March 19, 2019

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

Re:	**Notice of Exempt Modification – Antenna / RRU Add**
Property Address:	**1338 Highland Avenue, Cheshire, CT 06410**
Applicant:	**AT&T Mobility, LLC**

Dear Ms. Bachman:

On behalf of AT&T, please accept this application as notification pursuant to R.C.S.A. §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. §16- 50j-72(b) (2).

AT&T currently maintains a wireless telecommunications facility consisting of nine (6) wireless telecommunication antennas at a center line height of 53 feet on an existing 78-foot 6-inch tall stealth silo owned by American Tower Corporation, 10 Presidential Way, Woburn, MA 01801. AT&T now intends to add (3) Kathrein 800-10966 8' Panel Antennas and (3) Ericsson RRUS-4415 B30 RRU's, replace (3) existing Ericsson RRUS-11 RRU's with (3) Ericsson Radio 4449 B5/B12 RRU's, and add (1) DC6-48-60-18-8F Squid with (1) new Fiber cable and (2) new DC cables, all at the existing centerline of 53 feet.

Attached is a summary of the planned modifications including power density calculations reflecting the change in AT&T's operations at the site. Also included is documentation of the structural sufficiency of the tower to accommodate the revised antenna configuration.

Please accept this letter pursuant to Regulation of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-5I0j-72(b) (2). In accordance with R.C.S.A., a copy of this letter is being sent to:

Sean M. Kimball – Town Manager: 84 S. Main St, Cheshire, CT 06410 / 203-271-6660
William S. Voelker, AICP – Town Planner: 84 S. Main St, Cheshire, CT 06410 / 203-271-6670
MUDDDM LLC -- Property Owner: 1338 Highland Ave., Cheshire, CT 06410
American Tower Corporation – Structure Owner: 10 Presidential Way, Woburn, MA 01801

The following is a list of subsequent decisions by the Connecticut Siting Council:

- PETITION NO. 1212 - Town of Cheshire petition for a declaratory ruling for the Connecticut Siting Council to assume jurisdiction over an un-certificated telecommunications facility located at 1338 Highland Avenue, Cheshire, Connecticut. Record. Staff Report and Decision. Approved 01/07/16.
- EM-AT&T-025-160923 - AT&T notice of intent to modify an existing telecommunications facility located at 1338 Highland Avenue, Cheshire, Connecticut. Decision. Compliance Cond. #1.

The planned modifications to AT&T's facility fall squarely within those activities explicitly provided for in R.C.S.A. §16-50j-72(b) (2).

1. The proposed modifications will not result in an increase in the height of the existing tower. AT&T's additional antennas will be installed at the 53-foot level of the 78-foot 6-inch tall stealth silo.
2. The proposed modifications will involve changes to ground-mounted equipment, however these changes will not require an extension of the site boundary.
3. The proposed modifications will not increase the noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the modified facility will not increase radio frequency (RF) emissions at the facility to a level at or above the Federal Communications Commission (FCC) safety standard. A cumulative worst-case RF emissions calculation for AT&T's modified facility is provided in the RF Emissions Compliance Report, included in Tab 2.
5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The stealth silo and its foundation can support AT&T's proposed modifications. (See Structural Analysis Report included in Tab 3).

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

Sincerely,

Ryan Burgdorfer

CC w/enclosures:

Sean M. Kimball – Town Manager: 84 S. Main St, Cheshire, CT 06410 / 203-271-6660
William S. Voelker, AICP – Town Planner: 84 S. Main St, Cheshire, CT 06410 / 203-271-6670
MUDDDM LLC -- Property Owner: 1338 Highland Ave., Cheshire, CT 06410
American Tower Corporation – Structure Owner: 10 Presidential Way, Woburn, MA 01801

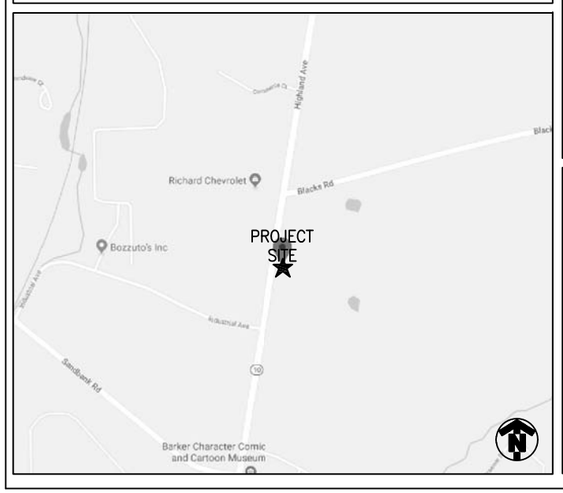
SHEET INDEX

DRIVING DIRECTIONS

FROM 550 COCHITUATE RD.:

GET ON I-90 WEST/MASSACHUSETTS TURNPIKE FROM SPEEN STREET. HEAD NORTHEAST TOWARD SPEEN STREET. TURN RIGHT TOWARD SPEEN STREET. TURN RIGHT ONTO SPEEN STREET. TURN RIGHT ONTO COCHITUATE ROAD. USE THE RIGHT LANE TO TAKE THE RAMP TO I-90/MASSPIKE/SPRINGFIELD/BOSTON. KEEP LEFT AT THE FORK, FOLLOW SIGNS FOR I-90 WEST/MASSACHUSETTS TURNPIKE/WORCESTER/SPRINGFIELD AND MERGE ONTO I-90 WEST/MASSACHUSETTS TURNPIKE. FOLLOW I-90 WEST/MASSACHUSETTS TURNPIKE AND I-84 TO CT-10 SOUTH IN SOUTHINGTON. TAKE EXIT 29 FROM I-84. MERGE ONTO I-90 WEST/MASSACHUSETTS TURNPIKE. USE THE RIGHT 2 LANES TO TAKE EXIT 9 FOR I-84 TOWARD US-20/HARTFORD/NEW YORK CITY. CONTINUE ONTO I-84. CONTINUE STRAIGHT TO STAY ON I-84 (SIGNS FOR I-91 NORTH/HARTFORD). USE THE LEFT LANE TO TAKE EXIT 29 FOR CT-10 TOWARD MILLDALE. TURN RIGHT ONTO CT-10 SOUTH.

LOCATION MAP



at&t

PROJECT

LTE 3C/4C/RETROFIT

SITE NAME

CHESIRE - TOWER FARMS

CELL SITE ID

CTL02038

FA SITE NUMBER

10035232

PACE ID

MCTB035094/MRCTB035146/MRCTB035321

SITE ADDRESS

1338 HIGHLAND AVENUE
CHESHIRE, CT 06410

STRUCTURE TYPE

STEALTH SILO

PROJECT TEAM

smartlink

PROJECT MANAGER

INFINIGY

1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793

ENGINEER

SCOPE OF WORK (PER LTE RFDS, DATED: 12/26/2018, V2.00):

- HANDICAP ACCESS REQUIREMENTS ARE NOT REQUIRED.
- FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION.
- FACILITY HAS NO PLUMBING OR REFRIGERANTS.
- THIS FACILITY SHALL MEET OR EXCEED ALL FAA AND FCC REGULATORY REQUIREMENTS.
- ALL NEW MATERIAL SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR UNLESS NOTED OTHERWISE. EQUIPMENT, ANTENNAS/RRU AND CABLES FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR.

TOWER SCOPE

- INSTALL (3) PANEL ANTENNAS
- REMOVE (3) RRUS-11
- INSTALL (3) B5/B12 4449
- INSTALL (3) 4415 B30
- INSTALL (1) DC/FIBER SQUID W/ (1) FIBER AND (2) DC CABLES

GROUND SCOPE

- ADD (2) 6630
- REMOVE EXISTING BBU AND XMU
- INSTALL FIBER TRAY
- INSTALL (12) TELCO FLEX

PROJECT SUMMARY

SITE NAME:	CHESIRE – TOWER FARMS	
CELL SITE ID:	CTL02038	
FA SITE #:	10035232	
SITE ADDRESS:	1338 HIGHLAND AVENUE CHESHIRE, CT 06410	
COUNTY:	NEW HAVEN	
SITE COORDINATES: LATITUDE:	41.5368811° N	(NAD 83)
LONGITUDE:	72.8933050° W	(NAD 83)
ELEVATION:	±277'	(AMSL)
RAD CENTER	±53'	(AGL)
LANDLORD:	AMERICAN TOWER CORPORATION	
APPLICANT:	AT&T MOBILITY 550 COCHITUATE RD. FRAMINGHAM, MA 01701	
CLIENT REPRESENTATIVE:	SMARTLINK, LLC 85 RANGEWAY RD. SUITE 102 NORTH BILLERICA, MA 01862	
CONTACT:	ED WEISSMAN (917) 528-1857	
ENGINEER:	INFINIGY 1033 WATERVLIET SHAKER ROAD ALBANY, NY 12205	
CONTACT:	ALEX WELLER (518) 690-0790	
BUILDING CODE:	CT BUILDING CODE UNIFORM BUILDING CODE BUILDING OFFICIALS & CODE ADMINISTRATORS UNIFORM MECHANICAL CODE UNIFORM PLUMBING CODE LOCAL BUILDING CODE CITY/COUNTY ORDINANCES	
ELECTRICAL CODE:	NATIONAL ELECTRICAL CODE (LATEST EDITION)	

811 Know what's below. Call before you dig.

TO OBTAIN LOCATION OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN CONNECTICUT, CONTACT CALL BEFORE YOU DIG
TOLL FREE: 1-800-922-4455 OR www.cbyd.com
CONNECTICUT STATUTE REQUIRES MIN OF 2 WORKING DAYS NOTICE BEFORE YOU EXCAVATE

INFINIGY
INFINIGY ENGINEERING, PLLC
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793

at&t

STATE OF CONNECTICUT
JOHN S. STEVENS
02/19/2019
24765
LICENSED PROFESSIONAL ENGINEER

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF APPLICABLE STATE AND/OR LOCAL LAWS

No.	Submittal / Revision	App'd	Date
2	REVISED FOR PERMIT	BMM	02/19/19
1	ISSUED FOR PERMIT	BMM	01/23/19
0	ISSUED FOR REVIEW	BMM	01/09/19

Drawn: BMM Date: 01/09/19
Designed: ASW Date: 01/09/19
Checked: AJD Date: 01/09/19

Project Number: 1106-A0001-C

Project Title:
CHESIRE-
TOWER FARMS
CTL02038
FA# 10035232
1338 HIGHLAND AVENUE
CHESIRE, CT 06410

Prepared For: smartlink

Drawing Scale: AS NOTED
Date: 02/19/19

CD

Drawing Title
TITLE PAGE

Drawing Number
T1

GENERAL NOTES

PART 1 – GENERAL REQUIREMENTS

1.1 THE WORK SHALL COMPLY WITH APPLICABLE NATIONAL CODES AND STANDARDS, LATEST EDITION, AND PORTIONS THEREOF, INCLUDED BUT NOT LIMITED TO THE FOLLOWING:
A. GR-63-CORE NEBS REQUIREMENTS: PHYSICAL PROTECTION
B. GR-78-CORE GENERIC REQUIREMENTS FOR THE PHYSICAL DESIGN AND MANUFACTURE OF TELECOMMUNICATIONS EQUIPMENT.
C. NATIONAL FIRE PROTECTION ASSOCIATION CODES AND STANDARDS (NFPA) INCLUDING NFPA 70 (NATIONAL ELECTRICAL CODE – "NEC").
D. AND NFPA 101 (LIFE SAFETY CODE).
E. AMERICAN SOCIETY FOR TESTING OF MATERIALS (ASTM).
F. INSTITUTE OF ELECTRONIC AND ELECTRICAL ENGINEERS (IEEE).

1.2 DEFINITIONS:
A: WORK: THE SUM OF TASKS AND RESPONSIBILITIES IDENTIFIED IN THE CONTRACT DOCUMENTS.
B: COMPANY: AT&T CORPORATION
C. ENGINEER: SYNONYMOUS WITH ARCHITECT & ENGINEER AND "A&E". THE DESIGN PROFESSIONAL HAVING PROFESSIONAL RESPONSIBILITY FOR DESIGN OF THE PROJECT.
D: CONTRACTOR: CONSTRUCTION CONTRACTOR; CONSTRUCTION VENDOR; INDIVIDUAL OR ENTITY WHO AFTER EXECUTION OF A CONTRACT IS BOUND TO ACCOMPLISH THE WORK.
E: THIRD PARTY VENDOR OR AGENCY: A VENDOR OR AGENCY ENGAGED SEPARATELY BY THE COMPANY, A&E, OR CONTRACTOR TO PROVIDE MATERIALS OR TO ACCOMPLISH SPECIFIC TASKS RELATED TO BUT NOT INCLUDED IN THE WORK.

1.3 POINT OF CONTACT: COMMUNICATION BETWEEN THE COMPANY AND THE CONTRACTOR SHALL FLOW THROUGH THE SINGLE COMPANY SITE DEVELOPMENT SPECIALIST OR OTHER PROJECT COORDINATOR APPOINTED TO MANAGE THE PROJECT FOR THE COMPANY.

1.4 ON-SITE SUPERVISION: THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL EMPLOY A COMPETENT SUPERINTENDENT WHO SHALL BE IN ATTENDANCE AT THE SITE AT ALL TIMES DURING PERFORMANCE OF THE WORK.

1.5 DRAWINGS, SPECIFICATIONS AND DETAILS REQUIRED AT JOBSITE: THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN A FULL SET OF THE CONSTRUCTION DRAWINGS, STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES, AND THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES AT THE JOBSITE FROM MOBILIZATION THROUGH CONSTRUCTION COMPLETION.
A. THE JOBSITE DRAWINGS, SPECIFICATIONS AND DETAILS SHALL BE CLEARLY MARKED DAILY IN PENCIL WITH ANY CHANGES IN CONSTRUCTION OVER WHAT IS DEPICTED IN THE DOCUMENTS. AT CONSTRUCTION COMPLETION, THIS JOBSITE MARKUP SET SHALL BE DELIVERED TO THE COMPANY OR COMPANY'S DESIGNATED REPRESENTATIVE TO BE FORWARDED TO THE COMPANY'S A&E VENDOR FOR PRODUCTION OF "AS-BUILT" DRAWINGS.

1.6 USE OF JOB SITE: THE CONTRACTOR SHALL CONFINE ALL CONSTRUCTION AND RELATED OPERATIONS INCLUDING STAGING AND STORAGE OF MATERIALS AND EQUIPMENT, PARKING, TEMPORARY FACILITIES, AND WASTE STORAGE TO THE LEASE PARCEL UNLESS OTHERWISE PERMITTED BY THE CONTRACT DOCUMENTS.

1.7 NOTICE TO PROCEED:
A. NO WORK SHALL COMMENCE PRIOR TO COMPANY'S WRITTEN NOTICE TO PROCEED.
B. UPON RECEIVING NOTICE TO PROCEED, CONTRACTOR SHALL FULLY PERFORM ALL WORK NECESSARY TO PROVIDE AT&T WITH AN OPERATIONAL WIRELESS FACILITY.

PART 2 – EXECUTION

2.1 TEMPORARY UTILITIES AND FACILITIES: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY UTILITIES AND FACILITIES NECESSARY EXCEPT AS OTHERWISE INDICATED IN THE CONSTRUCTION DOCUMENTS. TEMPORARY UTILITIES AND FACILITIES INCLUDE, POTABLE WATER, HEAT, HVAC, ELECTRICITY, SANITARY FACILITIES, WASTE DISPOSAL FACILITIES, AND TELEPHONE/COMMUNICATION SERVICES. PROVIDE TEMPORARY UTILITIES AND FACILITIES IN ACCORDANCE WITH OSHA AND THE AUTHORITY HAVING JURISDICTION. CONTRACTOR MAY UTILIZE THE COMPANY ELECTRICAL SERVICE IN THE COMPLETION OF THE WORK WHEN IT BECOMES AVAILABLE. USE OF THE LESSORS OR SITE OWNER'S UTILITIES OR FACILITIES IS EXPRESSLY FORBIDDEN EXCEPT AS OTHERWISE ALLOWED IN THE CONTRACT DOCUMENTS.

2.2 ACCESS TO WORK: THE CONTRACTOR SHALL PROVIDE ACCESS TO THE JOB SITE FOR AUTHORIZED COMPANY PERSONNEL AND AUTHORIZED REPRESENTATIVES OF THE ARCHITECT/ENGINEER DURING ALL PHASES OF THE WORK.

2.3 TESTING: REQUIREMENTS FOR TESTING BY THIS CONTRACTOR SHALL BE AS INDICATED HEREWITH, ON THE CONSTRUCTION DRAWINGS, AND IN THE INDIVIDUAL SECTIONS OF THESE SPECIFICATIONS. SHOULD COMPANY CHOOSE TO ENGAGE ANY THIRD-PARTY TO CONDUCT ADDITIONAL TESTING, THE CONTRACTOR SHALL COOPERATE WITH AND PROVIDE A WORK AREA FOR COMPANY'S TEST AGENCY.

2.4 COMPANY FURNISHED MATERIAL AND EQUIPMENT: ALL HANDLING, STORAGE AND INSTALLATION OF COMPANY FURNISHED MATERIAL AND EQUIPMENT SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND WITH THE MANUFACTURER'S INSTRUCTIONS AND RECOMMENDATIONS.
A. CONTRACTOR SHALL PROCURE ALL OTHER REQUIRED WORK RELATED MATERIALS NOT PROVIDED BY AT&T TO SUCCESSFULLY CONSTRUCT A WIRELESS FACILITY.

2.5 DIMENSIONS: VERIFY DIMENSIONS INDICATED ON DRAWINGS WITH FIELD DIMENSIONS BEFORE FABRICATION OR ORDERING OF MATERIALS. DO NOT SCALE DRAWINGS.

2.6 EXISTING CONDITIONS: NOTIFY THE COMPANY REPRESENTATIVE OF EXISTING CONDITIONS DIFFERING FROM THOSE INDICATED ON THE DRAWINGS. DO NOT REMOVE OR ALTER STRUCTURAL COMPONENTS WITHOUT PRIOR WRITTEN APPROVAL FROM THE ARCHITECT AND ENGINEER.

PART 3 – RECEIPT OF MATERIAL & EQUIPMENT

3.1 RECEIPT OF MATERIAL AND EQUIPMENT: CONTRACTOR IS RESPONSIBLE FOR AT&T PROVIDED MATERIAL AND EQUIPMENT AND UPON RECEIPT SHALL:
A. ACCEPT DELIVERIES AS SHIPPED AND TAKE RECEIPT.
B. VERIFY COMPLETENESS AND CONDITION OF ALL DELIVERIES.
C. TAKE RESPONSIBILITY FOR EQUIPMENT AND PROVIDE INSURANCE PROTECTION AS REQUIRED IN AGREEMENT.
D. RECORD ANY DEFECTS OR DAMAGES AND WITHIN TWENTY-FOUR HOURS AFTER RECEIPT, REPORT TO AT&T OR ITS DESIGNATED PROJECT REPRESENTATIVE OF SUCH.
E. PROVIDE SECURE AND NECESSARY WEATHER PROTECTED WAREHOUSING.
F. COORDINATE SAFE AND SECURE TRANSPORTATION OF MATERIAL AND EQUIPMENT, DELIVERING AND OFF-LOADING FROM CONTRACTOR'S WAREHOUSE TO SITE.

PART 4 – GENERAL REQUIREMENTS FOR CONSTRUCTION

4.1 CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH. AT THE COMPLETION OF THE WORK, CONTRACTOR SHALL REMOVE FROM THE SITE ALL REMAINING RUBBISH, IMPLEMENTS, TEMPORARY FACILITIES, AND SURPLUS MATERIALS.

4.2 EQUIPMENT ROOMS SHALL AT ALL TIMES BE MAINTAINED "BROOM CLEAN" AND CLEAR OF DEBRIS.

4.3 CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO DISCOVER AND LOCATE ANY HAZARDOUS CONDITION.
A. IN THE EVENT CONTRACTOR ENCOUNTERS ANY HAZARDOUS CONDITION WHICH HAS NOT BEEN ABATED OR OTHERWISE MITIGATED, CONTRACTOR AND ALL OTHER PERSONS SHALL IMMEDIATELY STOP WORK IN THE AFFECTED AREA AND NOTIFY COMPANY IN WRITING. THE WORK IN THE AFFECTED AREA SHALL NOT BE RESUMED EXCEPT BY WRITTEN NOTIFICATION BY COMPANY.
B. CONTRACTOR AGREES TO USE CARE WHILE ON THE SITE AND SHALL NOT TAKE ANY ACTION THAT WILL OR MAY RESULT IN OR CAUSE THE HAZARDOUS CONDITION TO BE FURTHER RELEASED IN THE ENVIRONMENT, OR TO FURTHER EXPOSE INDIVIDUALS TO THE HAZARD.

4.4 CONTRACTOR'S ACTIVITIES SHALL BE RESTRICTED TO THE PROJECT LIMITS. SHOULD AREAS OUTSIDE THE PROJECT LIMITS BE AFFECTED BY CONTRACTOR'S ACTIVITIES, CONTRACTOR SHALL IMMEDIATELY RETURN THEM TO ORIGINAL CONDITION.

4.5 CONDUCT TESTING AS REQUIRED HEREIN.

PART 5 – TESTS AND INSPECTIONS

5.1 TESTS AND INSPECTIONS:
A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTS, INSPECTIONS AND PROJECT DOCUMENTATION.

B. CONTRACTOR SHALL COORDINATE TEST AND INSPECTION SCHEDULES WITH COMPANY'S REPRESENTATIVE WHO MUST BE ON SITE TO WITNESS SUCH TESTS AND INSPECTIONS.

C. WHEN THE USE OF A THIRD PARTY INDEPENDENT TESTING AGENCY IS REQUIRED, THE AGENCY THAT IS SELECTED MUST PERFORM SUCH WORK ON A REGULAR BASIS IN THE STATE WHERE THE PROJECT IS LOCATED AND HAVE A THOROUGH UNDERSTANDING OF LOCAL AVAILABLE MATERIALS, INCLUDING THE SOIL, ROCK, AND GROUNDWATER CONDITIONS.

D. THE THIRD PARTY TESTING AGENCY IS TO BE FAMILIAR WITH THE APPLICABLE REQUIREMENTS FOR THE TESTS TO BE DONE, EQUIPMENT TO BE USED, AND ASSOCIATED HEALTH AND SAFETY ISSUES.

E. SITE RESISTANCE TO EARTH TESTING PER EXHIBIT: CELL SITE GROUNDING SYSTEM DESIGN.

F. ANTENNA AND COAX SWEEP TESTS PER EXHIBIT: ANTENNA TRANSMISSION LINE ACCEPTANCE STANDARDS.

G. ALL OTHER TESTS REQUIRED BY COMPANY OR JURISDICTION.

PART 6 – TRENCHING AND BACKFILLING

6.1 TRENCHING AND BACKFILLING: THE CONTRACTOR SHALL PERFORM ALL EXCAVATION OF EVERY DESCRIPTION AND OF WHATEVER SUBSTANCES ENCOUNTERED, TO THE DEPTHS INDICATED ON THE CONSTRUCTION DRAWINGS OR AS OTHERWISE SPECIFIED.

A. PROTECTION OF EXISTING UTILITIES: THE CONTRACTOR SHALL CHECK WITH THE LOCAL UTILITIES AND THE RESPECTIVE UTILITY LOCATOR COMPANIES PRIOR TO STARTING EXCAVATION OPERATIONS IN EACH RESPECTIVE AREA TO ASCERTAIN THE LOCATIONS OF KNOWN UTILITY LINES. THE LOCATIONS, NUMBER AND TYPES OF EXISTING UTILITY LINES DETAILED ON THE CONSTRUCTION DRAWINGS ARE APPROXIMATE AND DO NOT REPRESENT EXACT INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ALL LINES DAMAGED DURING EXCAVATION AND ALL ASSOCIATED OPERATIONS. ALL UTILITY LINES UNCOVERED DURING THE EXCAVATION OPERATIONS, SHALL BE PROTECTED FROM DAMAGE DURING EXCAVATION AND ASSOCIATED OPERATIONS. ALL REPAIRS SHALL BE APPROVED BY THE UTILITY COMPANY.

B. HAND DIGGING: UNLESS APPROVED IN WRITING OTHERWISE, ALL DIGGING WITHIN AN EXISTING CELL SITE COMPOUND IS TO BE DONE BY HAND.

C. DURING EXCAVATION, MATERIAL SUITABLE FOR BACKFILLING SHALL BE STOCKPILED IN AN ORDERLY MANNER A SUFFICIENT DISTANCE FROM THE BANKS OF THE TRENCH TO AVOID OVERLOADING AND TO PREVENT SLIDES OR CAVE-INS. ALL EXCAVATED MATERIALS NOT REQUIRED OR SUITABLE FOR BACKFILL SHALL BE REMOVED AND DISPOSED OF AT THE CONTRACTOR'S EXPENSE.

D. GRADING SHALL BE DONE AS MAY BE NECESSARY TO PREVENT SURFACE WATER FROM FLOWING INTO TRENCHES OR OTHER EXCAVATIONS, AND ANY WATER ACCUMULATING THEREIN SHALL BE REMOVED BY PUMPING OR BY OTHER APPROVED METHOD.

E. SHEETING AND SHORING SHALL BE DONE AS NECESSARY FOR THE PROTECTION OF THE WORK AND FOR THE SAFETY OF PERSONNEL. UNLESS OTHERWISE INDICATED, EXCAVATION SHALL BE BY OPEN CUT, EXCEPT THAT SHORT SECTIONS OF A TRENCH MAY BE TUNNELED IF, THE CONDUIT CAN BE SAFELY AND PROPERLY INSTALLED AND BACKFILL CAN BE PROPERLY TAMPED IN SUCH TUNNEL SECTIONS. EARTH EXCAVATION SHALL COMPRISE ALL MATERIALS AND SHALL INCLUDE CLAY, SILT, SAND, MUCK, GRAVEL, HARDPAN, LOOSE SHALE, AND LOOSE STONE.

F. TRENCHES SHALL BE OF NECESSARY WIDTH FOR THE PROPER LAYING OF THE CONDUIT OR CABLE, AND THE BANKS SHALL BE AS NEARLY VERTICAL AS PRACTICABLE. THE BOTTOM OF THE TRENCHES SHALL BE ACCURATELY GRADED TO PROVIDE UNIFORM BEARING AND SUPPORT FOR EACH SECTION OF THE CONDUIT OR CABLE ON UNDISTURBED SOIL AT EVERY POINT ALONG ITS ENTIRE LENGTH. EXCEPT WHERE ROCK IS ENCOUNTERED, CARE SHALL BE TAKEN NOT TO EXCAVATE BELOW THE DEPTHS INDICATED. WHERE ROCK EXCAVATIONS ARE NECESSARY, THE ROCK SHALL BE EXCAVATED TO A MINIMUM OVER DEPTH OF 6 INCHES BELOW THE TRENCH DEPTHS INDICATED ON THE CONSTRUCTION DRAWINGS OR SPECIFIED. OVER DEPTHS IN THE ROCK EXCAVATION AND UNAUTHORIZED OVER DEPTHS SHALL BE THOROUGHLY BACK FILLED AND TAMPED TO THE APPROPRIATE GRADE. WHENEVER WET OR OTHERWISE UNSTABLE SOIL THAT IS INCAPABLE OF PROPERLY SUPPORTING THE CONDUIT OR CABLE IS ENCOUNTERED IN THE BOTTOM OF THE TRENCH, SUCH SOLID SHALL BE REMOVED TO A MINIMUM OVER DEPTH OF 6 INCHES AND THE TRENCH BACKFILLED TO THE PROPER GRADE WITH EARTH OF OTHER SUITABLE MATERIAL, AS HEREINAFTER SPECIFIED.

