CONSTITUTION, THE DUSING SMILLS SWILL OF STELL CONSTITUTION, THE DURING MARKED SMILLS SWILL OF STELL CONSTITUTION.

X, BOLIDD CORNECTIONS SHALL LIZE BEARING TIPE ASTLY AZZIS BOLIS (A.V.), AND SHALL HARE LIGHMAN OF THO BRLITS LIALISS WITHD DIFFERENCE. , NON-STRICTION, COMMETTING FOR STEEL DINING MY USE N, RATH A 307 DOLES UNLES NOTE CHERRICA.

I STATEMENT OF COUNTY DEPOCACION CONTRA SERVICE SERVIN

OCTAL SHALL SITM SICH DWINGS FOR DERIGH RINGS & MINISH, OF PRISEDS RISURDS STRUTUM, SHILL . AL STRUCTURE STEE WHY SHALL OF BONE IN ACCORDANCE WITH ACC SPECPROSTORS.

, duchate as paruired to religine heseandh and topsol to dopose matiral subgrude and place crashed stone as Revineda. SOIL COMPACTION NOTES FOR SLAB ON GRADE

2 companion Groppingia an Pospozicki and Wotten Cstification sy a gualifed Country. It issuedam or dizableze 18 acceptale A. AS AL ALTENNET. TO FIDE 2. MOI 3, THE SUBPORTS SIZES WHY IS NORED BY A MERCHAN FROM COMMONDER. FAIR COMMONDER FOR COMMONDER F S, AS AN ALTERANTE TO RISPECTION AND WRITTEN CENTETCATION, THE "NORSTARRED SOIL" BASE SWALL BE COMPACTED WITH "COMPACTION EXUMPLEM", LISTED BELOW, TO AT LEIST BOSK WOOMED PROCTOR MAXIMALIA EXDISTITY PER ASTALD 1657 METHOD C. A, COMPACTED SUBSMET SHALL BE UNEXTINA MOLLEMED, PROMISE OF MARAIA, CRILISADI STONE, ON CHARILL COMPACTED IN \$" UPTS ARTHE COMPACTED SOLL, GRANTS, SHALL BE WATHAUL OR CRICISED WITH 100K PASSING \$1 SEPTE.

COMPACTION EQUIPMENT:

. НИЮ СРЕЖТЕВ ООИБЕ ВЯЧЫ, МЯКИТОКУ КОШЕР, МЕКЛІТИКУ РОКТЕ СОИРИСТОЯ ОК ИЛИРИК ЛИСК СОИРИСТОЯ.

CONSTRUCTION NOTES:

. Pada veperadore Pracora Pracosa Pracosa.

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DREE LADORS BACK. DOOTHINGTOR SALL TARRISH AND BISTALL CHIEE LADOR RACK, CHEE TRIY, AND O THE MES HIS LOCATION.

verizon

20 ALEXANDER BRINE, 240 FLOOR WALLENDROPO, C. 08462 (201) 741—7335

LIMBRING, BACTHAY, AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE RECOMPLIANTS OF THE NEE. WE TELECORDA.

, Seromiteatum syal, word desing overe than sistem as regumen to sufficient for and transfort abuse to the may bits equipment, subcomplactice shall subait indirications to confraction for approve BLOOKING. BLOOKING.

, CABLES SAML NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNCS.

SBA

SEN COMMUNICATIONS CORP.

134 ELANDENS SLOW, SATE 125 NESSERBROUGH, MA 01-201

(408) 241-0732

POWER HAVE CREATORS (L. 1871) SHALL IT LABIDS WIN COLDI-COOM RELATION OR FLIZITION, USE NAME (S. MASH ANDER LIDERANCE, THE WIN HAVE PRESENTED AS CREATED, PANCE CORRECTOR COLDI-COOKS HALL CORFIDER WHIT FOR CREATE ON MATTHE CORTING RESPONSATION RESPONSATION. DOLD DO DY RODY, KOROK, KIDNIKAN, MO TI CKIBOCTOR AND CANE SAKI, RE JARLID MIN CLON-CORR CALINO OR DECIDOS, MY C. M. BRADI, T.Y. SHOT MACHINE DECIDOS, THE WIN AN ENGLISHO, REDINAL, E EDIDIOZIONI MERIOD SALL CORPOR WITH ACE & 1954, ARE WAREI DOTANG REVIALITION RESPONSABLE.

L TWEL BORRIS (ID MINIETS), MIO MITTRIAL CIRCUT BREVEDS (CIRCUT ID MINIETTS) SIVIL IZ CLEARY LARDED. RTH ENGRADD LAMOOD PLASTIC LABELS. 7, ALI BECTRICAL COMPONENTS SPALL IN: CLERALY LABEDE WITH DYROWIND TAMACOD PAYSTY LABELS, ALL EXCENSION THAN CHARLES, RAINE, PRES COMPREMENDENTINE, ROBED CONFIGURATION, PROMES OR MANAGOTY PRINTS, AND READAM DESALT (O NUMERISE (L.E., PAREL BANDA AND CREAUT (19)).

CHAPPELL CHAPPELL ARBOCKTER, LLC DOCUME CLASH ROSTON POST NOME WEST, NATE 101 LINDOLOGY, BA 61793

> O, PORTS, CONTROL, AND EXPRINDED FOXURO WEIGHD IN TUBING OR CONDUIT SINCE, ESCRIBEZ CONDUITION (\$4). WE OR LIGISERY, BOD V, OR, RESEXINET THEN OR THEN-2, CLASS 9 STRANDED OFFERS ONES, RIVED FOR LIGIBLES OFFERS AND THEN SEX THEN ONES, OFFERS OF THE LIGIDIAN AND INCESSOR STREAM USES. OFFERS OF THE SEX STREAM. I ALL IN WAYS SHALL BE OUT PLESH WITH APPROXED GUTTING TICO, TO HELDER SHAPP GOOD.

II, SEPTEMENT, DEPOSITO GOORNO WRINK LOOTION BROOKS SHILL ES SWELE CINDLETIN, (AS HIE OR UNICE), NO Y, CAL RESENHI THEN OF THIRM-1 GERN MELLIARIN, LUCES B STRINGED, COPPITS GULE, RIED FIN BLD. "TO VERTIFIELD."

A. PORTO AND CONTROL MERICA, NOT IN TUBBLIC ON CONDUIT, SYALL BY MANT-CONDUCTOR, THY TO CHREE (IF) AND THE CONTROL MEDICAL NUTB THA GO THINK-2, CLOSS B STANMED COPPET QUEE MILED THA GO THINK-2 CLOSS B STANMED COPPET QUEE MILED THA GO THE LOCATION LESD, MALESS OTHERWISE (POPERS). L SIPPLEMENTAL EXEMPLY CHROMO WIGHO LICKIED OUTDOOKS, OR BELLIN GWOC, SWILL DE SMELE CENEUOTO I MAG SOLID THAED CAPPER CAEL, LANDSS OTHERWISE SPECIFIED.

4, AL FORTR AND GROUNDING COMBUTINGS SWALL BY LOGAR STILE, CAMPRESSMY WRIE LUCKS AND 19FE MUTS OF PROMABABIESTS (OR EQUAL), LUCK AND 19FE 1815 SPALL BY RATED FOR OPPORTAL AT HO LUCK THAN TOT (6VIT). THAN HABBIESTS (OR EQUAL), LUCK AND 19FE 1815 SPALL BY RATED FOR OPPORTAL AT HOLLESS THAN TOT (6VIT). S. RAZSHY AND CARLE TRAY SHALL BE LISTED OR LABOLED FOR ELECTRICAL LIST IN ACCORDANCE WITH HEMA, IL., MS/PET, AND NEG.

OL EDETRICAL MENALLE TABRIS (BIT), ELETTRICAL HOMBENILE THINKE (BIT), OR MEDI KOMBENILE CONOUIT (MED). PRE, STREINE 40) SIMIL BE USD FOR COMPALED MOORE LECUTORS. 7. BETTECH, NETALLIC THENG (SM) OR RICH HOMEDALIC CHRONT (E., RIED PAC SCHOOLE 40, OR RICH PAC CHRONLE BO FOR LOCATIONS SUBJECT TO PHYSICAL INJUNCÇ) SHALL BE USED FOR EXPOSED WIDGIN LOCATIONS. 19, OALWANDED STEEL RATEROACTRATE MEMALLIC COMOUNT (IMC) SHALL BE LISED FOR CUTDOOR LOCATIONS ABOVE GRADE A. Neo nometalle condat (1e, rich pat schedule 40 or need pat schedule 81) shall be lesd destructions these periods, in Arch of Occasina. Light nebels inments on decaso in rediscribe ometic in March of Permy (dalle inmen). IL HEN MODBY OR OBLY THAT HAS WITH THE DISTRICT HESTLATON WHITE POSSERS.

CHRINETS, BOXES, AND WREWN'S SAWL RE LISTED OR LABOLED TOR BELITRICAL LISE IN ACCORDANISE WITH NEW, ANS/EEF, AND NEW. 22. CORDUT AND TUBBIO FITHERS SAMIL IE THEEADED OR COMPRESSAW-THY. AND APPROVED FOR THE LUCKITEM LISTO, SET SORINF FITHES ARE NOT ACCEPTABLE. 1), incido-trafit plomage retallic comovitt (luggo-tite FLCs) savil de lusto rocusis and outdocks, waster Mantan occusis car albaballit is nededo.

els, wedness shall be exact-coate (1847) and maller a farce coars, described to shall offen dornwell. The farce of the extension of the farce of the 24. CHRIETS, BOXES, AND WARRAYS TO MATCH THE ENSTRING INSTALLATION WASTE POSSIBLE.

. Diament overets, tyren, dozes, Janaton Booss, And Pull Rocks shull be outwarded of Heam Paren Sheel Sheel Bases shull leet of Easten U. So, No Haed Heam ! (Or Ester) Hoodors, Or Heam (Or Estera) unitodes Kometalio recetuale, smith, and dence boxes swill were or exists mean as 2 and faith mean. Beith) modale, ar meaning protector (MP or beithet) cutoors. ATTA, META, MEDENIALE, SMITCH, AND DEVICE BOXES SHALL BE OLIVINAZED. DIVIN-CONTEX, ON MON- CORRODANS, SHALL METE OR DEZIDE, IL 514, AND REMA US 1; AND NOTION HOMA I (OR BETTE) WIGGORS, OR NEGTRER PROPRIEDE (ME OR BETTE) OUTGOODS. dd. The surcompromen swall mythy and ordyna medssammy althorodoom from the compromor between compromores than the med together desired than the med together the med togethe

20 (1/20) SJBMITTALS NY TAIL DESCRIPTION CHECKED BE

GREENWICH TOTAL & ADMIN

SOUTHWEST CT GREENWICK, GT 06000 VAN LOCATION COLO.
MATE LOCATION IS:
FUEE PROMES IS:

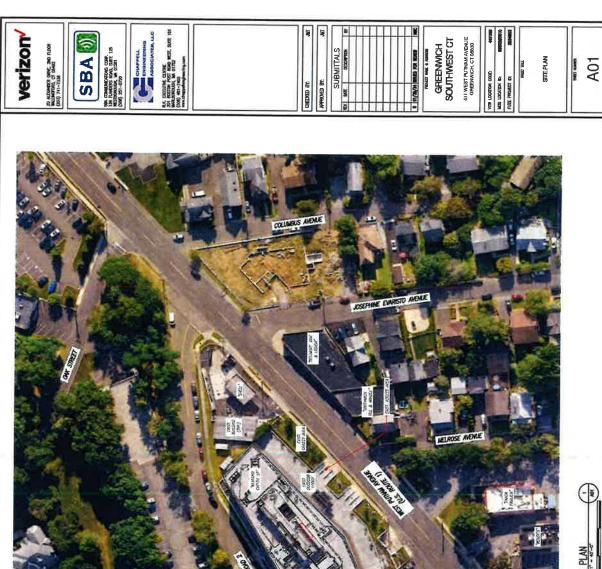
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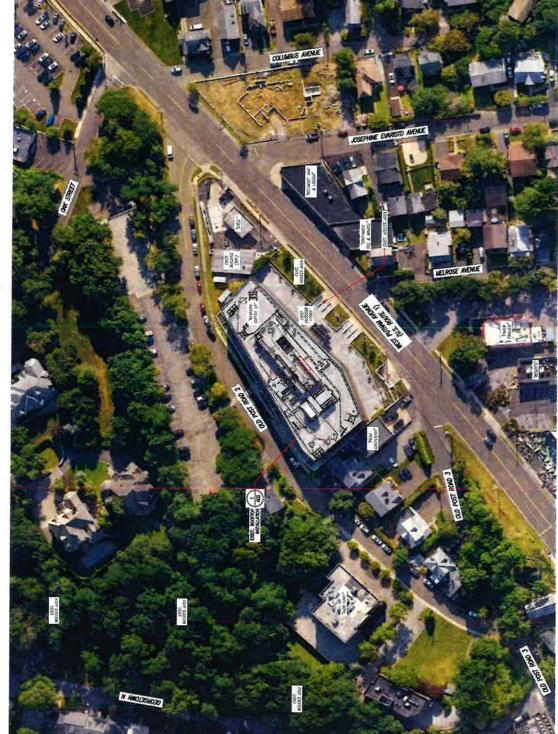
2. CONDUT ROTTINGS ARE SCHEMITC, STRENCHTINGTOR SHALL INSTALL CONDUTS SO THAT ACCESS TO EXUPPLIENT IS Off BLOCKED.

do. Tie subcortinactor svall promoe medsynt diadrac on the brokats, cublis and distribution invidis. In accordance tith the applicable codes and standages to savescand acases like and properity. I ALI ELEGINEZA, NORN SYALL DE PERFURAED DI ACCORDINCE WITH THE PROJECT SPECIFICATORS, NEC AND ALL PLUCALE LUCAL CODES. GENERAL NOTES

