



October 7, 2022

Attorney Melanie Bachman  
Acting Executive Director  
Connecticut Siting Council  
Ten Franklin Square  
New Britain, CT 06501

**EM-T-MOBILE-164-190513**

T-Mobile Site ID CTHA130A  
419 Broad Street, Windsor, CT

**Notice of Compliance with Conditions and Construction Completion**

Dear Attorney Bachman:

The T-Mobile site referenced above was approved by The Connecticut Siting Council (Council) on June 3, 2019 as an Exempt Modification. T-Mobile is now requesting the close out of the approval and hereby acknowledges the following conditions were met:

1. Prior to T-Mobile's antenna installation, the proposed tower modifications shall be installed in accordance with the Post-Mod Rigorous Structural Analysis Report prepared by Malouf Engineering, Intl., Inc., dated October 4, 2018 and signed and stamped by E. Mark Malouf;
2. Prior to T-Mobile's antenna installation, the proposed mount modifications shall be installed in accordance with the Post-Mod Structural Mount Analysis Report prepared by Malouf Engineering, Intl., Inc., dated October 4, 2018 and signed and stamped by E. Mark Malouf;
3. Within 45 days following completion of equipment installation, T-Mobile shall provide documentation certified by a Professional Engineer that its installation complied with the recommendations of the Post-Mod Rigorous Structural Analysis Report and the Post-Mod Structural Mount Analysis Report;



**NSS** **NORTHEAST**  
SITE SOLUTIONS

*Turnkey Wireless Development*

4. Any deviation from the proposed modification as specified in this notice and supporting materials with the Council shall render this acknowledgement invalid;
5. Any material changes to this modification as proposed shall require the filing of a new notice with the Council;
6. Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
7. Any nonfunctioning antenna and associated antenna mounting equipment on this facility owned and operated by T-Mobile shall be removed within 60 days of the date the antenna ceased to function;
8. The validity of this action shall expire one year from the date of this letter; and
9. The applicant may file a request for an extension of time beyond the one year deadline provided that such request is submitted to the Council not less than 60 days prior to the expiration

The attached PE Closeout Letter dated March 22, 2022 provides evidence of compliance with the conditions outlined by the Council. In addition, T-Mobile hereby notifies the Council that construction of the acknowledged modifications was completed as of July 23, 2021.

Sincerely,

*Victoria Masse*

Victoria Masse  
Zoning and Permitting  
Northeast Site Solutions



March 22, 2022

Everest Infrastructure Partners  
 Two Allegheny Ctr  
 Nova Tower 2, Suite 1002  
 Pittsburgh, PA 15212

**Subject:** Modification Inspection

**EIP Designation:** Site Name: Windsor CO  
 Site Number: 701776

**Inspection Firm:** Armor Tower, Inc.

**Site Data:** 419 Broad St, Windsor, CT  
 N39°-50'-45", W72°-38'-46"  
 100' Monopole Tower

Armor Tower, Inc. is pleased to submit this "Modification Inspection" (MI Report) to Everest Infrastructure Partners for the modification/reinforcement of the subject tower. This Modification Inspection (MI) was performed as a review of the General Contractor supplied coloseout documents. The purpose of this MI is to document that the modification installation is in compliance with the contract document(s) listed in Table 2. This package is not a review of the modification design.

**Table 1 – General Information**

Description	Company	Contact Info
MI Inspector	Armor Tower, Inc.	Patrick Botimer Structural Design Engineer V 607-591-5381
Modification Design EOR	Malouf Engineering Intl, Inc.	Krishna Manda, PE 972-783-2578
General Contractor	TEP Design Build, Inc.	Johnathan Queen 919-661-63515
Sub to the General Contractor	NA	
Field CWI for the General Contractor	NA	
Field NDE for the General Contractor	NA	

**Table 2 – Design Documents**

Document(s)	Remarks	Source
Tower Modification Drawings	MEI Project No. CT00873M-18V3	Everest Infrastructure

Based on our review, Armor Tower has concluded this project as:

**PASSING MI**

The configuration, materials, and workmanship of the modifications are in accordance with the Contract Documents per the closeout documentation.

We appreciate the opportunity to provide our continued professional services to you and if you have any questions concerning this MI, please contact us.

Sincerely,

ARMOR TOWER, INC.

A handwritten signature in blue ink that reads "Patrick Botimer". The signature is written in a cursive style with a large initial "P" and "B".

Patrick Botimer  
Structural Design Engineer V

## Project Closeout Information-Table of Contents

<b>PRE-CONSTRUCTION</b>	<b>Reference Document</b>
• MI Checklist Drawing	5
• EOR Approved Shop Drawings	6
• Fabricator Certified Welding Inspection(CWI)	9
• Material Testing Report (MTR) Bar, Bolts	15
• Fabricator NDE Inspection	NA
• NDE Report of Monopole Base Plate	NA
• Packing Slips	21
<b>CONSTRUCTION</b>	
• Construction Inspections	23
• Foundation Inspections	NA
• Concrete Compression Strength and Slump Tests	NA
• Earthwork: Lift & Density	NA
• Post-Installed Anchor Rod Verification	NA
• Base Plate Grout Verification	NA
• Contractor's Certified Welding Inspection	NA
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• Guy Wire Tension & Mast plumb Report	NA
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<b>POST-CONSTRUCTION</b>	
• GC Construction Inspection	NA
• Redline Drawings	NA
• Post-Installed Anchor Rod Pull-out Testing	NA
• Photographs	30
• EOR Correspondences	NA

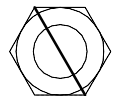
## **CONTRACTOR CLOSEOUT DOCUMENTS**

ALL RIGHTS RESERVED. THIS DRAWING SHALL REMAIN THE PROPERTY OF MALOUF ENGINEERING INTERNATIONAL, INC. NO PART THEREOF SHALL BE REPRODUCED, COPIED, ADAPTED, DISCLOSED, OR DISTRIBUTED TO OTHERS WITHOUT WRITTEN PERMISSION OF MEI, INC.

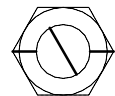
**BOLT TIGHTENING PROCEDURE**

- TIGHTEN BOLTS BY AISC "TURN OF THE NUT" METHOD USING THE CHART BELOW:  
 BOLT LENGTHS UP TO AND INCLUDING FOUR DIAMETERS:  
 + 1/3 TURN BEYOND SNUG TIGHT  
 BOLT LENGTHS OVER FOUR AND UP TO EIGHT DIAMETERS:  
 + 1/2 TURN BEYOND SNUG TIGHT
- ALL ONE-SIDED BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS
- SPLICE BOLTS SUBJECT TO DIRECT TENSION SHALL BE INSTALLED AND TIGHTENED AS PER SECTION 8(D)(1) OF THE AISC MANUAL OF STEEL CONSTRUCTION. THE INSTALLATION PROCEDURE IS AS FOLLOWS:  
 "FASTENERS SHALL BE INSTALLED IN PROPERLY ALIGNED HOLES AND BE TIGHTENED BY ONE OF THE METHODS DESCRIBED IN SUBSECTION 8(D)(1) THROUGH 8(D)(4).

