Centerline Communications
Ryan Clark
750 West Center Street, Floor 3
West Bridgewater, MA 02379
203-300-7310
rclark@clinellc.com

July 22, 2019

Members of the Siting Council
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Notice of Exempt Modification
1669 Thomaston Avenue Waterbury, CT 06704
Latitude: 41.58981
Longitude: -73.054228

T-Mobile Site#: CT11214D_L600

Dear Ms. Bachman:

T-Mobile currently maintains nine (3) antennas at the 130-foot level and (6) antennas at the 132-foot level of the existing 134-foot smokestack tower at 1669 Thomaston Avenue Waterbury, CT 06704. The 134-foot smokestack is owned by Landmark Dividend, LLC and the property is owned by 1669 Thomaston Ave, LLC. T-Mobile now intends to replace (3) three L600/L700 antennas at the 130-foot level. The existing antenna mounts can support the proposed antenna installations with the following modification: new Stiff-Arm Kits at Mount pipe location 4 @ 0'-9" about the Top Horizontal on all three sectors.

Planned Modifications:

Remove:
- (3) Coax Lines
- (3) Smart Bias-T's

Remove and Replace:
- (3) LNX 6515DS A1M Antennas **(Remove)** - (3) LNX- APXVAARR24 600/700 MHz Antennas **(Replace)**
- (3) RRUS11 B12 radios **(Remove at ground level) -** (3) RRU 4449 B71 B12 radios **(Replace at antenna level)**

Install New:
- (2) Hybrid Lines

Existing to Remain:
- (3) AIR32 B66A B2A 1900 MHz/2100 MHz
- (3) LNX- APX16DWV 1900 MHz
- (15) Coax Lines
- (6) TMA's
- (1) Hybrid Line

This facility was approved on November 23, 1998 by the City of Waterbury BPD/ZD (File No. 87500). Approved by the City of Waterbury to install antenna to the existing smokestack with no conditions. Please see attached documentation.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies§ 16- SOj-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.SA. § 16-SOj-73, a copy of this letter is being sent to Mayor Neil M. O'Leary, City of Waterbury as chief elected official, Landmark Dividend, LLC as tower owner, 1669 Thomaston Ave, LLC as property owner, and the City of Waterbury Planning Department.

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

1. The proposed modifications will not result in an increase in the height of the existing structure.

2. The proposed modifications 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 operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard.

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

6. The existing structure and its foundation can support the proposed loading.

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

Respectfully submitted,

Ryan Clark

Ryan Clark
Mobile: 203-300-7310
Fax: 508-819-3017
Office: 117 Carol Street Danbury, CT 06810
Email: rclark@clinellc.com

Attachments

cc: Mayor Neil M. O'Leary, City of Waterbury as chief elected official
Landmark Dividend, LLC as tower owner
1669 Thomaston Ave, LLC as property owner
City of Waterbury Planning Department, Clifford C. Brammer III, Land Use Officer

Exhibit A

Original Facility Approval

BLDGAPP6

#02-128

6/25/02 .1225 PM

THE CITY OF WATERBURY

DEPARTMENT OF INSPECTIONS

235 Grand Street, Waterbury, CT 06702

(203) 574-6832

PERMIT No. 2208D

Application for Building Permit

PLEASE PRINT LEGIBLY (Shaded areas for Office use only!) Date: 6/25, 2002

Applicant:

Company Name: URS Corporation AES

Address: 795 Brook Street, Bldg 5

City: Rocky Hill State: CT Zip: 06067

License No.

Phone No. 860-529-8882

Location of Work:

Address: 1669 Thomaston Avenue

Waterbury, CT 06067

Location Owner:

Owner's Name: John Fey/Brownstein Realty

Address: 1669 Thomaston Ave.

City: Waterbury State: CT

I hereby certify that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as an authorized agent and we agree to conform to all applicable laws of this jurisdiction.

Architect:

Architect's Name: Ignacio C. Artaiz

Address: URS Corp, 795 Brook St., Bldg 5

City: Rocky Hill State: CT

Print Name: Peter H. Maxwell Signature:

(must check one) ☐ Proposed Use ☑ Existing Use Floodplain? ○ Yes ○ No If yes, attach form.

☐ Commercial ☐ Restaurant ☐ Residential ☐ Temp. Structure

☐ Industrial ☐ Hospital ☑ Other telecommunication Plan(s) on File? ☑ Yes ○ No

What are you building? Sprint PCS—telecommunications facility: antennes on

(Please describe in detail) existing smokestack, equipment cabinet platform on roof

Est. Cost $ 82,000 Start Work Date: Zone: continued on back →

REQUIRED?	Department		REQUIRED?	Department	
☒ Yes ○ No	ZONING		○ Yes ○ No	HEALTH	
○ Yes ○ No	ENG'G		○ Yes ○ No	TRAFF	
○ Yes ○ No	CITY PL		☒ Yes ○ No	DEL. TAX (allow 5 days)	
☒ Yes ○ No	FIR MSH	7-11-02 DFM	○ Yes ○ No	WATER	
○ Yes ○ No	IN/ WET		○ Yes ○ No	WASTE	

FEE: $ 1240.00

CofO: $ 15.00

Ed. Fee: $ 13.12

TOTAL: $ 1268.12

Zoning Fee 15.00

$ 1283.12

Fine: $

Date Issued: 7-12-02

Issued by:

Title:

SEAL OF THE CITY OF WATERBURY CONN.

ck # 9689 - 9733

THE CITY OF WATERBURY

DEPARTMENT OF INSPECTIONS

Certificate No. 28307

Certificate of Use and Occupancy

Date: _____

This Certificate Must be Signed Before Building Can be Occupied.

This is to certify that address 1669 Thomaston Ave may be used for

telecommunication facility and is in compliance

with the provisions of the State of Connecticut Basic Building Code.

Use Group (in accordance with provisions of Article 3): _____

Fire Grading (as defined in Table 902): _____

Maximum Live Load (as prescribed in Table 1106, p.s.f.): 1st _____ 2nd _____ 3rd _____

Permit No. 2208D Date: 7-12-02

Special Building Permit Stipulations and Conditions:

_____

_____

_____
Building Official

REQUIRED?		Department
~~O~~ Yes	O No	ZONING: _____
O Yes	~~O~~ No	ENGINEERING: _____
O Yes	~~O~~ No	CITY PLAN: _____
~~O~~ Yes	O No	FIRE MARSHAL: _____
O Yes	~~O~~ No	INLAND WETLANDS: _____
O Yes	~~O~~ No	HEALTH DEPT: _____
O Yes	~~O~~ No	TRAFFIC DEPT: _____
O Yes	~~O~~ No	DELINQUENT TAX: _____
O Yes	~~O~~ No	WATER DEPT: _____
O Yes	~~O~~ No	WASTE DISPOSAL: _____

THE CITY OF WATERBURY
MEMORANDUM

DATE: JUNE 26,2002

FROM: KAREN MULCHAY, TAX COLLECTOR

TO: DEPT. OF BUILDING INSPECTIONS

SUBJECT: TAX CLEARANCE

AS OF THIS DATE, THE RECORDS IN THE TAX COLLECTOR'S OFFICE INDICATES THAT THE FOLLOWING IS NOT DELINQUENT.

BROWNSTEIN REALTY
1669 THOMASTON AVE.
WATERBURY, CT

FOR: 1669 THOMASTON AVE

IF YOU HAVE ANY FURTHER QUESTIONS, DO NOT HESITATE TO CALL THE OFFICE AT 574-6935.

VERY TRULY YOURS,

KAREN MULCHAY
TAX COLLECTOR

KM/dk

STATE OF CONNECTICUT

DEPARTMENT OF CONSUMER PROTECTION

165 CAPITOL AVE • HARTFORD CT 06106-1630

Be it known that

CONSTRUCTION SERVICES OF BRANFORD

63-3 NORTH BRANFORD ROAD

BRANFORD, CT 06405

Is certified by the Department of Consumer Protection as a registered

MAJOR CONTRACTOR

Registration Number: MCO.900576

Effective Date: 07/01/2001
Expiration Date: 06/30/2002

James T. Fleming, Commissioner

ACORD CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YY) 02/12/2002

PRODUCER 203-985-9034
ABBATELLO INSURANCE AGENCY
2ND FLOOR
100 BROADWAY
NORTH HAVEN, CT 06473

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURERS AFFORDING COVERAGE

INSURED
CONSTRUCTION SERVICES OF BRANFORD, LLC
63-3 NORTH BRANFORD RD.
BRANFORD, CT 06405

INSURER A: UNITED NATIONAL
INSURER B: TRAVELERS
INSURER C: CNA
INSURER D: ROYAL
INSURER E:

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
A	GENERAL LIABILITY X COMMERCIAL GENERAL LIABILITY CLAIMS MADE X OCCUR X GENERAL AGGREG. GEN'L AGGREGATE LIMIT APPLIES PER: POLICY X PRO-JECT LOC	L7156823	1/04/02	1/04/03	EACH OCCURRENCE FIRE DAMAGE (Any one fire) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 50,000 $ 5,000 $ 1,000,000 $ 2,000,000 $ 2,000,000
B	AUTOMOBILE LIABILITY X ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS HIRED AUTOS NON-OWNED AUTOS	B101946A234	12/13/01	12/13/02	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $
	GARAGE LIABILITY ANY AUTO				AUTO ONLY - EA ACCIDENT OTHER THAN AUTO ONLY: EA ACC AGG	$ $ $
D	EXCESS LIABILITY X OCCUR CLAIMS MADE DEDUCTIBLE X RETENTION $ 10,000	PHN016837	1/04/02	1/04/03	EACH OCCURRENCE AGGREGATE	$ 10,000,000 $ 10,000,000
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY	6858UB717X471	02/07/02	02/07/03	WC STATU-TORY LIMITS X OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 1,000,000 $ 1,000,000 $ 1,000,000
B	OTHER PROPERTY OF OTHERS	QT-660-929X6931 ALL RISK BASIS	12/13/01	12/13/02	$2,000,000	

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/EXCLUSIONS ADDED BY ENDORSEMENT/SPECIAL PROVISIONS
$500 DEDUCTIBLE FOR COMPREHENSIVE & COLLISION

CERTIFICATE HOLDER | Y | ADDITIONAL INSURED; INSURER LETTER: X

SPRINT SPECTRUM, LP
1 INTERNATIONAL BLVD., SUITE 800
MAHWAH, NJ 07495

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

ACORD 25-S (7/97) ©ACORD CORPORATION 1988

BLDGAPP6

6/25/02 .1225 PM

THE CITY OF WATERBURY

DEPARTMENT OF INSPECTIONS

235 Grand Street, Waterbury, CT 06702

(203) 574-6832

PERMIT No. 2208-D

Application for Building Permit

PLEASE PRINT LEGIBLY (Shaded areas for Office use only!) Date: 6/25, 2002

Applicant:

Company Name: URS Corporation AES

Address: 795 Brook Street, Bldg 5

City: Rocky Hill State: CT Zip: 06067

License No. _____

Phone No. 860-529-6682

Location of Work:

Address: 1669 Thomaston Avenue

Waterbury, CT 06067

Location Owner:

Owner's Name: John Fey/Brownstein Realty

Address: 1669 Thomaston Ave.

City: Waterbury State: CT

I hereby certify that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as an authorized agent and we agree to conform to all applicable laws of this jurisdiction.

Architect:

Architect's Name: Ignacio C. Artaiz

Address: URS Corp, 795 Brook St, Bldg 5

City: Rocky Hill State: CT

Print Name: Peter H. Maxwell Signature: [signature]

(must check one) ☐ **Proposed Use** ☑ **Existing Use** **Floodplain?** ○ Yes ○ No If yes, attach form.

☐ Commercial ☐ Restaurant ☐ Residential ☐ Temp. Structure

☐ Industrial ☐ Hospital ☑ Other telecommunications **Plan(s) on File?** ○ Yes ○ No

What are you building? unmanned telecommunications facility: antennas on existing smokestack, equipment cabinet platform on roof

(Please describe in detail)

Est. Cost $ 82,000 Start Work Date: _____ Zone: _____ continued on back →

REQUIRED?	Department		REQUIRED?	Department	
○ Yes ○ No	ZONING		○ Yes ○ No	HEALTH	
○ Yes ○ No	ENG'G		○ Yes ○ No	TRAFF	
○ Yes ○ No	CITY PL		○ Yes ○ No	DEL. TAX (allow 5 days)	
○ Yes ○ No	FIR MSH		○ Yes ○ No	WATER	
○ Yes ○ No	IN/ WET		○ Yes ○ No	WASTE	

FEE: $_____ Fine: $_____

CofO: $_____ Date Issued: _____

Ed. Fee: $_____ Issued by: _____

TOTAL: $_____ Title: _____

SEAL OF THE CITY OF WATERBURY CONN.

URS

June 19, 2002

Mr. Brett Phair
Sprint PCS
1 International Boulevard, 8th floor
Mahwah, New Jersey 07492

Reference: **Proposed Telecommunications Facility**
Sprint PCS Site No.: CT43XC845
1669 Thomaston Avenue
Waterbury, Connecticut
F300002072.33

Dear Mr. Phair,

URS Corporation AES has been retained by Sprint PCS to provide contract documents for the installation of a telecommunications facility at 1669 Thomaston Avenue in Waterbury, Connecticut. The facility will consist of antennas to be mounted to the existing smokestack at the facility and equipment to be mounted on the roof of an existing structure.

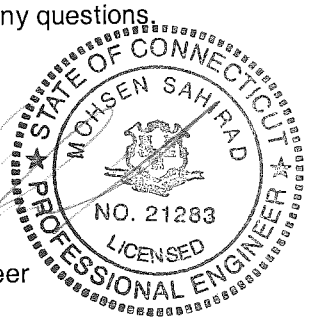
The equipment will be installed on a steel platform designed to support 11,000 lbs of equipment cabinets. The steel platform is designed to be supported on the existing parapet wall supported by the bearing wall located directly below the parapet wall at one side and mounted to the existing masonry bearing wall on the other side. Construction documents have been prepared by URS for the installation of the proposed Sprint PCS facility. See drawings S-1 through S-3 dated 06/18/02 for structural details of the proposed steel platform.

The purpose of this letter is certify that the existing building structure supporting the Sprint PCS steel platform has sufficient structural capacity to support the proposed Sprint PCS installation. This analysis and design are based on requirements of the Connecticut State Building Code dated 1999 and the latest supplement and amendments.

Please call if there are any questions.

Sincerely,

URS Corporation AES



Mohsen Sahirad, P.E.
Senior Structural Engineer

cc: A. Abadjian - URS
I. Artaiz, AIA - URS
D. Roberts, AIA - URS
CF/Book

URS Corporation
500 Enterprise Drive, Suite 3B
Rocky Hill, CT 06067
Tel: 860.529.8882
Fax: 860.529.3991

URS

SITE VISIT REPORT #1

CLIENT NAME:	Sprint PCS
SITE NAME:	Waterbury
SITE NUMBER:	CT43XC845
SITE ADDRESS:	1669 Thomaston Avenue Waterbury, CT
SITE TYPE:	Rooftop / chimney-mounted antennas
SITE VISIT TYPE:	Structural Inspection
PROJECT NO.:	F300002072.33 / F07
DATE OF VISIT:	9/26/02
ATTENDEES:	Ron Vaughn, McPhee Electric (ME) Chris Taroli, Eastern Inc. (EI) Peter Maxwell, URS Corp. (URS)
WEATHER:	Light rain, 75º at 1:00
PREPARED BY:	Peter Maxwell
PROGRESS / ACTIVITIES:	Structural steel attachment inspection

Steel attachment to masonry was in progress. The following was noted:

1. Beam: W8 on parapet was bolted at location as shown on documents. Required grout space was provided.
2. Mounting plates: Wall attachment was per CD's, with flanges prepared for beam bolting. Beam locations have been raised to level with beam height at parapet.
3. Bolting: All locations encountered voids, and therefore were attached using Hilti HY-150 system.

ME will advise URS when masonry preparation is completed for re-pointing inspection.

cc: G. Graveline, City of Waterbury 203-574-6854
L. Thoman, Sprint PCS 201-684-4170
D. Barker, McPhee Electric 674-9385
A. Abadjian, URS Corp.
DR, NA, MS, CF. Book

URS Corporation
500 Enterprise Drive, Suite 3B
Rocky Hill, CT 06067
Tel: 860.529.8882
Fax: 860.529.3991

THE CITY OF WATERBURY
DEPARTMENT OF INSPECTIONS

235 Grand Street, Waterbury, CT 06702
(203) 574-6832

PERMIT No. 5328D

Application for Building Permit

PLEASE PRINT LEGIBLY (Shaded areas for Office use only!) Date: _____

Applicant:

Company Name: T-Mobile Inc
Address: 100 Tolles Street
City/State/Zip: Bloomfield, CT 06232

License No. _____
Phone No. 860-014-4538

Location of Work:

Address: 1669 Thomaston Avenue
Waterbury, CT 06710

Location Owner:

Owner's Name: Brownstein Realty
Address: 1669 Thomaston Avenue
City/State: Waterbury, CT 06704

Architect:

Architect's Name: _____
Address: _____
City/State: _____

I hereby certify that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as an authorized agent and we agree to conform to all applicable laws of this jurisdiction.

Print Name: MARIE R BURBANK Signature: Marie R Burbank

(must check one) ☐ Proposed Use ☒ Existing Use Floodplain? ○ Yes ⊗ No If yes, attach form

☐ Commercial ☐ Restaurant ☐ Residential ☐ Temp. Structure
☐ Industrial ☐ Hospital ☒ Other Telecommunication site Plan(s) on File? ⊗ Yes ○ No

What are you building? adding (3) antennae and cabinet at existing site
(Please describe in detail) _____

Est. Cost $ 8,000 Start Work Date: 7/03 Zone: IG

continued on back >

REQUIRED?	Department		REQUIRED?	Department	
⊗ Yes ○ No	ZONING	Lil Gradias	○ Yes ○ No	HEALTH	
○ Yes ○ No	ENG'G		○ Yes ○ No	TRAFF	
○ Yes ○ No	CITY PL		⊗ Yes ○ No	DEL. TAX (allow 5 days)	
⊗ Yes ○ No	FIR MSH	7-1-03	○ Yes ○ No	WATER	
○ Yes ○ No	IN/ WET		○ Yes ○ No	WASTE	

Permit Fee:	$ 130.00	Date Issued:	7/17/03
State Ed Fee:	$ 2.50		
CO:	$ 15.00		
Zoning Fee:	$ 15.00	Issued by:	
Fine:	$		
Total:	$ 161.25	Title:	

SEAL OF THE CITY OF WATERBURY CONN.

THE CITY OF WATERBURY

DEPARTMENT OF INSPECTIONS

Certificate No. 29274

Certificate of Use and Occupancy

Date: _____

This Certificate Must be Signed Before Building Can be Occupied.

This is to certify that address 1669 Thomaston Ave may be used for 3 antennaes and cabinets and is in compliance with the provisions of the State of Connecticut Basic Building Code.

Use Group (in accordance with provisions of Article 3): _____

Fire Grading (as defined in Table 902): _____

Maximum Live Load (as prescribed in Table 1106, p.s.f.): 1st _____ 2nd _____ 3rd _____

Permit No. 3323D Date: 7-17-03

Special Building Permit Stipulations and Conditions:

_____

_____

_____
Building Official

REQUIRED?		Department
~~O Yes~~	O No	ZONING: _____
O Yes	~~O No~~	ENGINEERING: _____
O Yes	~~O No~~	CITY PLAN: _____
~~O Yes~~	O No	FIRE MARSHAL: _____
O Yes	~~O No~~	INLAND WETLANDS: _____
O Yes	~~O No~~	HEALTH DEPT: _____
O Yes	~~O No~~	TRAFFIC DEPT: _____
O Yes	~~O No~~	DELINQUENT TAX: _____
O Yes	~~O No~~	WATER DEPT: _____
O Yes	~~O No~~	WASTE DISPOSAL: _____

ACORD CERTIFICATE OF LIABILITY INSURANCE

CSR MC COSTR-1

DATE (MM/DD/YY) 04/07/03

PRODUCER

Newbridge Coverage Corp.
1666 Newbridge Road
North Bellmore NY 11710
Phone:516-781-9000 Fax:516-781-9172

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURERS AFFORDING COVERAGE

INSURED

Costrotta Construction Managem
3188 Lawson Blvd
Oceanside NY 11572

INSURER A: First Speciality InsuranceCorp
INSURER B: Hartford Insurance Co.
INSURER C: Firemans Fund
INSURER D: American International Group
INSURER E:

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
A	GENERAL LIABILITY X COMMERCIAL GENERAL LIABILITY CLAIMS MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY PRO-JECT LOC	PGL76691	11/15/02	11/15/03	EACH OCCURRENCE FIRE DAMAGE (Any one fire) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 100,000 $ $ 1,000,000 $ 2,000,000 $ 2,000,000
B	AUTOMOBILE LIABILITY X ANY AUTO ALL OWNED AUTOS SCHEDULED AUTOS HIRED AUTOS NON-OWNED AUTOS	12URCU05566	11/20/02	11/20/03	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $
	GARAGE LIABILITY ANY AUTO				AUTO ONLY - EA ACCIDENT OTHER THAN AUTO ONLY: EA ACC AGG	$ $ $
D	EXCESS LIABILITY X OCCUR CLAIMS MADE DEDUCTIBLE RETENTION $	EXU3717138	11/15/02	11/15/03	EACH OCCURRENCE AGGREGATE	$ 10,000,000 $ 10,000,000 $ $ $
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY	12WBCKR0681	09/05/02	09/05/03	WC STATU-TORY LIMITS / OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 1000000 $ 1000000 $ 1000000
C	OTHER Builders Risk	MXI-97061576	02/26/03	02/26/04	Property	300,000

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/EXCLUSIONS ADDED BY ENDORSEMENT/SPECIAL PROVISIONS

Additional Insured: LIN Television, Hamden, CT

CERTIFICATE HOLDER | Y | ADDITIONAL INSURED; INSURER LETTER: A

VOICEWI

VoiceStream Wireless
100 Filley Street
Bloomfield CT 06002

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

Anthony Capone

ACORD 25-S (7/97)

THE CITY OF WATERBURY
MEMORANDUM

DATE: JULY 1, 2003

FROM: KAREN MULCAHY, TAX COLLECTOR

TO: DEPT. OF BUILDING INSPECTIONS

SUBJECT: TAX CLEARANCE

AS OF THIS DATE, THE RECORDS IN THE TAX COLLECTOR'S OFFICE INDICATES THAT THE FOLLOWING IS NOT DELINQUENT.

BROWNSTEIN REALTY, LLC
1669 THOMASTON AVE
WATERBURY, CT 06704

FOR: 1669 THOMASTON AVE.

IF YOU HAVE ANY FURTHER QUESTIONS, DO NOT HESITATE TO CALL THE OFFICE AT 574-6935.

VERY TRULY YOURS,

KAREN MULCAHY
TAX COLLECTOR

KM/ps

BLDGAPP5

THE CITY OF WATERBURY
DEPARTMENT OF INSPECTIONS

235 Grand Street, Waterbury, CT 06702
(203) 574-6832

PERMIT No. 97-0466

Application for Building Permit

PLEASE PRINT LEGIBLY (Shaded areas for Office use only!) Date: Nov 27, 1998

Applicant: Omnipoint Communications Inc.

Company Name: Conti Enterprises, Inc.
Address: 3001 South Clinton Avenue
City: South Plainfield State: NJ Zip: 07080

License No. 00900869
Phone No. (908)561-8005

Location of Work:
Address: 1669 Thomaston Ave.
Waterbury, CT

Location Owner:
Owner's Name: Jack Browstein Brownstein Realty L.L.C.
Address: 1669 Thomaston Avenue
City: Waterbury State: CT

I hereby certify that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as an authorized agent and we agree to conform to all applicable laws of this jurisdiction.

Architect:
Architect's Name: Arcnet Architects, Inc
Address: 670 North Beers Street Building 2
City: Holmdel State: NJ

Print Name: Scott Gustafson **Signature:** Scott E Gustafson

(must check one) ☒ **Proposed Use** ☐ **Existing Use** **Floodplain?** ○ Yes ○ No If yes, attach form.

☒ Commercial ☐ Restaurant ☐ Residential ☐ Temp. Structure
☐ Industrial ☐ Hospital ☐ Other _____ **Plan(s) on File?** ○ Yes ○ No

What are you building? Wireless telecommunication antennas attached to exisiting
(Please describe in detail) 150' Smokestack with related equipment cabinet at base.

Est. Cost $ 42,000 Start Work Date: _____ Zone: IG

continued on back →

REQUIRED?	Department		REQUIRED?	Department	
☒ Yes ○ No	ZONING	Vincent Viggiano 11-23-98	○ Yes ○ No	HEALTH	
○ Yes ○ No	ENG'G		○ Yes ○ No	TRAFF	
○ Yes ○ No	CITY PL		☒ Yes ○ No	DEL. TAX (allow 5 days)	
○ Yes ○ No	FIR MSH		○ Yes ○ No	WATER	
○ Yes ○ No	IN/ WET		○ Yes ○ No	WASTE	

FEE: $ 343.00 **Fine:** $ _____
CofO: $ 5.00 **Issued by:** _____
TOTAL: $ 348.00 **Title:** _____

SEAL OF THE CITY OF WATERBURY CONN.

THE CITY OF WATERBURY

MEMORANDUM

From: Debra DuBois, Delinquent Tax Collector **Date:** Nov. 20, 1998

To: Department of Building Inspections

Subject: Tax Clearance

As of this date, the records in the Tax Collector's Office indicate that the following is not delinquent.

Brownstein Realty LLC
1669 Thomaston Avenue
Waterbury, CT

FOR: 1669 Thomaston Ave.

If you have any further questions, do not hesitate to call me at 574-6935.

Very truly yours,

Debra L. DuBois
Delinquent Tax Collector
C.C.M.C.

DLD/scm

Omnipoint Communications Inc.
25 Van Zant St, 4th Floor, Ste 18E
East Norwalk, CT 06855

OMNIPOINT®
OMNIPOINT COMMUNICATIONS SERVICES

October 29, 1998

Town of Waterbury
Planning and Zoning

To whom it may concern:

Omnipoint Communications is developing a system to provide PCS wireless technology to the state of Connecticut. The design of our system is based on what is known as a grid, in which each antenna site is spaced in a non-uniform pattern. Prior to obtaining any specific sites, this grid is designed by taking into consideration the topography of the land, population density, expected use levels, and, whenever possible, the location of existing structures. Next, a search "ring" is identified for each antenna site. The technology that Omnipoint is employing to develop this PCS system allows for some flexibility in base station placement but generally only within a search ring that is at most one-half mile in diameter. Specific sites are then obtained through the zoning and leasing processes. In order to maintain contiguous coverage between cell sites, as sites around a particular area become fixed, flexibility is lost for shifting sites in the remaining rings.

The candidate at 1669 Thomaston Avenue, Waterbury, CT has been selected to meet our coverage objective for adjacent portion of Route 8, Thomaston Avenue, the Bucks Hill and Waterville sections of Waterbury. This candidate fulfills our coverage objectives. We consider it important to provide a high quality service in Waterbury. High quality means; it is our goal to provide a dependable radio signal level allowing successful call completion and handover between adjacent sites. The location of a site with respect to the adjacent sites is of prime importance in the design of our system. Since the system works in continuity, the location of the sites are chosen such that they handoff to adjacent sites successfully. The candidate at 1669 Thomaston Avenue, Waterbury. will handover to adjacent northeast site in the 300 block of Garden Circle, Waterbury, the southeast site in the 100 block Todd Hollow Road, Waterbury, the southwest site at 1021 Straits Turnpike, Middlebury and the southern site at 65 Benedict Street, Waterbury.

Two other candidates considered for this ring, 1359 Thomaston Avenue, Waterbury and 266 Brookside Road, Waterbury. The owner of the candidate at 1359 Thomaston Avenue, Waterbury was not interested in negotiating with Omnipoint and the candidate at 266 Brookside Road, Waterbury would not provide adequate coverage for the area. Thus, the two candidates proved to not be viable options.

The cabinet chosen for the site is manufactured by Nortel which is a leader in the Telecommunication industry. The model number for the cabinet is S8000. This cabinet will support the tri-sectored antenna configuration . The dimensions of the cabinet (in inches) are 63"H X 53"W X 25"D . The cabinet will be located on the roof close to the penthouse and will be visible only from the roof of adjoining properties. The antenna chosen for this site is manufactured by EMS Wireless with model number RR90-17-02DP for each sector of the three. The dimensions for the antenna (in inches) are 56.0"L X 8.0"W X 2.75"D . The antenna cluster will consist of three sectors and there is one directional antenna proposed per sector to be used for both transmit and receive. These are high gain directional antennas which provide maximum coverage and increase the capacity of a site by three times. Since each antenna will

be transmitting a unique frequency, we can get three channels out of one site, whereas Omni-directional antennas would provide considerably less coverage than the proposed directional panel antennas. Moreover , Omni-directional antennas cannot resolve capacity issues since they transmit the same frequency in all directions (which means our capacity is reduced to one third). The other technological alternative would be the Micro cell design. However the antennas used for this design provide coverage to very small areas and would not at all be feasible to meet our coverage objective for this site.

The maximum level of RF energy associated with simultaneous and continuous operations of all transmitters will be at least 2000 times below the exposure limits of ANSI, IEEE, NCRP set at 1000 microwatts per square centimeter ($\mu W/cm^2$) and the limits of all states that regulate RF exposure. The emissions from Omnipoint Communications Inc. transmitters will be in the non-ionizing 1930-1945 Mhz frequency spectrum.

Please contact me if I can be of any further assistance.

Sincerely,

Michael Walker
Radio Frequency Engineer
on behalf of Omnipoint Communications

BROWNSTEIN REALTY, L.L.C.

1669 THOMASTON AVENUE
WATERBURY, CONNECTICUT 06704
TELEPHONE: (203) 574-3811 FAX: (203) 575-0169

October 28, 1998

City of Waterbury Zoning Department
235 Grand Street
Waterbury, Connecticut 06702

To Whom It May Concern:

This letter is to advise you that Omnipoint Communications, Inc. has my permission to apply to the City of Waterbury for any permits necessary to install their communications equipment on the smokestack located on my property at 1669 Thomaston Avenue.

Sincerely,

Jack Brownstein

CERTOFO1

THE CITY OF WATERBURY

DEPARTMENT OF INSPECTIONS

Certificate No. 25158

Certificate of Use and Occupancy

Date: 11-12, 1999

This Certificate Must be Signed Before Building Can be Occupied.

This is to certify that address 1669 Thomaston Avenue may be used for wireless telecommunication antennas w/ equip. cab. and is in compliance with the provisions of the State of Connecticut Basic Building Code.

Use Group (in accordance with provisions of Article 3): _____

Fire Grading (as defined in Table 902): _____

Maximum Live Load (as prescribed in Table 1106, **p.s.f.**): 1st _____ 2nd _____ 3rd _____

Permit No. 8750C Date: 11/23/98

Special Building Permit Stipulations and Conditions:

_____

_____

Building Official

REQUIRED?		Department
✓ Yes	○ No	ZONING: Vincent Veggiano 11-10-99
○ Yes	✓ No	ENGINEERING:
○ Yes	✓ No	CITY PLAN:
○ Yes	✓ No	FIRE MARSHAL:
○ Yes	✓ No	INLAND WETLANDS:
○ Yes	✓ No	HEALTH DEPT:
○ Yes	✓ No	TRAFFIC DEPT:
○ Yes	✓ No	DELINQUENT TAX:
○ Yes	✓ No	WATER DEPT:
○ Yes	✓ No	WASTE DISPOSAL:

Exhibit B

Property Card

s

The Assessor's office is responsible for the maintenance of records on the ownership of properties. Assessments are computed at 70% of the estimated market value of real property at the time of the last revaluation which was 2017.