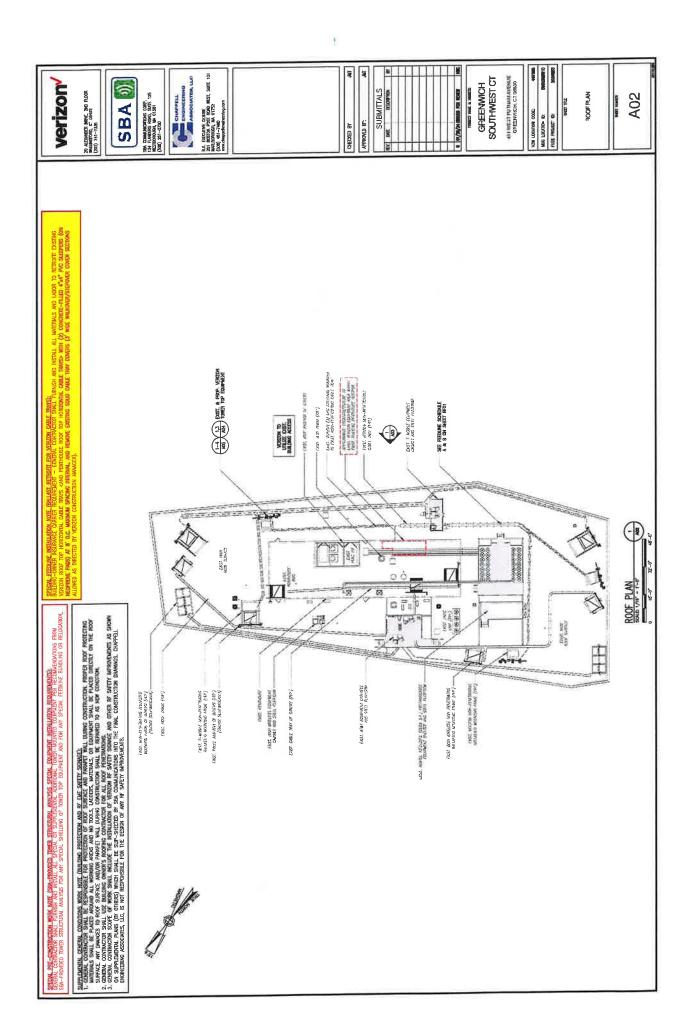
3427 KAOO

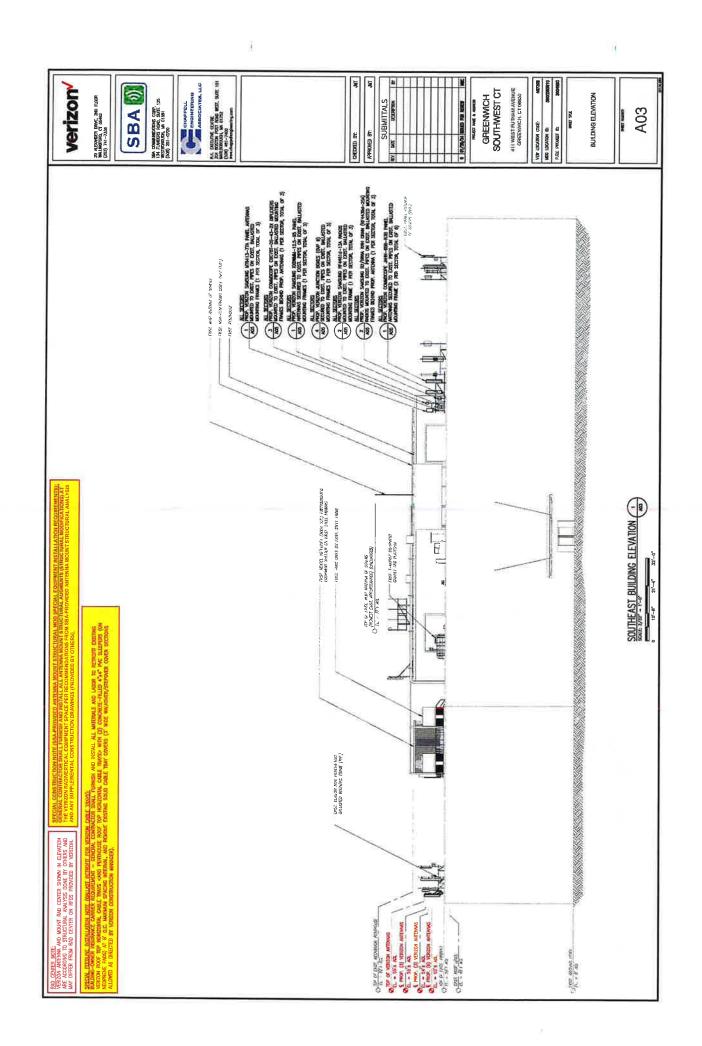
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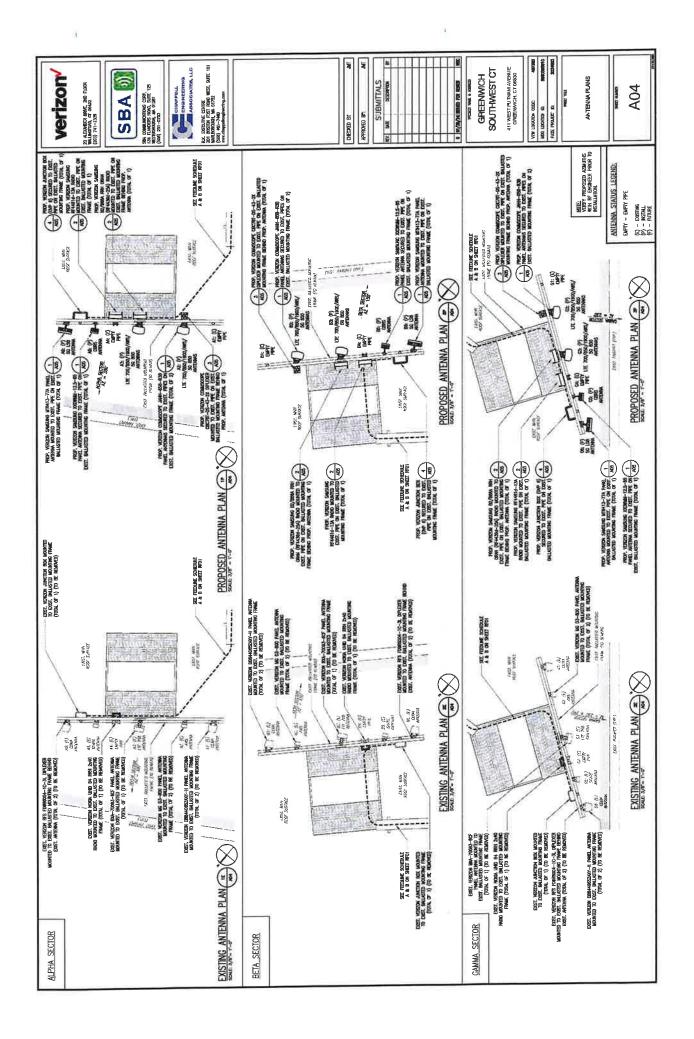


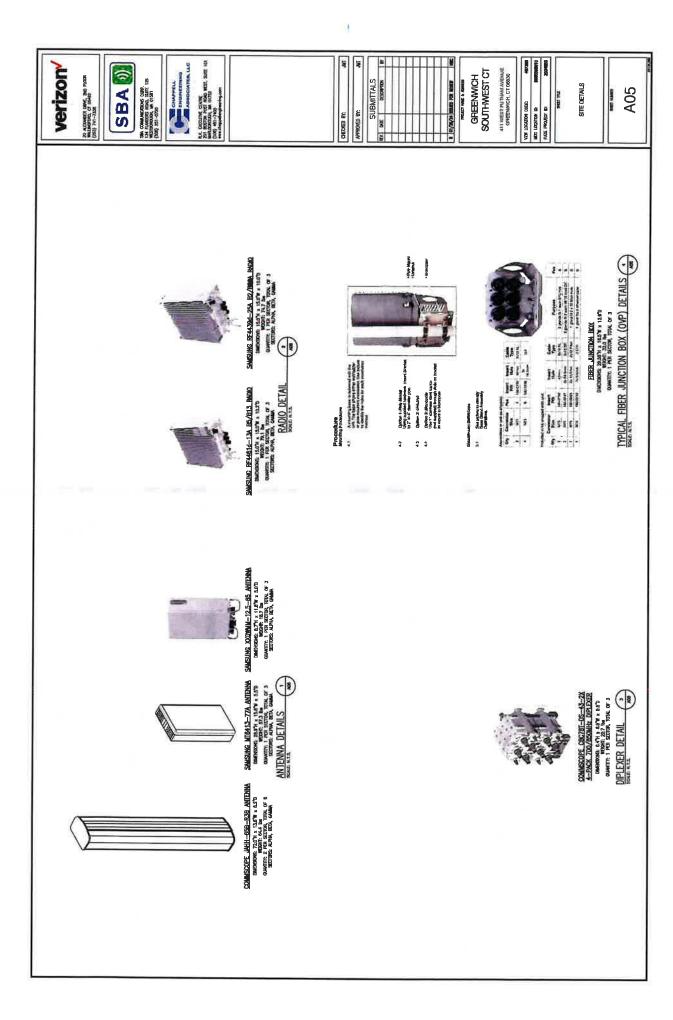












				EXIST	ING EQUIPME	EXISTING EQUIPMENT CONFIGURATION	RATION						
SECTOR	EQUIPMENT MAKE & MODEL	Ø]√	AZIMUTH (TRUE NORTH)	ANTENNA	BAND	MECHANICAL DOWNTILT	DOWNTILT	EQUIPMENT STATUS	ΞΞ	≆ ĝ	- Z	WEIGHT (LBS)	HYBRID CABLE SIZE & QTY
	ercets essecution in section	•	LUT.	SPEC	22.5 FED	4	-4	FTAT	*	34.0	6.0	350	
	STAND OF CLASS ANTHUM	+	310	32'2 ASS	367	ė	6	DE	10	1.9	7	321	
ALPHA	ADDRESS THE TOTAL PLY MITTER	-	200	197.54	14. 300		9	LINE	2:0	1.1	0.0	12:	
	BOARS ME STI-ME RETURN	-	A	57.2 AS	SWC	ь	٥	ETEN	523	5	Ħ	521	
	arbit agreement ration	*	ā	SF 7.29	COM ASO			1.11st	18.	101	69	12.5	
	SECUL DIRECTOR OF MINNE	*	120	42'1 AR.	COUR AND		+	rtiet	539	4/01	40	622	
	CTEN AT ST-RS ARRAY	-	981	12.2 KR	SHY		u	192	ñ	4.1	17.	325	
BETA	PRINTED BUTTOUT SET AND SET		SS)	27.2 15.0	IN WE	×	.0	2017	33.5	11.3	67	120	COST (6) 1 45" ODMAN SARES
	RIMSA MC RU-800 AMERED	*	55.	257.90	3180	e.	ü	307	15.4	63	G	301	Edoir (J.) Birliz Hilfordi Schells
	WORK INTERNATIONAL VANCOUS	-	187	27 1,07	CARC EST		6	707	185	10.0	6.0	15.0	
	SCHOOL SQUEEZOUS IS SUDING	-	355	th ch	COUR SHO		*	1 168	48.0	10.9	8.9	220	
	APPEAR AND ADVANCED AND COM-	-	age.	23.1 VC	SHY	7	ū	2017	17.3	7.79	Ŧ	1650	
CAMMA	HAPTENET THE - 10055-557 AUTHOR	-	246	52: AG	11.700	٠		307	17.3	220	43	474	
	HTICS BG GI-EDG ANITAM	10	250	27.52	346	ь	,	246	777	4.3	ij	17.5	
	ICCIOL DISPUSIONE IF AND FOR	1	AT .	22,427	CONT. IDO	;+	0	1115	440	15.0	eg.	12.0	
	Ages over all all way also Ardes	75	*	2	(*)		r	ENE	727	106	13	660	
¥	BE TEMPERATE A BRIDGE	7.						1102	11	69	ij	22	
	CVP SOK	-						307	27.5	6.5	977	101	

				豆	FINAL EQUIPMENT CONFIGURATION	CONFIGURA	NOIL						
SECTOR	EQUIPMENT NAKE & MODEL	Ě	AZIMUTH (TRUE NORTH)	ANTENNA	BAND	MECHANICAL	ELECTRICAL DOWNTILT	EQUIPMENT STATUS	ΞÊ	≠Ê	٥ŝ	WEIGHT (LBS)	HYBRID CABLE SIZE & QTY
	COLARCOPE JANN-856-839 ACTORNS	-	M	52'± AGL	LIE 700/850/1800/MFS 50 850	0/0/0/0	2/2/2/2	NOW.	72.0	13.6	2	8,3	
ALPHA	COMMERCIAN SAME - BEG-REE ANTERIORS	-	330	52'± AGL	LTE 700/850/1900/ARS	0/0/0/0	2/2/2/2	HEA	072	2	2	M.3	
	SAESUNO XXXMM4-12.5-65 AVIDBAN	-	330	35'± AC.	CIE CRES	ь	la:		28	2	8	18.7	
	SALSING LITERIS-77A ARTENA	-	330	54'± AGL	957 59	6	h	AGN.	38.0	2	5.5	57.3	
	COMMISSION E.WIRI-656-1538 ANTIDRIVS	-	TP4	32'± AGL	LTE 700/850/1800/MRS 56 850	0/0/0/0	3/10/2/2	HEN	92	2	E 2	64.3	
BETA	COMESCOPE JUST-658-138 ANDRUS	-	酥	E2** AGL	LTE 700/1600/1800/NRS 59 850	D/D/D/D	2/2/2/2	ACM	22	5.5	2	543	
	SAKSURD XXXMAE-12.5-45 AVIDBA	-	150	35'± Ag.	OTE CHRS	ь	b	ğ	23	11.8	3	18.7	
	SAZENG MIRAID-77A ANTENNA	-	181	34.4 44.	851 05	ь	h	ğ	32	3	3	57.3	SOND ON BUTS SAMEN CARES
	COMMISSION NUMBERS AND	-	B	52'± AQ.	LTE 700/860/1900/MRS 60 650	2/2/2/2	2/2/01/9	MEM	22	15 85	2	84.3	The same of the sa
GAMMA	COMMERCENT, JAINH-656-FLIB ANTENNIS	-	236	52'± AG.	LTE 700/7850/1800/WFS S0 850	מ/מ/מ/מ	2/2/01/9	ACOM	200	3	3	86.3	~
	SALESHO XORAN-125-65 AVENUA	-	236	88°± AOL	LIE CHIS	۵	20	HEEN	8.7	1.8	2	18.7	
	SAME WEATS-77A MEDINA	-	235	B4,74 VOT	951 9S	ь	h	AZH	28.9	2	3	57.5	
	SOMEWAY TO THE STATE OF THE PARTY PARTY OF THE PARTY OF T	2		٨				M	3	32	5	78.1	
	SWELLING 12/200A CHAN (PE44356-254) RADIO	2				•	,	MEN	16.0	3	5	243	
₫	COMMISCONE CROTHER-DS-43-2X DRIEDER	2	,	×		*		MEM	4	8	8.6	7.02	
	0 dvb	n		٠				MEN	29.6	35	12.6	32.0	
TOTO!	ETR. DENOTES "EXISTING TO REMAN". 2. "ETRE" DENOTES "EXISTING TO BE RESUCKED." 3. UNETRIANTOM PROVINCIES. 4. UNETRIANTOM PROVINCIES. 4. UNETRIANTOM PROVINCIES. 5. UNETRIANTOM PROVINCI	192											

SCHEDULE		FEEDLINES	LOCATION
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20 ALEXANDEN JEME, 2ND FLOOR WALLINGTOND, OT 06402 (203) 741-7338