8(D)(1) TURN-OF-THE-NUT TIGHTENING:  
 BOLTS SHALL BE INSTALLED IN ALL HOLES OF THE CONNECTION AND BROUGHT TO A SNUG TIGHT CONDITION. SNUG TIGHT IS DEFINED AS THE TIGHTNESS THAT EXISTS WHEN THE PLIES OF A JOINT ARE IN FIRM CONTACT. THIS MAY BE OBTAINED BY A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF A MAN USING AN ORDINARY SPUD WRENCH. SNUG TIGHTENING SHALL PROGRESS SYSTEMATICALLY...UNTIL ALL THE BOLTS ARE SIMULTANEOUSLY SNUG TIGHT AND THE CONNECTION IS FULLY COMPACTED. FOLLOWING THIS INITIAL OPERATION, ALL BOLTS IN THE CONNECTION SHALL BE TIGHTENED FURTHER BY THE APPLICABLE AMOUNT OF ROTATION SPECIFIED ABOVE. DURING THE TIGHTENING OPERATION, THERE SHALL BE NO ROTATION OF THE PART NOT TURNED BY THE WRENCH. TIGHTENING SHALL PROGRESS SYSTEMATICALLY.

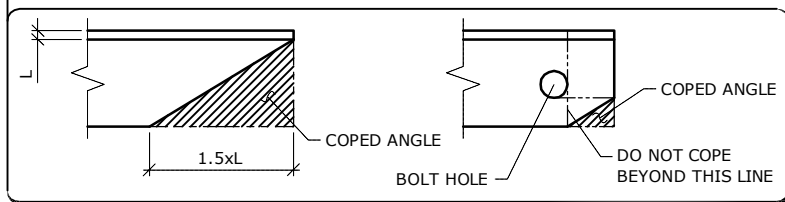


BEFORE 1/3 TURN



AFTER 1/3 TURN

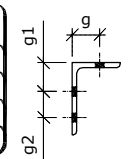
**ALLOWABLE ANGLE COPE**



- ALL DIMENSIONS REPRESENTED IN THE ABOVE TABLES ARE AISC MINIMUM REQUIREMENTS. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN FIELD AND NOTIFY ENGINEER IF DISTANCES ARE LESS THAN THOSE PROVIDED.
- THE DIMENSIONS PROVIDED ARE MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS OR PROPOSED MEMBERS WITHIN THESE DRAWINGS MAY VARY FROM THE AISC MINIMUM REQUIREMENTS.

**USUAL GAGES FOR ANGLES IN INCHES**

LEG	8	7	6	5	4	3 1/2	3	2 1/2	2	1 3/4	1 1/2	1 3/8	1 1/4	1
g	4 1/2	4	3 1/2	3	2 1/2	2	1 3/4	1 3/8	1 1/8	1	7/8	7/8	3/4	5/8
g1	3	2 1/2	2 1/4	2										
g2	3	3	2 1/2	1 3/4										



**POST-MODIFICATION INSPECTION NOTES**

**GENERAL**

THE POST-MODIFICATION INSPECTION (PMI) IS A VISUAL INSPECTION OF TOWER MODIFICATIONS AND A REVIEW OF CONSTRUCTION INSPECTIONS AND OTHER REPORTS TO ENSURE THE INSTALLATION WAS PERFORMED IN ACCORDANCE WITH THE MODIFICATION DESIGN DRAWINGS BY THE ENGINEER OF RECORD (EOR).

ALL PMI'S SHALL BE CONDUCTED BY A QUALIFIED TOWER INSPECTION VENDOR (QTIV) THAT IS APPROVED TO PERFORM ELEVATED WORK AND HAS QUALIFIED RELATED EXPERIENCE.

TO ENSURE THAT THE REQUIREMENTS OF THE PMI ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR (GC) AND THE PMI INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS APPROVAL IS RECEIVED TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS.

**GENERAL CONTRACTOR**

- THE GC IS REQUIRED TO, AT A MINIMUM:
- REVIEW THE REQUIREMENTS OF THE PMI CHECKLIST
  - WORK WITH THE PMI INSPECTOR TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE PMI INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS.
  - BETTER UNDERSTAND ALL INSPECTION AND TESTING REQUIREMENTS.

THE GC SHALL PERFORM AND RECORD THE TEST AND INSPECTION RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE PMI CHECKLIST.

**RECOMMENDATIONS**

- THE FOLLOWING RECOMMENDATIONS AND SUGGESTIONS ARE OFFERED TO ENHANCE THE EFFICIENCY AND EFFECTIVENESS OF DELIVERING A PMI REPORT:
- IT IS SUGGESTED THAT THE GC PROVIDE A MINIMUM OF 5 BUSINESS DAYS NOTICE, PREFERABLY 10, TO THE PMI INSPECTOR AS TO WHEN THE SITE WILL BE READY FOR THE MI TO BE CONDUCTED.
  - IT MAY BE BENEFICIAL TO INSTALL ALL TOWER MODIFICATIONS PRIOR TO CONDUCTING THE FOUNDATION INSPECTIONS TO ALLOW FOUNDATION AND MI INSPECTION(S) TO COMMENCE WITH ONE SITE VISIT.
  - WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND PMI INSPECTOR ON-SITE DURING THE PMI TO HAVE ANY DEFICIENCIES CORRECTED DURING THE INITIAL PMI. THEREFORE, THE GC MAY CHOOSE TO COORDINATE THE PMI CAREFULLY TO ENDURE ALL CONSTRUCTION FACILITIES ARE AT THEIR DISPOSAL WHEN THE PMI INSPECTOR IS ON SITE.

**CORRECTION OF FAILING PMI'S**

- IF THE POST-MODIFICATION INSTALLATION WOULD FAIL THE PMI ("FAILED MI"), THE GC SHALL WORK TO COORDINATE A REMEDIATION PLAN IN ONE OF TWO WAYS:
- CORRECT FAILING ISSUES TO COMPLY WITH THE SPECIFICATIONS CONTAINED IN THE ORIGINAL CONTRACT DOCUMENTS AND COORDINATE A SUPPLEMENT PMI.
  - OR, WITH OWNER'S APPROVAL, THE GC MAY WORK WITH THE EOR TO RE-ANALYZE THE MODIFICATION/REINFORCEMENT USING THE AS-BUILT CONDITION

**REQUIRED PHOTOS**

BETWEEN THE GC AND THE PMI INSPECTOR THE FOLLOWING PHOTOGRAPHS, AT A MINIMUM, ARE TO BE TAKEN AND INCLUDED IN THE PMI REPORT:

- PRE-CONSTRUCTION GENERAL SITE CONDITION
- PHOTOGRAPHS DURING THE REINFORCEMENT MODIFICATION CONSTRUCTION.
- RAW MATERIALS
- PHOTOS OF ALL CRITICAL DETAILS
- FOUNDATION MODIFICATIONS
- WELD PREPARATION
- BOLT INSTALLATION AND TORQUE
- FINAL INSTALLED CONDITION
- SURFACE COATING REPAIR
- POST CONSTRUCTION PHOTOGRAPHS
- FINAL IN-FIELD CONDITION