G. BACKFILLING OF TRENCHES. TRENCHES SHALL NOT BE BACKFILLED UNTIL ALL SPECIFIED TESTS HAVE BEEN PERFORMED AND ACCEPTED. WHERE COMPACTED BACKFILL IS NOT INDICATED THE TRENCHES SHALL BE CAREFULLY BACKFILLED WITH SELECT MATERIAL SUCH AS EXCAVATED SOILS THAT ARE FREE OF ROOTS, SOD, RUBBISH OR STONES, DEPOSITED IN 6 INCH LAYERS AND THOROUGHLY AND CAREFULLY RAMMED UNTIL THE CONDUIT OR CABLE HAS A COVER OF NOT LESS THAN 1 FOOT. THE REMAINDER OF THE BACKFILL MATERIAL SHALL BE GRANULAR IN NATURE AND SHALL NOT CONTAIN ROOTS, SOD, RUBBING, OR STONES OF 2-1/2 INCH MAXIMUM DIMENSION. BACKFILL SHALL BE CAREFULLY PLACED IN THE TRENCH AND IN 1 FOOT LAYERS AND EACH LAYER TAMPED. SETTLING THE BACKFILL WITH WATER WILL BE PERMITTED. THE SURFACE SHALL BE GRADED TO A REASONABLE UNIFORMITY AND THE MOUNDING OVER THE TRENCHES LEFT IN A UNIFORM AND NEAT CONDITION.

SYMBOL	DESCRIPTION
	CIRCUIT BREAKER
	NON-FUSIBLE DISCONNECT SWITCH
F	FUSIBLE DISCONNECT SWITCH
	SURFACE MOUNTED PANEL BOARD
T	TRANSFORMER
M	KILOWATT HOUR METER
JB	JUNCTION BOX
PB	PULL BOX TO NEC/TELCO STANDARDS
----------	UNDERGROUND UTILITIES
●	EXOTHERMIC WELD CONNECTION
■	MECHANICAL CONNECTION
OR ⊗	GROUND ROD
OR ⊠	GROUND ROD WITH INSPECTION SLEEVE
	GROUND BAR
	120AC DUPLEX RECEPTACLE
G	GROUND CONDUCTOR
	DC POWER AND FIBER OPTIC TRUNK CABLES
	DC POWER CABLES
# / #	REPRESENTS DETAIL NUMBER / REF. DRAWING NUMBER

ABBREVIATIONS

CIGBE	COAX ISOLATED GROUND BAR EXTERNAL
MIGB	MASTER ISOLATED GROUND BAR
SST	SELF SUPPORTING TOWER
GPS	GLOBAL POSITIONING SYSTEM
TYP.	TYPICAL
DWG	DRAWING
BCW	BARE COPPER WIRE
BFG	BELOW FINISH GRADE
PVC	POLYVINYL CHLORIDE
CAB	CABINET
C	CONDUIT
SS	STAINLESS STEEL
G	GROUND
AWG	AMERICAN WIRE GAUGE
RGS	RIGID GALVANIZED STEEL
AHJ	AUTHORITY HAVING JURISDICTION
TTLNA	TOWER TOP LOW NOISE AMPLIFIER
UNO	UNLESS NOTED OTHERWISE
EMT	ELECTRICAL METALLIC TUBING
AGL	ABOVE GROUND LEVEL

INFINIGY
INFINIGY ENGINEERING, PLLC
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793

at&t

STATE OF CONNECTICUT
JOHN STEVENS
24705
02/19/2019
LICENSED PROFESSIONAL ENGINEER

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF APPLICABLE STATE AND/OR LOCAL LAWS

No.	Submittal / Revision	App'd	Date
2	REVISED FOR PERMIT	BMM	02/19/19
1	ISSUED FOR PERMIT	BMM	01/23/19
0	ISSUED FOR REVIEW	BMM	01/09/19

Drawn: BMM Date: 01/09/19
Designed: ASW Date: 01/09/19
Checked: AJD Date: 01/09/19

Project Number: 1106-A0001-C

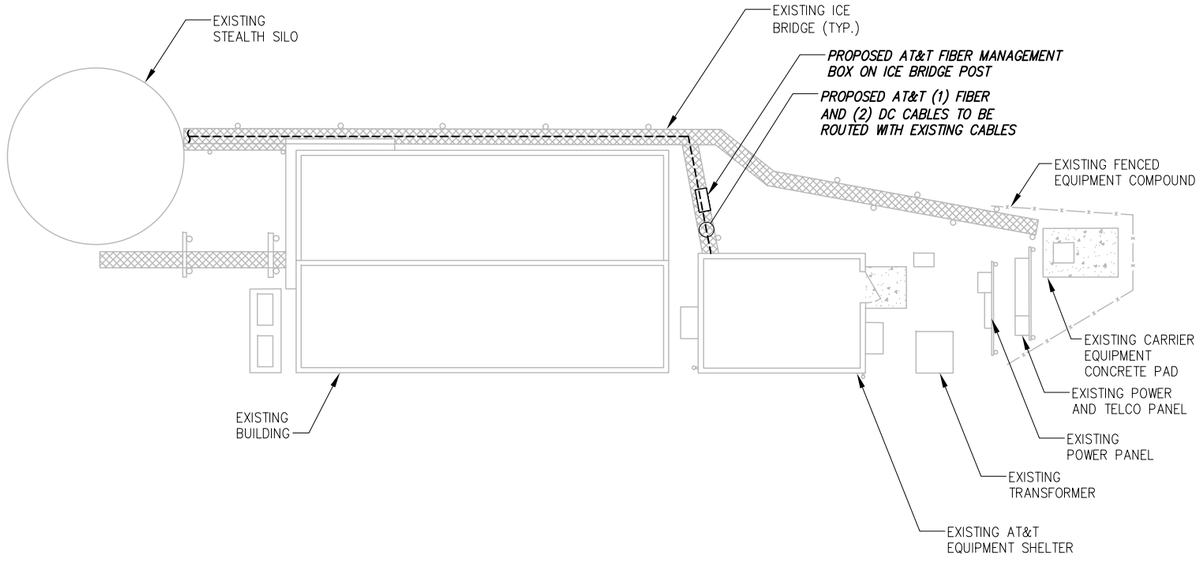
Project Title:
CHESIRE-
TOWER FARMS
CTL02038
FA# 10035232
1338 HIGHLAND AVENUE
CHESIRE, CT 06410

Prepared For: smartlink

Drawing Scale: AS NOTED
Date: 02/19/19
CD

Drawing Title
GENERAL NOTES

Drawing Number
C1

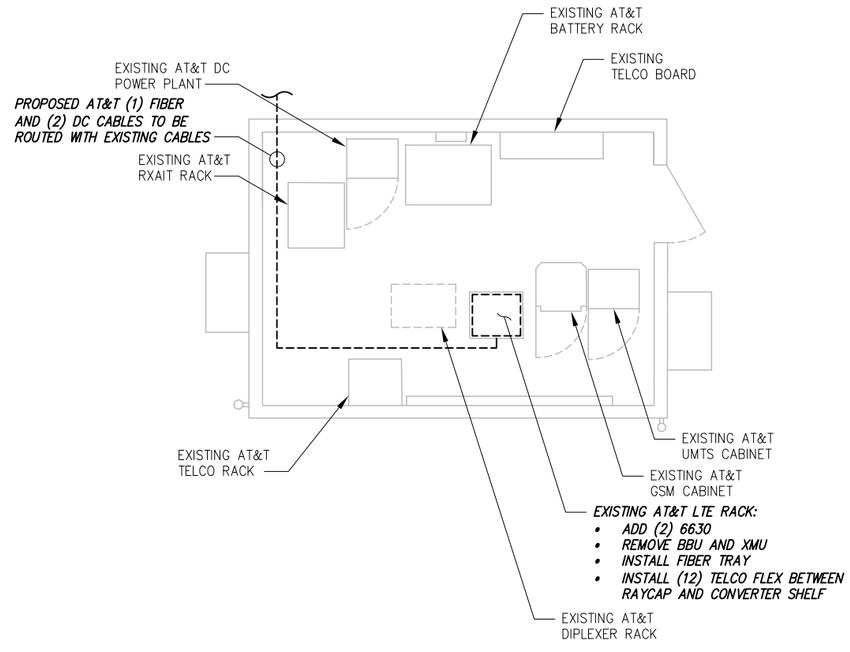


TRUE NORTH

1 SITE PLAN
SCALE: AS NOTED

GRAPHIC SCALE:
20' 10' 0 10' 20'
SCALE (11x17): 1" = 20'-0"
SCALE (22x34): 1" = 10'-0"

BASEMAPPING PREPARED FROM A SITE WALK PERFORMED BY INFINIGY ENGINEERING ON 11/26/18 AND PROVIDED INFORMATION, AND DOES NOT REPRESENT AN ACTUAL FIELD SURVEY.



TRUE NORTH

2 ENLARGED EQUIPMENT PLAN
SCALE: AS NOTED

GRAPHIC SCALE:
6' 3' 0 3' 6'
SCALE (11x17): 1" = 6'-0"
SCALE (22x34): 1" = 3'-0"

INFINIGY
INFINIGY ENGINEERING, PLLC
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793

at&t

STATE OF CONNECTICUT
JOHN S. STEVENS
24763
02/19/2019
LICENSED PROFESSIONAL ENGINEER

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF APPLICABLE STATE AND/OR LOCAL LAWS

No.	Submittal / Revision	App'd	Date
2	REVISED FOR PERMIT	BMM	02/19/19
1	ISSUED FOR PERMIT	BMM	01/23/19
0	ISSUED FOR REVIEW	BMM	01/09/19

Drawn: BMM Date: 01/09/19
Designed: ASW Date: 01/09/19
Checked: AJD Date: 01/09/19

Project Number:
1106-A0001-C

Project Title:
CHESIRE-
TOWER FARMS
CTL02038
FA# 10035232
1338 HIGHLAND AVENUE
CHESIRE, CT 06410

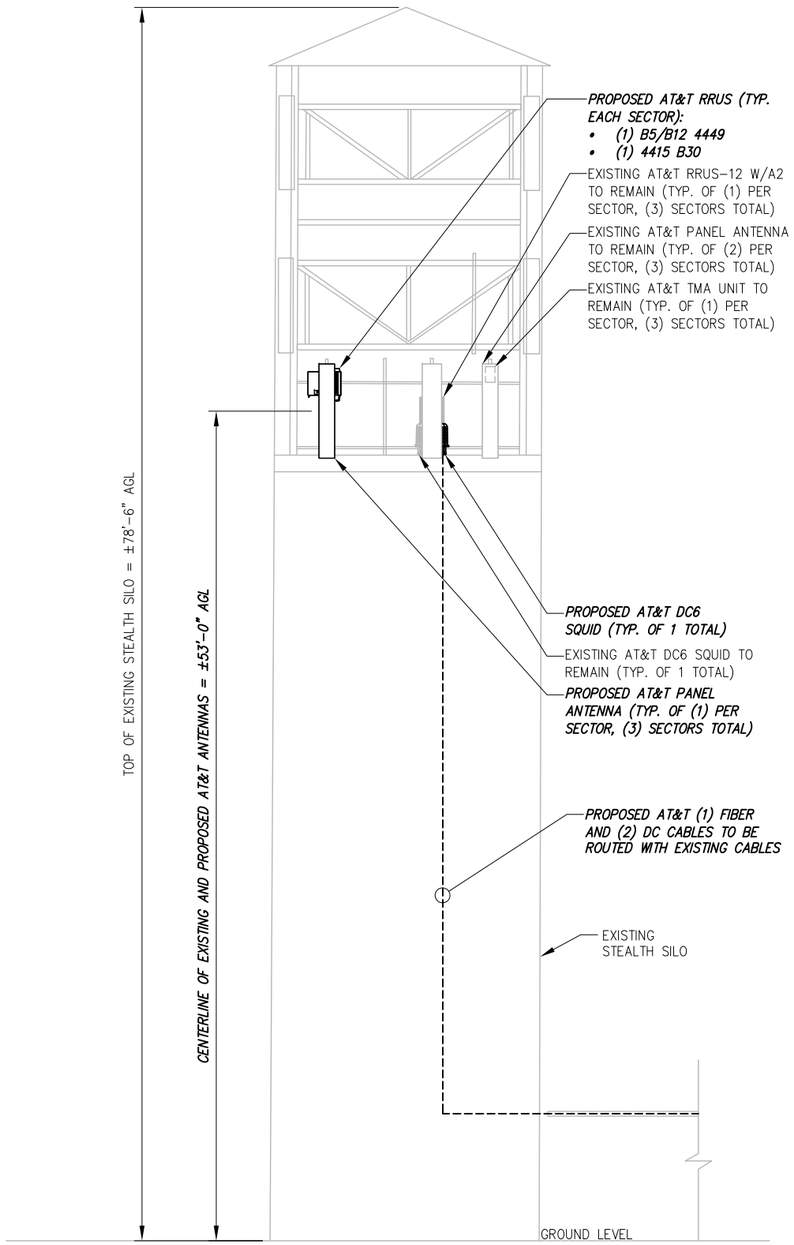
Prepared For:
smartlink

Drawing Scale:
AS NOTED
Date:
02/19/19

CD

Drawing Title
OVERALL & ENLARGED SITE PLAN

Drawing Number
C2



1 ELEVATION VIEW
NOT TO SCALE

NOTE:
- INFINIGY ENGINEERING HAS NOT EVALUATED THE TOWER LOADING FOR THIS SITE, AND ASSUMES NO RESPONSIBILITY FOR ITS STRUCTURAL INTEGRITY REGARDING ITS EXISTING OR PROPOSED LOADING. FINAL INSTALLATION TO COMPLY WITH RESULTS OF PASSING STRUCTURAL ANALYSIS.
- FOR ADDITIONAL STRUCTURAL INFORMATION PERTAINING TO THE ANTENNA MOUNT, SEE 'MOUNT ANALYSIS REPORT COMPLETED BY INFINIGY, DATED 01/07/19.

SEPARATION NOTE:
- 3 FEET MINIMUM SEPARATION BETWEEN LTE ANTENNA
- 6 FEET MINIMUM SEPARATION BETWEEN 700BC & 700 DE

FINAL ANTENNA CONFIGURATION & CABLE SCHEDULE BASED ON LTE RFDS DATED 12/26/18, V 2.00

SECTOR	ANTENNA POSITION	ANTENNA STATUS & TECHNOLOGY	ANTENNA MANF/MODEL	TMA/ DIPLEXER	RRUS	AZIMUTH	ANTENNA ℄ HEIGHT	CABLE FEEDER TYPE	CABLE FEEDER LENGTH	RAYCAP UNIT
ALPHA	A-1	(E) UMTS 850	KMW AM-X-CD-16-65-00T-RET	(1) (E) DTMABP7819VG12A	--	143°	±53'	(2) (E) 7/8" COAX	±125'	(1) (E) DC6 'SQUID' (1) (P) DC6 'SQUID'
	A-2	(E) LTE 1900	CCI HPA-65R-BUU-H6	--	(1) (E) RRUS-12 W/A2	23°	±53'	(1) (E) FIBER CABLE (2) (E) DC CABLES	--	
	A-3	--	--	--	--	--	--	--	--	
	A-4	*(P) LTE 700/850/WCS*	*KATHREIN 800-10966*	--	*(1) (P) B5/B12 4449* *(1) (P) 4415 B30*	*23°*	*±53'*	SEE A-2 FOR CABLE INFORMATION	--	
BETA	B-1	(E) UMTS 850	KMW AM-X-CD-16-65-00T-RET	(1) (E) DTMABP7819VG12A	--	263°	±53'	(2) (E) 7/8" COAX	±125'	
	B-2	(E) LTE 1900	CCI HPA-65R-BUU-H8	--	(1) (E) RRUS-12 W/A2	143°	±53'	*(1) (P) FIBER CABLE* *(2) (P) DC CABLES*	--	
	B-3	--	--	--	--	--	--	--	--	
	B-4	*(P) LTE 700/850/WCS*	*KATHREIN 800-10965*	--	*(1) (P) B5/B12 4449* *(1) (P) 4415 B30*	*143°*	*±53'*	SEE A-2 FOR CABLE INFORMATION	--	
GAMMA	G-1	(E) UMTS 850	KMW AM-X-CD-16-65-00T-RET	(1) (E) DTMABP7819VG12A	--	23°	±53'	(2) (E) 7/8" COAX	±125'	
	G-2	(E) LTE 1900	CCI HPA-65R-BUU-H6	--	(1) (E) RRUS-12 W/A2	263°	±53'	SEE A-2 FOR CABLE INFORMATION	--	
	G-3	--	--	--	--	--	--	--	--	
	G-4	*(P) LTE 700/850/WCS*	*KATHREIN 800-10966*	--	*(1) (P) B5/B12 4449* *(1) (P) 4415 B30*	*263°*	*±53'*	SEE A-2 FOR CABLE INFORMATION	--	

2 AT&T ANTENNA SCHEDULE
NOT TO SCALE

INFINIGY
INFINIGY ENGINEERING, PLLC
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793

at&t

STATE OF CONNECTION
JOHN S. STEVENS
02/19/2019
24705
LICENSED PROFESSIONAL ENGINEER

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF APPLICABLE STATE AND/OR LOCAL LAWS

No.	Submittal / Revision	App'd	Date
2	REVISED FOR PERMIT	BMM	02/19/19
1	ISSUED FOR PERMIT	BMM	01/23/19
0	ISSUED FOR REVIEW	BMM	01/09/19

Drawn: BMM Date: 01/09/19
Designed: ASW Date: 01/09/19
Checked: AJD Date: 01/09/19

Project Number: 1106-A0001-C

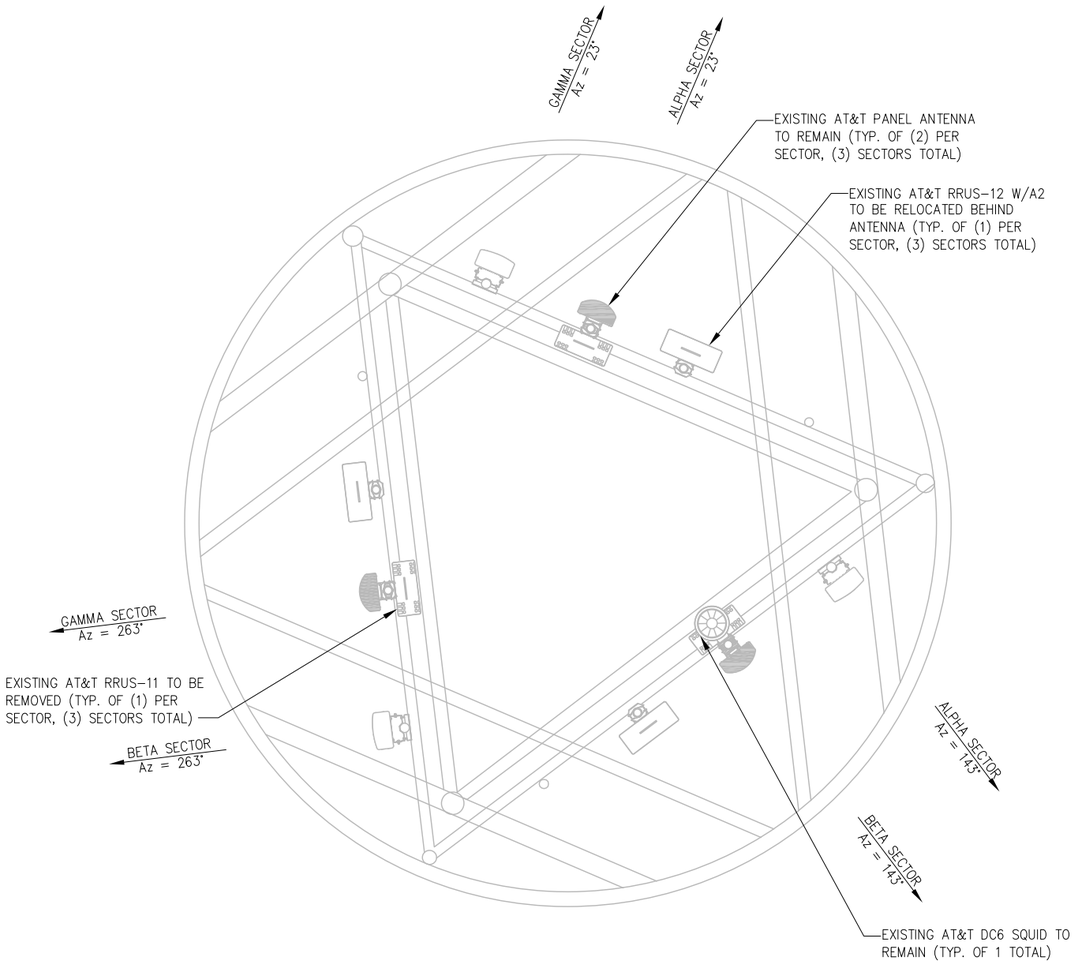
Project Title:
CHESIRE-
TOWER FARMS
CTL02038
FA# 10035232
1338 HIGHLAND AVENUE
CHESIRE, CT 06410

Prepared For: smartlink

Drawing Scale: AS NOTED
Date: 02/19/19
CD

Drawing Title
ELEVATION VIEW

Drawing Number
C3

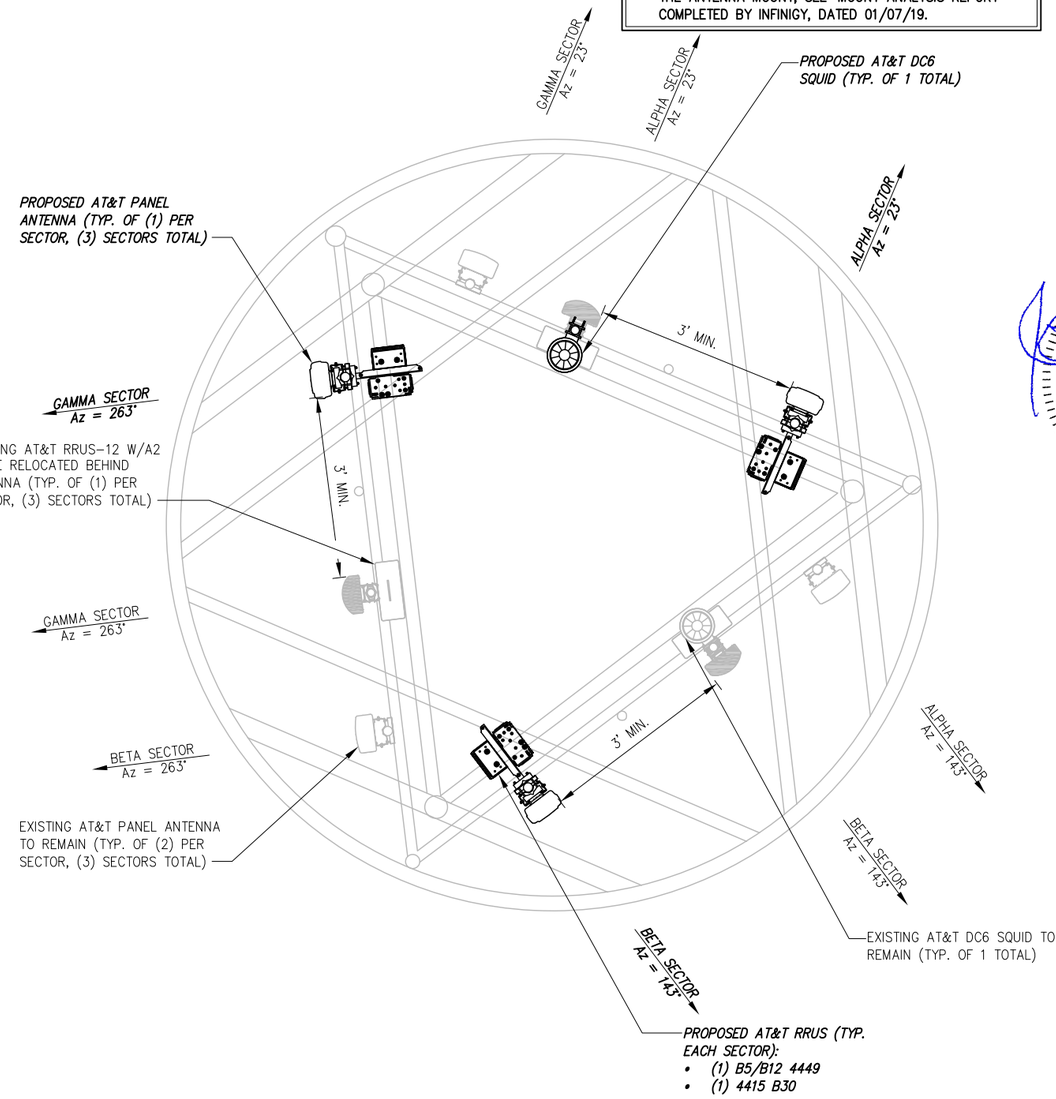


N
TRUE NORTH

1 ANTENNA ORIENTATION PLAN (EXISTING)
NOT TO SCALE

SEPARATION NOTE:
- 3 FEET MINIMUM SEPARATION BETWEEN LTE ANTENNA
- 6 FEET MINIMUM SEPARATION BETWEEN 700BC & 700 DE

NOTE:
- INFINIGY ENGINEERING HAS NOT EVALUATED THE TOWER LOADING FOR THIS SITE, AND ASSUMES NO RESPONSIBILITY FOR ITS STRUCTURAL INTEGRITY REGARDING ITS EXISTING OR PROPOSED LOADING. FINAL INSTALLATION TO COMPLY WITH RESULTS OF PASSING STRUCTURAL ANALYSIS.
- FOR ADDITIONAL STRUCTURAL INFORMATION PERTAINING TO THE ANTENNA MOUNT, SEE 'MOUNT ANALYSIS REPORT COMPLETED BY INFINIGY, DATED 01/07/19.



