



Northeast Site Solutions  
Denise Sabo  
199 Brickyard Rd Farmington, CT 06032  
860-209-4690  
[denise@northeastsitesolutions.com](mailto:denise@northeastsitesolutions.com)

December 29, 2016

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

RE: Tower Share Application  
36 MOHAWK MTN ROAD, CORNWALL, CT 06753  
Latitude: 41.821287  
Longitude: -73.296433  
T-Mobile Site#: CTNH545A-NSD-ROB

Dear Ms. Bachman:

This letter and attachments are submitted on behalf of T-Mobile Northeast LLC ("T-Mobile"). T-Mobile plans to install antennas and related equipment at the tower site located at 36 Mohawk Mtn Road in Cornwall, Connecticut.

T-Mobile will install three (3) 700MHz antenna, three (3) 1900/2100 MHz antennas and nine (9) RRUs at the 56-foot level of the existing 65.1-foot support tower Two (2) hybrid cables will also be installed. T-Mobile's equipment cabinets will be placed within 10x12 lease area. Included are plans by SMW Engineering, dated December 23, 2016. **Exhibit C**. Also included is a structural analysis prepared by American Tower Corporation, dated December 15, 2016, confirming that the existing tower is structurally capable of supporting the proposed equipment. Attached as **Exhibit D**.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies 16-50aa, of T-Mobile's intent to share a telecommunications facility pursuant to R.C.S.A. 16-50j-88. In accordance with R.C.S.A., a copy of this letter is being sent to Gordon M, Ridgway, First Selectman of the Town of Cornwall, as well as the tower owner (ATC) and property owner (ATC).

The planned modifications of the facility fall squarely within those activities explicitly provided for in R.C.S.A. 16-50j-89.

1. The proposed modification will not result in an increase in the height of the existing structure. The top of the support tower is 65.1-feet; T-Mobile's proposed antennas will be located at a center line height of 56-feet.
2. The proposed modifications will not result in the increase of the site boundary as depicted on the attached site plan.
3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed local and state criteria. The incremental effect of the proposed changes will be negligible.
4. The operation of the proposed antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard. As indicated in the attached power density calculations, the combined site operations will result in a total power density of 38.49% as evidenced by **Exhibit E**.



# NSS NORTHEAST SITE SOLUTIONS

*Turnkey Wireless Development*

Connecticut General Statutes 16-50aa indicates that the Council must approve the shared use of a telecommunications facility provided it finds the shared use is technically, legally, environmentally, and economically feasible and meets public safety concerns. As demonstrated in this letter, T-Mobile respectfully indicates that the shared use of this facility satisfies these criteria.

A. Technical Feasibility. The existing monopole has been deemed structurally capable of supporting T-Mobile's proposed loading. The structural analysis is included as **Exhibit D**.

B. Legal Feasibility. As referenced above, C.G.S. 16-50aa has been authorized to issue orders approving the shared use of an existing tower such as this support tower in Cornwall. Under the authority granted to the Council, an order of the Council approving the requested shared use would permit T-Mobile to obtain a building permit for the proposed installation. Further, a Letter of Authorization is included as **Exhibit F**, authorizing T-Mobile to file this application for shared use.

C. Environmental Feasibility. The proposed shared use of this facility would have a minimal environmental impact. The installation of T-Mobile equipment at the 56-foot level of the existing 65.1-foot tower would have an insignificant visual impact on the area around the tower. T-Mobile's ground equipment would be installed within the existing facility compound. T-Mobile's shared use would therefore not cause any significant alteration in the physical or environmental characteristics of the existing site. Additionally, as evidenced by **Exhibit E**, the proposed antennas would not increase radio frequency emissions to a level at or above the Federal Communications Commission safety standard.

D. Economic Feasibility. T-Mobile will be entering into an agreement with the owner of this facility to mutually agreeable terms. As previously mentioned, the Letter of Authorization has been provided by the owner to assist T-Mobile with this tower sharing application.

E. Public Safety Concerns. As discussed above, the guyed tower is structurally capable of supporting T-Mobile's proposed loading. T-Mobile is not aware of any public safety concerns relative to the proposed sharing of the existing guyed tower. T-Mobile's intentions of providing new and improved wireless service through the shared use of this facility is expected to enhance the safety and welfare of local residents and individuals traveling through Cornwall.

Sincerely,

Denise Sabo  
Mobile: 860-209-4690  
Fax: 413-521-0558  
Office: 199 Brickyard Rd, Farmington, CT 06032  
Email: denise@northeastsitesolutions.com

Attachments

cc: Gordon M, Ridgway, First Selectman, as elected official  
American Tower Corporation - as tower owner and property owner

# Exhibit A

# Exhibit B



3.  
4.

MATTATUCK ROAD  
BITUMINOUS

LAND OF  
THE STATE OF CONNECTICUT

LAND OF  
THE STATE OF CONNECTICUT

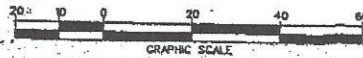
PROPOSED EASEMENT IN FAVOR OF  
THE AMERICAN TELEPHONE AND  
TELEGRAPH COMPANY  
AREA =  
6,190 SQ. FT.  
0.142 ACRES

PROPOSED SNET CELLULAR BUILD

PROPOSED CHAIN LINK FENCE

1 PIN TO BE  
SET (TYP)

LAND OF  
THE STATE OF CONNECTICUT



TO THE BEST OF MY KNOWLEDGE AND BELIEF THIS MAP IS  
SUBSTANTIALLY CORRECT AS NOTED HEREON

MICHAEL G. WILMES LICENSE NO. 14201  
TRUE AND VALID COPIES OF THIS MAP OR PLAN MUST BEAR THE  
SIGNATURE AND EMBOSSED SEAL OF THE ABOVE NAMED LAND SURVEYOR.

ANY



**PROPERTY DETAIL REPORT**

Prepared Exclusively for Eric Proulx

Created: 9/16/2016  
Expires: 10/16/2016





## TARGET PROPERTY

### 36 MOHAWK MOUNTAIN RD CORNWALL, CT 06753-

#### Owner Information

**Owner Name:** AMERICAN TOWER MGMT INC  
**Mailing Address:** PO BOX 723597 ATLANTA GA 31139-0597 B006  
**Phone Number:** **Vesting Codes:**  
**Owner Occupied Indicator:** UNKNOWN **Pending Record Indicator:**  
**Corporate Owner:**

#### Location Information

##### Legal Description:

<b>County:</b>	LITCHFIELD	<b>APN:</b>	CORN-000004-000001-F000000
<b>Census Tract / Block:</b>	2632.00	<b>Alternate APN:</b>	804122
<b>Township-Range-Sect:</b>		<b>Subdivision:</b>	
<b>Legal Book - Page:</b>		<b>Map Reference:</b>	/
<b>Legal Lot:</b>		<b>Tract #:</b>	
<b>Legal Block:</b>		<b>School District:</b>	
<b>Market Area:</b>		<b>Munic / Township:</b>	CORNWALL
<b>Neighbor Code:</b>			

#### Owner Transfer Information

<b>Recording / Sale Date:</b>		<b>Sale Price:</b>	
<b>Document #:</b>		<b>Deed Type:</b>	
<b>Instrument #:</b>		<b>1st Mtg Document #:</b>	
<b>Book - Page:</b>			

#### Last Market Sale Information

<b>Recording / Sale Date:</b>	/	<b>1st Mtg Amount / Type:</b>	/
<b>Sale Price:</b>		<b>1st Mtg Int. Rate / Type:</b>	/
<b>Sale Type:</b>		<b>1st Mtg Term:</b>	
<b>Document #:</b>		<b>1st Mtg Document #:</b>	
<b>Instrument #:</b>		<b>1st Mtg Instrument #:</b>	
<b>Book - Page:</b>		<b>1st Mtg Book - Page:</b>	
<b>Deed Type:</b>		<b>2nd Mtg Amount / Type:</b>	/
<b>Transfer Document #:</b>		<b>2nd Mtg Int. Rate / Type:</b>	/
<b>New Construction:</b>		<b>2nd Mtg Term:</b>	
<b>Multi / Split Sale:</b>		<b>Price per SqFt:</b>	
<b>Cash Down Payment:</b>		<b>Stamps Amount:</b>	
<b>Title Company:</b>			
<b>Lender:</b>			
<b>Seller Name:</b>			

#### Prior Sale Information

<b>Prior Rec / Sale Date:</b>	/	<b>Prior Deed Type:</b>	
<b>Prior Sale Price:</b>		<b>Prior Lender:</b>	
<b>Prior Sale Type:</b>		<b>Prior 1stMtg Amount/Type:</b>	/
<b>Prior Doc #:</b>		<b>Prior 1stMtg Int. Rate/Type:</b>	/
<b>Prior Instrument #:</b>		<b>Prior Stamps Amount:</b>	
<b>Prior Book - Page:</b>			

#### Site Information

<b>Land Use:</b>	COMMERCIAL BUILDING	<b>Acres:</b>		<b>County Use:</b>	
<b>Flood Zone:</b>		<b>Lot Area:</b>	1	<b>State Use:</b>	COMMERCIAL LAND
<b>Flood Zone Map:</b>		<b>Lot Width / Depth:</b>	/	<b>Site Influence:</b>	
<b>Flood Panel Date:</b>		<b>Usable Lot:</b>		<b>Sewer Type:</b>	
<b>Res / Comm Units:</b>		<b>Lot Shape:</b>		<b>Topography:</b>	

<b># of Buildings:</b>	1	<b>Bldg Width / Depth:</b>	/	<b>Water Type:</b>		
<b>Zoning:</b>		<b>Building Class:</b>		<b>Water District:</b>		
<b>Tax Information</b>						
<b>Total Value:</b>	\$36,300.00	<b>Assessed Year:</b>	2016	<b>Property Tax:</b>	\$556.00	
<b>Land Value:</b>		<b>Improve %:</b>		<b>Tax Area:</b>	210	
<b>Improvement Value:</b>	\$36,300.00	<b>Dist:</b>		<b>Tax Year:</b>	2016	
<b>Total Taxable Value:</b>		<b>Fire Dist:</b>		<b>Tax Exemption:</b>		
<b>Market Value:</b>		<b>Garbage Dist:</b>		<b>Equal Rate:</b>		
		<b>Delinquent Date:</b>		<b>Equal Year:</b>		
<b>Property Characteristics</b>						
<b>Gross Area:</b>		<b>Parking Type:</b>		<b>Construction:</b>		
<b>Living Area:</b>		<b>Garage Area:</b>		<b>Heat Type:</b>		
<b>Tot Adj Area:</b>		<b>Garage 2 Area:</b>		<b>Heat Fuel:</b>		
<b>Above Grade:</b>		<b>Garage Capacity:</b>		<b>Parcel Fuel:</b>		
<b>Ground Floor Area:</b>		<b>Parking Spaces:</b>		<b>Exterior Wall:</b>		
<b>Base / Main Area:</b>	/	<b>Carport:</b>		<b>Interior Wall:</b>		
<b>Upper Area:</b>		<b>Basement Area:</b>		<b>Foundation:</b>		
<b>2nd Floor Area:</b>		<b>Finish Bsmnt Area:</b>		<b>Air Cond:</b>		
<b>3rd Floor Area:</b>		<b>Basement Type:</b>		<b>Roof Type:</b>		
<b>Rentable Area:</b>		<b>Attic Type:</b>		<b>Roof Shape:</b>		
<b>Additional Area:</b>		<b>Porch Type:</b>		<b>Roof Frame:</b>		
<b>Total Rooms:</b>		<b>Porch 1 Area:</b>		<b>Roof Material:</b>		
<b>Bedrooms:</b>		<b>Porch 2 Area:</b>		<b>Floor Type:</b>		
<b>Bath (F/H):</b>	/	<b>Patio Type:</b>		<b>Floor Cover:</b>		
<b>Total Baths / Fixtures:</b>	/	<b>Patio 1 Area:</b>		<b>Style:</b>		
<b>Year Built / Eff:</b>	/	<b>Pool:</b>		<b>Quality:</b>		
<b>Fireplace:</b>		<b>Pool Area:</b>		<b>Condition:</b>		
<b>Fireplace Description:</b>				<b># of Stories:</b>		
<b>Basement Description:</b>				<b>Other Rooms:</b>		
<b>Other Improvements:</b>						
<b>Bldg Comments:</b>						
<b>Parcel Comments:</b>						
<b>Extra Features</b>						
<b>Description:</b>	<b>Unit:</b>	<b>Size / Qty:</b>	<b>Width:</b>	<b>Depth:</b>	<b>Year Built:</b>	<b>Improvement Value:</b>
L						

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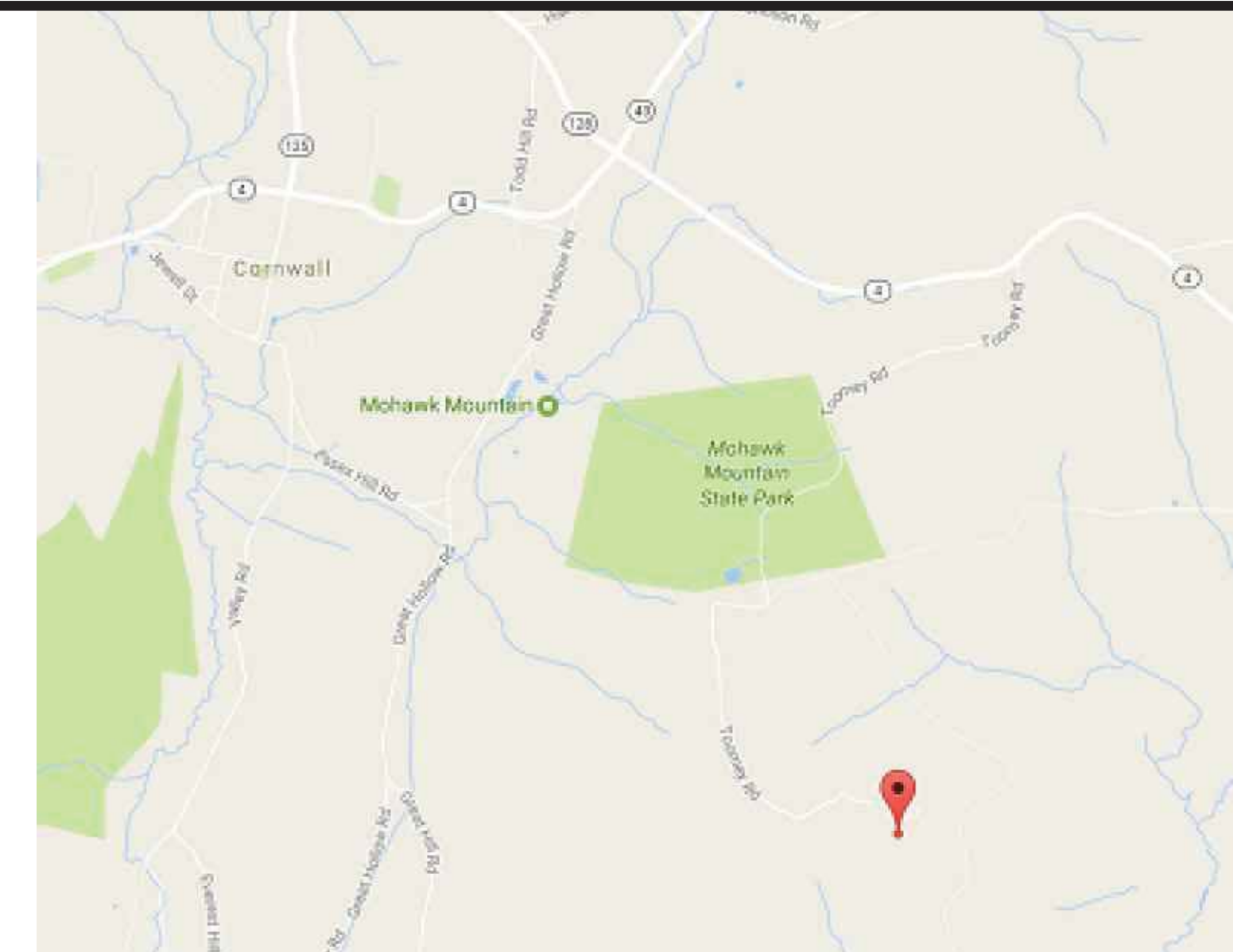


# Exhibit C

**GENERAL NOTES**

- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTORS SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.
- ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
- THE SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
- THE SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
- SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWING MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
- ALL SAFETY PRECAUTIONS MUCH BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT OF ANY DANGEROUS EXPOSURE LEVELS.

**LOCATION MAP**



**HANDICAP REQUIREMENTS**

FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAP ACCESS IS NOT REQUIRED.

**PLUMBING REQUIREMENTS**

FACILITY HAS NO SANITARY OR POTABLE WATER

# T-Mobile

2016 INFILL/ROB/GREENFIELD  
 T-MOBILE SITE NUMBER  
**CTNH545A**  
 EXISTING SELF SUPPORT TOWER  
 ATC SITE NUMBER  
**88009**  
 SITE ADDRESS  
 36 MOHAWK MTN RD  
 CORNWALL, CT 06753  
 CONFIGURATION 707C

**SITE SUMMARY**

SITE TYPE: PROPOSED EQUIPMENT INSTALLATION  
 TECHNOLOGY TYPE: U1900/L2100/L700  
 SITE ADDRESS: 36 MOHAWK MTN RD  
 CORNWALL, CT 06753  
 SITE LATITUDE: 41° 49' 16.633" N  
 SITE LONGITUDE: 73° 17' 47.157" W  
 JURISDICTION: TOWN OF CORNWALL  
 POWER COMPANY: EVERSOURCE  
 TELEPHONE COMPANY: FRONTIER COMMUNICATIONS  
 TOWER OWNER: AMERICAN TOWER  
 116 HUNTINGTON AVE, 11TH FLOOR  
 BOSTON, MA 02116  
 CONTACT: CUSTOMER SERVICE  
 PHONE: 877-518-6937  
 TOWER MANAGER: NORTHEAST SITE SOLUTIONS, LLC  
 199 BRICKYARD ROAD  
 FARMINGTON, CT 06032  
 SHELDON FREINCLE  
 (201) 776-8521  
 WIRELESS CARRIER: T-MOBILE  
 35 GRIFFIN RD S  
 BLOOMFIELD, CT 06002  
 OFFICE: 860-692-7100  
 FAX: 860-692-7159  
 ENGINEER: SMW ENGINEERING  
 158 BUSINESS CENTER DRIVE  
 BIRMINGHAM, AL 35244  
 PHONE: 205-252-6985  
 ALVIN A. KRAFT, PE

**BUILDING CODES**

ALL CONSTRUCTION SHALL COMPLY WITH THE LATEST EDITION OF THE (AS ADOPTED BY LOCAL JURISDICTION):

- 2016 CONNECTICUT BUILDING CODE
- 2012 INTERNATIONAL BUILDING CODE W/AMENDMENTS
- 2009 ICC/ANSI A117.1 W/AMENDMENTS
- 2012 INTERNATIONAL EXISTING BUILDING CODE W/AMENDMENTS
- 2012 INTERNATIONAL PLUMBING CODE WITH AMENDMENTS
- 2012 INTERNATIONAL MECHANICAL CODE W/AMENDMENTS
- 2012 INTERNATIONAL ENERGY CONSERVATION CODE W/AMENDMENTS
- 2014 NFPA 70, NATIONAL ELECTRICAL CODE W/AMENDMENTS
- 2012 INTERNATIONAL RESIDENTIAL CODE W/AMENDMENTS

**APPROVALS**

DEPARTMENT	NAME/SIGNATURE	DATE
DEVELOPMENT MANAGER		
PROPERTY/TOWER OWNER		
SITE ACQUISITION MANAGER		
CONSTRUCTION MANAGER		
RF ENGINEER		
OPERATIONS MANAGER		

**PROJECT SCOPE**

THE PROPOSED PROJECT SCOPE WILL CONSIST OF CONSTRUCTING A NEW TELECOMMUNICATIONS BASE STATION INSTALLATION ON AN EXISTING TOWER SITE. THE PROPOSED CONSTRUCTION WILL INCLUDE THE INSTALLATION OF ANTENNA, RADIOS, CABLES AND RELATED EQUIPMENT ON THE TOWER AS WELL AS THE RADIOS, CABINETS, UTILITIES AND ANCILLARY EQUIPMENT ON THE GROUND.

**SHEET INDEX**

T-1	TITLE SHEET
C-1	OVERALL SITE PLAN
C-2	TOWER ELEVATION & ANTENNA PLAN
C-3	TOWER TOP EQUIPMENT SCHEDULE
C-4	GROUND EQUIPMENT DETAIL
C-5	ICE BRIDGE DETAILS
C-6	FOUNDATION DETAILS & NOTES
C-7	EROSION CONTROL DETAILS
C-8	EROSION CONTROL SPECIFICATIONS
E-1	ONE-LINE DIAGRAM
E-2	ELECTRICAL UTILITY PLAN
E-3	GROUNDING PLAN
E-4	EQUIPMENT SCHEMATIC
E-5	ELECTRICAL & GROUNDING DETAILS

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 Call before you dig.

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 STATE WIDE  
 1-800-922-4455 OR 811  
[HTTP://WWW.CBYD.COM/#](http://www.cbyd.com/#)

# T-Mobile

35 GRIFFIN RD S  
 BLOOMFIELD, CT 06002  
 OFFICE: 860-692-7100  
 FAX: 860-692-7159

PLANS PREPARED BY:



NORTHEAST SITE SOLUTIONS, LLC  
 199 BRICKYARD ROAD  
 FARMINGTON CT 06032  
 (860) 677-1999



ENGINEERING GROUP, INC.  
 TOGETHER PLANNING A BETTER TOMORROW

## PRELIMINARY DRAWING

(NOT VALID UNLESS  
 STAMPED AND SIGNED)

SITE INFORMATION:

CTNH545A  
 36 MOHAWK MTN RD  
 CORNWALL, CT 06753

#	DATE	DESCRIPTION:
0	10/10/16	ISSUED FOR CLIENT REV.
1	10/21/16	REISSUED FOR CLIENT REV.
2	11/10/16	ISSUED FOR CONSTRUCTION
3	12/14/16	REISSUED FOR CONSTRUCTION
4	12/23/16	REISSUED FOR CONSTRUCTION

T-MOBILE SITE ID: CTNH545A  
 ATC SITE ID: 88009

SHEET NAME:

TITLE SHEET

SMW #: 16-2559

DESIGNER: BMD  
 CHECKED BY: RTB  
 ENGINEER: JDS

SHEET NUMBER:

T-1



**(Sdl)** TYPE C SEDIMENT BARRIER – TO PREVENT ANY SEDIMENT CARRIED BY SHEET FLOW FROM LEAVING THE SITE & ENTERING NATURAL DRAINAGE AREAS OR STORM DRAINAGE SYSTEMS.

**Ds2** DISTURBED AREA STABILIZATION (TEMPORARY) – TO ESTABLISH A TEMPORARY VEGETATIVE COVER WITH FAST GROWING SEEDS ON DISTURBED AREAS.

**Ds3** DISTURBED AREA STABILIZATION (PERMANENT) – TO ESTABLISH A PERMANENT VEGETATIVE COVER SUCH AS TREES, SHRUBS, VINES, GRASSES, SOD, OR LEGUMES ON DISTURBED AREA.

**Du** DISTURBED AREA DUST CONTROL – TO CONTROL THE SURFACE AND AIR MOMENT OF DUST ON CONSTRUCTION SITES, ROADWAYS, AND SIMILAR SITES.

**NOTE TO CONTRACTORS:**  
DIGGING AND/OR TRENCHING INSIDE COMPOUND, MUST BE DONE BY HAND.

SUBJECT PROPERTY IS LOCATED IN PANEL # 0900450020A, DATED (AUGUS 16, 1988) AND IS IN THE BASE FLOOD ZONE "X" AND IS NOT IN A SPECIAL FLOOD HAZARD AREA.

**UTILITY NOTE:**  
THERE ARE NOT ANY EXISTING STORM OR SANITARY SEWER LINES OR BURIED UTILITIES ON THE PARENT TRACK WITHIN THE VICINITY OF THE PROPOSED CONSTRUCTION.