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GREENWICH

SOUTHWEST OT

411 WEST FOR TRAIN AVENUE GREENWICH, CT 06830

VIP LECTURE D. SOCIETIES

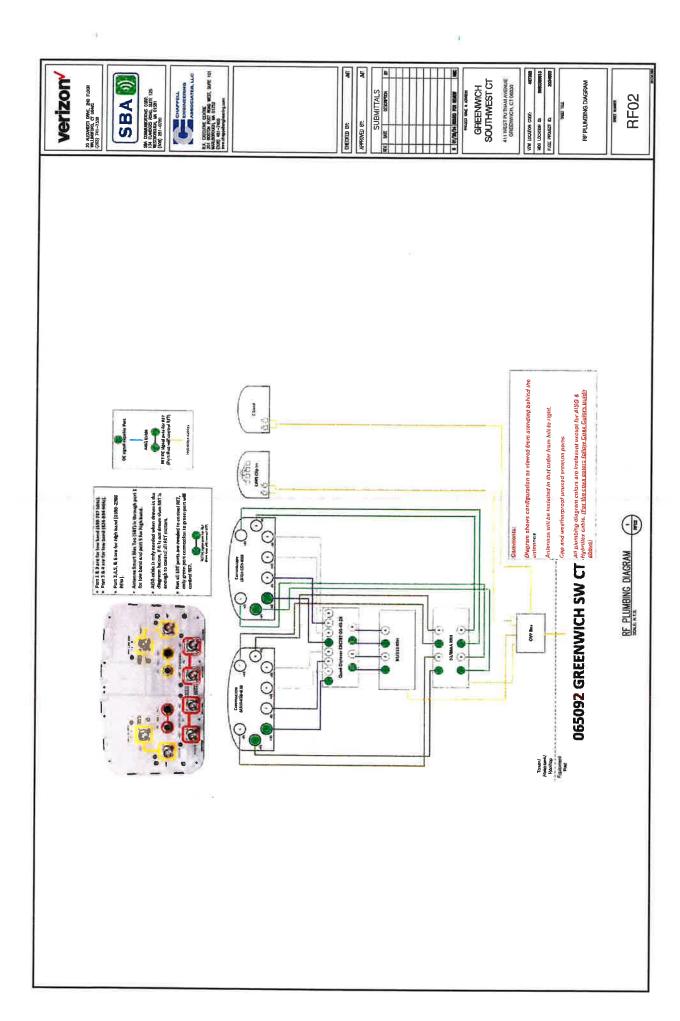
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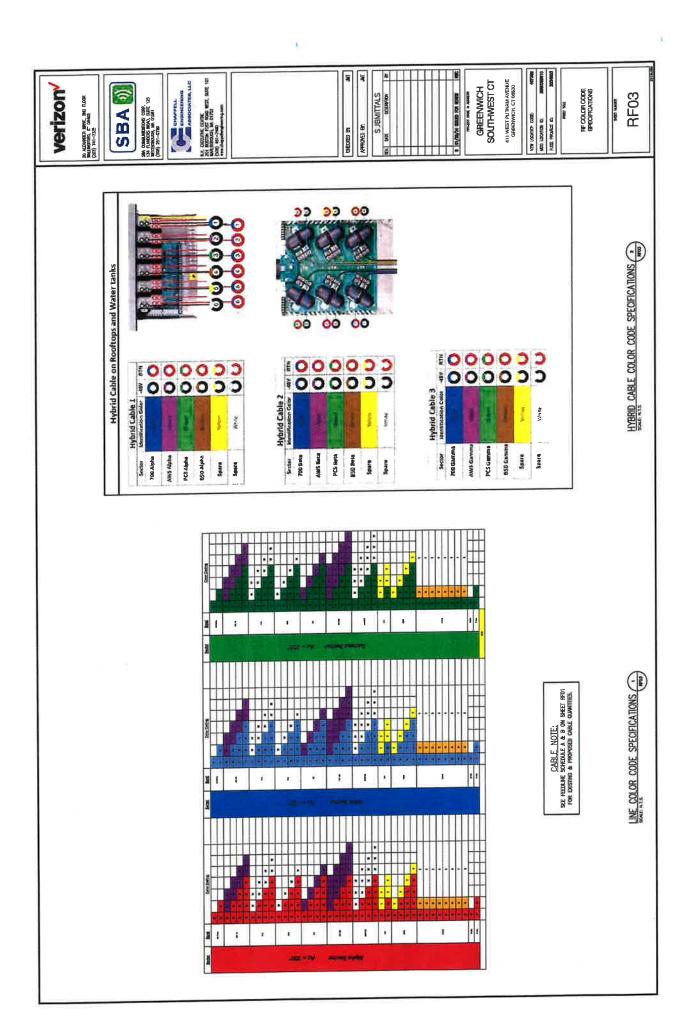
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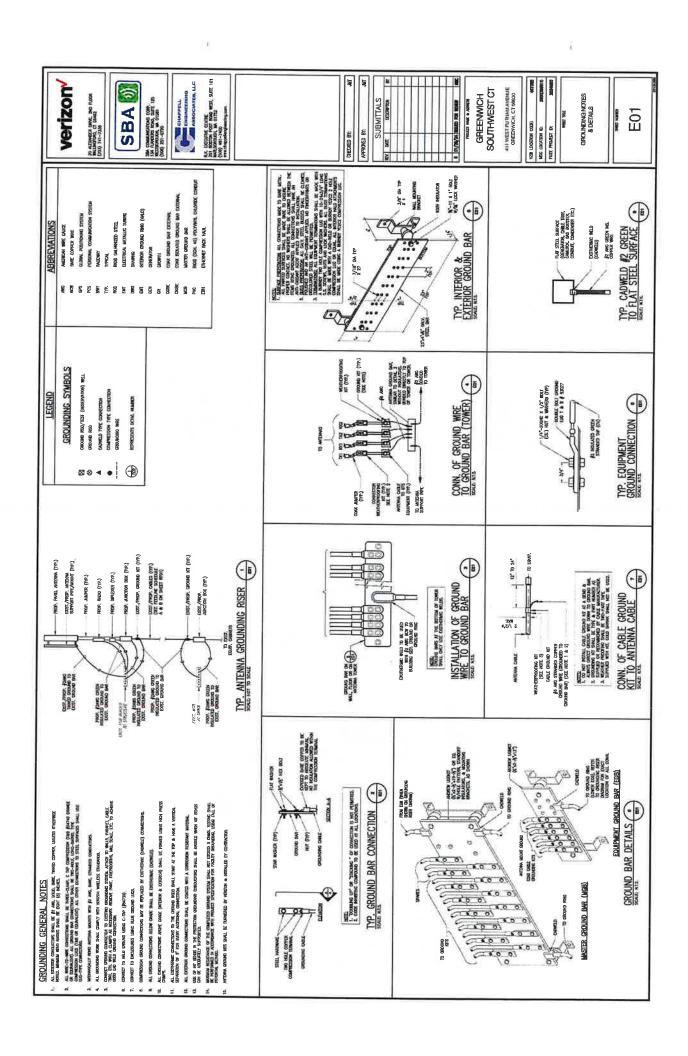
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RFDATA

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verizon

20 Alexander Drive, 2nd Floor Wallingford, CT 06492

ANTENNA MOUNT ANALYSIS GREENWICH SOUTHWEST CT







Address:

411 WEST PUTNAM AVENUE GREENWICH, CT 06830

MDG LOCATION ID: 5000385610

Date:

JANUARY 26, 2024 (REVISION 0)



Civil · Structural · Land Surveying



Civil · Structural · Land Surveying

January 26, 2024



20 Alexander Drive, 2nd Floor Wallingford, CT 06492

RE:

Site Name

Greenwich Southwest CT

MDG Location ID

5000385610

Site Address

411 West Putnam Avenue; Greenwich, CT 06830

To whom it may concern:

Chappell Engineering Associates, LLC has performed a structural analysis of the existing roof mounted ballast antenna frames at the above-referenced location. Based upon the site walk completed on 01-11-2024, the existing 3-sector site consists of three (3) roof mounted ballast antenna frames located on the main roof. Our analysis has been performed in accordance with the 2022 Connecticut State Building Code (2021 International Building Code) with Connecticut Amendments.

Verizon currently proposes to remove and replace four (4) of the existing antennas, remove and dispose of one (1) antenna, and install two (2) additional RRHs at each of the three (3) sector locations. Additionally, three (3) quadplexers are being proposed (1 quadplexer per sector, total of 3 sectors). The proposed antennas will be mounted to the existing antenna mounting pipes currently supporting the existing antennas currently in service.

We have completed a stability analysis of the existing antenna frames and existing ballast to determine the suitability of the existing frames to support the proposed antenna reconfiguration. We have also completed a stress analysis of the existing frames to determine the antenna frame member capacities under the proposed loading. The maximum percentage stress capacity as determined by our analysis is the vertical support L's with a capacity of 56%. Site photos of the existing antenna ballast frames show the current ballast in both the front and rear trays. The final ballast configuration to be installed at each of the ballast frame locations is summarized below:

Sector	Tray	Current Configuration	Proposed (Reg'd) Config.	Corrective Action
Alpha	Front	43blocks*34lbs/ea=1,462lbs+/-	18blocks*34lbs/ea=612lbs+/-	None
		1,462lbs total	612lbs total	
Alpha	Rear	43blocks*34lbs/ea=1,394lbs+/-	26blocks*34lbs/ea=884lbs+/-	None
		1,394lbs total	884lbs total	
Beta	Front	41blocks*34lbs/ea=1,462lbs+/-	18blocks*34lbs/ea=612lbs+/-	None
		1,462lbs total	612lbs total	
Beta	Rear	39blocks*34lbs/ea=1,326lbs+/-	26blocks*34lbs/ea=884lbs+/-	None
		1,326lbs total	884lbs total	
Gamma	Front	41blocks*34lbs/ea=1,462lbs+/-	18blocks*34lbs/ea=612lbs+/-	None
		1,462lbs total	612lbs total	
Gamma	Rear	41blocks*34lbs/ea=1,462lbs+/-	26blocks*34lbs/ea=884lbs+/-	None
		1,462lbs total	884lbs total	

As indicated in the last column of table, there is sufficient ballast present at the alpha, beta and gamma sectors to support the proposed antenna loads.

If you have any questions regarding this matter, please do not hesitate to call.

William William

OF CONA

Very truly yours,

CHAPPELL ENGINEERIN

lement J Salek, P.E.

CJS/cjs



Verizon

20 ALEXANDER DRIVE, 2ND FLOOR INVLINUENDIQ, CT 06A02 (203) 741-7338

ANTERNA SUPPORT CTRUCTURE (ROOFTOR) STRUCTURAL ANALYSIS DATE: 010202

ANTENNA MOUNT STRUCTURAL ANALYZIS DATE OF COS

RADIO FREQUENCY (RP) DESIGN DATE: 1921/23

SUPPORTING DOCUMENTS

20 ALEXANDER DRIVE, 2nd FLOOR WALLINGFORD, CT 06492

GREENWICH SOUTHWEST CT 411 WEST PUTNAM AVENUE GREENWICH, CT 06830 FAIRFIELD COUNTY

PROJECT TYPE: UPGRADE TO EXISTING WIRELESS TELECOMMUNICATIONS INSTALLATION ON EXISTING ROOFTOP

VICINITY MAP SCALE: 1"=1000

CHAPPELL ENGINEERING ABBOCATES, LLO

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SBA COMMENCATIVES CORP.
134 FLANDER INCO., SUITE 125
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(DOM), 251-0770

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SHEET INDEX

DWG	DESCRIPTION	HEV
101	TITLESMEET	G
GN01	GENERAL NOTES	۰
401	SITE PLAN	0
AOR	ROOF PLAN	•
A03	BUILDING ELEVATION	•
404	ANTENNA PLANS	٥
AGS	SITE DETAILS	•
AF01	RF DATA	
HF02	RF PLUNDING DINGRAM	•
RF 03	AF COLOR CODE SPECIFICATIONS	0
E01	GROUNDING NOTES & DETALS	0

SUBMITTALS EX DAT ISSOPIUM

CHECKED BY: APPROVED BY:

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SOUTHWEST CT 411 WEST PUTMAN AVERUE GREENWICH, CT 08030

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SCOPE OF WORK

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6 COAXIAL CABLES
6 COAXIAL CABLES
9 HYBRID CABLES

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VZN LDCATION CODE: NDC LDCATEDN 10: PUZE PROJECT DE

SITE INFORMATION

VERIZON LOCATION CODE:	467306
VERIZON SITE NAME:	GREENWICH SOUTHWEST CT
SBA SITE NUMBER:	CT95823 M
SBA BITE NAME:	GREENWICH (PUTMAM)
SBA COLLO APP NUMBER:	N/A
MDG LOCATION ID.	5000385610
FUZE PROJECTIO	2024003
SITE ADDRESS:	411 WEST PUTNAM AVENUE GREENWICH, CT 06830
PROPERTY OWNER	WEST PUTNAM OWNER LLC 216 EAST 4STH STREET, 12TH FLOOR NEW YORK, NY 1001?
TOWER OWNER:	MCM ACQUISTION 2017, LLC 0501 CONGRESS AVENUE 8OCA RATON, FL 33487 PHONE: 661 228 9523
COUNTY	FAIRFIELD CT
ZONING DISTRICT:	(GB) GENERAL BUSINESS
STRUCTURE TYPE:	нооятор
STRUCTURE HEIGHT:	05
STRUCTURE HEIGHT W/APPURTENANCE:	77.7
GROUND ELEVATION	120.1
TOTAL AMSL:	205-
SITE CONTROL POILT;	EXISTING BUILDING N 41° 01 17.70° (41 0218'), (NAD 33). W 73-30-27 12° (-73 6408'), (NAD '03).
ARCHITECT/ENGINEER	CHAPPELL ENGINEERING ASSOCIATES, 201 BOSTON POST ROAD WEST, SUITE MARLEOROUGH, MA 01752

GENERAL NOTES

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7 OVP S JANCTION BOXES

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B. RACENY AND CARLE TRAY SHALL BE LISTED OR LABOLED FOR ELECTRICAL USE IN ACCORDANCE WITH HEMA, UL, WAS/REE, AND NEG.

7. EESTHOOL NETALIC TUBHG (BM) ON MAD HOMERALIC CONDUIT (LE, NOD PIC SCHEDULE 40, ON MOD PIC SCHEDULE BO FOR LOCATIONS SUBJECT TO PHYSICAL DAMACE) SHALL BE USED FOR EXPROSED BRIDGE LOCATIONS. а. Евспихи метице тивне (1917), въстнем, комнетице тивне (1917), он пато коннетице сокоти (пато Не, sonedate 40) sami de lesto fan companio mocat locatore.

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COMPACTION EQUIPMENT

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CONSTRUCTION NOTES:

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WINNS, BICENIN, AND SUPPORT METHODS AND INTERNALS SAULL COLINEY WITH THE REQUIREMENTS OF THE HEE TRACKION.

verizon

20 ALEXHOER BANE, 240 FLDCR INLLANDFORD, <- 06402 (203) 741—7328.

, SUBCOMPACTOR SYML MODYY EXCENS CABLE TRAY SYSTEM AS REQUIRED TO SUPPORT RF AND THANSPORT ASSEMBLY TO CONTRACTOR FOR APPROVA

LANCONDIA. BLOODIA.

LOULS SWIL NOT BE MOUTO THROOH UDDOS-STILL OWEL THY RINGS



SEN CONNUNCTIONS CORP.

134 FLANDERS RUND, SUITE 125
WESTBOROUGH, IAN 01581
(508) 251—0759

CHAPPELL ENGINEERING AMMOGNITA, LLC

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K. BUECUME CENTRE.

1) BOSTON FORT ROUD WEST, SUITE 101

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APPROVED BP: CHECKED BY

W CALL COMMAND OF WARF S:JBMITTALS

cahets, roxes, and whomats saml, be lightd on labbled for destinable, lise at acordance with head, and her.

1. LIGUD-TORIT NEXISE VETALLIC CONDUT (LIGUS)—THE FLEI) SHALL DE USED HOOOMS AND CUTDOOPS, WERE MENTON OCCUPS OR ILEGELITY IS NEEDED. 22. Canduti and Yuban Grībaga saml, be thégada or compression—the and affronda for the location Used, est screat intensa are not acceptable. SA WILLIAMS SHILL AS EPOYY-COATED (GRAY), AND INCLUDE A HERICED COATE, DESCRIED TO SHIRK OFFEN COMPANIENT AT PRESENT OF THE REPORT OF MEMORY OF MEMORY AND ADMINISTRATION OF MEMORY OF MEMORY AND MEMORY OF MEMORY AND ADMINISTRATION OF MEMORY OF MEMORY AND MEMORY AND ADMINISTRATION OF MEMORY OF MEMORY AND MEMORY AND ADMINISTRATION OF MEMORY OF MEMORY AND MEMORY AND ADMINISTRATION OF MEMORY ADMINISTRATION OF MEMORY AND ADMINISTRATION OF MEMORY AND ADMINISTRATION OF MEMORY AND ADMINISTRATION OF MEMORY AND ADM RI, ENGINEER CHENCTS, TENDAGN, BOXCS, AUKTON BOXES, AND FALL BOXES SHALL BE GALHMIZED OR THE CACADIES SHEET STEEL, SHALL MET OR DOZED U. SO, AND PATED HEMA. I (OR BETTED) KNOODS, OH NEWA SH (OR BETTED) UNDOORS.

DIL CARACTA, BOOCK, MO WATSHIS TO MUTCH THE EXISTING INSTILLATION WHERE PROSERLE.

TICACO INSE, & ADMILIO

GREENWICH SOUTHWEST CT GHEST PUTNAM AVENUE GHESTANCH, CT 08830

ZB. MONEGNALO RECOPTIVALE OMITON, AND DENCE BOXES SAMIL MET OR DYCEED HEAR OS 24, AND ROTED HEAR I (or betten) rodores, om Nearher Protected (np or betten) outdoors.

77. MERN, ERZEPHOLE, SWITCH, AND DENCE BOOTS SHALL REF CALMANDED, EPOXT-CONTED, ON MUSH-CORRENDARD, SHALL METT ON PEDERO. IL 4 SHA, AND READ NOTED, NO READERS PROTECTED NO CONTROLLED. (FOR REITER) UNICODES, OR NECHTRED NOTED.