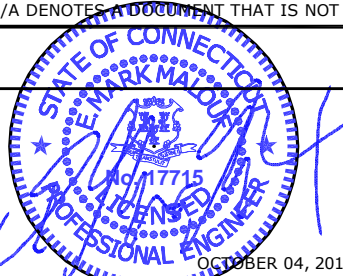
**SPECIAL INSPECTION & PMI CHECKLIST**

REQ'D	REPORT ITEM	BRIEF DESCRIPTION
<b>PRE-CONSTRUCTION</b>		
X	MI CHECKLIST	THIS CHECKLIST SHALL BE INCLUDED IN THE MI REPORT
X	EOR APPROVED SHOP DRAWINGS	FABRICATION DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW. THE CONTRACTOR SHALL PROVIDE APPROVED SHOP DRAWINGS TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
N/A	FABRICATOR CERTIFIED WELD INSPECTION	A LETTER FROM THE FABRICATOR, STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH INDUSTRY STANDARDS AND THE CONTRACT DOCUMENTS SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
X	MATERIAL CERT. REPORT (MTR)	MILL CERTIFICATION SHALL BE PROVIDED FOR ALL STEEL AS SPECIFIED IN THE MODIFICATION DRAWINGS AND THIS DOCUMENTATION SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
N/A	FABRICATOR NDE INSPECTION	CRITICAL SHOP WELDS THAT REQUIRE TESTER ARE NOTED ON THESE CONTRACT DRAWINGS. A CERTIFIED WELD INSPECTOR SHALL PERFORM NON-DESTRUCTIVE EXAMINATION AND REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
N/A	NDE REPORT OF MONOPOLE BASE PLATE	A NDE OF THE POLE TO BASE PLATE CONNECTION IS REQUIRED AND WRITTEN REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
X	PACKING SLIPS	THE MATERIAL SHIPPING LIST SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
<b>CONSTRUCTION</b>		
X	CONSTRUCTION INSPECTIONS	A LETTER FROM THE GENERAL CONTRACTOR STATING THAT THE WORKMANSHIP WAS PERFORMED IN ACCORDANCE WITH INDUSTRY STANDARDS AND THESE CONTRACT DRAWINGS SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
N/A	FOUNDATION INSPECTIONS	A VISUAL OBSERVATION OF THE EXCAVATION AND REBAR SHALL BE PERFORMED BEFORE PLACING THE CONCRETE. A WRITTEN REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
N/A	CONCRETE COMP. STRENGTH AND SLUMP TESTS	THE CONCRETE MIX DESIGN, SLUMP TEST, AND COMPRESSIVE STRENGTH TESTS SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
N/A	POST INSTALLED ANCHOR ROD VERIFICATION	POST INSTALLED ANCHOR ROD VERIFICATION SHALL BE PERFORMED IN ACCORDANCE WITH AC308 AND MANUFACTURERS REQUIREMENTS AND A REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
N/A	BASE PLATE GROUT VERIFICATION	THE GENERAL CONTRACTOR SHALL PROVIDE DOCUMENTATION TO THE MI INSPECTOR THAT VERIFIES THAT THE GROUT WAS INSTALLED IN ACCORDANCE WITH MEI SPECS FOR INCLUSION IN THE MI REPORT.
X	CONTRACTOR'S CERTIFIED WELD INSPECTION	A CERTIFIED WELD INSPECTOR SHALL INSPECT AND TEST AS NECESSARY ALL FIELD WELDS. A REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
N/A	EARTHWORK: LIFT AND DENSITY	FOUNDATION SUB-GRADES SHALL BE INSPECTED AND APPROVED BY A GEOTECHNICAL ENGINEER AND A REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
X	ON SITE COLD GALVANIZING VERIFICATION	THE GENERAL CONTRACTOR SHALL PROVIDE DOCUMENTATION TO MI INSPECTOR VERIFYING THAT ANY ON-SITE COLD GALVANIZING WAS APPLIED IN ACCORDANCE WITH MANUF. INSTRUCTIONS.
N/A	GUY WIRE TENSION REPORT	THE GENERAL CONTRACTOR SHALL PROVIDE A REPORT TO THE MI INSPECTOR INDICATING THE TEMPERATURE AND TENSION IN EVERY GUY CABLE AS PART OF PLUMB AND TENSION PROCEDURE FOR INCLUSION IN THE MI REPORT.
X	GC AS-BUILT DOCUMENTS	THE GENERAL CONTRACTOR SHALL SUBMIT A COPY OF THE CONTRACT DRAWINGS EITHER STATING "INSTALLED AS DESIGNED" OR NOTING ANY CHANGES THAT WERE REQUIRED AND APPROVED BY THE ENGINEER OF RECORD DUE TO FIELD CONDITIONS.
<b>POST-CONSTRUCTION</b>		
X	MI INSPECTOR REDLINE OF RECORD DRAWING(S)	THE MI INSPECTOR SHALL OBSERVE AND REPORT ANY DISCREPANCIES BETWEEN THE CONTRACTORS REDLINE DRAWING AND THE ACTUAL COMPLETED INSTALLATION.
X	POST INSTALLED ANCHOR ROD PULL-OUT TESTING	POST-INSTALLED ANCHOR RODS SHALL BE TESTED IN ACCORDANCE WITH MANUF. REQUIREMENTS AND A REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
X	PHOTOGRAPHS	PHOTOGRAPHS SHALL BE SUBMITTED TO THE MI WHICH DOCUMENT ALL PHASES OF THE CONSTRUCTION. THE PHOTOS SHALL BE ORGANIZED IN A MANNER THAT EASILY IDENTIFIES THE EXACT LOCATION OF THE PHOTO.
ADDITIONAL TESTING AND INSPECTIONS:		
NOTES: X DENOTES A DOCUMENT NEEDED FOR THE MI REPORT N/A DENOTES A DOCUMENT THAT IS NOT REQUIRED FOR THE MI REPORT		

MALOUF ENGINEERING INTERNATIONAL, INC.  
 17950 PRESTON ROAD SUITE 720  
 DALLAS, TEXAS 75252-5635  
 972-783-2578 (fax: 2583)  
 www.maloufengineering.com  
 © MEI, INC. 2018

**100 FT MONOPOLE  
 TMO WINDSOR #CTHA130A**  
 419 BROAD STREET, WINDSOR, CT 06095  
 LAT: 41-50-45.2 N - LON: 72-38-46.1 W