CITY OF WATERBURY

Information on the Property Records for the Municipality of Waterbury was last updated on 5/31/2019.

Parcel Information

Location:	1669 THOMASTON AVE	Property Use:	Industrial	Primary Use:	Light Industrial
Unique ID:	007409730005	Map Block Lot:	0074-0973-0005	Acres:	4.00
490 Acres:	0.00	Zone:	IL	Volume / Page:	7379/ 24
Developers Map / Lot:		Census:			

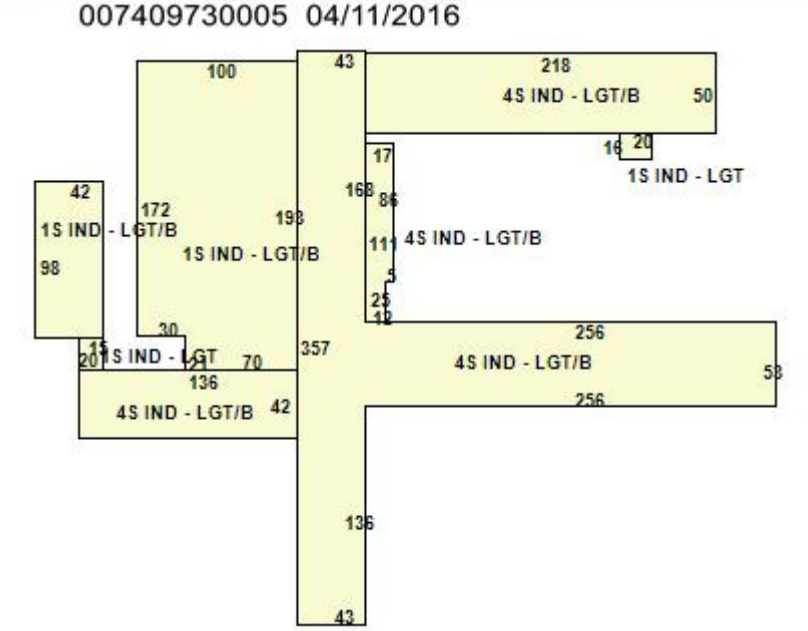
Value Information

	Appraised Value	Assessed Value
Land	554,880	388,420
Buildings	387,571	271,300
Detached Outbuildings	0	0
Total	942,451	659,720

Owner's Information

Owner's Data
1669 THOMASTON AVENUE LLC 1669 THOMASTON AVE WATERBURY CT 06704

Building 1



Category:	Industrial	Use:	Light Industrial	GLA:	212,578
Stories:	4.00	Construction:	Average	Year Built:	1900
Heating:	Forced Air	Fuel:		Cooling Percent:	0%

Siding:	Brick, Solid	Roof Material:		Beds/Units:	0

Special Features

Passenger Elevator	1
Passenger Elevator	1
Sprinklers	212578

Attached Components

Owner History - Sales

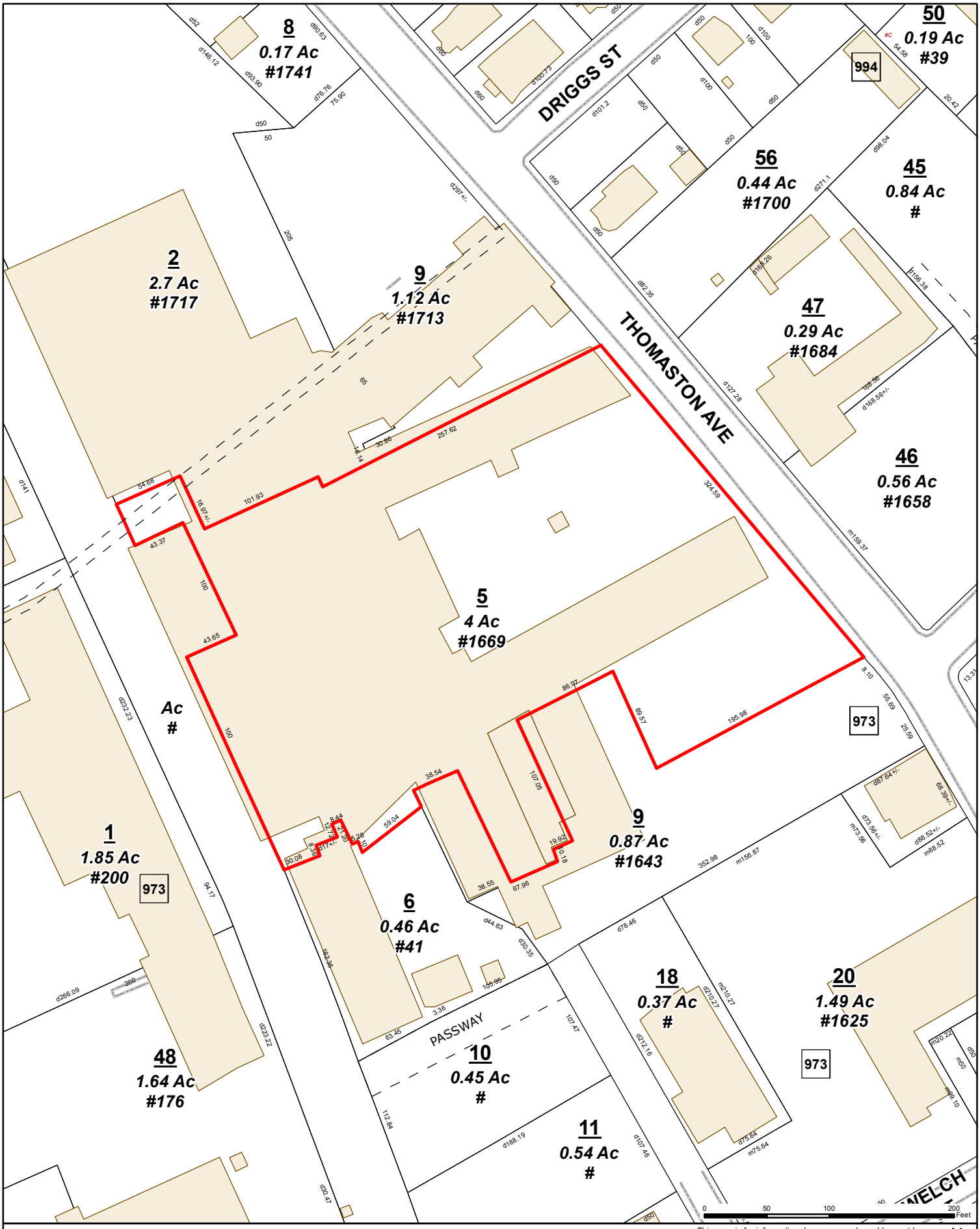
Owner Name	Volume	Page	Sale Date	Deed Type	Valid Sale	Sale Price
1669 THOMASTON AVENUE LLC	7379	24	08/07/2015	Additional Parcel	No	$300,000

Building Permits

Permit Number	Permit Type	Date Opened	Date Closed	Permit Status	Reason
2018.2628	Electrical	09/19/2018		Open Permit	INSTALL A 15KW DIESEL DC GENERATOR TO BACKUP T-MOBILE EXISTING CABINET -NEW 4'X8' CONCRETE PAD ADDE
2016.2448	Electrical	08/19/2016		Closed	INSTALL 3 NEW ANTENNAS & RRU'S
2015.1093	Electrical	05/11/2015		Closed	INSTALL METER FOR SPRINT
2015.0143	Electrical	01/15/2015		Closed	REPLACE 3 EXISTING ANTENNAS ADD 3 RRU"S ON EXISTING STEEL PLATFORM
2015.0202	Electrical	01/15/2015		Closed	INTALL GROUNDING ELECTRO CONDUCTORS FOR SERVICE MARK AND PLACARD S
2014.1915	Electrical	07/21/2014		Expired Permit	UPGRADE, REPLACE & WIRE EQUIPMENT / TELECOMMUNICATION SITE

Permit Number	Permit Type	Date Opened	Date Closed	Permit Status	Reason
2012.2302	Comm Renovations	08/31/2012		Closed	BATHROOM/DEMISING WALL

Information Published With Permission From The Assessor



City of Waterbury
Public Works Department

MBL: **0074-0973-0005**

ADDRESS: 1669 THOMASTON AVE

N

Exhibit C

Construction Drawings

T···Mobile

SITE NAME:	**WATERBURY/RT 8_1**
SITE NUMBER:	**CT11214D**
SITE TYPE:	**SMOKESTACK**
PROJECT TYPE:	**L600**
JURISDICTION:	**CITY OF WATERBURY**
SITE ADDRESS:	**1669 THOMASTON AVE WATERBURY, CT 06704**

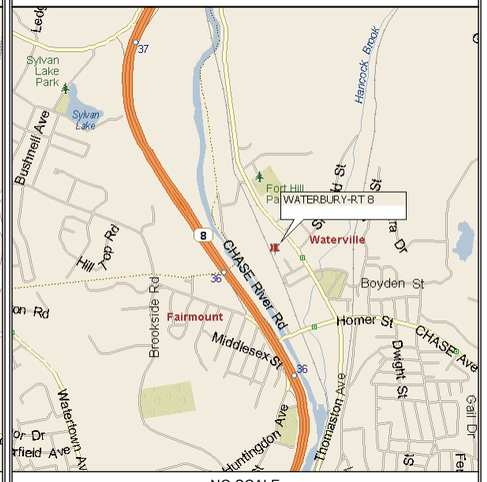
PROJECT SUMMARY

SITE NAME:	WATERBURY/RT 8_1
SITE NUMBER:	CT11214D
SITE ADDRESS:	1669 THOMASTON AVE WATERBURY, CT 06704
COUNTY:	NEW HAVEN COUNTY
JURISDICTION:	CITY OF WATERBURY
NAD83	
LATITUDE:	41.589810° N
LONGITUDE:	73.054228° W
GROUND ELEVATION:	286' AMSL
CUSTOMER/APPLICANT:	T-MOBILE 35 GRIFFIN ROAD SOUTH BLOOMFIELD, CT 06002 (913) 402-6500
OCCUPANCY TYPE:	UNMANNED
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION

AREA MAP

NO SCALE

LOCATION MAP



NO SCALE

DRAWING INDEX

SHEET #	SHEET DESCRIPTION	REV. #
T-1	TITLE SHEET	0
SP-1	SPECIFICATIONS	0
SP-2	SPECIFICATIONS	0
A-1	OVERALL SITE PLAN	0
A-2	ENLARGED SITE PLANS	0
A-3	BUILDING ELEVATIONS	0
A-4	ANTENNA LAYOUTS	0
A-5	ANTENNA DETAIL AND SPECIFICATIONS	0
A-6	ANTENNA & RRU CONFIGURATION KEYS	0
E-1	PANEL SCHEDULE & ONE-LINE DIAGRAM	0
G-1	GROUNDING RISER DIAGRAM AND DETAILS	0

CONTACT INFORMATION

A&E FIRM:	B&T ENGINEERING, INC. 1717 S. BOULDER, STE. 300 TULSA, OK 74119	CONSTR. MANAGER:	T-MOBILE BRIAN PAUL Brian.Paul14@t-mobile.com (860) 550-5971
CONTACT:	MIKE OAKES	PROJECT MANAGER:	T-MOBILE MARK RICHARD mark.richard64@t-mobile.com (860) 648-1116
PHONE:	(918) 587-4630		

DRIVING DIRECTIONS

DEPART BRADLEY INTERNATIONAL AIRPORT ON TERMINAL RD. ROAD NAME CHANGES TO BRADLEY FIELD CONNECTOR. ROAD NAME CHANGES TO CT-20 [BRADLEY FIELD CONNECTOR]. TAKE RAMP (RIGHT) ONTO I-91 [RICHARD P HORAN MEMORIAL HWY]. AT EXIT 32A-32B, TURN RIGHT ONTO RAMP. TAKE RAMP ONTO I-84 [US-6]. AT EXIT 20, TAKE RAMP (RIGHT) ONTO CT-8. AT EXIT 36, KEEP RIGHT ONTO RAMP. TURN RIGHT ONTO HUNTINGDON AVE. TURN LEFT ONTO THOMASTON AVE. TURN LEFT ONTO CHAPEL ST. TURN RIGHT ONTO WELCH ST, THEN IMMEDIATELY TURN LEFT ONTO STEVENS ST. BEAR LEFT ONTO ACCESS RD AND ARRIVE AT WATERBURY-RT 8.

A/E DOCUMENT REVIEW STATUS

TITLE	SIGNATURE	DATE
T-MOBILE R.E. MGR.:		
T-MOBILE R.F. MGR.:		
T-MOBILE NetOps:		
T-MOBILE CONST. MGR.:		
INTERCONNECT:		
T-MOBILE SITE DEV. MGR.:		
PROPERTY OWNER:		
PLANNING:		

1		ACCEPTED: WITH OR NO COMMENTS, CONSTRUCTION MAY PROCEED
2		NOT ACCEPTED: RESOLVE COMMENTS AND RESUBMIT

ACCEPTANCE DOES NOT CONSTITUTE APPROVAL OF DESIGN, CALCULATIONS, ANALYSIS, TEST METHODS OF MATERIALS DEVELOPED OR SELECTED BY THE SUBCONTRACTOR AND DOES NOT RELIEVE SUBCONTRACTOR FROM FULL COMPLIANCE WITH CONTRACTUAL OBLIGATIONS.

CODE COMPLIANCE

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

CODE TYPE	CODE
BUILDING/DWELLING	2018 CONNECTICUT STATE BUILDING CODE
STRUCTURAL	2018 CONNECTICUT STATE BUILDING CODE
MECHANICAL	2018 CONNECTICUT STATE BUILDING CODE
ELECTRICAL	NEC 2017

PROJECT DESCRIPTION

THE PROPOSED PROJECT INCLUDES:

- REMOVE & REPLACE (3) ANTENNAS.
- REMOVE (3) GROUND MOUNTED RRUS11 B12.
- REMOVE (2) DUS41 & (1) XMU.
- REMOVE (3) BIAS-T.
- REMOVE (3) 1 5/8" COAX CABLES.
- INSTALL (3) 4449 B71+B12 RRH.
- INSTALL (2) BB6630 IN EXISTING RBS 6102 CABINET.
- INSTALL (2) 6x12 HCS.

DO NOT SCALE DRAWINGS

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 11X17. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

SEE SHEETS SP-1 & SP-2 FOR ADDITIONAL CONSTRUCTION NOTES

CALL CONNECTICUT ONE CALL
(800) 922-4455
CALL 3 WORKING DAYS
BEFORE YOU DIG!

811

B+T GRP

T···Mobile

CENTERLINE COMMUNICATIONS

SITE NUMBER:
CT11214D

SITE NAME:
WATERBURY/RT 8_1

SITE ADDRESS:
1669 THOMASTON AVE
WATERBURY, CT 06704

PROJECT NO:	**135648.003.01**
CHECKED BY:	**MDW**

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION
A	7/15/19	JCO	PRELIMINARY REVIEW
0	7/19/19	JCO	CONSTRUCTION

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/20

STATE OF CONNECTICUT
31627
LICENSED
PROFESSIONAL ENGINEER
7/19/19

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

SHEET NUMBER:	REVISION:
T-1	0

GENERAL REQUIREMENTS SECTION 01 10 00:

PART 1 GENERAL

1.1 INTENT:

A. THESE SPECIFICATIONS AND CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE DONE AND THE MATERIALS TO BE FURNISHED FOR CONSTRUCTION. PLANS ARE NOT TO BE SCALED.

B. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO BE FULLY EXPLANATORY AND SUPPLEMENTARY, HOWEVER, SHOULD ANYTHING BE SHOWN, INDICATED OR SPECIFIED ON ONE AND NOT THE OTHER, IT SHALL BE DONE THE SAME AS IF SHOWN, INDICATED OR SPECIFIED IN BOTH.

C. THE INTENTION OF DOCUMENTS IS TO INCLUDE ALL LABOR AND MATERIALS REASONABLY NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK AS STIPULATED IN THE CONTRACT.

D. CONFLICTS: THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL MEASUREMENTS AT THE SITE BEFORE ORDERING MATERIAL OR DOING ANY WORK. NO COMPENSATION SHALL BE ALLOWED DUE TO DIFFERENCE BETWEEN ACTUAL DIMENSIONS AND THOSE ON THE DOCUMENTS. ANY DISCREPANCY SHALL BE REPORTED TO THE OWNER OR HIS AGENT FOR CONSIDERATION.

1.2 LICENSING REQUIREMENTS:

THE CONTRACTOR IS RESPONSIBLE FOR PROCUREMENT AND MAINTAINING OF ALL APPLICABLE LICENSES AND BONDS.

1.3 STORAGE:

ALL MATERIALS MUST BE STORED IN A LEVEL AND DRY FASHION THAT DOES NOT OBSTRUCT THE FLOW OF OTHER WORK. ANY STORAGE METHOD MUST MEET ALL RECOMMENDATIONS OF THE ASSOCIATED MANUFACTURER.

1.4 CLEAN UP:

THE CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATION OF WASTE MATERIALS OR RUBBISH AT ALL TIMES. TRASH MUST BE REMOVED DAILY.

1.5 QUALITY ASSURANCE:

ALL WORK SHALL BE IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.

PART 2 PRODUCTS – NOT APPLICABLE TO THIS SECTION

PART 3 EXECUTION – NOT APPLICABLE TO THIS SECTION

ELECTRICAL SECTION 16000:

PART 1 GENERAL

1.1 GENERAL CONDITIONS:

A. THE CONTRACTOR SHALL INSPECT THE SITE WHERE THIS WORK IS TO BE PERFORMED AND FULLY FAMILIARIZE HIMSELF WITH ALL CONDITIONS RELATED TO THIS PROJECT.

B. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND LICENSES AND SHALL MAKE ALL DEPOSITS AND PAY ALL FEES REQUIRED FOR THE PERFORMANCE OF WORK UNDER THIS SECTION.

C. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF ALL SYSTEMS AND COMPONENTS COVERED UNDER THIS SECTION. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS. DRAWINGS SHALL NOT BE SCALED TO DETERMINE DIMENSIONS.

1.2 LAWS, REGULATIONS, ORDINANCES, STATUTES AND CODES

A. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, AND ALL APPLICABLE LOCAL LAWS, REGULATIONS, ORDINANCES, STATUTES AND CODES.

1.3 REFERENCES:

A. THE PUBLICATIONS LISTED BELOW FORM PART OF THIS SPECIFICATION. EACH PUBLICATION SHALL BE THE LATEST REVISION AND ADDENDUM IN EFFECT ON THE DATE OF THIS SPECIFICATION IS ISSUED FOR CONSTRUCTION UNLESS OTHERWISE NOTED. EXCEPT AS MODIFIED BY THE REQUIREMENTS SPECIFIED HEREIN OR THE DETAILS OF THE DRAWINGS, WORK INCLUDED IN THIS SPECIFICATION SHALL CONFIRM TO THE APPLICABLE PROVISIONS OF THESE PUBLICATIONS.

1. ANSI/IEEE (AMERICAN NATIONAL STANDARDS INSTITUTE)
2. IEEE (INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS)
3. ASTM (AMERICAN SOCIETY FOR TESTING AND MATERIALS)
4. ICEA (INSULATED CABLE ENGINEERS ASSOCIATION)
5. NEMA (NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION)
6. NFPA (NATIONAL FIRE PROTECTION ASSOCIATION)
7. OSHA (OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION)
8. UL (UNDERWRITERS LABORATORIES, INC.)

1.4 SCOPE OF WORK:

A. WORK UNDER THIS SECTION SHALL CONSIST OF FURNISHING ALL LABOR, MATERIAL AND ASSOCIATED SERVICES REQUIRED TO COMPLETELY CONSTRUCT AND LEAVE READY FOR OPERATION SYSTEMS AS SHOWN ON THE DRAWINGS AND HEREIN DESCRIBED.

B. ALL ELECTRICAL EQUIPMENT UNDER THIS CONTRACT SHALL BE PROPERLY TESTED, ADJUSTED AND ALIGNED BY THE CONTRACTOR.

C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EXCAVATING, DRAINING, TRENCHES, BACKFILLING, AND REMOVAL AND EXCESS DIRT.

D. THE CONTRACTOR SHALL FURNISH TO THE OWNER, CERTIFICATES OF FINAL INSPECTION AND APPROVAL FROM THE INSPECTION AUTHORITIES HAVING JURISDICTION.

PART 2 PRODUCTS

2.1 GENERAL:

A. ALL ITEMS OF MATERIALS AND EQUIPMENT SHALL BE NEW, FREE FROM DEFECTS AND OF THE BEST QUALITY NORMALLY USED FOR THE PURPOSE IN GOOD COMMERCIAL PRACTICE.

B. ALL MATERIALS AND EQUIPMENT SHALL BE ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION AS SUITABLE FOR THE USE INTENDED.

C. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE.

D. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING RATING EQUAL TO OR GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 10,000 AIC MINIMUM. VERIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT.

2.2 MATERIALS AND EQUIPMENT:

A. CONDUIT:

1. RIGID GALVANIZED STEEL CONDUIT (RGS) SHALL BE HOT-DIP GALVANIZED INSIDE AND OUTSIDE INCLUDING ENDS AND THREADS AND ENAMELED OR LACQUERED INSIDE IN ADDITION TO GALVANIZING.
2. FLEXIBLE METAL CONDUIT SHALL BE GALVANIZED, ZINC-COATED STEEL, PVC COATED FOR OUTDOOR APPLICATIONS.
3. CONDUIT CLAMPS, STRAPS AND SUPPORTS SHALL BE STEEL OR MALLEABLE IRON. ALL FITTINGS SHALL BE COMPRESSION TYPE AND WATERTIGHT.
4. NON-METALLIC CONDUIT FITTINGS SHALL BE SCHEDULE 40 PVC, HEAVY-WALL RIGID WITH SOLVENT-CEMENT-TYPE JOINTS AS RECOMMENDED BY THE MANUFACTURER.

B. WIRE AND CABLE:

1. WIRE AND CABLE SHALL BE FLAME-RETARDANT, MOISTURE AND HEAT RESISTANT THERMOPLASTIC, SINGLE CONDUCTOR, COPPER, TYPE THHN/THWN, 600 VOLT, SIZES AS INDICATED, #12 AWG MINIMUM.
2. #10 AWG AND SMALLER CONDUCTORS SHALL BE SOLID AND #8 AWG AND LARGER CONDUCTORS SHALL BE STRANDED.
3. SOLDERLESS, PRESSURE-TYPE CONNECTORS CONSTRUCTED OF HIGH-STRENGTH, NON-CORRODIBLE, TIN-PLATED COPPER DESIGNED TO FURNISH HIGH-PULLOUT STRENGTH AND HIGH CONDUCTIVITY JOINTS SHALL BE USED.
4. SUPPORT GRIPS SHALL BE SINGLE WEAVE, CLOSED MESH, HIGH-GRADE, NON-MAGNETIC, TIN-COATED BRONZE, CAPABLE OF SUPPORTING TEN TIMES THE CABLE DEAD WEIGHT, HUBBELL KELLEMS OR APPROVED EQUAL.

C. DISCONNECT SWITCHES:

1. DISCONNECT SWITCHES SHALL BE HEAVY DUTY, DEAD-FRONT, QUICK-MAKE, QUICK-BREAK, EXTERNALLY OPERABLE, HANDLE LOCKABLE AND INTERLOCKED WITH COVER IN CLOSED POSITION, RATING AS INDICATED, UL LABELED FURNISHED IN NEMA 3R ENCLOSURE, SQUARE D CLASS 3110 OR APPROVED EQUAL.

D. SYSTEM GROUNDING:

1. GROUNDING CONDUCTOR SHALL BE BARE, SOLID TINNED COPPER, SIZE AS INDICATED, EXCEPT ABOVE GROUND GROUNDING CONDUCTORS SHALL BE INSULATED.
2. GROUND BUSSES SHALL BE BARE ANNEALED COPPER BARS OF RECTANGULAR CROSS SECTION.
3. CONNECTORS SHALL BE HIGH-CONDUCTIVITY, HEAVY DUTY, LISTED AND LABELED AS GROUNDING CONNECTORS FOR THE MATERIALS USED. USE TWO-HOLE COMPRESSION LUGS WITH HEAT SHRINK FOR MECHANICAL CONNECTIONS.
4. EXOTHERMIC WELDED CONNECTIONS SHALL BE PROVIDED IN KIT FORM AND SELECTED FOR THE SPECIFIC TYPES, SIZES, AND COMBINATIONS OF CONDUCTORS AND OTHER ITEMS TO BE CONNECTED.
5. GROUND RODS SHALL BE COPPER-CLAD STEEL WITH HIGH-STRENGTH STEEL CORE AND ELECTROLYTIC-GRADE COPPER OUTER SHEATH, MOLTEN WELDED TO CORE, 3/4"x10'-0".

E. OTHER MATERIALS:

1. THE CONTRACTOR SHALL PROVIDE OTHER MATERIALS, THOUGH NOT SPECIFICALLY DESCRIBED, WHICH ARE REQUIRED FOR A COMPLETELY OPERATIONAL SYSTEM AND PROPER INSTALLATION OF THE WORK.

B+T GRP

T···Mobile

CENTERLINE COMMUNICATIONS

SITE NUMBER:
CT11214D

SITE NAME:
WATERBURY/RT 8_1

SITE ADDRESS:
1669 THOMASTON AVE
WATERBURY, CT 06704

PROJECT NO:	135648.003.01
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B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/20

STATE OF CONNECTICUT
31627
LICENSED
PROFESSIONAL ENGINEER
7/19/19

SHEET NUMBER:	REVISION:
SP-1	0

PART 3 EXECUTION

3.1 GENERAL:

A. ALL MATERIALS AND EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE W/ THE MANUFACTURER'S RECOMMENDATION

B. EQUIPMENT SHALL BE TIGHTLY COVER AND PROTECTED AGAINST DIRT OR WATER, AND AGAINST CHEMICAL OR MECHANICAL INJURY DURING INSTALLATION AND CONSTRUCTION PERIODS.

3.2 LABOR AND WORK:

A. ALL LABOR FOR THE INSTALLATION OF MATERIALS AND EQUIPMENT FURNISHED FOR THE ELECTRICAL SYSTEM SHALL BE DONE BY EXPERIENCED MECHANICS OF THE PROPER TRADES.

B. ALL ELECTRICAL EQUIPMENT FURNISHED SHALL BE ADJUSTED, ALIGNED AND TESTED BY THE CONTRACTOR AS REQUIRED TO PRODUCE THE INTENDED PERFORMANCE.

C. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL THOROUGHLY CLEAN ALL EXPOSED EQUIPMENT, REMOVE ALL LABELS AND ANY DEBRIS, CRATING OR CARTONS AND LEAVE THE INSTALLATION FINISHED AND READY FOR OPERATION.

3.3 COORDINATION:

A. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ELECTRICAL ITEMS WITH THE OWNER–FURNISHED EQUIPMENT DELIVERY SCHEDULE TO PREVENT UNNECESSARY DELAYS IN THE TOTAL WORK.

3.4 INSTALLATION:

A. CONDUIT

1. ALL ELECTRICAL WIRING SHALL BE INSTALLED IN CONDUIT AS HEREIN SPECIFIED. NO CONDUIT OR TUBING OF LESS THAN 3/4 INCH NOMINAL SIZE SHALL BE USED.
2. PROVIDE RGS CONDUIT FOR ALL EXPOSED, EXTERIOR CONDUIT.
3. PROVIDE SCHEDULE 40 PVC OR RGS CONDUIT BELOW GRADE, 1" MINIMUM, UNLESS NOTED OTHERWISE. ALL 90 DEGREE BENDS TO ABOVE GRADE SHALL BE RGS, MINIMUM BURIAL DEPTH SHALL BE 30" CLEAR TO TOP OF CONDUIT, UNLESS NOTED OTHERWISE.
4. USE GALVANIZED FLEXIBLE STEEL CONDUIT WHERE DIRECT CONNECTION IS NOT DESIRABLE FOR REASONS EQUIPMENT MOVEMENT, VIBRATION OR FOR EASE OF MAINTENANCE. USE LIQUIDTIGHT, PVC COATED FLEXIBLE METAL CONDUIT FOR OUTDOOR APPLICATIONS.
5. INSTALL GALVANIZED FLEXIBLE STEEL CONDUIT AT ALL POINTS OF CONNECTION TO EQUIPMENT MOUNTED ON SUPPORTS TO ALLOW FOR EXPANSION AND CONTRACTION.
6. A RUN OF CONDUIT BETWEEN BOXES OR FITTINGS SHALL NOT CONTAIN MORE THE EQUIVALENT OF FOUR QURATER–BENDS INCLUDING THOSE BENDS LOCATED IMMEDIATELY AT THE BOX OR FITTING. THE RADIUS OF BENDS SHALL NEVER BE SHORTER THAN THAT OF THE CORRESPONDING TRADE ELBOW.
7. WHERE CONDUIT HAS TO BE CUT IN THE FIELD, IT SHALL BE CUT SQUARE WITH A PIPE CUTTER USING CUTTING KNIVES.
8. ALL CONDUITS SHALL BE SWABBED CLEAN BY PULLING AN APPROPRIATE SIZE MANDREL THROUGH THE CONDUIT BEFORE INSTALLATION OF WIRE OR CABLE. CLEAR ALL BLOCKAGES AND REMOVE BURRS, DIRT AND DEBRIS.
9. INSTALL MULE TAPE IN ALL EMPTY CONDUIT IDENTIFY PULL STRINGS AT EACH END WITH ITS DESTINATION.
10. PROVIDE INSULATED GROUNDING BUSHINGS OR ALL CONDUITS STUBBED INTO EQUIPMENT ENCLOSURES OR STUBBED OUT FOR FUTURE USE BY OTHERS.
11. CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL CONDUITS DURING CONSTRUCTION. TEMPORARY OPENINGS IN THE CONDUIT SYSTEM SHALL BE PLUGGED OR CAPPED TO PREVENT ENTRANCE OF MOISTURE OR FOREIGN MATTER. CONTRACTOR SHALL REPLACE ANY CONDUIT CONTAINING FOREIGN MATERIALS THAT CANNOT BE REMOVED.
12. INSTALL 3" RED METALLIC LOCATOR TAPE 12" ABOVE ALL UNDERGROUND CONDUIT AND WIRE.
13. CONDUITS SHALL BE INSTALLED IN SUCH A MANNER AS TO INSURE AGAINST COLLECTION OF TRAPPED CONDENSATION.

B. WIRE AND CABLE:

1. ALL POWER WIRING SHALL BE COLOR CODED AS FOLLOWS

DESCRIPTION	120/270V	208Y/120V	480Y/277V
PHASE A	BLACK	BLACK	BROWN
PHASE B	RED	RED	ORANGE
PHASE C		BLUE	YELLOW
NEUTRAL	WHITE	WHITE	GRAY
GROUND	GREEN	GREEN	GREEN

2. SPLICES SHALL BE MADE ONLY AT OUTLETS, JUNCTION BOXES OR ACCESSIBLE RACEWAYS WITH PRESSURE–TYPE CONNECTORS.
3. PULLING LUBRICANT SHALL BE SOAPSTONE POWDER, POWDERED TALC OR A COMMERCIAL PULLING COMPOUND. NO SOAP SUDS, SOAP FLAKES, OIL OR GREASE SHALL BE USED, AS THESE MAY BE HARMFUL TO CABLE INSULATION. CONTRACTOR SHALL USE NYLON OR HEMP ROPE FOR PULLING CABLE TO AVOID SCORING THE CONDUIT.
4. CABLES SHALL BE NEATLY TRAINED, WITHOUT INTERLACING, AND BE OF SUFFICIENT LENGTH IN ALL BOXES, EQUIPMENT. ETC. TO PERMIT MAKING A NEAT ARRANGEMENT. CABLES SHALL BE SECURED IN A MANNER TO AVOID TENSION ON CONDUCTORS OR TERMINALS AND SHALL BE PROTECTED FROM MECHANICAL INJURY AND FROM MOISTURE. SHARP BENDS OVER CONDUIT BUSHINGS ARE PROHIBITED. DAMAGED CABLES SHALL BE REMOVED AND REPLACE AT THE CONTRACTOR'S EXPENSE.