NOTE PROJECT DO YOU GOODS COOK

710 1386

22. CONDIAT ROUTINGS ARE SCHEMENCE, SUBCOMPINATIOR SMALL INSTALL CONDUITS SO THAT ACCESS TO DIARPHINIT IS: WIT BLOCKED.

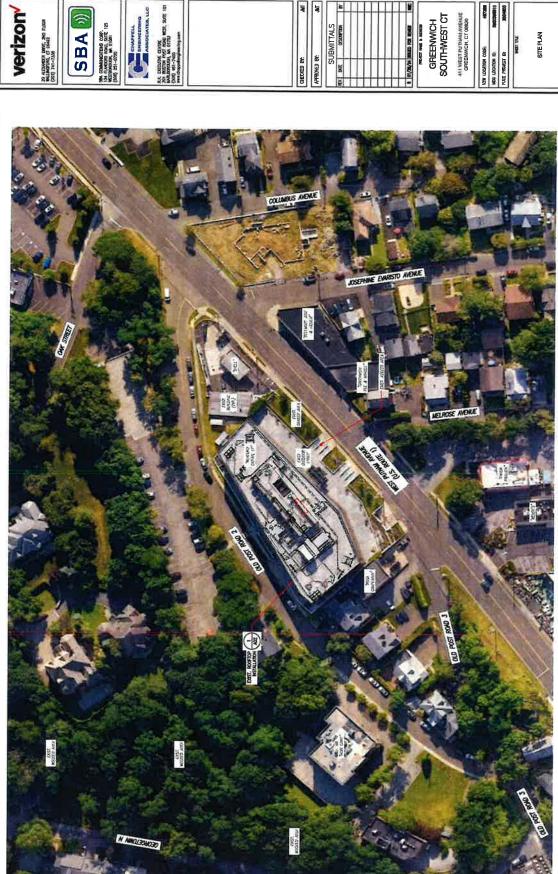
II, ALL ELECTRICAL WICK SHULL RE PERSTRIAED BY ACCORDANCE WITH THE PROJECT SPECTROMO, NEC AND ALL PPLOBLES LOCAL CORES.

30, THE SUBCOMMUTOR SAME PROMOE HEEDSMY THOOMS ON THE BRENKERS, CHEES AND DISTRIBUTION FAMILE. IN ACCORDANCE WITH THE APPLICABLE COOKS, AND STRAIGHEIS TO SUPECUMD AGAINST LIFE AND PROPERTY.

NO. THE SUBCOMMAKEN'S SAME NOTIFY AND OBTIVAL NECESSARY AUTHORIZATION FROM THE CONTRACTOR BETHE SOMESICING HORS ON THE AC POWER DISTINIBUTION PANELS.

GENERAL NOTES

GN01

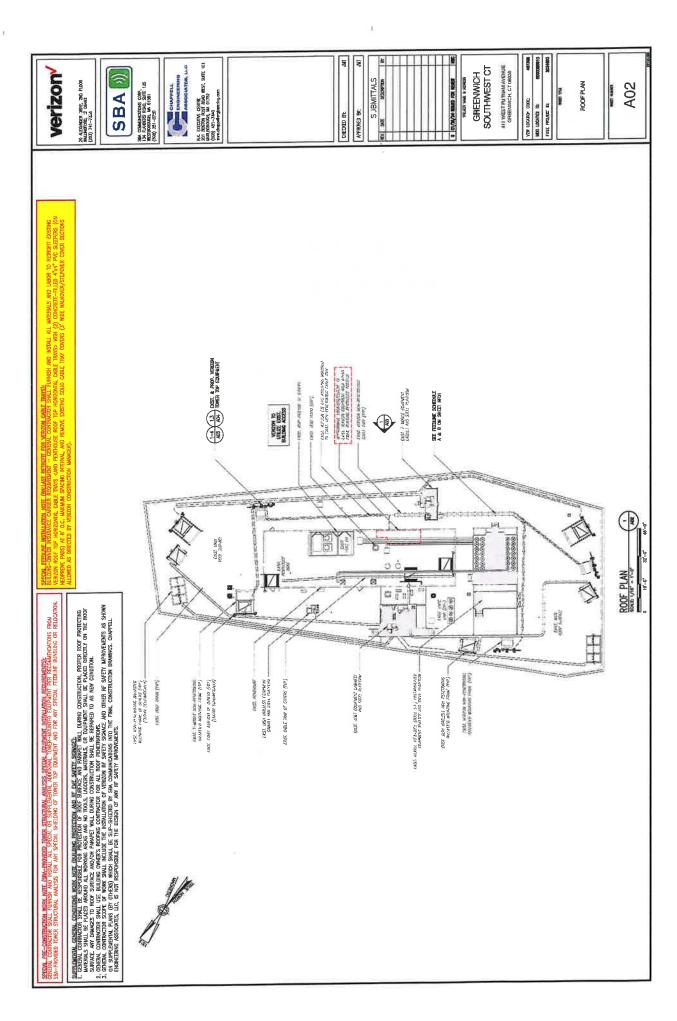


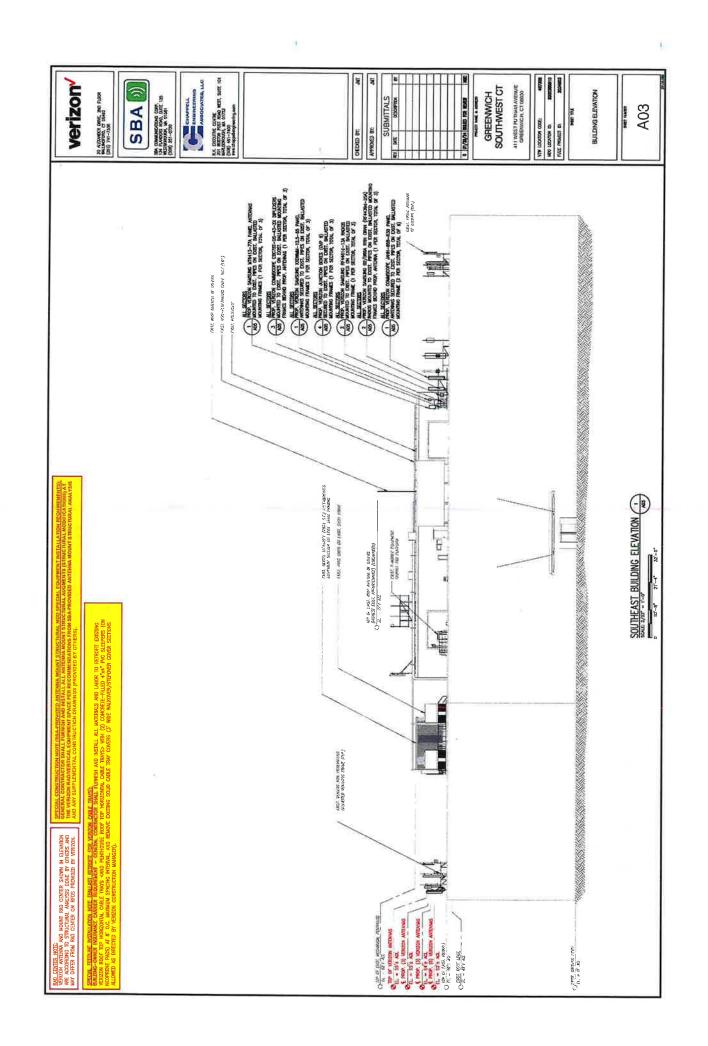


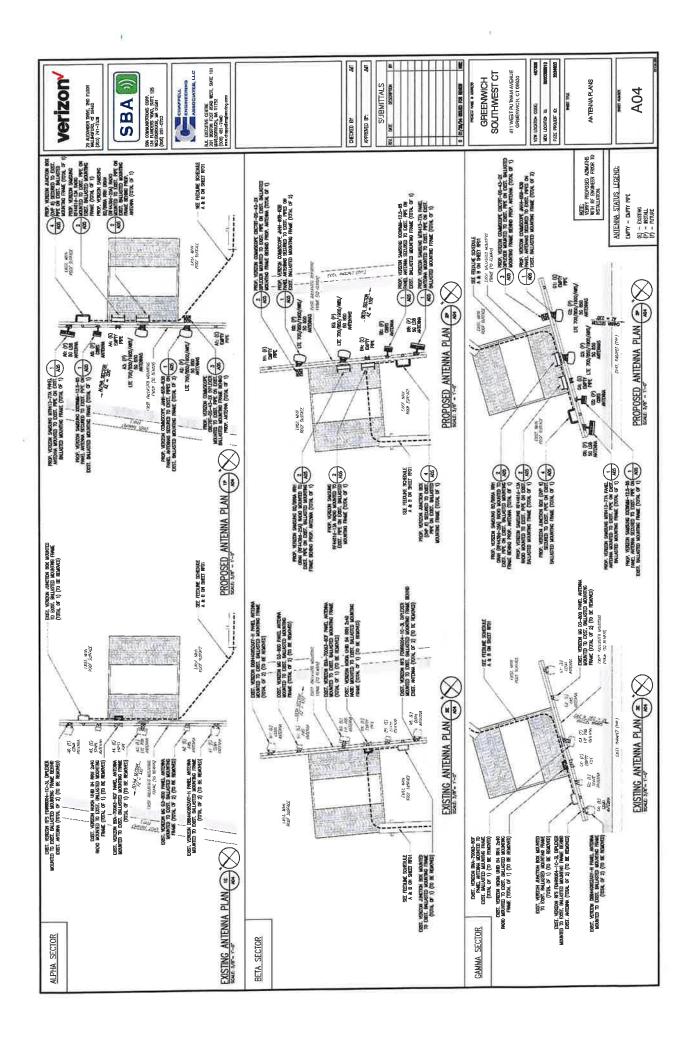


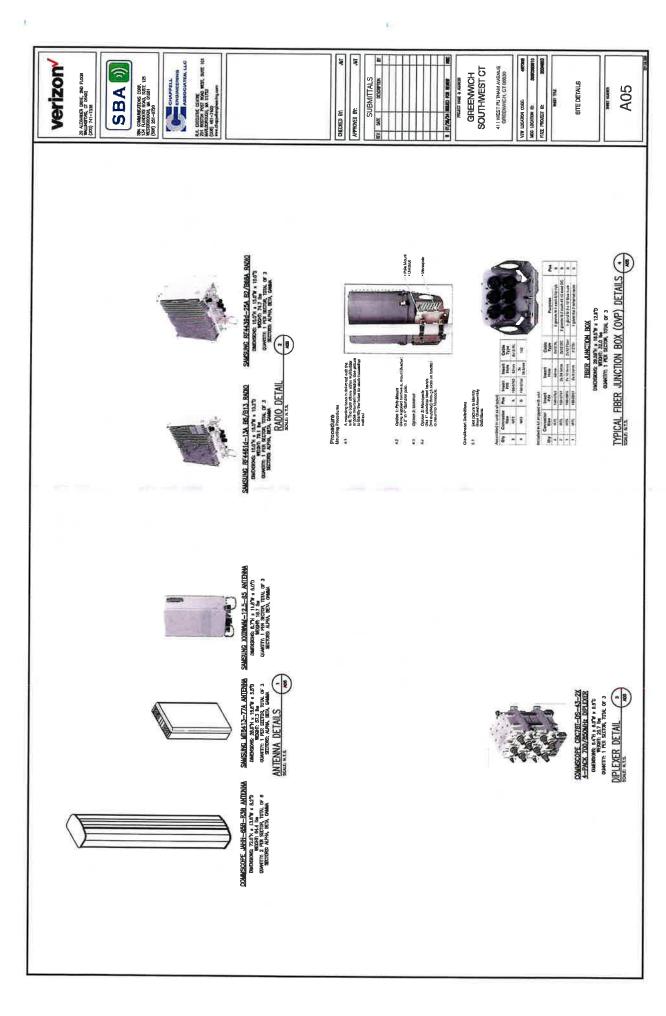
A01

SITE PLAN









SECTOR FOIIDNEN				5		CALSTING ENGINEERING COINTINGS	MINI						
	EQUIPMENT MAKE & MODEL	Łb	AZIMUTH (TRUE NORTH)	ANTENNA	BAND	MECHANICAL	ELECTRICAL DOWNTILT	EQUIPMENT	ΞΞ	≆ ĝ	<u>□</u> (È	WEIGHT (LBS)	HYBRIO CABLE SIZE & QTY
WHEE CHARGE	TOTAL CHARGEOUS II GODEN	-	-40*	27.1/2	CDD# 850		e	CTAT	6.59	0'91	20	12.0	
WHITE WE GE-AT ANY AND THE	Autor it	-	AN.	27/1/02	SHY	£ C		1811	228	0	1.5	17.8	
ALPHA JUSTINIA 204-3	SPECIAL DV-2003-50 astron	-	120	22's AC.	117 700	`	D	au	100	611	63	12.0	
ANDSH MC 21-800 ANTHUN	WATTRE	Č	AY	52'2 1/2	START	b	ja:	200	100	ū	11	121	
STORY JOHNS	WORLD SHAKESAND III ONDON		132	25.52	cont too			eth C	44.0	10:	6.0	12.0	
STORES COMPACE	STORY STREET, MAY & ARTHUR		351	27,5 422	CDAN SED		04	227	649	984	Ac	25.00	
entitle att-Att attore	the matterns	-	130	32'2 454	SWY	×	ti.	3943	100	4.1	-22	101	
BETA ALEWON'S BIN-3	ALEWONG BIA-10983-SEF AMERIKA	-	150	27,7 485	14T 300	_	a	CDEC	77.6	11.3	69	425	DIST (6) 1 % CONN. SPRIS
FRUSA LC DJ-800 (WIFNIR	no calinos	-	261	271.42	2,000	'n	19	1311	37.8	6.3	1.5	17.6	CAST (J) Set2 mBea CABAS
DANSE DRIVED	BDBs billingsood is jird so.	-	130	27.12	the loc	.4		195	48.0	(0,7	6.0	673	
CHART TRAIN	CECULE DESIGNATION OF ANY NAME		270	52,1 VR	CDW/ SSO	t	,	161	429	400	80	400	
INDISE AS GJ-800 AVILIBUA	IOD ANTINO	4.	270	57 1 1/2	SHY		.0	30)	3	7	13	377	
GAMMA AMMERICA DAL-	AMBRED DAY-ADDS-ET AUDIO	-	26	25 r.55	12 /00			367	123	27.2	0.0	17.0	
HITCH SC CA-NG AND WA	NO ANI WA	-	3/6	1070.42	MAC	ū	9	2013	52.8	6.3	ar.	971	
COST CONT	SCORE CRESCOOL & ANDVA	-	100	27.1 62	oca wico	,	,	K/(7	48.0	22.0	8.0	222	
Age to the Sec.	ACAL CHIE SE SIN SAT MIT SECOS	٦			14	٧	9	706	25.4	30.5	U	2117	
A Continue of	AS GANDOVIC X INTEGES	٦	0.0	0		¥ 1		194	2.8	4	0	2.6	
OA" SOK		ů.						21/12	27.6	16.3	124	326	
NOTES 1. TETRE DENOM 2. TETRE DENOM 3. WEDNIS LS 4. HECHBARTEN	"EIR" DENOTES "EXSTRICT TO REDWAY". "EIRE" DENOTES "EXSTRICT TO BE REDKOVED. "REPORTE LESTED ARE WITHOUT MONTHER BROCKETS. HETRIBANTAN ET BASED ON PICE DATED 10.31/23.	WOXETS.											