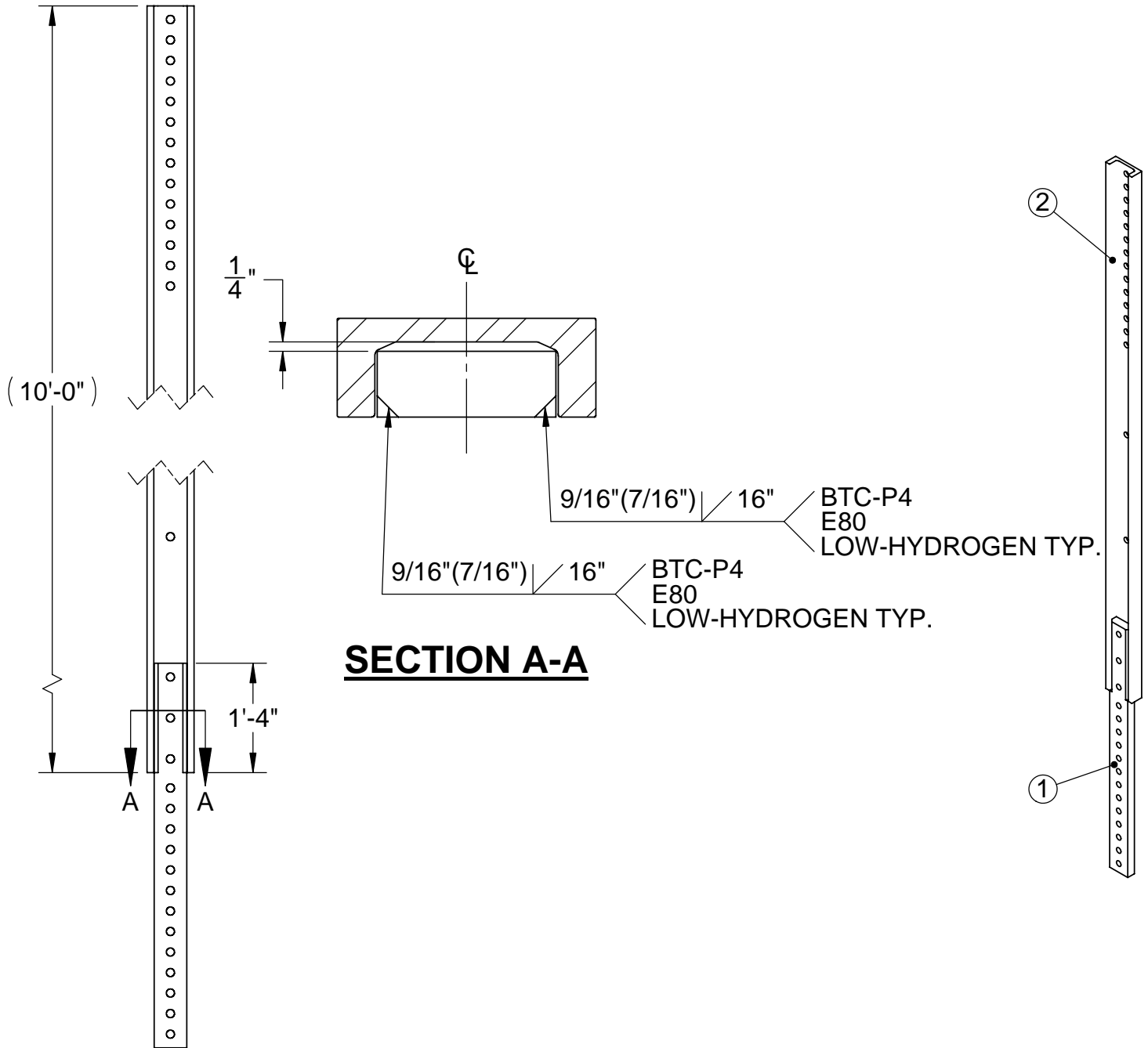
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NO.	DATE	REVISIONS	DRAWN	ENG'D	APP'D





**NORTHEAST SITE SOLUTIONS / T-MOBILE**  
 TECHNICAL SPECIFICATION NOTES, POST INSPECTION, AND CHECKLIST

MEI PROJECT ID	SHEET NUMBER	REV.
CT00873M-18V3	<b>T03</b>	0

ITEM NO	PART NUMBER	DESCRIPTION	MATERIAL	WT EA.
1	MP306-SP	MP306 SPLICE PLATE 1 3/4" THK X 4 3/4" X 4'-8 1/4" LG	A514 GR.100	123
2	MP306-10-SC	MP306 SPLICE CHANNEL X 10' LG	A572-GR65	284

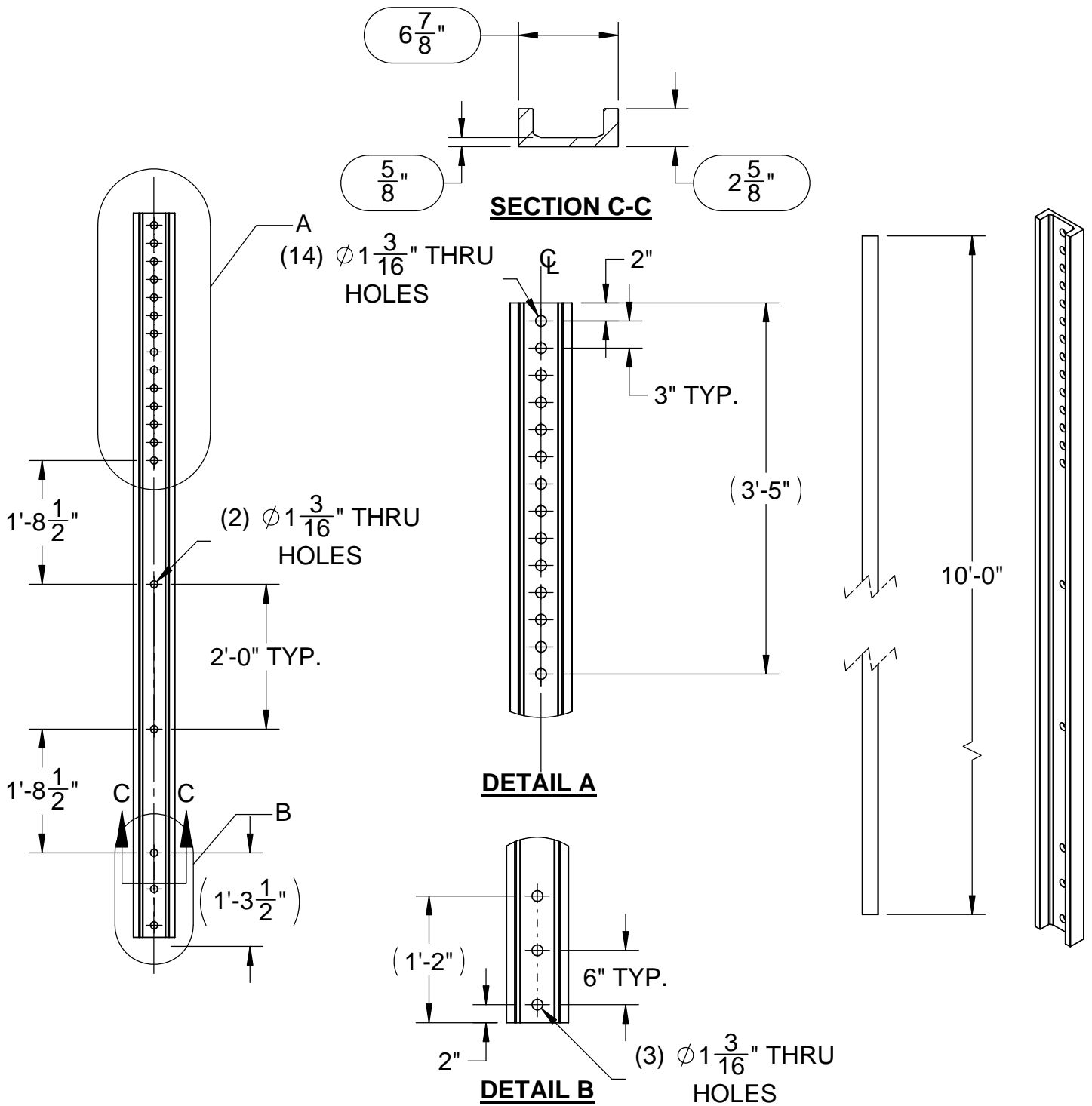


REV.	DATE	BY	APPR.	ENG BY	REVISION DESCRIPTION
00	7/30/13	JP	SC	BU	INITIAL RELEASE



FINISH ASTM A123 GALV	UNIT FORMAT FT-IN-LBS	PART NUMBER <b>MP306-10-SSI</b>	5500 Flatiron Parkway Suite 100 Boulder, CO 80301 PH: 720.304.6882 FAX: 720.304.6883	 <b>AeroSolutions LLC</b> <i>Optimizing Your Tower Infrastructure</i>
		DESCRIPTION <b>MP306 SPLICE SECTION INDEPENDENT X 15' LG</b>		
For material requirements & additional info see document "Aero Solutions reinforcing specifications and Tolerances"				Copyright 2013 by Aero Solutions LLC, all rights reserved. This drawing is loaned for mutual assistance and as such is subjected to recall at any time. Information contained herein is not to be disclosed or reproduced in any form for the benefit of parties other than subcontractors and suppliers without written consent of Aero Solutions LLC.
				REV. <b>00</b>