C. DISCONNECT SWITCHES:

1. INSTALL DISCONNECT SWITCHED LEVEL AND PLUMB. CONNECT TO WIRING SYSTEM AND GROUND AS INDICATED.

D. GROUNDING:

1. ALL METALLIC PARTS OF ELECTRICAL EQUIPMENT WHICH DO NOT CARRY CURRENT SHALL BE GROUNDED IN ACCORDANCE WITH THE REQUIREMENTS OF ARTICLE 250 OF THE NATIONAL ELECTRIC CODE.
2. PROVIDE ELECTRICAL GROUNDING AND BONDING SYSTEMS INDICATED WITH ASSEMBLY OF MATERIALS, INCLUDING GROUNDING ELECTRODES, BONDING JUMPERS AND ADDITIONAL ACCESSORIES AS REQUIRED FOR A COMPLETE INSTALLATION.
3. ROUTE GROUNDING CONNECTIONS AND CONDUCTORS TO GROUND IN THE SHORTEST AND STRAIGHTEST PATHS POSSIBLE TO MINIMIZE TRANSIENT VOLTAGE RISES.
4. TIGHTEN GROUNDING AND BONDING CONNECTORS, INCLUDING SCREWS AND BOLTS, IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED TORQUE TIGHTENING VALUES FOR CONNECTORS AND BOLTS. WHERE MANUFACTURE'S TORQUING REQUIREMENTS ARE NOT AVAILABLE, TIGHTEN CONNECTIONS TO COMPLY WITH TIGHTENING TORQUE VALUES SPECIFIED IN UL 486A TO ASSURE PERMANENT AND EFFECTIVE GROUNDING.
5. ALL UNDERGROUND GROUNDING CONNECTIONS SHALL BE MADE BY THE EXOTHERMIC WELD PROCESS AND INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTION.
6. ALL GROUND CONNECTIONS SHALL BE INSPECTED FOR TIGHTNESS. EXOTHERMIC–WELDED CONNECTIONS SHALL BE APPROVED BY THE CONSTRUCTION INSPECTOR BEFORE BEING PERMANENTLY CONCEALED.
7. APPLY CORROSION–RESISTANT FINISH TO FIELD CONNECTION AND PLACES WHERE FACTORY APPLIED PROTECTIVE COATING HAVE BEEN DESTROYED. USE COPPER–BASED "NO–OX" OR APPROVED EQUAL.
8. A SEPARATE, CONTINUOUS, INSULATED EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED IN ALL FEEDER AND BRACH CIRCUITS.
9. BOND ALL INSULATED GROUNDING BUSHINGS WITH A BARE #6 AWG GROUNDING CONDUCTOR TO A GROUND BUS OR GROUNDING LUG IN ENCLOSURE.
10. DIRECT BURIED GROUND CONDUCTORS SHALL BE INSTALLED AT A NOMINAL DEPTH OF 30" BELOW GRADE, UNLESS NOTED OTHERWISE.
11. ALL GROUNDING CONDUCTORS EMBEDDED IN OR PENETRATING CONCRETE SHALL BE INSULATED OR INSTALLED IN PVC CONDUIT.
12. INSTALL ELECTROLYTIC GROUNDING SYSTEM IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. REMOVE SEALING TAPE FROM LEACHING AND BREATHER HOLES, INSTALL PROTECTIVE BOX FLUSH WITH GRADE.
13. DRIVE GROUND RODS UNTIL TOPS ARE 30" BELOW FINAL GRADE.
14. GROUNDING CONDUCTOR TO EQUIP[MENT GROUND LUGS:
    1) BOLTED TO EQUIPMENT HOUSING WITH STAINLESS STEEL BOLTS AND LOCK WASHERS.
    2) ALL EQUIPMENT TO BE GROUNDED SHALL BE FREE OF PAINT OR ANY OTHER MATERIAL COVERING BARE METAL AT THE POINT OF CONNECTION.

3.5 ACCEPTANCE TESTING:

1. PROVIDE PERSONNEL AND EQUIPMENT, MAKE REQUIRED TESTS AND SUBMIT TEST REPORTS UPON COMPLETE OF TESTS.
2. WHEN MATERIAL AND/OR WORKMANSHIP IS FOUND NOT TO COMPLY WITH THE SPECIFIED REQUIREMENTS, THE NON–COMPLYING ITEMS SHALL BE REMOVED FROM THE JOBSITE AND REPLACED WITH THE ITEMS COMPLYING WITH THE SPECIFIED REQUIREMENTS PROMPTLY AFTER RECEIPT OF NOTICE OF SUCH NON–COMPLIANCE.

A. TEST PROCEDURES:

1. ALL FEEDERS SHALL HAVE THEIR INSULATION TESTED AFTER INSTALLATION, BUT BEFORE CONNECTION TO DEVICES. THE CONDUCTORS SHALL TEST FREE FROM SHORT CIRCUITS AND GROUNDS. TESTING SHALL BE FOR ONE MINUTE, USING 1000V DC. INVESTIGATE ANY VALUES LESS THAN 50 MEGOHMS.
2. PRIOR TO ENERGIZING CIRCUITRY, TEST WIRING DEVICES FOR ELECTRICAL CONTINUITY AND PROPER POLARITY CONNECTIONS.
3. MEASURE AND RECORD VOLTAGES BETWEEN PHASES AN BETWEEN PHASE WIRE AND NEUTRALS. SUBMIT A REPORT OF MAXIMUM AND MINIMUM VOLTAGES.
4. PERFORM GROUND TEST TO MEASURE GROUND RESISTANCE OF GROUNDING SYSTEM USING THE IEEE STANDARD 3–POINT "FALL–OF–POTENTIAL" METHOD. PROVIDE PLOTTED TEST VALUES AND LOCATION SKETCH. NOTIFY THE ENGINEER IMMEDIATELY IF MEASURED VALUE IS OVER 5 OHMS.

END OF SECTION

END OF SPECIFICATION

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CENTERLINE COMMUNICATIONS

SITE NUMBER:
CT11214D

SITE NAME:
WATERBURY/RT 8_1

SITE ADDRESS:
1669 THOMASTON AVE
WATERBURY, CT 06704

PROJECT NO:	135648.003.01
CHECKED BY:	MDW

ISSUED FOR:

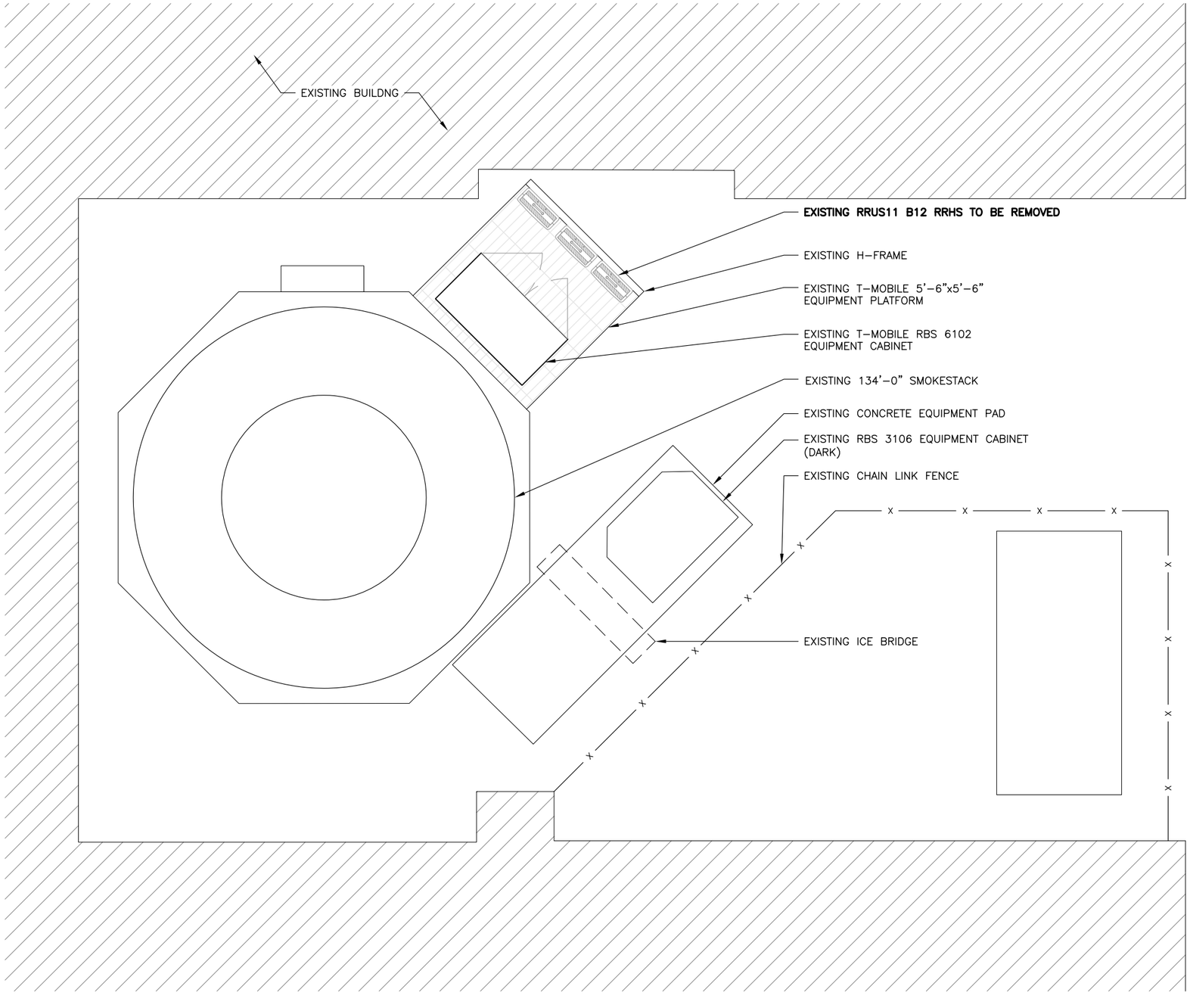
REV	DATE	DRWN	DESCRIPTION
A	7/15/19	JCO	PRELIMINARY REVIEW
0	7/19/19	JCO	CONSTRUCTION

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/20

STATE OF CONNECTICUT
31627
LICENSED
PROFESSIONAL ENGINEER

7/19/19

SHEET NUMBER:	REVISION:
SP-2	0



1 OVERALL SITE PLAN

SCALE: 0' 1' 2' 4' 10'

N

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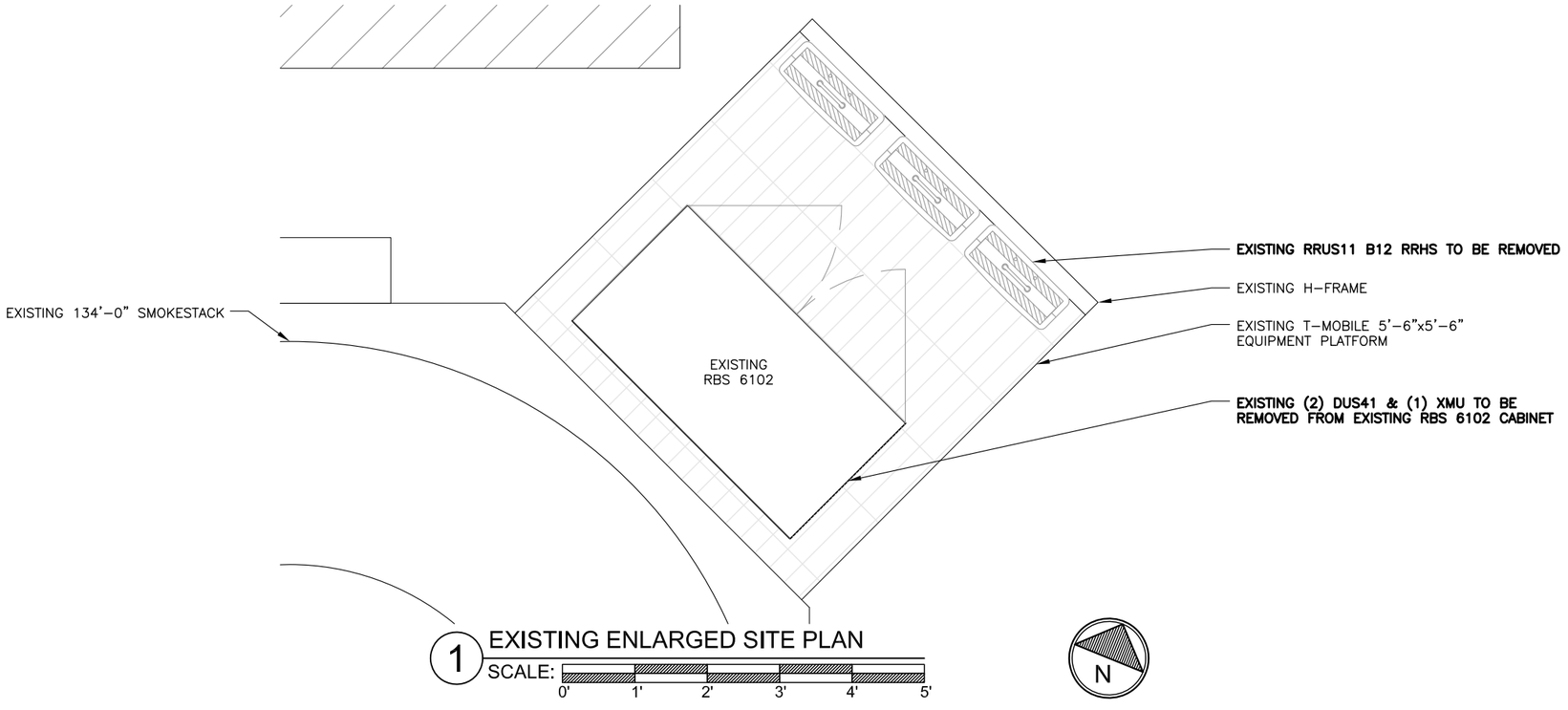
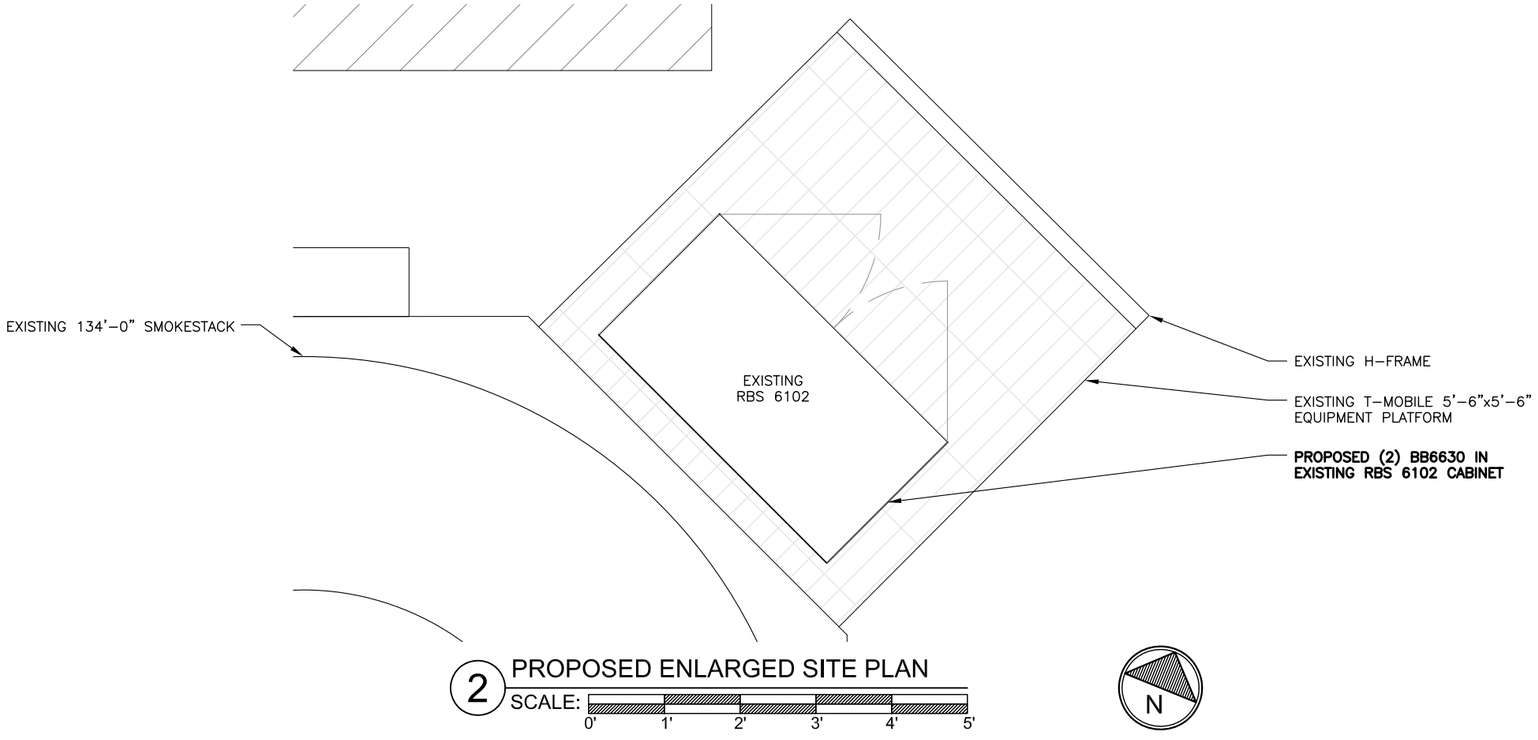


1 EXISTING ENLARGED SITE PLAN

SCALE: 0' 1' 2' 3' 4' 5'



2 PROPOSED ENLARGED SITE PLAN

SCALE: 0' 1' 2' 3' 4' 5'

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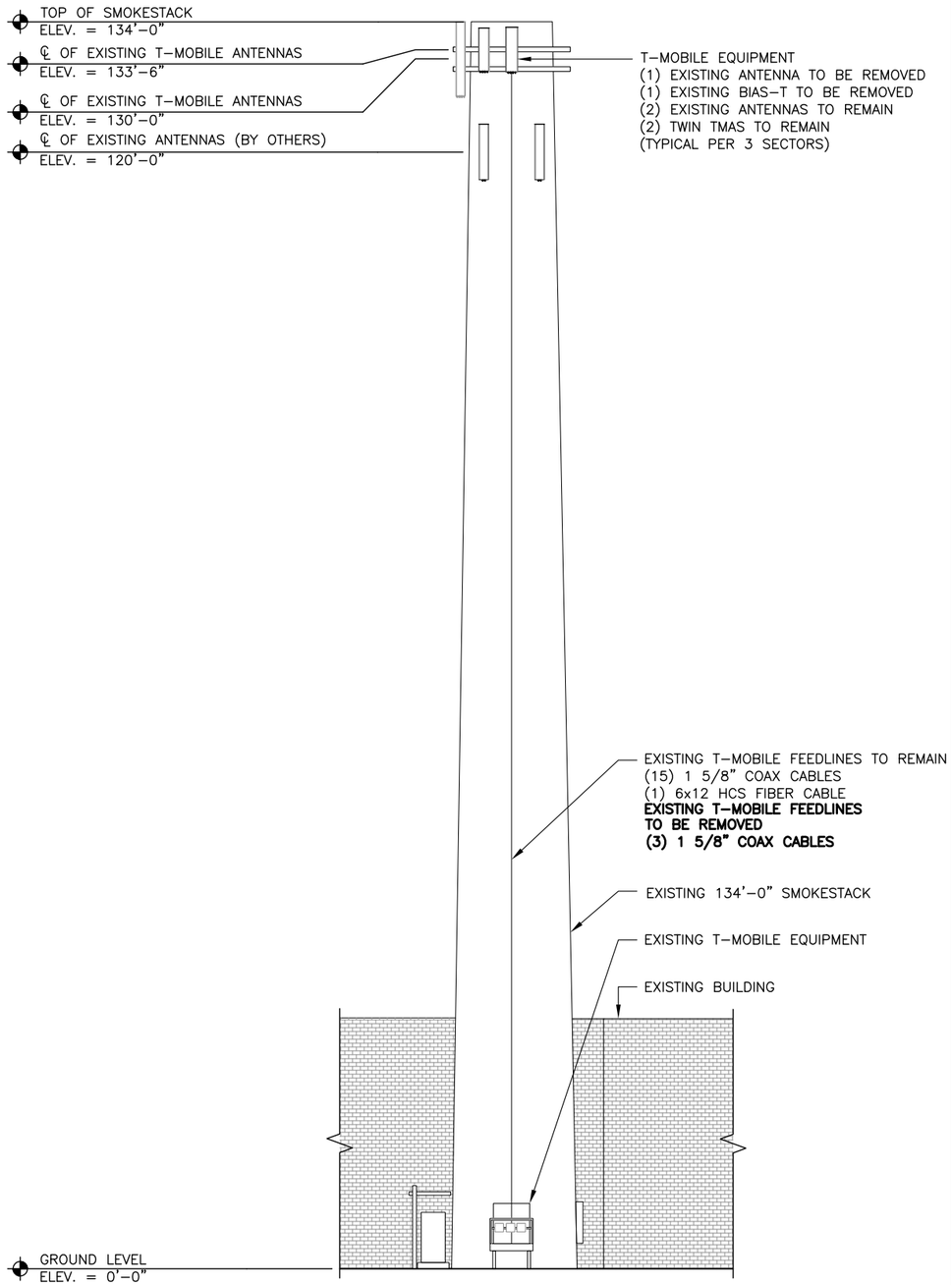
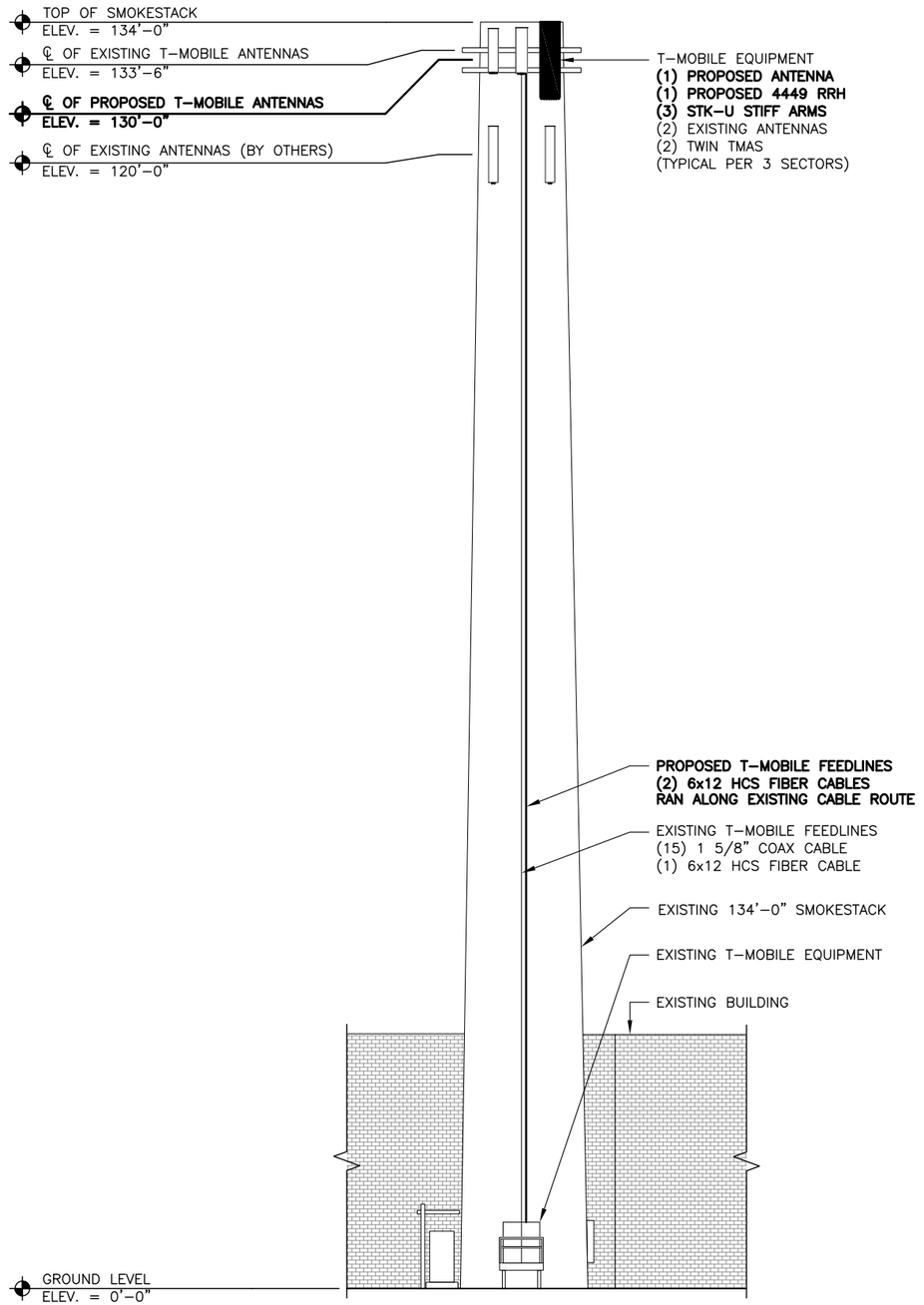


1 EXISTING SMOKESTACK ELEVATION
SCALE: N.T.S.

EXISTING MOUNT IS SUFFICIENT PER MOUNT ANALYSIS BY BT+GROUP DATED 7/8/19.



2 PROPOSED SMOKESTACK ELEVATION
SCALE: N.T.S.

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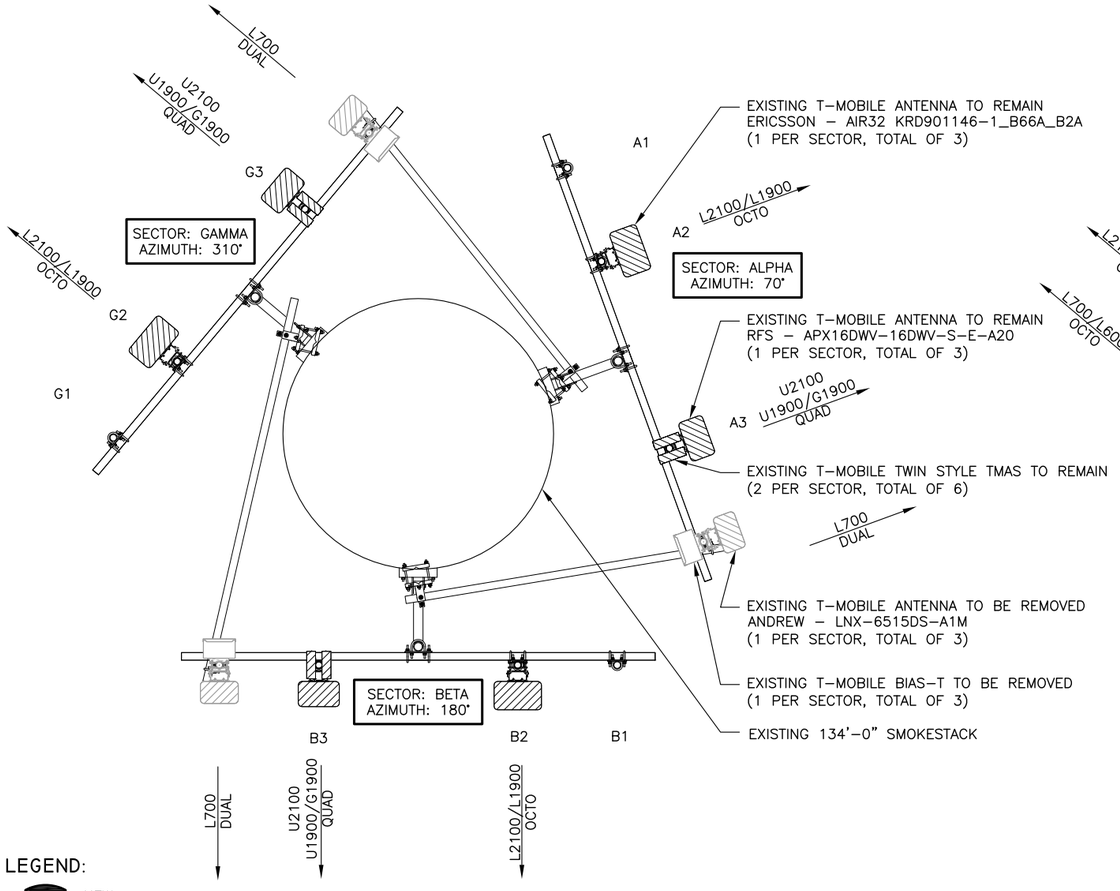
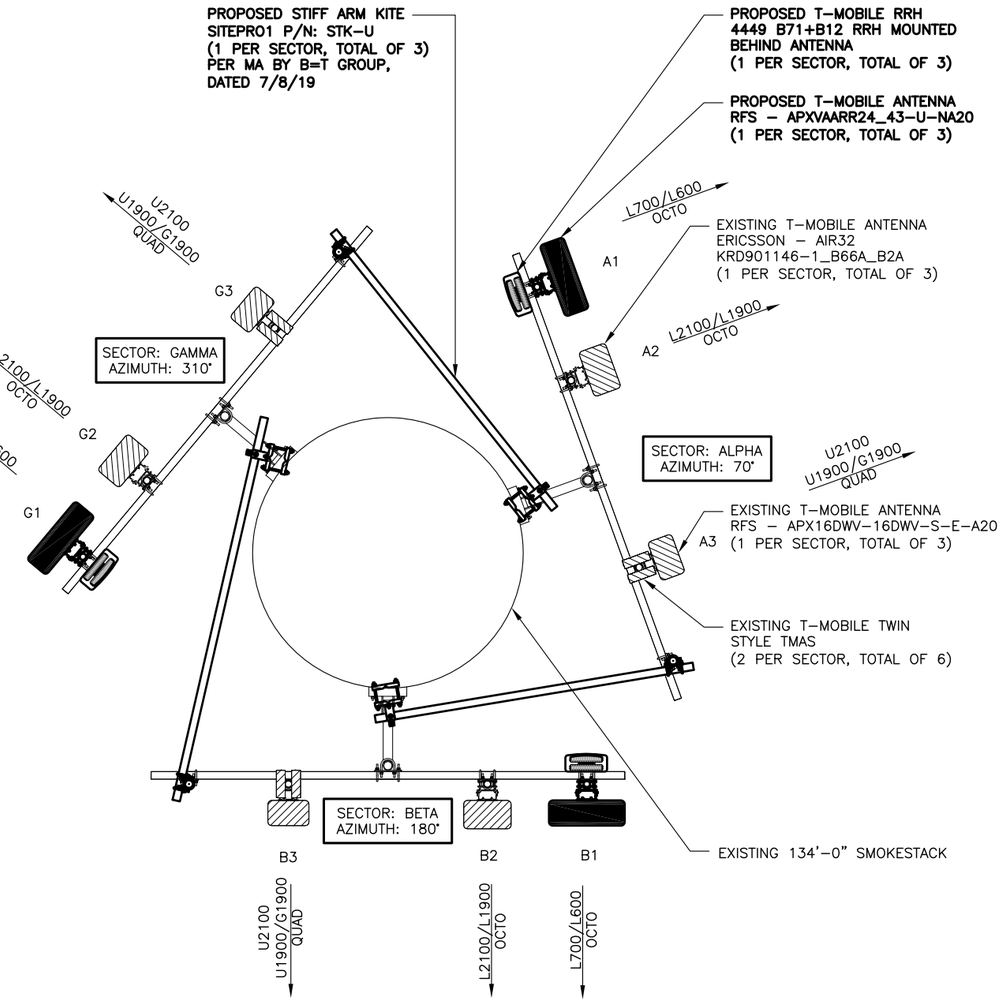
SHEET NUMBER: A-3

REVISION: 0





LEGEND:

- NEW
- EXISTING
- TO BE REMOVED

1 EXISTING ANTENNA LAYOUT
SCALE: N.T.S.

N

2 PROPOSED ANTENNA LAYOUT
SCALE: N.T.S.

N

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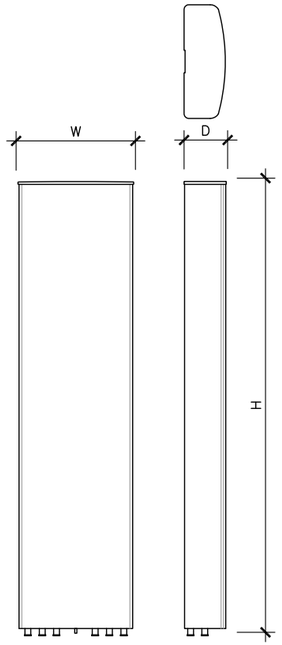
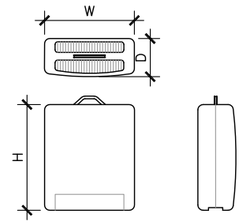
A-4	0



ANTENNA SPECS	
MANUFACTURER	RFS
MODEL #	APXVAARR24_43-U-NA20
WIDTH	24.0"
DEPTH	8.7"
HEIGHT	95.9"
WEIGHT	128.0 LBS

1 ANTENNA DETAIL
SCALE: N.T.S.



RRH SPECS	
MANUFACTURER	ERICSSON
MODEL #	4449 B71+B12
WIDTH	13.2"
DEPTH	9.4"
HEIGHT	17.9"
WEIGHT	70.5 LBS

2 RRH DETAIL
SCALE: N.T.S.

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A-5	0

ANTENNA NOTES:

1. ANTENNA CONTRACTOR SHALL INSURE THAT ALL ANTENNA MOUNTING PIPES ARE PLUMB.
2. COAXIAL FEEDER & FIBER LENGTHS INDICATED ARE APPROXIMATE.
3. ANTENNA COAXIAL FEEDERS & ANTENNA JUMPERS SHALL BE COLOR CODED PER T–MOBILE REQUIREMENTS. IN ADDITION TO THE COLOR CODE IN THE ANTENNA KEY THE FOLLOWING CHECKER STRIPE SHALL BE ADDED TO EACH ANTENNA COAXIAL FEEDER & ANTENNA JUMPER.