					HOLE EWOII MENT CONTINUES	200							
SECTOR	EQUIPMENT MAKE & MODEL	Æ	AZIMUTH (TRUE NORTH)	ANTENNA RAD	BAND	MECHANICAL DOWNTILT	ELECTRICAL DOWNTILT	EQUIPMENT STATUS	Ξĝ	∍ŝ	۵Ź	WEIGHT (LBS)	HYBRID CABLE SIZE & QTY
	COMESCOPE JANN- ECH-RIS ANTIDRIVE	-	330	107.± AGL	UE 700/850/1900/rerS 50 850	2/2/2/2	2/2/0/0	MEN	72.0	ā	2	64.3	
ALPHA	COMMENTE JAH-616-103 ANDING	-	JAN.	50°± AGL	LTE 700/850/1900/ARS 50 850	2/2/2/2	2/2/4/0	HEW	0.27	13.8	22	E#3	
	SAMELING XXDRAM-125-65 ANTONA	-	336	55'± AQ.	SMS 3II	ь	ь	NEW	8.7	91	8.0	18.7	
	SAMELING MIBALS-77A MIBBON	-	330	54/± AGL	851.58	b	h	NEW	28.9	15.8	8.8	67.3	
	COMMENCE ANN-408-FOR AITDRES	-	180	52'± AGL	LTE 700/850/1900/RMS 50 850	0/0/0/0	2/2/101/2	HEN	72.0	13.8	2	64.3	
BETA	COMMISCOPE, JANG-1950-1950, ANTORNAS	-	1901	E2'± A0L	LTE 700/760/1900/MIS 50 650	מ/מ/מ/מ	2/2/01/2	AGN	72.0	E.E.	3	64.3	
	SURSING SOCIAL-12.5-45 AMDON	-	150	10'± /QL	UTE CORES	ь	ão	MEM	2	118	ន	18.7	
	SAKEDA MTM.3-77A MIDAN	-	150	SK'± MA.	25 25	ь	h	MEM	28.5	15.8	3	57.3	state (1) Any tonian cuting
	COLASTOCPE, JANSH-808-1138 AVEDRAG	-	252	52'± AGL	LTE 700/850/1900/AFS 80 630	۵/۵/۵/۵	2/2/21/9	NEW	22	13.8	2	2,2	
GAMMA	COMMENCENT AMERICANS ANTENNAS	-	372	E2'± ABL	CTE 700/850/1900/NFS 50 850	a/a/a/a	6/10/2/2 10	HEW	72.0	13.8	2	2	
	SARSOND NOTHING-12.5-65 ANTONA	-	235	SS'± AOL.	LTE CORS	b		NEA	8.7	2	20	18.7	-
	SAME OF STATES AND SAME OF SAM	-	235	34.40	50 156	ь	*	A	1A.0	55	2	57.3	
	SAMSOND BE/BIS RF44616-13A RUDGS	,		•			1	MEN	16.0	ā	102	1.97	
	SAMELING BZ/REEA ORUN (NE44394-25A) RADIO	•	æ	è	*			MEM	55	16.0	10.0	74.7	
į	COMMISSIONE COCHIE-15-45-2X DPLEASY	77					٠	HEW	8.4	2	8.8	101	
	OrP 6	•	,.		3.5	•	:*	NEA	20.0	10.5	12.6	32.0	
ŽĮ ŽĮ	1. Earl DEWOTES "DOSTING TO RELIAM". 2. ETRE" DEWOTES "DOSTING TO BE REJUNDED". 3. WEARLY ETRED ARE WITHOUT BUNDLING BENCETS. 3. INSTRUMENT BENEFIT AND EXCENTED A LOCK OF A DESCRIPTION OF A DES	SES.											

SCHEDULE		FEEDLINES	LOCATION
	DISTINC TO REMAIN.	WAKE	
*	EDSTING TO BE RELIGIOUS.	STEEN NOTICE, No. 1 (a) TENERS OF ALL DELESCO	ROUTED PER STRUCTURAL
	PROPOSO:	(3) ext2 HYBRD CHRES	WWYSE
8			



20 ALEXANDEN INRYE, ZHO FLOOR THALLHOFFORD, 5T DEADS (203) 741-73JB

SBA (M)

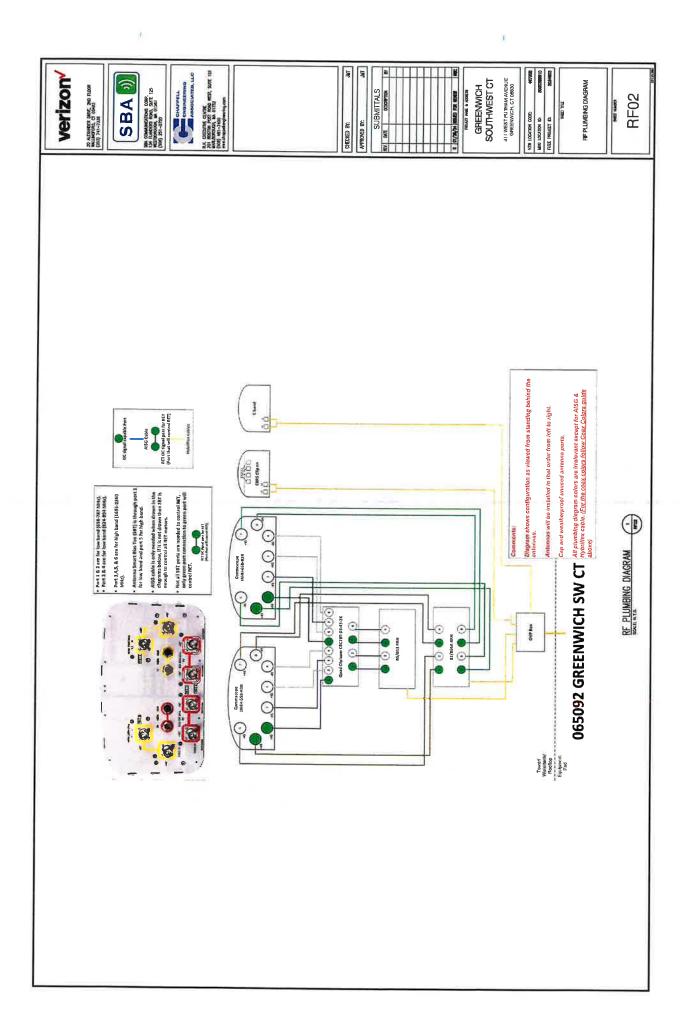
R.A. DECOMINE CHAIN SOUTH STATE STAT

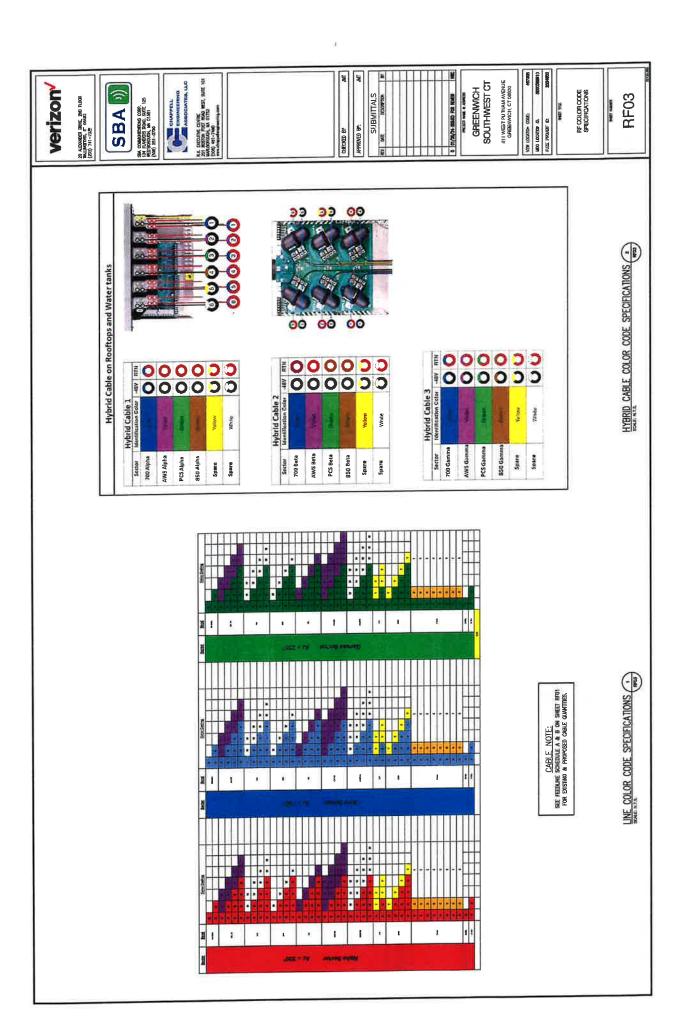
411 WEST PUTHAMAVENUE GREENWICH, CT 08830

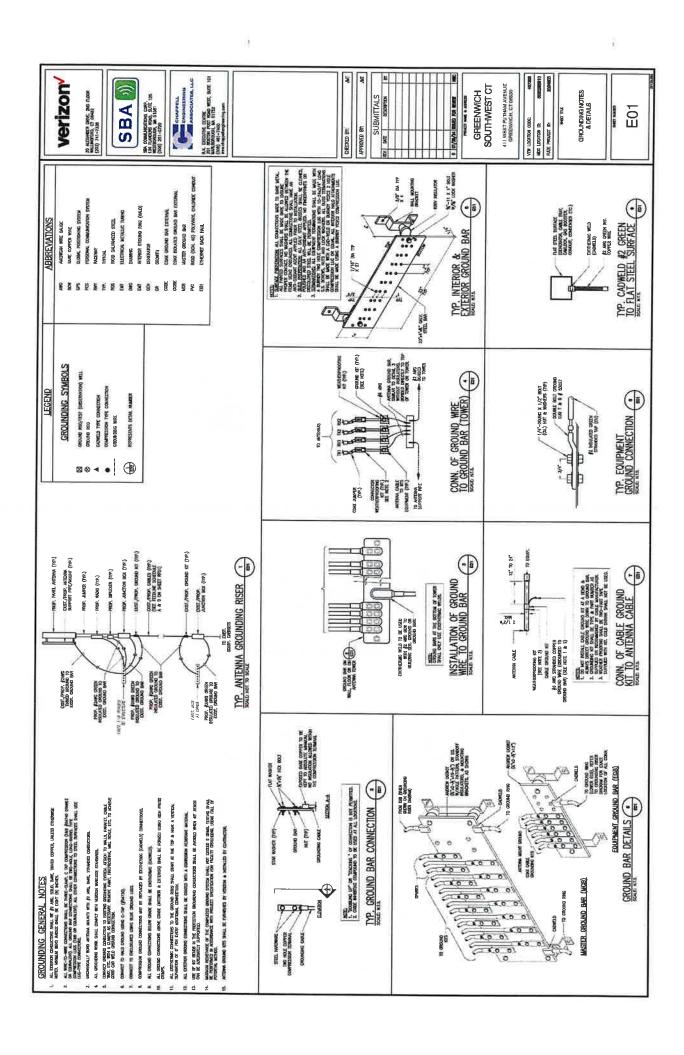
VEW LECKATO- COOKE OF AVERBEE ALCO LECKATOS DE SEGURIDADO FUZE PROJUET DE SEGURIDA WEST TRAE

RF DATA

RF01







Site Name/Number:

Greenwich Southwest CT

Site Address:

411 West Putnam Avenue, Greenwich, CT 06830

CEA Job Number:

22135.085

Date: January 26, 2024



Appurtenances Attached to Ballast Frame:

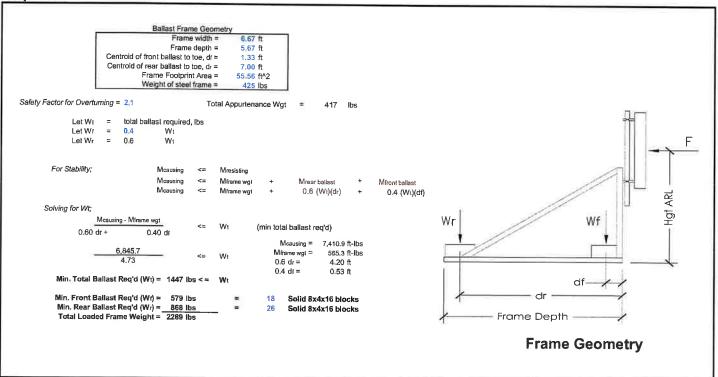
		Commscope JAHH-65B-R3B	Commscope JAHH-65B-R3B	Samsung XXDWMM- 12.5-65	Samsung MT6413- 77A		Samsung RF4461d- 13A RRH	Samsung RF4439d- 25A RRH	Quadplexe r	Fiber Junction Box
Depth, d =	in	8 2 in	8,2 in	5.0 in	5.5 in	Īn	10.2 in	10.0 in	9.6 in	12.6 in
Width, w =	în	13.8 in	13,8 in	11.8 in	15.8 in	in	15.0 in	15 0 in	6.9 in	16.5 in
Height, h =	in	72.0 in	72,0 in	8.7 in	30.0 in	in	15.0 in	15.0 in	6.4 in	30.0 in
Height ARL =	ft	5.8 ft	5.8 ft	8.5 ft	7.3 ft	ft	4.4 ft	4.1 ft	3.5 ft	4.4 ft
Weight =	lbs	65 lbs	65 lbs	20 lbs	60 lbs	lbs	79 lbs	75 lbs	21 lbs	32 lbs

Design Code: ASCE 7

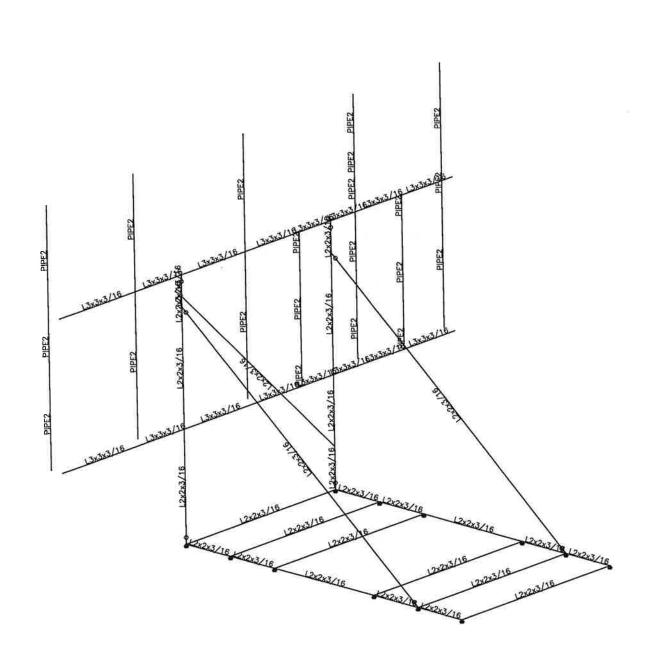
Z (Above Ground Level) = 54 ft	54	ft	54 ft	54 ft	54 ft	54 ft	54 ft	54 ft	54 ft	54 ft	
Height of Projection Area = 0.0 ft	6.0	ft	6.0 ft	0.7 ft	2.5 ft	0.0 ft	1.3 ft	1.3 ft	0.5 ft	2.5 ft	
Width of Projection Area = 0.0 ft	1.2	ft	1.2 ft	1.0 ft	1.3 ft	0.0 ft	1.3 ft	1.3 ft	0.6 ft	1.4 ft	
Af (Projected Area of Gross) = 0.0 s.f.	6.9	s.f.	6.9 s.f.	0.7 s.f.	3.3 s.f.	0.0 s.f.	1.6 s.f.	1.6 s.f.	0.3 s.f.	3.4 s.f.	l
Reference Wind Velocity, V = 100 mph	100	mph	100 mph								
Exposure = 8	В		В	B	В	B	В ПР	B	B	B III	Section 6.5.6.3
G (Gust effect factor) = 0.85	0.85		0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	Section 6.5.8
Cr (Force Coeficient) = 1.4	1.4		1.4	1.4	1.4	1.4	1.4	1.4	1.4	1,4	Fig 6-20 to 6-23
Kz (Exposure Coefficients) = 1	1		1	1 1	1	1 1	1 4	1.7	1.7	1.4	6 5 6 6, Table 6
K1 (Multiplier) = 0	1 0		l o	l ó	ò	i i	انا	6	1 ,		Figure 6-2
K2 (Multiplier) = 0	Ιo		0	1 0	0	o o	l ő	١٠	١٠	I 0	
K3 (Multiplier) = 0	1 0		0	lő	0	0	1 0	\ \ \ \	0		Figure 6-2
Kzi (Topographic Factor): (1+K1*K2*K3)^2 = 1	1 1		l i	1	1	1	1	1	1 4		Figure 6-2
Kd = 0.85	0.85		0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	Section 6.5.7.2
I (Importance Factor) = 1	1 1		1	1	1	1	0.00	0.03	0.05	0.05	Table 6-4
qz = .00256*Kz*Kz*Kd*V^2*I (psf) = 21.8 psf	21.8	psf	21.8 psf	21.8 psf	21.8 psf	21.8 psf	21.8 psf	21.8 psf	21.8 psf	24.0	Table 6-2
Reference Wind Pressure, p = 25.9 psf	25.9	psf	25.9 psf	25.9 psf	25.9 psf	25.9 psf	25.9 psf		25.9 psf	21.8 psf 25.9 psf	psf, Section 6.5

F, lbs = 0 179 179 18 85 0 40 40 8 89

Required Minimum Ballast:



Greenwich Ballast Fram	e MSA 22135.085	j	
View: Steel Frame Iso			X3, >X2 >X1
SCALE = 1:24	UNITS: kip ft	DATE: 1/26/24	



Prepared by:

Page: 1
Date: 1/26/24
-----13:59---

Load no. 1: -X1 Wind (units - kips ft.)