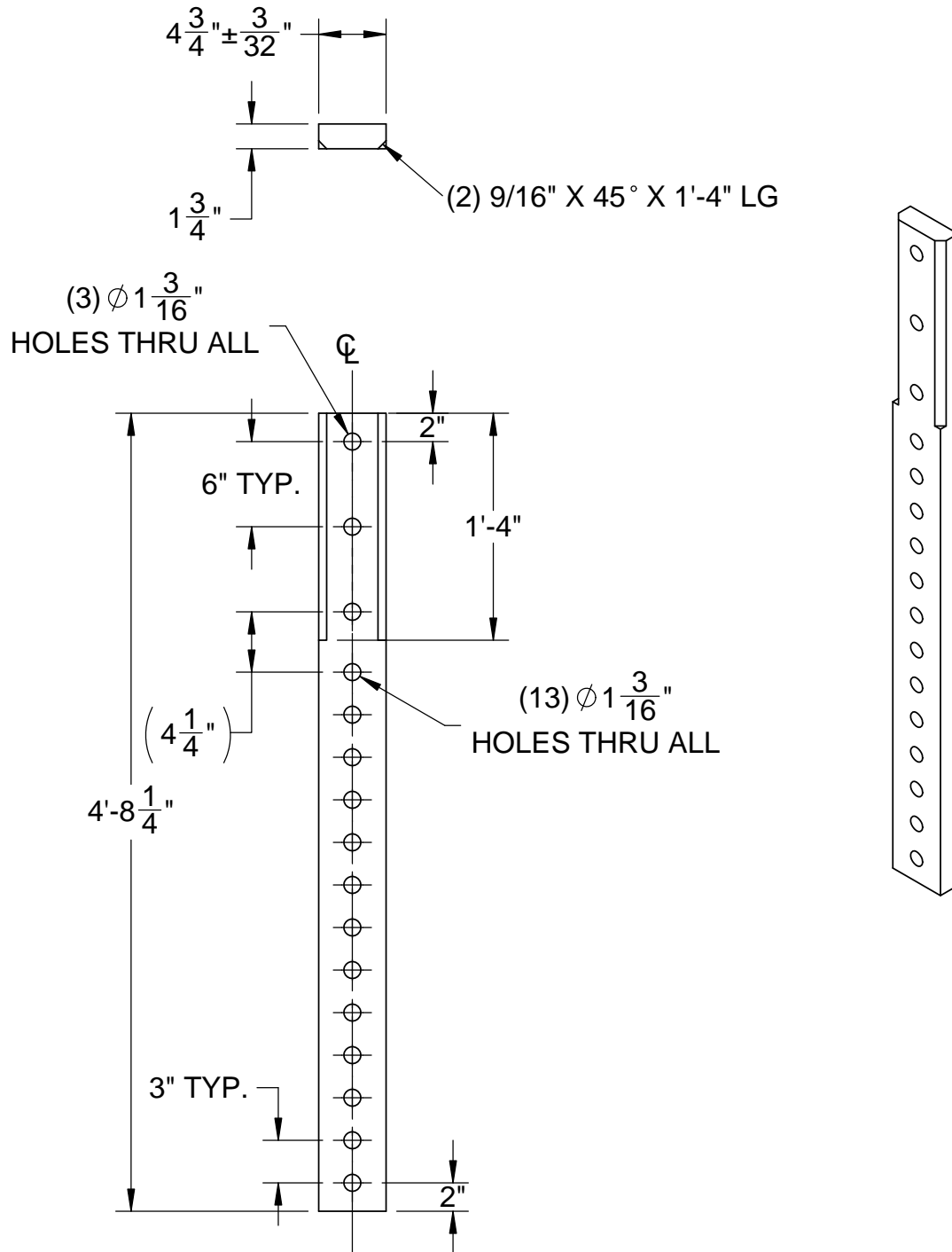
PART NUMBER	DESCRIPTION	MATERIAL	WEIGHT
MP306-10-SC	MP306 SPLICE CHANNEL X 10' LG	A572-GR65	284





REV.	DATE	BY	APPR.	ENG BY	REVISION DESCRIPTION
00	7/30/13	AS	SC	BU	INITIAL RELEASE

FINISH ASTM A123 GALV	UNIT FORMAT FT-IN-LBS	PART NUMBER <b>MP306-10-SC</b>	5500 Flatiron Parkway Suite 100 Boulder, CO 80301 PH: 720.304.6882 FAX: 720.304.6883  <b>AeroSolutions LLC</b> <i>Optimizing Your Tower Infrastructure</i>
		DESCRIPTION <b>MP306 SPLICE CHANNEL X 10' LG</b>	
For material requirements & additional info see document "Aero Solutions reinforcing specifications and Tolerances"		<a href="http://www.aerosolutionsllc.com">www.aerosolutionsllc.com</a>	
Copyright 2013 by Aero Solutions LLC, all rights reserved. This drawing is loaned for mutual assistance and as such is subjected to recall at any time. Information contained herein is not to be disclosed or reproduced in any form for the benefit of parties other than subcontractors and suppliers without written consent of Aero Solutions LLC.			REV. 00

PART NUMBER	DESCRIPTION	MATERIAL	WT EA.
MP306-SP	MP306 SPLICE PLATE 1 3/4" THK X 4 3/4" X 4'-8 1/4" LG	A514 GR.100	123



REV.	DATE	BY	APPR.	ENG BY	REVISION DESCRIPTION
00	7/29/13	JP	SC	BU	INITIAL RELEASE

FINISH ASTM A123 GALV	UNIT FORMAT FT-IN-LBS	PART NUMBER <b>MP306-SP</b>	5500 Flatiron Parkway Suite 100 Boulder, CO 80301 PH: 720.304.6882 FAX: 720.304.6883  <b>AeroSolutions LLC</b> Optimizing Your Tower Infrastructure
		DESCRIPTION <b>MP306 SPLICE PLATE 1 3/4" THK X 4 3/4" X 4'-8 1/4" LG</b>	
For material requirements & additional info see document "Aero Solutions reinforcing specifications and Tolerances"			www.aerosolutionsllc.com Copyright 2013 by Aero Solutions LLC, all rights reserved. This drawing is loaned for mutual assistance and as such is subjected to recall at any time. Information contained herein is not to be disclosed or reproduced in any form for the benefit of parties other than subcontractors and suppliers without written consent of Aero Solutions LLC.
			REV. <b>00</b>







**WELDER OR WELDING OPERATOR  
PERFORMANCE QUALIFICATION RECORD (WPQR)  
(4C, AWS D1.1/D1.1M-15, STRUCTURAL WELDING CODE - STEEL)**

CAROLINA SPECIALTY INSPECTOR SERVICES, INC.