**T-Mobile**  
35 GRIFFIN RD. S  
BLOOMFIELD, CT 06002  
OFFICE: 860-692-7100  
FAX: 860-692-7159

PLANS PREPARED BY:  
**NSS NORTHEAST**  
SITE SOLUTIONS  
Norwalk, Connecticut  
NORTHEAST SITE SOLUTIONS, LLC  
199 BRICKYARD ROAD  
FARMINGTON CT 06032  
(860) 677-1999

**SMW**  
ENGINEERING GROUP, INC.  
TOGETHER PLANNING A BETTER TOMORROW

**PRELIMINARY DRAWING**  
(NOT VALID UNLESS STAMPED AND SIGNED)

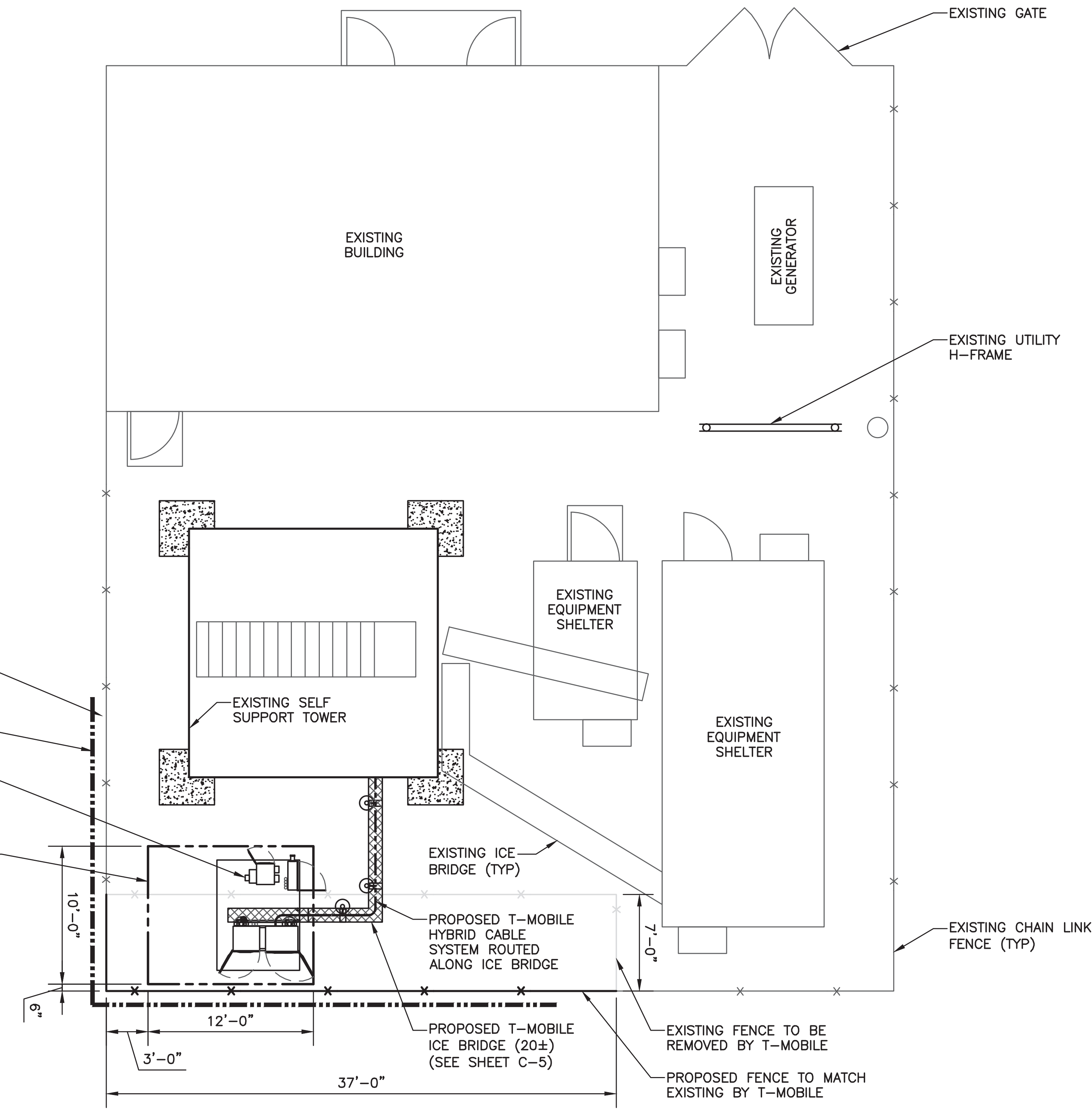
SITE INFORMATION:  
**CTNH545A**  
36 MOHAWK MTN RD  
CORNWALL, CT 06753

#	DATE	DESCRIPTION
0	10/10/16	ISSUED FOR CLIENT REV.
1	10/21/16	REISSUED FOR CLIENT REV.
2	11/10/16	ISSUED FOR CONSTRUCTION
3	12/14/16	REISSUED FOR CONSTRUCTION
4	12/23/16	REISSUED FOR CONSTRUCTION

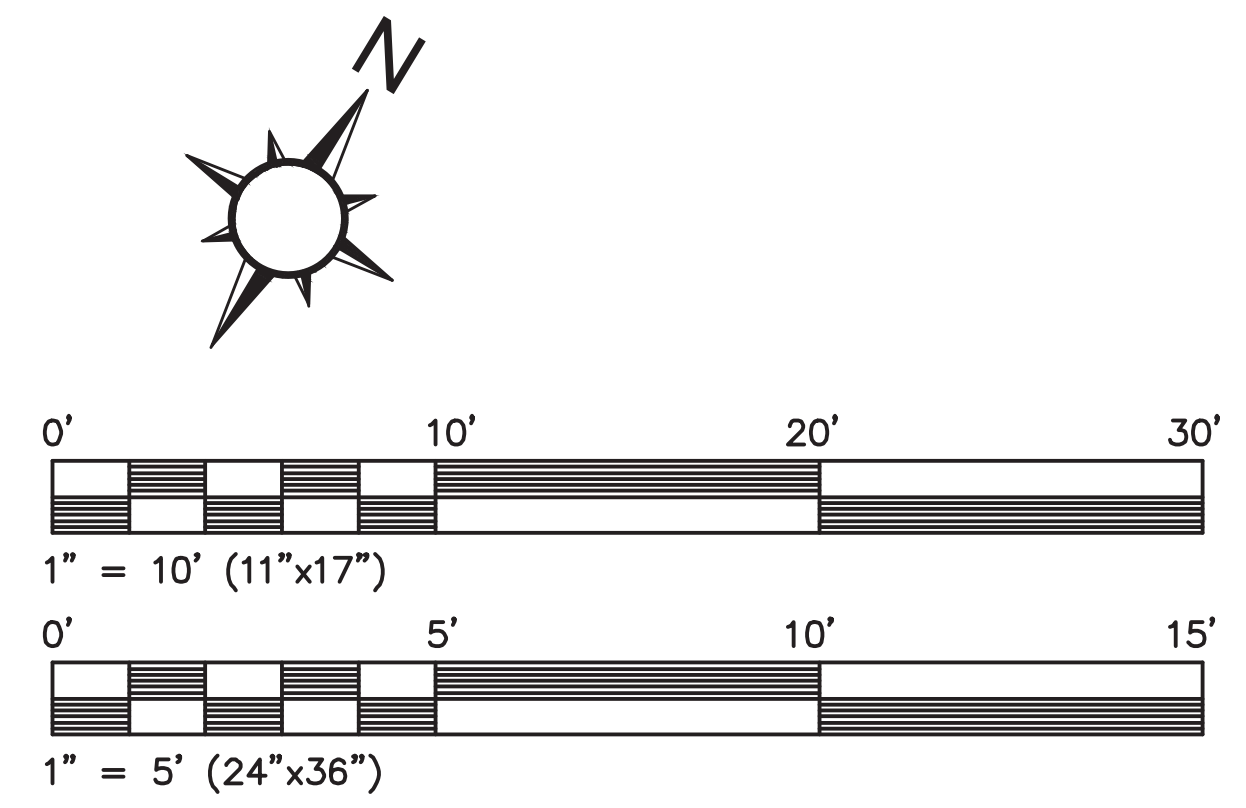
T-MOBILE SITE ID: CTNH545A ATC SITE ID: 88009

SHEET NAME:  
**OVERALL SITE PLAN**

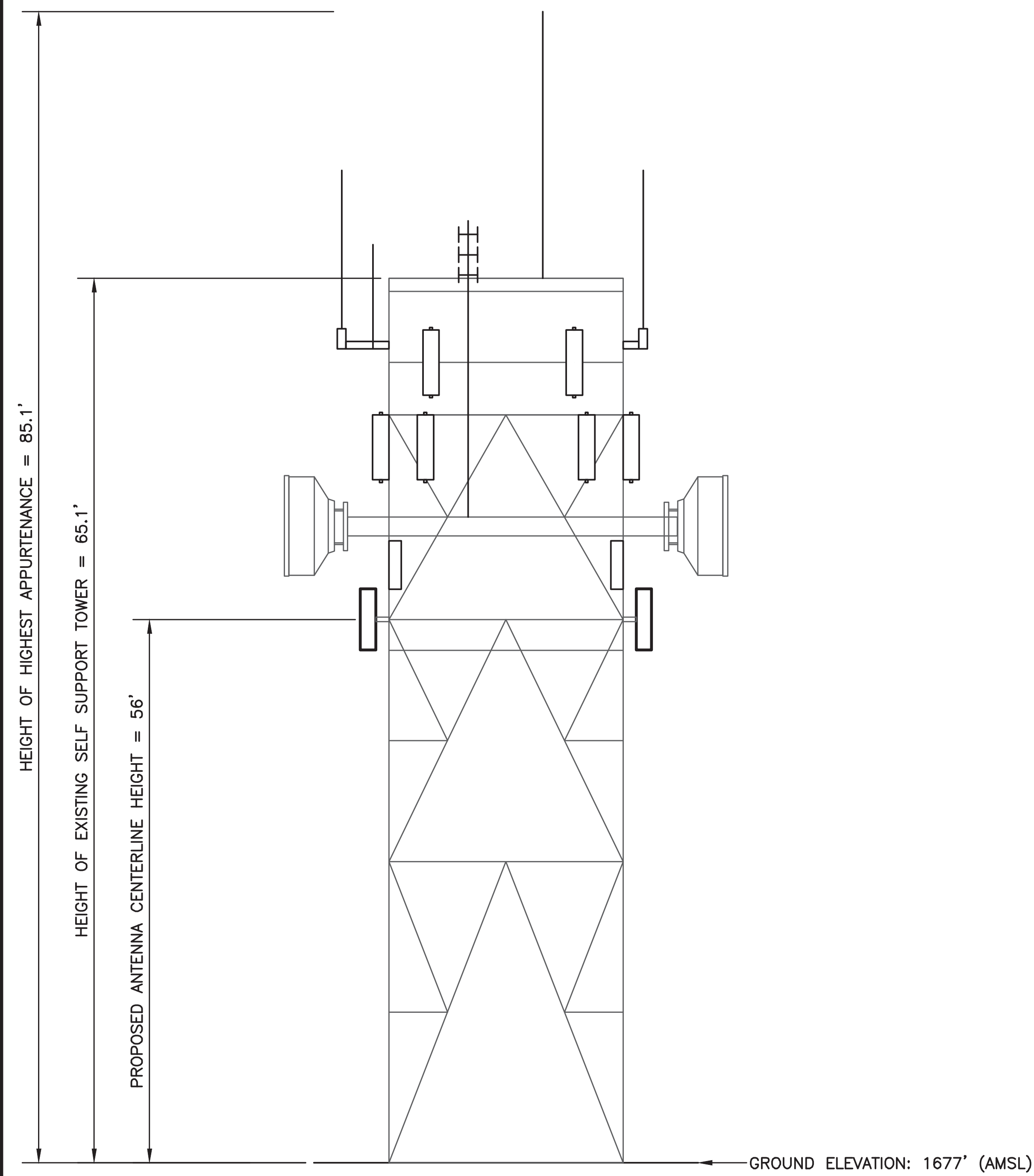
DESIGNER: BMD  
CHECKED BY: RTB  
ENGINEER: JDS  
SHEET NUMBER:  
**C-1**



**Ds2** ALL DISTURBED NOT COVERED WITH GRAVEL  
**Ds3**  
**(Sdl)** PROPOSED SILT FENCE (TYP)  
PROPOSED T-MOBILE METER & MANUAL DISCONNECT ATTACHED TO UTILITY FRAME  
PROPOSED T-MOBILE 10'X12' LEASE AREA WITH 6'X8' EQUIPMENT PAD AND UTILITY FRAME (SEE SHEET C-4)

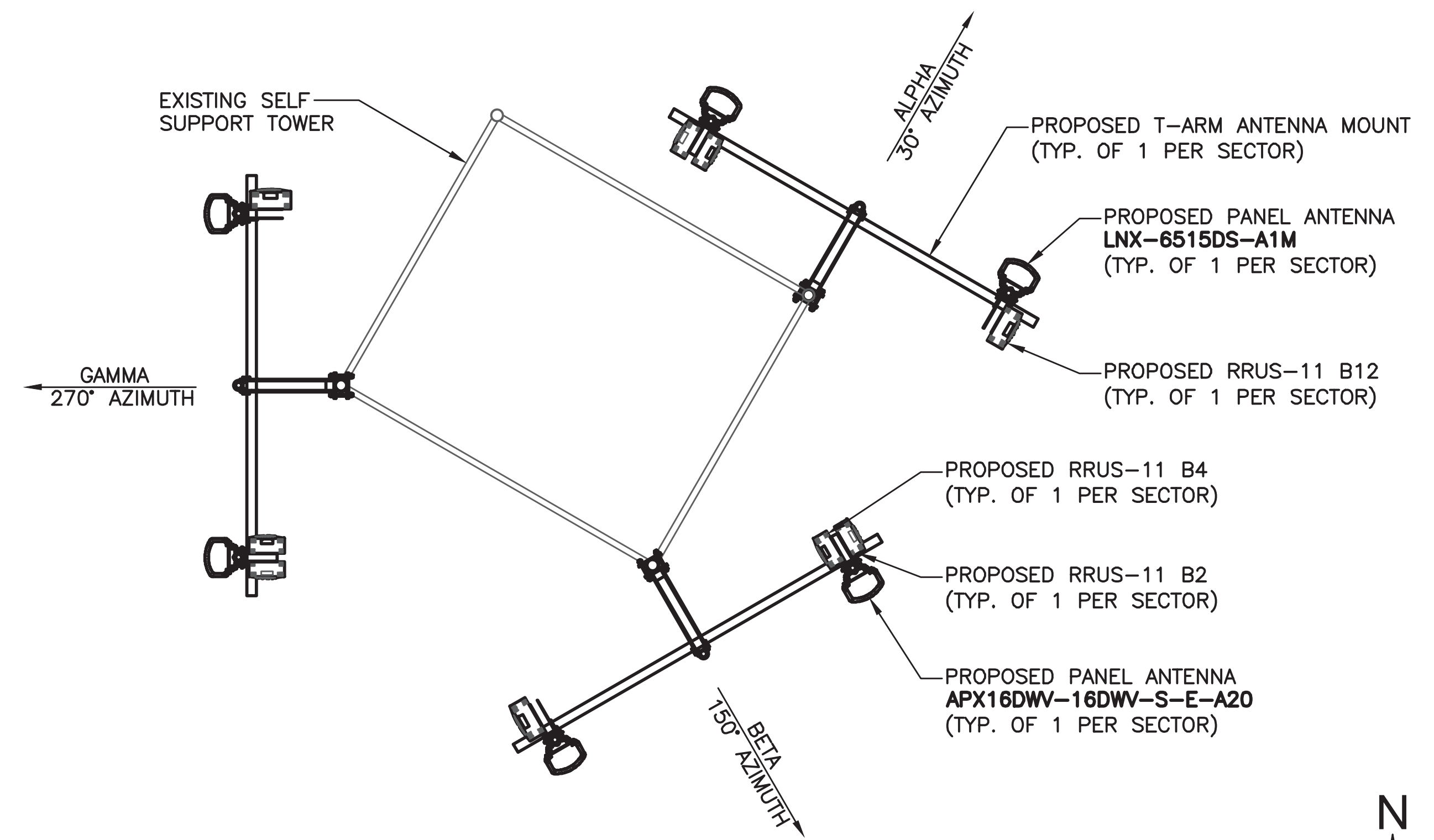


**1** OVERALL SITE PLAN  
**C-1**

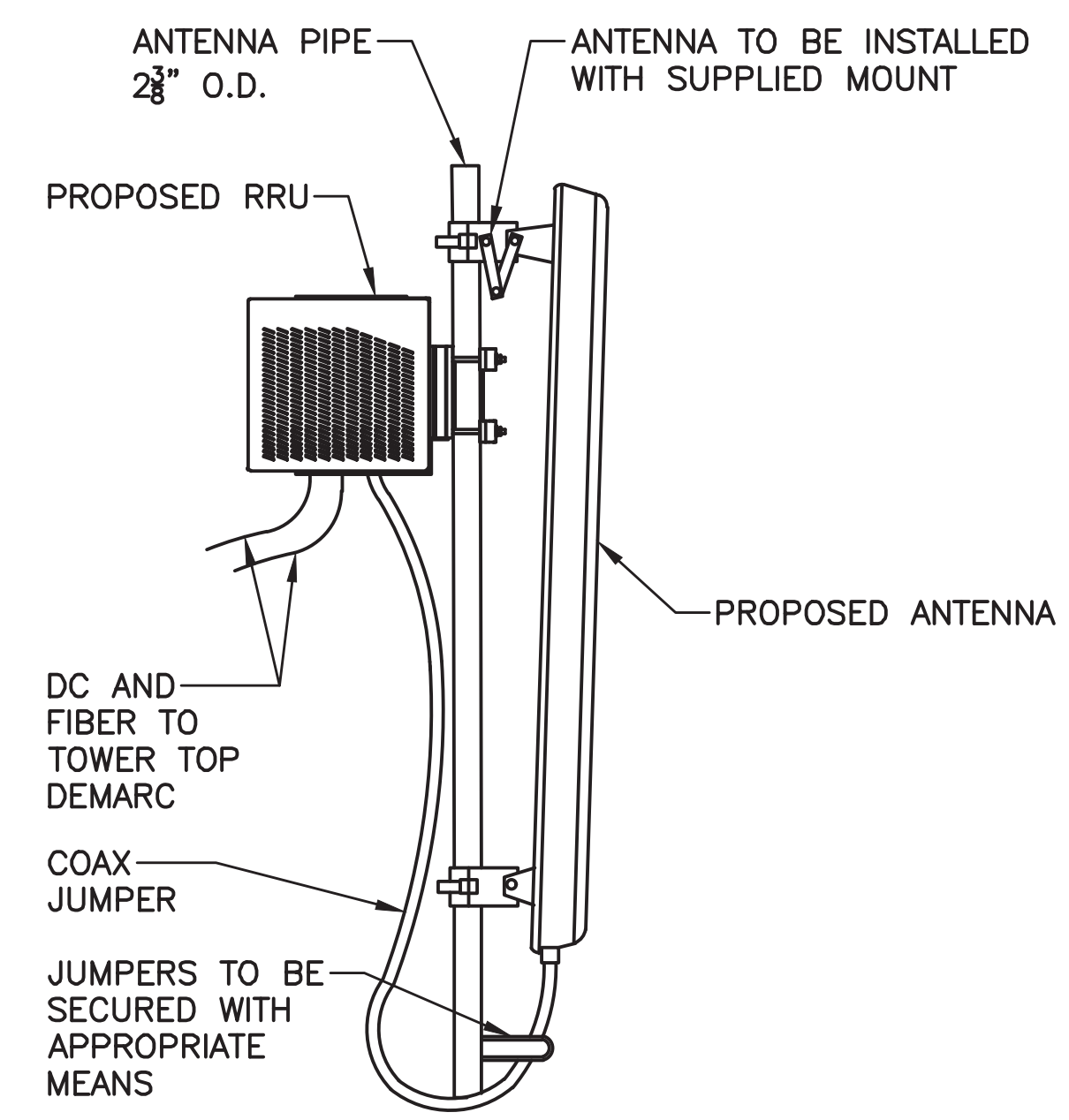
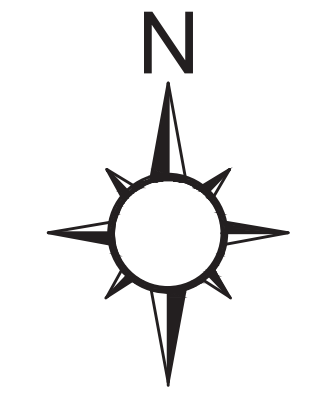


- NOTES:
1. SMW HAS NOT PERFORMED A STRUCTURAL ANALYSIS OF THE EXISTING TOWER OR PROPOSED ANTENNA MOUNT. REFER TO STRUCTURAL ANALYSIS OR STRUCTURAL LETTER BY OTHERS FOR ADDITIONAL INFORMATION.
  2. IF THE TOWER STRUCTURAL ANALYSIS SHOWS THE NEED FOR TOWER REINFORCEMENT REFER TO TOWER REINFORCEMENT DESIGN PRIOR TO THE INSTALLATION OF ANY PROPOSED EQUIPMENT.
  3. REFER TO TOWER STRUCTURAL ANALYSIS FOR PROPOSED CABLE ROUTING AND ATTACHMENT DETAILS.
  4. TOWER ELEVATION SHOWN IS NOT DRAWN TO SCALE AND IS INTENDED ONLY FOR REFERENCE PURPOSES. REFER TO ORIGINAL TOWER DESIGN FOR ADDITIONAL INFORMATION.

1 TOWER ELEVATION  
C-2 NOT TO SCALE



2 PROPOSED ANTENNA ORIENTATION PLAN  
C-2 NOT TO SCALE



3 ANTENNA MOUNT DETAIL  
C-2 NOT TO SCALE

**T-Mobile**

35 GRIFFIN RD. S  
BLOOMFIELD, CT 06002  
OFFICE: 860-692-7100  
FAX: 860-692-7159

PLANS PREPARED BY:

**NSS NORTHEAST**  
SITE SOLUTIONS  
*Turning Vision Into Development*  
NORTHEAST SITE SOLUTIONS, LLC  
199 BRICKYARD ROAD  
FARMINGTON CT 06032  
(860) 677-1999

**SMW**  
ENGINEERING GROUP, INC.  
TOGETHER PLANNING A BETTER TOMORROW

**PRELIMINARY DRAWING**  
(NOT VALID UNLESS STAMPED AND SIGNED)

SITE INFORMATION:

CTNH545A  
36 MOHAWK MTN RD  
CORNWALL, CT 06753

#	DATE	DESCRIPTION
0	10/10/16	ISSUED FOR CLIENT REV.
1	10/21/16	REISSUED FOR CLIENT REV.
2	11/10/16	ISSUED FOR CONSTRUCTION
3	12/14/16	REISSUED FOR CONSTRUCTION
4	12/23/16	REISSUED FOR CONSTRUCTION

T-MOBILE SITE ID: CTNH545A ATC SITE ID: 88009

SHEET NAME:  
**TOWER ELEVATION & ANTENNA PLAN**

SMW #: 16-2559	SHEET NUMBER: <b>C-2</b>
DESIGNER: BMD	
CHECKED BY: RTB	
ENGINEER: JDS	



707C_TOWER_1QP_1DP / U1900/L2100/L700 - TOWER TOP EQUIPMENT SCHEDULE							
ANTENNA SECTOR	ANTENNA MARK	ANTENNA AZIMUTH	ANTENNA MODEL	RRU MODEL	TMA MODEL	TOWER TOP COVP MODEL	ANTENNA CABLE DESCRIPTION
ALPHA	A1	30°	APX16DWV-16DWV-S-E-A20 (QUAD)	(1) RRUS-11 B2 (P) (1) RRUS-11 B4 (P)	--	--	(1) 1 5/8" HYBRID CABLE SYSTEM (P)
	A2	30°	--	--	--	--	--
	A3	30°	LNx-6515DS-A1M (DUAL)	(1) RRUS-11 B12 (P)	--	--	--
BETA	B1	150°	APX16DWV-16DWV-S-E-A20 (QUAD)	(1) RRUS-11 B2 (P) (1) RRUS-11 B4 (P)	--	--	(1) 1 5/8" HYBRID CABLE SYSTEM (R)
	B2	150°	--	--	--	--	--
	B3	150°	LNx-6515DS-A1M (DUAL)	(1) RRUS-11 B12 (P)	--	--	--
GAMMA	C1	270°	APX16DWV-16DWV-S-E-A20 (QUAD)	(1) RRUS-11 B2 (P) (1) RRUS-11 B4 (P)	--	--	--
	C2	270°	--	--	--	--	--
	C3	270°	LNx-6515DS-A1M (DUAL)	(1) RRUS-11 B12 (P)	--	--	--

NOTE:  
(P) DENOTES PROPOSED EQUIPMENT  
(R) DENOTES RESERVED EQUIPMENT  
(E) DENOTES EXISTING EQUIPMENT

- NOTE:
1. THE HYBRID CABLE LENGTH SHOWN IS ONLY AN ESTIMATE AND SHOULD NOT BE USED FOR ORDERING MATERIALS. CONFIRM THE REQUIRED HYBRID CABLE LENGTH WITH T-MOBILE PRIOR TO ORDERING OR INSTALLATION.
  2. THE CONTRACTOR SHALL TEST THE OPTICAL FIBER AFTER INSTALLATION IN ACCORDANCE WITH T-MOBILE STANDARDS AND SUPPLY THE RESULTS TO T-MOBILE.
  3. THE CONTRACTOR SHALL CONFIRM THE TOWER TOP EQUIPMENT LIST ABOVE WITH THE FINAL T-MOBILE RFDS PRIOR TO INSTALLATION.
  4. ALL EXISTING AND PROPOSED ANTENNA CABLES SHALL BE COLOR CODED PER T-MOBILE MARKET STANDARDS.
  5. REFER TO MANUFACTURERS INSTALLATION STANDARDS FOR ADDITIONAL INFORMATION.
  6. REFER TO EQUIPMENT MANUFACTURER'S SPECIFICATION SHEETS FOR ADDITIONAL INFORMATION NOT LISTED ABOVE.

TOWER LOADING SUMMARY		
EQUIPMENT TYPE	ADD QUANTITY	TOTAL QUANTITY
PANEL ANTENNA	6	6
COAX CABLE	0	0
RRUS	9	9
HYBRID CABLE	2	2
COVP	0	0

**T-Mobile**

35 GRIFFIN RD. S.  
BLOOMFIELD, CT 06002  
OFFICE: 860-692-7100  
FAX: 860-692-7159

PLANS PREPARED BY:



NORTHEAST SITE SOLUTIONS, LLC  
199 BRICKYARD ROAD  
FARMINGTON CT 06032  
(860) 677-1999



ENGINEERING GROUP, INC.