   LTE L600 – WHITE–SOLID STRIPE
   LTE 700 – RED–BLACK CHECKER STRIPE
   LTE PCS – RED–GREEN CHECKER STRIPE
   LTE AWS – YELLOW–BLACK CHECKER STRIPE
   UMTS PCS – RED–WHITE CHECKER STRIPE
   UMTS AWS – GREEN–WHITE CHECKER STRIPE
   GSM PCS – BLACK–WHITE CHECKER STRIPE
4. UMTS AWS LINE 1 & 2 TO HAVE TMA, MOUNTED ON PIPE BEHIND ANTENNA POSITION #2.
5. MULTI–PORTS ANTENNAS: TERMINATE UNUSED ANTENNA PORTS WITH CONNECTOR CAP & WEATHERPROOF THOROUGHLY. JUMPERS FROM TMAS MUST TERMINATE TO OPPOSITE POLARIZATIONS IN EACH SECTOR,
6. CONTRACTOR MUST FOLLOW ALL MANUFACTURERS' RECOMMENDATIONS REGARDING THE INSTALLATION OF COAXIAL CABLES, CONNECTORS & ANTENNAS.
7. MINIMUM BEND RADIUS:

   LDF4–50A (1/2" HARD LINE) = 5"
   FSJ4–50B (1/2" SUPER FLEX) = 1 1/4"
   AVA5–50A (7/8" HARD LINE) = 10"
   AVA7–50A (1 5/8 HARD LINE) = 15"
   LDF7–50A (1 5/8" HARD LINE) = 20"
8. CONTRACTOR SHALL RECORD THE SERIAL, SECTOR & POSITION OF EACH ACTUATOR INSTALLED AT THE ANTENNAS AND FURNISH THE INFORMATION TO T–MOBILE.
9. WEATHERPROOF ALL ANTENNA CONNECTORS WITH SELF–AMALGAMATING TAPE.
10. ANTENNA CONTRACTOR SHALL PERFORM A "TAPE DROP" MEASUREMENT TO CONFIRM/VALIDATE ANTENNA CENTERLINE (ACL) HEIGHT. CONTRACTOR SHALL SUBMIT A COMPLETED HEIGHT VERIFICATION FORM TO THE CONSTRUCTION MANAGER.
11. ALL FIBER RUNS TO BE CONTAINED IN (1) NOKIA HYBRID DC–FIBER CABLE (P/N: ASU9325TYP01) FROM LOWER COVP TO UPPER COVP. HYBRID CABLE SHALL BE COLOR CODED PER T–MOBILE REQUIREMENTS.

ANTENNA KEY

SECTOR	STATUS	ANTENNA NUMBER	TYPE	COLOR CODE	ANTENNA VENDOR	MODEL #	AZIMUTH	ELEC. TILT	MECH TILT	RAD CENTER	COAXIAL FEEDER SIZE	COAXIAL FEEDER LENGTH	HYBRID CABLE FEEDER SIZE	HYBRID CABLE FEEDER LENGTH
ALPHA	**NEW**	**A–1**	**L700 L600**	– / –	**RFS**	**APXVAARR24_43–U–NA20**	**70°**	**2°** / **2°**	**0°**	**130'–0"**	– / –	– / –	(1) 6x12 HCS	160'
ALPHA	EXISTING	A–2	L2100 L1900	– / –	ERICSSON	AIR32 KRD901146–1_B66A_B2A	70°	2° / 2°	0°	133'–6"	– / –	– / –	(1) 6x12 HCS (SHARED)	160'
ALPHA	EXISTING	A–3	U1900 G1900 U2100	– / –	RFS	APX16DWV–16DWV–S–E–A20	70°	2° / 2°	0°	133'–6"	1 5/8" / 1 5/8"	145'–0" / 145'–0"	–	160'
BETA	**NEW**	**B–1**	**L700 L600**	– / –	**RFS**	**APXVAARR24_43–U–NA20**	**180°**	**2°** / **2°**	**0°**	**130'–0"**	– / –	– / –	**(1) 6x12 HCS**	160'
BETA	EXISTING	B–2	L2100 L1900	– / –	ERICSSON	AIR32 KRD901146–1_B66A_B2A	70°	2° / 2°	0°	133'–6"	– / –	– / –	**(1) 6x12 HCS (SHARED)**	160'
BETA	EXISTING	B–3	U1900 G1900 U2100	– / –	RFS	APX16DWV–16DWV–S–E–A20	70°	2° / 2°	0°	133'–6"	1 5/8" / 1 5/8"	145'–0" / 145'–0"	–	160'
GAMMA	**NEW**	**G–1**	**L700 L600**	– / –	**RFS**	**APXVAARR24_43–U–NA20**	**310°**	**2°** / **2°**	**0°**	**130'–0"**	– / –	– / –	**(1) 6x12 HCS**	160'
GAMMA	EXISTING	G–2	L2100 L1900	– / –	ERICSSON	AIR32 KRD901146–1_B66A_B2A	70°	2° / 2°	0°	133'–6"	– / –	– / –	**(1) 6x12 HCS (SHARED)**	160'
GAMMA	EXISTING	G–3	U1900 G1900 U2100	– / –	RFS	APX16DWV–16DWV–S–E–A20	70°	2° / 2°	0°	133'–6"	1 5/8" / 1 5/8"	145'–0" / 145'–0"	–	160'

RRU KEY – ON SMOKESTACK

SECTOR	VENDOR	EQUIPMENT	MODEL #	ELEVATION	QUANTITY	STATUS
MULTI	**ERICSSON**	**RRU**	**4449 B71+B12**	**130'–0"**	**3**	**NEW**
MULTI	PCS	TMA	TWIN STYLE 1A	130'–0"	3	EXISTING
MULTI	PCS	TMA	TWIN STYLE 1B	130'–0"	3	EXISTING

1 ANTENNA, RRU & TMA SCHEDULE
SCALE: N.T.S.

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7/19/19

SHEET NUMBER: A-6
REVISION: 0

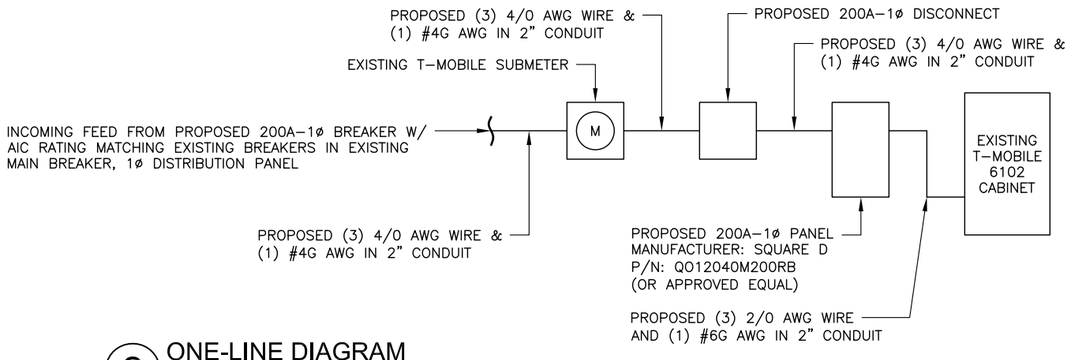
FINAL PANEL SCHEDULE							
LOAD	POLES	AMPS	BUS L1	BUS L2	AMPS	POLES	LOAD
SPARE	1	20A	1	2	**125A**	2	RBS 6102
AAV	1	20A	3	4			
			5	6	50A	2	UMTS
			7	8			

RATED VOLTAGE: ■120/240 □ _____. 1 PHASE, 3 WIRE	BRANCH POLES: □12 □24 □30 ■42	APPROVED MF'RS	
RATED AMPS: □100 ■200 □400 □ _____.	CABINET: ■SURFACE □FLUSH	NEMA □1 ■3R □4X	
□MAIN LUGS ONLY MAIN 200 AMPS ■BREAKER □FUSED SWITCH	■HINGED DOOR	■KEYED DOOR LATCH	
□FUSED ■CIRCUIT BREAKER BRANCH DEVICES	□ _____ TO BE GFCI BREAKERS	FULL NEUTRAL BUS	GROUND BAR
ALL BREAKERS MUST BE RATED TO INTERRUPT A SHORT CIRCUIT ISC OF 10,000 AMPS SYMMETRICAL			

EXISTING 100A BREAKER PANEL TO BE REPLACED W/ NEW 200A BREAKER PANEL. SQUARE D P/N: QO12040M200RB (OR APPROVED EQUAL/EMERSON JUICEBOX)
REPLACE EXISTING BREAKERS W/ NEW BREAKERS OF SAME AMPERAGE INSIDE NEW PANEL
REPLACE EXISTING WIRES FOR EXISTING 6102 CABINET WITH (3) 2/0 AWG THWN (COPPER) AND (1) #6G AWG. MINIMUM CONDUIT SIZE TO BE 2"
UPGRADE FEEDER WIRES TO MEET AMPACITY.
FINAL PANEL DESIGN AND CALCULATIONS FOR WIRE SIZE WERE BASED OFF OF EXISTING PHOTOS

1 FINAL T-MOBILE PANEL DETAIL

SCALE: N.T.S.



2 ONE-LINE DIAGRAM

SCALE: N.T.S.

B+T GRP

T···Mobile

CENTERLINE COMMUNICATIONS

SITE NUMBER:
CT11214D

SITE NAME:
WATERBURY/RT 8_1

SITE ADDRESS:
1669 THOMASTON AVE
WATERBURY, CT 06704

PROJECT NO:	135648.003.01
CHECKED BY:	MDW

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION
A	7/15/19	JCO	PRELIMINARY REVIEW
0	7/19/19	JCO	CONSTRUCTION

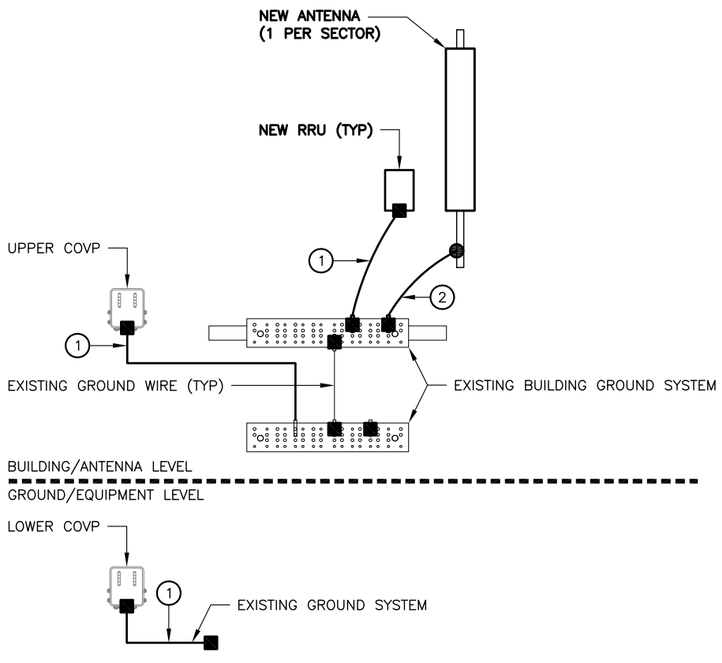
B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/20

STATE OF CONNECTICUT
31627
LICENSED
PROFESSIONAL ENGINEER
7/19/19

SHEET NUMBER:	REVISION:
E-1	0

LEGEND	
●	EXOTHERMIC CONNECTION
■	MECHANICAL CONNECTION
(1)	#2 AWG STRANDED INSULATED COPPER GROUND WIRE
(2)	#2 SOLID TINNED, BARE COPPER GROUND WIRE

TYPICAL SECTOR



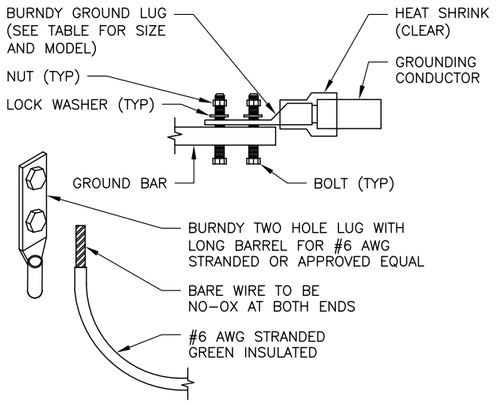
1 ANTENNA GROUND DIAGRAM

SCALE: N.T.S.

WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 AWG GREEN INSULATED	YA6A-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG SOLID TINNED	YA3A-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG STRANDED	YA2A-2TC38	3/8" - 16 NC S 2 BOLT
#2/0 AWG STRANDED	YA26-2TC38	3/8" - 16 NC S 2 BOLT
#4/0 AWG STRANDED	YA28-2N	1/2" - 16 NC S 2 BOLT

NOTES:

1. ALL HARDWARE BOLTS, NUTS, LOCK WASHERS SHALL BE STAINLESS STEEL. ALL HARDWARE ARE TO BE AS FOLLOWS: BOLT, FLAT WASHER, GROUND BAR, GROUND LUG, FLAT WASHER AND NUT.
2. COPPER SHIELD, ANTIOX, CR NO-OX OR APPROVED EQUAL SHALL BE PLACE WHERE ALL DISSIMILAR METALS CONNECT.
3. ALL LUGS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.

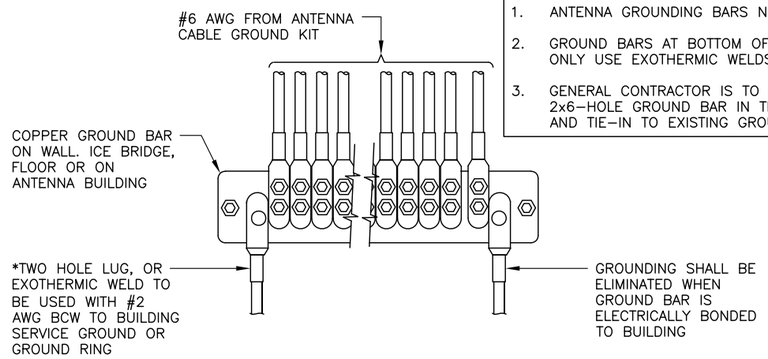


2 MECHANICAL LUG CONNECTION

SCALE: N.T.S.

NOTES:

1. ANTENNA GROUNDING BARS NOT TO USE INSULATORS.
2. GROUND BARS AT BOTTOM OF BUILDINGS SHALL ONLY USE EXOTHERMIC WELDS.
3. GENERAL CONTRACTOR IS TO FURNISH AND INSTALL A 2x6-HOLE GROUND BAR IN THE GBF OF THE RBS AND TIE-IN TO EXISTING GROUND RING.



3 GROUNDWIRE INSTALLATION

SCALE: N.T.S.

B+T GRP

T-Mobile

CENTERLINE COMMUNICATIONS

SITE NUMBER:
CT11214D

SITE NAME:
WATERBURY/RT 8_1

SITE ADDRESS:
1669 THOMASTON AVE
WATERBURY, CT 06704

PROJECT NO:	135648.003.01
CHECKED BY:	MDW

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION
A	7/15/19	JCO	PRELIMINARY REVIEW
0	7/19/19	JCO	CONSTRUCTION

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/20

STATE OF CONNECTICUT
31627
LICENSED
PROFESSIONAL ENGINEER
7/19/19

SHEET NUMBER:	REVISION:
G-1	0

Exhibit D

Structural Analysis Report

July 19, 2019

Peter Fales
Centerline Communications
95 Ryan Drive, Suite 1
Raynham, MA 02767
(401) 835-2033

B+T Group
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630
btwo@btgrp.com

Subject: **Structural Analysis**

Carrier Designation: **Site Number:** CT11214D
Site Name: Waterbury/Rt 8_1

Engineering Firm Designation: **B+T Group Project Number:** 135648.004.01 REV B

Site Data: **1669 Thomaston Ave., Waterbury, CT 06704, New Haven County**
Latitude *41.58981°*, Longitude *-73.05422°*
Smokestack
(3) 13.5 ft. Stand-off Mounts

Dear Mr. Fales,

B+T Group is pleased to submit this **"Structural Analysis"** to determine the structural integrity of the above mentioned smokestack supported telecommunications site.

The purpose of the assessment is to determine acceptability of the smokestack to sufficiently support the telecommunications equipment presented in this report. Based on our professional opinion we have determined the suitability for the structure and foundation, under the following load case, to be:

Existing + Proposed Equipment Note: See Table 1 and Table 2 for the proposed and existing loading, respectively.	**Sufficient Capacity** (Passing at 82.0%)

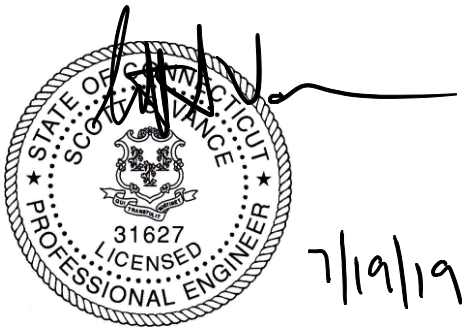
The analysis has been performed in accordance with the ASCE 7 standard and the 2015 IBC based upon a wind speed of 125 mph 3-second gust (converted to an equivalent 97 mph nominal 3-second gust wind speed per Section 1609.3.1 for use with ANSI/TIA-222 G).

All equipment proposed in this report shall be installed in accordance with the drawings for the determined available structural capacity to be effective.

We at *B+T Group* appreciate the opportunity of providing our continuing professional services to you and *NB+C*. If you have any questions or need further assistance on this or any other projects please give us a call.

Structural Letter prepared by: Siva Tellakula, E.I.T.

Respectfully submitted by: B&T Engineering, Inc.
COA: PEC.0001564 Expires: 02/10/2020



7/19/19

Scott S. Vance, P.E.

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1) INTRODUCTION

The proposed telecommunications equipment will be located on the smokestack at 1669 Thomaston Ave., Waterbury, CT 06704, New Haven County. There are existing telecommunications antennas mounted on the wall of the smokestack in three different sectors. The proposed loading consists of adding (3) antennas, (3) RRHs and (2) HCS to existing mount pipes.

2) ANALYSIS CRITERIA

The structural Analysis was performed for this structure in accordance with the 2015 International Building Code and the ASCE 7 Design Standard. The TIA-222-G apply to telecommunications towers. Although telecommunications equipment is present, this structure is primarily a smokestack and is more appropriately assessed with the ASCE 7 Standard. The design wind speed for this location is 97 mph 3-second gust.

Table 1 – Proposed and Existing Equipment Information

Loading	RAD Ctr. Elev. (ft.)	Position	Qty.	Manufacturer	Model / Type	Note
Proposed (T-Mobile)	130	2	3	RFS	APXVAARR24_43-U-NA20	1
			3	Ericsson	Radio 4449 B71+B12	2
		-	2	Ericsson	6X12 HCS Fiber Cable	3
Existing (T-Mobile)	133.5	4	3	RFS	APX16DWV-16DWV-S-E-A20	
		5	3	Ericsson	AIR32 KRD901146-1_B66A_B2A	
		4	6	Ericsson	KRY 112 144/2	
	-	-	1	Ericsson	6X12 HCS Fiber Cable	-
			15	-	1-5/8'' Coax Cable	
Existing (Sprint)	120	-	3	RFS	APPXVERR18-C	4
			3	Generic	Antenna	
			6	Ericsson	RRUS-11	

Note:
(1) Proposed Antenna to be installed on the existing Mount Pipe.
(2) Proposed Equipment to be installed directly behind the Antenna.
(3) Existing Equipment installed on the Mount.
(4) Sprint Equipment installed on the Smokestack.

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
RFDS	Existing Loading Proposed Loading	Date: 04/16/2019	Centerline Communications.
Structural Analysis	Structural Detail	Date: 11/21/2014	Centerline Communications.

3.1) Analysis Method

This smokestack is a substantial structure designed and fabricated to support hundreds of pounds of material in addition to its own self weight. The nature and intended purpose of the structure is substantially greater than the addition of the telecommunication equipment. The proposed equipment will be mounted on existing mounts attached to the wall of the smokestack. The analysis of the mounts is not part of the scope of this report. Based on our calculations, the new antennas have insignificant effect on the seismic and wind load of the smokestack. Hence the Smokestack has adequate capacity to carry the existing and proposed loads.

3.2) Assumptions

1) The structure was built in accordance with the designer's specifications.
2) The structure has been maintained and is free of damage.
3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
4) Existing loading was assumed based on final proposed loading.

This analysis may be affected if any assumptions are not valid or have been made in error. B+T Group should be notified to determine the effect on the structural integrity of the structure.

4) ANALYSIS RESULTS

4.1) Recommendations

1) The antennas shall be installed on the existing smokestack in accordance with the installation drawings.

APPENDIX A

(Calculations)

PROJECT	**135648.002.01 - Waterbury/Rt 8_1**		**SP**
SUBJECT	**Smokestack Calculations**		
DATE	**07/11/19**	PAGE	OF

B+T GRP
1717 S. Boulder, Suite 300
Tulsa, OK 74159
(918) 587-4630

ASSESS IMPACT OF TELECOM EQUIPMENT ON WATER TOWER USING ASCE 7 - 05 STANDARD

WIND = 97
EXP = C
Ht = 134
q = 0.00256 Kz Kzt Kd V^2 I

I = 1.0 G = 0.85
K_d = 0.95 C_f = 0.6
K_{zt} = 1.0 Kz= 1.31

q_z = 22.88 K_z
p = q_z G C_f = 11.67 K_z

H	K_z	q_z	P	W	A	F	l	M
ft	-	psf	psf	ft	ft^2	lbs	ft	ft-lbs
134	1.35	30.80	15.71	12.00	201	3157	129.8125	409875
126	1.33	30.39	15.50	11.66	97.6525	1513	121.4375	183,770
117	1.31	29.95	15.27	11.36	95.14	1453	113.0625	164,290
109	1.29	29.48	15.04	11.03	92.37625	1389	104.6875	145,415
101	1.27	28.99	14.79	10.73	89.86375	1329	96.3125	127,969
92	1.24	28.46	14.52	10.39	87.01625	1263	87.9375	111,085
84	1.22	27.90	14.23	10.05	84.177125	1198	79.5625	95,295
75	1.19	27.29	13.92	9.75	81.65625	1136	71.1875	80,896
67	1.16	26.62	13.58	9.41	78.80875	1070	62.8125	67,202
59	1.13	25.88	13.20	9.07	75.96125	1003	54.4375	54,582
50	1.09	25.05	12.78	8.88	74.37	950	46.0625	43,773
42	1.05	24.11	12.30	8.44	70.685	869	37.6875	32,758
34	1.01	23.00	11.73	8.14	68.1725	800	29.3125	23,445
25	0.95	21.65	11.04	7.80	65.325	721	20.9375	15,104
17	0.87	19.88	10.14	7.47	62.56125	634	12.5625	7,969
8	0.75	17.18	8.76	7.16	59.965	525	4.1875	2,200
0	0.00	0.00	0.00	6.83	0	0	0	0

Total Moment 1,565,628 Ft-Lbs

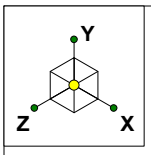
Determine amount of moment generated by telecom equipment
Note that equipment on the heaviest loaded sector is considered

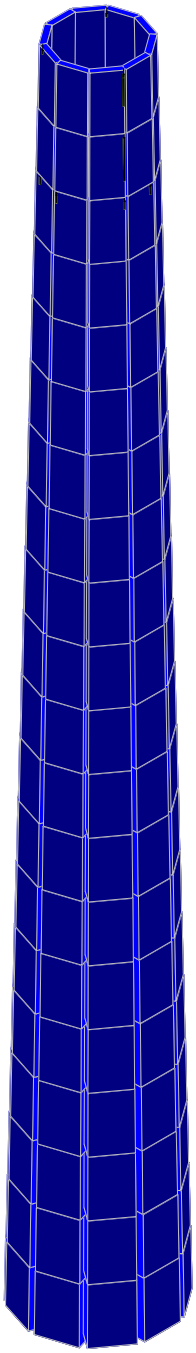
Equipment	q_z	A	C_f	F	M
-	psf	ft^2	-	lbs	ft-lbs
APXVAARR24_43-U-NA20	30.80	47.95	1.40	1757	231985
Radio 4449 B71+B12	30.80	4.10	1.40	150	19,836
6X12 HCS	30.80	3.10	1.40	114	14,998
APX16DWV-16DWV-S-E-A20	30.80	15.48	1.40	567	74,893
IR32 KRD901146-1_B66A_B2	30.80	15.88	1.40	582	76,828
KRY 112 144/2	30.80	1.20	1.40	44	5,796
APPXVERR18-C	30.70	59.10	1.40	2159	285,038
RRUS-11	30.70	13.92	1.40	509	67,145

K_z = 1.34
q_z = 30.7 psf
H = 132 ft

Total Moment = 776,520 Ft-Lbs

Total Overturning Moment (M_o)= 2342.15 Ft-Kips





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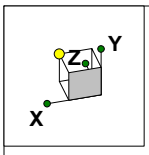
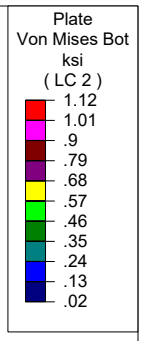
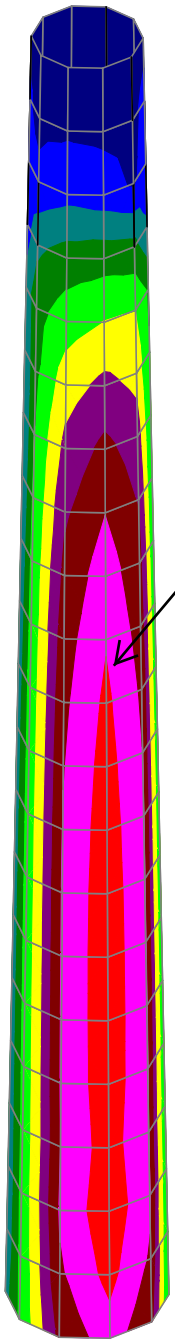
135648.001.01- REV B		SMOKESTACK.r3d







Critical Section at 75ft

Results for LC 2, 1.2 D + 1.0 - 0 W

B+T Group	Waterbury CT11214D	SK - 4
SP		July 19, 2019 at 4:09 PM
135648.001.01- REV B		SMOKESTACK.r3d

The Smokestack dimensions and material properties were assumed based on the previous analysis by ATLANTIS Group (Dated November 21, 2014)

Height of Silo (H)=	134	ft.	
Top Diameter of Silo (D_t) =	9.75	ft.	
Top thickness of Silo (T_t) =	8	in	
Bottom Diameter of Silo (D_b) =	14.25	ft.	
Bottom Thickness of Silo (T_b) =	28	in	
Unit Weight of Bricks (γ_{brick}) =	120	pcf	
Ultimate masonary strength (f'_m) =	432	kips/ft^2	3000 Psi
Area of Silo At top (A_t) =	19.02	Sq.ft.	
Area of Silo At bottom (A_b)=	87.35	Sq.ft.	
Average volume of Silo (V_a) =	6051.00	ft^3	$V_a = A_a$ x H
Weight of Silo (W)=	726.12	kips	$W = V_a$ x γ_{brick}
Resisting Moment due to self weight (M_r)=	5173.61	ft-kips	$M_r = \frac{D_b}{2}$ x W
Factor of Saftey (F.O.S)=	2.21	**No Overturning**	F.O.S=$\frac{M_r}{M_o}$

Compressive stress check of the bricks at the Critical section

As per Risa Output Critical section is at (H_c)=	75	ft.	
Diameter of Silo at Critical section (D_c)=	12	ft.	
Thickness of Silo at Critical section (T_c)=	18	in	
Area of Silo Critical section (A_c)=	49.48	Sq.ft.	
Moment of Inertia at critical section (I_c)=	695.81	ft^4	
Radius of gyration at critical section (r_c)=	6.00	ft.	

Compressive stresses due to axial loading and Bending

Makimum compressive stress due to axial load(f_a) =	14.67	kips/ft^2	$f_a = \frac{W}{A_c}$
Allowable compressive stress due to axial load (F_a)=	107.14	kips/ft^2	$F_a = \frac{1}{4} f'_m (1 - (\frac{H_c}{140\, r_c})^2)$

Compressive Stress in bending (f_b)=	2.52	kips/ft^2	$f_b=\frac{M_o\, T_c}{2\, I_c}$
Allowable Compressive Stress in bending (F_b)=	144	kips/ft^2	$F_b=\frac{1}{3} f'_m$
Unity check =	0.15	OK	$\frac{f_a}{F_a}+\frac{f_b}{F_b}\leq 1$

Flexural check at the base

Allowable flexural stresses on the tension Side at base

σ tension brick and concrete	30	psi
conn Stress due to Self Weight	57.7251	psi
Section Modulus Sx at Base	390480	in3

Moment capacity at base Mcap	2854574	lb.ft	
Passing Percentage	82.049	%	= (Mo / Mcap)x100

Exhibit E

Mount Analysis

July 8, 2019

Peter Fales
Centerline Communications
95 Ryan Drive, Suite 1
Raynham, MA 02767
(401) 835-2033

B+T Group
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630
btwo@btgrp.com

Subject:	**Appurtenance Mount Conditional Pass Report**	
Carrier Designation:	**Site Number:**	CT11214D
	Site Name:	Waterbury/Rt 8_1
Engineering Firm Designation:	**B+T Group Project Number:**	135648.002.01
Site Data:	**1669 Thomaston Ave., Waterbury, CT 06704, New Haven County** **Latitude *41.58981°*, Longitude *-73.05422°*** **Smokestack** **(3) 13.5 ft. Stand-off Mounts**	

Dear Mr. Fales,

B+T Group is pleased to submit this **"Appurtenance Mount Conditional Pass Report"** to determine the structural integrity of the antenna mount on the above-mentioned structure.