N
TRUE NORTH

2 PROPOSED ANTENNA ORIENTATION PLAN
NOT TO SCALE

INFINIGY
INFINIGY ENGINEERING, PLLC
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793

at&t

STATE OF CONNECTICUT
JOHN S. STEVENS
24765
02/19/2019
LICENSED PROFESSIONAL ENGINEER

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF APPLICABLE STATE AND/OR LOCAL LAWS

No.	Submittal / Revision	App'd	Date
2	REVISED FOR PERMIT	BMM	02/19/19
1	ISSUED FOR PERMIT	BMM	01/23/19
0	ISSUED FOR REVIEW	BMM	01/09/19

Drawn: BMM Date: 01/09/19
Designed: ASW Date: 01/09/19
Checked: AJD Date: 01/09/19

Project Number: 1106-A0001-C

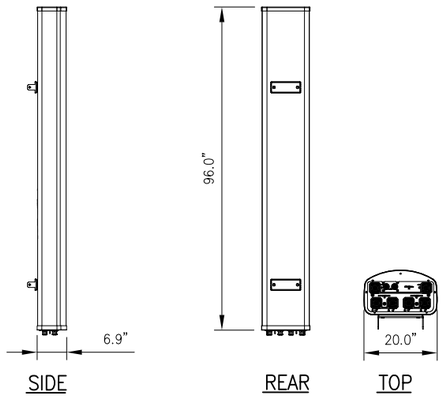
Project Title:
CHESIRE-
TOWER FARMS
CTL02038
FA# 10035232
1338 HIGHLAND AVENUE
CHESIRE, CT 06410

Prepared For: smartlink

Drawing Scale: AS NOTED
Date: 02/19/19
CD

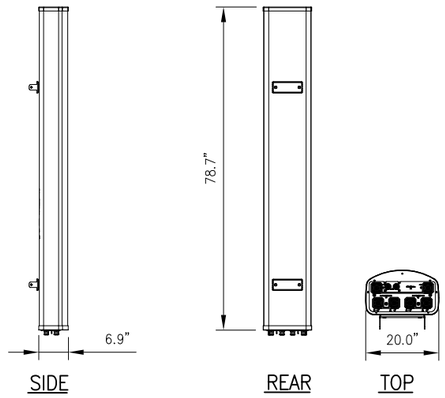
Drawing Title
ANTENNA ORIENTATION PLAN

Drawing Number
C4



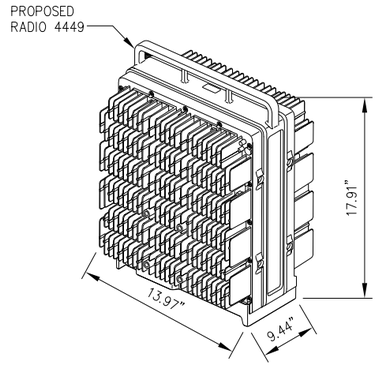
KATHREIN MODEL NO.:	800-10966
RADOME MATERIAL:	FIBERGLASS,
RADOME COLOR:	LIGHT GRAY
DIMENSIONS, HxWxD:	96.0"x20.0"x6.9"
WEIGHT, W/ PRE-MOUNTED BRACKETS:	114.6 LBS
CONNECTOR:	7-16 DIN FEMALE

1 ANTENNA DETAIL
NOT TO SCALE



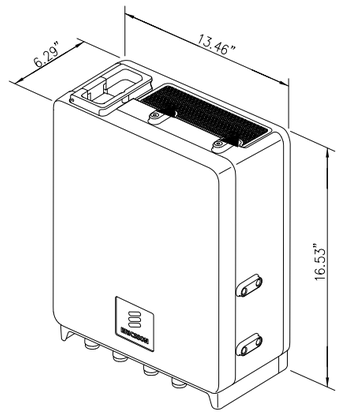
KATHREIN MODEL NO.:	800-10965
RADOME MATERIAL:	FIBERGLASS,
RADOME COLOR:	LIGHT GRAY
DIMENSIONS, HxWxD:	78.7"x20.0"x6.9"
WEIGHT, W/ PRE-MOUNTED BRACKETS:	108.6 LBS
CONNECTOR:	7-16 DIN FEMALE

2 ANTENNA DETAIL
NOT TO SCALE



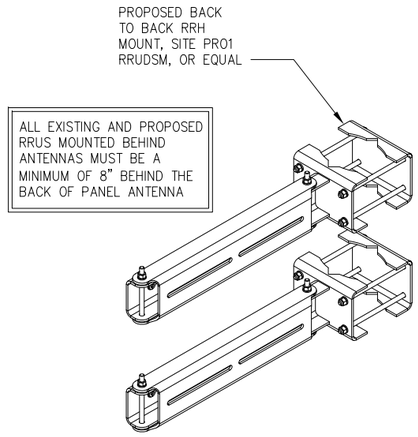
RADIO 4449 SPECIFICATIONS
- HxWxD, (INCHES) : 17.91"x13.97"x9.44"
- WEIGHT (LBS) : 70.54
- COLOR : GRAY

3 ERICSSON RADIO 4449 DETAIL
NOT TO SCALE

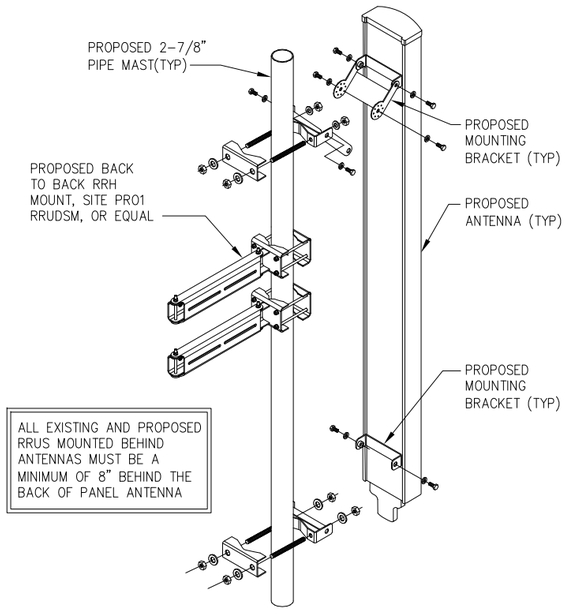


RADIO 4415 SPECIFICATIONS
- HxWxD, (INCHES): 16.53"x13.46"x6.29"
- WEIGHT (LBS): 47.4
- COLOR: NCS S 1002-B/NCS S 6502-B

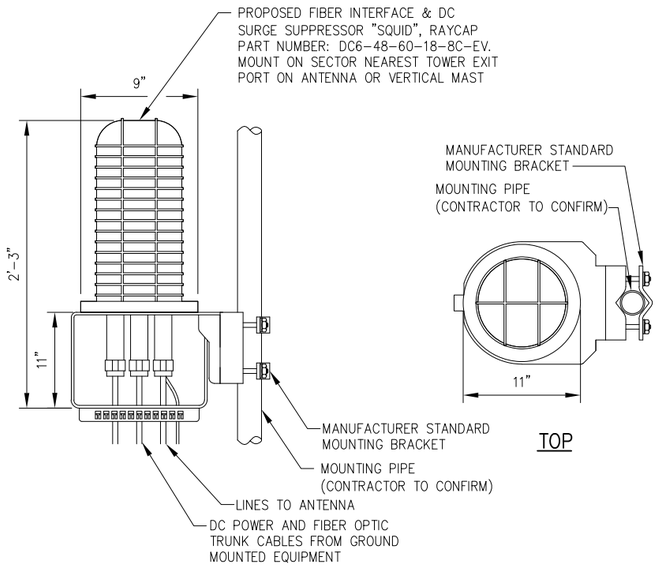
4 ERICSSON RADIO 4415 DETAIL
NOT TO SCALE



5 BACK TO BACK PIPE MOUNT DETAIL
NOT TO SCALE



6 MOUNTING DETAIL
NOT TO SCALE



7 SQUID DETAIL
NOT TO SCALE

INFINIGY ENGINEERING, PLLC
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793

at&t

STATE OF CONNECTICUT
JOHN S. STEVENS
02/19/2019
24705
LICENSED PROFESSIONAL ENGINEER

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF APPLICABLE STATE AND/OR LOCAL LAWS

No.	Submittal / Revision	App'd	Date
2	REVISED FOR PERMIT	BMM	02/19/19
1	ISSUED FOR PERMIT	BMM	01/23/19
0	ISSUED FOR REVIEW	BMM	01/09/19

Drawn: BMM Date: 01/09/19
Designed: ASW Date: 01/09/19
Checked: AJD Date: 01/09/19

Project Number: 1106-A0001-C

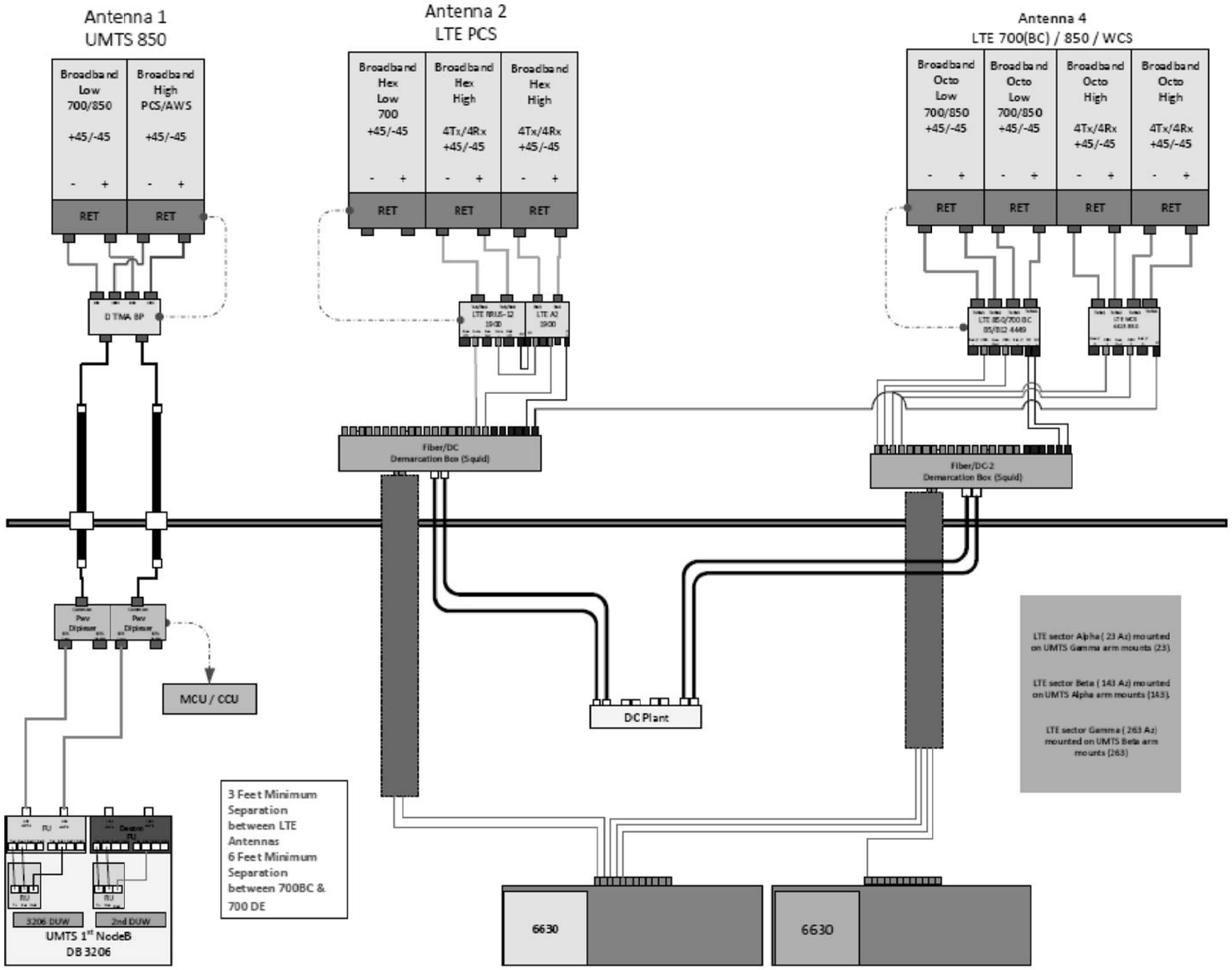
Project Title:
CHESIRE-
TOWER FARMS
CTL02038
FA# 10035232
1338 HIGHLAND AVENUE
CHESIRE, CT 06410

Prepared For: smartlink

Drawing Scale: AS NOTED
Date: 02/19/19
CD

Drawing Title
EQUIPMENT DETAILS

Drawing Number
C5



ALPHA/BETA/GAMMA

1 PLUMBING DIAGRAM (FINAL CONFIGURATION)
NOT TO SCALE

*BASED ON LTE RFDS, V. 2.0, DATED 12/26/18

INFINIGY
INFINIGY ENGINEERING, PLLC
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793

at&t

STATE OF CONNECTICUT
JOHN S. STEVENS
02/19/2019
24705
LICENSED PROFESSIONAL ENGINEER

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF APPLICABLE STATE AND/OR LOCAL LAWS

No.	Submittal / Revision	App'd	Date
2	REVISED FOR PERMIT	BMM	02/19/19
1	ISSUED FOR PERMIT	BMM	01/23/19
0	ISSUED FOR REVIEW	BMM	01/09/19

Drawn: BMM Date: 01/09/19
Designed: ASW Date: 01/09/19
Checked: AJD Date: 01/09/19

Project Number: 1106-A0001-C

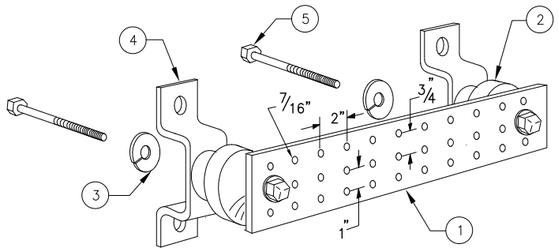
Project Title:
CHESIRE-
TOWER FARMS
CTL02038
FA# 10035232
1338 HIGHLAND AVENUE
CHESIRE, CT 06410

Prepared For: smartlink

Drawing Scale: AS NOTED
Date: 02/19/19
CD

Drawing Title
PLUMBING DIAGRAM

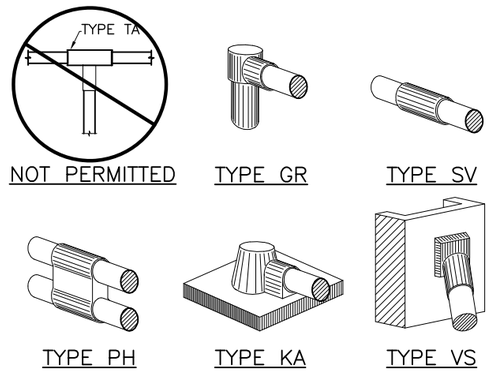
Drawing Number
C6



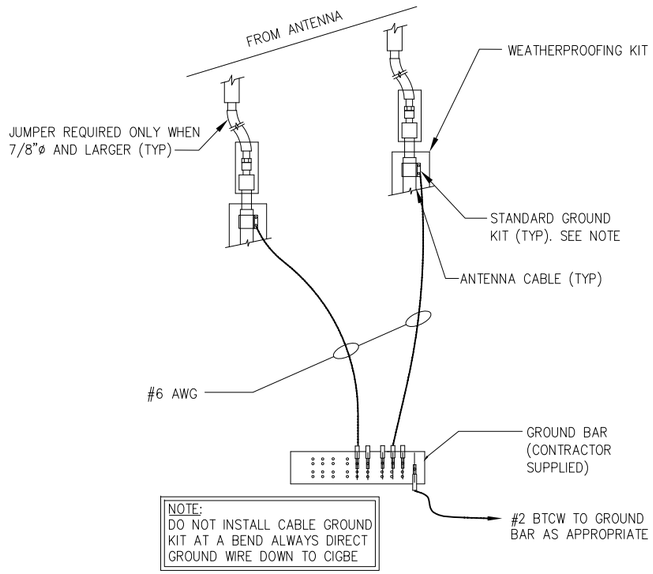
LEGEND

1 – SOLID TINNED COPPER GROUND BAR, 1/4"x 4"x 20" MIN., NEWTON INSTRUMENT CO. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION
2 – INSULATORS, NEWTON INSTRUMENT CAT. NO. 3061-4
3 – 5/8" LOCKWASHERS, NEWTON INSTRUMENT CO. CAT. NO. 3015-8
4 – WALL MOUNTING BRACKET, NEWTON INSTRUMENT CO. CAT NO. A-6056
5 – 5/8-11 X 1" H.H.C.S. BOLTS, NEWTON INSTRUMENT CO. CAT NO. 3012-1
6 – GROUND BAR SHALL BE SIZED TO ACCOMODATE ALL GROUNDING CONNECTIONS REQUIRED PLUS PROVIDE 50% SPARE CAPACITY
7 – GROUND BARS SHALL NEITHER BE FIELD FABRICATED NOR NEW HOLES DRILLED
8 – GROUND LUGS SHALL MATCH THE HOLE SPACING ON THE BAR
9 – HARDWARE DIAMETER SHALL BE MINIMUM 3/8"

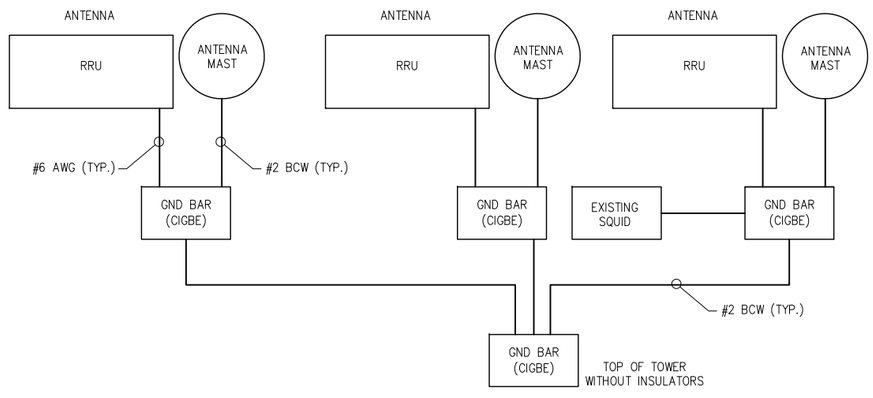
1 — GROUND BAR
NOT TO SCALE



2 — CADWELDS (TYPICAL)
NOT TO SCALE



3 — CONNECTION OF GROUND WIRES TO GROUNDING BARS @ ANTENNAS
NOT TO SCALE



4 — SCHEMATIC DIAGRAM GROUNDING SYSTEM
NOT TO SCALE

INFINIGY
INFINIGY ENGINEERING, PLLC
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
Fax # (518) 690-0793

at&t

STATE OF CONNECTICUT
JOHN S. STEVENS
02/19/2019
24705
LICENSED PROFESSIONAL ENGINEER

UNAUTHORIZED ALTERATION OR ADDITION TO THIS DOCUMENT IS A VIOLATION OF APPLICABLE STATE AND/OR LOCAL LAWS

No.	Submittal / Revision	App'd	Date
2	REVISED FOR PERMIT	BMM	02/19/19
1	ISSUED FOR PERMIT	BMM	01/23/19
0	ISSUED FOR REVIEW	BMM	01/09/19

Drawn: BMM Date: 01/09/19
Designed: ASW Date: 01/09/19
Checked: AJD Date: 01/09/19

Project Number: 1106-A0001-C

Project Title:
CHESIRE-
TOWER FARMS
CTL02038
FA# 10035232
1338 HIGHLAND AVENUE
CHESIRE, CT 06410

Prepared For: smartlink

Drawing Scale: AS NOTED
Date: 02/19/19
CD

Drawing Title
GROUNDING DETAILS

Drawing Number
C7

AMERICAN TOWER®
CORPORATION

Structural Analysis Report

Structure	:	**78 ft Concealed Silo Tower**
ATC Site Name	:	**Mankes Silo, CT**
ATC Site Number	:	**370624**
Engineering Number	:	**OAA745070_C3_02**
Proposed Carrier	:	**AT&T Mobility**
Carrier Site Name	:	**Cheshire - Highland Avenue**
Carrier Site Number	:	**CTL02038**
Site Location	:	**1338 Highland Ave** **Cheshire, CT 06410-0000** **41.536900,-72.893300**
County	:	**New Haven**
Date	:	**February 22, 2019**
Max Usage	:	**63%**
Result	:	**Pass**

Prepared By:
Matthew Reeves, CWI
Structural Engineer III

Reviewed By:

COA: PEC.0001553

AMERICAN TOWER®
CORPORATION

Table of Contents

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 78 ft concealed silo tower to reflect the change in loading by AT&T Mobility.

Supporting Documents

Tower Drawings	Structural Components Mapping Job #140862, dated October 17, 2014
Foundation Drawing	Structural Components Mapping Job #140862, dated October 17, 2014

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.

Basic Wind Speed:	97 mph (3-Second Gust, V_{asd}) / 125 mph (3-Second Gust, V_{ult})
Basic Wind Speed w/ Ice:	50 mph (3-Second Gust) w/ 3/4" radial ice concurrent
Code:	ANSI/TIA-222-G / 2015 IBC / 2018 Connecticut State Building Code
Structure Class:	II
Exposure Category:	B
Topographic Category:	1
Crest Height:	0 ft
Spectral Response:	Ss = 0.19, S_1 = 0.06
Site Class:	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. Please include the American Tower site name, site number, and engineering number in the subject line for any questions.

Existing and Reserved Equipment

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
70.0	3	Alcatel-Lucent RRH2X60-AWS	Sector Frame	(2) 1 5/8" Hybriflex	VERIZON WIRELESS
	12	Commscope SBNHH-1D65B (40.6 lbs)			
	2	RFS DB-T1-6Z-8AB-0Z			
	3	Alcatel-Lucent RRH2x60 700			
	3	Alcatel-Lucent RRH2X60-1900			
57.0	3	Ericsson AIR 21, 1.3M, B4A B2P (90.4 lbs)	Sector Frame	(1) 1 1/4" Hybriflex Cable (6) 1 5/8" Coax (7) 1 5/8" Hybriflex (2) 1" (25.4mm) Hybrid	METRO PCS INC
	3	Ericsson AIR 21, 1.3M, B2A B4P (91.5 lbs)			
54.0	2	CCI HPA-65R-BUU-H6	Sector Frame	(2) 0.39" (10mm) Fiber Trunk (4) 0.78" (19.7mm) 8 AWG 6 (12) 1 5/8" Coax (6) 1/2" Coax (1) 3" conduit (1) 3/8" (0.38"-9.5mm) RET Control Cable	AT&T MOBILITY
	3	KMW AM-X-CD-16-65-00T-RET			
	3	Ericsson RRUS 12 w/ RRUS A2			
	1	Raycap DC6-48-60-18-8F ("Squid")			
	6	Powerwave Allgon LGP21401			
	3	CCI DTMABP7819VG12A			
	6	Powerwave Allgon LGP21901			
	1	CCI HPA-65R-BUU-H8			
	6	Kathrein Scala 860 10025			

Equipment to be Removed

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
54.0	3	Powerwave Allgon 7770.00	-	-	AT&T MOBILITY
	3	Ericsson RRUS 11 (Band 12)			

Proposed Equipment

Elev.[1] (ft)	Qty	Antenna	Mount Type	Lines	Carrier
54.0	1	Raycap DC6-48-60-18-8F ("Squid")	Sector Frame	-	AT&T MOBILITY
	3	Ericsson Radio 4415 B30			
	3	Ericsson RRUS 4449 B5, B12			
	1	Kathrein Scala 80010965			
	2	Kathrein Scala 80010966			

[1] Contracted elevations are shown for appurtenances within contracted installation tolerances. Appurtenances outside of contract limits are shown at installed elevations.

Install proposed coax inside the silo shaft.

Structure Usages

Structural Component	Controlling Usage	Pass/Fail
Legs	3%	Pass
Diagonals	4%	Pass
Horizontals	19%	Pass
Concrete	35%	Pass

Foundations

Reaction Component	Analysis Reactions	% of Usage
Moment (Kips-Ft)	2030	42%
Axial (Kips)	489	63%
Shear (Kips)	51	37%

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.

Standard Conditions

All engineering services performed by A.T. Engineering Service, PLLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

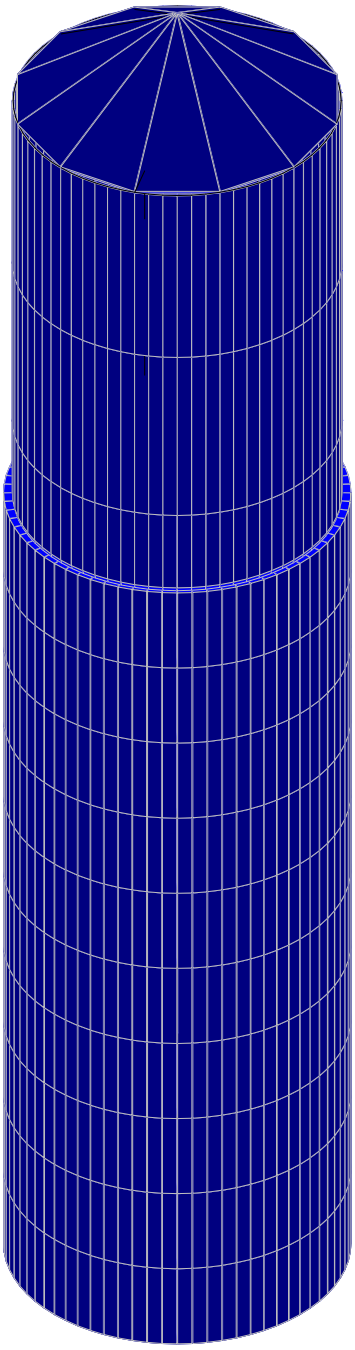
- Information supplied by the client regarding antenna, mounts and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of A.T. Engineering Service, PLLC

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.

All assets of American Tower Corporation, its affiliates and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

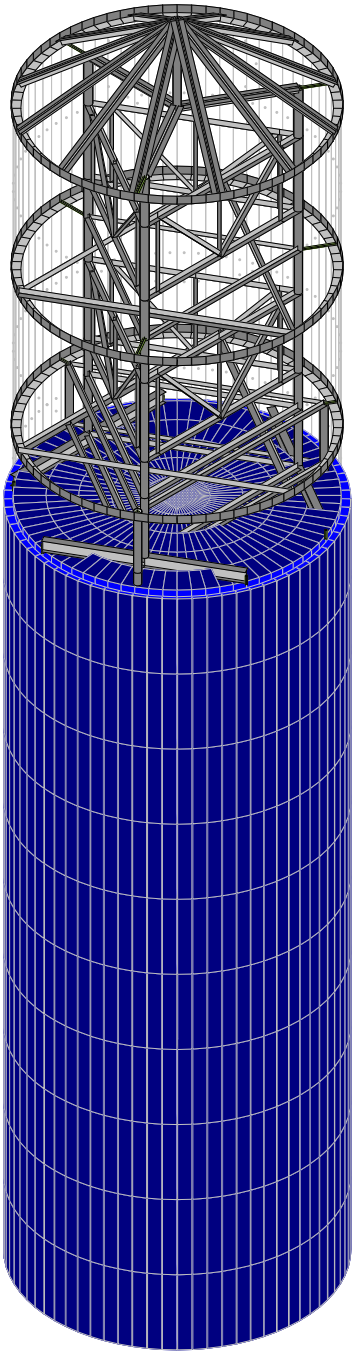
Unless explicitly agreed by both the client and A.T. Engineering Service, PLLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

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 supplied herein.



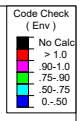
Loads: BLC 2,

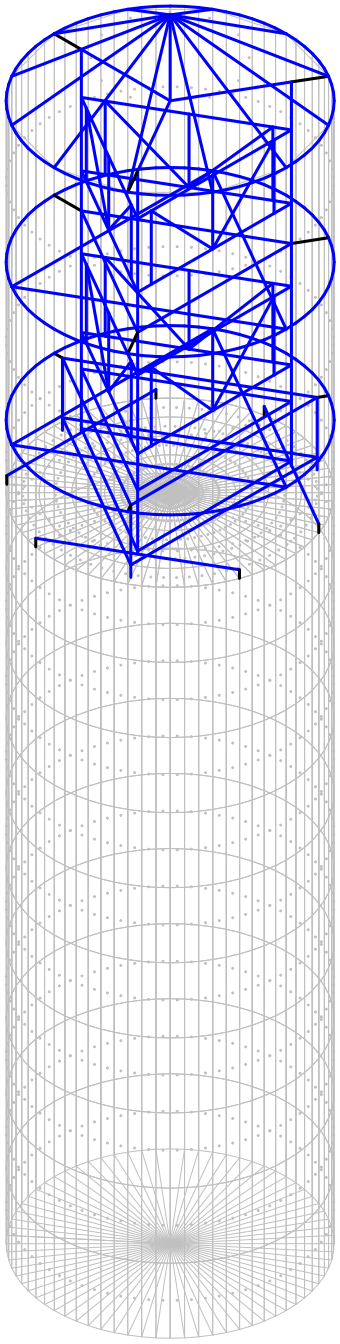
AT&T Mobility		SK - 1
MER	Mankes Silo, CT	Feb 22, 2019 at 1:25 PM
370624 - OAA745070_C3...	ELEVATION	AT&T MOBILITY @ Mankes Silo, ...