TOGETHER PLANNING A BETTER TOMORROW

**PRELIMINARY  
DRAWING**

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T-MOBILE SITE ID: CTNH545A ATC SITE ID: 88009

SHEET NAME:

TOWER TOP  
EQUIPMENT SCHEDULE

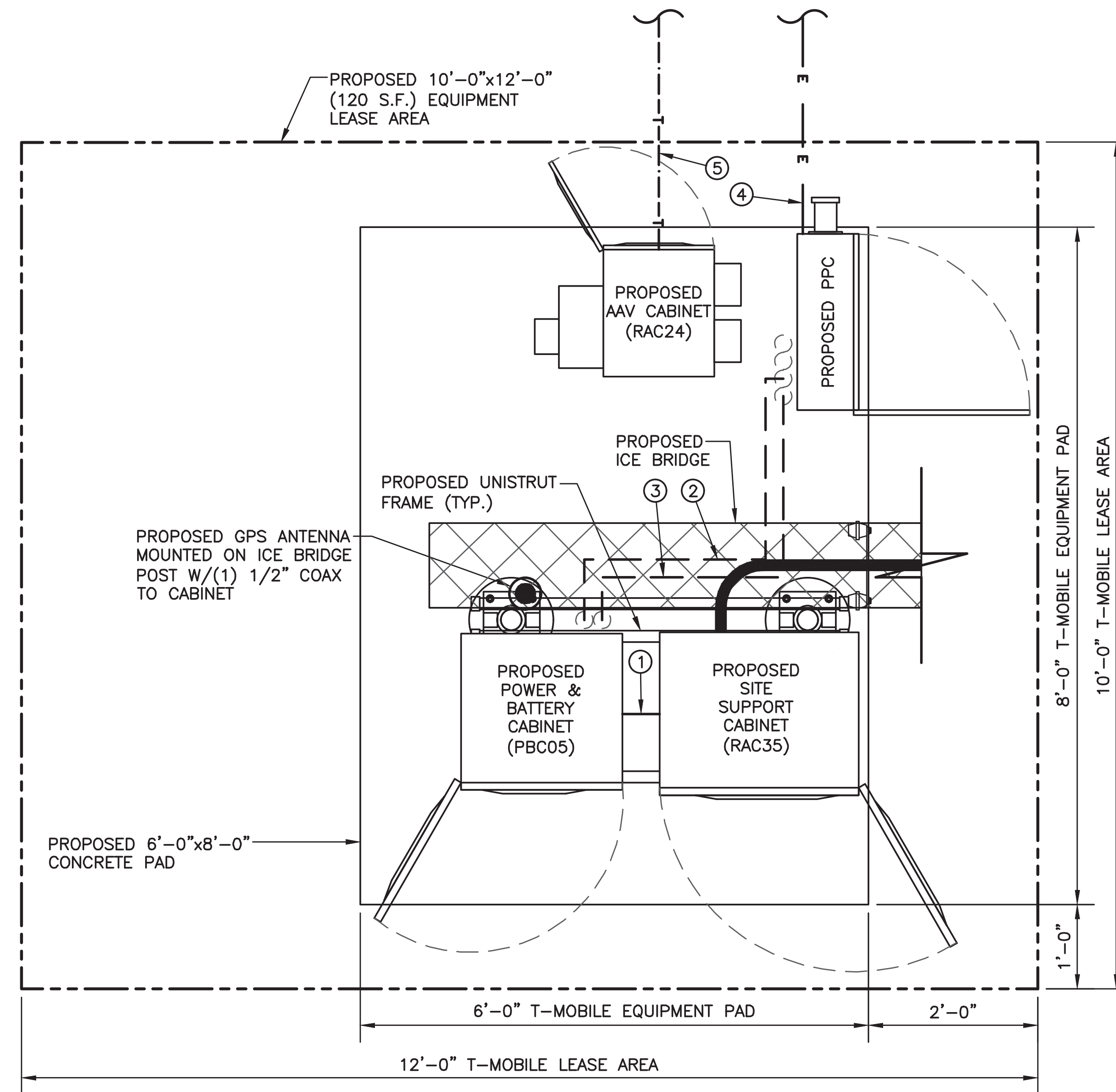
SMW #:  
16-2559

SHEET NUMBER:

**C-3**

DESIGNER: BMD  
CHECKED BY: RTB  
ENGINEER: JDS

- ① 2"Ø CONDUIT (ABOVE SLAB)
- ② 2"Ø U/G CONDUIT (UNDER CONCRETE) FROM PROPOSED PPC TO PROPOSED PBC CABINETS
- ③ 2"Ø U/G CONDUIT (UNDER CONCRETE) FROM PROPOSED PPC DAISY-CHAINING SSC CAGINETS
- ④ 2"Ø PVC CONDUIT WITH (3) 3/0 + #4G FROM PROPOSED METER TO PPC CABINET. COORDINATE WITH THE LOCAL UTILITY COMPANY REGARDING FINAL SERVICE CONNECTION.
- ⑤ 2"Ø PVC CONDUIT WITH PULLSTRING FOR TELCO FROM PROPOSED AAV CABINET TO EXISTING TELCO SERVICE. COORDINATE WITH THE LOCAL UTILITY COMPANY REGARDING FINAL SERVICE CONNECTION.



# T-Mobile

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**NSS NORTHEAST**  
SITE SOLUTIONS  
*Turning Vision Into Development*  
NORTHEAST SITE SOLUTIONS, LLC  
199 BRICKYARD ROAD  
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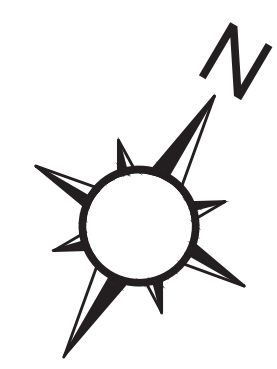
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SHEET NAME:  
**GROUND EQUIPMENT DETAIL**

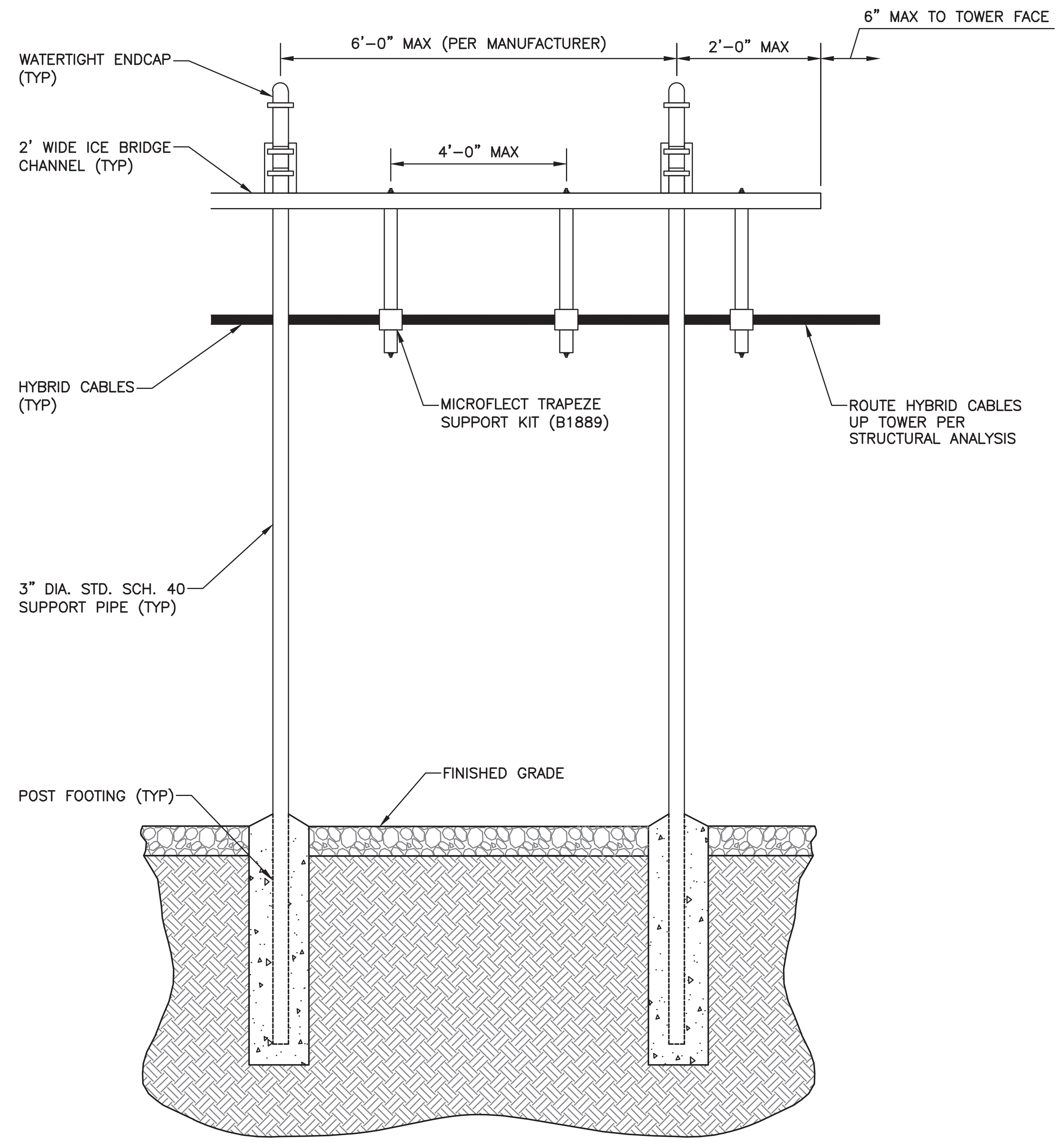
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ENGINEER: JDS

SHEET NUMBER:  
**C-4**

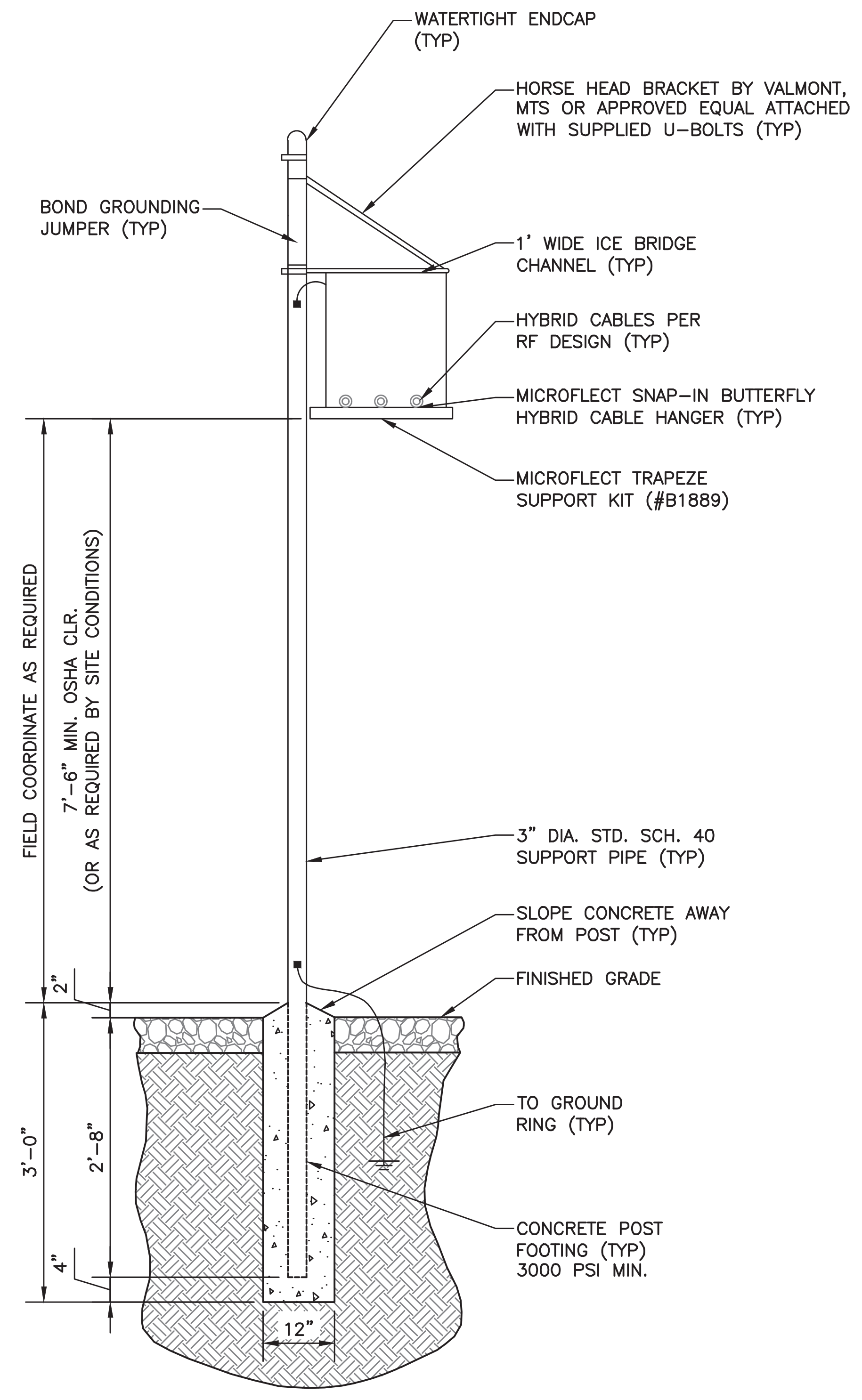


① GROUND EQUIPMENT DETAIL  
C-4





1 ICE BRIDGE ELEVATION  
C-5 NOT TO SCALE



2 ICE BRIDGE SECTION (WITH 1 SUPPORT POST)  
C-5 NOT TO SCALE

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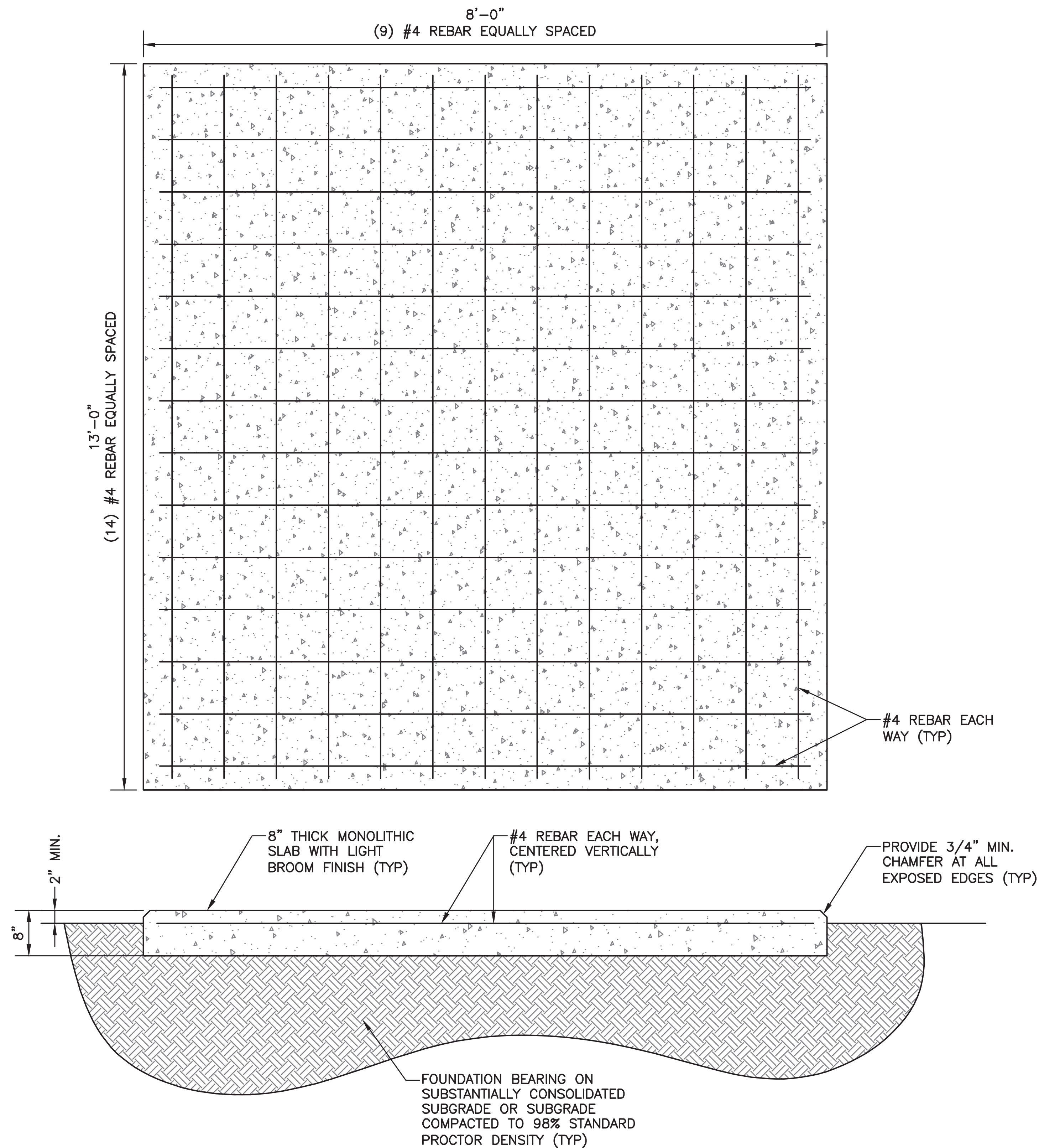
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T-MOBILE SITE ID: CTNH545A ATC SITE ID: 88009

SHEET NAME:  
**ICE BRIDGE DETAILS**

SMW #: 16-2559 SHEET NUMBER: **C-5**  
 DESIGNER: BMD  
 CHECKED BY: RTB  
 ENGINEER: JDS





1 MONOLITHIC EQUIPMENT SLAB DETAIL  
C-6 NOT TO SCALE

REINFORCED CONCRETE NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI SPECIFICATIONS FOR THE DESIGN & CONSTRUCTION OF CAST-IN-PLACE CONCRETE, AND WHERE CODES CONFLICT THE MORE STRINGENT NATIONAL OR LOCAL CODE SHALL GOVERN.
2. SITECAST CONCRETE FOR SLABS AND POST FOOTINGS SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS. CONCRETE TESTING IS NOT REQUIRED FOR SLABS AND POST FOOTINGS UNLESS NOTED OTHERWISE.

SLUMP - 4" MIN. / 6" MAX.  
AIR ENTRAINMENT - 2% TO 3% BY VOLUME

CLASSES OF CONCRETE				
CLASS	28 DAY STRENGTH (PSI)	MAX WATER/CEMENT RATIO	PLACEMENT LOCATION	NOTES
TYPE I	3000	0.55	SLABS & POST FOOTINGS	NORMAL WEIGHT
TYPE II*	5000	0.45	SLABS & POST FOOTINGS	HIGH EARLY STRENGTH

\*IF REQUIRED BY THE CONSTRUCTION SCHEDULE THE CONTRACTOR MAY SUBSTITUTE TYPE III HIGH EARLY STRENGTH CONCRETE WITH THE APPROVAL OF THE CONSTRUCTION MANAGER.

3. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES FOR REBAR SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO. LAPS FOR WELDED WIRE FABRIC SHALL BE AT LEAST 8", UNO.
4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:  
 CONCRETE CAST AGAINST EARTH.....3"  
 CONCRETE EXPOSED TO EARTH OR WEATHER  
 #6 AND LARGER.....2"  
 #5 AND SMALLER & W.W.F.....1-1/2"
5. MAXIMUM COARSE AGGREGATE SIZE SHALL BE 3/4"
6. INSTALLATION OF CONCRETE ANCHORS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN SPECIFICATIONS. THE ANCHOR BOLT, DOWEL, OR ROD SHALL CONFORM TO THE ANCHOR MANUFACTURER'S SPECIFICATIONS FOR MATERIAL STRENGTH, EMBEDMENT DEPTH, SPACING, AND EDGE DISTANCE OR AS DETAILED ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR ENGINEERING APPROVAL WHEN DRILLING HOLES IN CONCRETE. EXPANSION BOLTS SHALL BE PROVIDED BY RAMSET/REDHEAD, HILTI, OR APPROVED EQUAL. IF THE MANUFACTURER'S SPECIFICATIONS AND DETAILS ARE FOUND TO CONFLICT WITH THAT SHOWN HEREIN, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY.
7. THE CONTRACTOR SHALL VERIFY FROST LINE AND FOOTING DEPTH REQUIREMENTS WITH THE JURISDICTION HAVING AUTHORITY PRIOR TO CONSTRUCTION AND CONSULT THE ENGINEER ACCORDINGLY.
8. THE CONTRACTOR SHALL VERIFY ALL ELECTRICAL CONDUIT SIZES AND PENETRATION LOCATIONS PRIOR TO POURING THE SLAB.

**T-Mobile**

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SHEET NAME:

FOUNDATION  
DETAILS & NOTES

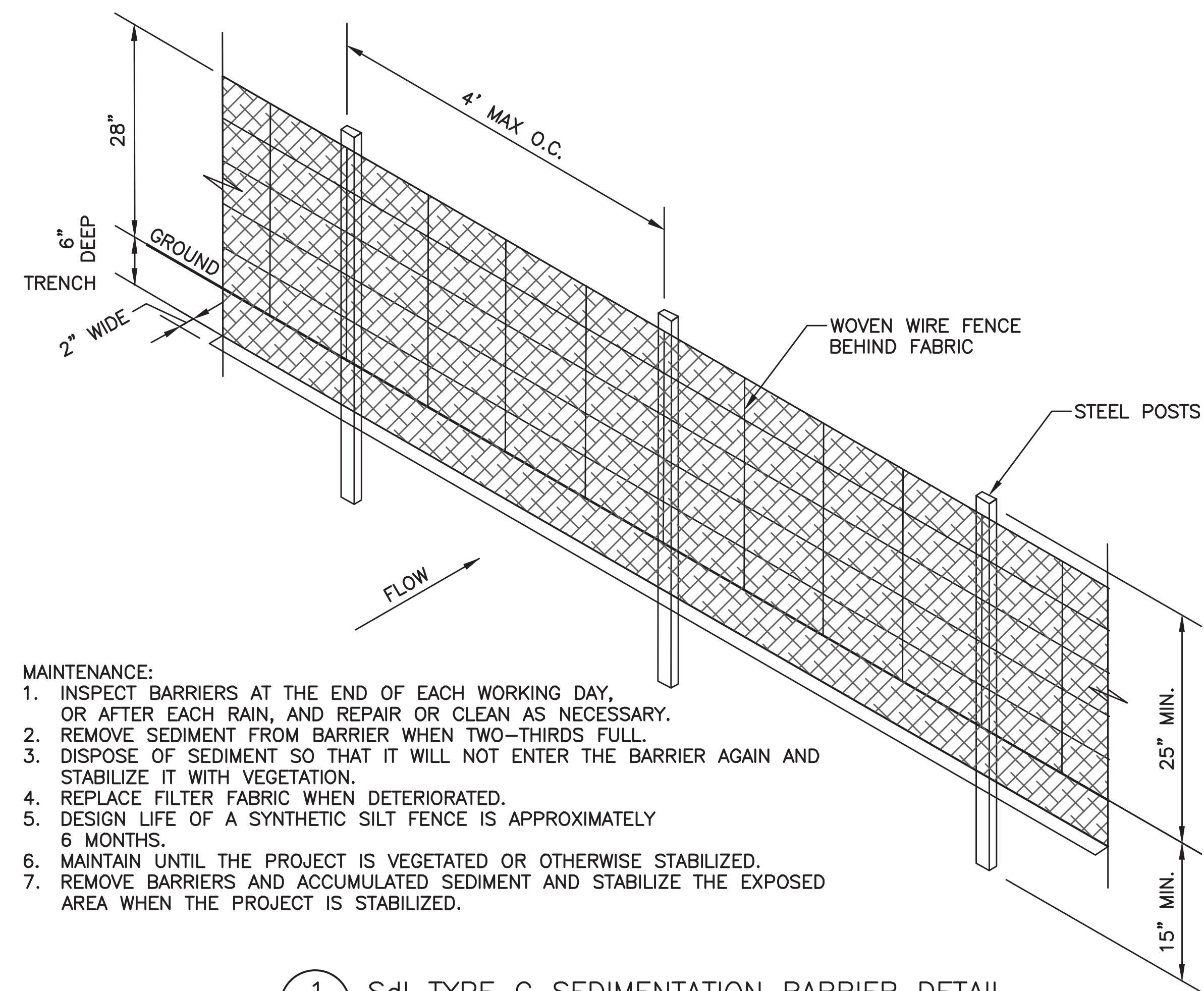
SMW #: 16-2559

DESIGNER: BMD  
CHECKED BY: RTB  
ENGINEER: JDS

SHEET NUMBER:

**C-6**





**MAINTENANCE:**

1. INSPECT BARRIERS AT THE END OF EACH WORKING DAY, OR AFTER EACH RAIN, AND REPAIR OR CLEAN AS NECESSARY.
2. REMOVE SEDIMENT FROM BARRIER WHEN TWO-THIRDS FULL.
3. DISPOSE OF SEDIMENT SO THAT IT WILL NOT ENTER THE BARRIER AGAIN AND STABILIZE IT WITH VEGETATION.
4. REPLACE FILTER FABRIC WHEN DETERIORATED.
5. DESIGN LIFE OF A SYNTHETIC SILT FENCE IS APPROXIMATELY 6 MONTHS.
6. MAINTAIN UNTIL THE PROJECT IS VEGETATED OR OTHERWISE STABILIZED.
7. REMOVE BARRIERS AND ACCUMULATED SEDIMENT AND STABILIZE THE EXPOSED AREA WHEN THE PROJECT IS STABILIZED.