The purpose of the analysis is to determine acceptability of the mount's stress level. Based on our analysis we have determined the stress level for the mount under the following load case to be:

Existing + Proposed Equipment Note: See Table 1 for the final loading configuration	**Sufficient Capacity** **(Passing at 84.1 %)**

***See Section 5.1 of this report for the structural modifications required in order for the mount to support the loading listed in Table 1**

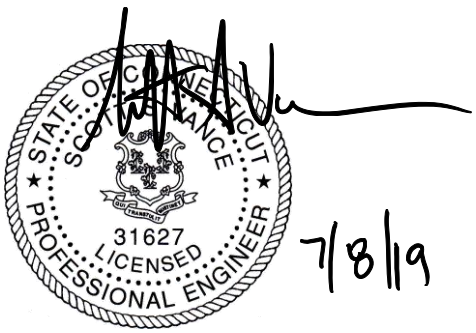
The analysis has been performed in accordance with the ANSI/TIA-222-G Standard. This analysis utilizes an ultimate 3-second gust wind speed of 125 mph (converted to an equivalent 97 mph nominal 3-second gust wind speed per Section 1609.3.1 for use with ANSI/TIA-222 G) as required by the 2015 International Building Code. Exposure Category C and Risk Category II were used in this analysis.

All the equipment proposed in this report shall be installed in accordance with the drawings for the determined available structural capacity to be effective.

We at *B+T Group* appreciate the opportunity of providing our continuing professional services to you and *Centerline Communications.* If you have any questions or need further assistance on this or any other projects, please give us a call.

Mount structural analysis prepared by: Prashanth Ghanta.

Respectfully submitted by: B&T Engineering, Inc.
COA: PEC.0001564 Expires: 02/10/2020



Scott S. Vance, P.E.

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1) INTRODUCTION

The appurtenance mount consists of Stand-off mounts, at 131.5 ft., attached to smokestack at 1669 Thomaston Ave., Waterbury, CT 06704, New Haven County. The proposed antenna loading information was obtained from Centerline Communications. All information provided to B+T Group was assumed accurate and complete.

2) ANALYSIS CRITERIA

The structural analysis was performed for this mount in accordance with the ANSI/TIA-222-G-2-2005 Structural Standard for Antenna Supporting Structures and Antennas – Addendum 2 using a 3-second gust wind speed of 97 mph with no ice and 50 mph with 0.75-inch escalated ice thickness. Exposure Category C with top factor 1 and Risk Category II were used in this analysis. In addition, the standoff mounts have been analyzed for various live loading conditions consisting of a 250-lb man live load applied individually at the midpoint and cantilevered ends of horizontal members as well as a 500-pound man live load applied individually at mount pipe locations using a 3-second gust of 30mph. The mount was analyzed under 30º increments in the wind direction. The analyzed loading is detailed in Table 1.

Table 1 – Proposed and Existing Equipment Information

Loading	RAD Ctr. Elev. (ft.)	Position	Qty.	Manufacturer	Model / Type	Note
Proposed	130	2	3	RFS	APXVAARR24_43-U-NA20	1
			3	Ericsson	Radio 4449 B71+B12	2
		-	2	Ericsson	6X12 HCS	3
Existing	133.5	4	3	RFS	APX16DWV-16DWV-S-E-A20	
		5	3	Ericsson	AIR32 KRD901146-1_B66A_B2A	
		4	6	Ericsson	KRY 112 144/2	

Note:
(1) Proposed Antenna to be installed on the existing Mount Pipe.
(2) Proposed Equipment to be installed directly behind the Antenna.
(3) Existing Equipment installed on the Mount.

Table 2 - Documents Provided

Documents	Remarks	Reference	Source
RFDS	Existing Loading Proposed Loading	Date: 04/16/2019	Centerline Communications.
Mount Mapping	B+T Group	Date: 06/26/2019	On file

3) ANALYSIS PROCEDURE

3.1) Analysis Method

RISA-3D (Version 17.0.2), a commercially available analysis software package, was used to create a three-dimensional model of the mount and calculate member stresses and deflections for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

1. The mount was built in accordance with the manufacturer's specifications.
2. The mount has been maintained in accordance with the manufacturer's specifications and is free of damage.
3. The configuration of antennas and other appurtenances are as specified in Table 1.
4. All mount components have been assumed to be in sufficient condition to carry their full design capacity for the analysis.

5. Mount areas and weights are determined from field measurements, standard material properties, and/or manufacturer product data.
6. Serviceability with respect to antenna twist, tilt, roll or lateral translation is not checked and is left to the carrier or tower owner to ensure conformance.
7. All prior structural modifications, if any are assumed to be correctly installed and fully effective.
8. All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.
9. The following material grades were assumed (Unless Noted Otherwise):
   a) Connection Bolts : ASTM A325
   b) Steel Pipe : ASTM A53 (GR. 35)
   c) HSS (Round) : ASTM 500 (GR. B-42)
   d) HSS (Rectangular) : ASTM 500 (GR. B-46)
   e) Channel : ASTM A36 (GR. 36)
   f) Steel Solid Rod : ASTM A36 (GR. 36)
   g) Steel Plate : ASTM A36 (GR. 36)
   h) Steel Angle : ASTM A36 (GR. 36)
   i) UNISTRUT : ASTM A570 (GR. 33)

This analysis may be affected if any assumptions are not valid or have been made in error. B+T Group should be notified to determine the effect on the structural integrity of the antenna mounting system.

4) ANALYSIS RESULTS

Table 3– Mount Component Stresses vs. Capacity

Notes	Component	Elevation (ft.)	% Capacity	Pass / Fail
--	Main Horizontals	131.5	74.4	Pass
	Mount Pipes	131.5	62.0	Pass
	Existing Tiebacks	131.5	16.3	Pass
	Connection Plates	131.5	72.8	Pass
	Vertical Connection Pipe	131.5	44.4	Pass
	Support Arms	131.5	84.1	Pass
	Additional Tiebacks	131.5	13.5	Pass

5) RECOMMENDATIONS

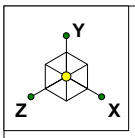
The sector mounts have sufficient capacity to carry the existing and proposed loads and is in compliance with the ANSI/TIA-222-H standard for the proposed, reserved and existing loading. (Refer to the RISA output for the specific members).

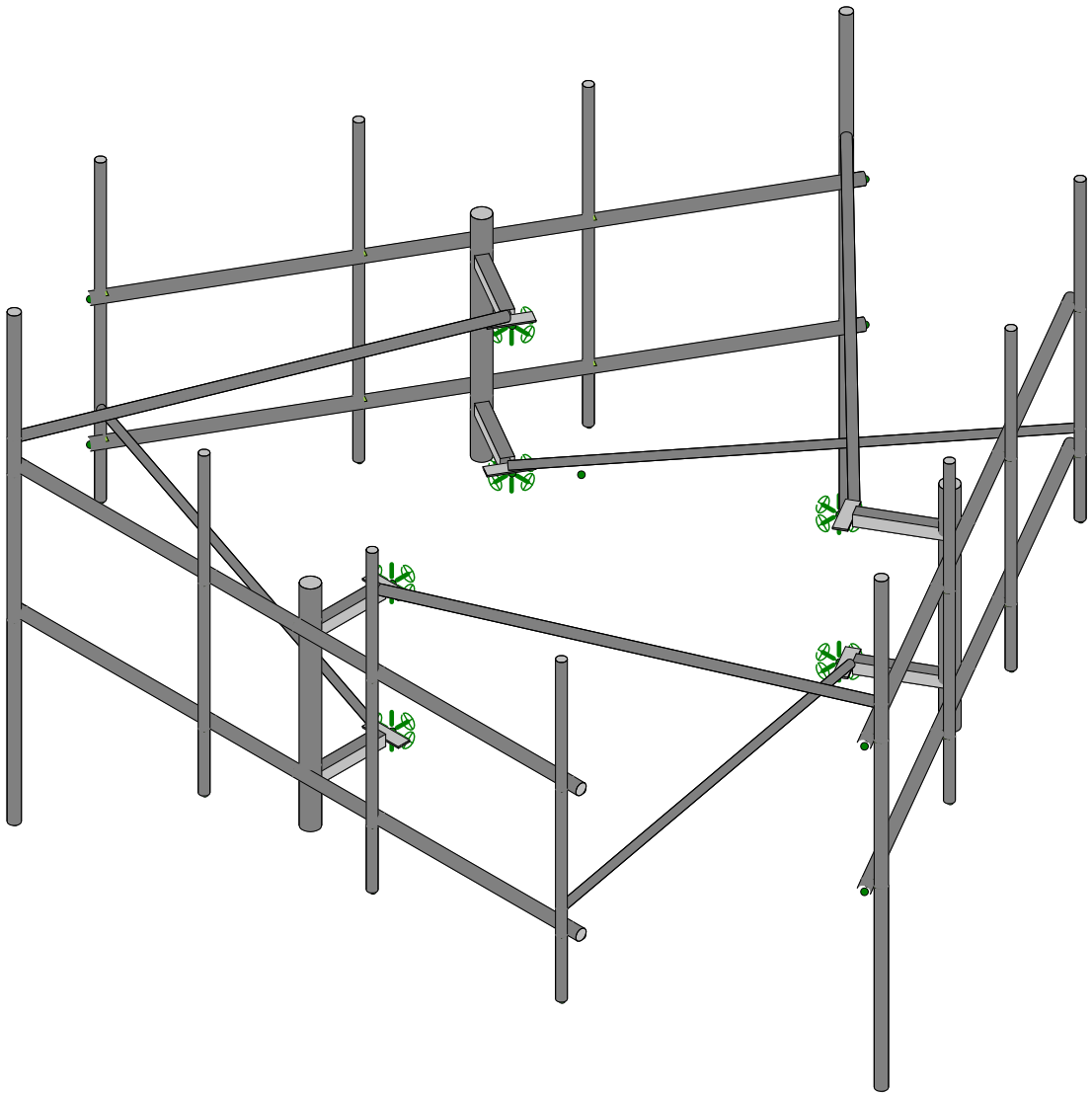
1. Install new Stiff-Arm Kits, Sitepro 1 **Part# STK-U** at Mount pipe location 4 @ 0'-9" above the Top Horizontal on all 3 sectors. (see Appendix A for the location of Additional Tie backs).

No structural modifications are required at this time, provided that the above-listed changes are implemented

APPENDIX A

(RISA-3D Output)





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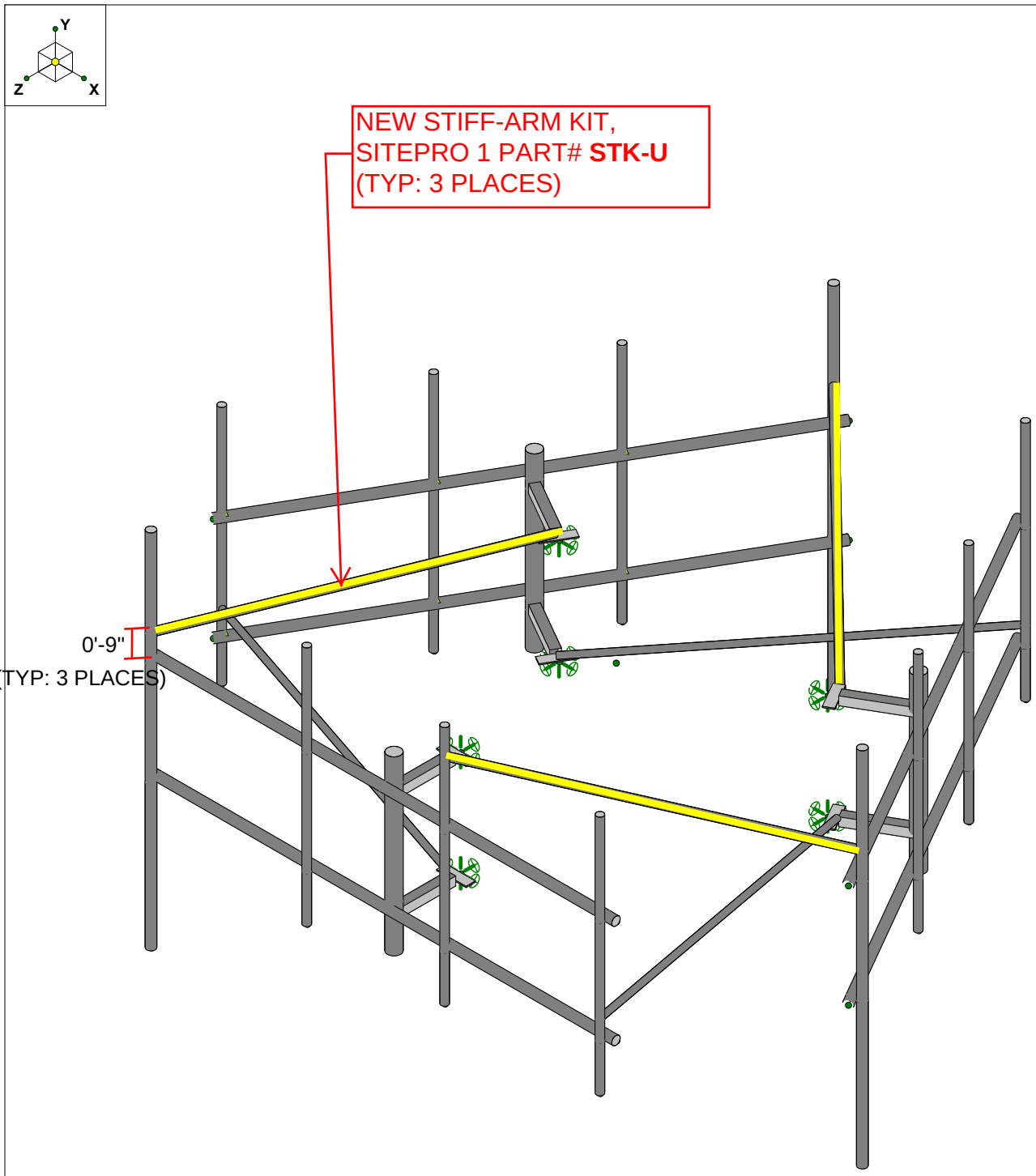

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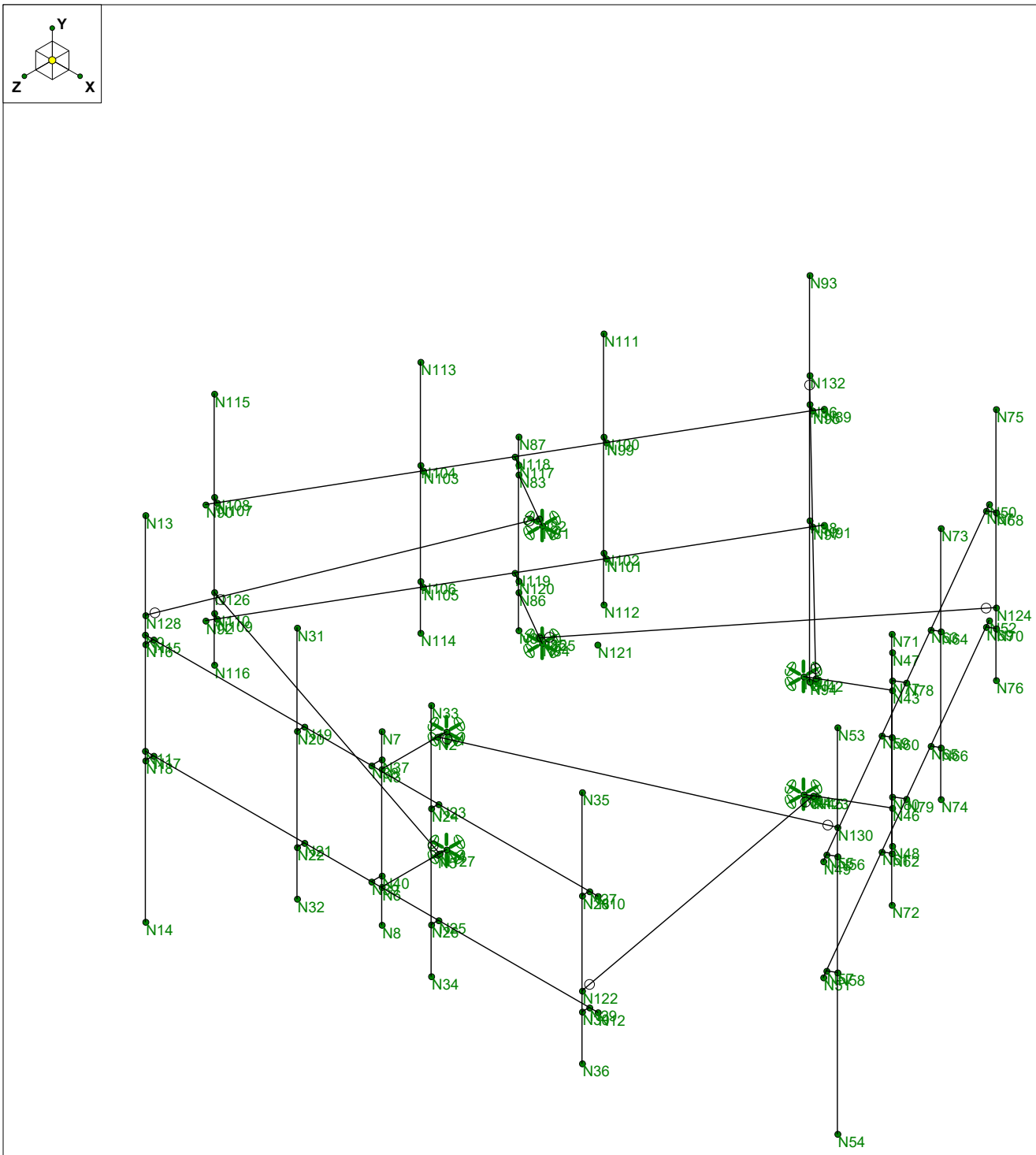

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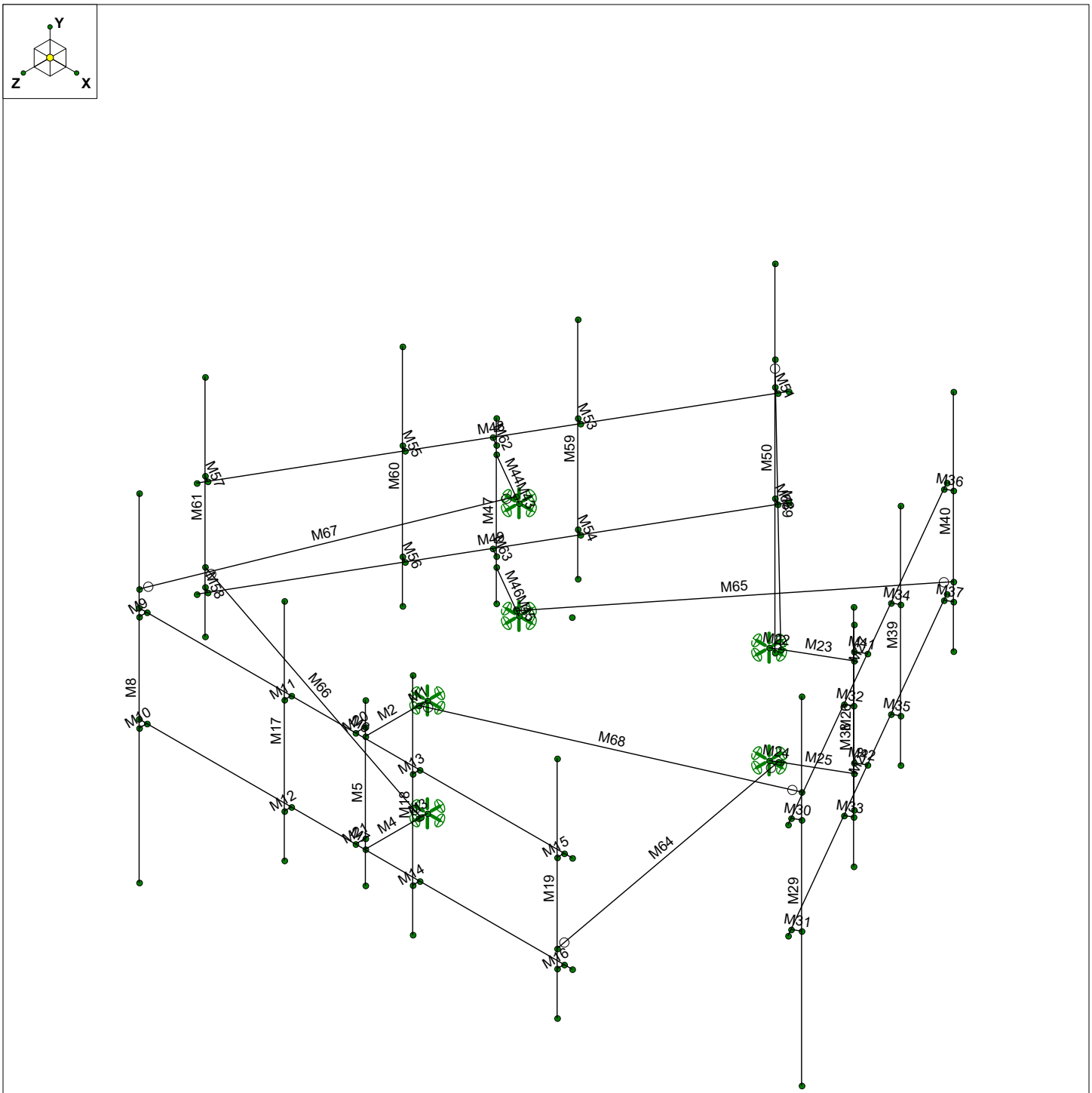

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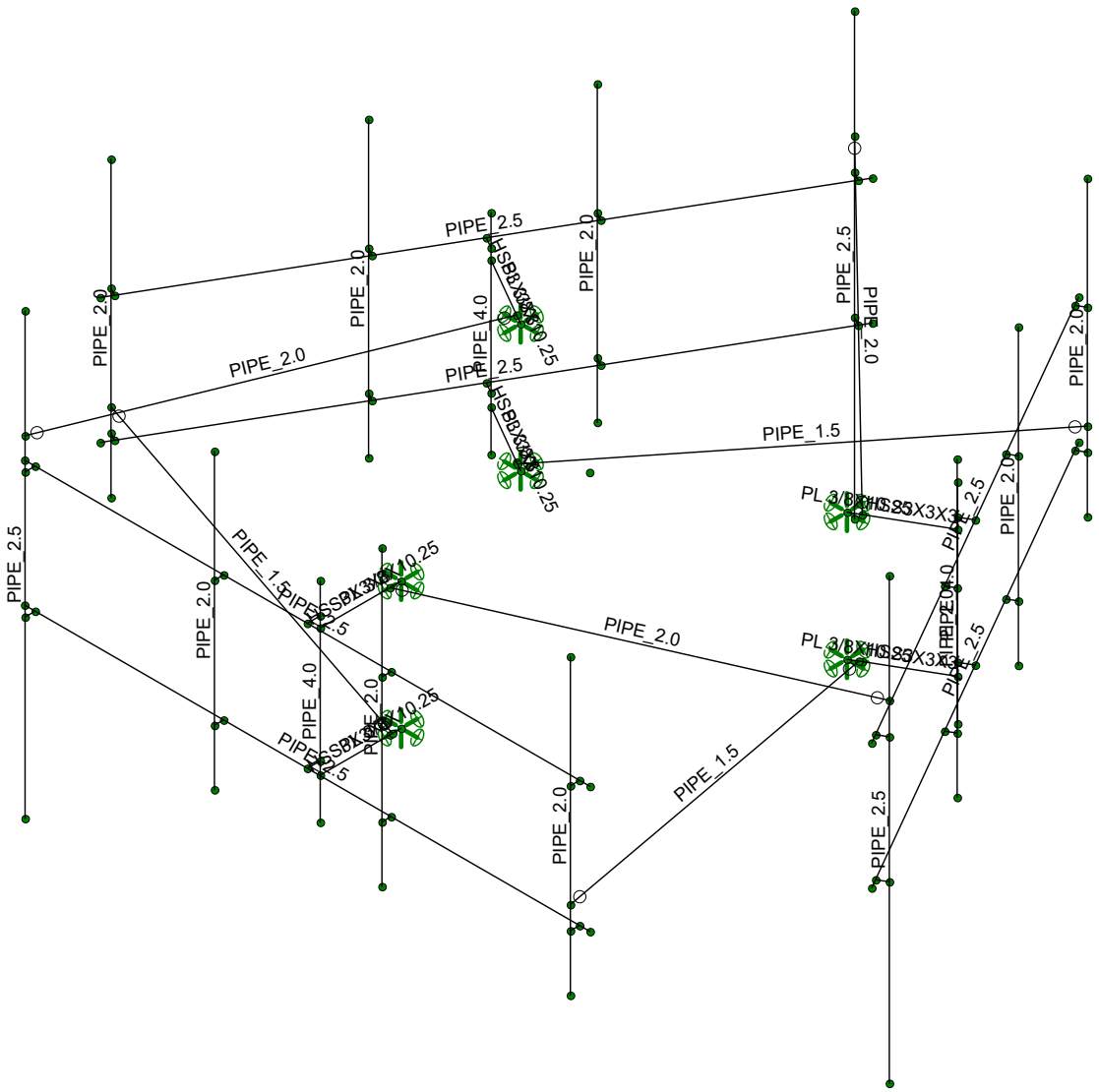

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PROJECT	**135648.002.01 - Waterbury/Rt 8_1, C PG**				
SUBJECT	**Stand-off Mounts- Mount Analysis**				
DATE	**07/08/19**	PAGE	1	OF	3

B+T Group
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630

INPUT

[REF: ANSI/TIA-222-G2005]

Tower Type		:	ST		
Tower Height		:	134	ft	
Mount Elevation		:	131.5	ft	
Antenna Elevation		:	133.5	ft	
Crest Height		:	0	ft	
Structure Class		:	II		[Table 2-1]
Exposure Category		:	C		[Sec. 2.6.5]
Topography Category		:	1		[Sec. 2.6.6.2]
Wind Velocity	V	:	97	mph	[Annex B]
Ice wind Velocity	V_i	:	50	mph	[Annex B]
Service Velocity	V_s	:	30	mph	[Annex B]
Base Ice thickness	t_i	:	0.75	in	[Annex B]

ANTENNAS

	Manufacturer	Model	Height (in)	Front Width (in)	Side Width (in)	Weight (lbs)	Shape	Quantity	Location (%)
Mount Pipe **M18**									
	Ericsson	IR32 KRD901146-1_B66A_B2	59.25	12.87	8.66	143.00	Flat	0.5	5
	Ericsson	IR32 KRD901146-1_B66A_B2	59.25	12.87	8.66	143.00	Flat	0.5	70
Mount Pipe **M17**									
	RFS/Celwave	APX16DWV-16DWV-S-E-A20	55.90	13.30	3.15	40.70	Flat	0.5	10
	RFS/Celwave	APX16DWV-16DWV-S-E-A20	55.90	13.30	3.15	40.70	Flat	0.5	65
	Ericsson	KRY 112 144/2	8.65	6.65	3.19	9.70	Flat	1	20
Mount Pipe **M8**									
	RFS/Celwave	APXVAARR24_43-U-NA20	95.90	24.00	8.70	128.00	Flat	0.5	15
	RFS/Celwave	APXVAARR24_43-U-NA20	95.90	24.00	8.70	128.00	Flat	0.5	75
	Ericsson	Radio 4449 B71+B12	14.95	13.19	9.25	75.00	Flat	1	50
Mount Pipe **M60**									
	Ericsson	IR32 KRD901146-1_B66A_B2	59.25	12.87	8.66	143.00	Flat	0.5	5
	Ericsson	IR32 KRD901146-1_B66A_B2	59.25	12.87	8.66	143.00	Flat	0.5	70
Mount Pipe **M59**									
	RFS/Celwave	APX16DWV-16DWV-S-E-A20	55.90	13.30	3.15	40.70	Flat	0.5	10
	RFS/Celwave	APX16DWV-16DWV-S-E-A20	55.90	13.30	3.15	40.70	Flat	0.5	65
	Ericsson	KRY 112 144/2	8.65	6.65	3.19	9.70	Flat	1	20
Mount Pipe **M50**									
	RFS/Celwave	APXVAARR24_43-U-NA20	95.90	24.00	8.70	128.00	Flat	0.5	15
	RFS/Celwave	APXVAARR24_43-U-NA20	95.90	24.00	8.70	128.00	Flat	0.5	75
	Ericsson	Radio 4449 B71+B12	14.95	13.19	9.25	75.00	Flat	1	50

PROJECT	135648.002.01 - Waterbury/Rt 8_1, C	PG
SUBJECT	Stand-off Mounts Mount Analysis	
DATE	07/08/19	PAGE 2 OF 3

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Mount Pipe	**M39**								
	Ericsson	IR32 KRD901146-1_B66A_B2	59.25	12.87	8.66	143.00	Flat	0.5	5
	Ericsson	IR32 KRD901146-1_B66A_B2	59.25	12.87	8.66	143.00	Flat	0.5	70
Mount Pipe	**M38**								
	RFS/Celwave	APX16DWV-16DWV-S-E-A20	55.90	13.30	3.15	40.70	Flat	0.5	10
	RFS/Celwave	APX16DWV-16DWV-S-E-A20	55.90	13.30	3.15	40.70	Flat	0.5	65
	Ericsson	KRY 112 144/2	8.65	6.65	3.19	9.70	Flat	1	20
Mount Pipe	**M29**								
	RFS/Celwave	APXVAARR24_43-U-NA20	95.90	24.00	8.70	128.00	Flat	0.5	15
	RFS/Celwave	APXVAARR24_43-U-NA20	95.90	24.00	8.70	128.00	Flat	0.5	75
	Ericsson	Radio 4449 B71+B12	14.95	13.19	9.25	75.00	Flat	1	50
Mount Pipe	**M6**								
	Ericsson	KRY 112 144/2	8.65	6.65	3.19	9.70	Flat	1	20
Mount Pipe	**M48**								
	Ericsson	KRY 112 144/2	8.65	6.65	3.19	9.70	Flat	1	20
Mount Pipe	**M27**								
	Ericsson	KRY 112 144/2	8.65	6.65	3.19	9.70	Flat	1	20
Mount Pipe	**M2**								
	Ericsson	6X12 HCS	14.00	16.00	8.00	23.50	Flat	1	50
Mount Pipe	**M44**								
	Ericsson	6X12 HCS	14.00	16.00	8.00	23.50	Flat	1	50
Mount Pipe									

PROJECT	**135648.002.01 - Waterbury/Rt 8_1, C**				**PG**
SUBJECT	**Stand-off Mounts Mount Analysis**				
DATE	**07/08/19**	PAGE	3	OF	3