Welder Name: Patricia Ann Hernandez ID No.: NCDL \*\*\*\*3006 Stamp No: PAH  
 Welding Procedure Specification No.: JF-WPS-GMAW-G A5.28 Rev.: 0 Date: 5/22/19  
 Welding Process: Gas Metal Arc Welding (GMAW) Type: Semi-Automatic

Variables	Actual Values Used In Qualification	Qualification Range
Backing (Yes or No) Material Type	Yes -Carbon Steel (Table 3.1)	Required - Carbon Steel (Table 3.1)
Back Gouge (Yes or No)	Yes	Allowed with or without backing
<b>Base Metal Specification</b>		
Group No.	Table 3.1 Grp II	All AWS Approved (Grp I, II, & III)
<b>Thickness (Plate)</b>		
Groove	1" 1G	1/8" through Unlimited
Fillet	NA	1/8" through Unlimited
<b>Thickness (Pipe/Tube)</b>		
Groove	NA	24" and over with backing or backgouge
Fillet	NA	Over 24" diameter
<b>Filler Metal</b>		
Specification No.	A5.28	A5.18 and A5.28
Class	ER80S-1	Any A5.18 and A5.28
<b>Deposited Weld Metal</b>		
Groove	1" 1G	
Fillet	NA	
<b>Weld Position</b>		
Orientation	1G (Flat)	1F, 1G
Weld Progression	Forehand	Forehand
<b>Gas Type</b>		
Shielding	92%Ar / 8%O2	Per Manufacture's Recommendation
Backing	NA	NA
<b>Electrical Characteristics</b>		
Current	DC	Per Manufacture's Recommendation
Polarity	EP	Per Manufacture's Recommendation

**Qualification Test Results**

**Visual Inspection**

Appearance Acceptable  
 Results Passed

**Radiographic Testing**

Film Identification NA  
 Results NA

**Guided Bend Test**

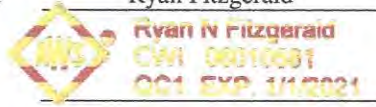
Type and Figure No.	Results	Type and Figure No.	Results
<u>1G Side (4.16)</u>	<u>Pass</u>	<u>NA</u>	<u>NA</u>
<u>1G Side (4.16)</u>	<u>Pass</u>	<u>NA</u>	<u>NA</u>

**Fillet Weld Test**

Figure No.: NA Fillet Size NA  
 Fracture Test NA Macroetch NA

Test Conducted by: Ryan Fitzgerald

Test Number PAH1G-GMAW



Inspector Ryan N Fitzgerald

Date 5/22/19

We, the undersigned certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in conformance with the requirements of Clause 4 of AWS D1.1/D1.1M 2015 Structural Welding Code - Steel.

Authorized By: John Fennell  
 Date 5/22/19

Organization: JF Fabricators



**WELDER OR WELDING OPERATOR  
PERFORMANCE QUALIFICATION RECORD (WPQR)  
(4C, AWS D1.1/D1.1M-15, STRUCTURAL WELDING CODE - STEEL)**

Welder Name: David Alan Hernandez ID No.: NCDL \*\*\*\*2457 Stamp No: DAH  
 Welding Procedure Specification No.: JF-WPS-GMAW-G A5.28 Rev.: 0 Date: 01/30/2019  
 Welding Process: Gas Metal Arc Welding (GMAW) Type: Semi-Automatic

Variables	Actual Values Used In Qualification	Qualification Range
Backing (Yes or No) Material Type	Yes - Carbon Steel (Table 3.1)	Required - Carbon Steel (Table 3.1)
Back Gouge (Yes or No)	Yes	Allowed with or without backing
<b>Base Metal Specification</b>		
Group No.	Table 3.1 Grp II	All AWS Approved (Grp I, II, & III)
<b>Thickness (Plate)</b>		
Groove	1" 2G	1/8" through Unlimited
Fillet	NA	1/8" through Unlimited
<b>Thickness (Pipe/Tube)</b>		
Groove	NA	24" and over with backing or backgouge
Fillet	NA	Over 24" diameter
<b>Filler Metal</b>		
Specification No.	A5.28	A5.18 and A5.28
Class	ER80S-1	Any A5.18 and A5.28
<b>Deposited Weld Metal</b>		
Groove	1" 2G	
Fillet	NA	
<b>Weld Position</b>		
Orientation	2G (Horizontal)	1F, 1G, 2F, 2G
Weld Progression	Forehand	Forehand
<b>Gas Type</b>		
Shielding	92%Ar / 8%O2	Per Manufacture's Recommendation
Backing	NA	NA
<b>Electrical Characteristics</b>		
Current	DC	Per Manufacture's Recommendation
Polarity	EP	Per Manufacture's Recommendation

**Qualification Test Results**

**Visual Inspection**

Appearance Acceptable  
 Results Passed

**Radiographic Testing**

Film Identification NA  
 Results NA

**Guided Bend Test**

Type and Figure No.	Results	Type and Figure No.	Results
<u>2G Side (4.19)</u>	<u>Pass</u>	<u>NA</u>	<u>NA</u>
<u>2G Side (4.19)</u>	<u>Pass</u>	<u>NA</u>	<u>NA</u>

**Fillet Weld Test**

Figure No.: NA Fillet Size NA  
 Fracture Test NA Macroetch NA

Test Conducted by: Ryan Fitzgerald

Test Number DAH2G-GMAW

Inspector



Date 1/30/19

We, the undersigned certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in conformance with the requirements of Clause 4 of AWS D1.1/D1.1M 2015 Structural Welding Code - Steel.

Authorized By: John Fennell  
 Date 1/30/19

Organization: JF Fabricators



**WELDER OR WELDING OPERATOR  
PERFORMANCE QUALIFICATION RECORD (WPQR)  
(4C, AWS D1.1/D1.1M-15, STRUCTURAL WELDING CODE - STEEL)**

CAROLINA SPECIALTY INSPECTION SERVICES, INC.

Welder Name: Matthew Benjamin Styles ID No.: NCDL 31081326 Stamp No: MBS  
 Welding Procedure Specification No.: CSI-WPS-GMAW-G-WQ Rev.: 2 Date: 10/3/19  
 Welding Process: Gas Metal Arc Welding (GMAW) Type: Semi-Automatic

Variables	Actual Values Used In Qualification	Qualification Range
Backing (Yes or No) Material Type	Yes - Base Metal Carbon	With or without backing
<b>Base Metal Specification</b>		
Group No.	Table 3.1 Grp II	All AWS Approved (Grp I, II, & III)
<b>Thickness (Plate)</b>		
Groove	1"	1/8" through Unlimited
Fillet	NA	1/8" through Unlimited
<b>Thickness (Pipe/Tube)</b>		
Groove	NA	24" and over with backing or backgouge
Fillet	NA	Over 24" diameter
<b>Filler Metal</b>		
Specification No.	A5.28	A5.18 and A5.28
Class	ER80S-1	Any A5.18 and A5.28
<b>Deposited Weld Metal</b>		
Groove	CJP	
Fillet	NA	
<b>Weld Position</b>		
Orientation	Horizontal (2G)	1F, 2F, 1G, 2G
Weld Progression	Forehand	Forehand /Push
<b>Gas Type</b>		
Shielding	AR=98% / CO2=2%	Per Manufacturers Recommendation
Backing	NA	
<b>Electrical Characteristics</b>		
Current	Direct (DC)	Per manufacturers recommendation
Polarity	Reverse (EP)	Per manufacturers recommendation