Loads: BLC 2,

AT&T Mobility		SK - 2
MER	Mankes Silo, CT	Feb 22, 2019 at 1:27 PM
370624 - OAA745070_C3...	ELEVATION	AT&T MOBILITY @ Mankes Silo, ...





Loads: BLC 2,

AT&T Mobility		SK - 3
MER	Mankes Silo, CT	Feb 22, 2019 at 1:28 PM
370624 - OAA745070_C3...	MEMBER USAGE	AT&T MOBILITY @ Mankes Silo, ...

(Global) Model Settings

Display Sections for Member Calcs	5
Max Internal Sections for Member Calcs	97
Include Shear Deformation?	Yes
Increase Nailing Capacity for Wind?	Yes
Include Warping?	Yes
Trans Load Btwn Intersecting Wood Wall?	Yes
Area Load Mesh (in^2)	144
Merge Tolerance (in)	.12
P-Delta Analysis Tolerance	0.50%
Include P-Delta for Walls?	Yes
Automatically Iterate Stiffness for Walls?	Yes
Max Iterations for Wall Stiffness	3
Gravity Acceleration (ft/sec^2)	32.2
Wall Mesh Size (in)	12
Eigensolution Convergence Tol. (1.E-)	4
Vertical Axis	Y
Global Member Orientation Plane	XZ
Static Solver	Sparse Accelerated
Dynamic Solver	Accelerated Solver

Hot Rolled Steel Code	AISC 13th(360-05): LRFD
Adjust Stiffness?	No
RISAConnection Code	AISC 13th(360-05): LRFD
Cold Formed Steel Code	AISI S100-12: LRFD
Wood Code	AWC NDS-12: ASD
Wood Temperature	< 100F
Concrete Code	ACI 318-11
Masonry Code	ACI 530-11: Strength
Aluminum Code	AA ADM1-10: ASD - Building
Stainless Steel Code	AISC 14th(360-10): ASD
Adjust Stiffness?	Yes(Iterative)

Number of Shear Regions	4
Region Spacing Increment (in)	4
Biaxial Column Method	Exact Integration
Parme Beta Factor (PCA)	.65
Concrete Stress Block	Rectangular
Use Cracked Sections?	Yes
Use Cracked Sections Slab?	No
Bad Framing Warnings?	No
Unused Force Warnings?	Yes
Min 1 Bar Diam. Spacing?	No
Concrete Rebar Set	REBAR_SET_ASTMA615
Min % Steel for Column	1
Max % Steel for Column	8

Company : AT&T Mobility
Designer : MER
Job Number : 370624 - OAA745070_C3_01
Model Name : Mankes Silo, CT

Feb 22, 2019
1:31 PM
Checked By:_____

(Global) Model Settings, Continued

Seismic Code	ASCE 7-05
Seismic Base Elevation (ft)	Not Entered
Add Base Weight?	Yes
Ct X	.02
Ct Z	.02
T X (sec)	.1
T Z (sec)	.1
R X	3
R Z	3
Ct Exp. X	.75
Ct Exp. Z	.75
SD1	.101
SDS	.198
S1	.063
TL (sec)	6
Occupancy Cat	I or II
Drift Cat	Other
Om Z	1
Om X	1
Cd Z	4
Cd X	4
Rho Z	1
Rho X	1

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	H1	W8X18	Beam	Wide Flange	A992	Typical	5.26	7.97	61.9	.172
2	H2	L3X3X4	Beam	Single Angle	A36 Gr.36	Typical	1.44	1.23	1.23	.031
3	H3	L4X3X4	Beam	Single Angle	A36 Gr.36	Typical	1.69	1.33	2.75	.039
4	H4	LL4x4x4x3	Beam	Double Angl...	A36 Gr.36	Typical	3.86	12.2	6	.088
5	H5	L4X4X4	Beam	Single Angle	A36 Gr.36	Typical	1.93	3	3	.044
6	H6	L6X6X5	Beam	Single Angle	A36 Gr.36	Typical	3.67	13	13	.129
7	Column1	HSS5x0.500	Beam	HSS Pipe	A36 Gr.36	Typical	6.62	17.2	17.2	34.4
8	Column2	HSS5.563X...	Beam	HSS Pipe	A36 Gr.36	Typical	5.72	19.5	19.5	39
9	V1	L3X3X4	Beam	Single Angle	A36 Gr.36	Typical	1.44	1.23	1.23	.031

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distribut...	Area(Me...	Surface(...
1	Dead	DL		-1		16				
8	Earthquake Load Z	ELZ				8				
9	Earthquake Load X	ELX				8				
10	Earthquake Load Z Plus X Ecc...	ELZ+X				8				
11	Earthquake Load Z Minus X Ec...	ELZ-X				8				
12	Earthquake Load X Plus Z Ecc...	ELX+Z				8				
13	Earthquake Load X Minus Z Ec...	ELX-Z				8				
14	Wind Load Z	WLZ				8				
15	Wind Load X	WLX				8				
16	Partial Z Wind Load 1	WLZP1				8				
17	Partial Z Wind Load 2	WLZP2				8				
18	Partial X Wind Load 1	WLXP1				8				
19	Partial X Wind Load 2	WLXP2				8				

Load Combinations

	Description	S...	P...	S...	B...	Fa...	BLC	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	1.0D		Y		DL	1																		
2	1.4D	Yes	Y		DL	1.4																		
3	1.2D + 1.6W AZI 000	Yes	Y		DL	1.2	WLX	1.6																
4	1.2D + 1.6W AZI 090	Yes	Y		DL	1.2	WLZ	1.6																
5	IBC 16-5 (a)	Yes	Y		DL	1.2	Sds*...	.2	Rho*...	1	LL	.5	LLS	1										
6	IBC 16-5 (b)	Yes	Y		DL	1.2	Sds*...	.2	Rho*...	1	LL	.5	LLS	1										
7	IBC 16-5 (c)	Yes	Y		DL	1.2	Sds*...	.2	Rho*...	1	LL	.5	LLS	1										
8	IBC 16-5 (d)	Yes	Y		DL	1.2	Sds*...	.2	Rho*...	1	LL	.5	LLS	1										
9	IBC 16-5 (e)	Yes	Y		DL	1.2	Sds*...	.2	Rho*...	1	LL	.5	LLS	1										
10	IBC 16-5 (f)	Yes	Y		DL	1.2	Sds*...	.2	Rho*...	1	LL	.5	LLS	1										
11	IBC 16-7 (a)	Yes	Y		DL	.9	Sds*...	-.2	Rho*...	1														
12	IBC 16-7 (b)	Yes	Y		DL	.9	Sds*...	-.2	Rho*...	1														
13	IBC 16-7 (c)	Yes	Y		DL	.9	Sds*...	-.2	Rho*...	1														
14	IBC 16-7 (d)	Yes	Y		DL	.9	Sds*...	-.2	Rho*...	1														
15	IBC 16-7 (e)	Yes	Y		DL	.9	Sds*...	-.2	Rho*...	1														
16	IBC 16-7 (f)	Yes	Y		DL	.9	Sds*...	-.2	Rho*...	1														
17	DEFL		Y		DL	1.2	WLX	.352																

Joint Loads and Enforced Displacements (BLC 1 : Dead)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/ft, k*s^2*ft)]
1	N1485	L	Y	-.233
2	N1486	L	Y	-.233
3	N1487	L	Y	-.233
4	N1488	L	Y	-.233
5	N1489	L	Y	-.233
6	N1490	L	Y	-.233
7	N1491	L	Y	-.233
8	N1492	L	Y	-.233
9	N1493	L	Y	-.233
10	N1656	L	Y	-.168
11	N1658	L	Y	-.168
12	N1659	L	Y	-.168
13	N1661	L	Y	-.168
14	N1662	L	Y	-.168
15	N1664	L	Y	-.168
16	N1642	L	Y	-2.117

Joint Loads and Enforced Displacements (BLC 8 : Earthquake Load Z)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/ft, k*s^2*ft)]
1	N1778	L	Z	1.852
2	N1779	L	Z	1.152
3	N1740	L	Z	.631
4	N1261	L	Z	6.083
5	N1741	L	Z	6.869
6	N1742	L	Z	5.152
7	N1743	L	Z	3.434
8	N1744	L	Z	1.717

Joint Loads and Enforced Displacements (BLC 9 : Earthquake Load X)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/ft, k*s^2*ft)]
1	N1778	L	X	1.852
2	N1779	L	X	1.152
3	N1740	L	X	.631

Joint Loads and Enforced Displacements (BLC 9 : Earthquake Load X) (Continued)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/ft, k*s^2*ft)]
4	N1261	L	X	6.083
5	N1741	L	X	6.869
6	N1742	L	X	5.152
7	N1743	L	X	3.434
8	N1744	L	X	1.717

Joint Loads and Enforced Displacements (BLC 10 : Earthquake Load Z Plus X Eccentr)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/ft, k*s^2*ft)]
1	N1780	L	Z	1.852
2	N1781	L	Z	1.152
3	N1782	L	Z	.631
4	N1090	L	Z	6.083
5	N1783	L	Z	6.869
6	N1784	L	Z	5.152
7	N1785	L	Z	3.434
8	N1786	L	Z	1.717

Joint Loads and Enforced Displacements (BLC 11 : Earthquake Load Z Minus X Eccent)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/ft, k*s^2*ft)]
1	N1787	L	Z	1.852
2	N1788	L	Z	1.152
3	N1789	L	Z	.631
4	N1432	L	Z	6.083
5	N1790	L	Z	6.869
6	N1791	L	Z	5.152
7	N1792	L	Z	3.434
8	N1793	L	Z	1.717

Joint Loads and Enforced Displacements (BLC 12 : Earthquake Load X Plus Z Eccentr)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/ft, k*s^2*ft)]
1	N1794	L	X	1.852
2	N1795	L	X	1.152
3	N1796	L	X	.631
4	N1270	L	X	6.083
5	N1797	L	X	6.869
6	N1798	L	X	5.152
7	N1799	L	X	3.434
8	N1800	L	X	1.717

Joint Loads and Enforced Displacements (BLC 13 : Earthquake Load X Minus Z Eccent)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/ft, k*s^2*ft)]
1	N1801	L	X	1.852
2	N1802	L	X	1.152
3	N1803	L	X	.631
4	N1252	L	X	6.083
5	N1804	L	X	6.869
6	N1805	L	X	5.152
7	N1806	L	X	3.434
8	N1807	L	X	1.717

Joint Loads and Enforced Displacements (BLC 14 : Wind Load Z)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/ft, k*s^2*ft)]
1	N1665	L	Z	2.606
2	N1775	L	Z	5.056

Joint Loads and Enforced Displacements (BLC 14 : Wind Load Z) (Continued)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/ft, k*s^2*ft)]
3	N1740	L	Z	3.566
4	N1261	L	Z	3.405
5	N1741	L	Z	4.47
6	N1742	L	Z	4.317
7	N1743	L	Z	4.116
8	N1744	L	Z	4.005

Joint Loads and Enforced Displacements (BLC 15 : Wind Load X)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/ft, k*s^2*ft)]
1	N1665	L	X	2.606
2	N1775	L	X	5.056
3	N1740	L	X	3.566
4	N1261	L	X	3.405
5	N1741	L	X	4.47
6	N1742	L	X	4.317
7	N1743	L	X	4.116
8	N1744	L	X	4.005

Joint Loads and Enforced Displacements (BLC 16 : Partial Z Wind Load 1)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/ft, k*s^2*ft)]
1	N1776	L	Z	1.954
2	N1777A	L	Z	3.792
3	N1778A	L	Z	2.674
4	N1779A	L	Z	2.554
5	N1780A	L	Z	3.353
6	N1781A	L	Z	3.238
7	N1782A	L	Z	3.087
8	N1783A	L	Z	3.004

Joint Loads and Enforced Displacements (BLC 17 : Partial Z Wind Load 2)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/ft, k*s^2*ft)]
1	N1784A	L	Z	1.954
2	N1785A	L	Z	3.792
3	N1786A	L	Z	2.674
4	N1787A	L	Z	2.554
5	N1788A	L	Z	3.353
6	N1789A	L	Z	3.238
7	N1790A	L	Z	3.087
8	N1791A	L	Z	3.004

Joint Loads and Enforced Displacements (BLC 18 : Partial X Wind Load 1)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/ft, k*s^2*ft)]
1	N1792A	L	X	1.954
2	N1793A	L	X	3.792
3	N1794A	L	X	2.674
4	N1795A	L	X	2.554
5	N1796A	L	X	3.353
6	N1797A	L	X	3.238
7	N1798A	L	X	3.087
8	N1799A	L	X	3.004

Joint Loads and Enforced Displacements (BLC 19 : Partial X Wind Load 2)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/ft, k*s^2*ft)]
1	N1800A	L	X	1.954

Company : AT&T Mobility
Designer : MER
Job Number : 370624 - OAA745070_C3_01
Model Name : Mankes Silo, CT

Feb 22, 2019
1:31 PM
Checked By:_____

Joint Loads and Enforced Displacements (BLC 19 : Partial X Wind Load 2) (Continued)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/ft, k*s^2*ft)]
2	N1801A	L	X	3.792
3	N1802A	L	X	2.674
4	N1803A	L	X	2.554
5	N1804A	L	X	3.353
6	N1805A	L	X	3.238
7	N1806A	L	X	3.087
8	N1807A	L	X	3.004

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

	Member	Shape	Code Check	Loc...	LC	She...	Loc...	...	...	phi*P...	phi*P...	phi*Mn y-y [k-ft]	phi*M...	...	Eqn
1	M7	W8X18	.017	5.4...	2	.007	0	y	2	103.24	236.7	17.475	63.75	...	H1-1b
2	M8	W8X18	.017	0	2	.007	5.4...	y	2	103.24	236.7	17.475	63.75	...	H1-1b
3	M9	W8X18	.024	5.4...	2	.009	0	y	2	103.24	236.7	17.475	63.75	...	H1-1b
4	M10	W8X18	.026	0	3	.010	5.4...	y	3	103.24	236.7	17.475	63.75	...	H1-1b
5	M11	W8X18	.021	5.4...	4	.008	0	y	4	103.24	236.7	17.475	63.75	...	H1-1b
6	M12	W8X18	.022	0	4	.008	5.4...	y	4	103.24	236.7	17.475	63.75	...	H1-1b
7	M13	HSS5x0...	.001	.802	2	.001	0		2	214.0...	214.4...	25.92	25.92	...	H1-1b
8	M14	HSS5x0...	.011	0	4	.001	0		4	214.4...	214.4...	25.92	25.92	...	H1-1b
9	M15	HSS5x0...	.001	.802	3	.001	0		3	214.0...	214.4...	25.92	25.92	...	H1-1b
10	M16	HSS5x0...	.009	0	3	.000	0		3	214.4...	214.4...	25.92	25.92	...	H1-1b
11	M17	HSS5x0...	.002	.802	4	.001	0		4	214.0...	214.4...	25.92	25.92	...	H1-1b
12	M18	HSS5x0...	.010	0	3	.001	.191		3	214.4...	214.4...	25.92	25.92	...	H1-1b
13	M19	HSS5x0...	.008	3.7...	4	.001	0		4	205.6...	214.4...	25.92	25.92	...	H1-1b
14	M20	HSS5x0...	.009	0	3	.001	0		3	205.6...	214.4...	25.92	25.92	...	H1-1b
15	M21	HSS5x0...	.008	2.3...	4	.002	0		4	211.1...	214.4...	25.92	25.92	...	H1-1b
16	M22	HSS5x0...	.010	5	2	.001	0		4	199.4	214.4...	25.92	25.92	...	H1-1b
17	M23	HSS5x0...	.024	2.7...	2	.004	0		4	209.9...	214.4...	25.92	25.92	...	H1-1b
18	M24	HSS5x0...	.011	3.7...	3	.001	0		3	205.6...	214.4...	25.92	25.92	...	H1-1b
19	M25	HSS5x0...	.008	0	3	.001	0		3	205.6...	214.4...	25.92	25.92	...	H1-1b
20	M26	HSS5x0...	.008	2.3...	3	.001	0		3	211.1...	214.4...	25.92	25.92	...	H1-1b
21	M27	HSS5x0...	.007	0	3	.001	0		3	199.4	214.4...	25.92	25.92	...	H1-1b
22	M28	HSS5x0...	.028	2.7...	2	.004	0		2	209.9...	214.4...	25.92	25.92	...	H1-1b
23	M29	HSS5x0...	.010	0	4	.001	0		4	205.6...	214.4...	25.92	25.92	...	H1-1b
24	M30	HSS5x0...	.005	2.3...	2	.001	0		2	211.1...	214.4...	25.92	25.92	...	H1-1b
25	M31	HSS5x0...	.008	5	2	.001	0		2	199.4	214.4...	25.92	25.92	...	H1-1b
26	M32	HSS5x0...	.023	2.7...	2	.004	0		2	209.9...	214.4...	25.92	25.92	...	H1-1b
27	M33	HSS5x0...	.007	3.7...	4	.001	0		4	205.6...	214.4...	25.92	25.92	...	H1-1b
28	M34	L3X3X4	.121	6.8...	2	.003	13....	y	2	4.137	46.656	1.688	2.46	...	H2-1
29	M35	L3X3X4	.119	6.8...	2	.003	0	y	2	9.792	46.656	1.688	2.46	...	H2-1
30	M36	L3X3X4	.119	6.8...	2	.003	0	y	2	9.792	46.656	1.688	2.46	...	H2-1
31	M37	L3X3X4	.113	6.8...	2	.003	13....	y	2	4.137	46.656	1.688	2.46	...	H2-1
32	M38	L3X3X4	.113	6.8...	2	.003	0	y	2	5.108	46.656	1.688	2.46	...	H2-1
33	M39	L3X3X4	.113	6.8...	2	.003	0	y	2	4.137	46.656	1.688	2.46	...	H2-1
34	M40	L4X3X4	.070	5.6...	2	.002	0	y	2	10.508	54.756	1.795	3.13	...	H2-1
35	M41	L4X3X4	.071	5.6...	2	.002	0	y	2	8.511	54.756	1.795	3.13	...	H2-1
36	M42	L4X3X4	.071	5.6...	2	.002	0	y	2	8.511	54.756	1.795	3.13	...	H2-1
37	M43	L4X3X4	.070	5.6...	2	.002	11....	y	2	8.511	54.756	1.795	3.13	...	H2-1
38	M44	L4X3X4	.070	5.6...	2	.002	0	y	2	8.511	54.756	1.795	3.13	...	H2-1
39	M45	L4X3X4	.070	5.6...	2	.002	0	y	2	8.511	54.756	1.795	3.13	...	H2-1
40	M46	L4X3X4	.179	1	2	.021	0	y	2	49.076	54.756	1.795	4.805	...	H2-1
41	M47	L4X3X4	.182	1	2	.021	0	y	2	49.076	54.756	1.795	4.805	...	H2-1
42	M48	L4X3X4	.177	1	2	.020	0	y	2	49.076	54.756	1.795	4.805	...	H2-1
43	M49	L4X3X4	.187	1	2	.022	0	y	2	49.076	54.756	1.795	4.805	...	H2-1
44	M50	L4X3X4	.191	1	2	.022	0	y	2	49.076	54.756	1.795	4.805	...	H2-1
45	M51	L4X3X4	.185	1	2	.021	0	y	2	49.076	54.756	1.795	4.805	...	H2-1

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

	Member	Shape	Code Check	Loc...	LC	She...	Loc...	...	...	phi*P...	phi*P...	phi*Mn y-y [k-ft]	phi*M...	...	Eqn
46	M52	L4X3X4	.182	0	2	.008	4.5	y	2	35.431	54.756	1.795	4.677	...	H2-1
47	M53	L4X3X4	.159	4.5	2	.007	0	y	2	35.431	54.756	1.795	4.678	...	H2-1
48	M54	L4X3X4	.157	0	2	.015	1.2...	y	2	48.553	54.756	1.795	4.805	...	H2-1
49	M55	L4X3X4	.185	0	2	.008	4.5	y	2	35.431	54.756	1.795	4.677	...	H2-1
50	M56	L4X3X4	.156	4.5	2	.007	0	y	2	35.431	54.756	1.795	4.678	...	H2-1
51	M57	L4X3X4	.154	0	2	.014	1.2...	y	2	48.553	54.756	1.795	4.805	...	H2-1
52	M58	L4X3X4	.180	0	2	.008	4.5	y	2	35.431	54.756	1.795	4.678	...	H2-1
53	M59	L4X3X4	.162	4.5	2	.008	0	y	2	35.431	54.756	1.795	4.678	...	H2-1
54	M60	L4X3X4	.160	0	2	.015	1.2...	y	2	48.553	54.756	1.795	4.805	...	H2-1
55	M61	L4X3X4	.194	0	2	.008	4.5	y	2	35.431	54.756	1.795	4.678	...	H2-1
56	M62	L4X3X4	.170	4.5	2	.007	0	y	2	35.431	54.756	1.795	4.679	...	H2-1
57	M63	L4X3X4	.159	0	2	.015	1.2...	y	2	48.553	54.756	1.795	4.805	...	H2-1
58	M64	L4X3X4	.194	0	2	.008	4.5	y	2	35.431	54.756	1.795	4.678	...	H2-1
59	M65	L4X3X4	.164	4.5	2	.007	0	y	2	35.431	54.756	1.795	4.679	...	H2-1
60	M66	L4X3X4	.156	0	2	.014	1.2...	y	2	48.553	54.756	1.795	4.805	...	H2-1
61	M67	L4X3X4	.189	0	2	.008	4.5	y	2	35.431	54.756	1.795	4.678	...	H2-1
62	M68	L4X3X4	.171	4.5	2	.007	0	y	2	35.431	54.756	1.795	4.679	...	H2-1
63	M69	L4X3X4	.164	0	2	.015	1.2...	y	2	48.553	54.756	1.795	4.805	...	H2-1
64	M70	L3X3X4	.018	0	2	.000	0	y	2	26.816	46.656	1.688	3.294	1	H2-1
65	M71	L3X3X4	.024	0	2	.000	0	y	2	26.816	46.656	1.688	3.294	1	H2-1
66	M72	L3X3X4	.014	0	2	.000	0	y	2	26.816	46.656	1.688	3.294	1	H2-1
67	M73	L3X3X4	.019	0	2	.000	0	y	2	26.816	46.656	1.688	3.294	1	H2-1
68	M74	L3X3X4	.024	0	2	.000	0	y	2	26.816	46.656	1.688	3.294	1	H2-1
69	M75	L3X3X4	.013	0	2	.000	0	y	9	26.816	46.656	1.688	3.294	1	H2-1
70	M76	L3X3X4	.018	0	2	.000	0	y	2	26.816	46.656	1.688	3.294	1	H2-1
71	M77	L3X3X4	.024	0	2	.000	0	y	2	26.816	46.656	1.688	3.294	1	H2-1
72	M78	L3X3X4	.014	0	2	.000	0	y	3	26.816	46.656	1.688	3.294	1	H2-1
73	M79	L3X3X4	.035	3.2...	2	.002	6.7...	y	2	17.086	46.656	1.688	3.16	...	H2-1
74	M80	L3X3X4	.027	3.4...	2	.002	0	y	2	17.086	46.656	1.688	3.16	...	H2-1
75	M81	L3X3X4	.035	3.2...	2	.002	6.7...	y	2	17.086	46.656	1.688	3.16	...	H2-1
76	M82	L3X3X4	.026	3.4...	2	.002	0	y	2	17.086	46.656	1.688	3.16	...	H2-1
77	M83	L3X3X4	.034	3.2...	2	.002	6.7...	y	2	17.086	46.656	1.688	3.16	...	H2-1
78	M84	L3X3X4	.027	3.4...	2	.002	6.7...	y	2	17.086	46.656	1.688	3.16	...	H2-1
79	M85	L4X4X4	.059	0	2	.004	0	y	2	8.564	62.532	3.138	5.684	...	H2-1
80	M86	L4X4X4	.058	0	2	.003	0	y	2	8.564	62.532	3.138	5.612	...	H2-1
81	M87	L4X4X4	.059	14....	2	.004	14....	y	2	8.564	62.532	3.138	5.684	...	H2-1
82	M88	L6X6X5	.005	.742	4	.001	.742	z	4	25.726	118.9...	9.302	16.791	1	H2-1
83	M89	L6X6X5	.005	0	4	.001	.742	z	3	25.726	118.9...	9.302	16.791	1	H2-1
84	M90	L6X6X5	.005	0	4	.001	.742	z	3	25.726	118.9...	9.302	16.791	1	H2-1
85	M91	L6X6X5	.005	0	4	.001	.742	z	3	25.726	118.9...	9.302	16.791	1	H2-1
86	M92	L6X6X5	.005	0	4	.001	.742	z	3	25.726	118.9...	9.302	16.791	1	H2-1
87	M93	L6X6X5	.008	.742	3	.002	0	z	4	25.726	118.9...	9.302	16.791	1	H2-1
88	M94	L6X6X5	.007	0	4	.003	.742	z	3	25.726	118.9...	9.302	16.791	1	H2-1
89	M95	L6X6X5	.005	0	4	.001	.742	z	3	25.726	118.9...	9.302	16.791	1	H2-1
90	M96	L6X6X5	.004	0	4	.001	.742	z	3	25.726	118.9...	9.302	16.791	1	H2-1
91	M97	L6X6X5	.004	.742	3	.001	0	z	4	25.726	118.9...	9.302	16.791	1	H2-1
92	M98	L6X6X5	.005	.742	3	.001	.742	z	3	25.726	118.9...	9.302	16.791	1	H2-1
93	M99	L6X6X5	.005	0	3	.001	0	z	4	25.726	118.9...	9.302	16.791	1	H2-1
94	M100	L6X6X5	.005	.742	3	.002	.742	z	3	25.726	118.9...	9.302	16.791	1	H2-1
95	M101	L6X6X5	.005	.742	3	.001	0	z	4	25.726	118.9...	9.302	16.791	1	H2-1
96	M102	L6X6X5	.005	.742	3	.001	0	z	4	25.726	118.9...	9.302	16.791	1	H2-1
97	M103	L6X6X5	.005	.742	3	.001	0	z	4	25.726	118.9...	9.302	16.791	1	H2-1
98	M104	L6X6X5	.006	.742	3	.001	.742	z	3	25.726	118.9...	9.302	16.791	1	H2-1
99	M105	L6X6X5	.005	0	3	.003	0	z	3	25.726	118.9...	9.302	16.791	1	H2-1
100	M106	L6X6X5	.005	.742	3	.003	.742	z	3	25.726	118.9...	9.302	16.791	1	H2-1
101	M107	L6X6X5	.006	0	3	.001	0	z	4	25.726	118.9...	9.302	16.791	1	H2-1
102	M108	L6X6X5	.005	0	3	.000	0	z	4	25.726	118.9...	9.302	16.791	1	H2-1

Company : AT&T Mobility
Designer : MER
Job Number : 370624 - OAA745070_C3_01
Model Name : Mankes Silo, CT