B+T Group
1717 S. Boulder, Suite 300
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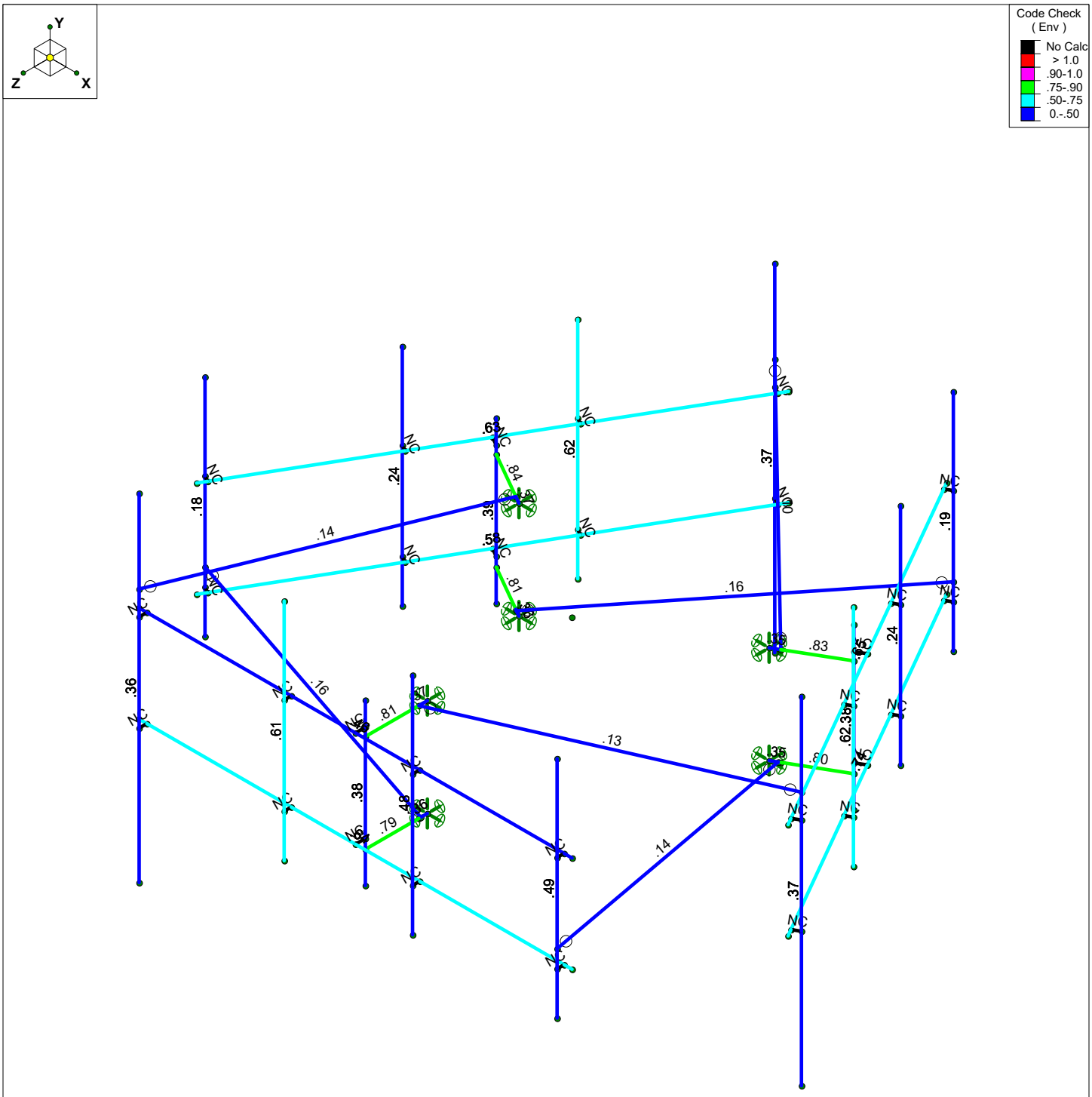
INPUT

[REF: ANSI/TIA-222-G2005]

	Member Number	Section Set	Wind Projection (in)	Length (in)	Perimeter (in)	Shape	D_c (in)
	M1	F1-CP1	0.38	3.19	21.25	Flat	10.26
	M2	F1-S1	3.00	20.00	12.00	Flat	4.24
	M3	F1-CP1	0.38	3.19	21.25	Flat	10.26
	M4	F1-S1	3.00	20.00	12.00	Flat	4.24
	M5	F1-P1	4.50	60.00	14.14	Round	4.50
	M6	MF-H1	2.88	162.00	9.03	Round	2.88
	M7	MF-H1	2.88	162.00	9.03	Round	2.88
	M8	MF-P1	2.88	126.00	9.03	Round	2.88
	M17	MF-P2	2.38	84.00	7.46	Round	2.38
	M18	MF-P2	2.38	84.00	7.46	Round	2.38
	M19	MF-P2	2.38	84.00	7.46	Round	2.38
	M22	F1-CP1	0.38	3.19	21.25	Flat	10.26
	M23	F1-S1	3.00	20.00	12.00	Flat	4.24
	M24	F1-CP1	0.38	3.19	21.25	Flat	10.26
	M25	F1-S1	3.00	20.00	12.00	Flat	4.24
	M26	F1-P1	4.50	60.00	14.14	Round	4.50
	M27	MF-H1	2.88	162.00	9.03	Round	2.88
	M28	MF-H1	2.88	162.00	9.03	Round	2.88
	M29	MF-P1	2.88	126.00	9.03	Round	2.88
	M38	MF-P2	2.38	84.00	7.46	Round	2.38
	M39	MF-P2	2.38	84.00	7.46	Round	2.38
	M40	MF-P2	2.38	84.00	7.46	Round	2.38
	M43	F1-CP1	0.38	3.19	21.25	Flat	10.26
	M44	F1-S1	3.00	20.00	12.00	Flat	4.24
	M45	F1-CP1	0.38	3.19	21.25	Flat	10.26
	M46	F1-S1	3.00	20.00	12.00	Flat	4.24
	M47	F1-P1	4.50	60.00	14.14	Round	4.50
	M48	MF-H1	2.88	162.00	9.03	Round	2.88
	M49	MF-H1	2.88	162.00	9.03	Round	2.88
	M50	MF-P1	2.88	126.00	9.03	Round	2.88
	M59	MF-P2	2.38	84.00	7.46	Round	2.38
	M60	MF-P2	2.38	84.00	7.46	Round	2.38
	M61	MF-P2	2.38	84.00	7.46	Round	2.38
	M64	Tieback	1.90	115.91	5.97	Round	1.90
	M65	Tieback	1.90	115.91	5.97	Round	1.90
	M66	Tieback	1.90	115.91	5.97	Round	1.90
	M67	Add Tieback	2.38	116.52	7.46	Round	2.38
	M68	Add Tieback	2.38	116.52	7.46	Round	2.38
	M69	Add Tieback	2.38	116.52	7.46	Round	2.38



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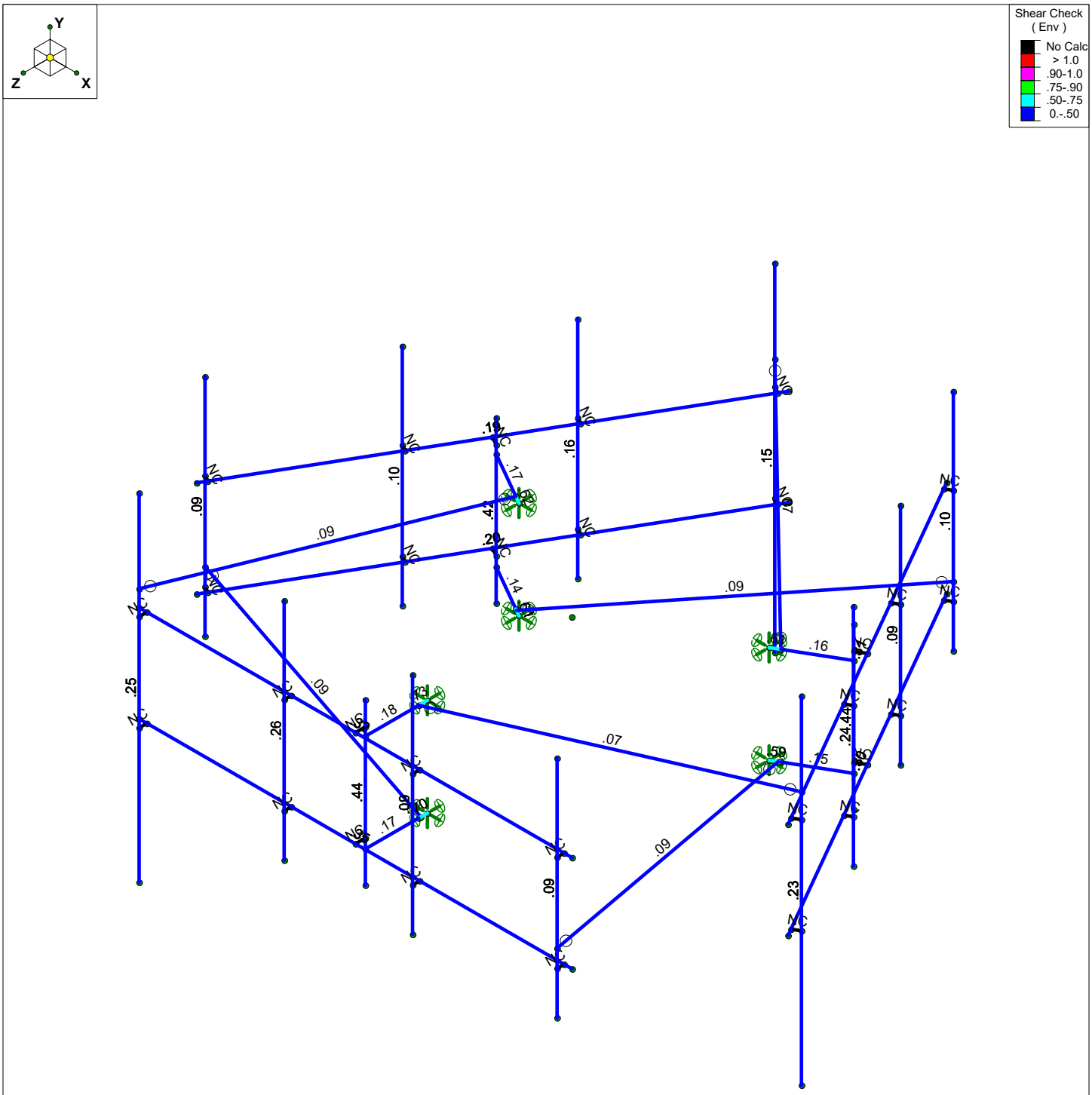

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Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rul...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	MF-H1	PIPE_2.5	Beam	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
2	MF-P1	PIPE_2.5	Column	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
3	MF-P2	PIPE_2.0	Column	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
4	F1-S1	HSS3X3X3	Beam	Tube	A500 Gr.B ...	Typical	1.89	2.46	2.46	4.03
5	F1-P1	PIPE_4.0	Column	Pipe	A53 Gr.B	Typical	2.96	6.82	6.82	13.6
6	Tieback	PIPE_1.5	Beam	Pipe	A53 Gr.B	Typical	.749	.293	.293	.586
7	F1-CP1	PL 3/8X10.25	Beam	RECT	A36 Gr.36	Typical	3.844	.045	33.653	.176
8	Add Tieback	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N1	N2		90	F1-CP1	Beam	RECT	A36 Gr.36	Typical
2	M2	N2	N3			F1-S1	Beam	Tube	A500 Gr.B...	Typical
3	M3	N4	N5		90	F1-CP1	Beam	RECT	A36 Gr.36	Typical
4	M4	N5	N6			F1-S1	Beam	Tube	A500 Gr.B...	Typical
5	M5	N7	N8			F1-P1	Column	Pipe	A53 Gr.B	Typical
6	M6	N9	N10			MF-H1	Beam	Pipe	A53 Gr.B	Typical
7	M7	N11	N12			MF-H1	Beam	Pipe	A53 Gr.B	Typical
8	M8	N13	N14			MF-P1	Column	Pipe	A53 Gr.B	Typical
9	M9	N15	N16			RIGID	None	None	RIGID	Typical
10	M10	N17	N18			RIGID	None	None	RIGID	Typical
11	M11	N19	N20			RIGID	None	None	RIGID	Typical
12	M12	N21	N22			RIGID	None	None	RIGID	Typical
13	M13	N23	N24			RIGID	None	None	RIGID	Typical
14	M14	N25	N26			RIGID	None	None	RIGID	Typical
15	M15	N27	N28			RIGID	None	None	RIGID	Typical
16	M16	N29	N30			RIGID	None	None	RIGID	Typical
17	M17	N31	N32			MF-P2	Column	Pipe	A53 Gr.B	Typical
18	M18	N33	N34			MF-P2	Column	Pipe	A53 Gr.B	Typical
19	M19	N35	N36			MF-P2	Column	Pipe	A53 Gr.B	Typical
20	M20	N37	N38			RIGID	None	None	RIGID	Typical
21	M21	N39	N40			RIGID	None	None	RIGID	Typical
22	M22	N41	N42		90	F1-CP1	Beam	RECT	A36 Gr.36	Typical
23	M23	N42	N43			F1-S1	Beam	Tube	A500 Gr.B...	Typical
24	M24	N44	N45		90	F1-CP1	Beam	RECT	A36 Gr.36	Typical
25	M25	N45	N46			F1-S1	Beam	Tube	A500 Gr.B...	Typical
26	M26	N47	N48			F1-P1	Column	Pipe	A53 Gr.B	Typical
27	M27	N49	N50			MF-H1	Beam	Pipe	A53 Gr.B	Typical
28	M28	N51	N52			MF-H1	Beam	Pipe	A53 Gr.B	Typical
29	M29	N53	N54			MF-P1	Column	Pipe	A53 Gr.B	Typical
30	M30	N55	N56			RIGID	None	None	RIGID	Typical
31	M31	N57	N58			RIGID	None	None	RIGID	Typical
32	M32	N59	N60			RIGID	None	None	RIGID	Typical
33	M33	N61	N62			RIGID	None	None	RIGID	Typical
34	M34	N63	N64			RIGID	None	None	RIGID	Typical
35	M35	N65	N66			RIGID	None	None	RIGID	Typical
36	M36	N67	N68			RIGID	None	None	RIGID	Typical
37	M37	N69	N70			RIGID	None	None	RIGID	Typical
38	M38	N71	N72			MF-P2	Column	Pipe	A53 Gr.B	Typical
39	M39	N73	N74			MF-P2	Column	Pipe	A53 Gr.B	Typical
40	M40	N75	N76			MF-P2	Column	Pipe	A53 Gr.B	Typical
41	M41	N77	N78			RIGID	None	None	RIGID	Typical
42	M42	N79	N80			RIGID	None	None	RIGID	Typical
43	M43	N81	N82		90	F1-CP1	Beam	RECT	A36 Gr.36	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
44	M44	N82	N83			F1-S1	Beam	Tube	A500 Gr.B...	Typical
45	M45	N84	N85		90	F1-CP1	Beam	RECT	A36 Gr.36	Typical
46	M46	N85	N86			F1-S1	Beam	Tube	A500 Gr.B...	Typical
47	M47	N87	N88			F1-P1	Column	Pipe	A53 Gr.B	Typical
48	M48	N89	N90			MF-H1	Beam	Pipe	A53 Gr.B	Typical
49	M49	N91	N92			MF-H1	Beam	Pipe	A53 Gr.B	Typical
50	M50	N93	N94			MF-P1	Column	Pipe	A53 Gr.B	Typical
51	M51	N95	N96			RIGID	None	None	RIGID	Typical
52	M52	N97	N98			RIGID	None	None	RIGID	Typical
53	M53	N99	N100			RIGID	None	None	RIGID	Typical
54	M54	N101	N102			RIGID	None	None	RIGID	Typical
55	M55	N103	N104			RIGID	None	None	RIGID	Typical
56	M56	N105	N106			RIGID	None	None	RIGID	Typical
57	M57	N107	N108			RIGID	None	None	RIGID	Typical
58	M58	N109	N110			RIGID	None	None	RIGID	Typical
59	M59	N111	N112			MF-P2	Column	Pipe	A53 Gr.B	Typical
60	M60	N113	N114			MF-P2	Column	Pipe	A53 Gr.B	Typical
61	M61	N115	N116			MF-P2	Column	Pipe	A53 Gr.B	Typical
62	M62	N117	N118			RIGID	None	None	RIGID	Typical
63	M63	N119	N120			RIGID	None	None	RIGID	Typical
64	M64	N122	N123			Tieback	Beam	Pipe	A53 Gr.B	Typical
65	M65	N124	N125			Tieback	Beam	Pipe	A53 Gr.B	Typical
66	M66	N126	N127			Tieback	Beam	Pipe	A53 Gr.B	Typical
67	M67	N128	N82			Add Tieback	Beam	Pipe	A53 Gr.B	Typical
68	M68	N130	N2			Add Tieback	Beam	Pipe	A53 Gr.B	Typical
69	M69	N132	N42			Add Tieback	Beam	Pipe	A53 Gr.B	Typical

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1	N1	0.	0	4.5	0	
2	N2	0.	0	4.76583	0	
3	N3	0.	0	6.432497	0	
4	N4	0.	-3.0416	4.5	0	
5	N5	0.	-3.0416	4.76583	0	
6	N6	0.	-3.0416	6.432497	0	
7	N7	0.	0.9792	6.432497	0	
8	N8	0.	-4.0208	6.432497	0	
9	N9	-6.75	.25	6.739997	0	
10	N10	6.75	.25	6.739997	0	
11	N11	-6.75	-2.75	6.739997	0	
12	N12	6.75	-2.75	6.739997	0	
13	N13	-6.5	3.58333	6.979997	0	
14	N14	-6.5	-6.91667	6.979997	0	
15	N15	-6.5	.25	6.739997	0	
16	N16	-6.5	.25	6.979997	0	
17	N17	-6.5	-2.75	6.739997	0	
18	N18	-6.5	-2.75	6.979997	0	
19	N19	-2	.25	6.739997	0	
20	N20	-2	.25	6.959157	0	
21	N21	-2	-2.75	6.739997	0	
22	N22	-2	-2.75	6.959157	0	
23	N23	2	.25	6.739997	0	
24	N24	2	.25	6.959157	0	
25	N25	2	-2.75	6.739997	0	
26	N26	2	-2.75	6.959157	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
27	N27	6.5	.25	6.739997	0	
28	N28	6.5	.25	6.959157	0	
29	N29	6.5	-2.75	6.739997	0	
30	N30	6.5	-2.75	6.959157	0	
31	N31	-2	2.916667	6.959157	0	
32	N32	-2	-4.083333	6.959157	0	
33	N33	2	2.916667	6.959157	0	
34	N34	2	-4.083333	6.959157	0	
35	N35	6.5	2.916667	6.959157	0	
36	N36	6.5	-4.083333	6.959157	0	
37	N37	0.	.25	6.432497	0	
38	N38	0.	.25	6.739997	0	
39	N39	0.	-2.75	6.739997	0	
40	N40	0.	-2.75	6.432497	0	
41	N41	3.897114	0	-2.25	0	
42	N42	4.12733	0	-2.382915	0	
43	N43	5.570706	0	-3.216248	0	
44	N44	3.897114	-3.0416	-2.25	0	
45	N45	4.12733	-3.0416	-2.382915	0	
46	N46	5.570706	-3.0416	-3.216248	0	
47	N47	5.570706	0.9792	-3.216248	0	
48	N48	5.570706	-4.0208	-3.216248	0	
49	N49	9.212008	.25	2.475673	0	
50	N50	2.462008	.25	-9.21567	0	
51	N51	9.212008	-2.75	2.475673	0	
52	N52	2.462008	-2.75	-9.21567	0	
53	N53	9.294854	3.58333	2.139167	0	
54	N54	9.294854	-6.91667	2.139167	0	
55	N55	9.087008	.25	2.259167	0	
56	N56	9.294854	.25	2.139167	0	
57	N57	9.087008	-2.75	2.259167	0	
58	N58	9.294854	-2.75	2.139167	0	
59	N59	6.837008	.25	-1.637948	0	
60	N60	7.026806	.25	-1.747528	0	
61	N61	6.837008	-2.75	-1.637948	0	
62	N62	7.026806	-2.75	-1.747528	0	
63	N63	4.837008	.25	-5.102049	0	
64	N64	5.026806	.25	-5.211629	0	
65	N65	4.837008	-2.75	-5.102049	0	
66	N66	5.026806	-2.75	-5.211629	0	
67	N67	2.587008	.25	-8.999163	0	
68	N68	2.776806	.25	-9.108743	0	
69	N69	2.587008	-2.75	-8.999163	0	
70	N70	2.776806	-2.75	-9.108743	0	
71	N71	7.026806	2.916667	-1.747528	0	
72	N72	7.026806	-4.083333	-1.747528	0	
73	N73	5.026806	2.916667	-5.211629	0	
74	N74	5.026806	-4.083333	-5.211629	0	
75	N75	2.776806	2.916667	-9.108743	0	
76	N76	2.776806	-4.083333	-9.108743	0	
77	N77	5.570706	.25	-3.216248	0	
78	N78	5.837008	.25	-3.369998	0	
79	N79	5.837008	-2.75	-3.369998	0	
80	N80	5.570706	-2.75	-3.216248	0	
81	N81	-3.897114	4e-16	-2.25	0	
82	N82	-4.12733	4e-16	-2.382915	0	
83	N83	-5.570706	4e-16	-3.216248	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
84	N84	-3.897114	-3.0416	-2.25	0	
85	N85	-4.12733	-3.0416	-2.382915	0	
86	N86	-5.570706	-3.0416	-3.216248	0	
87	N87	-5.570706	0.9792	-3.216248	0	
88	N88	-5.570706	-4.0208	-3.216248	0	
89	N89	-2.462008	.25	-9.21567	0	
90	N90	-9.212008	.25	2.475673	0	
91	N91	-2.462008	-2.75	-9.21567	0	
92	N92	-9.212008	-2.75	2.475673	0	
93	N93	-2.794854	3.58333	-9.119163	0	
94	N94	-2.794854	-6.91667	-9.119163	0	
95	N95	-2.587008	.25	-8.999163	0	
96	N96	-2.794854	.25	-9.119163	0	
97	N97	-2.587008	-2.75	-8.999163	0	
98	N98	-2.794854	-2.75	-9.119163	0	
99	N99	-4.837008	.25	-5.102049	0	
100	N100	-5.026806	.25	-5.211629	0	
101	N101	-4.837008	-2.75	-5.102049	0	
102	N102	-5.026806	-2.75	-5.211629	0	
103	N103	-6.837008	.25	-1.637948	0	
104	N104	-7.026806	.25	-1.747528	0	
105	N105	-6.837008	-2.75	-1.637948	0	
106	N106	-7.026806	-2.75	-1.747528	0	
107	N107	-9.087008	.25	2.259167	0	
108	N108	-9.276806	.25	2.149587	0	
109	N109	-9.087008	-2.75	2.259167	0	
110	N110	-9.276806	-2.75	2.149587	0	
111	N111	-5.026806	2.916667	-5.211629	0	
112	N112	-5.026806	-4.083333	-5.211629	0	
113	N113	-7.026806	2.916667	-1.747528	0	
114	N114	-7.026806	-4.083333	-1.747528	0	
115	N115	-9.276806	2.916667	2.149587	0	
116	N116	-9.276806	-4.083333	2.149587	0	
117	N117	-5.570706	.25	-3.216248	0	
118	N118	-5.837008	.25	-3.369998	0	
119	N119	-5.837008	-2.75	-3.369998	0	
120	N120	-5.570706	-2.75	-3.216248	0	
121	N121	0	0	0	0	
122	N122	6.5	-2.208334	6.959157	0	
123	N123	4.076528	-3.0416	-2.353584	0	
124	N124	2.776806	-2.208334	-9.108743	0	
125	N125	-4.076528	-3.0416	-2.353584	0	
126	N126	-9.276806	-2.208334	2.149587	0	
127	N127	0.	-3.0416	4.707169	0	
128	N128	-6.5	1.	6.979997	0	
129	N130	9.294854	0.999999	2.139167	0	
130	N132	-2.794854	1.	-9.119163	0	

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
1	Dead	DL		-1			70			
2	0 Wind - No Ice	WLZ					70	39		
3	90 Wind - No Ice	WLX					70	39		
4	0 Wind - Ice	WLZ					70	39		
5	90 Wind - Ice	WLX					70	39		

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(P...
6	0 Wind - Service	WLZ					70	39		
7	90 Wind - Service	WLX					70	39		
8	Ice	OL1					70	39		
9	Live Load a	LL				1				
10	Live Load b	LL				1				
11	Live Load c	LL				1				
12	Live Load d	LL				1				
13	Maint LL 1	LL					1			
14	Maint LL 2	LL					1			
15	Maint LL 3	LL					1			
16	Maint LL 4	LL					1			
17	Maint LL 5	LL					1			
18	Maint LL 6	LL					1			
19	Maint LL 7	LL					1			
20	Maint LL 8	LL					1			
21	Maint LL 9	LL					1			
22	Maint LL 10	LL					1			
23	Maint LL 11	LL					1			
24	Maint LL 12	LL					1			
25	Maint LL 13	LL								
26	Maint LL 14	LL								
27	Maint LL 15	LL								
28	Maint LL 16	LL								
29	Maint LL 17	LL								
30	Maint LL 18	LL								

Load Combinations

	Description	S...	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	1.4 Dead	Yes	Y		1	1.4																		
2	0.9 D + 1.6 - 0 W	Yes	Y		1	.9	2	1.6																
3	0.9 D + 1.6 - 30 W	Yes	Y		1	.9	2	1.3...	3	.8														
4	0.9 D + 1.6 - 60 W	Yes	Y		1	.9	3	1.3...	2	.8														
5	0.9 D + 1.6 - 90 W	Yes	Y		1	.9	3	1.6																
6	0.9 D + 1.6 - 120 W	Yes	Y		1	.9	3	1.3...	2	-.8														
7	0.9 D + 1.6 - 150 W	Yes	Y		1	.9	2	-1....	3	.8														
8	0.9 D + 1.6 - 180 W	Yes	Y		1	.9	2	-1.6																
9	0.9 D + 1.6 - 210 W	Yes	Y		1	.9	2	-1....	3	-.8														
10	0.9 D + 1.6 - 240 W	Yes	Y		1	.9	3	-1....	2	-.8														
11	0.9 D + 1.6 - 270 W	Yes	Y		1	.9	3	-1.6																
12	0.9 D + 1.6 - 300 W	Yes	Y		1	.9	3	-1....	2	.8														
13	0.9 D + 1.6 - 330 W	Yes	Y		1	.9	2	1.3...	3	-.8														
14	1.2 D + 1.6 - 0 W	Yes	Y		1	1.2	2	1.6																
15	1.2 D + 1.6 - 30 W	Yes	Y		1	1.2	2	1.3...	3	.8														
16	1.2 D + 1.6 - 60 W	Yes	Y		1	1.2	3	1.3...	2	.8														
17	1.2 D + 1.6 - 90 W	Yes	Y		1	1.2	3	1.6																
18	1.2 D + 1.6 - 120 W	Yes	Y		1	1.2	3	1.3...	2	-.8														
19	1.2 D + 1.6 - 150 W	Yes	Y		1	1.2	2	-1....	3	.8														
20	1.2 D + 1.6 - 180 W	Yes	Y		1	1.2	2	-1.6																
21	1.2 D + 1.6 - 210 W	Yes	Y		1	1.2	2	-1....	3	-.8														
22	1.2 D + 1.6 - 240 W	Yes	Y		1	1.2	3	-1....	2	-.8														
23	1.2 D + 1.6 - 270 W	Yes	Y		1	1.2	3	-1.6																
24	1.2 D + 1.6 - 300 W	Yes	Y		1	1.2	3	-1....	2	.8														
25	1.2 D + 1.6 - 330 W	Yes	Y		1	1.2	2	1.3...	3	-.8														
26	0.9 D + 1.6 - 0 W/Ice	Yes	Y		1	.9	4	1.6			8	1												
27	0.9 D + 1.6 - 30 W/Ice	Yes	Y		1	.9	4	1.3...	5	.8	8	1												

Load Combinations (Continued)

	Description	S...	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
28	0.9 D + 1.6 - 60 W/Ice	Yes	Y		1	.9	5	1.3...	4	.8	8	1												
29	0.9 D + 1.6 - 90 W/Ice	Yes	Y		1	.9	5	1.6			8	1												
30	0.9 D + 1.6 - 120 W/Ice	Yes	Y		1	.9	5	1.3...	4	-.8	8	1												
31	0.9 D + 1.6 - 150 W/Ice	Yes	Y		1	.9	4	-1....	5	.8	8	1												
32	0.9 D + 1.6 - 180 W/Ice	Yes	Y		1	.9	4	-1.6			8	1												
33	0.9 D + 1.6 - 210 W/Ice	Yes	Y		1	.9	4	-1....	5	-.8	8	1												
34	0.9 D + 1.6 - 240 W/Ice	Yes	Y		1	.9	5	-1....	4	-.8	8	1												
35	0.9 D + 1.6 - 270 W/Ice	Yes	Y		1	.9	5	-1.6			8	1												
36	0.9 D + 1.6 - 300 W/Ice	Yes	Y		1	.9	5	-1....	4	.8	8	1												
37	0.9 D + 1.6 - 330 W/Ice	Yes	Y		1	.9	4	1.3...	5	-.8	8	1												
38	1.2 D + 1.0 - 0 W/Ice	Yes	Y		1	1.2	4	1			8	1												
39	1.2 D + 1.0 - 30 W/Ice	Yes	Y		1	1.2	4	.866	5	.5	8	1												
40	1.2 D + 1.0 - 60 W/Ice	Yes	Y		1	1.2	5	.866	4	.5	8	1												
41	1.2 D + 1.0 - 90 W/Ice	Yes	Y		1	1.2	5	1			8	1												
42	1.2 D + 1.0 - 120 W/Ice	Yes	Y		1	1.2	5	.866	4	-.5	8	1												
43	1.2 D + 1.0 - 150 W/Ice	Yes	Y		1	1.2	4	-.866	5	.5	8	1												
44	1.2 D + 1.0 - 180 W/Ice	Yes	Y		1	1.2	4	-1			8	1												
45	1.2 D + 1.0 - 210 W/Ice	Yes	Y		1	1.2	4	-.866	5	-.5	8	1												
46	1.2 D + 1.0 - 240 W/Ice	Yes	Y		1	1.2	5	-.866	4	-.5	8	1												
47	1.2 D + 1.0 - 270 W/Ice	Yes	Y		1	1.2	5	-1			8	1												
48	1.2 D + 1.0 - 300 W/Ice	Yes	Y		1	1.2	5	-.866	4	.5	8	1												
49	1.2 D + 1.0 - 330 W/Ice	Yes	Y		1	1.2	4	.866	5	-.5	8	1												
50	1.2 D + 1.5 LL a + Service ...	Yes	Y		1	1.2	6	1			9	1.5												
51	1.2 D + 1.5 LL a + Service ...	Yes	Y		1	1.2	6	.866	7	.5	9	1.5												
52	1.2 D + 1.5 LL a + Service ...	Yes	Y		1	1.2	7	.866	6	.5	9	1.5												
53	1.2 D + 1.5 LL a + Service ...	Yes	Y		1	1.2	7	1			9	1.5												
54	1.2 D + 1.5 LL a + Service ...	Yes	Y		1	1.2	7	.866	6	-.5	9	1.5												
55	1.2 D + 1.5 LL a + Service ...	Yes	Y		1	1.2	6	-.866	7	.5	9	1.5												
56	1.2 D + 1.5 LL a + Service ...	Yes	Y		1	1.2	6	-1			9	1.5												
57	1.2 D + 1.5 LL a + Service ...	Yes	Y		1	1.2	6	-.866	7	-.5	9	1.5												
58	1.2 D + 1.5 LL a + Service ...	Yes	Y		1	1.2	7	-.866	6	-.5	9	1.5												
59	1.2 D + 1.5 LL a + Service ...	Yes	Y		1	1.2	7	-1			9	1.5												
60	1.2 D + 1.5 LL a + Service ...	Yes	Y		1	1.2	7	-.866	6	.5	9	1.5												
61	1.2 D + 1.5 LL a + Service ...	Yes	Y		1	1.2	6	.866	7	-.5	9	1.5												
62	1.2 D + 1.5 LL b + Service ...	Yes	Y		1	1.2	6	1			10	1.5												
63	1.2 D + 1.5 LL b + Service ...	Yes	Y		1	1.2	6	.866	7	.5	10	1.5												
64	1.2 D + 1.5 LL b + Service ...	Yes	Y		1	1.2	7	.866	6	.5	10	1.5												
65	1.2 D + 1.5 LL b + Service ...	Yes	Y		1	1.2	7	1			10	1.5												
66	1.2 D + 1.5 LL b + Service ...	Yes	Y		1	1.2	7	.866	6	-.5	10	1.5												
67	1.2 D + 1.5 LL b + Service ...	Yes	Y		1	1.2	6	-.866	7	.5	10	1.5												
68	1.2 D + 1.5 LL b + Service ...	Yes	Y		1	1.2	6	-1			10	1.5												
69	1.2 D + 1.5 LL b + Service ...	Yes	Y		1	1.2	6	-.866	7	-.5	10	1.5												
70	1.2 D + 1.5 LL b + Service ...	Yes	Y		1	1.2	7	-.866	6	-.5	10	1.5												
71	1.2 D + 1.5 LL b + Service ...	Yes	Y		1	1.2	7	-1			10	1.5												
72	1.2 D + 1.5 LL b + Service ...	Yes	Y		1	1.2	7	-.866	6	.5	10	1.5												
73	1.2 D + 1.5 LL b + Service ...	Yes	Y		1	1.2	6	.866	7	-.5	10	1.5												
74	1.2 D + 1.5 LL c + Service -...	Yes	Y		1	1.2	6	1			11	1.5												
75	1.2 D + 1.5 LL c + Service -...	Yes	Y		1	1.2	6	.866	7	.5	11	1.5												
76	1.2 D + 1.5 LL c + Service -...	Yes	Y		1	1.2	7	.866	6	.5	11	1.5												
77	1.2 D + 1.5 LL c + Service -...	Yes	Y		1	1.2	7	1			11	1.5												
78	1.2 D + 1.5 LL c + Service -...	Yes	Y		1	1.2	7	.866	6	-.5	11	1.5												
79	1.2 D + 1.5 LL c + Service -...	Yes	Y		1	1.2	6	-.866	7	.5	11	1.5												
80	1.2 D + 1.5 LL c + Service -...	Yes	Y		1	1.2	6	-1			11	1.5												
81	1.2 D + 1.5 LL c + Service -...	Yes	Y		1	1.2	6	-.866	7	-.5	11	1.5												
82	1.2 D + 1.5 LL c + Service -...	Yes	Y		1	1.2	7	-.866	6	-.5	11	1.5												
83	1.2 D + 1.5 LL c + Service -...	Yes	Y		1	1.2	7	-1			11	1.5												
84	1.2 D + 1.5 LL c + Service -...	Yes	Y		1	1.2	7	-.866	6	.5	11	1.5												