**Qualification Test Results**

**Visual Inspection**

Appearance Results: Acceptable  
Passed

**Radiographic Testing**

Film Identification Results: NA  
NA

**Guided Bend Test**

Type and Figure No.	Results
<u>2G Side (4.21)</u>	<u>Pass</u>
<u>2G Side (4.21)</u>	<u>Pass</u>

Type and Figure No.	Results
<u>NA</u>	<u>NA</u>
<u>NA</u>	<u>NA</u>

**Fillet Weld Test**

Figure No.: NA  
 Fracture Test: NA

Fillet Size: NA  
 Macroetch: NA

Test Conducted by: John Fennell

Test Number: MBS2G

Inspector:  RYAN N FITZGERALD  
CWI 00310081  
QC1 EXP. 1/1/2021

Date: 8/30/16

We, the undersigned certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in conformance with the requirements of Clause 4 of AWS D1.1/D1.1M 2010 Structural Welding Code - Steel.

Authorized By: John Fennell

Organization: JF Fabricators

Date: 10/3/2019

Rev2: Revised base metal specifications.



# American Welding Society®

*Certifies that Welding Inspector*

***Ryan Fitzgerald***

*has complied with the requirements of AWS QC1,  
Standard for AWS Certification of Welding Inspectors*

06010581

CERTIFICATE NUMBER

Jan/01/2024

EXPIRATION DATE



AWS PRESIDENT

AWS QUALIFICATION & CERTIFICATION  
COMMITTEE CHAIR



Issuing Date : 07/23/2021 B/L No. : 597695 Load No. : 612583 Our Order No. : 190007/2 Cust. Order No. : 7657127  
 Vehicle No: 11432 Sold To: KLOECKNER METALS CORP 500 COLONIAL CTR PKWY STE 500 ROSWELL, GA 30076 Ship To: KLOECKNER METALS ALPHARETTA 2005 GRASSLAND PARKWAY ALPHARETTA, GA 30004  
 Specification: 1.7500" x 96.000" x 480.000" ASTM A514-18e1 Grade H NUHEAT

Plate Serial No: 1604949-03-1-01

Marking :

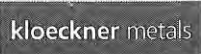
Heat No	C	Mn	P	S	SI	Cu	Ni	Cr	Mo	Al(tot)	V	Nb	Ti	N	Ca	B	Sn	Ceq	Pcm
1604949	0.17	1.00	0.014	0.003	0.27	0.12	0.43	0.45	0.22	0.027	0.035	0.003	0.040	0.0072	0.0018	0.0024	0.017	0.52	0.30
Tensile Test										Heat Treat									
Plate Serial No	Pieces	Tons	Dir.	Yield (psi)	Tensile (psi)	Elong. % in 2"	Elong. % in 8"	R.A. %	Quench (°F)	Time (min)	Tempar (°F)	Time (min)							
1604949-03-1	1	11.43	H-T	105,600	114,900	37.1		44.2	1665	67	1250	85							

Manufactured to fully killed fine grain practice by Electric Arc Furnace. Welding or weld repair was not performed on this material. Mercury has not been used in the direct manufacturing of this material. Produced as continuous cast discrete plate on rectangular specimens, unless otherwise noted in Specification. For Mexico shipments:nhc-SalesMX@nucor.com  
 Yield by 0.5EUL method unless otherwise specified. Ceq = C+(Mn/6)+(Cr+Mo+V)/5+(Cu+Ni)/15  
 Pcm = C+(Si/30)+(Mn/20)+(Cu/20)+(Ni/60)+(Cr/20)+(Mo/15)+(V/10)+5B  
 Melted and Manufactured in the USA. ISO 9001:2015 certified. PED 2014/68/EU, 97/23/EC 7/2 Annex 1, Para. 4.3 Compliant. API Q1-1851  
 DIN 50049 3.1.B/EN 10204 3.1(2004) 3.1B(1993)/DIN EN 10204 3.1(2005) compliant. ABS QA-3624356

We hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with the applicable specifications, including customer specifications.

*T. A. Doretis*  
T. A. Doretis, Metallurgist

7/23/2021 2:00:10 PM



Kloeckner Metals Corporation

Kloeckner Metals Corp - CLT  
1300 Exchange Street  
Charlotte, NC 28208  
(704) 394-5999

BL # / Pack Slip (11K)  
\* 11K6456607 \*

KMC Load No: 4008031  
Control # 6456607  
Bill of Lading 6456607  
Ship Date 01/27/22

Sold To: 110133  
J F Fabricators, LLC  
8158 Mountain Shore Dr  
Sherrills Ford, NC 28673-9247  
Phone # (704)607-8175

Ship To: 1  
J F Fabricators, LLC  
7315 Galvan Way  
Harrisburg, NC 28075-4300  
Phone # (704)607-8175

Via Our Truck  
FOB Delivered  
Freight Prepaid  
Carrier Kloeckner Metals Corp - CI  
Truck # 111716

CUST PO: WINDSOR AERO Order# 21028749 Entered:MMILLER


Line	Item Description	PVC Size	Pcs	Net Weight
2	Mill Rolled Plate 5/16 ASTM A36 / ASME-SA36	3.625 x 40.125 per dwg	1	13

Part No MP306-SSI-SP-3125  
Heat Num: 20A2315  
1 FTG

All claims for rust or water damage must be initiated within 30 calendar days of receipt of material

Carrier Signature \_\_\_\_\_ Customer Signature \_\_\_\_\_ Shipper Signature /Date *[Signature]* 1-27-22

Total Pieces	Gross Wgt	Tare Wgt	Net Wgt
1	13	0	13



02-01-2022 05:08

Load - 4010826

BL - 6456917

blr466

F Fabricators, LLC

Heat - 21A3174

Cust. PO - DUVALL PROPERTY 495849

Order - 21041032



NUCOR STEEL TUSCALOOSA, INC.

MILL TEST CERTIFICATE

Nucor Steel Tuscaloosa, Inc.
1700 HOLT RD N.E.
Tuscaloosa, AL 35404-1000
800 800-8204
customerservice@nucortusk.com

Attachment to Material Report
PENDING APPROVAL
American Bureau of Shipping, Jeffersonville

Page:1 of 1

Table with 7 columns: Load Number, Tally, Mill Order Number, PO NO | Line NO, Part Number, Certificate Number, Prepared. Includes order details and customer information.

Table with 20 columns: Shipped Item, Heat/Stub Number, Certified By, C, Mn, P, S, Si, Cu, Ni, Cr, Mo, Cb, V, Al, Ti, N2, B, Ca, Sn, CEV, ACT. Contains chemical composition data.

Table with 15 columns: Shipped Item, Certified By, Heat/Stub Number, Yield, Tensile, Y/T, ELONGATION %, Bend, Hard, Charpy Impacts, Shear %, Test Temp. Contains mechanical test results.