Feb 22, 2019
1:31 PM
Checked By:_____

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

	Member	Shape	Code Check	Loc...	LC	She...	Loc...	...	...	phi*P...	phi*P...	phi*Mn y-y [k-ft]	phi*M...	...	Eqn
103	M109	L6X6X5	.005	0	3	.001	0	z	4	25.726	118.9...	9.302	16.791	1	H2-1
104	M110	L6X6X5	.005	0	3	.001	0	z	4	25.726	118.9...	9.302	16.791	1	H2-1
105	M111	L6X6X5	.005	0	3	.002	0	z	3	25.726	118.9...	9.302	16.791	1	H2-1
106	M112	L6X6X5	.005	.742	3	.002	.742	z	3	25.726	118.9...	9.302	16.791	1	H2-1
107	M113	L6X6X5	.005	0	3	.001	0	z	3	25.726	118.9...	9.302	16.791	1	H2-1
108	M114	L6X6X5	.004	0	3	.000	0	z	4	25.726	118.9...	9.302	16.791	1	H2-1
109	M115	L6X6X5	.004	0	3	.001	0	z	3	25.726	118.9...	9.302	16.791	1	H2-1
110	M116	L6X6X5	.005	.742	4	.001	0	z	4	25.726	118.9...	9.302	11.959	...	H2-1
111	M117	L6X6X5	.007	.742	4	.003	0	z	4	25.726	118.9...	9.302	12.204	...	H2-1
112	M118	L6X6X5	.009	0	3	.004	0	z	4	25.726	118.9...	9.302	16.791	1	H2-1
113	M119	L6X6X5	.005	.742	4	.001	0	z	3	25.726	118.9...	9.302	11.803	...	H2-1
114	M120	L6X6X5	.005	.587	4	.001	0	z	3	25.726	118.9...	9.302	11.61	...	H2-1
115	M121	L6X6X5	.005	.456	4	.001	0	z	3	25.726	118.9...	9.302	11.572	...	H2-1
116	M122	L6X6X5	.005	.494	4	.000	0	z	3	25.726	118.9...	9.302	11.579	...	H2-1
117	M123	L6X6X5	.006	.742	4	.002	0	z	3	25.726	118.9...	9.302	11.706	...	H2-1
118	M124	L6X6X5	.006	0	4	.001	.742	z	2	25.726	118.9...	9.302	11.775	...	H2-1
119	M125	L6X6X5	.005	.209	4	.001	0	z	3	25.726	118.9...	9.302	11.592	...	H2-1
120	M126	L6X6X5	.005	.317	4	.001	0	z	3	25.726	118.9...	9.302	11.569	...	H2-1
121	M127	L6X6X5	.005	.232	4	.001	0	z	3	25.726	118.9...	9.302	11.585	...	H2-1
122	M128	L6X6X5	.005	.247	4	.000	0	z	2	25.726	118.9...	9.302	11.582	...	H2-1
123	M129	L6X6X5	.006	.742	4	.002	0	z	2	25.726	118.9...	9.302	11.929	...	H2-1
124	M130	L6X6X5	.005	0	4	.002	.742	z	2	25.726	118.9...	9.302	12.071	...	H2-1
125	M131	L6X6X5	.004	.07	4	.001	0	z	3	25.726	118.9...	9.302	11.684	...	H2-1
126	M132	L6X6X5	.004	.039	4	.000	.742	z	4	25.726	118.9...	9.302	11.721	...	H2-1
127	M133	L6X6X5	.004	.68	3	.001	.742	z	4	25.726	118.9...	9.302	11.706	...	H2-1
128	M134	L6X6X5	.004	.742	3	.000	0	z	3	25.726	118.9...	9.302	11.748	...	H2-1
129	M135	L6X6X5	.005	.742	3	.001	0	z	2	25.726	118.9...	9.302	11.792	...	H2-1
130	M136	L6X6X5	.005	.409	3	.001	.742	z	2	25.726	118.9...	9.302	11.568	...	H2-1
131	M137	L6X6X5	.005	.502	3	.001	.742	z	4	25.726	118.9...	9.302	11.583	...	H2-1
132	M138	L6X6X5	.005	.533	3	.001	.742	z	4	25.726	118.9...	9.302	11.592	...	H2-1
133	M139	L6X6X5	.005	.456	3	.001	.742	z	4	25.726	118.9...	9.302	11.573	...	H2-1
134	M140	L6X6X5	.005	.548	3	.001	.742	z	4	25.726	118.9...	9.302	11.596	...	H2-1
135	M141	L6X6X5	.007	.742	4	.003	.742	z	4	25.726	118.9...	9.302	16.791	1	H2-1
136	M142	L6X6X5	.008	0	4	.003	.742	z	4	25.726	118.9...	9.302	14.014	...	H2-1
137	M143	L6X6X5	.005	.193	3	.001	.742	z	4	25.726	118.9...	9.302	11.596	...	H2-1
138	M144	L6X6X5	.005	.278	3	.001	.742	z	4	25.726	118.9...	9.302	11.573	...	H2-1
139	M145	L6X6X5	.005	.201	3	.001	.742	z	4	25.726	118.9...	9.302	11.593	...	H2-1
140	M146	L6X6X5	.005	.247	3	.001	.742	z	4	25.726	118.9...	9.302	11.581	...	H2-1
141	M147	L6X6X5	.005	0	3	.001	.742	z	3	25.726	118.9...	9.302	11.708	...	H2-1
142	M148	L6X6X5	.004	.178	3	.001	.742	z	4	25.726	118.9...	9.302	11.61	...	H2-1
143	M149	L6X6X5	.004	.742	4	.001	.742	z	3	25.726	118.9...	9.302	16.791	1	H2-1
144	M150	L6X6X5	.004	.742	4	.000	.742	z	4	25.726	118.9...	9.302	16.791	1	H2-1
145	M151	L6X6X5	.004	.742	4	.000	.742	z	3	25.726	118.9...	9.302	16.791	1	H2-1
146	M152	L6X6X5	.005	.742	4	.001	.742	z	4	25.726	118.9...	9.302	16.791	1	H2-1
147	M153	L6X6X5	.004	0	4	.002	0	z	4	25.726	118.9...	9.302	16.791	1	H2-1
148	M154	L6X6X5	.005	.742	4	.002	.742	z	4	25.726	118.9...	9.302	16.791	1	H2-1
149	M155	L6X6X5	.005	.742	4	.001	.742	z	3	25.726	118.9...	9.302	16.791	1	H2-1
150	M156	L6X6X5	.005	.742	4	.001	.742	z	3	25.726	118.9...	9.302	16.791	1	H2-1
151	M157	L6X6X5	.006	.742	4	.001	.742	z	3	25.726	118.9...	9.302	16.791	1	H2-1
152	M158	L6X6X5	.006	0	4	.000	.742	z	3	25.726	118.9...	9.302	16.791	1	H2-1
153	M159	L6X6X5	.006	0	4	.001	0	z	4	25.726	118.9...	9.302	16.791	1	H2-1
154	M160	L3X3X4	.075	5.6...	2	.003	0	y	2	6.078	46.656	1.688	2.675	...	H2-1
155	M161	L3X3X4	.075	5.6...	2	.003	0	y	2	6.078	46.656	1.688	2.675	...	H2-1
156	M162	L3X3X4	.075	5.6...	2	.003	0	y	2	6.078	46.656	1.688	2.675	...	H2-1
157	M163	L4X4X4	.059	14....	2	.004	14....	y	2	8.564	62.532	3.138	5.696	...	H2-1
158	M164	L4X4X4	.058	14....	2	.003	14....	y	2	8.564	62.532	3.138	5.718	...	H2-1
159	M165	L4X4X4	.059	0	2	.004	0	y	2	8.564	62.532	3.138	5.696	...	H2-1

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

	Member	Shape	Code Check	Loc...	LC	She...	Loc...	...	...	phi*P...	phi*P...	phi*Mn y-y [k-ft]	phi*M...	...	Eqn
160	M166	L6X6X5	.002	.742	4	.002	0	z	4	25.726	118.9...	9.302	14.367	...	H2-1
161	M167	L6X6X5	.002	.602	4	.000	0	z	4	25.726	118.9...	9.302	11.692	...	H2-1
162	M168	L6X6X5	.003	.433	4	.000	0	z	2	25.726	118.9...	9.302	11.586	...	H2-1
163	M169	L6X6X5	.003	.649	4	.000	0	z	2	25.726	118.9...	9.302	11.709	...	H2-1
164	M170	L6X6X5	.004	.742	4	.001	0	z	2	25.726	118.9...	9.302	12.363	...	H2-1
165	M171	L6X6X5	.019	.742	4	.006	0	z	2	25.726	118.9...	9.302	13.322	...	H2-1
166	M172	L6X6X5	.008	0	4	.004	0	z	2	25.726	118.9...	9.302	16.791	1	H2-1
167	M173	L6X6X5	.002	0	2	.001	0	z	2	25.726	118.9...	9.302	16.791	1	H2-1
168	M174	L6X6X5	.002	.402	3	.000	0	z	2	25.726	118.9...	9.302	11.586	...	H2-1
169	M175	L6X6X5	.002	.355	3	.000	0	z	4	25.726	118.9...	9.302	11.584	...	H2-1
170	M176	L6X6X5	.002	.162	3	.001	.742	z	3	25.726	118.9...	9.302	11.682	...	H2-1
171	M177	L6X6X5	.002	.742	2	.002	.742	z	3	25.726	118.9...	9.302	16.791	1	H2-1
172	M178	L6X6X5	.002	0	2	.002	0	z	3	25.726	118.9...	9.302	16.791	1	H2-1
173	M179	L6X6X5	.002	.633	3	.000	0	z	4	25.726	118.9...	9.302	11.719	...	H2-1
174	M180	L6X6X5	.003	.386	3	.000	0	z	3	25.726	118.9...	9.302	11.577	...	H2-1
175	M181	L6X6X5	.003	.294	3	.000	.742	z	4	25.726	118.9...	9.302	11.589	...	H2-1
176	M182	L6X6X5	.002	.1	3	.001	.742	z	3	25.726	118.9...	9.302	11.727	...	H2-1
177	M183	L6X6X5	.002	0	3	.003	.742	z	3	25.726	118.9...	9.302	15.044	...	H2-1
178	M184	L6X6X5	.002	.742	3	.003	0	z	3	25.726	118.9...	9.302	15.459	...	H2-1
179	M185	L6X6X5	.002	.687	3	.001	0	z	3	25.726	118.9...	9.302	11.795	...	H2-1
180	M186	L6X6X5	.003	.471	3	.000	0	z	3	25.726	118.9...	9.302	11.597	...	H2-1
181	M187	L6X6X5	.003	.378	3	.000	0	z	4	25.726	118.9...	9.302	11.577	...	H2-1
182	M188	L6X6X5	.003	.17	3	.001	.742	z	3	25.726	118.9...	9.302	11.661	...	H2-1
183	M189	L6X6X5	.003	.742	2	.003	.742	z	3	25.726	118.9...	9.302	16.791	1	H2-1
184	M190	L6X6X5	.003	0	2	.003	0	z	3	25.726	118.9...	9.302	16.791	1	H2-1
185	M191	L6X6X5	.002	.695	3	.001	0	z	3	25.726	118.9...	9.302	11.861	...	H2-1
186	M192	L6X6X5	.002	.448	3	.000	0	z	4	25.726	118.9...	9.302	11.6	...	H2-1
187	M193	L6X6X5	.002	.742	3	.001	0	z	2	25.726	118.9...	9.302	11.861	...	H2-1
188	M194	L6X6X5	.003	.742	3	.001	0	z	4	25.726	118.9...	9.302	12.267	...	H2-1
189	M195	L6X6X5	.022	.742	3	.009	0	z	4	25.726	118.9...	9.302	13.441	...	H2-1
190	M196	L6X6X5	.003	0	3	.004	0	z	4	25.726	118.9...	9.302	16.791	1	H2-1
191	M197	L6X6X5	.003	0	4	.002	0	z	4	25.726	118.9...	9.302	16.791	1	H2-1
192	M198	L6X6X5	.001	.371	3	.000	.742	z	4	25.726	118.9...	9.302	11.602	...	H2-1
193	M199	L6X6X5	.001	.386	3	.000	0	z	3	25.726	118.9...	9.302	11.617	...	H2-1
194	M200	L6X6X5	.001	.742	4	.001	.742	z	2	25.726	118.9...	9.302	16.791	1	H2-1
195	M201	L6X6X5	.003	.742	4	.002	.742	z	2	25.726	118.9...	9.302	16.791	1	H2-1
196	M202	L6X6X5	.003	0	4	.002	0	z	2	25.726	118.9...	9.302	16.791	1	H2-1
197	M203	L6X6X5	.001	.595	2	.000	0	z	3	25.726	118.9...	9.302	11.902	...	H2-1
198	M204	L6X6X5	.001	.348	2	.000	.742	z	3	25.726	118.9...	9.302	11.62	...	H2-1
199	M205	L6X6X5	.001	.301	2	.000	.742	z	3	25.726	118.9...	9.302	11.643	...	H2-1
200	M206	L6X6X5	.001	.742	4	.000	.742	z	2	25.726	118.9...	9.302	16.791	1	H2-1
201	M207	L6X6X5	.002	.742	4	.002	.742	z	2	25.726	118.9...	9.302	16.791	1	H2-1
202	M208	L6X6X5	.002	0	4	.002	0	z	2	25.726	118.9...	9.302	16.791	1	H2-1
203	M209	L6X6X5	.001	.649	2	.000	0	z	2	25.726	118.9...	9.302	12.165	...	H2-1
204	M210	L6X6X5	.001	.409	2	.000	0	z	2	25.726	118.9...	9.302	11.625	...	H2-1
205	M211	L6X6X5	.001	.371	2	.000	0	z	4	25.726	118.9...	9.302	11.617	...	H2-1
206	M212	L6X6X5	.001	.1	2	.000	.742	z	2	25.726	118.9...	9.302	12.024	...	H2-1
207	M213	L6X6X5	.002	.742	3	.002	.742	z	2	25.726	118.9...	9.302	16.791	1	H2-1
208	M214	L6X6X5	.002	0	3	.002	0	z	2	25.726	118.9...	9.302	16.791	1	H2-1
209	M215	L6X6X5	.001	.602	2	.000	0	z	2	25.726	118.9...	9.302	11.958	...	H2-1
210	M216	L6X6X5	.001	.386	2	.000	.742	z	4	25.726	118.9...	9.302	11.627	...	H2-1
211	M217	L6X6X5	.001	.51	2	.000	0	z	3	25.726	118.9...	9.302	11.698	...	H2-1
212	M218	L6X6X5	.001	.363	2	.001	.742	z	3	25.726	118.9...	9.302	11.634	...	H2-1
213	M219	L6X6X5	.009	.742	2	.005	0	z	3	25.726	118.9...	9.302	13.339	...	H2-1
214	M220	L6X6X5	.009	0	4	.004	.742	z	4	25.726	118.9...	9.302	13.348	...	H2-1
215	M221	L6X6X5	.002	0	3	.001	0	z	3	25.726	118.9...	9.302	16.791	1	H2-1
216	M222	L6X6X5	.002	.224	4	.000	.742	z	3	25.726	118.9...	9.302	11.666	...	H2-1

RISA A NEMETSCHEK COMPANY
Company : AT&T Mobility
Designer : MER
Job Number : 370624 - OAA745070_C3_01
Model Name : Mankes Silo, CT
Feb 22, 2019
1:31 PM
Checked By:_____

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

	Member	Shape	Code Check	Loc...	LC	She...	Loc...	...	...	phi*P...	phi*P...	phi*Mn y-y [k-ft]	phi*M...	...	Eqn
217	M223	L6X6X5	.001	.34	4	.000	0	z	3	25.726	118.9...	9.302	11.602	...	H2-1
218	M224	L6X6X5	.001	.116	4	.000	.742	z	4	25.726	118.9...	9.302	11.829	...	H2-1
219	M225	L6X6X5	.001	.742	3	.001	.742	z	3	25.726	118.9...	9.302	16.791	1	H2-1
220	M226	L6X6X5	.001	.742	4	.001	0	z	4	25.726	118.9...	9.302	14.955	...	H2-1
221	M227	L6X6X5	.002	.548	4	.000	0	z	3	25.726	118.9...	9.302	11.661	...	H2-1
222	M228	L6X6X5	.002	.34	4	.000	.742	z	2	25.726	118.9...	9.302	11.583	...	H2-1
223	M229	L6X6X5	.002	.324	4	.000	0	z	3	25.726	118.9...	9.302	11.585	...	H2-1
224	M230	L6X6X5	.002	.116	4	.000	.742	z	4	25.726	118.9...	9.302	11.732	...	H2-1
225	M231	L6X6X5	.002	0	4	.001	.742	z	4	25.726	118.9...	9.302	13.189	...	H2-1
226	M232	L6X6X5	.002	.742	4	.001	0	z	4	25.726	118.9...	9.302	13.159	...	H2-1
227	M233	L6X6X5	.002	.618	4	.000	0	z	3	25.726	118.9...	9.302	11.707	...	H2-1
228	M234	L6X6X5	.003	.425	4	.000	0	z	4	25.726	118.9...	9.302	11.581	...	H2-1
229	M235	L6X6X5	.003	.402	4	.000	0	z	3	25.726	118.9...	9.302	11.577	...	H2-1
230	M236	L6X6X5	.003	.178	4	.000	.742	z	4	25.726	118.9...	9.302	11.642	...	H2-1
231	M237	L6X6X5	.002	0	4	.002	.742	z	4	25.726	118.9...	9.302	14.309	...	H2-1
232	M238	HSS5.56...	.021	0	2	.004	0		2	182.6...	185.3...	25.65	25.65	...	H1-1b
233	M239	HSS5.56...	.009	0	2	.001	0		2	176.5...	185.3...	25.65	25.65	...	H1-1b
234	M240	HSS5.56...	.009	0	2	.002	0		4	181.5...	185.3...	25.65	25.65	...	H1-1b
235	M241	HSS5.56...	.029	0	2	.005	0		2	182.6...	185.3...	25.65	25.65	...	H1-1b
236	M242	HSS5.56...	.004	0	3	.001	0		3	176.5...	185.3...	25.65	25.65	...	H1-1b
237	M243	HSS5.56...	.019	3.0...	2	.002	0		3	181.5...	185.3...	25.65	25.65	...	H1-1b
238	M244	HSS5.56...	.020	0	2	.004	0		2	182.6...	185.3...	25.65	25.65	...	H1-1b
239	M245	HSS5.56...	.007	0	2	.001	0		2	176.5...	185.3...	25.65	25.65	...	H1-1b
240	M246	HSS5.56...	.007	0	2	.001	0		2	181.5...	185.3...	25.65	25.65	...	H1-1b
241	M247	L4X3X4	.110	1	2	.013	0	y	2	49.076	54.756	1.795	4.805	...	H2-1
242	M248	L4X3X4	.115	1	2	.013	0	y	2	49.076	54.756	1.795	4.805	...	H2-1
243	M249	L4X3X4	.111	1	2	.013	0	y	2	49.076	54.756	1.795	4.805	...	H2-1
244	M250	L4X3X4	.114	1	2	.013	0	y	2	49.076	54.756	1.795	4.805	...	H2-1
245	M251	L4X3X4	.118	1	2	.014	0	y	2	49.076	54.756	1.795	4.805	...	H2-1
246	M252	L4X3X4	.112	1	2	.013	0	y	2	49.076	54.756	1.795	4.805	...	H2-1
247	M253	L4X3X4	.113	0	2	.005	4.5	y	2	35.431	54.756	1.795	4.661	...	H2-1
248	M254	L4X3X4	.096	4.5	2	.005	0	y	2	35.431	54.756	1.795	4.66	...	H2-1
249	M255	L4X3X4	.095	0	2	.009	1.2...	y	2	48.553	54.756	1.795	4.805	...	H2-1
250	M256	L4X3X4	.118	0	2	.005	4.5	y	2	35.431	54.756	1.795	4.662	...	H2-1
251	M257	L4X3X4	.097	4.5	2	.005	0	y	2	35.431	54.756	1.795	4.66	...	H2-1
252	M258	L4X3X4	.095	0	2	.009	1.2...	y	2	48.553	54.756	1.795	4.805	...	H2-1
253	M259	L4X3X4	.115	0	2	.005	4.5	y	2	35.431	54.756	1.795	4.662	...	H2-1
254	M260	L4X3X4	.102	4.5	2	.005	0	y	2	35.431	54.756	1.795	4.661	...	H2-1
255	M261	L4X3X4	.100	0	2	.009	1.2...	y	2	48.553	54.756	1.795	4.805	...	H2-1
256	M262	L4X3X4	.121	0	2	.005	4.5	y	2	35.431	54.756	1.795	4.664	...	H2-1
257	M263	L4X3X4	.106	4.5	2	.005	0	y	2	35.431	54.756	1.795	4.662	...	H2-1
258	M264	L4X3X4	.100	0	2	.009	1.2...	y	2	48.553	54.756	1.795	4.805	...	H2-1
259	M265	L4X3X4	.121	0	2	.005	4.5	y	2	35.431	54.756	1.795	4.664	...	H2-1
260	M266	L4X3X4	.100	4.5	2	.005	0	y	2	35.431	54.756	1.795	4.662	...	H2-1
261	M267	L4X3X4	.095	0	2	.009	1.2...	y	2	48.553	54.756	1.795	4.805	...	H2-1
262	M268	L4X3X4	.115	0	2	.005	4.5	y	2	35.431	54.756	1.795	4.663	...	H2-1
263	M269	L4X3X4	.107	4.5	2	.005	0	y	2	35.431	54.756	1.795	4.662	...	H2-1
264	M270	L4X3X4	.101	0	2	.010	1.2...	y	2	48.553	54.756	1.795	4.805	...	H2-1
265	M271	L3X3X4	.010	0	2	.000	0	y	2	28.8	46.656	1.688	3.345	1	H2-1
266	M272	L3X3X4	.008	0	2	.000	0	y	2	28.8	46.656	1.688	3.345	1	H2-1
267	M273	L3X3X4	.007	0	2	.000	0	y	2	28.8	46.656	1.688	3.345	1	H2-1
268	M274	L3X3X4	.010	0	2	.000	0	y	2	28.8	46.656	1.688	3.345	1	H2-1
269	M275	L3X3X4	.008	0	2	.000	0	y	7	28.8	46.656	1.688	3.345	1	H2-1
270	M276	L3X3X4	.007	0	2	.000	0	y	2	28.8	46.656	1.688	3.345	1	H2-1
271	M277	L3X3X4	.010	0	2	.000	0	y	2	28.8	46.656	1.688	3.345	1	H2-1
272	M278	L3X3X4	.008	0	2	.000	0	y	2	28.8	46.656	1.688	3.345	1	H2-1
273	M279	L3X3X4	.008	0	2	.000	0	y	3	28.8	46.656	1.688	3.345	1	H2-1

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

	Member	Shape	Code Check	Loc...	LC	She...	Loc...	...	...	phi*P...	phi*P...	phi*Mn y-y [k-ft]	phi*M...	...	Eqn
274	M280	L3X3X4	.025	3.1...	2	.002	6.4...	y	2	18.39	46.656	1.688	3.191	...	H2-1
275	M281	L3X3X4	.020	3.3...	2	.002	6.4...	y	2	18.39	46.656	1.688	3.191	...	H2-1
276	M282	L3X3X4	.026	3.1...	2	.002	0	y	2	18.39	46.656	1.688	3.191	...	H2-1
277	M283	L3X3X4	.020	3.3...	2	.001	6.4...	y	2	18.39	46.656	1.688	3.191	...	H2-1
278	M284	L3X3X4	.025	3.1...	2	.002	0	y	2	18.39	46.656	1.688	3.191	...	H2-1
279	M285	L3X3X4	.021	3.3...	2	.002	0	y	2	18.39	46.656	1.688	3.191	...	H2-1
280	M292	LL4x4x4...	.017	0	4	.002	0	y	2	82.407	125.0...	12.586	5.548	1	H1-1b
281	M293	LL4x4x4...	.019	6.5...	2	.002	6.5...	y	2	82.407	125.0...	12.586	5.548	1	H1-1b
282	M294	LL4x4x4...	.015	0	2	.002	0	y	2	82.407	125.0...	12.586	5.548	1	H1-1b
283	M295	L6X6X5	.012	0	2	.005	.742	z	4	25.726	118.9...	9.302	14.215	...	H2-1
284	M296	L6X6X5	.004	.742	4	.001	.742	z	4	25.726	118.9...	9.302	16.791	1	H2-1
285	M297	L6X6X5	.005	.742	4	.000	.742	z	3	25.726	118.9...	9.302	16.791	1	H2-1
286	M298	L6X6X5	.005	0	4	.000	0	z	4	25.726	118.9...	9.302	16.791	1	H2-1
287	M299	L6X6X5	.005	0	4	.001	0	z	3	25.726	118.9...	9.302	16.791	1	H2-1
288	M300	L6X6X5	.009	.742	2	.005	0	z	4	25.726	118.9...	9.302	14.529	...	H2-1
289	M301	L6X6X5	.011	0	2	.005	.742	z	4	25.726	118.9...	9.302	14.219	...	H2-1
290	M302	L6X6X5	.004	.742	4	.001	.742	z	4	25.726	118.9...	9.302	16.791	1	H2-1
291	M303	L6X6X5	.004	.742	3	.001	.742	z	3	25.726	118.9...	9.302	16.791	1	H2-1
292	M304	L6X6X5	.004	0	4	.000	0	z	4	25.726	118.9...	9.302	16.791	1	H2-1
293	M305	L6X6X5	.004	0	3	.001	0	z	3	25.726	118.9...	9.302	16.791	1	H2-1
294	M306	L6X6X5	.006	.742	2	.005	0	z	3	25.726	118.9...	9.302	15.206	...	H2-1
295	M307	L6X6X5	.009	0	2	.005	.742	z	4	25.726	118.9...	9.302	14.607	...	H2-1
296	M308	L6X6X5	.005	.742	3	.001	.742	z	4	25.726	118.9...	9.302	16.791	1	H2-1
297	M309	L6X6X5	.005	.742	3	.000	.742	z	3	25.726	118.9...	9.302	16.791	1	H2-1
298	M310	L6X6X5	.005	0	3	.001	0	z	4	25.726	118.9...	9.302	16.791	1	H2-1
299	M311	L6X6X5	.005	0	3	.001	0	z	3	25.726	118.9...	9.302	16.791	1	H2-1
300	M312	L6X6X5	.007	.742	2	.005	0	z	3	25.726	118.9...	9.302	15.16	...	H2-1
301	M313	L6X6X5	.010	0	2	.006	.742	z	3	25.726	118.9...	9.302	14.526	...	H2-1
302	M314	L6X6X5	.005	.742	3	.001	.742	z	3	25.726	118.9...	9.302	16.791	1	H2-1
303	M315	L6X6X5	.005	.742	3	.000	.742	z	2	25.726	118.9...	9.302	16.791	1	H2-1
304	M316	L6X6X5	.005	0	3	.000	0	z	4	25.726	118.9...	9.302	16.791	1	H2-1
305	M317	L6X6X5	.005	0	3	.001	0	z	3	25.726	118.9...	9.302	16.791	1	H2-1
306	M318	L6X6X5	.005	0	3	.004	0	z	3	25.726	118.9...	9.302	16.791	1	H2-1
307	M319	L6X6X5	.020	0	4	.008	.742	z	3	25.726	118.9...	9.302	13.788	...	H2-1
308	M320	L6X6X5	.004	.742	3	.002	.742	z	3	25.726	118.9...	9.302	16.791	1	H2-1
309	M321	L6X6X5	.005	.742	3	.001	.742	z	2	25.726	118.9...	9.302	16.791	1	H2-1
310	M322	L6X6X5	.005	0	3	.001	0	z	3	25.726	118.9...	9.302	16.791	1	H2-1
311	M323	L6X6X5	.004	0	3	.001	0	z	2	25.726	118.9...	9.302	16.791	1	H2-1
312	M324	L6X6X5	.019	.742	2	.008	0	z	2	25.726	118.9...	9.302	14.085	...	H2-1
313	M325	L6X6X5	.016	0	2	.007	.742	z	2	25.726	118.9...	9.302	14.104	...	H2-1
314	M326	L6X6X5	.004	.742	3	.001	.742	z	2	25.726	118.9...	9.302	16.791	1	H2-1
315	M327	L6X6X5	.003	.742	3	.001	.742	z	2	25.726	118.9...	9.302	16.791	1	H2-1
316	M328	L6X6X5	.004	0	3	.001	0	z	3	25.726	118.9...	9.302	16.791	1	H2-1
317	M329	L6X6X5	.003	0	3	.002	0	z	2	25.726	118.9...	9.302	16.791	1	H2-1
318	M330	L6X6X5	.018	.742	2	.008	0	z	2	25.726	118.9...	9.302	14.157	...	H2-1
319	M331	L6X6X5	.004	0	3	.003	.742	z	2	25.726	118.9...	9.302	15.924	...	H2-1
320	M332	L6X6X5	.004	.742	2	.001	.742	z	3	25.726	118.9...	9.302	16.791	1	H2-1
321	M333	L6X6X5	.003	0	2	.000	0	z	3	25.726	118.9...	9.302	16.791	1	H2-1
322	M334	L6X6X5	.003	0	2	.001	0	z	3	25.726	118.9...	9.302	16.791	1	H2-1
323	M335	L6X6X5	.003	0	2	.001	0	z	2	25.726	118.9...	9.302	16.791	1	H2-1
324	M336	L6X6X5	.012	.742	4	.005	0	z	2	25.726	118.9...	9.302	13.68	...	H2-1
325	M337	L6X6X5	.008	0	3	.004	.742	z	2	25.726	118.9...	9.302	14.065	...	H2-1
326	M338	L6X6X5	.003	.742	2	.001	.742	z	2	25.726	118.9...	9.302	16.791	1	H2-1
327	M339	L6X6X5	.003	.742	2	.000	.742	z	4	25.726	118.9...	9.302	16.791	1	H2-1
328	M340	L6X6X5	.003	0	2	.000	0	z	3	25.726	118.9...	9.302	16.791	1	H2-1
329	M341	L6X6X5	.003	0	2	.001	0	z	2	25.726	118.9...	9.302	16.791	1	H2-1
330	M342	L6X6X5	.010	.742	4	.004	0	z	2	25.726	118.9...	9.302	13.92	...	H2-1