* GROUP NONE / JOINT LOADS

FX1 -0.03 FX3 -0.07 N 27

/ JOINT LOADS

FX1 -0.02 FX3 -0.015 N 51 52

/ JOINT LOADS

/ JOINT LOADS

FX1 -0.109 FX3 -0.03 N 4 3 2 1

FX1 -0.02 FX3 -0.015 N 55 56

/ JOINT LOADS

/ JOINT LOADS

FX1 -0.016 FX3 -0.03 N 48

FX1 -0.016 FX3 -0.03 N 47 FX1 -0.04 FX3 -0.01 N 46 45

/ END

FORCE SUMMATION

FX1=-0.658 kip

FX2=0 kip

FX3=-0.33 kip

Load no. 2: -X1 Wind on Frame (units - kips ft.)

* GROUP NONE

/ BEAM LOADS

DIST GL FX1 -0.006 B 3 TO 6 12 TO 15 21 TO 24 35 38 TO 48 BY 5 49 TO 53 62

63 67 68 72 73

/ BEAM LOADS

DIST GL FX1 -0.006 B 74

BEAM LOADS

DIST GL FX1 -0.006 B 36 37 39

/ END

FORCE SUMMATION

FX1=-0.3428 kip

FX2=0 kip

FX3=0 kip

Load no. 3: Frame Selfweight (units - kips ft.)

* GROUP NONE

BEAM LOADS

SELF X3 -1. B 1 TO 63 67 68 72 73

/ BEAM LOADS

SELF X3 -1. B 74 69 TO 71 64 TO 66

/ END

FORCE SUMMATION

FX1=0 kip

FX2=0 kip

FX3=-0.4423 kip

Prepared by:

Page: 2 Date: 1/26/24 -13:59-

Load no. 4: X1 Wind (units - kips ft.)

GROUP NONE JOINT LOADS

JOINT LOADS FX1 0.03 FX3 -0.07 N 27

JOINT LOADS

FX1 0.02 FX3 -0.015 N 51 52

JOINT LOADS

JOINT LOADS

FX1 0.109 FX3 -0.03 N 4 3 2 1

FX1 0.02 FX3 -0.015 N 55 56

/ JOINT LOADS

/ JOINT LOADS

FX1 0.04 FX3 -0.01 N 46 45

FX1 0.016 FX3 -0.03 N 48

FX1 0.016 FX3 -0.03 N 47

/END

FORCE SUMMATION

FX1=0.658 kip

FX2=0 kip

FX3=-0.33 kip

Load no. 5: X1 Wind on Frame (units - kips ft.)

* GROUP NONE

BEAM LOADS

BEAM LOADS

DIST GL FX1 0.006 B 3 TO 6 12 TO 15 21 TO 24 35 38 TO 48 BY 5 49 TO 53 62 63

67 68 72 73

BEAM LOADS

DIST GL FX1 0.006 B 74

BEAM LOADS

DIST GL FX1 0.006 B 37 36 39

END STATIC

FORCE SUMMATION

FX1=0.3428 kip

FX2=0 kip

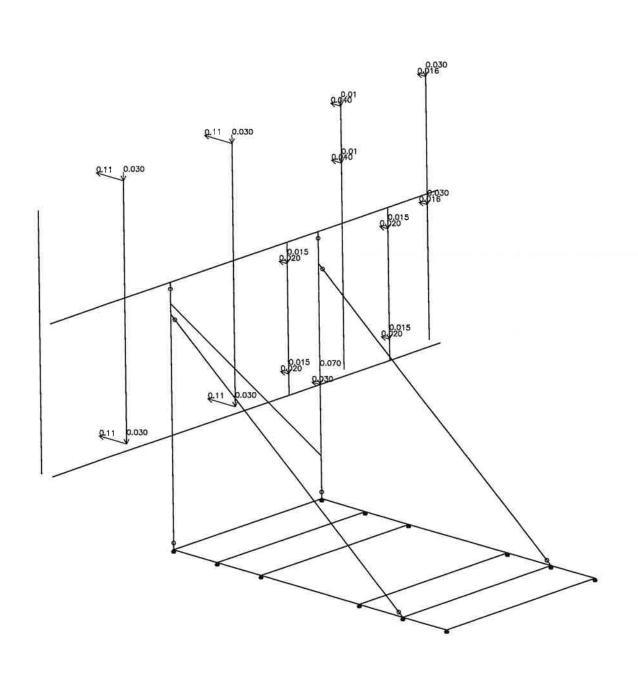
FX3=0 kip

Greenwich	Ballast	Frame	MSA	22135.085
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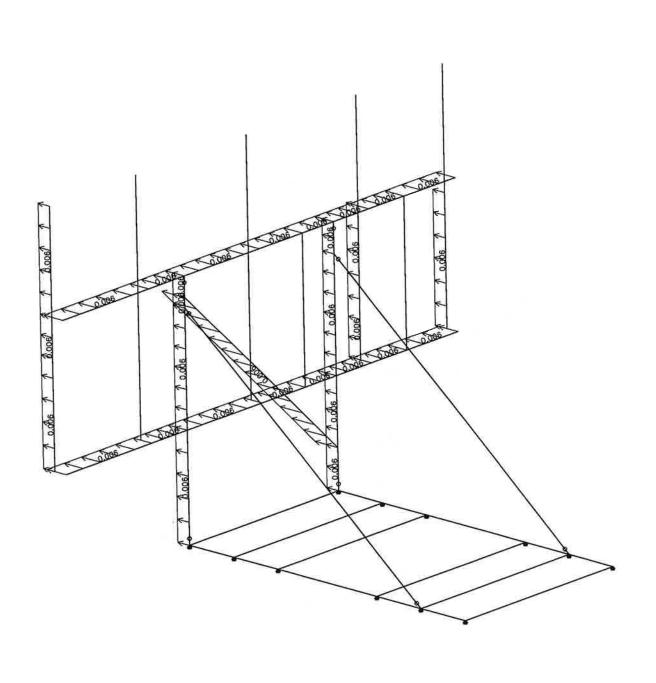
Load 1: -X1 Wind View: Steel Frame Iso

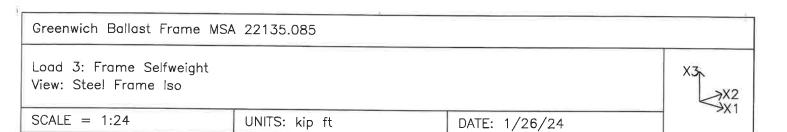
SCALE = 1:24 UNITS: kip ft DATE: 1/26/24

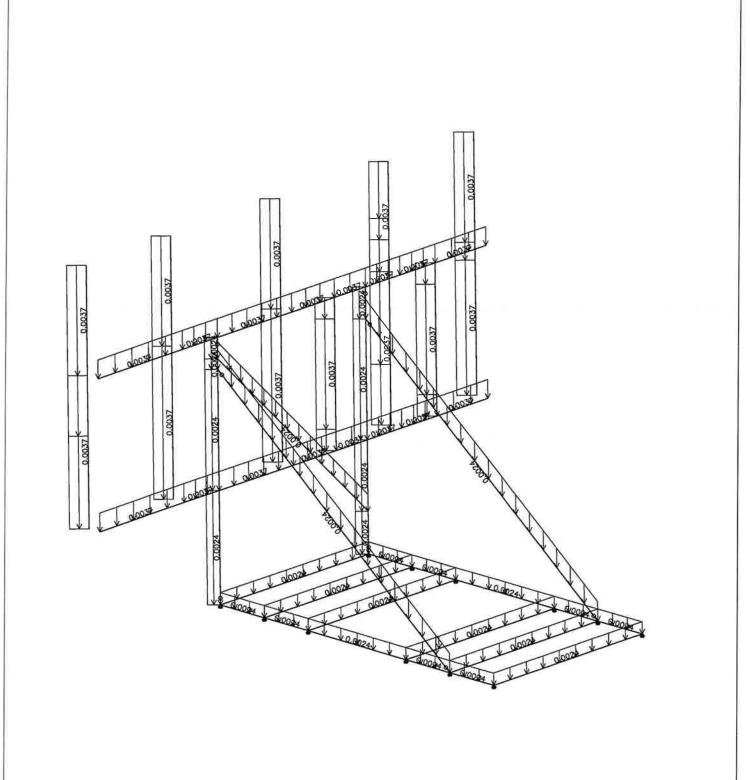




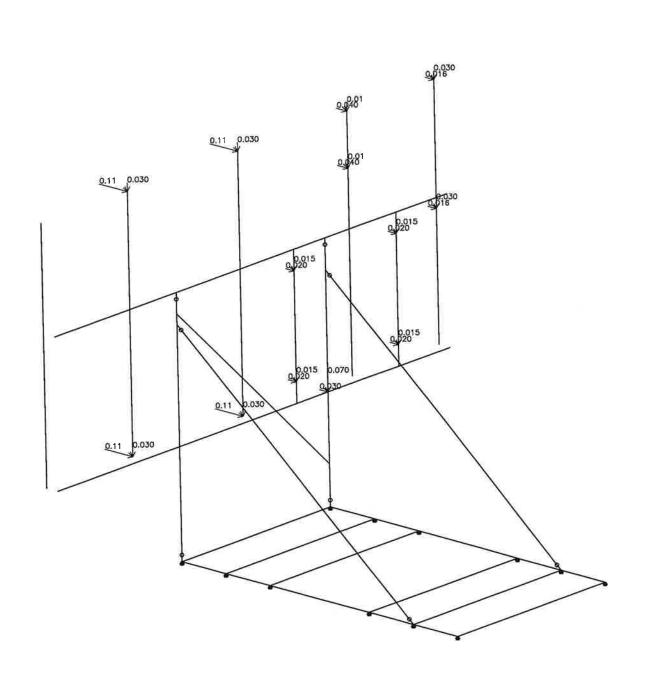
Greenwich Ballast Fram	ne MSA 22135.085		
Load 2: —X1 Wind on View: Steel Frame Iso	Frame		X3, X2 X1
SCALE = 1:24	UNITS: kip ft	DATE: 1/26/24	







Greenwich Ballast Frame	MSA 22135.085		
Load 4: X1 Wind View: Steel Frame Iso			X3 →X2 →X1
SCALE = 1:24	UNITS: kip ft	DATE: 1/26/24	

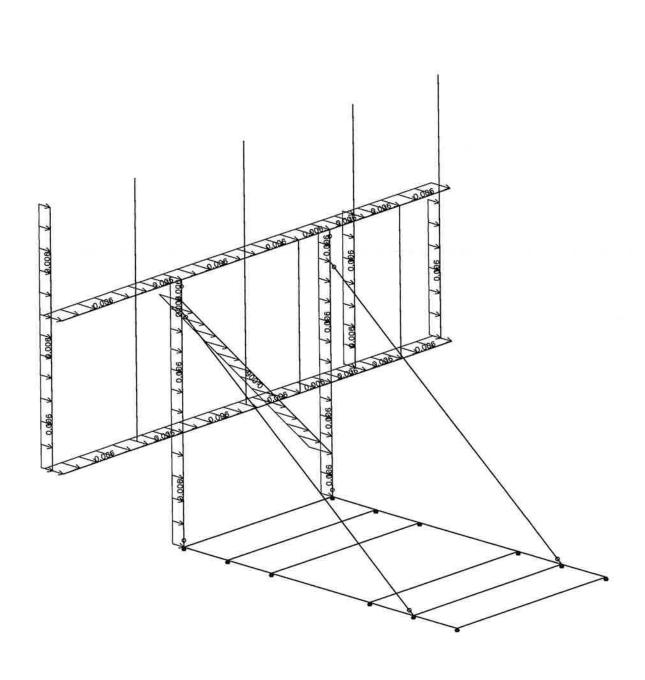


Greenwich Ballast Frame MSA 22135.085 Load 5: X1 Wind on Frame View: Steel Frame Iso SCALE = 1:24

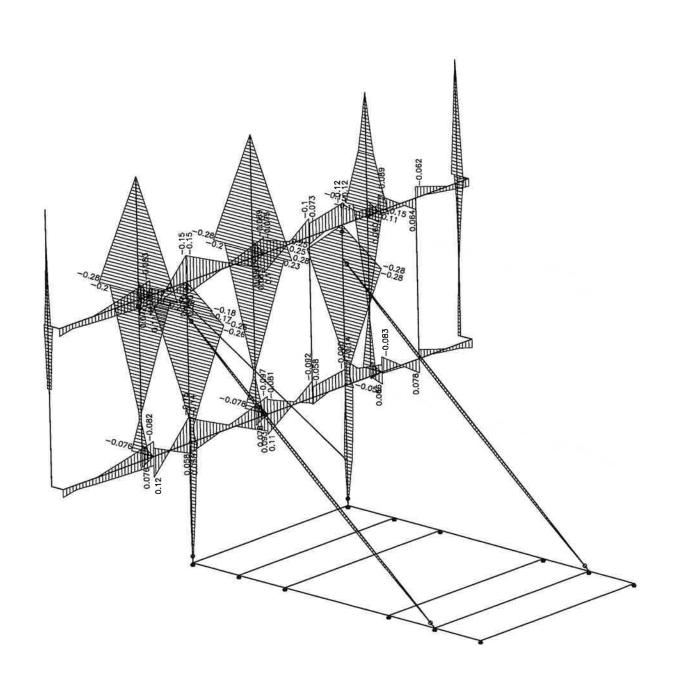
DATE: 1/26/24

UNITS: kip ft





Greenwich Ballast Fran	ne MSA 22135.085		
			X3, ->X2, ->X1
SCALE = 1:23	UNITS: kip*ft	DATE: 1/26/24	



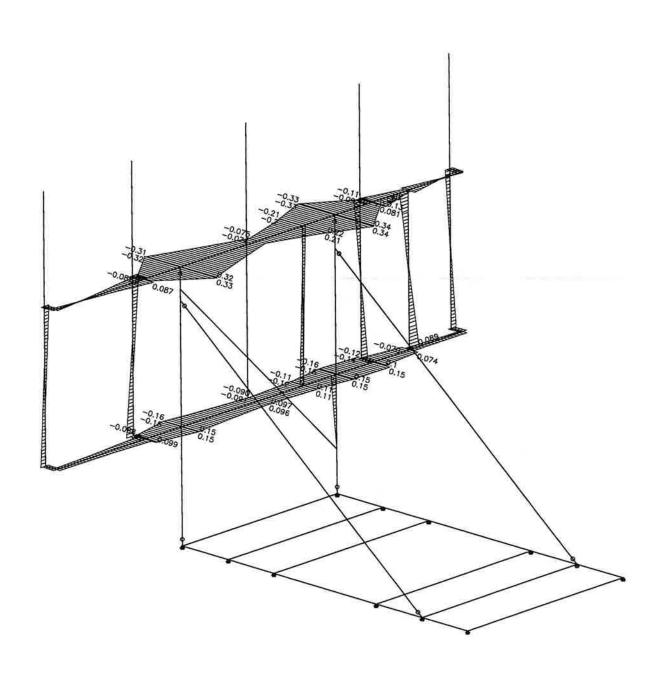
Greenwich Ballast Frame MSA 22135.085	Ψ.
	X3

X3 X2 X1

SCALE = 1:23

UNITS: kip*ft

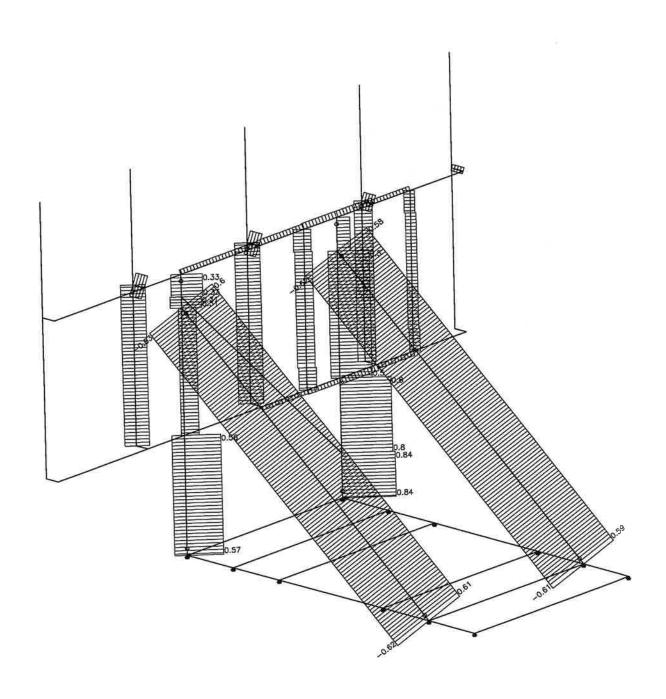
DATE: 1/26/24



M3 MOMENT

COMBINATIONS ENVELOPE

Greenwich Ballast Fra	me MSA 22135.085	"	
			X3 >X2 >X1
SCALE = 1:23	UNITS: kip	DATE: 1/26/24	