Load Combinations (Continued)

	Description	S...	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
85	1.2 D + 1.5 LL c + Service -...	Yes	Y		1	1.2	6	.866	7	-.5	11	1.5												
86	1.2 D + 1.5 LL d + Service ...	Yes	Y		1	1.2	6	1			12	1.5												
87	1.2 D + 1.5 LL d + Service ...	Yes	Y		1	1.2	6	.866	7	.5	12	1.5												
88	1.2 D + 1.5 LL d + Service ...	Yes	Y		1	1.2	7	.866	6	.5	12	1.5												
89	1.2 D + 1.5 LL d + Service ...	Yes	Y		1	1.2	7	1			12	1.5												
90	1.2 D + 1.5 LL d + Service ...	Yes	Y		1	1.2	7	.866	6	-.5	12	1.5												
91	1.2 D + 1.5 LL d + Service ...	Yes	Y		1	1.2	6	-.866	7	.5	12	1.5												
92	1.2 D + 1.5 LL d + Service ...	Yes	Y		1	1.2	6	-1			12	1.5												
93	1.2 D + 1.5 LL d + Service ...	Yes	Y		1	1.2	6	-.866	7	-.5	12	1.5												
94	1.2 D + 1.5 LL d + Service ...	Yes	Y		1	1.2	7	-.866	6	-.5	12	1.5												
95	1.2 D + 1.5 LL d + Service ...	Yes	Y		1	1.2	7	-1			12	1.5												
96	1.2 D + 1.5 LL d + Service ...	Yes	Y		1	1.2	7	-.866	6	.5	12	1.5												
97	1.2 D + 1.5 LL d + Service ...	Yes	Y		1	1.2	6	.866	7	-.5	12	1.5												
98	1.2 D + 1.5 LL Maint (1)	Yes	Y		1	1.2					13	1.5												
99	1.2 D + 1.5 LL Maint (2)	Yes	Y		1	1.2					14	1.5												
100	1.2 D + 1.5 LL Maint (3)	Yes	Y		1	1.2					15	1.5												
101	1.2 D + 1.5 LL Maint (4)	Yes	Y		1	1.2					16	1.5												
102	1.2 D + 1.5 LL Maint (5)	Yes	Y		1	1.2					17	1.5												
103	1.2 D + 1.5 LL Maint (6)	Yes	Y		1	1.2					18	1.5												
104	1.2 D + 1.5 LL Maint (7)	Yes	Y		1	1.2					19	1.5												
105	1.2 D + 1.5 LL Maint (8)	Yes	Y		1	1.2					20	1.5												
106	1.2 D + 1.5 LL Maint (9)	Yes	Y		1	1.2					21	1.5												
107	1.2 D + 1.5 LL Maint (10)	Yes	Y		1	1.2					22	1.5												
108	1.2 D + 1.5 LL Maint (11)	Yes	Y		1	1.2					23	1.5												
109	1.2 D + 1.5 LL Maint (12)	Yes	Y		1	1.2					24	1.5												
110	1.2 D + 1.5 LL Maint (13)	Yes	Y		1	1.2					25	1.5												
111	1.2 D + 1.5 LL Maint (14)	Yes	Y		1	1.2					26	1.5												
112	1.2 D + 1.5 LL Maint (15)	Yes	Y		1	1.2					27	1.5												
113	1.2 D + 1.5 LL Maint (16)	Yes	Y		1	1.2					28	1.5												
114	1.2 D + 1.5 LL Maint (17)	Yes	Y		1	1.2					29	1.5												
115	1.2 D + 1.5 LL Maint (18)	Yes	Y		1	1.2					30	1.5												

Member Point Loads (BLC 1 : Dead)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M18	Y	-.071	%5
2	M18	Y	-.071	%70
3	M18	Y	0	0
4	M18	Y	0	0
5	M18	Y	0	0
6	M17	Y	-.02	%10
7	M17	Y	-.02	%65
8	M17	Y	-.01	%20
9	M17	Y	0	0
10	M17	Y	0	0
11	M8	Y	-.064	%15
12	M8	Y	-.064	%75
13	M8	Y	-.075	%50
14	M8	Y	0	0
15	M8	Y	0	0
16	M60	Y	-.071	%5
17	M60	Y	-.071	%70
18	M60	Y	0	0
19	M60	Y	0	0
20	M60	Y	0	0
21	M59	Y	-.02	%10

Member Point Loads (BLC 1 : Dead) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
22	M59	Y	-.02	%65
23	M59	Y	-.01	%20
24	M59	Y	0	0
25	M59	Y	0	0
26	M50	Y	-.064	%15
27	M50	Y	-.064	%75
28	M50	Y	-.075	%50
29	M50	Y	0	0
30	M50	Y	0	0
31	M39	Y	-.071	%5
32	M39	Y	-.071	%70
33	M39	Y	0	0
34	M39	Y	0	0
35	M39	Y	0	0
36	M38	Y	-.02	%10
37	M38	Y	-.02	%65
38	M38	Y	-.01	%20
39	M38	Y	0	0
40	M38	Y	0	0
41	M29	Y	-.064	%15
42	M29	Y	-.064	%75
43	M29	Y	-.075	%50
44	M29	Y	0	0
45	M29	Y	0	0
46	M6	Y	-.01	%20
47	M6	Y	0	0
48	M6	Y	0	0
49	M6	Y	0	0
50	M6	Y	0	0
51	M48	Y	-.01	%20
52	M48	Y	0	0
53	M48	Y	0	0
54	M48	Y	0	0
55	M48	Y	0	0
56	M27	Y	-.01	%20
57	M27	Y	0	0
58	M27	Y	0	0
59	M27	Y	0	0
60	M27	Y	0	0
61	M2	Y	-.024	%50
62	M2	Y	0	0
63	M2	Y	0	0
64	M2	Y	0	0
65	M2	Y	0	0
66	M44	Y	-.024	%50
67	M44	Y	0	0
68	M44	Y	0	0
69	M44	Y	0	0
70	M44	Y	0	0

Member Point Loads (BLC 2 : 0 Wind - No Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M18	Z	-.105	%5
2	M18	Z	-.105	%70
3	M18	Z	0	0
4	M18	Z	0	0

Member Point Loads (BLC 2 : 0 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
5	M18	Z	0	0
6	M17	Z	-.101	%10
7	M17	Z	-.101	%65
8	M17	Z	-.015	%20
9	M17	Z	0	0
10	M17	Z	0	0
11	M8	Z	-.311	%15
12	M8	Z	-.311	%75
13	M8	Z	-.051	%50
14	M8	Z	0	0
15	M8	Z	0	0
16	M60	Z	-.105	%5
17	M60	Z	-.105	%70
18	M60	Z	0	0
19	M60	Z	0	0
20	M60	Z	0	0
21	M59	Z	-.101	%10
22	M59	Z	-.101	%65
23	M59	Z	-.015	%20
24	M59	Z	0	0
25	M59	Z	0	0
26	M50	Z	-.311	%15
27	M50	Z	-.311	%75
28	M50	Z	-.051	%50
29	M50	Z	0	0
30	M50	Z	0	0
31	M39	Z	-.105	%5
32	M39	Z	-.105	%70
33	M39	Z	0	0
34	M39	Z	0	0
35	M39	Z	0	0
36	M38	Z	-.101	%10
37	M38	Z	-.101	%65
38	M38	Z	-.015	%20
39	M38	Z	0	0
40	M38	Z	0	0
41	M29	Z	-.311	%15
42	M29	Z	-.311	%75
43	M29	Z	-.051	%50
44	M29	Z	0	0
45	M29	Z	0	0
46	M6	Z	-.015	%20
47	M6	Z	0	0
48	M6	Z	0	0
49	M6	Z	0	0
50	M6	Z	0	0
51	M48	Z	-.015	%20
52	M48	Z	0	0
53	M48	Z	0	0
54	M48	Z	0	0
55	M48	Z	0	0
56	M27	Z	-.015	%20
57	M27	Z	0	0
58	M27	Z	0	0
59	M27	Z	0	0
60	M27	Z	0	0
61	M2	Z	-.058	%50

Member Point Loads (BLC 2 : 0 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
62	M2	Z	0	0
63	M2	Z	0	0
64	M2	Z	0	0
65	M2	Z	0	0
66	M44	Z	-.058	%50
67	M44	Z	0	0
68	M44	Z	0	0
69	M44	Z	0	0
70	M44	Z	0	0

Member Point Loads (BLC 3 : 90 Wind - No Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M18	X	-.071	%5
2	M18	X	-.071	%70
3	M18	X	0	0
4	M18	X	0	0
5	M18	X	0	0
6	M17	X	-.024	%10
7	M17	X	-.024	%65
8	M17	X	-.007	%20
9	M17	X	0	0
10	M17	X	0	0
11	M8	X	-.113	%15
12	M8	X	-.113	%75
13	M8	X	-.035	%50
14	M8	X	0	0
15	M8	X	0	0
16	M60	X	-.071	%5
17	M60	X	-.071	%70
18	M60	X	0	0
19	M60	X	0	0
20	M60	X	0	0
21	M59	X	-.024	%10
22	M59	X	-.024	%65
23	M59	X	-.007	%20
24	M59	X	0	0
25	M59	X	0	0
26	M50	X	-.113	%15
27	M50	X	-.113	%75
28	M50	X	-.035	%50
29	M50	X	0	0
30	M50	X	0	0
31	M39	X	-.071	%5
32	M39	X	-.071	%70
33	M39	X	0	0
34	M39	X	0	0
35	M39	X	0	0
36	M38	X	-.024	%10
37	M38	X	-.024	%65
38	M38	X	-.007	%20
39	M38	X	0	0
40	M38	X	0	0
41	M29	X	-.113	%15
42	M29	X	-.113	%75
43	M29	X	-.035	%50
44	M29	X	0	0

Member Point Loads (BLC 3 : 90 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
45	M29	X	0	0
46	M6	X	-.007	%20
47	M6	X	0	0
48	M6	X	0	0
49	M6	X	0	0
50	M6	X	0	0
51	M48	X	-.007	%20
52	M48	X	0	0
53	M48	X	0	0
54	M48	X	0	0
55	M48	X	0	0
56	M27	X	-.007	%20
57	M27	X	0	0
58	M27	X	0	0
59	M27	X	0	0
60	M27	X	0	0
61	M2	X	-.029	%50
62	M2	X	0	0
63	M2	X	0	0
64	M2	X	0	0
65	M2	X	0	0
66	M44	X	-.029	%50
67	M44	X	0	0
68	M44	X	0	0
69	M44	X	0	0
70	M44	X	0	0

Member Point Loads (BLC 4 : 0 Wind - Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M18	Z	-.037	%5
2	M18	Z	-.037	%70
3	M18	Z	0	0
4	M18	Z	0	0
5	M18	Z	0	0
6	M17	Z	-.036	%10
7	M17	Z	-.036	%65
8	M17	Z	-.008	%20
9	M17	Z	0	0
10	M17	Z	0	0
11	M8	Z	-.097	%15
12	M8	Z	-.097	%75
13	M8	Z	-.021	%50
14	M8	Z	0	0
15	M8	Z	0	0
16	M60	Z	-.037	%5
17	M60	Z	-.037	%70
18	M60	Z	0	0
19	M60	Z	0	0
20	M60	Z	0	0
21	M59	Z	-.036	%10
22	M59	Z	-.036	%65
23	M59	Z	-.008	%20
24	M59	Z	0	0
25	M59	Z	0	0
26	M50	Z	-.097	%15
27	M50	Z	-.097	%75

Member Point Loads (BLC 4 : 0 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
28	M50	Z	-.021	%50
29	M50	Z	0	0
30	M50	Z	0	0
31	M39	Z	-.037	%5
32	M39	Z	-.037	%70
33	M39	Z	0	0
34	M39	Z	0	0
35	M39	Z	0	0
36	M38	Z	-.036	%10
37	M38	Z	-.036	%65
38	M38	Z	-.008	%20
39	M38	Z	0	0
40	M38	Z	0	0
41	M29	Z	-.097	%15
42	M29	Z	-.097	%75
43	M29	Z	-.021	%50
44	M29	Z	0	0
45	M29	Z	0	0
46	M6	Z	-.008	%20
47	M6	Z	0	0
48	M6	Z	0	0
49	M6	Z	0	0
50	M6	Z	0	0
51	M48	Z	-.008	%20
52	M48	Z	0	0
53	M48	Z	0	0
54	M48	Z	0	0
55	M48	Z	0	0
56	M27	Z	-.008	%20
57	M27	Z	0	0
58	M27	Z	0	0
59	M27	Z	0	0
60	M27	Z	0	0
61	M2	Z	-.023	%50
62	M2	Z	0	0
63	M2	Z	0	0
64	M2	Z	0	0
65	M2	Z	0	0
66	M44	Z	-.023	%50
67	M44	Z	0	0
68	M44	Z	0	0
69	M44	Z	0	0
70	M44	Z	0	0

Member Point Loads (BLC 5 : 90 Wind - Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M18	X	-.028	%5
2	M18	X	-.028	%70
3	M18	X	0	0
4	M18	X	0	0
5	M18	X	0	0
6	M17	X	-.014	%10
7	M17	X	-.014	%65
8	M17	X	-.005	%20
9	M17	X	0	0
10	M17	X	0	0

Member Point Loads (BLC 5 : 90 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
11	M8	X	-.043	%15
12	M8	X	-.043	%75
13	M8	X	-.016	%50
14	M8	X	0	0
15	M8	X	0	0
16	M60	X	-.028	%5
17	M60	X	-.028	%70
18	M60	X	0	0
19	M60	X	0	0
20	M60	X	0	0
21	M59	X	-.014	%10
22	M59	X	-.014	%65
23	M59	X	-.005	%20
24	M59	X	0	0
25	M59	X	0	0
26	M50	X	-.043	%15
27	M50	X	-.043	%75
28	M50	X	-.016	%50
29	M50	X	0	0
30	M50	X	0	0
31	M39	X	-.028	%5
32	M39	X	-.028	%70
33	M39	X	0	0
34	M39	X	0	0
35	M39	X	0	0
36	M38	X	-.014	%10
37	M38	X	-.014	%65
38	M38	X	-.005	%20
39	M38	X	0	0
40	M38	X	0	0
41	M29	X	-.043	%15
42	M29	X	-.043	%75
43	M29	X	-.016	%50
44	M29	X	0	0
45	M29	X	0	0
46	M6	X	-.005	%20
47	M6	X	0	0
48	M6	X	0	0
49	M6	X	0	0
50	M6	X	0	0
51	M48	X	-.005	%20
52	M48	X	0	0
53	M48	X	0	0
54	M48	X	0	0
55	M48	X	0	0
56	M27	X	-.005	%20
57	M27	X	0	0
58	M27	X	0	0
59	M27	X	0	0
60	M27	X	0	0
61	M2	X	-.014	%50
62	M2	X	0	0
63	M2	X	0	0
64	M2	X	0	0
65	M2	X	0	0
66	M44	X	-.014	%50
67	M44	X	0	0

Member Point Loads (BLC 5 : 90 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
68	M44	X	0	0
69	M44	X	0	0
70	M44	X	0	0

Member Point Loads (BLC 6 : 0 Wind - Service)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M18	Z	-.01	%5
2	M18	Z	-.01	%70
3	M18	Z	0	0
4	M18	Z	0	0
5	M18	Z	0	0
6	M17	Z	-.01	%10
7	M17	Z	-.01	%65
8	M17	Z	-.001	%20
9	M17	Z	0	0
10	M17	Z	0	0
11	M8	Z	-.029	%15
12	M8	Z	-.029	%75
13	M8	Z	-.005	%50
14	M8	Z	0	0
15	M8	Z	0	0
16	M60	Z	-.01	%5
17	M60	Z	-.01	%70
18	M60	Z	0	0
19	M60	Z	0	0
20	M60	Z	0	0
21	M59	Z	-.01	%10
22	M59	Z	-.01	%65
23	M59	Z	-.001	%20
24	M59	Z	0	0
25	M59	Z	0	0
26	M50	Z	-.029	%15
27	M50	Z	-.029	%75
28	M50	Z	-.005	%50
29	M50	Z	0	0
30	M50	Z	0	0
31	M39	Z	-.01	%5
32	M39	Z	-.01	%70
33	M39	Z	0	0
34	M39	Z	0	0
35	M39	Z	0	0
36	M38	Z	-.01	%10
37	M38	Z	-.01	%65
38	M38	Z	-.001	%20
39	M38	Z	0	0
40	M38	Z	0	0
41	M29	Z	-.029	%15
42	M29	Z	-.029	%75
43	M29	Z	-.005	%50
44	M29	Z	0	0
45	M29	Z	0	0
46	M6	Z	-.001	%20
47	M6	Z	0	0
48	M6	Z	0	0
49	M6	Z	0	0
50	M6	Z	0	0

Member Point Loads (BLC 6 : 0 Wind - Service) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
51	M48	Z	-.001	%20
52	M48	Z	0	0
53	M48	Z	0	0
54	M48	Z	0	0
55	M48	Z	0	0
56	M27	Z	-.001	%20
57	M27	Z	0	0
58	M27	Z	0	0
59	M27	Z	0	0
60	M27	Z	0	0
61	M2	Z	-.005	%50
62	M2	Z	0	0
63	M2	Z	0	0
64	M2	Z	0	0
65	M2	Z	0	0
66	M44	Z	-.005	%50
67	M44	Z	0	0
68	M44	Z	0	0
69	M44	Z	0	0
70	M44	Z	0	0

Member Point Loads (BLC 7 : 90 Wind - Service)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M18	X	-.007	%5
2	M18	X	-.007	%70
3	M18	X	0	0
4	M18	X	0	0
5	M18	X	0	0
6	M17	X	-.002	%10
7	M17	X	-.002	%65
8	M17	X	-.0007	%20
9	M17	X	0	0
10	M17	X	0	0
11	M8	X	-.011	%15
12	M8	X	-.011	%75
13	M8	X	-.003	%50
14	M8	X	0	0
15	M8	X	0	0
16	M60	X	-.007	%5
17	M60	X	-.007	%70
18	M60	X	0	0
19	M60	X	0	0
20	M60	X	0	0
21	M59	X	-.002	%10
22	M59	X	-.002	%65
23	M59	X	-.0007	%20
24	M59	X	0	0
25	M59	X	0	0
26	M50	X	-.011	%15
27	M50	X	-.011	%75
28	M50	X	-.003	%50
29	M50	X	0	0
30	M50	X	0	0
31	M39	X	-.007	%5
32	M39	X	-.007	%70
33	M39	X	0	0

Member Point Loads (BLC 7 : 90 Wind - Service) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
34	M39	X	0	0
35	M39	X	0	0
36	M38	X	-.002	%10
37	M38	X	-.002	%65
38	M38	X	-.0007	%20
39	M38	X	0	0
40	M38	X	0	0
41	M29	X	-.011	%15
42	M29	X	-.011	%75
43	M29	X	-.003	%50
44	M29	X	0	0
45	M29	X	0	0
46	M6	X	-.0007	%20
47	M6	X	0	0
48	M6	X	0	0
49	M6	X	0	0
50	M6	X	0	0
51	M48	X	-.0007	%20
52	M48	X	0	0
53	M48	X	0	0
54	M48	X	0	0
55	M48	X	0	0
56	M27	X	-.0007	%20
57	M27	X	0	0
58	M27	X	0	0
59	M27	X	0	0
60	M27	X	0	0
61	M2	X	-.003	%50
62	M2	X	0	0
63	M2	X	0	0
64	M2	X	0	0
65	M2	X	0	0
66	M44	X	-.003	%50
67	M44	X	0	0
68	M44	X	0	0
69	M44	X	0	0
70	M44	X	0	0

Member Point Loads (BLC 8 : Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M18	Y	-.09	%5
2	M18	Y	-.09	%70
3	M18	Y	0	0
4	M18	Y	0	0
5	M18	Y	0	0
6	M17	Y	-.075	%10
7	M17	Y	-.075	%65
8	M17	Y	-.014	%20
9	M17	Y	0	0
10	M17	Y	0	0
11	M8	Y	-.23	%15
12	M8	Y	-.23	%75
13	M8	Y	-.047	%50
14	M8	Y	0	0
15	M8	Y	0	0
16	M60	Y	-.09	%5

Member Point Loads (BLC 8 : Ice) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
17	M60	Y	-.09	%70
18	M60	Y	0	0
19	M60	Y	0	0
20	M60	Y	0	0
21	M59	Y	-.075	%10
22	M59	Y	-.075	%65
23	M59	Y	-.014	%20
24	M59	Y	0	0
25	M59	Y	0	0
26	M50	Y	-.23	%15
27	M50	Y	-.23	%75
28	M50	Y	-.047	%50
29	M50	Y	0	0
30	M50	Y	0	0
31	M39	Y	-.09	%5
32	M39	Y	-.09	%70
33	M39	Y	0	0
34	M39	Y	0	0
35	M39	Y	0	0
36	M38	Y	-.075	%10
37	M38	Y	-.075	%65
38	M38	Y	-.014	%20
39	M38	Y	0	0
40	M38	Y	0	0
41	M29	Y	-.23	%15
42	M29	Y	-.23	%75
43	M29	Y	-.047	%50
44	M29	Y	0	0
45	M29	Y	0	0
46	M6	Y	-.014	%20
47	M6	Y	0	0
48	M6	Y	0	0
49	M6	Y	0	0
50	M6	Y	0	0
51	M48	Y	-.014	%20
52	M48	Y	0	0
53	M48	Y	0	0
54	M48	Y	0	0
55	M48	Y	0	0
56	M27	Y	-.014	%20
57	M27	Y	0	0
58	M27	Y	0	0
59	M27	Y	0	0
60	M27	Y	0	0
61	M2	Y	-.048	%50
62	M2	Y	0	0
63	M2	Y	0	0
64	M2	Y	0	0
65	M2	Y	0	0
66	M44	Y	-.048	%50
67	M44	Y	0	0
68	M44	Y	0	0
69	M44	Y	0	0
70	M44	Y	0	0

Member Point Loads (BLC 13 : Maint LL 1)

Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]

Member Point Loads (BLC 13 : Maint LL 1) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M6	Y	-.25	%5

Member Point Loads (BLC 14 : Maint LL 2)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M7	Y	-.25	%5

Member Point Loads (BLC 15 : Maint LL 3)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M48	Y	-.25	%5

Member Point Loads (BLC 16 : Maint LL 4)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M49	Y	-.25	%5

Member Point Loads (BLC 17 : Maint LL 5)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M27	Y	-.25	%5

Member Point Loads (BLC 18 : Maint LL 6)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M28	Y	-.25	%5

Member Point Loads (BLC 19 : Maint LL 7)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M2	Y	-.25	%50

Member Point Loads (BLC 20 : Maint LL 8)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M4	Y	-.25	%50

Member Point Loads (BLC 21 : Maint LL 9)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M44	Y	-.25	%50

Member Point Loads (BLC 22 : Maint LL 10)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M46	Y	-.25	%50

Member Point Loads (BLC 23 : Maint LL 11)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M23	Y	-.25	%50

Member Point Loads (BLC 24 : Maint LL 12)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M25	Y	-.25	%50

Member Distributed Loads (BLC 2 : 0 Wind - No Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	Z	-.001	-.001	0	0
2	M2	Z	-.01	-.01	0	0

Member Distributed Loads (BLC 2 : 0 Wind - No Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
3	M3	Z	-.001	-.001	0	0
4	M4	Z	-.01	-.01	0	0
5	M5	Z	-.007	-.007	0	0
6	M6	Z	-.009	-.009	0	0
7	M7	Z	-.009	-.009	0	0
8	M8	Z	-.009	-.009	0	0
9	M17	Z	-.007	-.007	0	0
10	M18	Z	-.007	-.007	0	0
11	M19	Z	-.007	-.007	0	0
12	M22	Z	-.001	-.001	0	0
13	M23	Z	-.01	-.01	0	0
14	M24	Z	-.001	-.001	0	0
15	M25	Z	-.01	-.01	0	0
16	M26	Z	-.007	-.007	0	0
17	M27	Z	-.009	-.009	0	0
18	M28	Z	-.009	-.009	0	0
19	M29	Z	-.009	-.009	0	0
20	M38	Z	-.007	-.007	0	0
21	M39	Z	-.007	-.007	0	0
22	M40	Z	-.007	-.007	0	0
23	M43	Z	-.001	-.001	0	0
24	M44	Z	-.01	-.01	0	0
25	M45	Z	-.001	-.001	0	0
26	M46	Z	-.01	-.01	0	0
27	M47	Z	-.007	-.007	0	0
28	M48	Z	-.009	-.009	0	0
29	M49	Z	-.009	-.009	0	0
30	M50	Z	-.009	-.009	0	0
31	M59	Z	-.007	-.007	0	0
32	M60	Z	-.007	-.007	0	0
33	M61	Z	-.007	-.007	0	0
34	M64	Z	-.006	-.006	0	0
35	M65	Z	-.006	-.006	0	0
36	M66	Z	-.006	-.006	0	0
37	M67	Z	-.007	-.007	0	0
38	M68	Z	-.007	-.007	0	0
39	M69	Z	-.007	-.007	0	0

Member Distributed Loads (BLC 3 : 90 Wind - No Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-.001	-.001	0	0
2	M2	X	-.01	-.01	0	0
3	M3	X	-.001	-.001	0	0
4	M4	X	-.01	-.01	0	0
5	M5	X	-.007	-.007	0	0
6	M6	X	-.009	-.009	0	0
7	M7	X	-.009	-.009	0	0
8	M8	X	-.009	-.009	0	0
9	M17	X	-.007	-.007	0	0
10	M18	X	-.007	-.007	0	0
11	M19	X	-.007	-.007	0	0
12	M22	X	-.001	-.001	0	0
13	M23	X	-.01	-.01	0	0
14	M24	X	-.001	-.001	0	0
15	M25	X	-.01	-.01	0	0
16	M26	X	-.007	-.007	0	0

Member Distributed Loads (BLC 3 : 90 Wind - No Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
17	M27	X	-.009	-.009	0	0
18	M28	X	-.009	-.009	0	0
19	M29	X	-.009	-.009	0	0
20	M38	X	-.007	-.007	0	0
21	M39	X	-.007	-.007	0	0
22	M40	X	-.007	-.007	0	0
23	M43	X	-.001	-.001	0	0
24	M44	X	-.01	-.01	0	0
25	M45	X	-.001	-.001	0	0
26	M46	X	-.01	-.01	0	0
27	M47	X	-.007	-.007	0	0
28	M48	X	-.009	-.009	0	0
29	M49	X	-.009	-.009	0	0
30	M50	X	-.009	-.009	0	0
31	M59	X	-.007	-.007	0	0
32	M60	X	-.007	-.007	0	0
33	M61	X	-.007	-.007	0	0
34	M64	X	-.006	-.006	0	0
35	M65	X	-.006	-.006	0	0
36	M66	X	-.006	-.006	0	0
37	M67	X	-.007	-.007	0	0
38	M68	X	-.007	-.007	0	0
39	M69	X	-.007	-.007	0	0

Member Distributed Loads (BLC 4 : 0 Wind - Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	Z	-.008	-.008	0	0
2	M2	Z	-.007	-.007	0	0
3	M3	Z	-.008	-.008	0	0
4	M4	Z	-.007	-.007	0	0
5	M5	Z	-.003	-.003	0	0
6	M6	Z	-.003	-.003	0	0
7	M7	Z	-.003	-.003	0	0
8	M8	Z	-.003	-.003	0	0
9	M17	Z	-.003	-.003	0	0
10	M18	Z	-.003	-.003	0	0
11	M19	Z	-.003	-.003	0	0
12	M22	Z	-.008	-.008	0	0
13	M23	Z	-.007	-.007	0	0
14	M24	Z	-.008	-.008	0	0
15	M25	Z	-.007	-.007	0	0
16	M26	Z	-.003	-.003	0	0
17	M27	Z	-.003	-.003	0	0
18	M28	Z	-.003	-.003	0	0
19	M29	Z	-.003	-.003	0	0
20	M38	Z	-.003	-.003	0	0
21	M39	Z	-.003	-.003	0	0
22	M40	Z	-.003	-.003	0	0
23	M43	Z	-.008	-.008	0	0
24	M44	Z	-.007	-.007	0	0
25	M45	Z	-.008	-.008	0	0
26	M46	Z	-.007	-.007	0	0
27	M47	Z	-.003	-.003	0	0
28	M48	Z	-.003	-.003	0	0
29	M49	Z	-.003	-.003	0	0
30	M50	Z	-.003	-.003	0	0