1  
C-7 SdI TYPE C SEDIMENTATION BARRIER DETAIL  
NOT TO SCALE

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*Thursday Through Development*  
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**EROSION CONTROL  
DETAILS**

SMW #:  
16-2559

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**C-7**

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PIEDMONT VEGETATIVE COVERS

CALENDAR MONTH	TEMPORARY SEED	APPLICATION RATE/ACRE	PERMANENT SEED	APPLICATION RATE/ACRE
1. JANUARY	RYE GRASS	20-40 LB.	UNHULLED BERMUDA SERICEA LESPEDEZA	8-10 LB. 30-40 LB.
2. FEBRUARY			UNHULLED BERMUDA SERICEA LESPEDEZA FESCUE	8-10 LB. 30-40 LB. 30-50 LB.
3. MARCH	RYE ANNUAL LESPEDEZA WEEPING LOVE GRASS	2-3 BU. 20-25 LB. 4-6 LB.	UNHULLED BERMUDA SERICEA LESPEDEZA FESCUE	8-10 LB. 30-40 LB. 30-50 LB.
4. APRIL	RYE BROWN TOP MULLET ANNUAL LESPEDEZA SUDAN ANNUAL	2-3 BU. 30-40 LB. 20-25 LB. 35 LB.	WEEPING LOVE GRASS HULLED BERMUDA BAJA	4-6 LB. 5-6 LB. 40-60 LB.
5. MAY	WEEPING LOVE GRASS SUDAN GRASS BROWN TOP MULLET	4-6 BU. 35 LB. 30-40 LB.	WEEPING LOVE GRASS HULLED BERMUDA BAJA	4-6 LB. 5-6 LB. 40-60 LB.
6. JUNE	WEEPING LOVE GRASS SUDAN GRASS BROWN TOP MULLET	4-6 LB. 35 LB. 30-40 LB.	WEEPING LOVE GRASS HULLED BERMUDA BAJA	4-6 LB. 5-6 LB. 40-60 LB.
7. JULY	WEEPING LOVE GRASS SUDAN GRASS BROWN TOP MULLET	4-6 LB. 35 LB. 30-40 LB.		
8. AUGUST	RYE GRASS WEEPING LOVE GRASS	40-50 LB. 4-6 LB.		
9. SEPTEMBER			TALL FESCUE	30-50 LB.
10. OCTOBER	WHEAT	2-3 BU.	UNHULLED BERMUDA SERICEA LESPEDEZA FESCUE	8-10 LB. 30-40 LB. 30-50 LB.
11. NOVEMBER	WHEAT	2-3 BU.	UNHULLED BERMUDA SERICEA LESPEDEZA FESCUE	8-10 LB. 30-40 LB. 30-50 LB.
12. DECEMBER	RYE RYE GRASS WHEAT	2-3 BU. 40-50 LB. 2-3 BU.	UNHULLED BERMUDA SERICEA LESPEDEZA FESCUE	8-10 LB. 30-40 LB. 30-50 LB.

- USE A MINIMUM OF 40 LBS. SCARIFIED SEED. THE REMAINING MAY BE UNSCARIFIED, CLEAN HULLED SEED.
- USE EITHER COMMON SERIAL OR INTERSTATE SERICEA LESPEDEZA

**Ds2** DISTURBED AREA STABILIZATION  
(WITH TEMPORARY SEEDING)

**Ds3** DISTURBED AREA STABILIZATION  
(WITH PERMANENT VEGETATION)

GENERAL

THIS VEGETATIVE PLAN WILL BE CARRIED OUT IN ROAD CUT AND FILL SLOPES, SHOULDERS, AND OTHER CRITICAL AREAS CREATED BY CONSTRUCTION. SEEDING WILL BE DONE AS SOON AS CONSTRUCTION IN AN AREA IS COMPLETED. PLANTINGS WILL BE MADE TO CONTROL EROSION, TO REDUCE DAMAGE FROM SEDIMENT AND RUNOFF TO DOWNSTREAM ARE, AND TO IMPROVE THE SAFETY AND BEAUTY OF THE DEVELOPMENT AREA.

SOIL CONDITIONS

DUE TO GRADING AND CONSTRUCTIONS, THE AREAS TO BE TREATED ARE MAINLY SUBSOIL AND SUBSTRATES. FERTILITY IS LOW AND THE PHYSICAL CHARACTERISTICS OF THE EXPOSED MATERIAL ARE UNFAVORABLE TO ALL BUT THE MOST HARDY PLANTS.

TREATMENT SPECIFICATIONS

HYDRAULIC SEEDING EQUIPMENT: WHEN HYDRAULIC SEEDING AND FERTILIZING EQUIPMENT IS USED, NO GRADING AND SHAPING OF SEEDED PREPARATIONS WILL BE REQUIRED. THE FERTILIZER, SEED, AND WOOD CELLULOSE FIBER MULCH WILL BE MIXED WITH WATER AND SUPPLIED IN A SLURRY. ALL SLURRY INGREDIENTS MUST BE COMBINED TO FORM A HOMOGENEOUS MIXTURE, AND SPREAD UNIFORMLY OVER THE AREA WITH ONE HOUR AFTER MIXTURE IS MADE. STRAW OR HAW MULCH AND ASPHALT EMULSION WILL BE APPLIED WITH BLOWER-TYPE MULCH SPREADING EQUIPMENT WITHIN 24 HOURS AFTER SEEDING. THE MULCH WILL BE SPREAD UNIFORMLY OVER THE AREA, LEAVING ABOUT 25 PERCENT OF THE GROUND SURFACE EXPOSED. THE PER ACRE APPLICATION RATES ARE AS FOLLOWS:

- A. SEEDING WITH MULCH:  
(HYDRAULIC SEEDING EQUIPMENT ON SLOPES 3:1 AND STEEPER)
- |                              |               |
|------------------------------|---------------|
| AGRICULTURAL LIMESTONE #75   | 400 LBS/ACRE  |
| FERTILIZER, 05-10-15         | 500 LBS/ACRE  |
| MULCH (STRAW OR HAY)         | 5000 LBS/ACRE |
| MULCH (WOOD CELLULOSE FIBER) | 1000 LBS/ACRE |

SEED SPECIES	APPLICATION RATE/ACRE	PLANTING DATES
SERICEA LESPEDEZA, SCARIFIED WEEPING LOVE GRASS, OR COMMON BERMUDA, HULLED	60 LBS. 4 LBS. 6 LBS.	3/1-6/15
FESCUE SERICEA LESPEDEZA, UNCERTIFIED	40 LBS. 60 LBS.	4/1-10/31
FESCUE SERICEA LESPEDEZA, UNCERTIFIED RYE	40 LBS. 75 LBS. 50 LBS.	11/1-12/28
HAY MULCH FOR TEMPORARY COVER	5000 LBS.	6/15-8/31

- B. TOP DRESSING: APPLY WHEN PLANTS ARE 2 TO 4 INCHES TALL
- FERTILIZER (AMMONIUM NITRATE 33.5%) 300 LBS/ACRE
- C. SECOND YEAR TREATMENT:
- FERTILIZER (0-20-20 OR EQUIVALENT) 500 LBS/ACRE

GENERAL

THIS VEGETATIVE PLAN WILL BE CARRIED OUT IN ROAD CUT AND FILL SLOPES, SHOULDERS, AND OTHER CRITICAL AREAS CREATED BY CONSTRUCTION. SEEDING WILL BE DONE AS SOON AS CONSTRUCTION IN AN AREA IS COMPLETED. PLANTINGS WILL BE MADE TO CONTROL EROSION, TO REDUCE DAMAGE FROM SEDIMENT AND RUNOFF TO DOWNSTREAM ARE, AND TO IMPROVE THE SAFETY AND BEAUTY OF THE DEVELOPMENT AREA.

SOIL CONDITIONS

DUE TO GRADING AND CONSTRUCTIONS, THE AREAS TO BE TREATED ARE MAINLY SUBSOIL AND SUBSTRATES. FERTILITY IS LOW AND THE PHYSICAL CHARACTERISTICS OF THE EXPOSED MATERIAL ARE UNFAVORABLE TO ALL BUT THE MOST HARDY PLANTS.

TREATMENT SPECIFICATIONS

CONVENTIONAL SEEDING EQUIPMENT: GRADE, SHAPE, AND SMOOTH WHERE NEEDED TO PROVIDE FOR SAFE EQUIPMENT OPERATION AT SEEDING TIME AND FOR MAINTENANCE PURPOSES. THE LIME AND FERTILIZER IN DRY FORM WILL SPREAD UNIFORMLY OVER THE AREA IMMEDIATELY BEFORE SEEDBED PREPARATION. A SEEDBED WILL BE PREPARED BY SCARIFYING TO A DEPTH OF 1 TO 4 INCHES AS DETERMINED ON SITE. THE SEEDBED MUST BE WELL PULVERIZED, SMOOTHED, AND FIRMED. SEEDING WILL BE DONE WITH A CULTIPACKER-SEEDER, ROTARY SEEDER, OR OTHER MECHANICAL OR HAND SEEDER. SEED WILL BE DISTRIBUTED UNIFORMLY OVER A FRESH PREPARED SEEDBED AND COVERED LIGHTLY OVER THE AREA, LEAVING ABOUT 25 PERCENT OF THE GROUND SURFACE EXPOSED. MULCH WILL BE SPREAD EITHER BY BLOWER-TYPE MULCH EQUIPMENT OR BY HAND AND ANCHORED IMMEDIATELY AFTER IT WAS SPREAD. A DISK HARROW WITH THE DISK SET STRAIGHT OR A SPECIAL PACKER DISK MAY BE USED TO PRESS THE MULCH INTO THE SOIL. THE PER ACRE APPLICATION ARE AS FOLLOWS:

- A. SEEDING WITH MULCH: (CONVENTIONAL SEEDING EQUIPMENT ON SLOPES LESS THAN 3:1)
- |                            |               |
|----------------------------|---------------|
| AGRICULTURAL LIMESTONE #15 | 400 LBS/ACRE  |
| FERTILIZER, 5-10-15        | 1500 LBS/ACRE |
| MULCH (STRAW OR HAY)       | 5000 LBS/ACRE |

SEED SPECIES	APPLICATION RATE/ACRE
COMMON BERMUDA, HULLED	10 LBS.
FESCUE	50 LBS.
FESCUE RYE GRASS	50 LBS. 50 LBS.
HAY MULCH FOR TEMPORARY COVER	5000 LBS.

- B. TOP DRESSING: APPLY WHEN PLANTS ARE 2 TO 4 INCHES TALL
- FERTILIZER (AMMONIUM NITRATE 33.5%) 300 LBS/ACRE
- C. SECOND YEAR TREATMENT:
- FERTILIZER (0-20-20 OR EQUIVALENT) 800 LBS/ACRE

**Ds2** DISTURBED AREA STABILIZATION  
(WITH TEMPORARY SEEDING)

**Ds3** DISTURBED AREA STABILIZATION  
(WITH PERMANENT VEGETATION)

**T-Mobile**

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SHEET NAME:

**EROSION CONTROL  
SPECIFICATIONS**

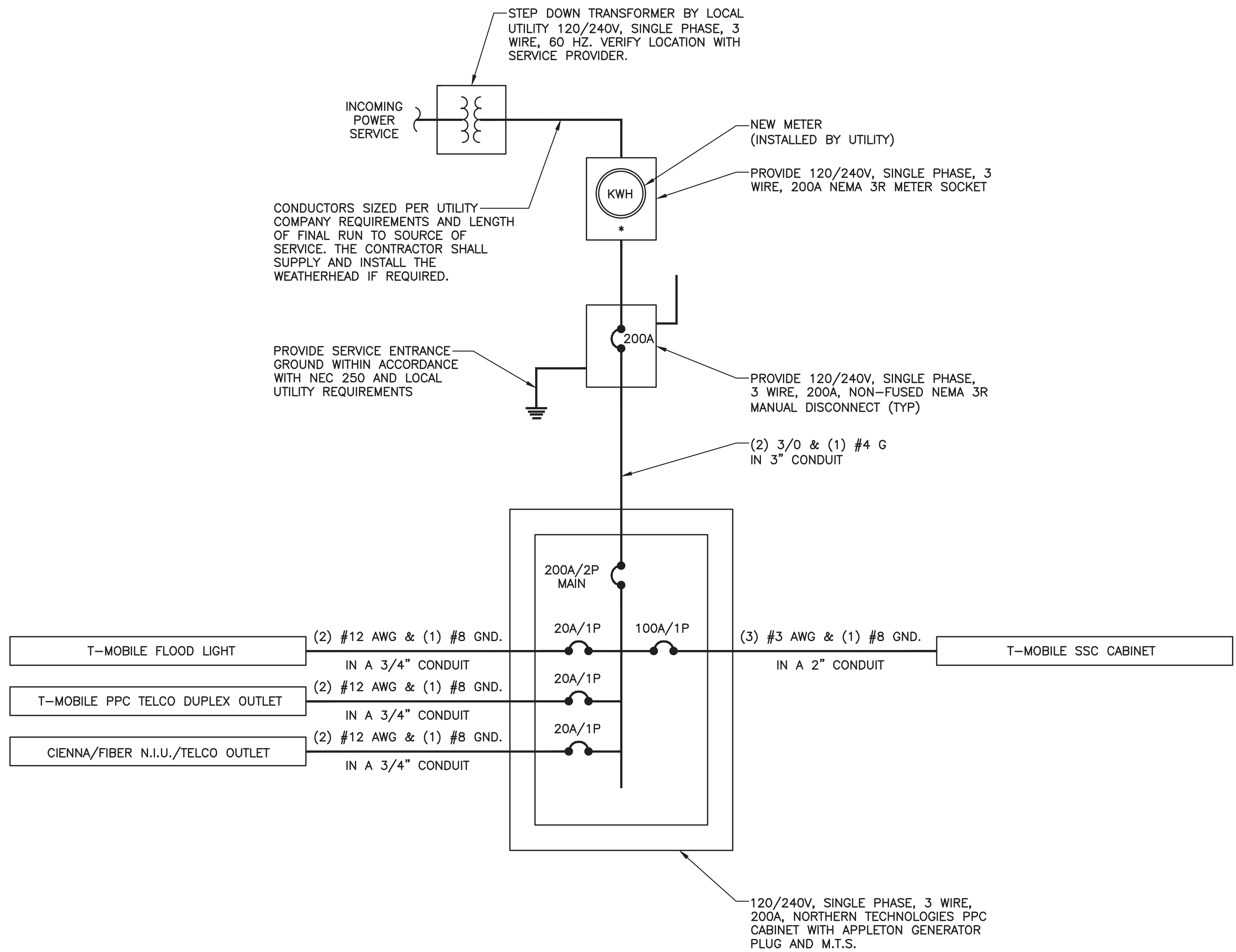
SMW #: 16-2559

DESIGNER: BMD  
CHECKED BY: RTB  
ENGINEER: JDS

SHEET NUMBER:

**C-8**





1 ONE-LINE DIAGRAM  
E-1 NOT TO SCALE

**T-Mobile**

35 GRIFFIN RD S  
BLOOMFIELD, CT 06002  
OFFICE: 860-692-7100  
FAX: 860-692-7159

PLANS PREPARED BY:

**NSS NORTHEAST**  
SITE SOLUTIONS  
*Turning Vision Development*

NORTHEAST SITE SOLUTIONS, LLC  
199 BRICKYARD ROAD  
FARMINGTON CT 06032  
(860) 677-1999

**SMW**  
ENGINEERING GROUP, INC.  
TOGETHER PLANNING A BETTER TOMORROW

**PRELIMINARY DRAWING**  
(NOT VALID UNLESS STAMPED AND SIGNED)

SITE INFORMATION:

**CTNH545A**  
36 MOHAWK MTN RD  
CORNWALL, CT 06753

#	DATE	DESCRIPTION:
0	10/10/16	ISSUED FOR CLIENT REV.
1	10/21/16	REISSUED FOR CLIENT REV.
2	11/10/16	ISSUED FOR CONSTRUCTION
3	12/14/16	REISSUED FOR CONSTRUCTION
4	12/23/16	REISSUED FOR CONSTRUCTION

T-MOBILE SITE ID: CTNH545A ATC SITE ID: 88009

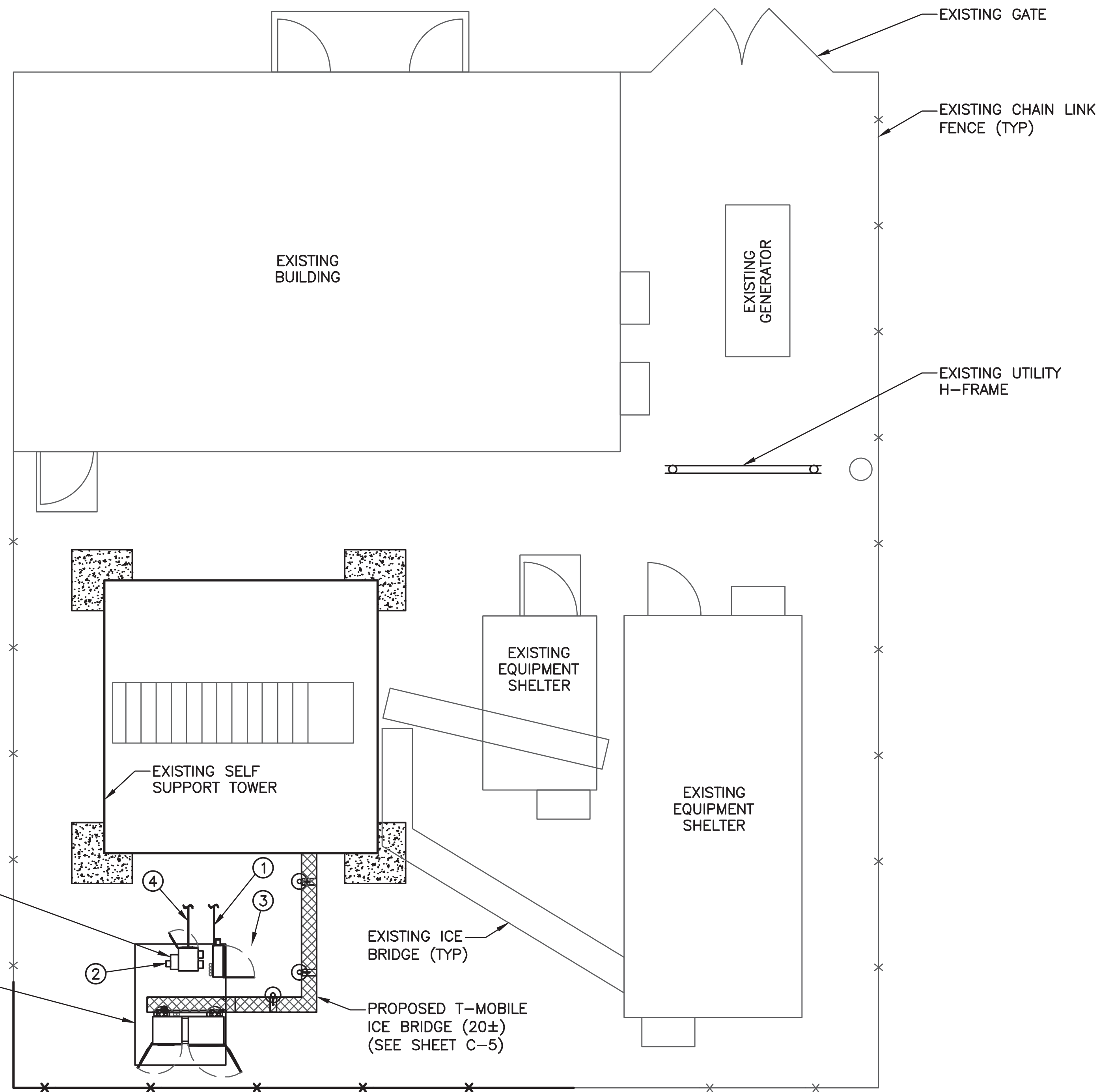
SHEET NAME:  
**ONE-LINE DIAGRAM**

SMW #: 16-2559 SHEET NUMBER: **E-1**

DESIGNER: BMD  
CHECKED BY: RTB  
ENGINEER: JDS

ELECTRICAL KEY NOTES:

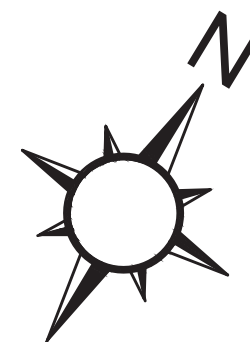
- ① PROPOSED 3" PVC CONDUIT WITH (3) 3/0 + #4G FROM EXISTING UTILITY POLE TO METER BASE. THE CONTRACTOR SHALL PROVIDE AND INSTALL THE WEATHERHEAD WITH COILED EXCESS CONDUCTORS. COORDINATE WITH THE LOCAL UTILITY COMPANY REGARDING FINAL SERVICE CONNECTION.
- ② PROPOSED METER & 200A MANUAL DISCONNECT. COORDINATE WITH LOCAL UTILITY COMPANY REGARDING FINAL SERVICE CONNECTION.
- ③ PROPOSED 200A NORTHERN TECHNOLOGIES PPC CABINET WITH INTEGRATED 200A APPLETON GENERATOR BACKUP PLUG.
- ④ PROPOSED 2" PVC CONDUIT WITH PULLSTRING FOR TELCO FROM EXISTING TELCO BOX ON H-FRAME TO PROPOSED TELCO BOX. COORDINATE WITH THE LOCAL UTILITY COMPANY REGARDING FINAL SERVICE CONNECTION.



PROPOSED T-MOBILE METER & MANUAL DISCONNECT ATTACHED TO UTILITY FRAME

PROPOSED T-MOBILE 10'X12' LEASE AREA WITH 6'X8' EQUIPMENT PAD AND UTILITY FRAME (SEE SHEET C-4)

PROPOSED T-MOBILE ICE BRIDGE (20±) (SEE SHEET C-5)



1" = 10' (11"x17")



1" = 5' (24"x36")

① ELECTRICAL UTILITY PLAN  
E-2

**T-Mobile**

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PLANS PREPARED BY:



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4	12/23/16	REISSUED FOR CONSTRUCTION

T-MOBILE SITE ID: CTNH545A ATC SITE ID: 88009

SHEET NAME:  
**ELECTRICAL  
UTILITY PLAN**

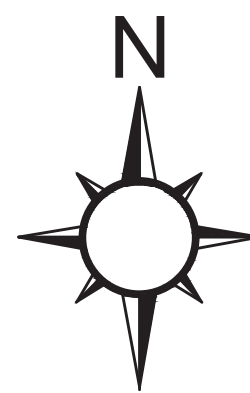
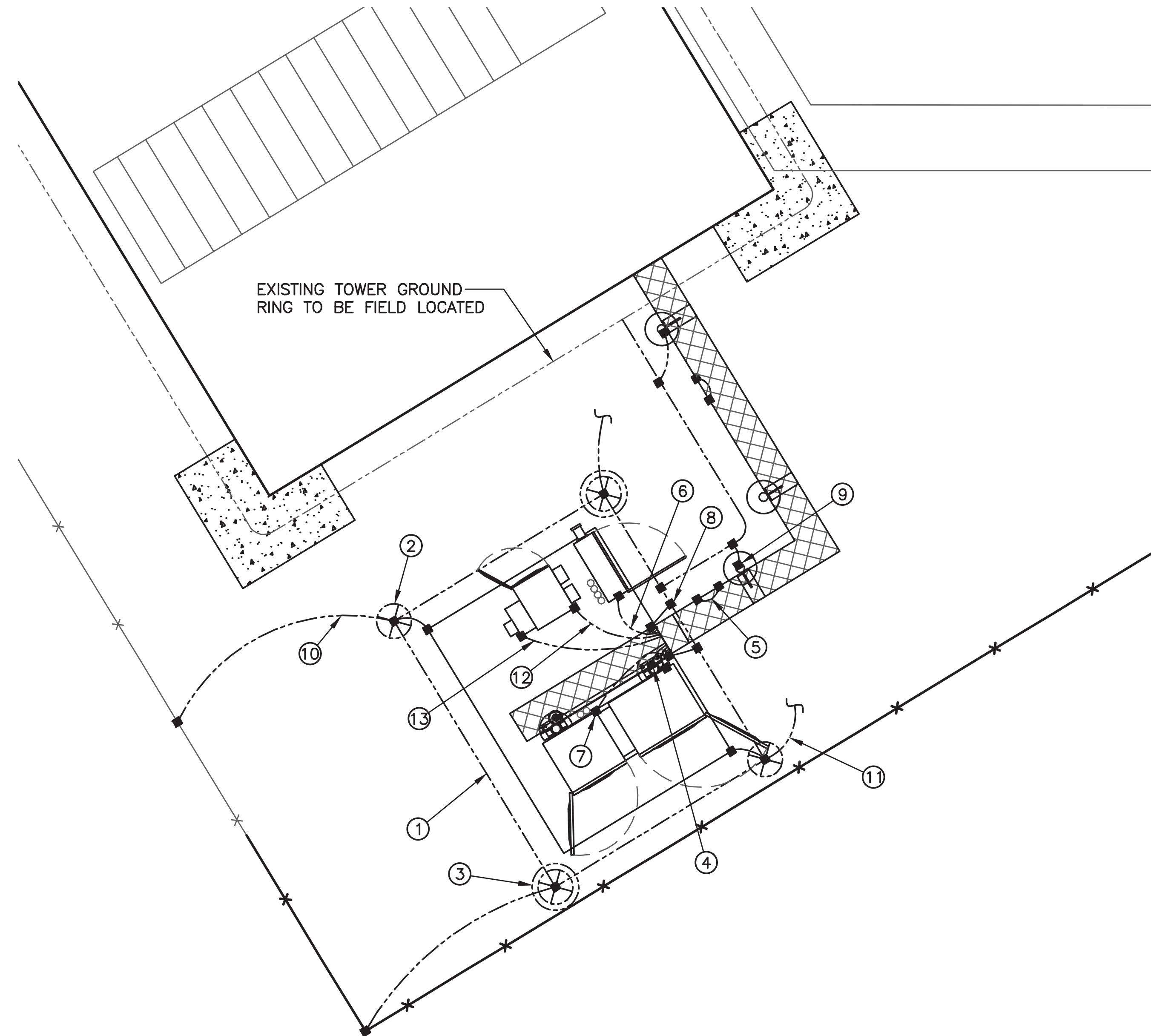
SMW #: 16-2559	SHEET NUMBER: <b>E-2</b>
DESIGNER: BMD	CHECKED BY: RTB
ENGINEER: JDS	



GROUNDING KEY NOTES:

- ① PROPOSED #2 BARE TINNED SOLID COPPER GROUND RING (TYP)
- ② PROPOSED 5/8" DIA. X 8' LONG STEEL SHAFT COPPER CLAD GROUND ROD (TYP)
- ③ PROPOSED GROUND ROD WITH COVERED PVC TEST WELL (TYP)
- ④ GROUND PROPOSED UTILITY FRAME POST WITH CADWELD CONNECTION TO BASE PLATE (TYP)
- ⑤ GROUND PROPOSED ICE BRIDGE POST WITH CADWELD CONNECTION TO BASE (TYP)
- ⑥ GROUND PROPOSED PPC POWER PANEL PER NEC 250 AND LOCAL UTILITY REQUIREMENTS (TYP)
- ⑦ GROUND PROPOSED SSC CABINET MAIN GROUND BAR WITH 2-HOLE LUG CONNECTION (TYP)
- ⑧ PROVIDE 12 POSITION MAIN EQUIPMENT COLLECTOR GROUND BAR ATTACHED TO UNISTRUT FRAME WITH STANDOFF INSULATORS, GROUND WITH (2) CADWELDED CONNECTIONS, 1 PER SITE (TYP)
- ⑨ GROUND ICE BRIDGE CHANNEL SECTIONS WITH 2-HOLE LUG CONNECTION. BOND ADJOINING CHANNEL SECTIONS TOGETHER WITH 2-HOLE LUG JUMPERS (TYP)
- ⑩ GROUND TO ALL METALLIC OBJECTS WITHIN 6' OF THE PROPOSED EQUIPMENT AND BURIED GROUND RING (TYP)
- ⑪ GROUND PROPOSED T-MOBILE BURIED EQUIPMENT GROUND RING TO EXISTING SITE GROUND RING. CONDUCT GROUNDING SYSTEM TEST AND INCLUDE IN THE CLOSEOUT PACKAGE TO T-MOBILE. ADDITIONAL GROUNDING MAY BE REQUIRED PENDING THE RESULTS OF THE GROUNDING SYSTEM TEST (TYP x2)
- ⑫ CADWELD CONNECTION (SEE SHEET E-6)
- ⑬ GROUND PROPOSED DISCONNECT PER NEC 250 AND LOCAL UTILITY REQUIREMENTS (TYP)

NOTE TO CONTRACTORS:  
DIGGING AND/OR TRENCHING INSIDE  
COMPOUND, MUST BE DONE BY HAND.