Company : AT&T Mobility
Designer : MER
Job Number : 370624 - OAA745070_C3_01
Model Name : Mankes Silo, CT

Feb 22, 2019
1:31 PM
Checked By:_____

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

	Member	Shape	Code Check	Loc...	LC	She...	Loc...	...	...	phi*P...	phi*P...	phi*Mn y-y [k-ft]	phi*M...	...	Eqn
331	M343	L6X6X5	.009	0	3	.004	.742	z	2	25.726	118.9...	9.302	13.666	...	H2-1
332	M344	L6X6X5	.003	.742	2	.001	.742	z	2	25.726	118.9...	9.302	16.791	1	H2-1
333	M345	L6X6X5	.003	.742	2	.000	.742	z	4	25.726	118.9...	9.302	16.791	1	H2-1
334	M346	L6X6X5	.003	0	2	.000	0	z	2	25.726	118.9...	9.302	16.791	1	H2-1
335	M347	L6X6X5	.003	0	2	.001	0	z	2	25.726	118.9...	9.302	16.791	1	H2-1
336	M348	L6X6X5	.014	.742	3	.005	0	z	2	25.726	118.9...	9.302	13.521	...	H2-1
337	M349	L6X6X5	.008	0	3	.003	.742	z	2	25.726	118.9...	9.302	13.457	...	H2-1
338	M350	L6X6X5	.003	.742	4	.001	.742	z	2	25.726	118.9...	9.302	16.791	1	H2-1
339	M351	L6X6X5	.003	.742	4	.000	.742	z	4	25.726	118.9...	9.302	16.791	1	H2-1
340	M352	L6X6X5	.003	0	4	.000	0	z	3	25.726	118.9...	9.302	16.791	1	H2-1
341	M353	L6X6X5	.003	0	4	.001	0	z	4	25.726	118.9...	9.302	16.791	1	H2-1
342	M354	L6X6X5	.012	.742	3	.004	0	z	4	25.726	118.9...	9.302	13.561	...	H2-1
343	M355	L6X6X5	.004	.742	4	.002	.742	z	4	25.726	118.9...	9.302	16.791	1	H2-1
344	M356	L6X6X5	.004	.742	4	.001	.742	z	3	25.726	118.9...	9.302	16.791	1	H2-1
345	M357	L6X6X5	.004	.742	4	.000	.742	z	4	25.726	118.9...	9.302	16.791	1	H2-1
346	M358	L6X6X5	.004	0	4	.000	0	z	3	25.726	118.9...	9.302	16.791	1	H2-1
347	M359	L6X6X5	.004	0	4	.001	0	z	4	25.726	118.9...	9.302	16.791	1	H2-1
348	M360	L6X6X5	.007	.742	3	.003	0	z	4	25.726	118.9...	9.302	13.86	...	H2-1
349	M361	L6X6X5	.005	0	2	.003	.742	z	4	25.726	118.9...	9.302	15.122	...	H2-1
350	M362	L6X6X5	.005	.742	4	.001	.742	z	3	25.726	118.9...	9.302	16.791	1	H2-1
351	M363	L6X6X5	.005	.742	4	.000	.742	z	3	25.726	118.9...	9.302	16.791	1	H2-1
352	M364	L6X6X5	.005	.742	4	.000	.742	z	3	25.726	118.9...	9.302	16.791	1	H2-1
353	M365	L6X6X5	.005	0	4	.000	0	z	4	25.726	118.9...	9.302	16.791	1	H2-1
354	M366	L6X6X5	.005	0	4	.002	0	z	4	25.726	118.9...	9.302	16.791	1	H2-1
355	M370	HSS5x0...	.007	5.4...	4	.001	0		4	196.6...	214.4...	25.92	25.92	...	H1-1b
356	M371	LL4x4x4...	.029	10.1	2	.002	10.1	y	2	72.439	125.0...	12.586	5.548	...	H1-1b
357	M372	LL4x4x4...	.028	10.1	2	.002	10.1	y	2	72.439	125.0...	12.586	5.548	...	H1-1b
358	M373	LL4x4x4...	.028	10.1	2	.002	10.1	y	2	72.439	125.0...	12.586	5.548	...	H1-1b
359	M374	LL4x4x4...	.027	10.1	2	.002	10.1	y	2	72.439	125.0...	12.586	5.548	...	H1-1b
360	M375	LL4x4x4...	.026	10.1	2	.002	10.1	y	2	72.439	125.0...	12.586	5.548	...	H1-1b
361	M376	LL4x4x4...	.023	10.1	2	.002	10.1	y	2	72.439	125.0...	12.586	5.548	...	H1-1b
362	M377	LL4x4x4...	.025	0	2	.002	10.1	y	2	72.439	125.0...	12.586	5.548	...	H1-1b
363	M378	LL4x4x4...	.027	10.1	2	.002	10.1	y	2	72.439	125.0...	12.586	5.548	...	H1-1b
364	M379	LL4x4x4...	.027	10.1	2	.002	10.1	y	2	72.439	125.0...	12.586	5.548	...	H1-1b
365	M380	LL4x4x4...	.028	10.1	2	.002	10.1	y	2	72.439	125.0...	12.586	5.548	...	H1-1b
366	M381	LL4x4x4...	.028	10.1	2	.002	10.1	y	2	72.439	125.0...	12.586	5.548	...	H1-1b
367	M382	LL4x4x4...	.028	10.1	2	.002	10.1	y	2	72.439	125.0...	12.586	5.548	...	H1-1b

Envelope Plate/Shell Principal Stresses

	Plate		Sur...	Sigma1 [ksi]	LC	Sigma2 [ksi]	LC	Tau Max [...	LC	Angle [rad]	LC	Von Mises [ksi]	LC
1	P1	max	T	-.004	12	-.046	13	.055	4	.186	3	.119	4
2		min		-.016	4	-.126	4	.02	13	-.01	15	.043	13
3		max	B	-.004	12	-.045	13	.048	4	.194	3	.103	4
4		min		-.013	4	-.109	4	.02	13	-.01	15	.043	13
5	P2	max	T	-.005	12	-.048	13	.055	4	.171	3	.119	4
6		min		-.016	4	-.126	4	.022	13	-.017	15	.046	13
7		max	B	-.005	12	-.047	13	.048	4	.181	3	.103	4
8		min		-.013	4	-.109	4	.021	13	-.019	15	.045	13
9	P3	max	T	-.005	12	-.051	13	.055	4	.157	3	.118	4
10		min		-.016	4	-.125	4	.023	13	-.025	15	.049	13
11		max	B	-.005	12	-.049	13	.047	4	.169	3	.102	4
12		min		-.013	4	-.108	4	.022	13	-.028	15	.047	13
13	P4	max	T	-.006	12	-.054	13	.054	4	.143	3	.117	4
14		min		-.015	4	-.124	4	.024	13	-.033	15	.051	13
15		max	B	-.005	12	-.051	13	.047	4	.157	3	.101	4

Envelope Plate/Shell Principal Stresses (Continued)

	Plate		Sur...	Sigma1 [ksi]	LC	Sigma2 [ksi]	LC	Tau Max [...	LC	Angle [rad]	LC	Von Mises [ksi]	LC
16		min		-.013	4	-.107	4	.023	13	-.037	15	.049	13
17	P5	max	T	-.006	12	-.057	13	.053	4	.131	3	.115	4
18		min		-.015	4	-.122	4	.025	13	-.04	15	.054	13
19		max	B	-.006	12	-.053	13	.046	4	.145	3	.1	4
20		min		-.013	4	-.105	4	.024	13	-.046	4	.05	13
21	P6	max	T	-.007	12	-.059	13	.052	4	.119	3	.113	4
22		min		-.015	4	-.119	4	.026	13	-.048	15	.056	13
23		max	B	-.006	12	-.055	13	.046	4	.133	3	.098	4
24		min		-.012	4	-.104	4	.024	13	-.057	4	.052	13
25	P7	max	T	-.007	12	-.062	13	.051	4	.107	3	.11	4
26		min		-.014	4	-.117	4	.027	13	-.057	4	.059	13
27		max	B	-.006	12	-.057	13	.045	4	.121	3	.096	4
28		min		-.012	4	-.102	4	.025	13	-.067	4	.054	13
29	P8	max	T	-.007	12	-.064	13	.05	4	.097	3	.107	4
30		min		-.014	4	-.113	4	.028	13	-.067	4	.061	13
31		max	B	-.007	12	-.058	13	.044	4	.11	3	.094	4
32		min		-.012	4	-.1	4	.026	13	-.078	4	.055	13
33	P9	max	T	-.008	12	-.066	13	.048	4	.086	3	.104	4
34		min		-.013	4	-.11	4	.029	13	-.076	4	.063	13
35		max	B	-.007	12	-.06	13	.043	4	.099	3	.092	4
36		min		-.011	4	-.097	4	.027	13	-.088	4	.057	13
37	P10	max	T	-.008	15	-.066	16	.048	3	.076	3	.104	3
38		min		-.013	3	-.11	3	.029	16	-.086	4	.063	16
39		max	B	-.007	15	-.06	16	.043	3	.088	3	.092	3
40		min		-.011	3	-.097	3	.027	16	-.099	4	.057	16
41	P11	max	T	-.007	15	-.064	16	.05	3	.066	3	.107	3
42		min		-.014	3	-.114	3	.028	16	-.097	4	.061	16
43		max	B	-.007	15	-.059	16	.044	3	.077	3	.094	3
44		min		-.012	3	-.1	3	.026	16	-.11	4	.055	16
45	P12	max	T	-.007	15	-.062	16	.051	3	.057	3	.11	3
46		min		-.014	3	-.117	3	.027	16	-.107	4	.059	16
47		max	B	-.006	15	-.057	16	.045	3	.067	3	.097	3
48		min		-.012	3	-.102	3	.025	16	-.121	4	.054	16
49	P13	max	T	-.007	15	-.06	16	.053	3	.048	3	.113	3
50		min		-.015	3	-.12	3	.026	16	-.119	4	.056	16
51		max	B	-.006	15	-.055	16	.046	3	.056	3	.098	3
52		min		-.012	3	-.104	3	.025	16	-.133	4	.052	16
53	P14	max	T	-.006	15	-.057	16	.054	3	.039	12	.115	3
54		min		-.015	3	-.122	3	.025	16	-.13	4	.054	16
55		max	B	-.006	15	-.053	16	.047	3	.046	3	.1	3
56		min		-.013	3	-.106	3	.024	16	-.144	4	.051	16
57	P15	max	T	-.006	15	-.054	16	.054	3	.031	12	.117	3
58		min		-.015	3	-.124	3	.024	16	-.143	4	.052	16
59		max	B	-.005	15	-.051	16	.047	3	.036	12	.101	3
60		min		-.013	3	-.107	3	.023	16	-.156	4	.049	16
61	P16	max	T	-.005	15	-.052	16	.055	3	.024	12	.118	3
62		min		-.016	3	-.126	3	.023	16	-.156	4	.049	16
63		max	B	-.005	15	-.049	16	.048	3	.027	12	.102	3
64		min		-.013	3	-.108	3	.022	16	-.168	4	.047	16
65	P17	max	T	-.005	15	-.049	16	.055	3	.016	12	.119	3
66		min		-.016	3	-.127	3	.022	16	-.17	4	.047	16
67		max	B	-.005	15	-.047	16	.048	3	.018	12	.103	3
68		min		-.013	3	-.109	3	.021	16	-.18	4	.045	16
69	P18	max	T	-.005	15	-.046	16	.056	3	.009	12	.12	3
70		min		-.016	3	-.127	3	.021	16	-.185	4	.044	16
71		max	B	-.004	15	-.045	16	.048	3	.009	12	.103	3
72		min		-.013	3	-.109	3	.02	16	-.192	4	.043	16

Envelope Plate/Shell Principal Stresses (Continued)

	Plate		Sur...	Sigma1 [ksi]	LC	Sigma2 [ksi]	LC	Tau Max [...	LC	Angle [rad]	LC	Von Mises [ksi]	LC
73	P19	max	T	-.004	15	-.043	16	.056	3	0	12	.12	3
74		min		-.016	3	-.127	3	.019	16	-.201	4	.041	16
75		max	B	-.004	15	-.043	16	.048	3	0	2	.103	3
76		min		-.013	3	-.11	3	.02	16	-.204	4	.041	16
77	P20	max	T	-.004	15	-.04	16	.055	3	0	2	.12	3
78		min		-.016	3	-.127	3	.018	16	-.218	4	.039	16
79		max	B	-.004	15	-.041	16	.048	3	0	2	.103	3
80		min		-.013	3	-.109	3	.019	16	-.217	4	.039	16
81	P21	max	T	-.003	4	-.038	16	.055	3	0	2	.119	3
82		min		-.016	3	-.126	3	.017	16	-.237	4	.036	16
83		max	B	-.003	4	-.039	16	.048	3	0	2	.103	3
84		min		-.013	3	-.109	3	.018	16	-.229	4	.037	16
85	P22	max	T	-.002	4	-.035	16	.054	3	0	2	.117	3
86		min		-.015	3	-.124	3	.016	16	-.258	4	.033	16
87		max	B	-.003	4	-.037	16	.047	3	0	2	.102	3
88		min		-.013	3	-.108	3	.017	16	-.242	4	.036	16
89	P23	max	T	-.001	4	-.032	16	.054	3	0	2	.116	3
90		min		-.015	3	-.122	3	.015	16	-.281	4	.031	16
91		max	B	-.002	4	-.035	16	.047	3	0	2	.1	3
92		min		-.013	3	-.106	3	.016	16	-.254	4	.034	16
93	P24	max	T	0	4	-.03	16	.053	3	0	2	.113	3
94		min		-.015	3	-.12	3	.014	16	-.306	4	.028	16
95		max	B	-.002	4	-.033	16	.046	3	0	2	.099	3
96		min		-.012	3	-.104	3	.015	16	-.265	4	.032	16
97	P25	max	T	0	4	-.027	16	.052	3	0	2	.111	3
98		min		-.014	3	-.117	3	.012	16	-.335	4	.026	16
99		max	B	-.001	4	-.031	16	.045	3	0	2	.097	3
100		min		-.012	3	-.102	3	.014	16	-.276	4	.03	16
101	P26	max	T	.001	4	-.025	16	.05	3	0	2	.108	3
102		min		-.014	3	-.114	3	.011	16	-.367	4	.024	16
103		max	B	0	4	-.03	16	.044	3	0	2	.095	3
104		min		-.012	3	-.1	3	.013	16	-.286	4	.028	16
105	P27	max	T	.002	4	-.02	4	.049	3	0	2	.105	3
106		min		-.013	3	-.111	3	.01	16	-.405	4	.021	4
107		max	B	0	4	-.028	16	.043	3	0	2	.093	3
108		min		-.011	3	-.098	3	.013	16	-.294	4	.027	16
109	P28	max	T	.002	4	-.016	4	.047	3	0	2	.101	3
110		min		-.012	3	-.107	3	.009	4	-.448	4	.018	4
111		max	B	0	4	-.026	16	.042	3	0	2	.09	3
112		min		-.011	3	-.095	3	.012	16	-.3	4	.025	16
113	P29	max	T	.003	4	-.013	4	.045	3	0	2	.097	3
114		min		-.012	3	-.102	3	.008	4	-.498	4	.015	4
115		max	B	0	4	-.024	4	.041	3	0	2	.087	3
116		min		-.01	3	-.092	3	.011	16	-.302	4	.024	16
117	P30	max	T	.003	4	-.01	4	.043	3	0	2	.093	3
118		min		-.011	3	-.098	3	.007	4	-.557	4	.012	4
119		max	B	0	4	-.022	4	.039	3	0	2	.084	3
120		min		-.009	3	-.088	3	.011	16	-.3	4	.021	4
121	P31	max	T	.004	4	-.007	4	.041	3	0	2	.088	3
122		min		-.01	3	-.093	3	.005	4	-.629	4	.009	4
123		max	B	0	4	-.019	4	.038	3	0	2	.081	3
124		min		-.009	3	-.085	3	.009	4	-.291	4	.019	4
125	P32	max	T	.004	4	-.004	4	.039	3	0	2	.084	3
126		min		-.009	3	-.088	3	.004	4	-.718	4	.007	4
127		max	B	0	4	-.017	4	.036	3	0	2	.077	3
128		min		-.009	2	-.081	3	.008	4	-.272	4	.017	4
129	P33	max	T	.004	4	-.002	4	.037	3	2.311	4	.079	3

Envelope Plate/Shell Principal Stresses (Continued)

	Plate		Sur...	Sigma1 [ksi]	LC	Sigma2 [ksi]	LC	Tau Max [...	LC	Angle [rad]	LC	Von Mises [ksi]	LC
130		min		-.009	2	-.083	3	.003	4	-.183	15	.006	4
131		max	B	0	4	-.015	4	.035	3	0	2	.074	3
132		min		-.009	2	-.077	3	.007	4	-.241	4	.015	4
133	P34	max	T	.004	4	0	4	.035	3	2.165	4	.074	3
134		min		-.009	2	-.077	3	.003	4	-.155	3	.005	4
135		max	B	0	4	-.014	4	.033	3	0	2	.07	3
136		min		-.009	2	-.073	3	.006	4	-.193	4	.013	4
137	P35	max	T	.004	4	0	4	.033	3	1.975	4	.069	3
138		min		-.009	2	-.072	3	.002	4	-.169	3	.004	4
139		max	B	0	4	-.013	4	.032	3	0	2	.067	2
140		min		-.009	2	-.071	2	.006	4	-.179	3	.012	4
141	P36	max	T	.004	4	.001	4	.032	2	1.712	4	.068	2
142		min		-.009	2	-.072	2	.002	4	-.184	3	.004	4
143		max	B	-.001	4	-.012	4	.031	2	0	2	.067	2
144		min		-.009	2	-.071	2	.005	4	-.191	3	.012	4
145	P37	max	T	.004	4	.001	4	.032	2	1.426	4	.068	2
146		min		-.009	2	-.072	2	.002	4	-.2	3	.004	4
147		max	B	-.001	4	-.012	4	.031	2	.046	4	.067	2
148		min		-.009	2	-.071	2	.005	4	-.204	3	.011	4
149	P38	max	T	.005	4	0	4	.032	2	1.17	4	.068	2
150		min		-.009	2	-.072	2	.002	4	-.217	3	.004	4
151		max	B	0	4	-.013	4	.031	2	.128	4	.067	2
152		min		-.009	2	-.071	2	.006	4	-.216	3	.012	4
153	P39	max	T	.005	4	0	4	.032	2	.984	4	.068	2
154		min		-.009	2	-.072	2	.003	4	-.236	3	.005	4
155		max	B	0	4	-.014	4	.031	2	.196	4	.067	2
156		min		-.009	2	-.071	2	.006	4	-.229	3	.013	4
157	P40	max	T	.004	4	-.002	4	.031	2	.841	4	.068	2
158		min		-.009	2	-.072	2	.003	4	-.257	3	.006	4
159		max	B	0	4	-.015	4	.031	2	.244	4	.067	2
160		min		-.009	2	-.071	2	.007	4	-.241	3	.015	4
161	P41	max	T	.004	4	-.004	4	.031	2	.729	4	.068	2
162		min		-.009	2	-.072	2	.004	4	-.281	3	.007	4
163		max	B	0	4	-.017	4	.031	2	.275	4	.067	2
164		min		-.008	2	-.071	2	.008	4	-.254	3	.017	4
165	P42	max	T	.004	4	-.007	4	.031	2	.64	4	.068	2
166		min		-.009	2	-.071	2	.005	4	-.307	3	.009	4
167		max	B	0	4	-.019	4	.031	2	.294	4	.067	2
168		min		-.008	2	-.071	2	.009	4	-.266	3	.019	4
169	P43	max	T	.004	4	-.009	4	.031	2	.567	4	.068	2
170		min		-.009	2	-.071	2	.006	4	-.337	3	.012	4
171		max	B	0	4	-.021	4	.031	2	.303	4	.067	2
172		min		-.008	2	-.071	2	.011	15	-.277	3	.021	4
173	P44	max	T	.003	4	-.013	4	.031	2	.506	4	.067	2
174		min		-.009	2	-.071	2	.008	4	-.37	3	.014	4
175		max	B	0	4	-.024	4	.031	2	.306	4	.067	2
176		min		-.008	2	-.071	2	.011	15	-.287	3	.024	15
177	P45	max	T	.003	4	-.016	4	.031	2	.454	4	.067	2
178		min		-.009	2	-.071	2	.009	15	-.409	3	.018	4
179		max	B	0	4	-.026	15	.031	2	.303	4	.067	2
180		min		-.008	2	-.071	2	.012	15	-.296	3	.025	15
181	P46	max	T	.003	3	-.016	3	.031	2	.41	4	.067	2
182		min		-.009	2	-.071	2	.009	3	-.454	3	.018	3
183		max	B	0	3	-.026	12	.031	2	.297	4	.067	2
184		min		-.008	2	-.071	2	.012	12	-.303	3	.025	12
185	P47	max	T	.003	3	-.012	3	.031	2	.372	4	.067	2
186		min		-.009	2	-.071	2	.008	3	-.508	3	.014	3

Company : AT&T Mobility
Designer : MER
Job Number : 370624 - OAA745070_C3_01
Model Name : Mankes Silo, CT

Feb 22, 2019
1:31 PM
Checked By:_____

Envelope Plate/Shell Principal Stresses (Continued)

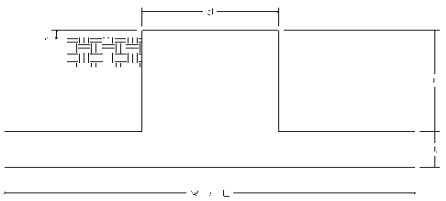
	Plate		Sur...	Sigma1 [ksi]	LC	Sigma2 [ksi]	LC	Tau Max [...	LC	Angle [rad]	LC	Von Mises [ksi]	LC
187		max	B	0	3	-.024	3	.031	2	.289	4	.067	2
188		min		-.008	2	-.071	2	.011	12	-.306	3	.023	12
189	P48	max	T	.004	3	-.009	3	.031	2	.339	4	.067	2
190		min		-.009	2	-.071	2	.006	3	-.573	3	.011	3
191		max	B	0	3	-.021	3	.031	2	.279	4	.067	2
192		min		-.008	2	-.071	2	.01	3	-.305	3	.021	3
193	P49	max	T	.004	3	-.006	3	.031	2	.31	4	.067	2
194		min		-.009	2	-.071	2	.005	3	-.652	3	.009	3
195		max	B	0	3	-.019	3	.031	2	.268	4	.067	2
196		min		-.008	2	-.07	2	.009	3	-.297	3	.019	3
197	P50	max	T	.004	3	-.004	3	.031	2	.284	4	.067	2
198		min		-.009	2	-.071	2	.004	3	-.75	3	.007	3
199		max	B	0	3	-.016	3	.031	2	.256	4	.067	2
200		min		-.008	2	-.07	2	.008	3	-.279	3	.016	3
201	P51	max	T	.005	3	-.002	3	.031	2	2.268	3	.067	2
202		min		-.009	2	-.071	2	.003	3	-.189	13	.006	3
203		max	B	0	3	-.015	3	.031	2	.244	4	.067	2
204		min		-.008	2	-.07	2	.007	3	-.249	3	.014	3
205	P52	max	T	.005	3	0	3	.031	2	2.112	3	.067	2
206		min		-.009	2	-.071	2	.003	3	-.158	13	.005	3
207		max	B	0	3	-.013	3	.031	2	.231	4	.067	2
208		min		-.008	2	-.07	2	.006	3	-.201	3	.013	3
209	P53	max	T	.005	3	0	3	.031	2	1.917	3	.067	2
210		min		-.009	2	-.071	2	.002	3	-.117	13	.005	3
211		max	B	0	3	-.012	3	.031	2	.219	4	.066	2
212		min		-.008	2	-.07	2	.006	3	-.133	3	.012	3
213	P54	max	T	.005	3	.001	3	.031	2	1.686	3	.067	2
214		min		-.009	2	-.071	2	.002	3	-.068	13	.005	3
215		max	B	-.001	3	-.011	3	.031	2	.206	4	.066	2
216		min		-.008	2	-.07	2	.005	3	-.047	3	.011	3
217	P55	max	T	.005	3	.001	3	.031	2	1.449	3	.067	2
218		min		-.009	2	-.071	2	.002	3	-.014	13	.005	3
219		max	B	-.001	3	-.011	3	.031	2	.193	4	.066	2
220		min		-.008	2	-.07	2	.005	3	-.006	13	.011	3
221	P56	max	T	.005	3	0	3	.032	4	1.229	3	.068	4
222		min		-.009	2	-.071	4	.002	3	0	2	.005	3
223		max	B	0	3	-.012	3	.031	4	.181	4	.066	2
224		min		-.008	2	-.07	2	.005	3	0	2	.011	3
225	P57	max	T	.005	3	0	3	.035	4	1.034	3	.073	4
226		min		-.009	2	-.077	4	.003	3	0	2	.005	3
227		max	B	0	3	-.013	3	.033	4	.204	3	.069	4
228		min		-.008	2	-.073	4	.006	3	0	2	.013	3
229	P58	max	T	.005	3	-.002	3	.037	4	.89	3	.078	4
230		min		-.009	2	-.082	4	.003	3	0	2	.006	3
231		max	B	0	3	-.014	3	.035	4	.254	3	.073	4
232		min		-.008	2	-.076	4	.007	3	0	2	.014	3
233	P59	max	T	.005	3	-.004	3	.039	4	.769	3	.083	4
234		min		-.009	4	-.087	4	.004	3	0	2	.007	3
235		max	B	0	3	-.016	3	.036	4	.285	3	.077	4
236		min		-.008	2	-.08	4	.008	3	0	2	.016	3
237	P60	max	T	.004	3	-.006	3	.041	4	.67	3	.088	4
238		min		-.01	4	-.092	4	.005	3	0	2	.009	3
239		max	B	0	3	-.018	3	.038	4	.303	3	.08	4
240		min		-.009	4	-.084	4	.009	3	0	2	.018	3
241	P61	max	T	.004	3	-.009	3	.043	4	.589	3	.092	4
242		min		-.011	4	-.097	4	.006	3	0	2	.011	3
243		max	B	0	3	-.021	3	.039	4	.311	3	.083	4