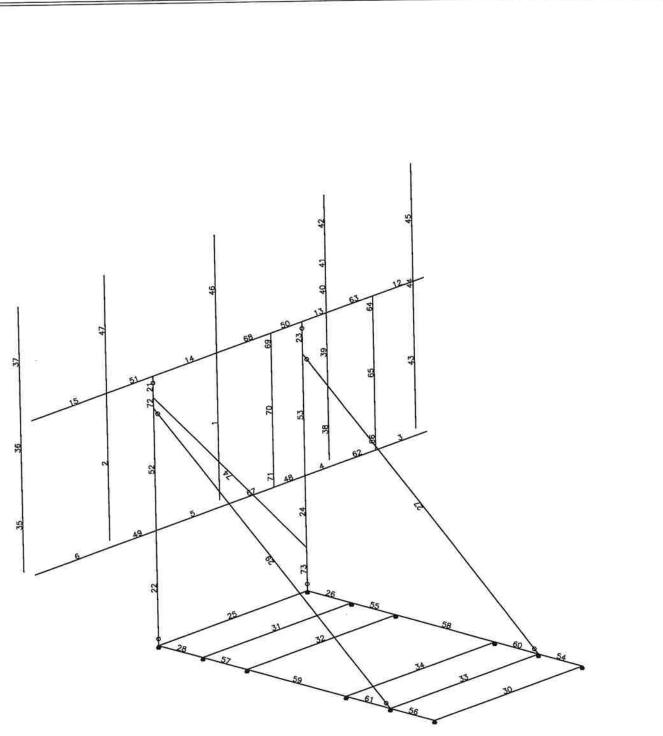


Prepared by:

Code: AISC-LRFD Page: 1 Date: 1/26/24 14:03

Results Summary Table											
							С	APA	CITY		
Beam	Section	Con	Defi	Slen	Axial	Di	Shear	Mom	LTB	Combined Axial+Mom	
	L 3x3x3/16	2	-	_		_	-	-	_		⊨
J	L SASASI TO	-	3/0	252	-0.01		0.02	0.07 0.19		0.45	
15	L 3x3x3/16	1	387	252	0.00		0.02	0.13		0.56	
04	1.0.0.040	_					0.03	0.25	0.00		
21	L 2x2x3/16	2	594	183	-0.08	_	0.06	0.19		0.54	_
23	L 2x2x3/16	2	497	190	-0.14		0.00	0.40		0.50	
	L ZAZAO/10	1	451	190	-0.14		0.00	0.19 0.44		0.56	
25	L 2x2x3/16	1	8888	145	0.00		0.00	0.00		0.01	
		_					0.00	0.01			
	L 2x2x3/16	1		254	0.00	MI	0.00	0.00		0.00	
21	L 2x2x3/16	2	1743	271	-0.27	MJ	0.00	0.01	0.02	0.31	***
28	L 2x2x3/16	1	9999	254	0.00		0.00	0.03 0.00		0.00	
	L 2x2x3/16	2		271	-0.28		0.00	0.00		0.00 0.32	***
							0.00	0.03	0.00	0.02	
30	L 2x2x3/16	2	9021	145	0.00	MJ	0.00	0.00	0.01	0.01	
24	L 2x2x3/16	_	0040				0.00	0.01	0.00		
31	L 2X2X3/10	2	9013	145	0.00		0.00	0.00		0.01	
32	L 2x2x3/16	1	9011	145	0.00		0.00	0.01	0.00	0.04	-
٦-		'	3011	173	0.00		0.00	0.00	0.00	0.01	
33	L 2x2x3/16	1	8913	145	0.00		0.00	0.00	0.01	0.01	
24	L 05050/46		0004				0.00	0.01	0.00		
34	L 2x2x3/16	2	9021	145	0.00		0.00	0.00	0.01	0.01	_
37	PIPE 2	1	8556	94	0.00		0.00	0.01 0.02	0.00		
١.,		'	6556	34	0.00		0.00	0.02	0.02	0.04	
42	PIPE 2	1	2640	94	-0.01		0.01	0.08	0.08	0.11	
						MI	0.00	0.03	0.00		
45	PIPE 2	1	7639	94	0.00		0.00	0.03		0.05	
46	PIPE 2	1	1162		0.04		0.00	0.02			
40	TIFEZ		1102	94	-0.01		0.01	0.14	0.14	0.16	
47	PIPE 2	1	1157	94	-0.01		0.00	0.01		0.18	
						МІ	0.00		0.00	5.15	
	PIPE 2	2	9999	55	0.00	ΜI	0.00	0.04	0.00	0.05	
	PIPE 2	2	9999	55	-0.01		0.00	0.02	0.00	0.02	
12	L 2x2x3/16	1	4609	8	-0.01		0.06	0.19	0.19	0.54	
74	L 2x2x3/16	2	1485	205	-0.01	$\overline{}$	0.00	0.40	0.00	0.07	_
' 1	E 2/12/0/ 10	4	1403	203	-0.01		0.00	0.02		0.07	

Greenwich Ballast Frame M	SA 22135.085	·	
View: Steel Frame Iso			X3, X2 X1
SCALE = 1:24	UNITS: kip ft	DATE: 1/26/24	



Greenwich Ballast Frame MSA 22135.085	
View: Steel Frame Iso SCALE = 1:20 DATE: 1/26/24	X3, X2 X1
DATE: 1/20/24	
Actual/dilovable Moment+Adal	

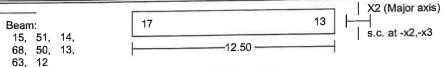
Prepared by:

Code: AISC-LRFD

Page: 1 Date: 1/26/24 -14:07-

Detailed Results Table for Beam 15 - 12

Moments: kips*foot , Forces: kips , Stresses: ksi , Section prop.: inch



CONSTRAINTS

- Sections :

Check

DESIGN DATA

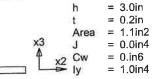
- Ky = 1.00-Kx = 1.00

- Steel Grade: A36 - Allow. Slend.: 200 (compr.) 300 (tens.) - Allowable Deflection: 1/240

- Tension Area Reduction Factor: 1.00

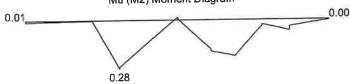
- Building type: Unbraced

Section: L 3x3x3/16

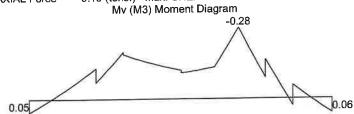


DESIGN COMBINATION = 1





Max. AXIAL Force = 0.10 (tens.) Max. SHEAR Force =



Max. AXIAL Force = 0.10 (tens.) Max. SHEAR Force =

SECTION CLASSIFICATION: *** SLENDER ***

Compact Non-Compact Limiting Ratios: 12.8

12.8 d/t = 15.87< b/t = 15.8715.3

(Fy= 36.0)

DESIGN	EQUATION	FACTORS	VALUES	RESULT
V2 Shear (F2-1)	Vu/(.9*Vn)<1.00 Vn=0.6*Fy*Av	Av = 0.51	Vu = 0.25 Vn = 11.02	0.03
M3 Moment (A-F1-1) without LTB	M 	Z = 0.33 QS =0.915	M = 0.28 Mn = 1.25	0.25

Prepared by:

Code: AISC-LRFD

Page: 2 Date: 1/26/24 ——————14:07——

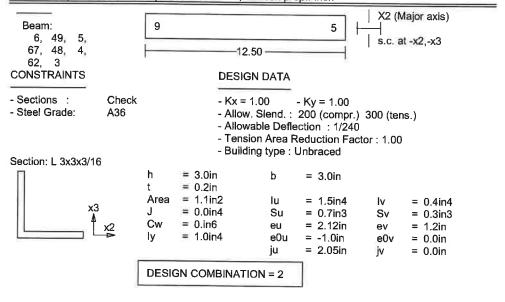
Detailed Results Table for Beam 15 - 12

Moments: kips*foot , Forces: kips , Stresses: ksi , Section prop.: inch

DESIGN	EQUATION	FACTORS	VALUES	RESULT		
V3 Shear (F2-1)	Vu/(.9*Vn)<1.00 Vn=0.6*Fy*Av	Av = 0.51	Vu = 0.14 Vn = 11.02	0.01		
M2 Moment (A-F1-1) without LTB	M 0.9Mn < 1.00	Z = 0.72 QS =0.915	M = 0.28 Mn = 2.71	0.12		
Deflection	defl. L / 240		defl = 0.38737	0.62		
Axial Force (D1-1)	Pu < 1.00 0.90AgFy	(kL/r)x =160 (kL/r)y =252	Pu = 0.10 Ag = 1.09 Fy = 36.00	0.00		
Lateral Torsional Buckling (5-6)	M < 1.00 0.9Mn Critical Segment from at: Long leg tip Segment End Momen		M = 0.28 Mn = 1.98 My = 2.17 Mob = 3.35	0.16		
Combined Forces (compress.) (H1-1b)	Pu Mux Muy + + + + 2φPn φMnx φMny < 1.00 Critical Segment from at: Short leg tip	Pey = 4.93 Mnx = 2.71 (0.00 + -0.12 + -	Mux = 0.28 Muy = 0.28 B1x = 1.00 B1y = 1.00 Mny = 1.33 0.23)	0.35		

Detailed Results Table for Beam 6 - 3

Moments: kips*foot , Forces: kips , Stresses: ksi , Section prop.: inch



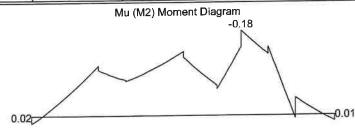
Prepared by:

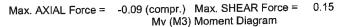
Code: AISC-LRFD

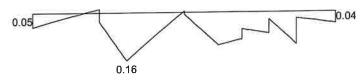
Page: 3 Date: 1/26/24 -14:07-

Detailed Results Table for Beam 6 - 3

Moments: kips*foot , Forces: kips , Stresses: ksi , Section prop.: inch







Max. AXIAL Force = -0.09 (compr.) Max. SHEAR Force = 0.07

SECTION CLASSIFICATION: *** SLENDER ***

Limiting Ratios:

Compact Non-Compact

d/t = 15.87

12.8

(Fy= 36.0)

b/t= 15.87

12.8 15.3 <

DESIGN	EQUATION	FACTORS	VALUES	RESULT	
V2 Shear (F2-1)	Vu/(.9*Vn)<1.00 Vn=0.6*Fy*Av	Av = 0.51	Vu = 0.07 Vn = 11.02	0.01	
M3 Moment (A-F1-1) without LTB	M 0.9Mn < 1.00	Z = 0.33 QS =0.915	M = 0.16 Mn = 1.25	0.14	
V3 Shear (F2-1)	Vu/(.9*Vn)<1.00 Vn=0.6*Fy*Av	Av = 0.51	Vu = 0.15 Vn = 11.02	0.01	
M2 Moment (A-F1-1) without LTB	M 0.9Mn < 1.00	Z = 0.72 QS =0.915	M = 0.18 Mn = 2.71	0.07	
Deflection	defl. < 1.00 L / 240		defl = 0.20084	0.32	
Axial Force (4-1),(4-2)	Pu < 1.00 0.90AgFcr	(kL/r)x = 123 (kL/r)y = 193 λc√Q = 2.17 Q = 1.09	Pu = 0.09 Ag = 1.09 Fcr = 6.71	0.01	
Lateral Torsional Buckling (5-6)	M < 1.00 0.9Mn Critical Segment from at: Short leg tip Segment End Momen		M = 0.18 Mn = 1.25 My = 2.17 Mob = 2.96	0.16	

Prepared by:

Code: AISC-LRFD

Page: 4
Date: 1/26/24
----14:07---

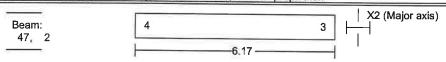
Detailed Results Table for Beam 6 - 3

Moments: kips*foot , Forces: kips , Stresses: ksi , Section prop.: inch

DESIGN	EQUATION	FACTORS	VALUES	RESULT
Combined Forces (compress.) (H1-1b)	Pu Mux Muy 2 Pm + + + + + + + + + + + + + + + + + + +		Mux = 0.18 Muy = 0.16 B1x = 1.00 B1y = 1.00 Mny = 0.61 0.28)	0.45

Detailed Results Table for Beam 47 - 2

Moments: kips*foot , Forces: kips , Stresses: ksi , Section prop.: inch



CONSTRAINTS

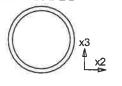
DESIGN DATA

- Sections : - Steel Grade:

Check A53

- -Kx = 1.00 -Ky = 1.00
- Allow. Slend.: 200 (compr.) 300 (tens.)
 - Allowable Deflection: 1/240
 - Tension Area Reduction Factor : 1.00
 - Building type : Unbraced

Section: PIPE 2



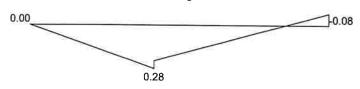
D = 2.37in t = 0.2in Area = 1.1in2

Area = 1.1in2 J = 1.3in4 Cw = 0.in6 12 = 0.7in4 22 = 0.8in3 = 1.2in

13 = 0.7 in 4 23 = 0.8 in 3 23 = 1.2 in

DESIGN COMBINATION = 1

M2 Moment Diagram



Prepared by:

Code: AISC-LRFD Page: 5

Page: 5 Date: 1/26/24 ———14:07—

Detailed Results Table for Beam 47 - 2

Moments: kips*foot , Forces: kips , Stresses: ksi , Section prop.: inch

SECTION CLASSIFICATION: *** COMPACT ***

Limiting Ratios:

Compact Non-Compact

d/t = 15.46

59.1

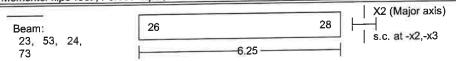
94.3

(Fy=35.0 R=0.005)

DESIGN	EQUATION	FACTORS	VALUES	RESULT	
M3 Moment (A-F1-1) without LTB	M 0.9Mn < 1.00	Z = 0.76	M = 0.07 Mn = 2.22	0.03	
V3 Shear (F2-1)	Vu/(.9*Vn)<1.00 Vn=0.6*Fy*Av	Av = 0.64	Vu = 0.11 Vn = 13.53	0.01	
M2 Moment (A-F1-1) without LTB	M 0.9Mn < 1.00	Z = 0.76	M = 0.28 Mn = 2.22	0.14	
Deflection	defl. < 1.00 L / 240		defl = 0.06397	0.21	
Axial Force (E2-1)	Pu < 1.00 0.85AgFcr	(kL/r)x =81 (kL/r)y =81 λc = 0.89	Pu = 0.21 Ag = 1.07 Fcr = 25.05	0.01	
Combined Forces (compress.) (H1-1b)	Pu + Mux Muy 2¢Pn ¢Mnx ¢Mny < 1.00	Cmx = 1.00 Cmy = 0.85 Pex = 47.02 Pey = 47.02	Mux = 0.28 Muy = 0.07 B1x = 1.00 B1y = 1.00	0.18	

Detailed Results Table for Beam 23 - 73

Moments: kips*foot , Forces: kips , Stresses: ksi , Section prop.: inch



CONSTRAINTS

DESIGN DATA

- Sections : Che - Steel Grade: A36

Check

-Kx = 1.00 -Ky = 1.00

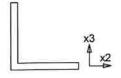
- Allow. Slend.: 200 (compr.) 300 (tens.)