① GROUNDING PLAN  
E-3 NOT TO SCALE

**T-Mobile**

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BLOOMFIELD, CT 06002  
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T-MOBILE SITE ID: CTNH545A ATC SITE ID: 88009

SHEET NAME:

GROUNDING  
PLAN

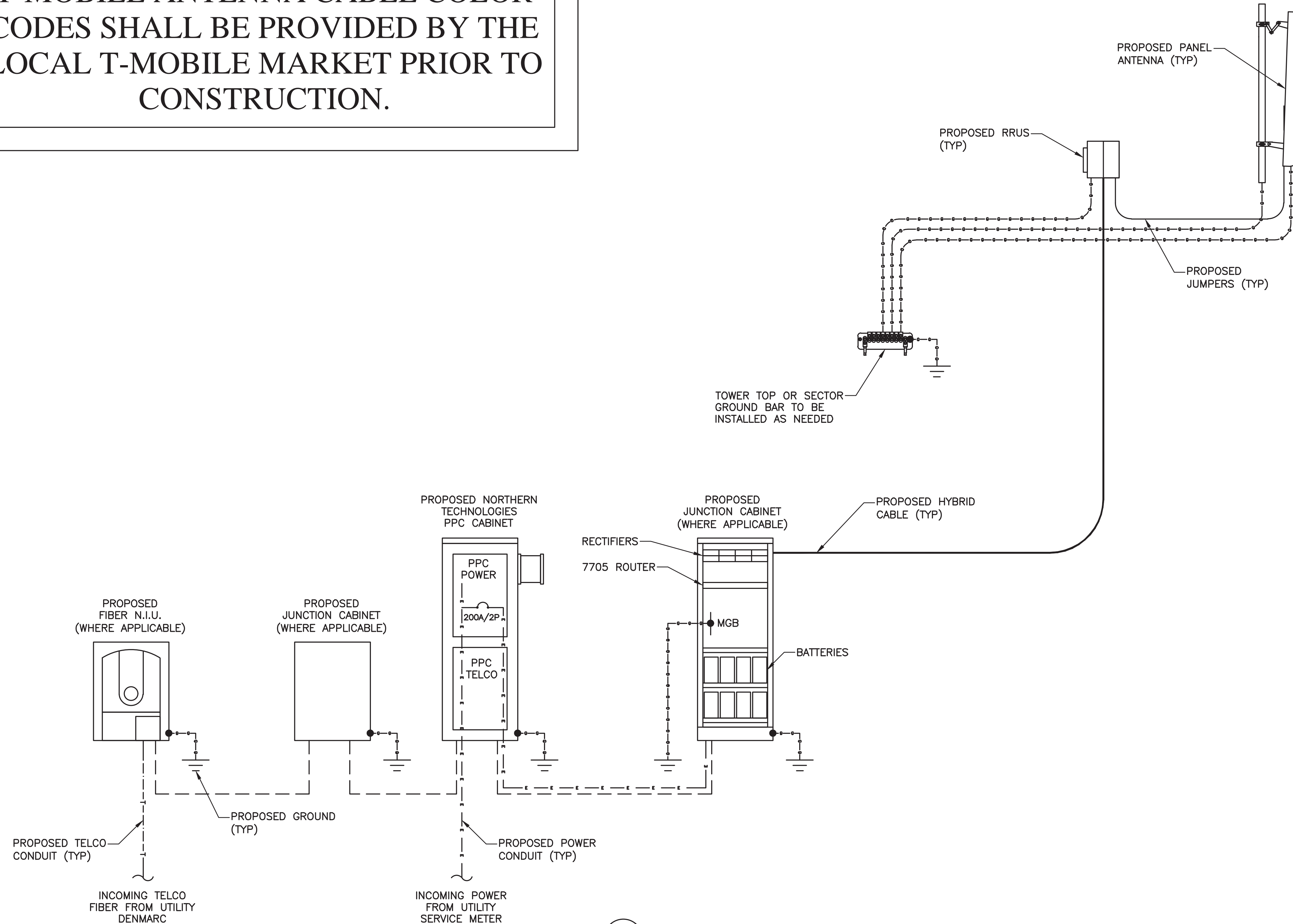
SMW #:  
16-2559

DESIGNER: BMD  
CHECKED BY: RTB  
ENGINEER: JDS

SHEET NUMBER:

**E-3**

T-MOBILE ANTENNA CABLE COLOR CODES SHALL BE PROVIDED BY THE LOCAL T-MOBILE MARKET PRIOR TO CONSTRUCTION.



1 EQUIPMENT POWER, TELCO & GROUNDS SCHEMATIC  
E-4 NOT TO SCALE

**T-Mobile**

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PLANS PREPARED BY:



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ENGINEERING GROUP, INC.

TOGETHER PLANNING A BETTER TOMORROW

**PRELIMINARY  
DRAWING**

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SITE INFORMATION:

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CORNWALL, CT 06753

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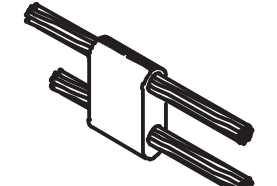
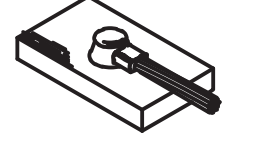

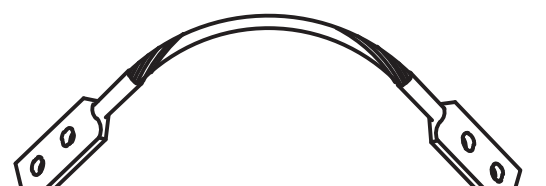
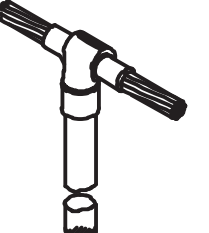
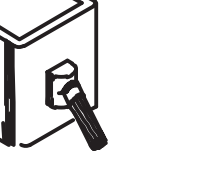
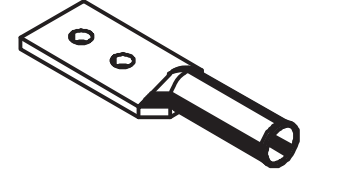
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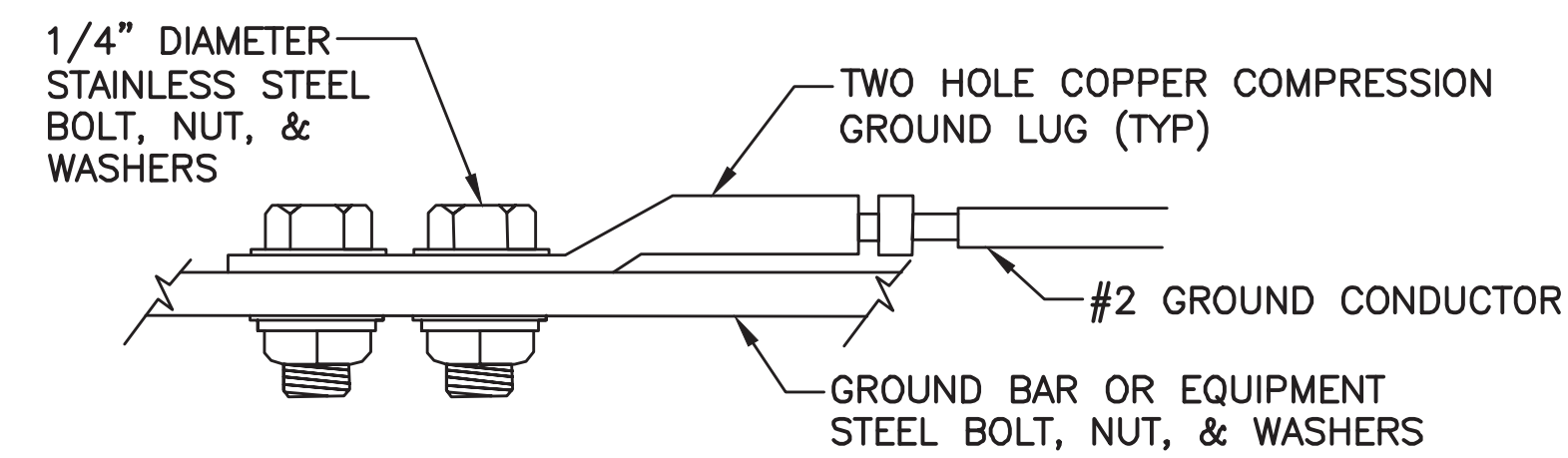
SHEET NAME:  
**EQUIPMENT  
SCHEMATIC**

SMW #: 16-2559	SHEET NUMBER: <b>E-4</b>
DESIGNER: BMD	CHECKED BY: RTB
ENGINEER: JDS	

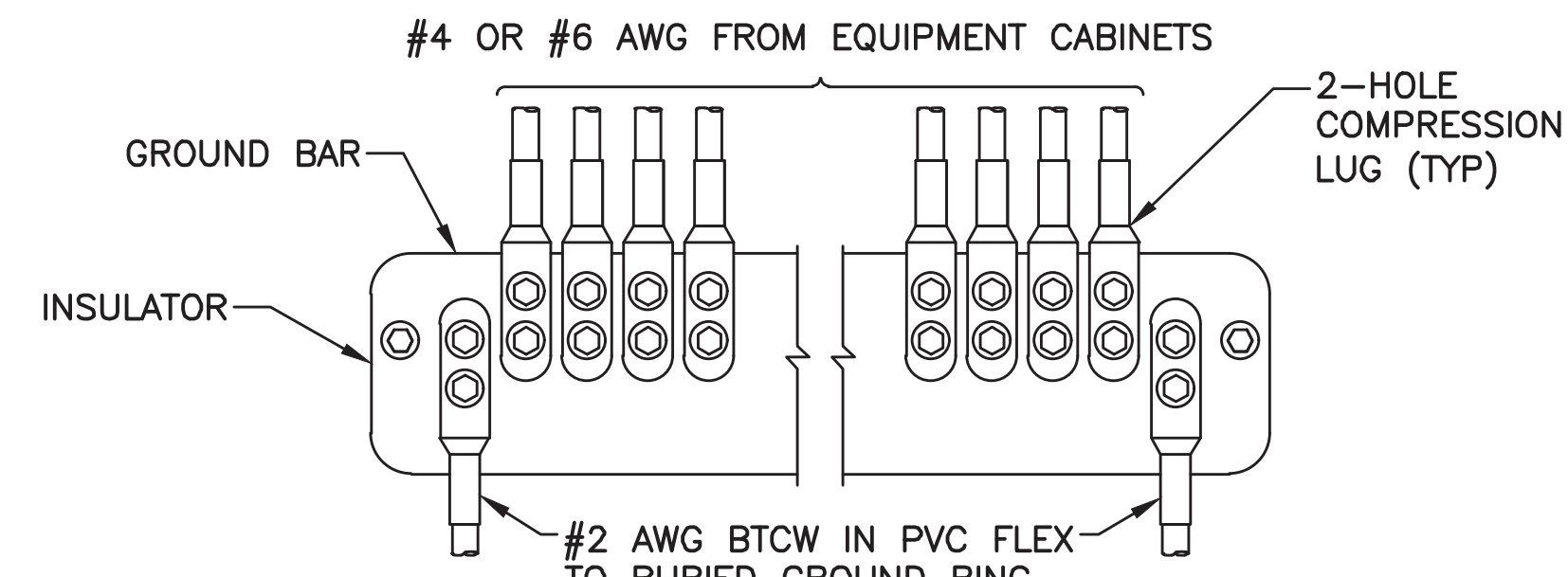


- ALL WORK IS TO COMPLY WITH THE LATEST EDITION OF THE NATIONAL ELECTRIC CODE (NEC) AND ANY LOCAL ORDINANCES, CODES, AND ALL OTHER ADMINISTRATIVE AUTHORITIES HAVING JURISDICTION. THE CONTRACTOR SHALL FURNISH AND PAY FOR ALL PERMITS AND RELATED FEES.
- ALL EQUIPMENT AND MATERIAL FURNISHED AND INSTALLED UNDER THIS CONTRACT SHALL BE UNDERWRITERS LABORATORIES (U.L.) LISTED, NEW, FREE FROM DEFECTS, AND SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE BY OWNER OR HIS REPRESENTATIVE. SHOULD ANY TROUBLE DEVELOP DURING THIS PERIOD DUE TO FAULTY WORKMANSHIP, MATERIAL, OR EQUIPMENT, THE CONTRACTOR SHALL FURNISH ALL NECESSARY MATERIALS AND LABOR TO CORRECT THE TROUBLE WITHOUT COST TO THE OWNER.
- ALL WORK SHALL BE EXECUTED IN A WORKMAN LIKE MANNER AND SHALL PRESENT A NEAT MECHANICAL APPEARANCE WHEN COMPLETED. CONTRACTOR SHOULD AVOID DAMAGE TO EXISTING UTILITIES WHEREVER POSSIBLE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING RELATED TO ELECTRICAL WORK, AND SHALL RESTORE ALL EXISTING LANDSCAPING, SPRINKLER SYSTEMS, CONDUITS, WIRING, PIPING, ETC. DAMAGED BY THE ELECTRICAL WORK TO MATCH EXISTING CONDITIONS.
- ELECTRICAL WORK SHALL INCLUDE, BUT NOT BE LIMITED TO, ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO COMPLETE ELECTRICAL POWER AND LIGHTING SYSTEMS, TELEPHONE AND COMMUNICATION SYSTEMS, PANELBOARDS, CONDUIT, CONTROL WIRING, GROUNDING, ETC. AS INDICATED ON ELECTRICAL DRAWINGS AND/OR AS REQUIRED BY GOVERNING CODES.
- PRIOR TO INSTALLING ANY ELECTRICAL WORK, THE CONTRACTOR SHALL VISIT THE JOB SITE AND VERIFY EXISTING SITE LOCATIONS AND CONDITIONS AND UTILITY SERVICE REQUIREMENTS OF THE JOB, AND BY REFERENCE TO ENGINEERING AND EQUIPMENT SUPPLIERS' DRAWINGS. SHOULD THERE BE ANY QUESTION OR PROBLEM CONCERNING THE NECESSARY PROVISIONS TO BE MADE. PROPER DIRECTIONS SHALL BE OBTAINED BEFORE PROCEEDING WITH ANY WORK.
- PROVIDE POWER AND TELEPHONE TO SERVICE POINTS PER UTILITY COMPANY REQUIREMENTS. CONTRACTOR SHALL CONTACT UTILITY SERVICE PLANNERS AND OBTAIN ALL SERVICE REQUIREMENTS AND INCLUDE COSTS FOR SUCH IN THEIR BID.
- SERVICE EQUIPMENT SHALL HAVE A SHORT CIRCUIT WITHSTAND RATING EXCEEDING THE MAXIMUM AVAILABLE FAULT CURRENT AT THE SUPPLY TERMINAL ON THE UTILITY TRANSFORMER SECONDARY. THE INSULATION SHALL BE FREE FROM ANY SHORT CIRCUITS AND GROUNDS. CONTRACTOR TO OBTAIN THE AVAILABLE SHORT CIRCUIT CURRENT FROM THE ELECTRICAL SERVICE PROVIDER.
- ALL WIRES SHALL BE STRANDED COPPER WITH THHN/THWN AND 600 VOLTS INSULATION. ALL GROUND CONDUCTORS TO BE PROPERLY SIZED COPPER. (STRANDED OR SOLID)
- IN THE EVENT OF ANY CONFLICT OR INCONSISTENCY BETWEEN ITEMS SHOWN ON THE PLANS AND/OR SPECIFICATIONS, THE NOTE, SPECIFICATION OR CODE WHICH PRESCRIBES AND ESTABLISHES THE HIGHEST STANDARD OF PERFORMANCE SHALL PREVAIL.
- SERVICE CONDUITS SHALL HAVE NO MORE THAN (4) -50° BENDS IN ANY SINGLE RUN. THE CONTRACTOR SHALL PROVIDE PULL BOXES AS NEEDED WHERE CONDUIT REQUIREMENTS EXCEED THESE CONDITIONS. PULL WIRES AND CAPS SHALL BE PROVIDED AT ALL SPARE CONDUITS FOR FUTURE USE.
- ALL ELECTRICAL EQUIPMENT SHALL BE ANCHORED TO WITHSTAND LOCAL WIND SPEED REQUIREMENTS AND DESIGNED FOR OUTDOOR EXPOSURE.
- ALL COAX, POWER AND TELEPHONE SYSTEM CONDUITS SHALL HAVE A MINIMUM 24" SCH. 80 PVC RADIUS SWEEPS TO EQUIPMENT, PULLBOXES, GUY, ETC., UNLESS OTHERWISE NOTED, OR AS REQUIRED BY UTILITY COMPANIES.
- FUSE TYPE SHALL BE BUSSMAN RKI LOW PEAK FUSE (LPN-RK-140).
- UPON COMPLETION OF THE JOB, THE CONTRACTOR SHALL FURNISH AS-BUILT DRAWINGS TO THE OWNER.
- GENERAL GROUNDING CRITERIA  
1ST STEP: GROUND TO EXISTING BUILDING STRUCTURAL STEEL AND TO THE EXISTING COLD WATER METAL PIPE LINE. (WHERE APPLICABLE) THEN TEST GROUNDING RESISTANCE FOR 5 OHMS OR LESS OVERALL GROUND RESISTANCE. WHERE THE EFFECTIVE RESISTANCE DOES NOT MEET THIS CRITERIA, PROVIDE SUPPLEMENTAL GROUNDING AND RE-TEST UNTIL GROUND RESISTANCE FALLS BELOW THIS LEVEL.
- SUPPLEMENTAL GROUND MAY CONSIST OF ONE OR MORE OF THE FOLLOWING:  
COUNTERPOISE, USER GROUND, GROUND ROD AND/OR GROUND WELL IN EXTREMELY ADVERSE SOIL CONDITIONS. WHERE THE EXISTING BUILDING STEEL DOES NOT PROVIDE AN EFFECTIVE GROUND RESISTANCE, THEN THE CONTRACTOR SHALL PROVIDE A SEPARATE GROUND CONDUCTOR FROM ROOF MOUNTED BTS EQUIPMENT LOCATIONS EITHER DOWN THROUGH THE INSIDE OF THE BUILDING OR DOWN THE OUTSIDE OF THE BUILDING, DEPENDING UPON OWNER PREFERENCE. WHERE THE GROUND CONDUCTOR FROM THE ROOF MOUNTED EQUIPMENT IS ROUTED IN CONDUIT, THE CONDUIT SHALL BE EFFECTIVELY GROUNDED TO THE GROUND CONDUCTOR AT BOTH ENDS OF THE CONDUIT. (GUY INSTALLATIONS):  
  
FOR INSTALLATIONS WHERE WOODEN STRUCTURES, TOWERS, CONCRETE SILOS ETC. ARE ENCOUNTERED A PARATE DOWNLEAD SHALL BE PROVIDED FROM THE 3 ANTENNAS SEPARATED BY A MINIMUM OF 12 INCHES FROM THE COAXIAL CABLES. THE GROUND CONDUCTOR SHALL BE SECURELY FASTENED TO THE EXTERIOR OF OUTSIDE STRUCTURES WITH NONMETALLIC GROUND STRAPS EVERY 10 FEET. AGAIN, AS FOR TENANT IMPROVEMENT PROJECTS, TEST THE GROUND RESISTANCE FOR GUY INSTALLATIONS AND PROCEED PER THE ABOVE STEPS.
- CONTRACTOR TO COLOR PHASE CONDUCTORS BLACK (B PHASE), RED (A PHASE), WHITE (NEUTRAL), AND GREEN (GROUND).
- CONTRACTOR TO PROVIDE GUTTER TAP.
- THERE SHALL BE A MINIMUM CLEARANCE OF 48" BETWEEN FRONT OF ELECTRICAL EQUIPMENT AND ANY WALL OR OBSTRUCTION.