Envelope Plate/Shell Principal Stresses (Continued)

	Plate		Sur...	Sigma1 [ksi]	LC	Sigma2 [ksi]	LC	Tau Max [...	LC	Angle [rad]	LC	Von Mises [ksi]	LC
244		min		-.009	4	-.087	4	.01	3	0	2	.021	3
245	P62	max	T	.003	3	-.012	3	.045	4	.523	3	.096	4
246		min		-.012	4	-.101	4	.008	3	0	2	.014	3
247		max	B	0	3	-.023	3	.04	4	.312	3	.086	4
248		min		-.01	4	-.091	4	.011	13	0	2	.023	13
249	P63	max	T	.003	3	-.016	3	.047	4	.467	3	.1	4
250		min		-.012	4	-.106	4	.009	13	0	2	.017	3
251		max	B	0	3	-.026	13	.042	4	.309	3	.089	4
252		min		-.011	4	-.094	4	.012	13	0	2	.025	13
253	P64	max	T	.002	3	-.02	3	.048	4	.42	3	.104	4
254		min		-.013	4	-.11	4	.01	13	0	2	.021	3
255		max	B	0	3	-.027	13	.043	4	.302	3	.092	4
256		min		-.011	4	-.097	4	.012	13	0	2	.026	13
257	P65	max	T	.001	3	-.024	3	.05	4	.379	3	.107	4
258		min		-.014	4	-.113	4	.011	13	0	2	.023	13
259		max	B	0	3	-.029	13	.044	4	.293	3	.094	4
260		min		-.012	4	-.099	4	.013	13	0	2	.028	13
261	P66	max	T	0	3	-.026	13	.051	4	.344	3	.11	4
262		min		-.014	4	-.116	4	.012	13	0	2	.025	13
263		max	B	-.001	3	-.031	13	.045	4	.282	3	.096	4
264		min		-.012	4	-.102	4	.014	13	0	2	.029	13
265	P67	max	T	0	3	-.029	13	.052	4	.314	3	.113	4
266		min		-.015	4	-.119	4	.013	13	0	2	.028	13
267		max	B	-.002	3	-.033	13	.046	4	.27	3	.098	4
268		min		-.012	4	-.104	4	.015	13	0	2	.031	13
269	P68	max	T	-.001	3	-.032	13	.053	4	.287	3	.115	4
270		min		-.015	4	-.121	4	.014	13	0	2	.03	13
271		max	B	-.002	3	-.035	13	.046	4	.258	3	.1	4
272		min		-.013	4	-.105	4	.016	13	0	2	.033	13
273	P69	max	T	-.002	3	-.034	13	.054	4	.262	3	.116	4
274		min		-.015	4	-.123	4	.016	13	0	2	.033	13
275		max	B	-.003	3	-.037	13	.047	4	.245	3	.101	4
276		min		-.013	4	-.107	4	.017	13	0	2	.035	13
277	P70	max	T	-.003	3	-.037	13	.055	4	.241	3	.118	4
278		min		-.016	4	-.125	4	.017	13	0	2	.035	13
279		max	B	-.003	3	-.039	13	.047	4	.232	3	.102	4
280		min		-.013	4	-.108	4	.017	13	0	2	.037	13
281	P71	max	T	-.004	12	-.04	13	.055	4	.221	3	.119	4
282		min		-.016	4	-.126	4	.018	13	0	2	.038	13
283		max	B	-.004	12	-.041	13	.048	4	.219	3	.102	4
284		min		-.013	4	-.108	4	.018	13	0	2	.039	13
285	P72	max	T	-.004	12	-.043	13	.055	4	.203	3	.119	4
286		min		-.016	4	-.126	4	.019	13	-.002	15	.041	13
287		max	B	-.004	12	-.043	13	.048	4	.206	3	.103	4
288		min		-.013	4	-.109	4	.019	13	-.002	15	.041	13

Site Name:	Mankes Silo, CT
Site Number:	370624
Engineering Number:	OAA745070
Engineer:	Matthew.Reeves
Date:	02/22/19
Tower Type:	MP

Program Last Updated: *5/13/2014*



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

Design / Analysis / Mapping:	Mapping	
Compression/Leg:	0.0	k
Uplift/Leg:	0	k
Total Shear:	50.5	k
Moment:	2029.6	k-ft
Tower + Appurtenance Weight:	488.8	k
Depth to Base of Foundation (l + t - h):	3.75	ft
Diameter of Pier (d):	0	ft
Height of Pier above Ground (h):	0	ft
Width of Pad (W):	19	ft
Length of Pad (L):	19	ft
Thickness of Pad (t):	3.75	ft
Tower Leg Center to Center:	0	ft
Number of Tower Legs:	1	(1 if MP or GT)
Tower Center from Mat Center:	0	ft
Depth Below Ground Surface to Water Table:	99	ft
Unit Weight of Concrete:	150	pcf
Unit Weight of Soil Above Water Table:	100	pcf
Unit Weight of Water:	62.4	pcf
Unit Weight of Soil Below Water Table:	37.6	pcf
Friction Angle of Uplift:	15	Degrees
Ultimate Coefficient of Shear Friction:	0.3	
Ultimate Compressive Bearing Pressure:	10000	psf
Ultimate Passive Pressure on Pad Face:	0	psf
$\phi_{Soil\ and\ Concrete\ Weight}$:	0.9	
ϕ_{Soil}:	0.75	

Overturning Moment Usage

Design OTM:	2218.8	k-ft
OTM Resistance:	5281.2	k-ft
Design OTM / OTM Resistance:	0.42	Result: OK

Soil Bearing Pressure Usage

Net Bearing Pressure:	4709	psf
Factored Nominal Bearing Pressure:	7500	psf
Net Bearing Pressure/Factored Nominal Bearing Pressure:	0.63	Result: OK
Load Direction Controling Design Bearing Pressure:	Diagonal to Pad Edge	

Sliding Factor of Safety

Total Factored Sliding Resistance:	137.3	k
Sliding Design / Sliding Resistance:	0.37	Result: OK

SITESAFE
RF COMPLIANCE EXPERTS

8618 Westwood Center Drive, Suite 315, Vienna, VA 22182
703.276.1100 ● 703.276.1169 fax
info@sitesafe.com ● www.sitesafe.com

Smartlink on behalf of AT&T Mobility, LLC
Site FA – 10035232
Site ID – CT2038 (MRCTB035094- MRCTB035146)
USID – 61169
Site Name – Chesire Tower Farms

1338 Highland Avenue
Cheshire, CT 06410

Latitude: N41-32-12.77
Longitude: W72-53-35.90
Structure Type: Water Tank

Report generated date: February 5, 2019
Report by: Nick Kutzke
Customer Contact: Ryan Burgdorfer

AT&T Mobility, LLC is compliant based on FCC Rules and Regulations.

Sitesafe logo is a registered trademark of Site Safe, LLC. All rights reserved.

sealed 6feb2019 mike@h2dc.com
H2DC PLLC CT CoA#: 0001714

Table of Contents

AT&T Proprietary (Internal use only). Not for use or disclosure outside the AT&T companies, except under written agreement. ©2018 AT&T Intellectual property. All rights reserved.

1 General Site Summary

1.1 Report Summary

AT&T Mobility, LLC	Summary
Access to Antennas Locked?	Yes
Max Cumulative Simulated RFE Level on the Water Tank	<1% General Public Limit
Max Cumulative Simulated RFE Level on the Rooftop Walking Surface	<1% General Public Limit 1
Max Cumulative Simulated RFE Level on the Ground	<1% General Public Limit
FCC & AT&T Compliant?	Yes
Optional AT&T Mitigation Items?	No

The following documents were provided by the client and were utilized to create this report:

RFDS: NEW-ENGLAND_CONNECTICUT_CTL02038_2019-LTE-Next-Carrier_LTE_mh705r_2051A0KPJQ_10035232_61169_09-19-2018_Final-Approved_v2.00

CD's: 10035232_AE201_190109_CTL02038_REV0.JMRL

RF Powers Used: NEW-ENGLAND_CONNECTICUT_CTL02038_2019-LTE-Next-Carrier_LTE_mh705r_2051A0KPJQ_10035232_61169_09-19-2018_Final-Approved_v2.00

1.2 Signage Summary

AT&T Signage Locations									
	Information 1	Information 2	Notice	Notice 2	Caution	Caution 2	Warning	Warning 2	Barriers
Base of Silo						**1**			
Alpha									
Beta									
Gamma									

Note: All existing signage was documented during a previous site visit 08/07/17.

1.3 Fall Arrest Anchor Point Summary

Fall Arrest Anchor & Parapet Info	Parapet Available (Y/N)	Parapet Height (inches)	Fall Arrest Anchor Available (Y/N)
Roof Safety Info	N	NA	N

AT&T Proprietary (Internal use only). Not for use or disclosure outside the AT&T companies, except under written agreement. ©2016 AT&T Intellectual property. All rights reserved

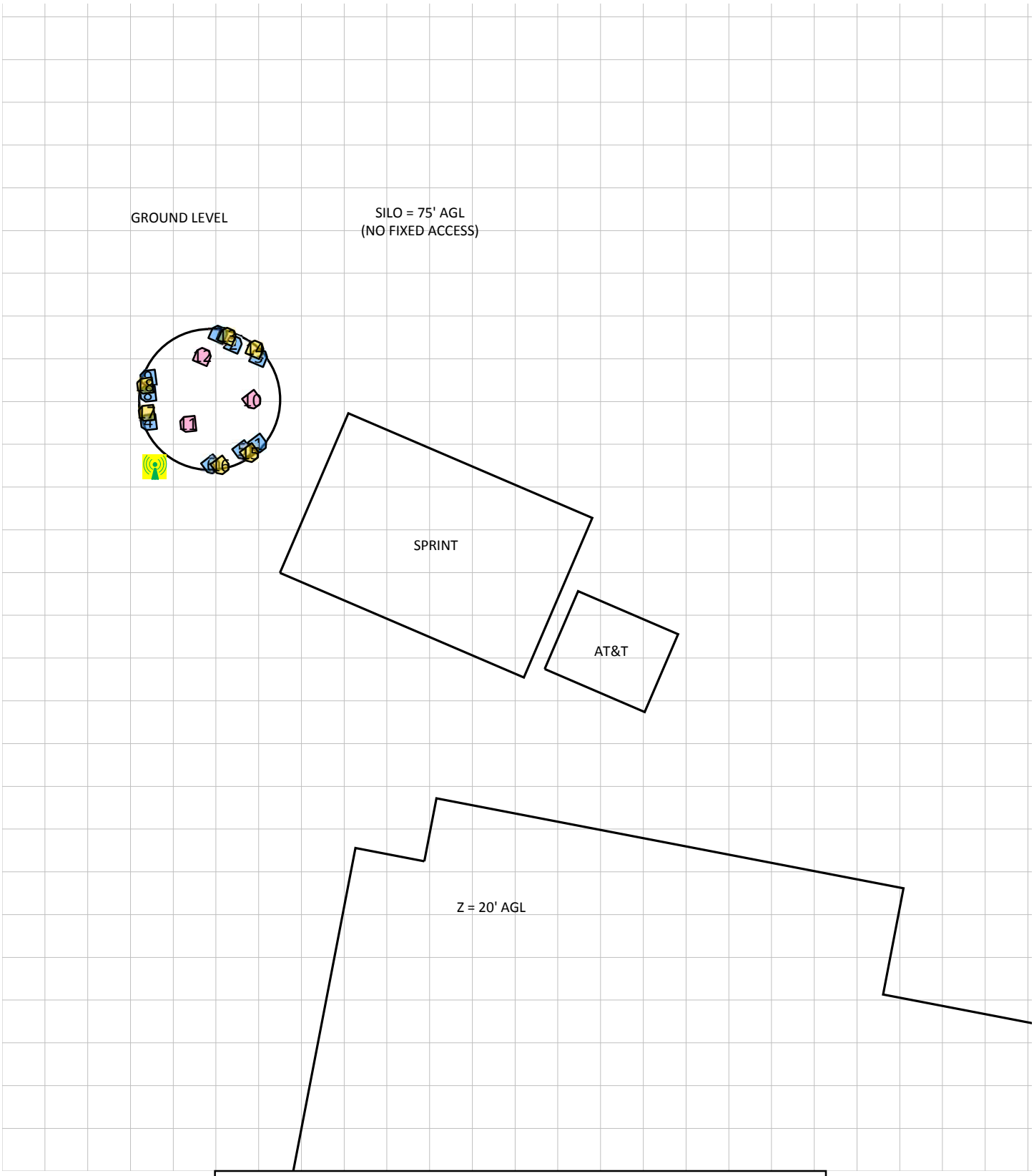
2 Scale Maps of Site

The following diagrams are included:

- Site Scale Map
- RF Exposure Diagram
- AT&T Mobility, LLC Contribution

AT&T Proprietary (Internal use only). Not for use or disclosure outside the AT&T companies, except under written agreement. ©2016 AT&T Intellectual property. All rights reserved

Site Scale Map For: Chesire Tower Farms



(Feet)

0 10 20.1

www.sitesafe.com
Site Name:Chesire Tower Farms
2/5/2019 9:51:39 AM

Carrier Identification

AT&T MOBILITY LLC | VERIZON WIRELESS | T-MOBILE | SPRINT | UNKNOWN CARRIER

Sign Legend

Caution 1 | Caution 2 | Notice 2 | Notice 1 | Warning | Warning 2 | Info 1 | Info 2 | RF Safety Plan

Barrier

Proposed Barriers/ Signs

3 Antenna Inventory

The following antenna inventory was obtained by the customer and was utilized to create the site model diagrams:

Ant ID	Operator	Antenna Make & Model	Type	TX Freq (MHz)	Technology	Az (Deg)	Hor BW (Deg)	Ant Len (ft)	Power	Power Type	Power Unit	Radio Count	Total ERP (Watts)	Ant Gain (dBd)	Z (AGL)	MDT	EDT
1	AT&T MOBILITY LLC	KMW AM-X-CD-16-65-00T	Panel	850	UMTS	143	63	6	40	TPO	Watt	1	972.9	13.86	50'	0'	2'
2	AT&T MOBILITY LLC	Cci Antennas HPA-65R-BUU-H6	Panel	1900	LTE	23	61.1	6	120	TPO	Watt	1	3405.5	14.53	50'	0'	5'
3	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10966	Panel	850	LTE	23	66	8	160	TPO	Watt	1	4257.2	14.25	49'	0'	7'
3	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10966	Panel	737	LTE	23	67.9	8	160	TPO	Watt	1	3623.4	13.55	49'	0'	7'
3	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10966	Panel	2300	LTE	23	59.7	8	100	TPO	Watt	1	3935.5	15.95	49'	0'	3'
4	AT&T MOBILITY LLC	KMW AM-X-CD-16-65-00T	Panel	850	UMTS	263	63	6	40	TPO	Watt	1	972.9	13.86	50'	0'	2'
5	AT&T MOBILITY LLC	Cci Antennas HPA-65R-BUU-H8	Panel	1900	LTE	143	63.1	7.7	120	TPO	Watt	1	3590.7	14.76	49.2'	0'	6'
6	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10965	Panel	850	LTE	143	61.7	6.6	160	TPO	Watt	1	3682.3	13.62	49.7'	0'	9'
6	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10965	Panel	737	LTE	143	63.9	6.6	160	TPO	Watt	1	2845.2	12.5	49.7'	0'	9'
6	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10965	Panel	2300	LTE	143	59.1	6.6	100	TPO	Watt	1	3655.9	15.63	49.7'	0'	3'
7	AT&T MOBILITY LLC	KMW AM-X-CD-16-65-00T	Panel	850	UMTS	23	63	6	40	TPO	Watt	1	972.9	13.86	50'	0'	2'
8	AT&T MOBILITY LLC	Cci Antennas HPA-65R-BUU-H6	Panel	1900	LTE	263	61.1	6	120	TPO	Watt	1	3405.5	14.53	50'	0'	2'
9	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10966	Panel	850	LTE	263	66	8	160	TPO	Watt	1	4257.2	14.25	49'	0'	2'
9	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10966	Panel	737	LTE	263	67.9	8	160	TPO	Watt	1	3623.4	13.55	49'	0'	2'
9	AT&T MOBILITY LLC (Proposed)	Kathrein-Scala 800-10966	Panel	2300	LTE	263	59.7	8	100	TPO	Watt	1	3935.5	15.95	49'	0'	3'
10	T-MOBILE	Kathrein-Scala 800-10504	Panel	2130		143	59.4	4.5	60	TPO	Watt		2296.9	15.83	57.7'	0'	0'
11	T-MOBILE	Kathrein-Scala 800-10504	Panel	2130		263	59.4	4.5	60	TPO	Watt		2296.9	15.83	57.7'	0'	0'
12	T-MOBILE	Kathrein-Scala 800-10504	Panel	2130		23	59.4	4.5	60	TPO	Watt		2296.9	15.83	57.7'	0'	0'

AT&T Proprietary (Internal use only). Not for use or disclosure outside the AT&T companies, except under written agreement. ©2016 AT&T Intellectual property. All rights reserved

Ant ID	Operator	Antenna Make & Model	Type	TX Freq (MHz)	Technology	Az (Deg)	Hor BW (Deg)	Ant Len (ft)	Power	Power Type	Power Unit	Radio Count	Total ERP (Watts)	Ant Gain (dBd)	Z (AGL)	MDT	EDT
13	SPRINT (Not in Service)	Andrew DB844H65E-XY	Panel	862		23	65	4	0	TPO	Watt		0	13.2	68'	0'	0'
14	SPRINT (Not in Service)	Andrew DB844H65E-XY	Panel	862		23	65	4	0	TPO	Watt		0	13.2	68'	0'	0'
15	SPRINT (Not in Service)	Andrew DB844H65E-XY	Panel	862		143	65	4	0	TPO	Watt		0	13.2	68'	0'	0'
16	SPRINT (Not in Service)	Andrew DB844H65E-XY	Panel	862		143	65	4	0	TPO	Watt		0	13.2	68'	0'	0'
17	SPRINT (Not in Service)	Andrew DB844H65E-XY	Panel	862		263	65	4	0	TPO	Watt		0	13.2	68'	0'	0'
18	SPRINT (Not in Service)	Andrew DB844H65E-XY	Panel	862		263	65	4	0	TPO	Watt		0	13.2	68'	0'	0'

NOTE: X, Y and Z indicate relative position of the bottom of the antenna to the origin location on the site, displayed in the model results diagram. Specifically, the Z reference indicates the bottom of the antenna height above the main site level unless otherwise indicated. The distance to the bottom of the antenna is calculated by subtracting half of the length of the antenna from the antenna centerline. Effective Radiated Power (ERP) is provided by the operator or based on Sitesafe experience. The values used in the modeling may be greater than are currently deployed. For other operators at this site the use of "Generic" as an antenna model or "Unknown" for a wireless operator means the information with regard to operator, their FCC license and/or antenna information was not available nor could it be secured while on site. Other operator's equipment, antenna models and powers used for modeling are based on obtained information or Sitesafe experience.

AT&T Proprietary (Internal use only). Not for use or disclosure outside the AT&T companies, except under written agreement. ©2016 AT&T Intellectual property. All rights reserved

4 Emission Predictions

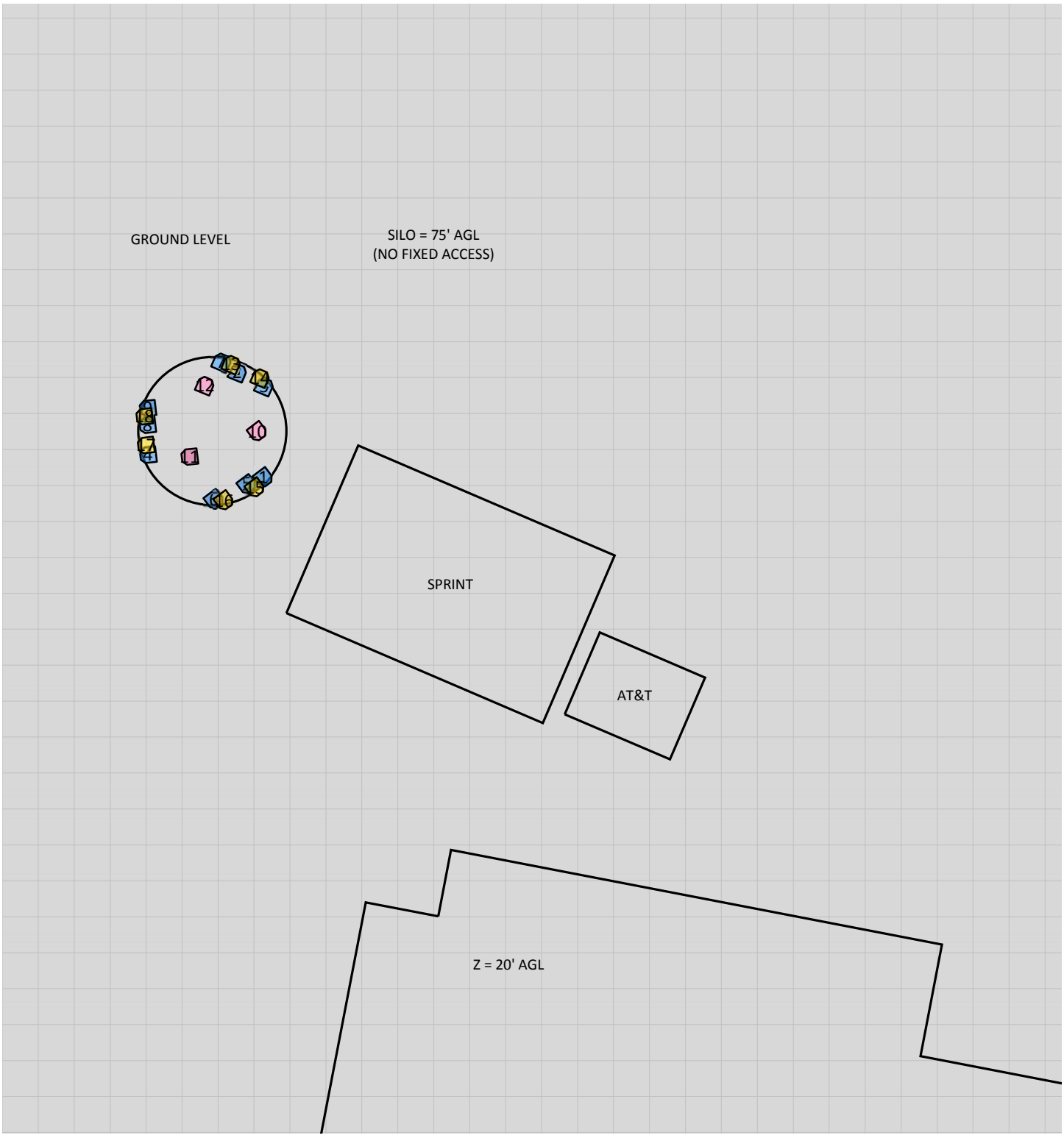
In the RF Exposure Simulations below all heights are reflected with respect to main site level. In most rooftop cases this is the height of the main rooftop and in other cases this can be ground level. Each different height area, rooftop, or platform level is labeled with its height relative to the main site level. Emissions are calculated appropriately based on the relative height and location of that area to all antennas. The total analyzed elevations in the below RF Exposure Simulations are listed below.

- GROUND LEVEL = 0'
- SILO = 75'
- Z = 20'

The Antenna Inventory heights are referenced to the same level.

AT&T Proprietary (Internal use only). Not for use or disclosure outside the AT&T companies, except under written agreement. ©2016 AT&T Intellectual property. All rights reserved

RF Exposure Simulation For: Chesire Tower Farms
Composite View



% of FCC Public Exposure Limit
Spatial average 0' - 6'

% of FCC Public Exposure Limit
>= 5000 | >= 500 | >= 100 | >= 5 | < 5

Carrier Identification
AT&T MOBILITY LLC | VERIZON WIRELESS | T-MOBILE | SPRINT | UNKNOWN CARRIER

Barrier

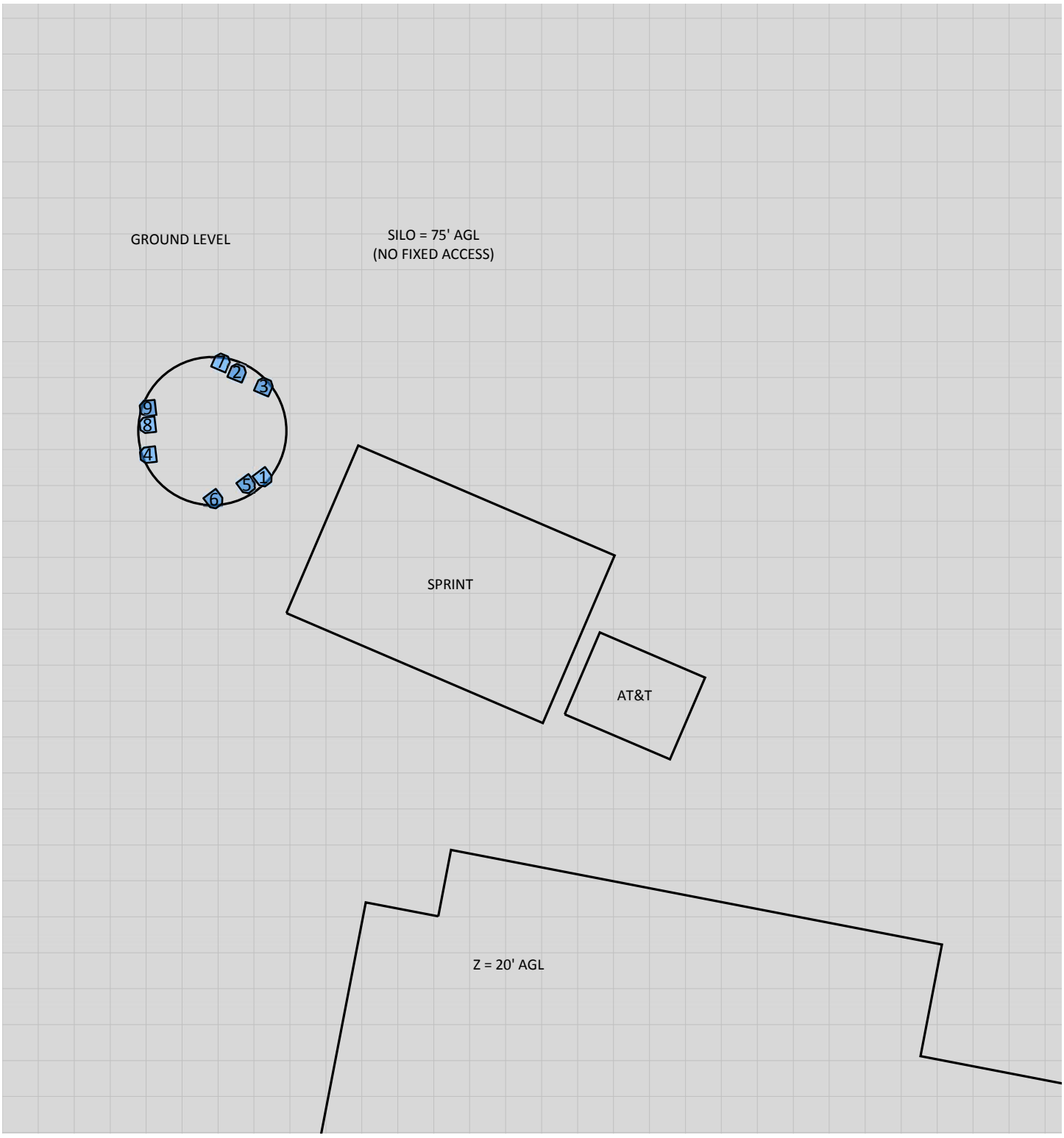
Proposed Barriers/ Signs

(Feet)
0 10.4 20.9

www.sitesafe.com
Site Name:Chesire Tower Farms
2/5/2019 9:50:16 AM

Sitesafe OET-65 Model
Near Field Boundary:
1.5 * Aperture
Reflection Factor: 1
Spatially Averaged

RF Exposure Simulation For: Chesire Tower Farms
AT&T Mobility, LLC Contribution



% of FCC Public Exposure Limit
Spatial average 0' - 6'

% of FCC Public Exposure Limit

>= 5000	>= 500	>= 100	>= 5	< 5

Carrier Identification

AT&T MOBILITY LLC | VERIZON WIRELESS | T-MOBILE | SPRINT | UNKNOWN CARRIER

Barrier

Proposed Barriers/ Signs

(Feet)

0 10.4 20.9

www.sitesafe.com
Site Name:Chesire Tower Farms
2/5/2019 9:50:16 AM

Sitesafe OET-65 Model
Near Field Boundary:
1.5 * Aperture
Reflection Factor: 1
Spatially Averaged

5 Site Compliance

5.1 Site Compliance Statement

Upon evaluation of the cumulative RF emission levels from all operators at this site, RF hazard signage and antenna locations, Sitesafe has determined that:

AT&T Mobility, LLC is compliant with the FCC rules and regulations, as described in OET Bulletin 65.