- Allowable Deflection : 1/240

- Tension Area Reduction Factor: 1.00

- Building type : Unbraced

Section: L 2x2x3/16



DESIGN COMBINATION = 2

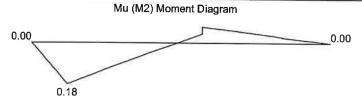
Prepared by:

Code: AISC-LRFD

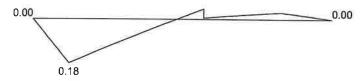
Page: 6 Date: 1/26/24 ——14:07—

Detailed Results Table for Beam 23 - 73

Moments: kips*foot , Forces: kips , Stresses: ksi , Section prop.: inch



Max. AXIAL Force = 0.14 (tens.), -0.21 (compr.) Max. SHEAR Force = 0.34 Mv (M3) Moment Diagram



Max. AXIAL Force = 0.14 (tens.), -0.21 (compr.) Max. SHEAR Force = 0.03

SECTION CLASSIFICATION: *** COMPACT ***

Limiting Ratios:

Compact Non-Compact

d/t= 10.58 b/t= 10.58 12.8

12.8 15.3 (Fy= 36.0)

DESIGN	EQUATION	FACTORS	VALUES	RESULT	
M3 Moment (A-F1-1) without LTB	M 0.9Mn < 1.00	Z = 0.13	M = 0.18 Mn = 0.50	0.40	
V3 Shear (F2-1)	Vu/(.9*Vn)<1.00 Vn=0.6*Fy*Av	Av = 0.34	Vu = 0.34 Vn = 7.35	0.05	
M2 Moment (A-F1-1) without LTB	M 0.9Mn < 1.00	Z = 0.30	M = 0.18 Mn = 1.14	0.18	
Deflection	defl. L / 240 < 1.00		defl = 0.10382	0.33	
Axial Force (4-1),(4-2)	Pu 	(kL/r)x =46 (kL/r)y =72 λc = 0.81	Pu = 0.21 Ag = 0.71 For = 27.38	0.01	
Lateral Torsional Buckling (5-6)	M < 1.00 0.9Mn Critical Segment from at: Long leg tip Segment End Momen		M = 0.18 Mn = 1.01 My = 0.91 Mob = 2.88	0.20	

Prepared by:

Code: AISC-LRFD

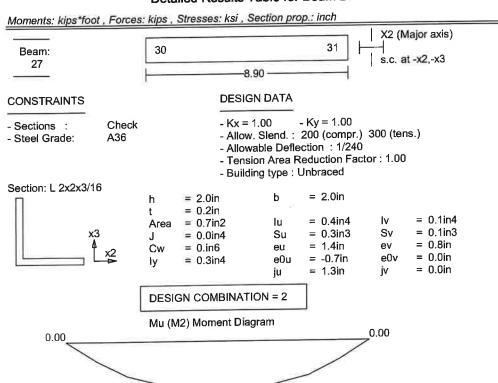
Page: 7
Date: 1/26/24
——14:07—

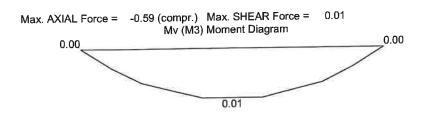
Detailed Results Table for Beam 23 - 73

Moments: kips*foot , Forces: kips , Stresses: ksi , Section prop.: inch

DESIGN	EQUATION	FACTORS	VALUES	RESULT
Combined Forces (compress.) (H1-1b)	Pu Mux Muy 2 Pu + + 2 NMNx NMNy 1.00 Critical Segment from at: Long leg tip	(0.0)	Mux = 0.18 Muy = 0.18 B1x = 1.00 B1y = 1.00 Mny = 0.57 0.35)	0.56

Detailed Results Table for Beam 27





0.01

Prepared by:

Code: AISC-LRFD

Page: 8 Date: 1/26/24 ———14:07——

Detailed Results Table for Beam 27

Moments: kips*foot , Forces: kips , Stresses: ksi , Section prop.: inch

Max. AXIAL Force = -0.59 (compr.) Max. SHEAR Force = 0.00

SECTION CLASSIFICATION: *** COMPACT ***

Limiting Ratios:

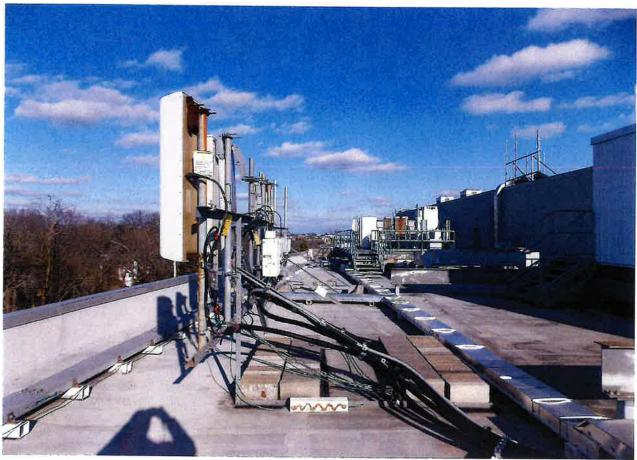
Compact Non-Compact

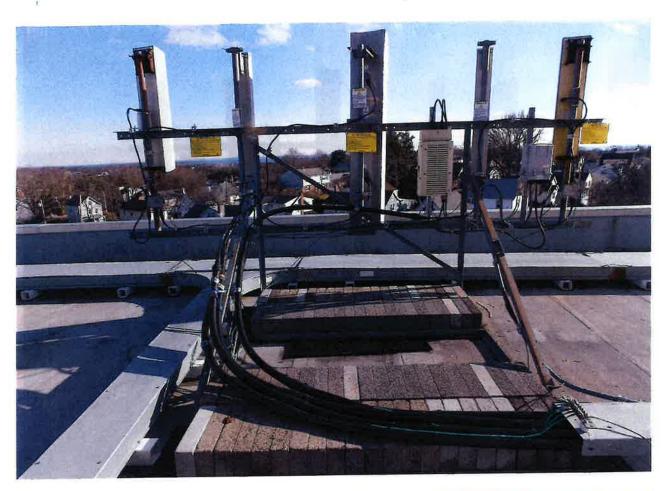
d/t= 10.58 b/t= 10.58 < 12.8 < 15.3 12.8

(Fy= 36.0)

DESIGN	EQUATION	FACTORS	VALUES	RESULT
M3 Moment (A-F1-1) without LTB	M < 1.00	Z = 0.13	M = 0.01 Mn = 0.50	0.03
M2 Moment (A-F1-1) without LTB	M 0.9Mn < 1.00	Z = 0.30	M = 0.01 Mn = 1.14	0.01
Deflection	defl. L / 240		defl = 0.06130	0.14
Axial Force (4-1),(4-2)	Pu < 1.00 0.90AgFcr	(kL/r)x =173 (kL/r)y =271 λc = 3.04	Pu = 0.59 Ag = 0.71 Fcr = 3.42	0.27
Lateral Torsional Buckling (5-6)	M < 1.00 0.9Mn < 1.00 Critical Segment from at: Long leg tip Segment End Momen		M = 0.01 Mn = 0.86 My = 0.91 Mob = 1.54	0.02
Combined Forces (compress.) (H1-1a)	Pu 8Mux 8Muy + + - + - + - + - + - + - + - + + - + + - + + - +	Pey = 2.76 Mnx = 0.86 (0.27 + 0.02 +	Mux = 0.01 Muy = 0.01 B1x = 1.10 B1y = 1.08 Mny = 0.57 0.03)	0.31





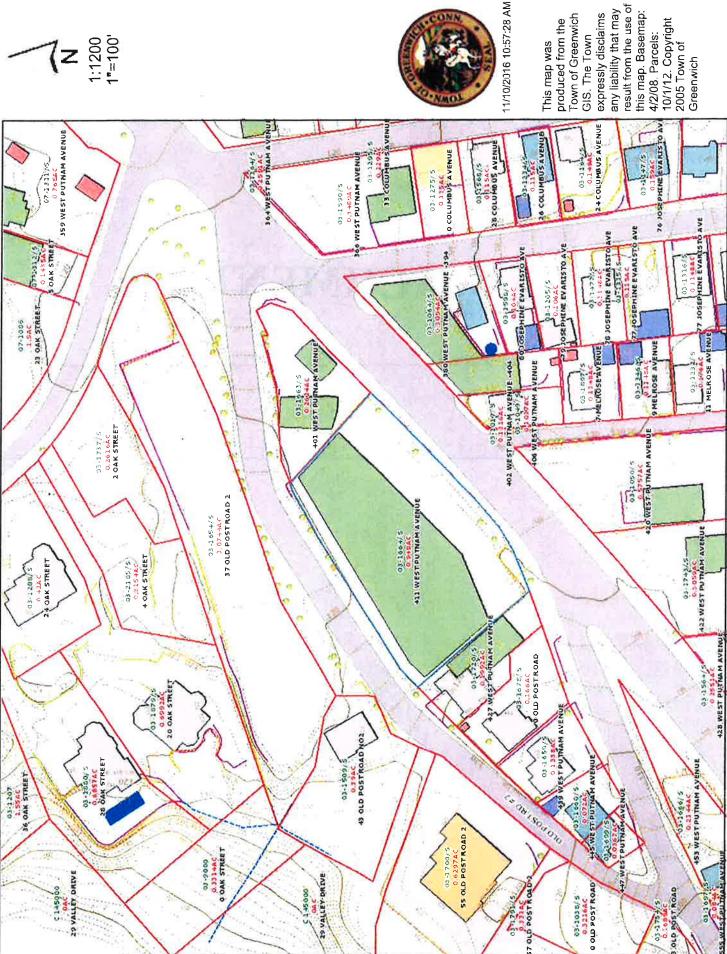








ATTACHMENT 4



1:1200 1=100'

result from the use of any liability that may this map. Basemap: expressly disclaims Town of Greenwich produced from the 4/2/08, Parcels: GIS. The Town This map was

10/1/12. Copyright 2005 Town of

ADMINISTRATIVE INFORMATION	OMNERSHIP		Tax ID 214/252			Printed 12/18/2019	2019 Card No. 1	
PARCEL NUMBER 03-1664/S	WESI FUINAM OWNER LLC 216 E 45TH ST STE 1200 NEW YORK, NY 10017	8	1)	TKANSFEK O	TRANSFER OF OWNERSHIP Date			
Sarent Parcel Number	LOT NO 32 & 33 WEST PUTNAM	AVE N-43		06/24/2016	411	PROPERTIES LLC		1
Property Address WEST PUTNAM AVENUE 0411				04/22/2005	FLOR	Z88 FOREST 307	LTD	
Veighborhood 2200 WEST PUTNAM				03/15/2002	SOFI	PUTNA 810,		
Property Class 212 General Office	CONTINEDCTA	FPC	TAT	09/08/1997 07/16/1991	WEST B WEST	PUTNAM ASSOC k/Pg: 2966, 220 PUTNAM ASSOC		
raxing District information Jurisdiction 57 Greenwich, CT		ノニコ			Bk/Pg:	2144, 140		
100			,	VALUATION RE	RECORD			
ion	Assessment Year 10/0	10/01/2015	10/01/2015	10/01/2016	10/01/2016	10/01/2017	10/01/2018	
	Reason for Change	m, Lord	2015 Finel	2016 Tist	2016 BAA	2017 T.ist	2018 List	
Section & Fig. 103 Routing Number 9073N0043	ION L			3347000	3347000	3347000	3347000	
	Market B 482	48274800 51621800	48274800 51621800	48274800 51621800	48274800 51621800	482/4800 51621800	48990300 52337300	
Site Description	IJ			2342900	2342900	2342900	2342900	
Topography:	(-) (-)	33792360 36135260	33792360 36135260	33792360 36135260	33792360 36135260	33792360 36135260	34293210 36636110	. , . ,
Public Utilities:			LAN	DATA AND	CALCULATIONS			
Street or Road:	Rating Measured	Table	Prod. Factor					
Neighborhood:	al E		Depth -		usted Extended		Influence	
Land Type	o l	Depth	Squa	Rate R	Rate Value		Factor	
Zoning: GB General Business 1 Primary Commercial			41294.88	81.05	81.05	3347000		
Legal Acres: 0.9480								
S: 03-1654/S 16: Sustain						dns	Supplemental Cards	
15: 15-0978; Tenant: Contrian Capital, \$188,000	000 elec & int alt						GO TAT OF	
18: BP16-3911, Tenant Fitout \$719,000 ST: 2016 GL, 2017 GL & 2018 GL A: Mexford Plaza		Permit Number Type		FilingDate Est. C	Cost Field Visit		TWY	
N: Supported by parking deck and garage on 03-1654/s 110 spaces	3-1654/s.	255			,			
LE: 3/15/02 vol 3810 pg 325 sale includes 03-1654/s. Recorded sp 3,494,750 reflects reduction for specific liability. Effective	-1654/s. Recorded sp of ability. Effective							
= \$23,607,000. Verified arm's length, 4705 s frmd arm's length w/ tot sp = \$32,257,000. In located value (88%).	sale w/ U3-1654/s ndicated sp is					იგ 24	Supplemental Cards TOTAL LAND VALUE	
							-	

3347000

Value

2019 List 3347000 45488800 48835800 2342900 31842160 34185060

10/01/2019

\$17250000 \$233500

\$23494750

\$51500000 \$32257000

of 1

3347000

PHYSICAL CHARACTERISTICS				Item Description	Units	Cost	Total P
Built-up					M & S Cost Database	base Date:	01/2015
MALLS B 1 2 0 Frame	21.9	239.1	F1 88	Base Cost Exterior Malls Heating & Cooling Sprinklers Basic Structure Cost Unfinished Basement Heating & Cooling Sprinklers Building Cost New Physical Depreciated Cost Rounded Total	92428 92428 18484 18484 18484 14022 74022 74022 92428 92428	216.05 119 27.64 34.04 282.02 20 20 117 20 1	19969069 5327552 629196 14480 26066297 439968 1493285 345534 32304984 77756 2 31527328
; AND AIR CONDITIONING B 1 2 74022 4621 4621 74022 4621 4621	148.5 77.9 Br R 13904	4 s Br 23107) 37011)	64 to 7	Total Exterior Depreciated Ex Total Before A Neighborhood A TOTAL VALUE	Total Exterior Features Value Depreciated Ext Features Total Before Adjustments Neighborhood Adjustment TOTAL VALUE	ω ∐ &	31527300 15763700 50 47291000
			03				
	SPECIAL REALIBES		COUNTY TO VOEWAITS	TMDDANZEMENTA			(LCM: 150.0
	Description Value ID	Stry Const Use Hgt Type	Year Eff Ba Grade Const Year Cond Ra	t- Adj Size or Computed ss Rate Area Value	ed PhysObsolMarket % Depr Depr Adj Comp	np Value	1
	C : Remod 2009 03	GENOFF 0.00 PENTWECH 0.00 1 I ELEVCOM 6.00 2E BRP 0.00	Exe 1973 2005 VG 0.00 Avg 1971 1995 GD 70.00 E Avg+ 1973 2000 VG 169000 Exe 2009 2009 AV 0.00	N 0.00 23107 N 105.00 2940 301 N 304200 2@ 0 600 N 0.00 0 80	308700 0 0 150 608400 0 0 100 806360 3 0 100	100 4729 100 30 100 60	47291000 308700 608400 782200
	Dat	Data Collector/Date	Appraiser/Date N	Neighborhood Supple TOTAL	Supplemental Cards TOTAL IMPROVEMENT VALUE	48	48990300

ATTACHMENT 5

	HOE.	TROG RU	Parcel Airlift										
	quadient	\$003.34 \$02.25,0024 \$0.010 \$0.025,0024 \$10.0510	Special Handling		STATION		, 50Z4 1	Sor					
e te of Receipt.	200		Fee	1330	STATE TARE		FEB 2 b 2024	90	18016				
Affix Stamp Here Postmark with Date of Receipt.	52604	(WHIPPONE)	Postage			50							
TOTAL NO. of Pieces Received at Post Office "	γ	employee)	Address (Name, Street, City, State, and ZIP Code [™])	ectman		Patrick LaRow, Director of Planning and Zoning Town of Greenwich		LC nue. Suite 125					
TOTAL NO. of Pieces Listed by Sender	W	Postmaster, per (name of receiving employee)	Adi (Name, Street, City,	Fred Camillo, First Selectman Town of Greenwich	101 Field Point Road Greenwich, CT 06830	Patrick LaRow, Director Town of Greenwich	101 Field Point Road Greenwich, CT 06830	West Putnam Owner LLC 411 West Putnam Avenue, Suite 125	Greenwich, CT 06830				
Name and Address of Sender	Kenneth C. Baldwin, Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103		USPS® Tracking Number Firm-specific Identifier	+		2.		3.		4.	5.	.9	