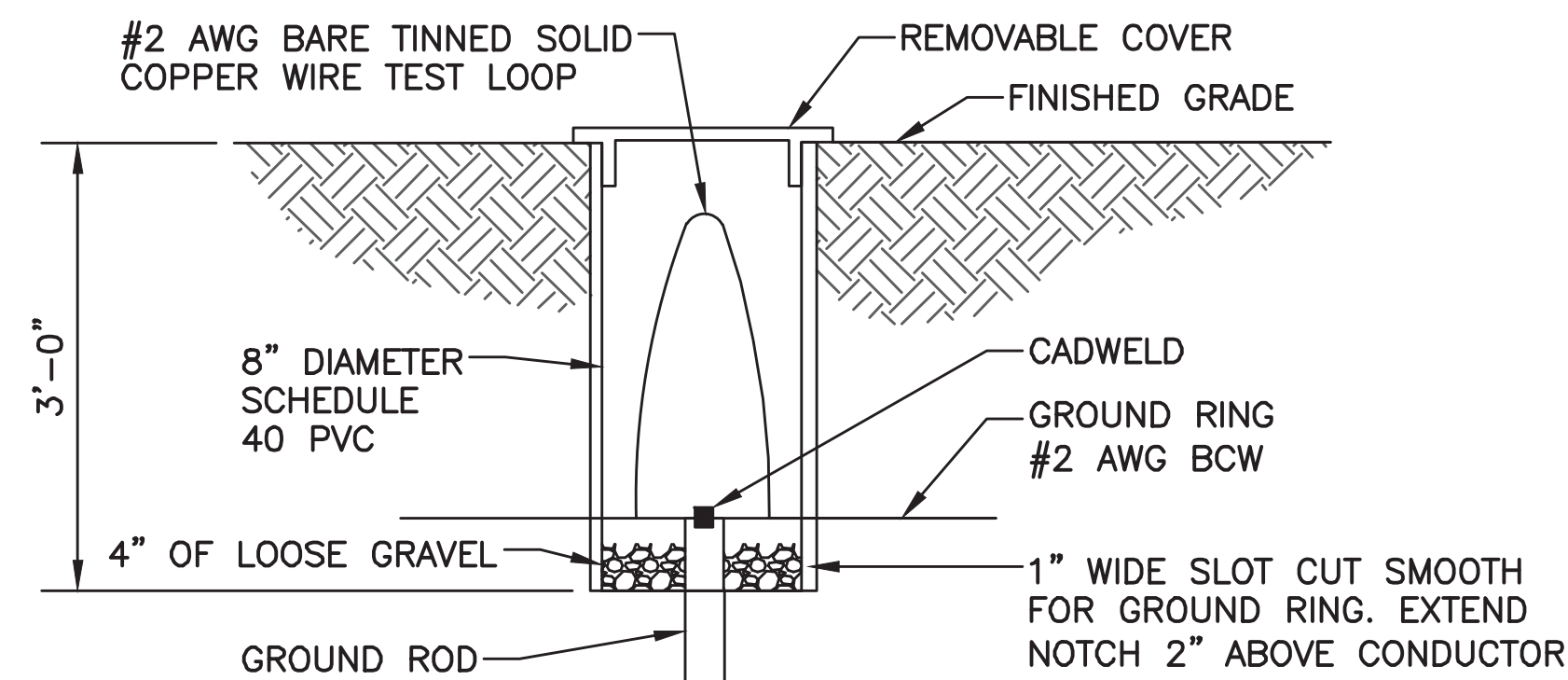
CADWELD CONNECTIONS OR APPROVED EQUAL		BURNDY CONNECTIONS OR APPROVED EQUAL	
 <b>PARALLEL HORIZONTAL CONDUCTORS</b> PARALLEL THROUGH CONNECTION OF HORIZONTAL CABLES TYPE PT	 <b>HORIZONTAL STEEL SURFACE</b> TO FLAT STEEL SURFACE OR HORIZONTAL PIPE TYPE HS	 <b>VERTICAL PIPE</b> CABLE DOWN AT 45° TO RANGE OF VERTICAL PIPES TYPE VS	 <b>BOND JUMPER</b> FIELD FABRICATED GREEN STRANDED INSULATED TYPE 2-YA-2
 <b>THROUGH CABLE TO GROUND ROD</b> THROUGH CABLE TO TOP OF GROUND ROD TYPE GT	 <b>VERTICAL STEEL SURFACE</b> CABLE DOWN AT 45° TO VERTICAL STEEL SURFACE INCLUDING PIPE TYPE VS	 <b>COPPER LUGS</b> TWO HOLE - LONG BARREL LENGTH TYPE YA-2	



1 TWO HOLE LUG CONNECTION DETAIL  
E-5 NOT TO SCALE



2 GROUND BAR DETAIL  
E-5 NOT TO SCALE



3 TEST WELL DETAIL  
E-5 NOT TO SCALE

**T-Mobile**

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PLANS PREPARED BY:



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T-MOBILE SITE ID: CTNH545A ATC SITE ID: 88009

SHEET NAME:

**ELECTRICAL &  
GROUNDING DETAILS**

SMW #: 16-2559

SHEET NUMBER:

DESIGNER: BMD  
CHECKED BY: RTB  
ENGINEER: JDS

**E-5**

# Exhibit D





**AMERICAN TOWER®**  
CORPORATION

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## Structural Analysis Report

**Structure** : 65 ft Self Supported Tower  
**ATC Site Name** : Cornwall CT, CT  
**ATC Site Number** : 88009  
**Engineering Number** : OAA687939\_C3\_04  
**Proposed Carrier** : T-Mobile  
**Carrier Site Name** : Cornwall  
**Carrier Site Number** : CTL01025 / 10035044  
**Site Location** : Mohawk Mtn.  
Litchfield, CT 06759-4232  
41.821303,-73.296442  
**County** : Litchfield  
**Date** : December 15, 2016  
**Max Usage** : 100%  
**Result** : Pass

Reviewed by:  
Scott Wirgau, PE  
Structural Team Leader

Prepared By:  
Tsega Melesse, E.I.  
Structural Engineer I

Reviewed By:



*Tsega M. Melesse*

Dec 15 2016 5:58 PM

cosign

COA: PEC.0001553



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Standard Conditions .....	5
Calculations .....	Attached



## Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 65 ft self supported tower to reflect the change in loading by T-Mobile.

## Supporting Documents

<b>Tower Drawings</b>	CSEI ATC Engineering #26472221, dated September 19, 2006
<b>Foundation Drawing</b>	TEP Project #74252-101870, dated November 22, 2016
<b>Geotechnical Report</b>	FDH Project #16PWAQ1600, dated November 30, 2016

## Analysis

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

<b>Basic Wind Speed:</b>	93 mph (3-Second Gust, Vasd) / 120 mph (3-Second Gust, Vult)
<b>Basic Wind Speed w/ Ice:</b>	40 mph (3-Second Gust) w/ 3/4" radial ice concurrent
<b>Code:</b>	ANSI/TIA-222-G / 2012 IBC / 2016 Connecticut State Building Code
<b>Structure Class:</b>	II
<b>Exposure Category:</b>	B
<b>Topographic Category:</b>	3
<b>Crest Height:</b>	214 ft
<b>Spectral Response:</b>	$S_s = 0.18, S_1 = 0.06$
<b>Site Class:</b>	D - Stiff Soil

## Conclusion

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

If you have any questions or require additional information, please contact American Tower via email at [Engineering@americantower.com](mailto:Engineering@americantower.com). Please include the American Tower site name, site number, and engineering number in the subject line for any questions.



**Existing and Reserved Equipment**

Elevation <sup>1</sup> (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
71.0	75.0	1	8' Dipole	Leg	(1) 7/8" Coax	--
70.0	70.0	3	EMS RR65-19-02DP	Leg	(6) 7/8" Coax	Sprint Nextel
65.0	65.0	1	Andrew ABT-DFDM-ADB	Sector Frames	(12) 1 1/4" Coax (2) 0.78" 8 AWG 6 (1) 0.39" Fiber Trunk	AT&T Mobility
		1	Andrew SBNHH-1D65A (33.5 lbs)			
		2	CCI HPA-65R-BUU-H6			
		1	Raycap DC6-48-60-18-8F			
		3	Ericsson RRUS 11 w/ RRUS A2			
		6	Powerwave 7770.00A			
		6	Powerwave TT19-08BP111-001			
		3	Ericsson RRUS 11 (Band 12)			
63.0	66.0	1	5' Omni	Leg	-	--
	63.0	1	Sinclair SV228-HF2SNM		(1) 7/8" Coax	US Dept Of Homeland Security
57.0	60.0	3	Alcatel-Lucent TD-RRH8x20-25 w/ Solar Shield	Stand-Offs	(3) 1 1/4" Hybriflex (1) 1 1/4" Fiber	Sprint Nextel
		3	RFS RFS APXV9TM14-ALU-I20			
		3	RFS APXVSP18-C-A20			
	57.0	3	Alcatel-Lucent RRH2x40 (700)			
		3	Alcatel-Lucent 800MHz RRH			
55.0	55.0	4	10' HP Dish	Leg	-	--
53.0	62.0	1	18' Omni	Leg	(1) 7/8" Coax	
50.0	50.0	-	-	Empty Platfrom w/ Handrails	-	
48.0	48.0	3	Decibel 776QNB120EXM	Leg	(12) 7/8" Coax (3) 1/2" Coax	Alltel
46.0	46.0	3	Antel BXA-70063-6CF-EDIN-X	Leg	(12) 1 5/8" Coax	
		6	Antel LPA-80063/6CF			
		3	Antel BXA-171063/12CF__2 FP			
		6	RFS FD9R6004/2C-3L (3.1 lbs)			
37.5	37.5	-	-	Access Platform	-	-

**Equipment to be Removed**

Elevation <sup>1</sup> (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
No loading considered as to be removed						



**Proposed Equipment**

Elevation <sup>1</sup> (ft)		Qty	Antenna	Mount Type	Lines	Carrier
Mount	RAD					
56.0	56.0	3	Commscope LNX-6515DS-A1M (50.3 lb)	T-Arms	(2) 1 5/8" Hybriflex (1) 1/2" Coax	T-Mobile
		3	RFS APX16DWV-16DWVS-E-A20			
		3	Ericsson RRUS 11 B2			
		3	Ericsson RRUS 11 B4			
		3	Ericsson RRUS 11 B12			
		1	Symmetricom 58532A			

<sup>1</sup>Mount elevation is defined as height above bottom of steel structure to the bottom of mount, RAD elevation is defined as center of antenna above ground level (AGL).

Install proposed coax on the tower face with the least amount of existing coax.





**Structure Usages**

Structural Component	Controlling Usage	Pass/Fail
Legs	59%	Pass
Diagonals	100%	Pass
Horizontals	30%	Pass

**Foundations**

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-ft)	94.6	34%
Axial (Kips)	116.5	4%
Shear (Kips)	26.0	24%

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

**Deflection, Twist and Sway\***

Antenna Elevation (ft)	Antenna	Carrier	Deflection (ft)	Twist (°)	Sway (Rotation) (°)
63.0	Sinclair SV228-HF2SNM	US DEPT OF HOMELAND	0.168	0.024	0.570
56.0	Commscope LNX-6515DS-A1M (50.3 lb)	T-Mobile	0.091	0.025	0.902
	Ericsson RRUS 11 B12				
	Ericsson RRUS 11 B2				
	Ericsson RRUS 11 B4				
	RFS APX16DWV-16DWVS-E-A20				
	Symmetricom 58532A				
55.0	10' HP Dish	--			

\*Deflection, Twist and Sway was evaluated considering a design wind speed of 60 mph (3-Second Gust) per ANSI/TIA-222-G



## Standard Conditions

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

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

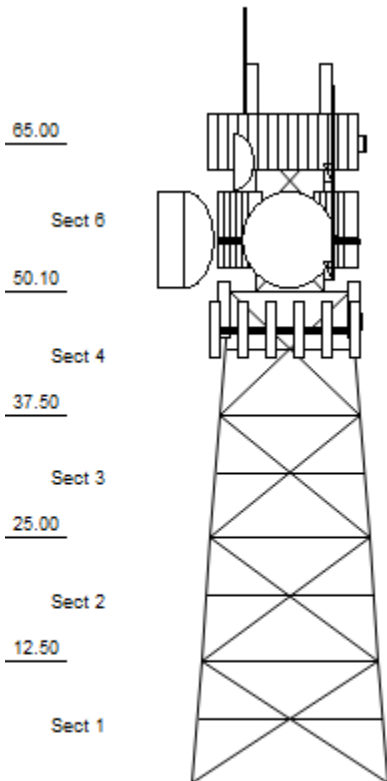
It is the responsibility of the client to ensure that the information provided to A.T. Engineering Service, PLLC and used in the performance of our engineering services is correct and complete. In the absence of information to the contrary, we assume that all structures were constructed in accordance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

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

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

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Loads: 93 mph no ice  
 40 mph w/ 3/4" radial ice  
 Site Class: D Ss: 0.18 S1: 0.06  
 60 mph Serviceability



### Job Information

Tower : 88009      Location : Cornwall CT, CT  
 Code : ANSI/TIA-222-G      Shape : Square      Base Width : 20.00 ft  
 Client : T-Mobile      Top Width : 7.00 ft

### Sections Properties

Section	Leg Members	Diagonal Members	Horizontal Members
1 - 2	SAE 33 ksi 6X6X0.625	SAU 36 ksi 4X3X0.25	DAL 36 ksi 3X2.5X0.25
3	SAE 33 ksi 6X6X0.5	SAU 36 ksi 3.5X3X0.25	DAL 36 ksi 3.5X3X0.3125
4	SAE 33 ksi 6X6X0.5	SAE 36 ksi 3.5x3.5x0.25	DAL 36 ksi 3.5X3X0.3125
5	SAE 33 ksi 6X6X0.5		
6	SAE 33 ksi 6X6X0.5	SAU 36 ksi 3X2X0.25	DAL 36 ksi 2.5X2X0.25

### Discrete Appurtenance

Elev (ft)	Type	Qty	Description
71.00	Whip	1	8' Dipole
70.00	Panel	3	EMS RR65-19-02DP
65.01	Other	1	Fire Warden Cab
65.00	Mounting Frame	3	Round Sector Frame
65.00	Panel	1	Andrew ABT-DFDM-ADB
65.00	Panel	1	Andrew SBNHH-1D65A (33.5 lbs)
65.00	Panel	2	CCI HPA-65R-BUU-H6
65.00	Panel	1	Raycap DC6-48-60-18-8F
65.00	Panel	3	Ericsson RRUS 11 w/ RRUS A2
65.00	Panel	6	Powerwave Allgon 7770.00A
65.00	Panel	6	Powerwave Allgon TT19-08BP111-
65.00	Panel	3	Ericsson RRUS 11 (Band 12)
63.00	Whip	1	5' Omni
63.00	Dish	1	Sinclair SV228-HF2SNM
57.00	Panel	3	Alcatel-Lucent TD-RRH8x20-25 w
57.00	Panel	3	RFS RFS APXV9TM14-ALU-I20
57.00	Panel	3	RFS APXVSP18-C-A20
57.00	Panel	3	Alcatel-Lucent RRH2x40 (700)
57.00	Straight Arm	6	Stand-Off
57.00	Panel	3	Alcatel-Lucent 800 MHz RRH
56.00	Panel	3	Commscope LNX-6515DS-A1M
56.00	Panel	3	RFS APX16DWV-16DWVS-E-A20
56.00	Panel	3	Ericsson RRUS 11 B2
56.00	Panel	3	Ericsson RRUS 11 B4
56.00	Panel	3	Ericsson RRUS 11 B12
56.00	Panel	1	Symmetricom 58532A
56.00	Straight Arm	3	Flat T-Arm
55.00	Dish	4	10' HP Dish
53.00	Whip	1	18' Omni
50.00	Platform	1	Platform w/ Handrails
48.00	Panel	3	Decibel 776QNB120EXM
46.00	Panel	3	Amphenol Antel BXA-70063-6CF-E
46.00	Panel	6	Antel LPA-80063/6CF
46.00	Panel	3	Antel BXA-171063/12CF_2 FP
46.00	Panel	6	RFS FD9R6004/2C-3L (3.1 lbs)
37.50	Platform	1	Access Platform

### Linear Appurtenance

Elev (ft)	From	To	Qty	Description
0.00	71.00	71.00	1	7/8" Coax
0.00	70.00	70.00	6	7/8" Coax
0.00	65.00	65.00	1	Waveguide
0.00	65.00	65.00	1	Climbing Ladder
0.00	65.00	65.00	12	1 1/4" Coax
0.00	65.00	65.00	2	0.78" (19.7mm) 8 AWG
0.00	65.00	65.00	1	0.39" (10mm) Fiber T
0.00	63.00	63.00	1	7/8" Coax
0.00	57.00	57.00	3	1 1/4" Hybriflex Cab
0.00	57.00	57.00	1	1 1/4" Fiber
0.00	56.00	56.00	1	Waveguide

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Job Information		
Tower : 88009	Location : Cornwall CT, CT	
Code : ANSI/TIA-222-G	Shape : Square	Base Width : 20.00 ft
Client : T-Mobile		Top Width : 7.00 ft

0.00	56.00	1	1/2" Coax
0.00	56.00	2	1 5/8" Hybriflex Cab
0.00	53.00	1	7/8" Coax
0.00	48.00	12	7/8" Coax
0.00	48.00	3	1/2" Coax
0.00	46.00	12	1 5/8" Coax

Global Base Foundation Design Loads			
Load Case	Moment (k-ft)	Vertical (kip)	Horizontal (kip)
DL + WL	2,942.07	49.85	63.12
DL + WL + IL	712.84	143.96	14.69

Individual Base Foundation Design Loads		
Vertical (kip)	Uplift (kip)	Horizontal (kip)
116.47	94.63	25.97

Site Number: 88009

Code:

ANSI/TIA-222-G

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Site Name: Cornwall CT, CT

Engineering Number: OAA687939\_C3\_04

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Customer: T-Mobile

### Analysis Parameters

Location:	Litchfield County, CT	Height (ft):	65
Code:	ANSI/TIA-222-G	Base Elevation (ft):	0.00
Shape:	Square	Bottom Face Width (ft):	20.00
Tower Manufacturer:	CSEI	Top Face Width (ft):	7.00
Tower Type:	Self Support	Anchor Bolt Detail Type	c

### Ice & Wind Parameters

Structure Class:	II	Design Windspeed Without Ice:	93 mph
Exposure Category:	B	Design Windspeed With Ice:	40 mph
Topographic Category:	3	Operational Windspeed:	60 mph
Crest Height:	214.2 ft	Design Ice Thickness:	0.75 in

### Seismic Parameters

Analysis Method:	Equivalent Modal Analysis & Equivalent Lateral Force Methods				
Site Class:	D - Stiff Soil				
Period Based on Rayleigh Method (sec):	0.48				
$T_L$ (sec):	6	p:	1.3	$C_S$ :	0.064
$S_S$ :	0.181	$S_1$ :	0.065	$C_S$ , Max:	0.072
$F_a$ :	1.600	$F_V$ :	2.400	$C_S$ , Min:	0.030
$S_{ds}$ :	0.193	$S_{d1}$ :	0.104		

### Load Cases

1.2D + 1.6W Normal	93 mph Normal to Face with No Ice
1.2D + 1.6W 45 deg	93 mph 45 degree with No Ice
1.2D + 1.6W 90 deg	93 mph 90 degree with No Ice
1.2D + 1.6W 135 deg	93 mph 135 degree with No Ice
1.2D + 1.6W 180 deg	93 mph 180 degree with No Ice
1.2D + 1.6W 225 deg	93 mph 225 degree with No Ice
1.2D + 1.6W 270 deg	93 mph 270 degree with No Ice
1.2D + 1.6W 315 deg	93 mph 315 degree with No Ice
0.9D + 1.6W Normal	93 mph Normal to Face with No Ice (Reduced DL)
0.9D + 1.6W 45 deg	93 mph 45 deg with No Ice (Reduced DL)
0.9D + 1.6W 90 deg	93 mph 90 deg with No Ice (Reduced DL)
0.9D + 1.6W 135 deg	93 mph 135 deg with No Ice (Reduced DL)
0.9D + 1.6W 180 deg	93 mph 180 deg with No Ice (Reduced DL)
0.9D + 1.6W 225 deg	93 mph 225 deg with No Ice (Reduced DL)
0.9D + 1.6W 270 deg	93 mph 270 deg with No Ice (Reduced DL)
0.9D + 1.6W 315 deg	93 mph 315 deg with No Ice (Reduced DL)
1.2D + 1.0Di + 1.0Wi Normal	40 mph Normal with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 45 deg	40 mph 45 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 90 deg	40 mph 90 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 135 deg	40 mph 135 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 180 deg	40 mph 180 deg with 0.75 in Radial Ice

Site Number: 88009  
Site Name: Cornwall CT, CT  
Customer: T-Mobile

Code: ANSI/TIA-222-G  
Engineering Number: OAA687939\_C3\_04

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## Analysis Parameters

1.2D + 1.0Di + 1.0Wi 225 deg	40 mph 225 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 270 deg	40 mph 270 deg with 0.75 in Radial Ice
1.2D + 1.0Di + 1.0Wi 315 deg	40 mph 315 deg with 0.75 in Radial Ice
(1.2 + 0.2Sds) * DL + E Normal	Seismic Normal
(1.2 + 0.2Sds) * DL + E 45 deg	Seismic 45 deg
(1.2 + 0.2Sds) * DL + E 90 deg	Seismic 90 deg
(1.2 + 0.2Sds) * DL + E 135 deg	Seismic 135 deg
(1.2 + 0.2Sds) * DL + E 180 deg	Seismic 180 deg
(1.2 + 0.2Sds) * DL + E 225 deg	Seismic 225 deg
(1.2 + 0.2Sds) * DL + E 270 deg	Seismic 270 deg
(1.2 + 0.2Sds) * DL + E 315 deg	Seismic 315 deg
(0.9 - 0.2Sds) * DL + E Normal	Seismic (Reduced DL) Normal
(0.9 - 0.2Sds) * DL + E 45 deg	Seismic (Reduced DL) 45 deg
(0.9 - 0.2Sds) * DL + E 90 deg	Seismic (Reduced DL) 90 deg
(0.9 - 0.2Sds) * DL + E 135 deg	Seismic (Reduced DL) 135 deg
(0.9 - 0.2Sds) * DL + E 180 deg	Seismic (Reduced DL) 180 deg
(0.9 - 0.2Sds) * DL + E 225 deg	Seismic (Reduced DL) 225 deg
(0.9 - 0.2Sds) * DL + E 270 deg	Seismic (Reduced DL) 270 deg
(0.9 - 0.2Sds) * DL + E 315 deg	Seismic (Reduced DL) 315 deg
1.0D + 1.0W Service Normal	Serviceability - 60 mph Wind Normal
1.0D + 1.0W Service 45 deg	Serviceability - 60 mph Wind 45 deg
1.0D + 1.0W Service 90 deg	Serviceability - 60 mph Wind 90 deg
1.0D + 1.0W Service 135 deg	Serviceability - 60 mph Wind 135 deg
1.0D + 1.0W Service 180 deg	Serviceability - 60 mph Wind 180 deg
1.0D + 1.0W Service 225 deg	Serviceability - 60 mph Wind 225 deg
1.0D + 1.0W Service 270 deg	Serviceability - 60 mph Wind 270 deg
1.0D + 1.0W Service 315 deg	Serviceability - 60 mph Wind 315 deg

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### Tower Loading

#### Discrete Appurtenance Properties 1.2D + 1.6W

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K <sub>a</sub>	Orient. Factor	Vert. Ecc.(ft)	M <sub>u</sub> (lb-ft)	Q <sub>z</sub> (psf)	F <sub>a</sub> (WL) (lb)	P <sub>a</sub> (DL) (lb)
71.00	8' Dipole	1	25	3.0	8.0	3.0	3.0	1.00	1.00	4.0	429.1	26.21	107	36
70.00	EMS RR65-19-02DP	3	23	5.9	6.0	8.0	2.8	1.00	0.74	0.0	0.0	26.17	464	99
65.01	Fire Warden Cab	1	2000	150.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	26.11	5326	2880
65.00	Andrew ABT-DFDM-	1	1	0.1	0.3	1.7	1.6	0.80	0.50	0.0	0.0	26.11	1	2
65.00	Powerwave Allgon	6	16	0.6	0.8	6.7	5.4	0.80	0.50	0.0	0.0	26.11	55	138
65.00	Raycap DC6-48-60-	1	20	1.1	2.0	9.7	9.7	0.80	1.00	0.0	0.0	26.11	32	29
65.00	Ericsson RRUS 11	3	50	2.6	1.5	17.3	7.2	0.80	0.50	0.0	0.0	26.11	110	216
65.00	Ericsson RRUS 11 w/	3	72	2.8	1.6	17.0	10.6	0.80	0.50	0.0	0.0	26.11	119	311
65.00	Powerwave Allgon	6	27	5.6	4.6	11.0	4.9	0.80	0.76	0.0	0.0	26.11	720	233
65.00	Andrew SBNHH-	1	34	5.9	4.6	11.9	7.1	0.80	0.69	0.0	0.0	26.11	115	48
65.00	CCI HPA-65R-BUU-H6	2	51	9.7	6.0	14.8	9.0	0.80	0.83	0.0	0.0	26.11	455	147
65.00	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	26.11	863	1296
63.00	5' Omni	1	10	1.0	5.0	2.0	2.0	1.00	1.00	3.0	106.6	26.12	36	14
63.00	Sinclair SV228-	1	93	15.8	6.0	116.0	62.0	1.00	1.00	0.0	0.0	26.08	561	134
57.00	Alcatel-Lucent	3	50	2.1	1.7	12.2	10.6	0.80	0.50	0.0	0.0	25.96	90	216
57.00	Alcatel-Lucent 800	3	53	2.1	1.6	13.0	10.8	0.80	0.50	0.0	0.0	25.96	90	229
57.00	Stand-Off	6	100	3.0	0.0	0.0	0.0	1.00	0.67	0.0	0.0	25.96	426	864
57.00	Alcatel-Lucent TD-	3	70	4.1	2.2	18.6	6.7	0.80	0.50	3.0	516.0	26.02	172	302
57.00	RFS RFS	3	55	6.3	4.7	12.6	6.3	0.80	0.66	0.0	0.0	25.96	355	238
57.00	RFS APXVSPP18-C-	3	57	8.0	6.0	11.8	7.0	0.80	0.69	0.0	0.0	25.96	469	246
56.00	Symmetricon	1	0	0.2	0.5	3.5	3.5	1.00	1.00	0.0	0.0	25.93	8	1
56.00	Ericsson RRUS 11	3	51	2.8	1.6	17.0	7.2	0.80	0.50	0.0	0.0	25.93	118	219
56.00	Ericsson RRUS 11 B4	3	51	2.8	1.6	17.0	7.2	0.80	0.50	0.0	0.0	25.93	118	219
56.00	Ericsson RRUS 11 B2	3	51	2.8	1.6	17.0	7.2	0.80	0.50	0.0	0.0	25.93	118	219
56.00	RFS APX16DWV-	3	41	6.6	4.7	13.3	3.1	0.80	0.66	0.0	0.0	25.93	368	176
56.00	Commscope LNX-	3	50	11.4	8.0	11.9	7.1	0.80	0.84	0.0	0.0	25.93	814	217
56.00	Flat T-Arme	3	250	12.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	25.93	686	1080
55.00	10' HP Dish	4	705	99.1	10.0	120.0	0.0	1.00	1.00	0.0	0.0	25.91	13966	4061
53.00	18' Omni	1	55	5.4	18.0	3.0	3.0	1.00	1.00	9.0	1722.5	26.06	191	79
50.00	Platfrom w/	1	5000	70.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	25.75	2451	7200
48.00	Decibel	3	117	22.2	6.0	37.0	9.5	1.00	0.65	0.0	0.0	25.67	1511	505
46.00	RFS FD9R6004/2C-3L	6	3	0.4	0.5	6.5	1.5	1.00	0.50	0.0	0.0	25.58	38	27
46.00	Antel BXA-	3	15	4.8	6.0	6.1	4.1	1.00	0.88	0.0	0.0	25.58	440	65
46.00	Amphenol Antel BXA-	3	17	7.6	5.9	11.2	5.2	1.00	0.77	0.0	0.0	25.58	608	73
46.00	Antel LPA-80063/6CF	6	27	9.6	5.9	15.0	13.1	1.00	0.94	0.0	0.0	25.58	1882	233
37.50	Access Platform	1	5000	45.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	25.09	1535	7200
Totals		101	20315	1194.6										