The compliance determination is based on General Public RFE levels derived from theoretical modeling, RF signage placement, proposed antenna inventory and the level of restricted access to the antennas at the site. Any deviation from the AT&T Mobility, LLC's proposed deployment plan could result in the site being rendered non-compliant.

Modeling is used for determining compliance and the percentage of MPE contribution.

5.2 Actions for Site Compliance

Based on FCC regulations, common industry practice, and our understanding of AT&T Mobility, LLC RF Safety Policy requirements, this section provides a statement of recommendations for site compliance. Recommendations have been proposed based on our understanding of existing access restrictions, signage, and an analysis of predicted RFE levels.

AT&T Mobility, LLC is compliant with the FCC rules and regulations.

Notes:

- Ensure all existing signage and barriers documented in this report still exist at the site, unless otherwise indicated.

AT&T Proprietary (Internal use only). Not for use or disclosure outside the AT&T companies, except under written agreement. ©2016 AT&T Intellectual property. All rights reserved

6 Engineer Certification

The professional engineer whose seal appears on the cover of this document hereby certifies and affirms:

That I, Michael A McGuire, am currently and actively licensed to provide (in this state/jurisdiction as indicated within the professional electrical engineering seal on the cover of this document) professional electrical engineering services, as an employee of Hurricane Hill Development Company, PLLC , a duly authorized/registered engineering firm (in this state, as applicable) on behalf of SiteSafe, LLC; and

That I am thoroughly familiar with the Rules and Regulations of the Federal Communications Commission (FCC) as well as the regulations of the Occupational Safety and Health Administration (OSHA), both in general and specifically as they apply to the FCC Guidelines for Human Exposure to Radio-frequency Radiation; and

That I have thoroughly reviewed this Site Compliance Report and believe it to be true and accurate to the best of my knowledge as assembled by and attested to by Nick Kutzke.

February 5, 2019

AT&T Proprietary (Internal use only). Not for use or disclosure outside the AT&T companies, except under written agreement. ©2016 AT&T Intellectual property. All rights reserved

Appendix A – Statement of Limiting Conditions

Sitesafe has provided computer generated model(s) in this Site Compliance Report to show approximate dimensions of the site, and the model is included to assist the reader of the compliance report to visualize the site area, and to provide supporting documentation for Sitesafe's recommendations.

Sitesafe may note in the Site Compliance Report any adverse physical conditions, such as needed repairs, that Sitesafe became aware of during the normal research involved in creating this report. Sitesafe will not be responsible for any such conditions that do exist or for any engineering or testing that might be required to discover whether such conditions exist. Because Sitesafe is not an expert in the field of mechanical engineering or building maintenance, the Site Compliance Report must not be considered a structural or physical engineering report.

Sitesafe obtained information used in this Site Compliance Report from sources that Sitesafe considers reliable and believes them to be true and correct. Sitesafe does not assume any responsibility for the accuracy of such items that were furnished by other parties. When conflicts in information occur between data collected by Sitesafe provided by a second party and data collected by Sitesafe, the data will be used.

AT&T Proprietary (Internal use only). Not for use or disclosure outside the AT&T companies, except under written agreement. ©2016 AT&T Intellectual property. All rights reserved

Appendix B – Regulatory Background Information

FCC Rules and Regulations

In 1996, the Federal Communications Commission (FCC) adopted regulations for the evaluating of the effects of RF emissions in 47 CFR § 1.1307 and 1.1310. The guideline from the FCC Office of Engineering and Technology is Bulletin 65 ("OET Bulletin 65"), *Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields*, Edition 97-01, published August 1997. Since 1996 the FCC periodically reviews these rules and regulations as per their congressional mandate.

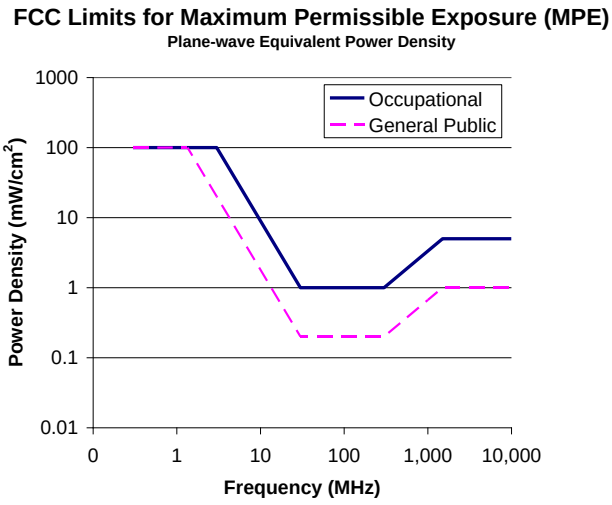
FCC regulations define two separate tiers of exposure limits: Occupational or "Controlled environment" and General Public or "Uncontrolled environment". The General Public limits are generally five times more conservative or restrictive than the Occupational limit. These limits apply to *accessible* areas where workers or the general public may be exposed to Radio Frequency (RF) electromagnetic fields.

Occupational or Controlled limits apply in situations in which persons are exposed as a consequence of their employment and where those persons exposed have been made fully aware of the potential for exposure and can exercise control over their exposure.

An area is considered a Controlled environment when access is limited to these aware personnel. Typical criteria are restricted access (i.e. locked or alarmed doors, barriers, etc.) to the areas where antennas are located coupled with proper RF warning signage. A site with Controlled environments is evaluated with Occupational limits.

All other areas are considered Uncontrolled environments. If a site has no access controls or no RF warning signage it is evaluated with General Public limits.

The theoretical modeling of the RF electromagnetic fields has been performed in accordance with OET Bulletin 65. The Maximum Permissible Exposure (MPE) limits utilized in this analysis are outlined in the following diagram:



AT&T Proprietary (Internal use only). Not for use or disclosure outside the AT&T companies, except under written agreement. ©2016 AT&T Intellectual property. All rights reserved

Limits for Occupational/Controlled Exposure (MPE)

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

Limits for General Population/Uncontrolled Exposure (MPE)

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

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

OSHA Statement

The General Duty clause of the OSHA Act (Section 5) outlines the occupational safety and health responsibilities of the employer and employee. The General Duty clause in Section 5 states:

(a) Each employer –
- (1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;
- (2) shall comply with occupational safety and health standards promulgated under this Act.

(b) Each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct.

OSHA has defined Radiofrequency and Microwave Radiation safety standards for workers who may enter hazardous RF areas. Regulation Standards 29 CFR § 1910.147 identify a generic Lock Out Tag Out procedure aimed to control the unexpected energization or start up of machines when maintenance or service is being performed.

AT&T Proprietary (Internal use only). Not for use or disclosure outside the AT&T companies, except under written agreement. ©2016 AT&T Intellectual property. All rights reserved

Appendix C – Safety Plan and Procedures

The following items are general safety recommendations that should be administered on a site by site basis as needed by the carrier.

General Maintenance Work: Any maintenance personnel required to work immediately in front of antennas and / or in areas indicated as above 100% of the Occupational MPE limits should coordinate with the wireless operators to disable transmitters during their work activities.

Training and Qualification Verification: All personnel accessing areas indicated as exceeding the General Population MPE limits should have a basic understanding of EME awareness and RF Safety procedures when working around transmitting antennas. Awareness training increases a workers understanding to potential RF exposure scenarios. Awareness can be achieved in a number of ways (e.g. videos, formal classroom lecture or internet based courses).

Physical Access Control: Access restrictions to transmitting antennas locations is the primary element in a site safety plan. Examples of access restrictions are as follows:

- Locked door or gate
- Alarmed door
- Locked ladder access
- Restrictive Barrier at antenna (e.g. Chain link with posted RF Sign)

RF Signage: Everyone should obey all posted signs at all times. RF signs play an important role in properly warning a worker prior to entering into a potential RF Exposure area.

Assume all antennas are active: Due to the nature of telecommunications transmissions, an antenna transmits intermittently. Always assume an antenna is transmitting. Never stop in front of an antenna. If you have to pass by an antenna, move through as quickly and safely as possible thereby reducing any exposure to a minimum.

Maintain a 3 foot clearance from all antennas: There is a direct correlation between the strength of an EME field and the distance from the transmitting antenna. The further away from an antenna, the lower the corresponding EME field is.

Site RF Emissions Diagram: Section 4 of this report contains an RF Diagram that outlines various theoretical Maximum Permissible Exposure (MPE) areas at the site. The modeling is a worst case scenario assuming a duty cycle of 100% for each transmitting antenna at full power. This analysis is based on one of two access control criteria: General Public criteria means the access to the site is uncontrolled and anyone can gain access. Occupational criteria means the access is restricted and only properly trained individuals can gain access to the antenna locations.

AT&T Proprietary (Internal use only). Not for use or disclosure outside the AT&T companies, except under written agreement. ©2016 AT&T Intellectual property. All rights reserved

Appendix D – RF Emissions

The RF Emissions Simulation(s) in this report display theoretical spatially averaged percentage of the Maximum Permissible Exposure for all systems at the site unless otherwise noted. These diagrams use modeling as prescribed in OET Bulletin 65 and assumptions detailed in Appendix E.

The key at the bottom of each RF Emissions Simulation indicates percentages displayed referenced to FCC General Public Maximum Permissible Exposure (MPE) limits. Color coding on the diagram is as follows:

- Areas indicated as Gray are predicted to be below 5% of the MPE limits. Gray represents areas more than 20 times below the most conservative exposure limit.
- Green represents areas are predicted to be between 5% and 100% of the MPE limits. **Green areas are accessible to anyone**.
- Blue represents areas predicted to exceed the General Public MPE limits but are less than Occupational limits. **Blue areas should be accessible only to RF trained workers**.
- Yellow represents areas predicted to exceed Occupational MPE limits. Yellow areas should be accessible only to RF trained workers able to assess current exposure levels.
- Red represents areas predicted to have exposure more than 10 times the Occupational MPE limits. **Red indicates that the RF levels must be reduced prior to access.** An RF Safety Plan is required which outlines how to reduce the RF energy in these areas prior to access.

AT&T Proprietary (Internal use only). Not for use or disclosure outside the AT&T companies, except under written agreement. ©2016 AT&T Intellectual property. All rights reserved

Appendix E – Assumptions and Definitions

General Model Assumptions

In this site compliance report, it is assumed that all antennas are operating at **full power at all times**. Software modeling was performed for all transmitting antennas located on the site. Sitesafe has further assumed a 100% duty cycle and maximum radiated power.

The modeling is based on recommendations from the FCC's OET-65 bulletin with the following variances per AT&T guidance. Reflection has not been considered in the modeling, i.e. the reflection factor is 1.0. The near / far field boundary has been set to 1.5 times the aperture height of the antenna and modeling beyond that point is the lesser of the near field cylindrical model and the far field model taking into account the gain of the antenna.

The site has been modeled with these assumptions to show the maximum RF energy density. Areas modeled with exposure greater than 100% of the General Public MPE level may not actually occur, but are shown as a prediction that could be realized. Sitesafe believes these areas to be safe for entry by occupationally trained personnel utilizing appropriate personal protective equipment (in most cases, a personal monitor).

Use of Generic Antennas

For the purposes of this report, the use of "Generic" as an antenna model, or "Unknown" for an operator means the information about a carrier, their FCC license and/or antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use our industry specific knowledge of equipment, antenna models, and transmit power to model the site. If more specific information can be obtained for the unknown measurement criteria, Sitesafe recommends remodeling of the site utilizing the more complete and accurate data. Information about similar facilities is used when the service is identified and associated with a particular antenna. If no information is available regarding the transmitting service associated with an unidentified antenna, using the antenna manufacturer's published data regarding the antenna's physical characteristics makes more conservative assumptions.

Where the frequency is unknown, Sitesafe uses the closest frequency in the antenna's range that corresponds to the highest Maximum Permissible Exposure (MPE), resulting in a conservative analysis.

AT&T Proprietary (Internal use only). Not for use or disclosure outside the AT&T companies, except under written agreement. ©2016 AT&T Intellectual property. All rights reserved

Definitions

5% Rule – The rules adopted by the FCC specify that, in general, at multiple transmitter sites actions necessary to bring the area into compliance with the guidelines are the shared responsibility of all licensees whose transmitters produce field strengths or power density levels at the area in question in excess of 5% of the exposure limits. In other words, any wireless operator that contributes 5% or greater of the MPE limit in an area that is identified to be greater than 100% of the MPE limit is responsible taking corrective actions to bring the site into compliance.

Compliance – The determination of whether a site is safe or not with regards to Human Exposure to Radio Frequency Radiation from transmitting antennas.

Decibel (dB) – A unit for measuring power or strength of a signal.

Duty Cycle – The percent of pulse duration to the pulse period of a periodic pulse train. Also, may be a measure of the temporal transmission characteristic of an intermittently transmitting RF source such as a paging antenna by dividing average transmission duration by the average period for transmission. A duty cycle of 100% corresponds to continuous operation.

Effective (or Equivalent) Isotropic Radiated Power (EIRP) – The product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna.

Effective Radiated Power (ERP) – In a given direction, the relative gain of a transmitting antenna with respect to the maximum directivity of a half wave dipole multiplied by the net power accepted by the antenna from the connecting transmitter.

Gain (of an antenna) – The ratio of the maximum intensity in a given direction to the maximum radiation in the same direction from an isotropic radiator. Gain is a measure of the relative efficiency of a directional antennas as compared to an omni directional antenna.

General Population/Uncontrolled Environment – Defined by the FCC, as an area where exposure to RF energy may occur to persons who are **unaware** of the potential for exposure and who have no control of their exposure. General Population is also referenced as General Public.

Generic Antenna – For the purposes of this report, the use of "Generic" as an antenna model means the antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use our industry specific knowledge of antenna models to select a worst case scenario antenna to model the site.

Isotropic Antenna – An antenna that is completely non-directional. In other words, an antenna that radiates energy equally in all directions.

Maximum Measurement – This measurement represents the single largest measurement recorded when performing a spatial average measurement.

Maximum Permissible Exposure (MPE) – The maximum levels of RF exposure a person may be exposed to without harmful effect and with acceptable safety factor.

Occupational/Controlled Environment – Defined by the FCC, as an area where Radio Frequency Radiation (RFR) exposure may occur to persons who are **aware** of the

AT&T Proprietary (Internal use only). Not for use or disclosure outside the AT&T companies, except under written agreement. ©2016 AT&T Intellectual property. All rights reserved

potential for exposure as a condition of employment or specific activity and can exercise control over their exposure.

OET Bulletin 65 – Technical guideline developed by the FCC's Office of Engineering and Technology to determine the impact of Radio Frequency radiation on Humans. The guideline was published in August 1997.

OSHA (Occupational Safety and Health Administration) – Under the Occupational Safety and Health Act of 1970, employers are responsible for providing a safe and healthy workplace for their employees. OSHA's role is to promote the safety and health of America's working men and women by setting and enforcing standards; providing training, outreach and education; establishing partnerships; and encouraging continual process improvement in workplace safety and health. For more information, visit www.osha.gov.

Radio Frequency (RF) – The frequencies of electromagnetic waves which are used for radio communications. Approximately 3 kHz to 300 GHz.

Radio Frequency Exposure (RFE) – The amount of RF power density that a person is or might be exposed to.

Spatial Average Measurement – A technique used to average a minimum of ten (10) measurements taken in a ten (10) second interval from zero (0) to six (6) feet. This measurement is intended to model the average power density an average sized human will be exposed to at a location.

Transmitter Power Output (TPO) – The radio frequency output power of a transmitter's final radio frequency stage as measured at the output terminal while connected to a load.

AT&T Proprietary (Internal use only). Not for use or disclosure outside the AT&T companies, except under written agreement. ©2016 AT&T Intellectual property. All rights reserved

Appendix F – References

The following references can be followed for further information about RF Health and Safety.

Sitesafe, LLC.
http://www.sitesafe.com
FCC Radio Frequency Safety
http://www.fcc.gov/encyclopedia/radio-frequency-safety
National Council on Radiation Protection and Measurements (NCRP)
http://www.ncrponline.org
Institute of Electrical and Electronics Engineers, Inc., (IEEE)
http://www.ieee.org
American National Standards Institute (ANSI)
http://www.ansi.org
Environmental Protection Agency (EPA)
http://www.epa.gov/radtown/wireless-tech.html
National Institutes of Health (NIH)
http://www.niehs.nih.gov/health/topics/agents/emf/
Occupational Safety and Health Agency (OSHA)
http://www.osha.gov/SLTC/radiofrequencyradiation/
International Commission on Non-Ionizing Radiation Protection (ICNIRP)
http://www.icnirp.org
World Health Organization (WHO)
http://www.who.int/peh-emf/en/
National Cancer Institute
http://www.cancer.gov/cancertopics/factsheet/Risk/cellphones
American Cancer Society (ACS)
http://www.cancer.org/docroot/PED/content/PED_1_3X_Cellular_Phone_Towers.asp?siteareа=PED
European Commission Scientific Committee on Emerging and Newly Identified Health Risks
http://ec.europa.eu/health/ph_risk/committees/04_scenihr/docs/scenihr_o_022.pdf
Fairfax County, Virginia Public School Survey
http://www.fcps.edu/fts/safety-security/RFEESurvey/
UK Health Protection Agency Advisory Group on Non-ionising Radiation
http://www.hpa.org.uk/webw/HPAweb&HPAwebStandard/HPAweb_C/1317133826368
Norwegian Institute of Public Health
http://www.fhi.no/dokumenter/545eea7147.pdf

AT&T Proprietary (Internal use only). Not for use or disclosure outside the AT&T companies, except under written agreement. ©2016 AT&T Intellectual property. All rights reserved

The Assessor's office is responsible for the maintenance of records on the ownership of properties. Assessments are computed at 70% of the estimated market value of real property at the time of the last revaluation which was 2018.

Town of Cheshire

The bedding plant capital of Connecticut

Information on the Property Records for the Municipality of Cheshire was last updated on 2/15/2019.

Parcel Information

Location:	1338 HIGHLAND AVE	Property Use:	Industrial	Primary Use:	Warehouse
Unique ID:	00158400	Map Block Lot:	28 15	Acres:	3.00
Zone:	I-2	Volume / Page:	1672/0243	Developers Map / Lot:	18532
Census:	3431				

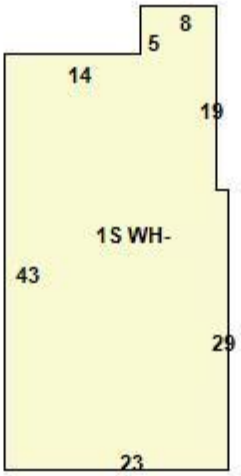
Value Information

	Appraised Value	Assessed Value
Land	445,500	2,920
Buildings	240,474	168,330
Detached Outbuildings	66,355	46,450
Total	752,329	217,700

Owner's Information

Owner's Data
MUDDDM LLC 1338 HIGHLAND AVE CHESHIRE, CT 06410

Building 1



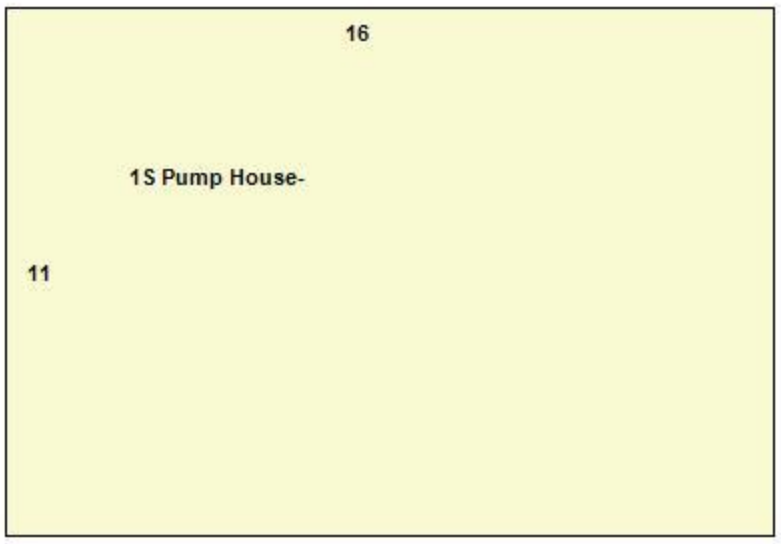
Category:	Industrial	Use:	Warehouse	Stories:	1.00
Above Grade:	1,015	Below Grade:	0	Below Grade Finish:	0
Construction:	Low Cost	Year Built:	1952	Heating:	FHA
Fuel:	Oil	Cooling Percent:	0%	Siding:	Concrete Block
Roof Material:	Composite Built Up	Beds/Units:	0		

Special Features

Extra Plumbing Fixtures	4

Attached Components

Building 2



Category:	Industrial	Use:	Pump House	Stories:	1.00
Above Grade:	176	Below Grade:	0	Below Grade Finish:	0
Construction:	Good	Year Built:	2000	Heating:	
Fuel:		Cooling Percent:	0%	Siding:	Pre-Cast Concrete
Roof Material:	Composite Built Up	Beds/Units:	0		

Special Features

Attached Components

Detached Outbuildings

Type:	Year Built:	Length:	Width:	Area:
Frame Garage	1946			756
Gazebo	2004			182
Greenhouse	1952			5,600

Type:	Year Built:	Length:	Width:	Area:
Greenhouse	1946			6,400
Greenhouse	1952			5,600
Average Shed	1990			100
Average Shed	1990			768

Owner History - Sales

Owner Name	Volume	Page	Sale Date	Deed Type	Valid Sale	Sale Price
MUDDDM LLC	1672	0243	03/06/2003	Quit Claim	No	$0
MANKE JONATHAN D & DEBRAH P	1401	0021	04/27/2000	Quit Claim	No	$320,000
PAPANDREA FRANK J & NORMA S	0701	0255	12/30/1899	Warranty Deed	No	$0

Information Published With Permission From The Assessor

Ryan Burgdorfer

From: TrackingUpdates@fedex.com
Sent: Thursday, March 28, 2019 11:30 AM
To: Ryan Burgdorfer
Subject: FedEx Shipment 774801794664 Delivered

Your package has been delivered

Tracking # 774801794664

Ship date:
Wed, 3/27/2019

Ryan Burgdorfer
Smartlink LLC
NORTH BILLERICA, MA 01862
US

Delivery date:
Thu, 3/28/2019 11:25 am

William S. Voelker, AICP
TOWN OF CHESHIRE
84 S MAIN ST
TOWN PLANNER
CHESHIRE, CT 06410310884
US

Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	774801794664
Status:	Delivered: 03/28/2019 11:25 AM Signed for By: Signature Not Req
Reference:	CTL02038 Zoning Official
Signed for by:	Signature Not Req
Service type:	FedEx Ground
Packaging type:	Package
Number of pieces:	1
Weight:	1.00 lb.
Standard transit:	3/28/2019

Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 10:30 AM CDT on 03/28/2019.

All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.

Ryan Burgdorfer

From: TrackingUpdates@fedex.com
Sent: Thursday, March 28, 2019 1:28 PM
To: Ryan Burgdorfer
Subject: FedEx Shipment 774801878476 Delivered

Your package has been delivered

Tracking # 774801878476

Ship date:
Wed, 3/27/2019

Ryan Burgdorfer
Smartlink LLC
NORTH BILLERICA, MA 01862
US

Delivered

Delivery date:
Thu, 3/28/2019 1:24 pm

Zoning Dept.
AMERICAN TOWER CORPORATION
10 PRESIDENTIAL WAY
WOBURN, MA 01801105399
US

Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	774801878476
Status:	Delivered: 03/28/2019 1:24 PM Signed for By: SLONG
Reference:	CTL02038 Structure Owner
Signed for by:	SLONG
Delivery location:	Woburn, MA
Service type:	FedEx Ground
Packaging type:	Package
Number of pieces:	1
Weight:	1.00 lb.
Standard transit:	3/28/2019

Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 12:27 PM CDT on 03/28/2019.

All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.

Ryan Burgdorfer

From: TrackingUpdates@fedex.com
Sent: Thursday, March 28, 2019 10:33 AM
To: Ryan Burgdorfer
Subject: FedEx Shipment 774801834157 Delivered

Your package has been delivered

Tracking # 774801834157

Ship date:
Wed, 3/27/2019

Ryan Burgdorfer
Smartlink LLC
NORTH BILLERICA, MA 01862
US

Delivery date:
Thu, 3/28/2019 10:25 am

MUDDDM LLC
MUDDDM LLC
1338 HIGHLAND AVE
CHESHIRE, CT 06410162838
US

Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	774801834157
Status:	Delivered: 03/28/2019 10:25 AM Signed for By: AALLAN
Reference:	CTL02038 Property Owner
Signed for by:	AALLAN
Delivery location:	Cheshire, CT
Service type:	FedEx Ground
Packaging type:	Package
Number of pieces:	1
Weight:	1.00 lb.
Standard transit:	3/28/2019

Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 9:32 AM CDT on 03/28/2019.

All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.

Ryan Burgdorfer

From: TrackingUpdates@fedex.com
Sent: Thursday, March 28, 2019 11:32 AM
To: Ryan Burgdorfer
Subject: FedEx Shipment 774801765808 Delivered

Your package has been delivered

Tracking # 774801765808

Ship date:
Wed, 3/27/2019

Ryan Burgdorfer
Smartlink LLC
NORTH BILLERICA, MA 01862
US

Delivery date:
Thu, 3/28/2019 11:27 am

Sean M. Kimball
TOWN OF CHESHIRE
84 S MAIN ST
TOWN MANAGER
CHESHIRE, CT 06410310884
US

Shipment Facts

Our records indicate that the following package has been delivered.

Tracking number:	774801765808
Status:	Delivered: 03/28/2019 11:27 AM Signed for By: Signature Not Req
Reference:	CTL02038 Elected Official
Signed for by:	Signature Not Req
Service type:	FedEx Ground
Packaging type:	Package
Number of pieces:	1
Weight:	1.00 lb.
Standard transit:	3/28/2019

Please do not respond to this message. This email was sent from an unattended mailbox. This report was generated at approximately 10:31 AM CDT on 03/28/2019.

All weights are estimated.

To track the latest status of your shipment, click on the tracking number above.