Member Distributed Loads (BLC 4 : 0 Wind - Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
31	M59	Z	-.003	-.003	0	0
32	M60	Z	-.003	-.003	0	0
33	M61	Z	-.003	-.003	0	0
34	M64	Z	-.002	-.002	0	0
35	M65	Z	-.002	-.002	0	0
36	M66	Z	-.002	-.002	0	0
37	M67	Z	-.002	-.002	0	0
38	M68	Z	-.002	-.002	0	0
39	M69	Z	-.002	-.002	0	0

Member Distributed Loads (BLC 5 : 90 Wind - Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-.008	-.008	0	0
2	M2	X	-.007	-.007	0	0
3	M3	X	-.008	-.008	0	0
4	M4	X	-.007	-.007	0	0
5	M5	X	-.003	-.003	0	0
6	M6	X	-.003	-.003	0	0
7	M7	X	-.003	-.003	0	0
8	M8	X	-.003	-.003	0	0
9	M17	X	-.003	-.003	0	0
10	M18	X	-.003	-.003	0	0
11	M19	X	-.003	-.003	0	0
12	M22	X	-.008	-.008	0	0
13	M23	X	-.007	-.007	0	0
14	M24	X	-.008	-.008	0	0
15	M25	X	-.007	-.007	0	0
16	M26	X	-.003	-.003	0	0
17	M27	X	-.003	-.003	0	0
18	M28	X	-.003	-.003	0	0
19	M29	X	-.003	-.003	0	0
20	M38	X	-.003	-.003	0	0
21	M39	X	-.003	-.003	0	0
22	M40	X	-.003	-.003	0	0
23	M43	X	-.008	-.008	0	0
24	M44	X	-.007	-.007	0	0
25	M45	X	-.008	-.008	0	0
26	M46	X	-.007	-.007	0	0
27	M47	X	-.003	-.003	0	0
28	M48	X	-.003	-.003	0	0
29	M49	X	-.003	-.003	0	0
30	M50	X	-.003	-.003	0	0
31	M59	X	-.003	-.003	0	0
32	M60	X	-.003	-.003	0	0
33	M61	X	-.003	-.003	0	0
34	M64	X	-.002	-.002	0	0
35	M65	X	-.002	-.002	0	0
36	M66	X	-.002	-.002	0	0
37	M67	X	-.002	-.002	0	0
38	M68	X	-.002	-.002	0	0
39	M69	X	-.002	-.002	0	0

Member Distributed Loads (BLC 6 : 0 Wind - Service)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	Z	-.0001	-.0001	0	0
2	M2	Z	-.001	-.001	0	0

Member Distributed Loads (BLC 6 : 0 Wind - Service) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
3	M3	Z	-.0001	-.0001	0	0
4	M4	Z	-.001	-.001	0	0
5	M5	Z	-.0006	-.0006	0	0
6	M6	Z	-.0004	-.0004	0	0
7	M7	Z	-.0004	-.0004	0	0
8	M8	Z	-.0004	-.0004	0	0
9	M17	Z	-.0003	-.0003	0	0
10	M18	Z	-.0003	-.0003	0	0
11	M19	Z	-.0003	-.0003	0	0
12	M22	Z	-.0001	-.0001	0	0
13	M23	Z	-.001	-.001	0	0
14	M24	Z	-.0001	-.0001	0	0
15	M25	Z	-.001	-.001	0	0
16	M26	Z	-.0006	-.0006	0	0
17	M27	Z	-.0004	-.0004	0	0
18	M28	Z	-.0004	-.0004	0	0
19	M29	Z	-.0004	-.0004	0	0
20	M38	Z	-.0003	-.0003	0	0
21	M39	Z	-.0003	-.0003	0	0
22	M40	Z	-.0003	-.0003	0	0
23	M43	Z	-.0001	-.0001	0	0
24	M44	Z	-.001	-.001	0	0
25	M45	Z	-.0001	-.0001	0	0
26	M46	Z	-.001	-.001	0	0
27	M47	Z	-.0006	-.0006	0	0
28	M48	Z	-.0004	-.0004	0	0
29	M49	Z	-.0004	-.0004	0	0
30	M50	Z	-.0004	-.0004	0	0
31	M59	Z	-.0003	-.0003	0	0
32	M60	Z	-.0003	-.0003	0	0
33	M61	Z	-.0003	-.0003	0	0
34	M64	Z	-.0003	-.0003	0	0
35	M65	Z	-.0003	-.0003	0	0
36	M66	Z	-.0003	-.0003	0	0
37	M67	Z	-.0003	-.0003	0	0
38	M68	Z	-.0003	-.0003	0	0
39	M69	Z	-.0003	-.0003	0	0

Member Distributed Loads (BLC 7 : 90 Wind - Service)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-.0001	-.0001	0	0
2	M2	X	-.001	-.001	0	0
3	M3	X	-.0001	-.0001	0	0
4	M4	X	-.001	-.001	0	0
5	M5	X	-.0006	-.0006	0	0
6	M6	X	-.0004	-.0004	0	0
7	M7	X	-.0004	-.0004	0	0
8	M8	X	-.0004	-.0004	0	0
9	M17	X	-.0003	-.0003	0	0
10	M18	X	-.0003	-.0003	0	0
11	M19	X	-.0003	-.0003	0	0
12	M22	X	-.0001	-.0001	0	0
13	M23	X	-.001	-.001	0	0
14	M24	X	-.0001	-.0001	0	0
15	M25	X	-.001	-.001	0	0
16	M26	X	-.0006	-.0006	0	0

Member Distributed Loads (BLC 7 : 90 Wind - Service) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
17	M27	X	-.0004	-.0004	0	0
18	M28	X	-.0004	-.0004	0	0
19	M29	X	-.0004	-.0004	0	0
20	M38	X	-.0003	-.0003	0	0
21	M39	X	-.0003	-.0003	0	0
22	M40	X	-.0003	-.0003	0	0
23	M43	X	-.0001	-.0001	0	0
24	M44	X	-.001	-.001	0	0
25	M45	X	-.0001	-.0001	0	0
26	M46	X	-.001	-.001	0	0
27	M47	X	-.0006	-.0006	0	0
28	M48	X	-.0004	-.0004	0	0
29	M49	X	-.0004	-.0004	0	0
30	M50	X	-.0004	-.0004	0	0
31	M59	X	-.0003	-.0003	0	0
32	M60	X	-.0003	-.0003	0	0
33	M61	X	-.0003	-.0003	0	0
34	M64	X	-.0003	-.0003	0	0
35	M65	X	-.0003	-.0003	0	0
36	M66	X	-.0003	-.0003	0	0
37	M67	X	-.0003	-.0003	0	0
38	M68	X	-.0003	-.0003	0	0
39	M69	X	-.0003	-.0003	0	0

Member Distributed Loads (BLC 8 : Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	Y	-.025	-.025	0	0
2	M2	Y	-.013	-.013	0	0
3	M3	Y	-.025	-.025	0	0
4	M4	Y	-.013	-.013	0	0
5	M5	Y	-.013	-.013	0	0
6	M6	Y	-.01	-.01	0	0
7	M7	Y	-.01	-.01	0	0
8	M8	Y	-.01	-.01	0	0
9	M17	Y	-.009	-.009	0	0
10	M18	Y	-.009	-.009	0	0
11	M19	Y	-.009	-.009	0	0
12	M22	Y	-.025	-.025	0	0
13	M23	Y	-.013	-.013	0	0
14	M24	Y	-.025	-.025	0	0
15	M25	Y	-.013	-.013	0	0
16	M26	Y	-.013	-.013	0	0
17	M27	Y	-.01	-.01	0	0
18	M28	Y	-.01	-.01	0	0
19	M29	Y	-.01	-.01	0	0
20	M38	Y	-.009	-.009	0	0
21	M39	Y	-.009	-.009	0	0
22	M40	Y	-.009	-.009	0	0
23	M43	Y	-.025	-.025	0	0
24	M44	Y	-.013	-.013	0	0
25	M45	Y	-.025	-.025	0	0
26	M46	Y	-.013	-.013	0	0
27	M47	Y	-.013	-.013	0	0
28	M48	Y	-.01	-.01	0	0
29	M49	Y	-.01	-.01	0	0
30	M50	Y	-.01	-.01	0	0

Member Distributed Loads (BLC 8 : Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
31	M59	Y	-.009	-.009	0	0
32	M60	Y	-.009	-.009	0	0
33	M61	Y	-.009	-.009	0	0
34	M64	Y	-.008	-.008	0	0
35	M65	Y	-.008	-.008	0	0
36	M66	Y	-.008	-.008	0	0
37	M67	Y	-.009	-.009	0	0
38	M68	Y	-.009	-.009	0	0
39	M69	Y	-.009	-.009	0	0

Joint Loads and Enforced Displacements (BLC 9 : Live Load a)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/f...
1	N17	L	Y	-.5

Joint Loads and Enforced Displacements (BLC 10 : Live Load b)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/f...
1	N21	L	Y	-.5

Joint Loads and Enforced Displacements (BLC 11 : Live Load c)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/f...
1	N25	L	Y	-.5

Joint Loads and Enforced Displacements (BLC 12 : Live Load d)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/f...
1	N29	L	Y	-.5

Envelope Joint Reactions

	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N4	max	.887	87	1.454	43	2.067	39	-.06	2	0	115	.253	97
2		min	-1.794	57	.259	2	-.705	9	-.34	44	0	1	-.5	55
3	N1	max	2.357	18	1.384	44	.536	13	-.062	2	0	115	.26	97
4		min	-1.574	12	.191	2	-2.046	43	-.348	44	0	1	-.526	55
5	N81	max	1.05	18	1.379	39	3.914	14	.558	38	0	115	.023	2
6		min	-.449	12	.226	9	-2.667	8	-.01	8	0	1	-.102	20
7	N84	max	.758	5	1.455	39	-.036	13	.535	38	0	115	.017	2
8		min	-1.365	23	.257	9	-2.25	43	-.017	8	0	1	-.103	44
9	N41	max	1.167	4	1.32	48	1.672	3	.043	3	0	115	.506	46
10		min	-2.692	34	.253	6	-1.797	21	-.209	45	0	1	.076	4
11	N44	max	2.375	42	1.423	47	1.531	14	.039	3	0	115	.493	46
12		min	.1	12	.294	5	-1.407	8	-.191	45	0	1	.069	4
13	Totals:	max	5.599	17	8.259	49	8.819	2						
14		min	-5.599	11	2.265	7	-8.819	20						

Envelope AISC 13th(360-05): LRFD Steel Code Checks

	Member	Shape	Code Check	Loc[ft]	LC	Shear...	Loc[ft]	Dir	LC	phi*Pnc..	phi*Pnt...	phi*Mn ...	phi*Mn ...	Cb	Eqn
1	M1	PL 3/8X10...	.366	0	44	.728	0	y	55	84.705	124.538	.973	26.594	1...	H1-1b
2	M2	HSS3X3X3	.805	1.667	41	.177	0	z	53	76.645	78.246	6.796	6.796	1...	H1-1b
3	M3	PL 3/8X10...	.359	0	43	.705	.266	y	55	84.705	124.538	.973	26.594	1...	H1-1b
4	M4	HSS3X3X3	.794	1.667	47	.172	0	z	58	76.645	78.246	6.796	6.796	1...	H1-1b
5	M5	PIPE_4.0	.380	4.01	47	.440	4.01		59	86.074	93.24	10.631	10.631	1...	H3-6
6	M6	PIPE_2.5	.455	6.75	41	.319	.281		21	12.482	50.715	3.596	3.596	1...	H1-1b

Envelope AISC 13th(360-05): LRFD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear...	Loc[ft]	Dir	LC	phi*Pnc..	phi*Pnt...	phi*Mn ...	phi*Mn ..Cb	Eqn
7	M7	PIPE_2.5	.640	6.75	21	.348	4.641		14	12.482	50.715	3.596	3.596	1... H3-6
8	M8	PIPE_2.5	.356	6.234	46	.248	3.391		21	20.573	50.715	3.596	3.596	3 H1-1b
9	M17	PIPE_2.0	.613	2.698	42	.258	5.615		21	17.855	32.13	1.872	1.872	1... H1-1b
10	M18	PIPE_2.0	.479	2.698	94	.091	2.698		96	17.855	32.13	1.872	1.872	1... H1-1b
11	M19	PIPE_2.0	.487	2.698	94	.087	5.177		95	17.855	32.13	1.872	1.872	1... H1-1b
12	M22	PL 3/8X10...	.353	0	48	.608	0	y	45	84.705	124.538	.973	26.594	1... H1-1b
13	M23	HSS3X3X3	.834	1.667	33	.165	0	z	33	76.645	78.246	6.796	6.796	1... H1-1b
14	M24	PL 3/8X10...	.352	0	47	.593	.266	y	46	84.705	124.538	.973	26.594	1... H1-1b
15	M25	HSS3X3X3	.804	1.667	39	.147	0	z	38	76.645	78.246	6.796	6.796	1... H1-1b
16	M26	PIPE_4.0	.384	4.01	39	.444	.938		20	86.074	93.24	10.631	10.631	1... H3-6
17	M27	PIPE_2.5	.646	6.75	21	.310	.281		14	12.482	50.715	3.596	3.596	1... H1-1b
18	M28	PIPE_2.5	.744	6.75	14	.302	4.641		19	12.482	50.715	3.596	3.596	1... H1-1b
19	M29	PIPE_2.5	.366	6.234	38	.229	3.391		25	20.573	50.715	3.596	3.596	3 H1-1b
20	M38	PIPE_2.0	.616	2.698	45	.242	5.615		25	17.855	32.13	1.872	1.872	1... H1-1b
21	M39	PIPE_2.0	.243	2.698	39	.087	5.615		22	17.855	32.13	1.872	1.872	1... H1-1b
22	M40	PIPE_2.0	.186	5.104	21	.103	5.615		21	17.855	32.13	1.872	1.872	2... H1-1b
23	M43	PL 3/8X10...	.365	0	39	.624	0	y	38	84.705	124.538	.973	26.594	1... H1-1b
24	M44	HSS3X3X3	.841	1.667	37	.167	0	z	37	76.645	78.246	6.796	6.796	1... H1-1b
25	M45	PL 3/8X10...	.360	0	39	.606	.266	y	38	84.705	124.538	.973	26.594	1... H1-1b
26	M46	HSS3X3X3	.805	1.667	43	.145	0	z	43	76.645	78.246	6.796	6.796	1... H1-1b
27	M47	PIPE_4.0	.387	4.01	43	.418	4.01		43	86.074	93.24	10.631	10.631	1... H3-6
28	M48	PIPE_2.5	.631	6.75	25	.188	.281		17	12.482	50.715	3.596	3.596	1... H1-1b
29	M49	PIPE_2.5	.580	6.75	20	.195	4.641		16	12.482	50.715	3.596	3.596	1... H1-1b
30	M50	PIPE_2.5	.365	3.391	38	.146	3.391		17	20.573	50.715	3.596	3.596	2... H1-1b
31	M59	PIPE_2.0	.620	2.698	38	.160	5.615		17	17.855	32.13	1.872	1.872	1... H1-1b
32	M60	PIPE_2.0	.243	2.698	43	.099	5.615		14	17.855	32.13	1.872	1.872	1... H1-1b
33	M61	PIPE_2.0	.183	5.104	14	.094	5.177		20	17.855	32.13	1.872	1.872	2... H1-1b
34	M64	PIPE_1.5	.141	4.829	23	.091	9.659		43	4.927	23.593	1.105	1.105	1... H1-1b
35	M65	PIPE_1.5	.163	4.829	15	.090	0		47	4.927	23.593	1.105	1.105	1... H1-1b
36	M66	PIPE_1.5	.157	4.829	20	.092	9.659		39	4.927	23.593	1.105	1.105	1... H1-1b
37	M67	PIPE_2.0	.135	9.71	14	.090	0		56	10.432	32.13	1.872	1.872	1... H1-1b*
38	M68	PIPE_2.0	.132	4.855	20	.071	9.71		48	10.432	32.13	1.872	1.872	1... H1-1b
39	M69	PIPE_2.0	.102	4.855	24	.074	0		39	10.432	32.13	1.872	1.872	1... H1-1b

Exhibit F

Power Density/RF Emissions Report

EBI Consulting

environmental | engineering | due diligence

RADIO FREQUENCY EMISSIONS ANALYSIS REPORT
EVALUATION OF HUMAN EXPOSURE POTENTIAL TO NON-IONIZING EMISSIONS

T-Mobile Existing Facility

Site ID: CT11214D

Waterbury/Rt 8_1
1669 Thomaston Avenue
Waterbury, Connecticut 06704

May 20, 2019

EBI Project Number: 5219001639

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**5.83%**

21 B Street, Burlington, MA 01803 · Tel: (781) 273.2500 · Fax: (781) 273.3311

May 20, 2019

T-Mobile
Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, Connecticut 06002

Emissions Analysis for Site: CT11214D - Waterbury/Rt 8_1

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **1669 Thomaston Avenue** in **Waterbury, Connecticut** for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ($\mu W/cm^2$). The number of $\mu W/cm^2$ calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits; therefore, it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 600 MHz and 700 MHz frequency bands are approximately 400 $\mu W/cm^2$ and 467 $\mu W/cm^2$, respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 11 GHz frequency bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at 1669 Thomaston Avenue in Waterbury, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower.

For all calculations, all equipment was calculated using the following assumptions:

1) 1 LTE channel (600 MHz Band) was considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

2) 2 LTE channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

3) 4 GSM channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

4) 2 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

5) 2 UMTS channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

6) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

7) 2 UMTS channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

8) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

9) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

10) The antennas used in this modeling are the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 700 MHz channel(s), the RFS APX16DWV-16DWVS-E-A20 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s), the for the 1900 MHz / 2100 MHz channel(s) in Sector A, the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 700 MHz channel(s), the RFS APX16DWV-16DWVS-E-A20 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 32 B66Aa/B2a for the 1900 MHz / 2100 MHz channel(s) in Sector B, the RFS APXVAARR24_43-U-NA20 for the 600 MHz / 700 MHz channel(s), the RFS APX16DWV-16DWVS-E-A20 for the 1900 MHz / 1900 MHz / 2100 MHz channel(s), the Ericsson AIR 32 B66Aa/B2a for the 1900 MHz / 2100 MHz channel(s) in Sector C.

11) All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

12) The antenna mounting height centerlines of the proposed antennas are 130 feet and 132 feet above ground level (AGL).

13) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

14) All calculations were done with respect to uncontrolled / general population threshold limits.

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20	Make / Model:	RFS APXVAARR24_43-U-NA20
Frequency Bands:	600 MHz / 700 MHz	Frequency Bands:	600 MHz / 700 MHz	Frequency Bands:	600 MHz / 700 MHz
Gain:	12.95 dBd / 13.35 dBd	Gain:	12.95 dBd / 13.35 dBd	Gain:	12.95 dBd / 13.35 dBd
Height (AGL):	130 feet	Height (AGL):	130 feet	Height (AGL):	130 feet
Channel Count:	3	Channel Count:	3	Channel Count:	3
Total TX Power (W):	90 Watts	Total TX Power (W):	90 Watts	Total TX Power (W):	90 Watts
ERP (W):	1,889.36	ERP (W):	1,889.36	ERP (W):	1,889.36
Antenna A1 MPE %:	**0.91%**	Antenna B1 MPE %:	**0.91%**	Antenna C1 MPE %:	**0.91%**
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	RFS APX16DWV-16DWVS-E-A20	Make / Model:	RFS APX16DWV-16DWVS-E-A20	Make / Model:	RFS APX16DWV-16DWVS-E-A20
Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 1900 MHz / 2100 MHz
Gain:	15.9 dBd / 15.9 dBd / 15.9 dBd	Gain:	15.9 dBd / 15.9 dBd / 15.9 dBd	Gain:	15.9 dBd / 15.9 dBd / 15.9 dBd
Height (AGL):	132 feet	Height (AGL):	132 feet	Height (AGL):	132 feet
Channel Count:	8	Channel Count:	8	Channel Count:	8
Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts
ERP (W):	9,337.08	ERP (W):	9,337.08	ERP (W):	9,337.08
Antenna A2 MPE %:	**1.93%**	Antenna B2 MPE %:	**1.93%**	Antenna C2 MPE %:	**1.93%**
Antenna #:	3	Antenna #:	3	Antenna #:	3
Make / Model:	Ericsson AIR 32 B66Aa/B2a	Make / Model:	Ericsson AIR 32 B66Aa/B2a	Make / Model:	Ericsson AIR 32 B66Aa/B2a
Frequency Bands:	1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 2100 MHz	Frequency Bands:	1900 MHz / 2100 MHz
Gain:	15.35 dBd / 15.85 dBd	Gain:	15.35 dBd / 15.85 dBd	Gain:	15.35 dBd / 15.85 dBd
Height (AGL):	132 feet	Height (AGL):	132 feet	Height (AGL):	132 feet
Channel Count:	4	Channel Count:	4	Channel Count:	4
Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts	Total TX Power (W):	240 Watts
ERP (W):	8,728.31	ERP (W):	8,728.31	ERP (W):	8,728.31
Antenna A3 MPE %:	**1.80%**	Antenna B3 MPE %:	**1.80%**	Antenna C3 MPE %:	**1.80%**

Site Composite MPE %	
Carrier	**MPE %**
T-Mobile (Max at Sector A):	4.63%
Sprint	1.2%
Site Total MPE % :	5.83%

T-Mobile Sector A Total:	4.63%
T-Mobile Sector B Total:	4.63%
T-Mobile Sector C Total:	4.63%
Site Total:	5.83%

T-Mobile Maximum MPE Power Values (Sector A)

T-Mobile Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (μW/cm²)	Frequency (MHz)	Allowable MPE (μW/cm²)	Calculated % MPE
T-Mobile 600 MHz LTE	1	591.73	130.0	1.26	600 MHz LTE	400	0.32%
T-Mobile 700 MHz LTE	2	648.82	130.0	2.76	700 MHz LTE	467	0.59%
T-Mobile 1900 MHz GSM	4	1167.14	132.0	9.63	1900 MHz GSM	1000	0.96%
T-Mobile 1900 MHz UMTS	2	1167.14	132.0	4.82	1900 MHz UMTS	1000	0.48%
T-Mobile 2100 MHz UMTS	2	1167.14	132.0	4.82	2100 MHz UMTS	1000	0.48%
T-Mobile 1900 MHz LTE	2	2056.61	132.0	8.49	1900 MHz LTE	1000	0.85%
T-Mobile 2100 MHz LTE	2	2307.55	132.0	9.52	2100 MHz LTE	1000	0.95%
						Total:	**4.63%**

Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general population exposure to RF Emissions.

The anticipated maximum composite contributions from the T-Mobile facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

T-Mobile Sector	Power Density Value (%)
Sector A:	4.63%
Sector B:	4.63%
Sector C:	4.63%
T-Mobile Maximum MPE % (Sector A):	4.63%
Site Total:	5.83%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **5.83%** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.

Exhibit G

Mailings Receipt/Proof of Notice

UPS CampusShip: View/Print Label

1. **Ensure there are no other shipping or tracking labels attached to your package.** Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.

2. **Fold the printed label at the solid line below.** Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.

3. **GETTING YOUR SHIPMENT TO UPS**
   Customers with a Daily Pickup
   Your driver will pickup your shipment(s) as usual.

   Customers without a Daily Pickup
   Take your package to any location of The UPS Store®, UPS Access Point(TM) location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.
   Schedule a same day or future day Pickup to have a UPS driver pickup all your CampusShip packages.
   Hand the package to any UPS driver in your area.

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DANBURY ,CT 06810

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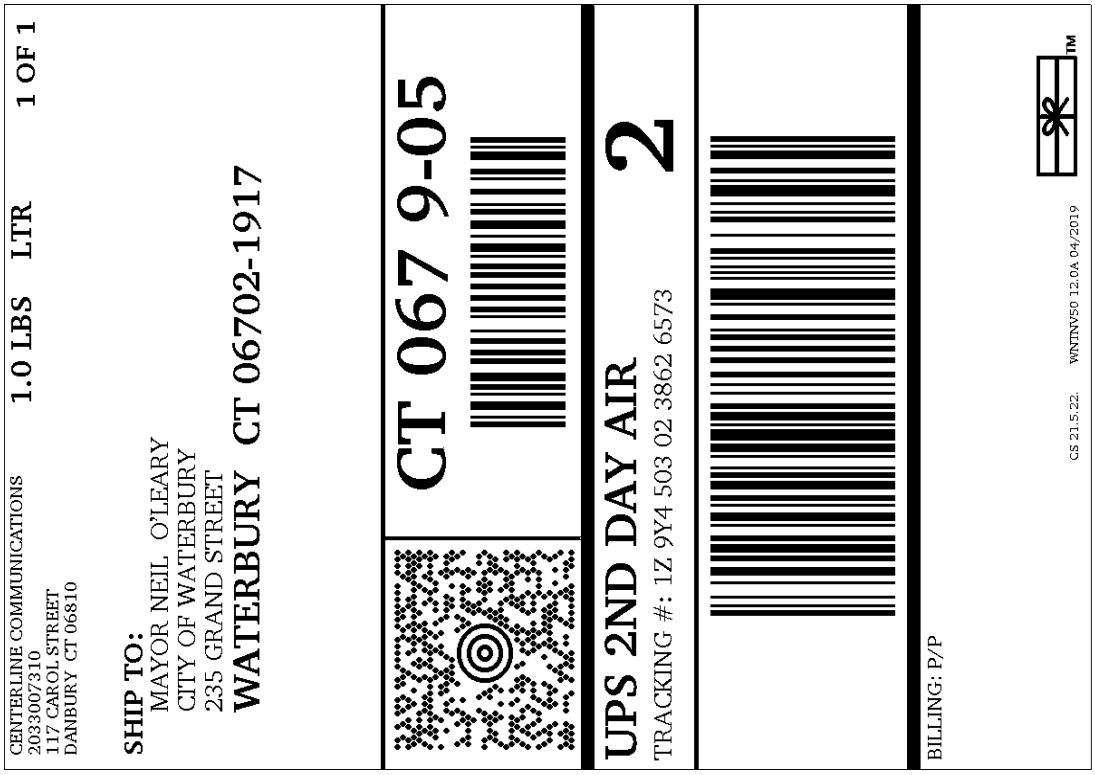

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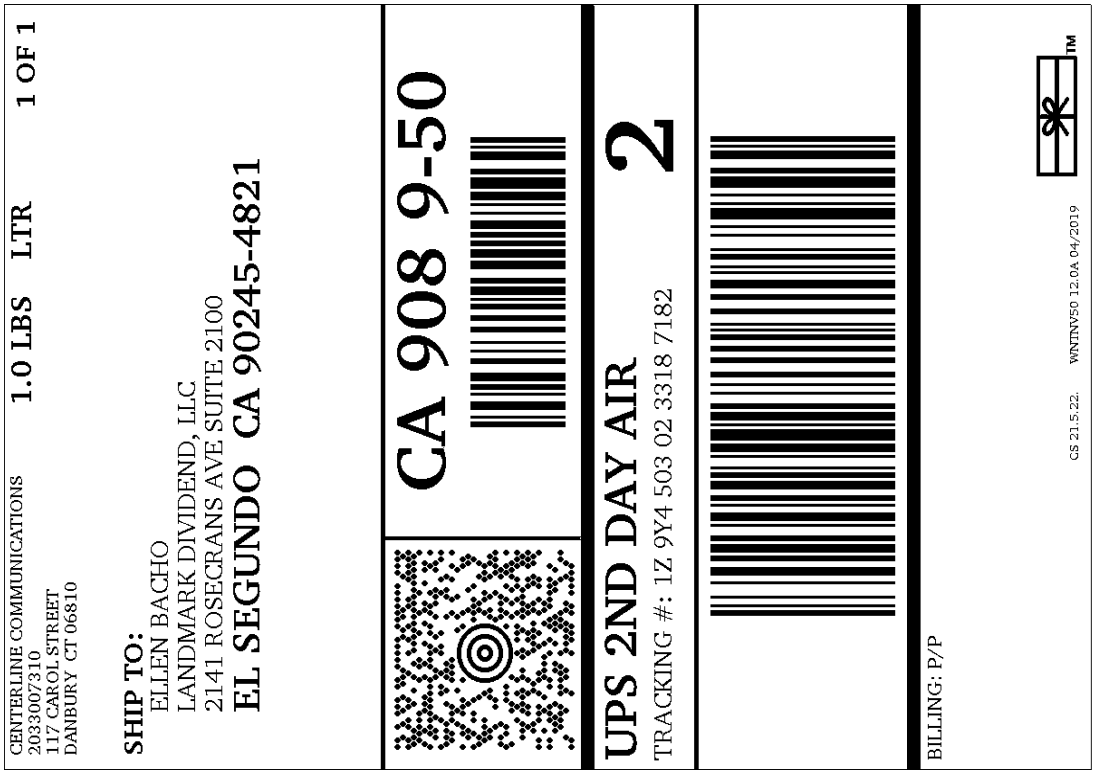

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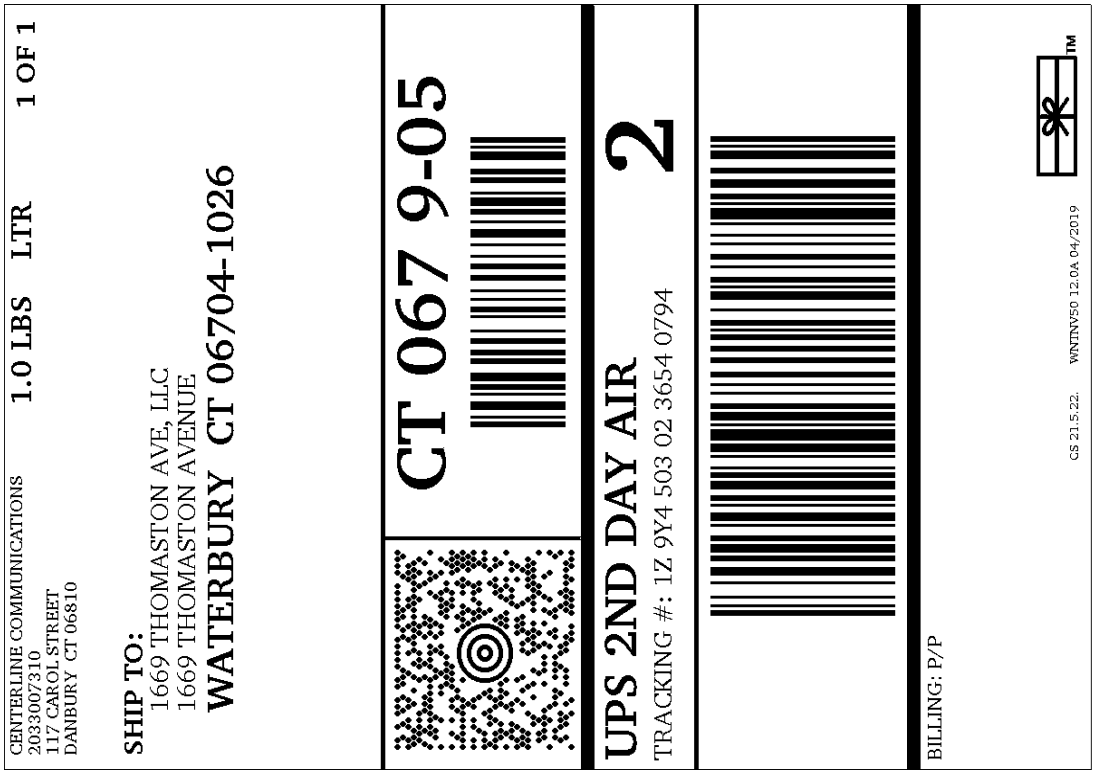

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