#### Discrete Appurtenance Properties 0.9D + 1.6W

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K <sub>a</sub>	Orient. Factor	Vert. Ecc.(ft)	M <sub>u</sub> (lb-ft)	Q <sub>z</sub> (psf)	F <sub>a</sub> (WL) (lb)	P <sub>a</sub> (DL) (lb)
71.00	8' Dipole	1	25	3.0	8.0	3.0	3.0	1.00	1.00	4.0	429.1	26.21	107	20
70.00	EMS RR65-19-02DP	3	23	5.9	6.0	8.0	2.8	1.00	0.74	0.0	0.0	26.17	464	56
65.01	Fire Warden Cab	1	2000	150.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	26.11	5326	1620
65.00	Andrew ABT-DFDM-	1	1	0.1	0.3	1.7	1.6	0.80	0.50	0.0	0.0	26.11	1	1
65.00	Powerwave Allgon	6	16	0.6	0.8	6.7	5.4	0.80	0.50	0.0	0.0	26.11	55	78
65.00	Raycap DC6-48-60-	1	20	1.1	2.0	9.7	9.7	0.80	1.00	0.0	0.0	26.11	32	16
65.00	Ericsson RRUS 11	3	50	2.6	1.5	17.3	7.2	0.80	0.50	0.0	0.0	26.11	110	122
65.00	Ericsson RRUS 11 w/	3	72	2.8	1.6	17.0	10.6	0.80	0.50	0.0	0.0	26.11	119	175
65.00	Powerwave Allgon	6	27	5.6	4.6	11.0	4.9	0.80	0.76	0.0	0.0	26.11	720	131
65.00	Andrew SBNHH-	1	34	5.9	4.6	11.9	7.1	0.80	0.69	0.0	0.0	26.11	115	27



Site Number: 88009

Code: ANSI/TIA-222-G

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Site Name: Cornwall CT, CT

Engineering Number: OAA687939\_C3\_04

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Customer: T-Mobile

### Tower Loading

65.00	CCI HPA-65R-BUU-H6	2	51	9.7	6.0	14.8	9.0	0.80	0.83	0.0	0.0	26.11	455	83
65.00	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	26.11	863	729
63.00	5' Omni	1	10	1.0	5.0	2.0	2.0	1.00	1.00	3.0	106.6	26.12	36	8
63.00	Sinclair SV228-	1	93	15.8	6.0	116.0	62.0	1.00	1.00	0.0	0.0	26.08	561	75
57.00	Alcatel-Lucent	3	50	2.1	1.7	12.2	10.6	0.80	0.50	0.0	0.0	25.96	90	122
57.00	Alcatel-Lucent 800	3	53	2.1	1.6	13.0	10.8	0.80	0.50	0.0	0.0	25.96	90	129
57.00	Stand-Off	6	100	3.0	0.0	0.0	0.0	1.00	0.67	0.0	0.0	25.96	426	486
57.00	Alcatel-Lucent TD-	3	70	4.1	2.2	18.6	6.7	0.80	0.50	3.0	516.0	26.02	172	170
57.00	RFS RFS	3	55	6.3	4.7	12.6	6.3	0.80	0.66	0.0	0.0	25.96	355	134
57.00	RFS APXVSPP18-C-	3	57	8.0	6.0	11.8	7.0	0.80	0.69	0.0	0.0	25.96	469	139
56.00	Symmetrcom	1	0	0.2	0.5	3.5	3.5	1.00	1.00	0.0	0.0	25.93	8	0
56.00	Ericsson RRUS 11	3	51	2.8	1.6	17.0	7.2	0.80	0.50	0.0	0.0	25.93	118	123
56.00	Ericsson RRUS 11 B4	3	51	2.8	1.6	17.0	7.2	0.80	0.50	0.0	0.0	25.93	118	123
56.00	Ericsson RRUS 11 B2	3	51	2.8	1.6	17.0	7.2	0.80	0.50	0.0	0.0	25.93	118	123
56.00	RFS APX16DWV-	3	41	6.6	4.7	13.3	3.1	0.80	0.66	0.0	0.0	25.93	368	99
56.00	Commscope LNX-	3	50	11.4	8.0	11.9	7.1	0.80	0.84	0.0	0.0	25.93	814	122
56.00	Flat T-Arm	3	250	12.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	25.93	686	608
55.00	10' HP Dish	4	705	99.1	10.0	120.0	0.0	1.00	1.00	0.0	0.0	25.91	13966	2284
53.00	18' Omni	1	55	5.4	18.0	3.0	3.0	1.00	1.00	9.0	1722.5	26.06	191	45
50.00	Platfrom w/	1	5000	70.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	25.75	2451	4050
48.00	Decibel	3	117	22.2	6.0	37.0	9.5	1.00	0.65	0.0	0.0	25.67	1511	284
46.00	RFS FD9R6004/2C-3L	6	3	0.4	0.5	6.5	1.5	1.00	0.50	0.0	0.0	25.58	38	15
46.00	Antel BXA-	3	15	4.8	6.0	6.1	4.1	1.00	0.88	0.0	0.0	25.58	440	36
46.00	Amphenol Antel BXA-	3	17	7.6	5.9	11.2	5.2	1.00	0.77	0.0	0.0	25.58	608	41
46.00	Antel LPA-80063/6CF	6	27	9.6	5.9	15.0	13.1	1.00	0.94	0.0	0.0	25.58	1882	131
37.50	Access Platform	1	5000	45.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	25.09	1535	4050
Totals		101	20315	1194.6										

### Discrete Appurtenance Properties 1.2D + 1.0Di + 1.0Wi

Elevation (ft)	Description	Qty	Ice Wt (lb)	Ice EPA (sf)	Length (ft)	Width (in)	Depth (in)	K <sub>a</sub>	Orient. Factor	Vert. Ecc.(ft)	M <sub>u</sub> (lb-ft)	Q <sub>z</sub> (psf)	F <sub>a</sub> (WL) (lb)	P <sub>a</sub> (DL) (lb)
71.00	8' Dipole	1	122	8.0	8.0	3.0	3.0	1.00	1.00	4.0	132.7	4.85	33	152
70.00	EMS RR65-19-02DP	3	160	7.2	6.0	8.0	2.8	1.00	0.74	0.0	0.0	4.84	66	594
65.01	Fire Warden Cab	1	6521	771.6	0.0	0.0	0.0	1.00	1.00	0.0	0.0	4.83	3168	8305
65.00	Andrew ABT-DFDM-	1	4	0.3	0.3	1.7	1.6	0.80	0.50	0.0	0.0	4.83	0	4
65.00	Powerwave Allgon	6	38	1.3	0.8	6.7	5.4	0.80	0.50	0.0	0.0	4.83	13	296
65.00	Raycap DC6-48-60-	1	77	1.7	2.0	9.7	9.7	0.80	1.00	0.0	0.0	4.83	6	97
65.00	Ericsson RRUS 11	3	124	3.7	1.5	17.3	7.2	0.80	0.50	0.0	0.0	4.83	18	481
65.00	Ericsson RRUS 11 w/	3	166	4.0	1.6	17.0	10.6	0.80	0.50	0.0	0.0	4.83	20	650
65.00	Powerwave Allgon	6	150	7.9	4.6	11.0	4.9	0.80	0.76	0.0	0.0	4.83	118	1121
65.00	Andrew SBNHH-	1	180	8.2	4.6	11.9	7.1	0.80	0.69	0.0	0.0	4.83	19	224
65.00	CCI HPA-65R-BUU-H6	2	288	12.7	6.0	14.8	9.0	0.80	0.83	0.0	0.0	4.83	69	716
65.00	Round Sector Frame	3	698	32.3	0.0	0.0	0.0	0.75	0.75	0.0	0.0	4.83	224	2728
63.00	5' Omni	1	40	2.5	5.0	2.0	2.0	1.00	1.00	3.0	30.6	4.83	10	50
63.00	Sinclair SV228-	1	610	64.1	6.0	116.0	62.0	1.00	1.00	0.0	0.0	4.82	263	755
57.00	Alcatel-Lucent	3	129	3.2	1.7	12.2	10.6	0.80	0.50	0.0	0.0	4.80	16	502
57.00	Alcatel-Lucent 800	3	133	3.2	1.6	13.0	10.8	0.80	0.50	0.0	0.0	4.80	16	516
57.00	Stand-Off	6	153	4.7	0.0	0.0	0.0	1.00	0.67	0.0	0.0	4.80	77	1244
57.00	Alcatel-Lucent TD-	3	172	5.5	2.2	18.6	6.7	0.80	0.50	3.0	80.8	4.81	27	670
57.00	RFS RFS	3	204	8.7	4.7	12.6	6.3	0.80	0.66	0.0	0.0	4.80	56	774
57.00	RFS APXVSPP18-C-	3	244	11.0	6.0	11.8	7.0	0.80	0.69	0.0	0.0	4.80	75	918
56.00	Symmetrcom	1	9	0.6	0.5	3.5	3.5	1.00	1.00	0.0	0.0	4.80	3	11
56.00	Ericsson RRUS 11	3	146	3.5	1.6	17.0	7.2	0.80	0.50	0.0	0.0	4.80	17	561
56.00	Ericsson RRUS 11 B4	3	146	3.5	1.6	17.0	7.2	0.80	0.50	0.0	0.0	4.80	17	561
56.00	Ericsson RRUS 11 B2	3	146	3.5	1.6	17.0	7.2	0.80	0.50	0.0	0.0	4.80	17	561

Site Number: 88009

Code: ANSI/TIA-222-G

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Site Name: Cornwall CT, CT

Engineering Number: OAA687939\_C3\_04

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Customer: T-Mobile

### Tower Loading

56.00	RFS APX16DWV-	3	193	7.8	4.7	13.3	3.1	0.80	0.66	0.0	0.0	4.80	50	723
56.00	Commscope LNX-	3	339	13.2	8.0	11.9	7.1	0.80	0.84	0.0	0.0	4.80	109	1256
56.00	Flat T-Arm	3	476	21.7	0.0	0.0	0.0	0.75	0.67	0.0	0.0	4.80	134	1894
55.00	10' HP Dish	4	2811	105.4	10.0	120.0	0.0	1.00	1.00	0.0	0.0	4.79	1717	14168
53.00	18' Omni	1	201	12.3	18.0	3.0	3.0	1.00	1.00	9.0	453.2	4.82	50	255
50.00	Platform w/	1	18097	331.9	0.0	0.0	0.0	1.00	1.00	0.0	0.0	4.76	1344	22916
48.00	Decibel	3	621	24.3	6.0	37.0	9.5	1.00	0.65	0.0	0.0	4.75	191	2320
46.00	RFS FD9R6004/2C-3L	6	12	0.8	0.5	6.5	1.5	1.00	0.50	0.0	0.0	4.73	10	89
46.00	Antel BXA-	3	118	7.3	6.0	6.1	4.1	1.00	0.88	0.0	0.0	4.73	78	435
46.00	Amphenol Antel BXA-	3	176	10.5	5.9	11.2	5.2	1.00	0.77	0.0	0.0	4.73	98	646
46.00	Antel LPA-80063/6CF	6	339	11.1	5.9	15.0	13.1	1.00	0.94	0.0	0.0	4.73	251	2480
37.50	Access Platform	1	18296	211.2	0.0	0.0	0.0	1.00	1.00	0.0	0.0	4.64	833	23155
Totals		101	73293	2536.5										

### Discrete Appurtenance Properties 1.0D + 1.0W Service

Elevation (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K <sub>a</sub>	Orient. Factor	Vert. Ecc.(ft)	M <sub>u</sub> (lb-ft)	Q <sub>z</sub> (psf)	F <sub>a</sub> (WL) (lb)	P <sub>a</sub> (DL) (lb)
71.00	8' Dipole	1	25	3.0	8.0	3.0	3.0	1.00	1.00	4.0	111.6	10.91	28	25
70.00	EMS RR65-19-02DP	3	23	5.9	6.0	8.0	2.8	1.00	0.74	0.0	0.0	10.89	121	69
65.01	Fire Warden Cab	1	2000	150.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	10.87	1386	2000
65.00	Andrew ABT-DFDM-	1	1	0.1	0.3	1.7	1.6	0.80	0.50	0.0	0.0	10.87	0	1
65.00	Powerwave Allgon	6	16	0.6	0.8	6.7	5.4	0.80	0.50	0.0	0.0	10.87	14	96
65.00	Raycap DC6-48-60-	1	20	1.1	2.0	9.7	9.7	0.80	1.00	0.0	0.0	10.87	8	20
65.00	Ericsson RRUS 11	3	50	2.6	1.5	17.3	7.2	0.80	0.50	0.0	0.0	10.87	28	150
65.00	Ericsson RRUS 11 w/	3	72	2.8	1.6	17.0	10.6	0.80	0.50	0.0	0.0	10.87	31	216
65.00	Powerwave Allgon	6	27	5.6	4.6	11.0	4.9	0.80	0.76	0.0	0.0	10.87	187	162
65.00	Andrew SBNHH-	1	34	5.9	4.6	11.9	7.1	0.80	0.69	0.0	0.0	10.87	30	34
65.00	CCI HPA-65R-BUU-H6	2	51	9.7	6.0	14.8	9.0	0.80	0.83	0.0	0.0	10.87	118	102
65.00	Round Sector Frame	3	300	14.4	0.0	0.0	0.0	0.75	0.75	0.0	0.0	10.87	224	900
63.00	5' Omni	1	10	1.0	5.0	2.0	2.0	1.00	1.00	3.0	27.7	10.87	9	10
63.00	Sinclair SV228-	1	93	15.8	6.0	116.0	62.0	1.00	1.00	0.0	0.0	10.85	146	93
57.00	Alcatel-Lucent	3	50	2.1	1.7	12.2	10.6	0.80	0.50	0.0	0.0	10.80	23	150
57.00	Alcatel-Lucent 800	3	53	2.1	1.6	13.0	10.8	0.80	0.50	0.0	0.0	10.80	23	159
57.00	Stand-Off	6	100	3.0	0.0	0.0	0.0	1.00	0.67	0.0	0.0	10.80	111	600
57.00	Alcatel-Lucent TD-	3	70	4.1	2.2	18.6	6.7	0.80	0.50	3.0	134.2	10.83	45	210
57.00	RFS RFS	3	55	6.3	4.7	12.6	6.3	0.80	0.66	0.0	0.0	10.80	92	165
57.00	RFS APXVSP18-C-	3	57	8.0	6.0	11.8	7.0	0.80	0.69	0.0	0.0	10.80	122	171
56.00	Symmetrcom	1	0	0.2	0.5	3.5	3.5	1.00	1.00	0.0	0.0	10.79	2	0
56.00	Ericsson RRUS 11	3	51	2.8	1.6	17.0	7.2	0.80	0.50	0.0	0.0	10.79	31	152
56.00	Ericsson RRUS 11 B4	3	51	2.8	1.6	17.0	7.2	0.80	0.50	0.0	0.0	10.79	31	152
56.00	Ericsson RRUS 11 B2	3	51	2.8	1.6	17.0	7.2	0.80	0.50	0.0	0.0	10.79	31	152
56.00	RFS APX16DWV-	3	41	6.6	4.7	13.3	3.1	0.80	0.66	0.0	0.0	10.79	96	122
56.00	Commscope LNX-	3	50	11.4	8.0	11.9	7.1	0.80	0.84	0.0	0.0	10.79	212	151
56.00	Flat T-Arm	3	250	12.9	0.0	0.0	0.0	0.75	0.67	0.0	0.0	10.79	178	750
55.00	10' HP Dish	4	705	99.1	10.0	120.0	0.0	1.00	1.00	0.0	0.0	10.78	3633	2820
53.00	18' Omni	1	55	5.4	18.0	3.0	3.0	1.00	1.00	9.0	448.1	10.85	50	55
50.00	Platform w/	1	5000	70.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	10.72	638	5000
48.00	Decibel	3	117	22.2	6.0	37.0	9.5	1.00	0.65	0.0	0.0	10.69	393	351
46.00	RFS FD9R6004/2C-3L	6	3	0.4	0.5	6.5	1.5	1.00	0.50	0.0	0.0	10.65	10	19
46.00	Antel BXA-	3	15	4.8	6.0	6.1	4.1	1.00	0.88	0.0	0.0	10.65	114	45
46.00	Amphenol Antel BXA-	3	17	7.6	5.9	11.2	5.2	1.00	0.77	0.0	0.0	10.65	158	51
46.00	Antel LPA-80063/6CF	6	27	9.6	5.9	15.0	13.1	1.00	0.94	0.0	0.0	10.65	490	162
37.50	Access Platform	1	5000	45.0	0.0	0.0	0.0	1.00	1.00	0.0	0.0	10.44	399	5000

Site Number: 88009  
Site Name: Cornwall CT, CT  
Customer: T-Mobile

Code: ANSI/TIA-222-G  
Engineering Number: OAA687939\_C3\_04

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### Tower Loading

Totals	101	20315	1194.6
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Site Number: 88009  
 Site Name: Cornwall CT, CT  
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Code: ANSI/TIA-222-G  
 Engineering Number: OAA687939\_C3\_04

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## Tower Loading

### Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	Pct In Block	Spread On Faces	Bundling Arrangement	Cluster Dia (in)	Out Of Zone	Spacing (in)	Orientation Factor	Ka Override
0.00	71.00	7/8" Coax	1	1.09	0.33	0	1	Individual	0.00	N	1.00	1.00	0.00
0.00	70.00	7/8" Coax	6	1.09	0.33	33	1	Block	0.00	N	0.00	1.00	0.00
0.00	65.00	0.39" (10mm) Fiber	1	0.39	0.06	0	1	Individual	0.00	N	1.00	1.00	0.01
0.00	65.00	0.78" (19.7mm) 8	2	0.78	0.59	0	1	Individual	0.00	N	1.00	1.00	0.01
0.00	65.00	1 1/4" Coax	12	1.55	0.63	33	1	Block	0.00	N	0.00	1.00	0.00
0.00	65.00	Climbing Ladder	1	2.00	6.90	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	65.00	Waveguide	1	2.00	6.00	0	1	Individual	0.00	N	1.00	1.00	0.00
0.00	63.00	7/8" Coax	1	1.09	0.33	0	1	Individual	0.00	N	1.00	1.00	0.00
0.00	57.00	1 1/4" Fiber	1	1.25	1.05	0	1	Individual	0.00	N	1.00	1.00	0.00
0.00	57.00	1 1/4" Hybriflex	3	1.54	1.00	33	1	Block	0.00	N	0.00	1.00	0.00
0.00	56.00	1 5/8" Hybriflex	2	1.98	1.30	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	56.00	1/2" Coax	1	0.63	0.15	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	56.00	Waveguide	1	2.00	6.00	0	Lin App	Individual	0.00	N	1.00	1.00	0.00
0.00	53.00	7/8" Coax	1	1.09	0.33	0	1	Individual	0.00	N	1.00	1.00	0.00
0.00	48.00	1/2" Coax	3	0.63	0.15	0	1	Individual	0.00	N	1.00	1.00	0.00
0.00	48.00	7/8" Coax	12	1.09	0.33	33	1	Block	0.00	N	0.00	1.00	0.00
0.00	46.00	1 5/8" Coax	12	1.98	0.82	33	1	Block	0.00	N	0.00	1.00	0.00

Site Number: 88009  
 Site Name: Cornwall CT, CT  
 Customer: T-Mobile

Code: ANSI/TIA-222-G  
 Engineering Number: OAA687939\_C3\_04

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### Force/Stress Summary

Section: 1		1		Bot Elev (ft): 0.00	Height (ft): 12.500										
		Pu	Len	Bracing %			F'y	Phic Pn	Num	Num	Shear	Bear	Use		
		(kip)	(ft)	X	Y	Z	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls	
Max Compression Member		Load Case									(kip)	(kip)			
LEG	SAE - 6X6X0.625	-103.66	12.57	50	50	50	63.9	33.0	173.38	0	0	0.00	0.00	59	Member Z
	HORIZ DAL - 3X2.5X0.25	-4.60	18.12	50	100	13	199.8	36.0	14.89	0	0	0.00	0.00	30	Member Y
	DIAG SAU - 4X3X0.25	-11.95	22.81	47	47	47	179.2	36.0	11.89	0	0	0.00	0.00	100	Member Z
Max Tension Member		Load Case		Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Use				
		(kip)	(ft)	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls			
	LEG SAE - 6X6X0.625	84.26	33	45	211.17	0	0	0.00	0.00	39	Member				
	HORIZ DAL - 3X2.5X0.25	5.71	36	58	85.21	0	0	0.00	0.00	6	Member				
	DIAG SAU - 4X3X0.25	10.61	36	58	54.76	0	0	0.00	0.00	19	Member				

Section: 2		1		Bot Elev (ft): 12.50	Height (ft): 12.500										
		Pu	Len	Bracing %			F'y	Phic Pn	Num	Num	Shear	Bear	Use		
		(kip)	(ft)	X	Y	Z	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls	
Max Compression Member		Load Case									(kip)	(kip)			
LEG	SAE - 6X6X0.625	-84.00	12.57	50	50	50	63.9	33.0	173.38	0	0	0.00	0.00	48	Member Z
	HORIZ DAL - 3X2.5X0.25	-2.90	16.25	50	50	17	106.7	36.0	46.79	0	0	0.00	0.00	6	Member Y
	DIAG SAU - 4X3X0.25	-12.60	21.27	47	47	47	169.0	36.0	13.36	0	0	0.00	0.00	94	Member Z
Max Tension Member		Load Case		Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Use				
		(kip)	(ft)	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls			
	LEG SAE - 6X6X0.625	65.87	33	45	211.17	0	0	0.00	0.00	31	Member				
	HORIZ DAL - 3X2.5X0.25	3.82	36	58	85.21	0	0	0.00	0.00	4	Member				
	DIAG SAU - 4X3X0.25	11.34	36	58	54.76	0	0	0.00	0.00	20	Member				

Section: 3		1		Bot Elev (ft): 25.00	Height (ft): 12.500										
		Pu	Len	Bracing %			F'y	Phic Pn	Num	Num	Shear	Bear	Use		
		(kip)	(ft)	X	Y	Z	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls	
Max Compression Member		Load Case									(kip)	(kip)			
LEG	SAE - 6X6X0.5	-59.96	12.57	50	50	50	63.9	33.0	140.22	0	0	0.00	0.00	42	Member Z
	HORIZ DAL - 3.5X3X0.3125	-4.49	14.37	50	100	17	136.1	36.0	47.22	0	0	0.00	0.00	9	Member Y
	DIAG SAU - 3.5X3X0.25	-13.30	19.78	47	47	47	163.4	36.0	13.20	0	0	0.00	0.00	100	Member Z
Max Tension Member		Load Case		Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Use				
		(kip)	(ft)	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls			
	LEG SAE - 6X6X0.5	44.72	33	45	170.77	0	0	0.00	0.00	26	Member				
	HORIZ DAL - 3.5X3X0.3125	6.40	36	58	125.39	0	0	0.00	0.00	5	Member				
	DIAG SAU - 3.5X3X0.25	11.79	36	58	50.54	0	0	0.00	0.00	23	Member				

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### Force/Stress Summary

Section: 4				Bot Elev (ft): 37.50				Height (ft): 12.500								
		Pu		Len	Bracing %			F'y	Phic Pn	Num	Num	Shear	Bear	Use		
		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls
Max Compression Member																
LEG	SAE - 6X6X0.5	-35.41	1.2D + 1.6W 45	12.57	50	50	50	63.9	33.0	140.22	0	0	0.00	0.00	25	Member Z
HORIZ	DAL - 3.5X3X0.3125	-7.19	1.2D + 1.6W 90	12.50	100	100	17	136.4	36.0	47.01	0	0	0.00	0.00	15	Member X
DIAG	SAE - 3.5x3.5x0.25	-12.61	1.2D + 1.6W	18.37	47	47	47	143.4	36.0	18.57	0	0	0.00	0.00	67	Member Z
Max Tension Member		Pu		Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Use					
		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	(kip)	(kip)	%	Controls		
LEG	SAE - 6X6X0.5	23.93	1.2D + 1.6W 45	33	45	170.77	0	0	0.00	0.00	14			Member		
HORIZ	DAL - 3.5X3X0.3125	5.22	1.2D + 1.6W	36	58	125.39	0	0	0.00	0.00	4			Member		
DIAG	SAE - 3.5x3.5x0.25	11.05	1.2D + 1.6W	36	58	54.76	0	0	0.00	0.00	20			Member		

Section: 5				Bot Elev (ft): 50.00				Height (ft): 0.100								
		Pu		Len	Bracing %			F'y	Phic Pn	Num	Num	Shear	Bear	Use		
		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls
Max Compression Member																
LEG	SAE - 6X6X0.5	-12.48	1.2D + 1.6W 45	0.39	50	50	50	2.0	33.0	170.74	0	0	0.00	0.00	7	Member Z
HORIZ		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00	0	
DIAG		0.00		0.000	0	0	0	0.0	0.0	0.00	0	0	0.00	0.00		
Max Tension Member		Pu		Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Use					
		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	(kip)	(kip)	%	Controls		
LEG	SAE - 6X6X0.5	19.01	0.9D + 1.6W 45	33	45	170.77	0	0	0.00	0.00	11			Member		
HORIZ		0.00		0	0	0.00	0	0	0.00	0.00	0					
DIAG		0.00		0	0	0.00	0	0	0.00	0.00	0					

Section: 6				Bot Elev (ft): 50.10				Height (ft): 14.900								
		Pu		Len	Bracing %			F'y	Phic Pn	Num	Num	Shear	Bear	Use		
		(kip)	Load Case	(ft)	X	Y	Z	KL/R	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	%	Controls
Max Compression Member																
LEG	SAE - 6X6X0.5	-17.35	1.2D + 1.6W 45	7.45	100	100	100	75.8	33.0	129.46	0	0	0.00	0.00	13	Member Z
HORIZ	DAL - 2.5X2X0.25	-4.84	1.2D + 1.6W 90	7.000	100	100	50	133.7	36.0	26.92	0	0	0.00	0.00	17	Member Y
DIAG	SAU - 3X2X0.25	-5.99	1.2D + 1.6W	10.22	50	50	50	136.0	36.0	14.52	0	0	0.00	0.00	41	Member Z
Max Tension Member		Pu		Fy	Fu	Phit Pn	Num	Num	Shear	Bear	Use					
		(kip)	Load Case	(ksi)	(ksi)	(kip)	Bolts	Holes	phiRnv	phiRn	(kip)	(kip)	%	Controls		
LEG	SAE - 6X6X0.5	4.56	1.2D + 1.6W 45	33	45	170.77	0	0	0.00	0.00	2			Member		
HORIZ	DAL - 2.5X2X0.25	1.68	1.2D + 1.6W 90	36	58	69.01	0	0	0.00	0.00	2			Member		
DIAG	SAU - 3X2X0.25	10.49	1.2D + 1.6W 45	36	58	38.56	0	0	0.00	0.00	27			Member		

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### Detailed Reactions

Load Case	Node	FX (kip)	FY (kip)	FZ (kip)	(-) = Uplift (+) = Down
1.2D + 1.6W Normal	1	-9.40	83.63	-16.45	
	1a	6.62	-58.71	-13.73	
	1b	-6.62	-58.71	-13.73	
	1c	9.40	83.63	-16.45	
1.2D + 1.6W 45 deg	1	-18.35	116.47	-18.37	
	1a	-6.70	12.40	-3.90	
	1b	-15.68	-91.57	-15.66	
	1c	-3.90	12.56	-6.69	
1.2D + 1.6W 90 deg	1	-16.44	83.52	-9.41	
	1a	-16.44	83.52	9.41	
	1b	-13.74	-58.59	-6.62	
	1c	-13.74	-58.59	6.62	
1.2D + 1.6W 135 deg	1	-6.70	12.40	3.90	
	1a	-18.35	116.47	18.37	
	1b	-3.90	12.56	6.69	
	1c	-15.68	-91.57	15.66	
1.2D + 1.6W 180 deg	1	6.62	-58.71	13.73	
	1a	-9.40	83.63	16.45	
	1b	9.40	83.63	16.45	
	1c	-6.62	-58.71	13.73	
1.2D + 1.6W 225 deg	1	15.68	-91.57	15.66	
	1a	3.90	12.56	6.69	
	1b	18.35	116.47	18.37	
	1c	6.70	12.40	3.90	
1.2D + 1.6W 270 deg	1	13.74	-58.59	6.62	
	1a	13.74	-58.59	-6.62	
	1b	16.44	83.52	9.41	
	1c	16.44	83.52	-9.41	
1.2D + 1.6W 315 deg	1	3.90	12.56	-6.69	
	1a	15.68	-91.57	-15.66	
	1b	6.70	12.40	-3.90	
	1c	18.35	116.47	-18.37	
0.9D + 1.6W Normal	1	-9.05	80.48	-16.10	
	1a	6.97	-61.79	-14.08	
	1b	-6.97	-61.79	-14.08	
	1c	9.05	80.48	-16.10	
0.9D + 1.6W 45 deg	1	-18.00	113.29	-18.02	
	1a	-6.35	9.28	-4.25	
	1b	-16.03	-94.63	-16.01	
	1c	-4.25	9.44	-6.34	
0.9D + 1.6W 90 deg	1	-16.09	80.36	-9.06	
	1a	-16.09	80.36	9.06	
	1b	-14.09	-61.67	-6.97	
	1c	-14.09	-61.67	6.97	
0.9D + 1.6W 135 deg	1	-6.35	9.28	4.25	
	1a	-18.00	113.29	18.02	
	1b	-4.25	9.44	6.34	
	1c	-16.03	-94.63	16.01	

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0.9D + 1.6W 180 deg	1	6.97	-61.79	14.08
	1a	-9.05	80.48	16.10
	1b	9.05	80.48	16.10
	1c	-6.97	-61.79	14.08
0.9D + 1.6W 225 deg	1	16.03	-94.63	16.01
	1a	4.25	9.44	6.34
	1b	18.00	113.29	18.02
	1c	6.35	9.28	4.25
0.9D + 1.6W 270 deg	1	14.09	-61.67	6.97
	1a	14.09	-61.67	-6.97
	1b	16.09	80.36	9.06
	1c	16.09	80.36	-9.06
0.9D + 1.6W 315 deg	1	4.25	9.44	-6.34
	1a	16.03	-94.63	-16.01
	1b	6.35	9.28	-4.25
	1c	18.00	113.29	-18.02
1.2D + 1.0Di + 1.0Wi Normal	1	-3.92	53.31	-5.50
	1a	-0.01	18.67	-1.54
	1b	0.01	18.67	-1.54
	1c	3.92	53.31	-5.50
1.2D + 1.0Di + 1.0Wi 45 deg	1	-5.98	61.19	-6.00
	1a	-3.14	35.98	0.81
	1b	-2.05	10.79	-2.04
	1c	0.79	36.00	-3.16
1.2D + 1.0Di + 1.0Wi 90 deg	1	-5.48	53.29	-3.94
	1a	-5.48	53.29	3.94
	1b	-1.56	18.68	0.03
	1c	-1.56	18.68	-0.03
1.2D + 1.0Di + 1.0Wi 135 deg	1	-3.14	35.98	-0.81
	1a	-5.98	61.19	6.00
	1b	0.79	36.00	3.16
	1c	-2.05	10.79	2.04
1.2D + 1.0Di + 1.0Wi 180 deg	1	-0.01	18.67	1.54
	1a	-3.92	53.31	5.50
	1b	3.92	53.31	5.50
	1c	0.01	18.67	1.54
1.2D + 1.0Di + 1.0Wi 225 deg	1	2.05	10.79	2.04
	1a	-0.79	36.00	3.16
	1b	5.98	61.19	6.00
	1c	3.14	35.98	-0.81
1.2D + 1.0Di + 1.0Wi 270 deg	1	1.56	18.68	-0.03
	1a	1.56	18.68	0.03
	1b	5.48	53.29	3.94
	1c	5.48	53.29	-3.94
1.2D + 1.0Di + 1.0Wi 315 deg	1	-0.79	36.00	-3.16
	1a	2.05	10.79	-2.04
	1b	3.14	35.98	0.81
	1c	5.98	61.19	-6.00
(1.2 + 0.2Sds) * DL + E Normal M1	1	-1.93	16.47	-2.30
	1a	-0.94	7.73	0.58
	1b	0.94	7.73	0.58
	1c	1.93	16.47	-2.30



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(1.2 + 0.2Sds) * DL + E Normal M2	1	-1.91	16.34	-2.22
	1a	-0.96	7.85	0.66
	1b	0.96	7.85	0.66
	1c	1.91	16.34	-2.22
(1.2 + 0.2Sds) * DL + E 45 deg M1	1	-2.39	18.28	-2.40
	1a	-1.69	12.10	1.19
	1b	0.48	5.91	0.49
	1c	1.18	12.10	-1.70
(1.2 + 0.2Sds) * DL + E 45 deg M2	1	-2.32	18.10	-2.33
	1a	-1.65	12.10	1.23
	1b	0.55	6.10	0.55
	1c	1.22	12.10	-1.65
(1.2 + 0.2Sds) * DL + E 90 deg M1	1	-2.29	16.47	-1.94
	1a	-2.29	16.47	1.94
	1b	0.58	7.73	0.95
	1c	0.58	7.73	-0.95
(1.2 + 0.2Sds) * DL + E 90 deg M2	1	-2.21	16.34	-1.92
	1a	-2.21	16.34	1.92
	1b	0.66	7.85	0.96
	1c	0.66	7.85	-0.96
(1.2 + 0.2Sds) * DL + E 135 deg M1	1	-1.69	12.10	-1.19
	1a	-2.39	18.28	2.40
	1b	1.18	12.10	1.70
	1c	0.48	5.91	-0.49
(1.2 + 0.2Sds) * DL + E 135 deg M2	1	-1.65	12.10	-1.23
	1a	-2.32	18.10	2.33
	1b	1.22	12.10	1.65
	1c	0.55	6.10	-0.55
(1.2 + 0.2Sds) * DL + E 180 deg M1	1	-0.94	7.73	-0.58
	1a	-1.93	16.47	2.30
	1b	1.93	16.47	2.30
	1c	0.94	7.73	-0.58
(1.2 + 0.2Sds) * DL + E 180 deg M2	1	-0.96	7.85	-0.66
	1a	-1.91	16.34	2.22
	1b	1.91	16.34	2.22
	1c	0.96	7.85	-0.66
(1.2 + 0.2Sds) * DL + E 225 deg M1	1	-0.48	5.91	-0.49
	1a	-1.18	12.10	1.70
	1b	2.39	18.28	2.40
	1c	1.69	12.10	-1.19
(1.2 + 0.2Sds) * DL + E 225 deg M2	1	-0.55	6.10	-0.55
	1a	-1.22	12.10	1.65
	1b	2.32	18.10	2.33
	1c	1.65	12.10	-1.23
(1.2 + 0.2Sds) * DL + E 270 deg M1	1	-0.58	7.73	-0.95
	1a	-0.58	7.73	0.95
	1b	2.29	16.47	1.94
	1c	2.29	16.47	-1.94
(1.2 + 0.2Sds) * DL + E 270 deg M2	1	-0.66	7.85	-0.96
	1a	-0.66	7.85	0.96
	1b	2.21	16.34	1.92
	1c	2.21	16.34	-1.92
(1.2 + 0.2Sds) * DL + E 315 deg M1	1	-1.18	12.10	-1.70

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	1a	-0.48	5.91	0.49
	1b	1.69	12.10	1.19
	1c	2.39	18.28	-2.40
(1.2 + 0.2Sds) * DL + E 315 deg M2	1	-1.22	12.10	-1.65
	1a	-0.55	6.10	0.55
	1b	1.65	12.10	1.23
	1c	2.32	18.10	-2.33
(0.9 - 0.2Sds) * DL + E Normal M1	1	-1.49	12.78	-1.86
	1a	-0.51	4.04	0.15
	1b	0.51	4.04	0.15
	1c	1.49	12.78	-1.86
(0.9 - 0.2Sds) * DL + E Normal M2	1	-1.48	12.65	-1.78
	1a	-0.52	4.17	0.22
	1b	0.52	4.17	0.22
	1c	1.48	12.65	-1.78
(0.9 - 0.2Sds) * DL + E 45 deg M1	1	-1.95	14.59	-1.96
	1a	-1.26	8.41	0.75
	1b	0.04	2.23	0.05
	1c	0.74	8.41	-1.26
(0.9 - 0.2Sds) * DL + E 45 deg M2	1	-1.89	14.41	-1.89
	1a	-1.21	8.42	0.79
	1b	0.11	2.42	0.11
	1c	0.79	8.41	-1.21
(0.9 - 0.2Sds) * DL + E 90 deg M1	1	-1.86	12.78	-1.50
	1a	-1.86	12.78	1.50
	1b	0.14	4.04	0.51
	1c	0.14	4.04	-0.51
(0.9 - 0.2Sds) * DL + E 90 deg M2	1	-1.78	12.65	-1.48
	1a	-1.78	12.65	1.48
	1b	0.22	4.17	0.52
	1c	0.22	4.17	-0.52
(0.9 - 0.2Sds) * DL + E 135 deg M1	1	-1.26	8.41	-0.75
	1a	-1.95	14.59	1.96
	1b	0.74	8.41	1.26
	1c	0.04	2.23	-0.05
(0.9 - 0.2Sds) * DL + E 135 deg M2	1	-1.21	8.42	-0.79
	1a	-1.89	14.41	1.89
	1b	0.79	8.41	1.21
	1c	0.11	2.42	-0.11
(0.9 - 0.2Sds) * DL + E 180 deg M1	1	-0.51	4.04	-0.15
	1a	-1.49	12.78	1.86
	1b	1.49	12.78	1.86
	1c	0.51	4.04	-0.15
(0.9 - 0.2Sds) * DL + E 180 deg M2	1	-0.52	4.17	-0.22
	1a	-1.48	12.65	1.78
	1b	1.48	12.65	1.78
	1c	0.52	4.17	-0.22
(0.9 - 0.2Sds) * DL + E 225 deg M1	1	-0.04	2.23	-0.05
	1a	-0.74	8.41	1.26
	1b	1.95	14.59	1.96
	1c	1.26	8.41	-0.75
(0.9 - 0.2Sds) * DL + E 225 deg M2	1	-0.11	2.42	-0.11
	1a	-0.79	8.41	1.21

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	1b	1.89	14.41	1.89
	1c	1.21	8.42	-0.79
(0.9 - 0.2Sds) * DL + E 270 deg M1	1	-0.14	4.04	-0.51
	1a	-0.14	4.04	0.51
	1b	1.86	12.78	1.50
	1c	1.86	12.78	-1.50
(0.9 - 0.2Sds) * DL + E 270 deg M2	1	-0.22	4.17	-0.52
	1a	-0.22	4.17	0.52
	1b	1.78	12.65	1.48
	1c	1.78	12.65	-1.48
(0.9 - 0.2Sds) * DL + E 315 deg M1	1	-0.74	8.41	-1.26
	1a	-0.04	2.23	0.05
	1b	1.26	8.41	0.75
	1c	1.95	14.59	-1.96
(0.9 - 0.2Sds) * DL + E 315 deg M2	1	-0.79	8.41	-1.21
	1a	-0.11	2.42	0.11
	1b	1.21	8.42	0.79
	1c	1.89	14.41	-1.89
1.0D + 1.0W Service Normal	1	-3.24	28.90	-5.09
	1a	0.92	-8.13	-2.76
	1b	-0.92	-8.13	-2.76
	1c	3.24	28.90	-5.09
1.0D + 1.0W Service 45 deg	1	-5.58	37.44	-5.59
	1a	-2.54	10.37	-0.21
	1b	-3.27	-16.67	-3.26
	1c	-0.22	10.41	-2.54
1.0D + 1.0W Service 90 deg	1	-5.08	28.86	-3.25
	1a	-5.08	28.86	3.25
	1b	-2.77	-8.09	-0.92
	1c	-2.77	-8.09	0.92
1.0D + 1.0W Service 135 deg	1	-2.54	10.37	0.21
	1a	-5.58	37.44	5.59
	1b	-0.22	10.41	2.54
	1c	-3.27	-16.67	3.26
1.0D + 1.0W Service 180 deg	1	0.92	-8.13	2.76
	1a	-3.24	28.90	5.09
	1b	3.24	28.90	5.09
	1c	-0.92	-8.13	2.76
1.0D + 1.0W Service 225 deg	1	3.27	-16.67	3.26
	1a	0.22	10.41	2.54
	1b	5.58	37.44	5.59
	1c	2.54	10.37	0.21
1.0D + 1.0W Service 270 deg	1	2.77	-8.09	0.92
	1a	2.77	-8.09	-0.92
	1b	5.08	28.86	3.25
	1c	5.08	28.86	-3.25
1.0D + 1.0W Service 315 deg	1	0.22	10.41	-2.54
	1a	3.27	-16.67	-3.26
	1b	2.54	10.37	-0.21
	1c	5.58	37.44	-5.59

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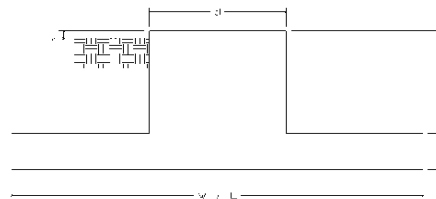
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Max Uplift:	94.63 (kip)	Moment Ice:	712.84 (kip-ft)	Moment:	2,942.07 (kip-ft)	1.2D + 1.6W 315 deg
Max Down:	116.47 (kip)	Total Down Ice:	143.96 (kip)	Total Down:	49.85 (kip)	
Max Shear:	25.97 (kip)	Total Shear Ice:	14.69 (kip)	Total Shear:	63.12 (kip)	

Site Name: Cornwall CT, CT  
 Site Number: 88009  
 Engineering Number: OAA687939\_C3\_04  
 Engineer: T. Melesse  
 Date: 12/15/16  
 Tower Type: SST w/4 Legs

Program Last Updated: 11/15/2012



**Design Loads (Factored) - Analysis per TIA-222-G Standards**

Design / Analysis / Mapping:	Mapping
Compression/Leg:	116.5 k
Uplift/Leg:	94.6 k
Total Shear:	63.1 k
Moment:	2942.1 k-ft
Tower + Appurtenance Weight:	49.9 k
Depth to Base of Foundation (l + t - h):	4.92 ft
Diameter of Pier (d):	4.00 ft
Height of Pier above Ground (h):	0.50
Width of Pad (W):	30.00 ft
Length of Pad (L):	30.00 ft
Thickness of Pad (t):	2.92 ft
Tower Leg Center to Center:	20.00 ft
Number of Tower Legs:	4.0 (1 if MP or GT)
Tower Center from Mat Center:	0.00 ft
Depth Below Ground Surface to Water Table:	99.00 ft
Unit Weight of Concrete:	150.0 pcf
Unit Weight of Soil Above Water Table:	125.0 pcf
Unit Weight of Water:	62.4 pcf
Unit Weight of Soil Below Water Table:	67.0 pcf
Friction Angle of Uplift:	35.0 Degrees
Ultimate Coefficient of Shear Friction:	0.30
Ultimate Compressive Bearing Pressure:	40000.0 psf
Ultimate Passive Pressure on Pad Face:	1914.0 psf
$\phi_{\text{Soil and Concrete Weight}}$ :	0.9
$\phi_{\text{Soil}}$ :	0.75

**Overturning Moment Usage**

Design OTM:	3284.0 k-ft
OTM Resistance:	9529.3 k-ft
Design OTM / OTM Resistance:	0.34 Result: OK

**Soil Bearing Pressure Usage**

Net Bearing Pressure:	1197 psf
Factored Nominal Bearing Pressure:	30000 psf
Net Bearing Pressure/Factored Nominal Bearing Pressure:	0.04 Result: OK
Load Direction Controlling Design Bearing Pressure:	Diagonal to Pad Edge

**Sliding Factor of Safety**

Total Factored Sliding Resistance:	263.0 k
Sliding Design / Sliding Resistance:	0.24 Result: OK

# Exhibit E

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

T-Mobile Existing Facility

Site ID: CTNH545A

ATC Mohawk Mtn  
36 Mohawk Mountain Road  
Litchfield, CT 06759

**November 8, 2016**

**EBI Project Number: 6216005119**

Site Compliance Summary	
Compliance Status:	<b>COMPLIANT</b>
Site total MPE% of FCC general public allowable limit:	<b>38.49 %</b>

November 8, 2016

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

Emissions Analysis for Site: **CTNH545A – ATC Mohawk Mtn**

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **36 Mohawk Mountain Road, Litchfield, CT**, 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 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ( $\mu\text{W}/\text{cm}^2$ ). The number of  $\mu\text{W}/\text{cm}^2$  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 public 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 public 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 ( $\mu\text{W}/\text{cm}^2$ ). The general population exposure limit for the 700 MHz Band is approximately 467  $\mu\text{W}/\text{cm}^2$ , and the general population exposure limit for the 1900 MHz (PCS) and 2100 MHz (AWS) bands is 1000  $\mu\text{W}/\text{cm}^2$ . 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 **36 Mohawk Mountain Road, Litchfield, CT**, 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 manufactures supplied specifications, minus 10 dB, 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) 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.
- 2) 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
- 3) 1 LTE channel (700 MHz Band) was considered for each sector of the proposed installation. This channel has a transmit power of 30 Watts.
- 4) 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.

- 5) 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 manufactures supplied specifications minus 10 dB 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.
- 6) The antennas used in this modeling are the **RFS APX16DWV-16DWVS-E-A20** for 1900 MHz (PCS) and 2100 MHz (AWS) channels and the **Commscope LNX-6515DS-VTM** for 700 MHz channels. This is based on feedback from the carrier with regards to anticipated antenna selection. The **RFS APX16DWV-16DWVS-E-A20** has a maximum gain of **16.3 dBd** at its main lobe at 1900 MHz and 2100 MHz. The **Commscope LNX-6515DS-VTM** has a maximum gain of **14.6 dBd** at its main lobe at 700 MHz. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, 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.
- 7) The antenna mounting height centerline of the proposed antennas is **56 feet** above ground level (AGL).
- 8) 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.
- 9) All calculations were done with respect to uncontrolled / general public threshold limits.

### T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	RFS APX16DWV-16DWVS-E-A20	Make / Model:	RFS APX16DWV-16DWVS-E-A20	Make / Model:	RFS APX16DWV-16DWVS-E-A20
Gain:	16.3 dBd	Gain:	16.3 dBd	Gain:	16.3 dBd
Height (AGL):	56	Height (AGL):	56	Height (AGL):	56
Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)	Frequency Bands	1900 MHz(PCS) / 2100 MHz (AWS)
Channel Count	4	Channel Count	4	Channel Count	4
Total TX Power(W):	180	Total TX Power(W):	180	Total TX Power(W):	180
ERP (W):	7,678.43	ERP (W):	7,678.43	ERP (W):	7,678.43
Antenna A1 MPE%	11.04	Antenna B1 MPE%	11.04	Antenna C1 MPE%	11.04
Antenna #:	2	Antenna #:	2	Antenna #:	2
Make / Model:	Commscope LNX-6515DS-VTM	Make / Model:	Commscope LNX-6515DS-VTM	Make / Model:	Commscope LNX-6515DS-VTM
Gain:	14.6 dBd	Gain:	14.6 dBd	Gain:	14.6 dBd
Height (AGL):	56	Height (AGL):	56	Height (AGL):	56
Frequency Bands	700 MHz	Frequency Bands	700 MHz	Frequency Bands	700 MHz
Channel Count	1	Channel Count	1	Channel Count	1
Total TX Power(W):	30	Total TX Power(W):	30	Total TX Power(W):	30
ERP (W):	865.21	ERP (W):	865.21	ERP (W):	865.21
Antenna A2 MPE%	2.66	Antenna B2 MPE%	2.66	Antenna C2 MPE%	2.66

Site Composite MPE%	
Carrier	MPE%
T-Mobile (Per Sector Max)	13.71 %
AT&T	9.24 %
Verizon Wireless	7.52 %
Sprint	6.88 %
Dept Homeland Security - ICE	1.14 %
<b>Site Total MPE %:</b>	<b>38.49 %</b>

T-Mobile Sector A Total:	13.71 %
T-Mobile Sector B Total:	13.71 %
T-Mobile Sector C Total:	13.71 %
<b>Site Total:</b>	<b>38.49 %</b>

T-Mobile_per sector	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ( $\mu\text{W}/\text{cm}^2$ )	Frequency (MHz)	Allowable MPE ( $\mu\text{W}/\text{cm}^2$ )	Calculated % MPE
T-Mobile PCS - 1950 MHz UMTS	2	1,279.74	56	36.81	PCS - 1950 MHz	1000	3.68%
T-Mobile AWS - 2100 MHz LTE	2	2,559.48	56	73.61	AWS - 2100 MHz	1000	7.36%
T-Mobile 700 MHz LTE	1	865.21	56	12.44	700 MHz	467	2.66%
						<b>Total:</b>	<b>13.71%</b>

## Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general public 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 public exposure to RF Emissions are shown here:

T-Mobile Sector	Power Density Value (%)
Sector A:	13.71 %
Sector B:	13.71 %
Sector C:	13.71 %
T-Mobile Per Sector Maximum:	13.71 %
Site Total:	38.49 %
Site Compliance Status:	<b>COMPLIANT</b>

The anticipated composite MPE value for this site assuming all carriers present is **38.49%** of the allowable FCC established general public 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 F



**AMERICAN TOWER®**  
CORPORATION

**LETTER OF AUTHORIZATION**

**ATC SITE # / NAME: 88009 / Cornwall CT**  
**SITE ADDRESS: Mohawk Mtn., Litchfield, CT**  
**LICENSEE: T-Mobile Northeast LLC d/b/a T-Mobile**

I, Margaret Robinson, Senior Counsel for American Tower\*, operator of the tower facility located at the address identified above (the "Tower Facility"), do hereby authorize **T-Mobile Northeast LLC d/b/a T-Mobile**, its successors and assigns, and/or its agent, (collectively, the "Licensee") to act as American Tower's non-exclusive agent for the sole purpose of filing and consummating any land-use or building permit application(s) as may be required by the applicable permitting authorities for Licensee's telecommunications' installation.

We understand that this application may be denied, modified or approved with conditions. The above authorization is limited to the acceptance by Licensee only of conditions related to Licensee's installation and any such conditions of approval or modifications will be Licensee's sole responsibility.

Signature:

Print Name: Margaret Robinson  
Senior Counsel  
American Tower\*

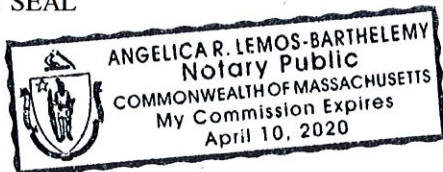
**NOTARY BLOCK**

Commonwealth of MASSACHUSETTS  
County of Middlesex

This instrument was acknowledged before me by Margaret Robinson, Senior Counsel for American Tower\*, personally known to me (or proved to me on the basis of satisfactory evidence) to be the person whose name is subscribed to the within instrument and acknowledged to me that he executed the same.

WITNESS my hand and official seal, this 9 day of November, 2016.

NOTARY SEAL



Notary Public   
My Commission Expires: April 10, 2020

\*American Tower includes all affiliates and subsidiaries of American Tower Corporation.