Items: 1 PCS: 6 Weight: 14701.8 LBS

This is an item view ECERT extracted from the original mill certification

Mercury has not come in contact with this product during the manufacturing process nor has any mercury been used by the manufacturing process. Certified in accordance with EN 10204 3.1. No weld repair has been performed on this material. Yield strength is determined by the 0.2% offset method unless otherwise noted. Manufactured under the ABS Quality Assurance Program, Certificate number QA-3737946. We hereby certify that the information herein has been made to the applicable specifications by the EAF process and tested in accordance with the requirements of the ABS rules with satisfactory results. Manufactured to a fully killed fine grain practice. NUTEMPER TEMPER PASSED plate from coil ISO 9001:2015 Registered, PED Certified

We hereby certify that the product described above passed all of the tests required by the specifications.

Daniel Green
Daniel Green - Chief Metallurgist

\*\*\*\* indicates Heats melted and Manufactured in the U.S.A.

01-27-2022 05:04

Load - 4008031

BL - 6456607

blr466

J F Fabricators, LLC

Heat - 20A2315

Cust. PO - WINDSOR AERO

Order - 21028749

**NUCOR**<sup>®</sup>

NUCOR STEEL TUSCALOOSA, INC.

**MILL TEST CERTIFICATE**

Nucor Steel Tuscaloosa, Inc.  
1700 HOLT RD N.E.  
Tuscaloosa, AL 35404-1000  
800 800-8204  
customerservice@nucortusk.com

Page:1 of 1

Load Number	Tally	Mill Order Number	PO NO   Line NO	Part Number	Certificate Number	Prepared
C254235	0000000943120	N-184163-001	APP-7532913 1		S94312001-1-0H1313D	09/08/2020 10:38
<b>Grade</b>				<b>Customer:</b>		
<b>Order Description:</b> Hot Roll Plate From Coil A36, 0.3125 IN x 96.000 IN x 480.000 IN <b>Quality Plan Description:</b> A36MODMN-TRIPLE: ASTM A36/A709-36/ASME SA36-19/M270-36 MOD MN				<b>Sold TO:</b> KLOECKNER METALS Alpharetta GA <b>Ship TO:</b> KLOECKNER METALS/ALPHARETTA ALPHARETTA GA <b>Sent TO:</b>		

Shipped Item	Heat/Slab Number	Certified By	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Cb	V	Al	Ti	N2	B	Ca	Sn	CEV	ACI
0H1313D	20A2315-05 ***	20A2315	0.20	0.86	0.011	0.004	0.04	0.19	0.05	0.07	0.017	0.002	0.004	0.030	0.001	0.010	0.0001	0.0020	0.007	0.38	

Shipped Item	Certified By	Heat/Slab Number	Yield ksi	Tensile ksi	Y/T %	ELONGATION %		Bend OK?	Hard HB	Charpy Impacts (Ft-lbs)				Shear %				Test Temp				
						2"	8"			Size mm	1	2	3	Avg	1	2	3		Avg			
0H1313D	SOH1313FTT	20A2315-05 ***	51.9	73.7	70.4	31.6																
0H1313D	SOH1313MTT	20A2315-05 ***	52.8	70.0	75.4	28.4																

Items: 1 PCS: 4 Weight: 16335.4 LBS

Mercury has not come in contact with this product during the manufacturing process nor has any mercury been used by the manufacturing process. Certified in accordance with EN 10204 3.1. No weld repair has been performed on this material. Yield strength is determined by the 0.2% offset method unless otherwise noted. Manufactured to a fully killed fine grain practice. NUTEMPER TEMPER PASSED plate from coil ISO 9001:2015 Registered, PED Certified

We hereby certify that the product described above passed all of the tests required by the specifications.

*Qiulin Yu*  
Dr. Qiulin Yu - Metallurgist

\*\*\* indicates Heats melted and Manufactured in the U.S.A.

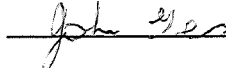


41-45 Mills Road  
 P O Box 145  
 Braeside Victoria  
 Australia 3195  
 Tel: +613 9586 6666  
 Fax: +613 9586 6840

# LABORATORY TEST CERTIFICATE

**Date:** 16<sup>th</sup> September, 2019  
**Description:** ONESIDE ASSEMBLY TC M20 X 135  
 (57MM SLEEVE/SPRING PURPLE)  
**Part No.:** OSBATC20.135-57  
**Lot ID:** N0013370

Component			Test Results (Spec' = Specification; Meas't = Average or lowest measurement)								
Ajax Part No.	Description	Lot ID	Proof Load (kN)		Hardness (HRC)			Ultimate Tensile Strength (kN)		TC Shear Min' Tension (kN)	
			AS/NZS 4291.2		AS 1815.1			AS/NZS 4291.1		ASTM 3125	
			Spec' Min'	Result	Spec' Min'	Max'	Meas't	Spec' Min'	Meas't	Spec' Min'	Meas't
OSBTC20.135B	LPS M20 X 135 ONESIDE TC CONTROL	N0013204/04			23	34	29	203	222	147	150.
		N0013204/05			23	34	28	203	217	147	150.
90383	ONESIDE SPLIT WASHER GAL'	S54988/3			23	34	34				
OSSLVMG20-57PURPLE	ONESIDE SLEEVE PURPLE M20 – 57MM LONG	N0013268/100640			34	41	36.	150 <sup>ksi</sup>	comply		
90382	ONESIDE SOLID WASHER GAL'	S54624/2			23	34	34				
HSNGL20PURPLE	STRUCTURAL MECH' GAL' NUT COAT PURPLE	N0013269/101032	285	Pass	24	36	35				

Signed by John Geros, Quality Manager 

Ajax Fasteners is regularly audited by NATA (National Association of Testing Authorities, Australia) for compliance with the requirements of ISO/IEC 17025, and has been accredited (Accreditation Number 1202) in the following areas: "13.01 Metal and metal products"; "13.08 Threaded fasteners"; "13.90 Microstructural tests on ferrous materials"; "13.94 Coatings". The results of the measurements appearing in this certificate are traceable to Australian/National standards. This document shall not be reproduced except in full.

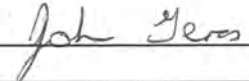


41-45 Mills Road  
 P O Box 145  
 Braeside Victoria  
 Australia 3195  
 Tel: +613 9586 6666  
 Fax: +613 9586 6840

# LABORATORY TEST CERTIFICATE

**Date:** 26<sup>th</sup> March, 2019  
**Description:** **ONESIDE ASSEMBLY TC M20 X 95**  
**(18MM SLEEVE/SPRING BLACK)**  
**Part No.:** OSBATC20.95-18  
**Lot ID:** N0013355

Component			Test Results (Spec' = Specification; Meas't = Average or lowest measurement)								
Ajax Part No.	Description	Lot ID	Proof Load (kN)		Hardness (HRC)			Ultimate Tensile Strength (kN)		TC Shear Min' Tension (kN)	
			AS/NZS 4291.2		AS 1815.1			AS/NZS 4291.1		ASTM 3125	
			Spec'	Result	Spec'		Meas't	Spec'	Meas't	Spec'	Meas't
Min'		Min'	Max'		Min'		Min'				
OSBTC20.95B	LPS M20 X 95 ONESIDE TC CONTROL	N0012843/03			23	34	31	203	236	147	160
		N0012843/04			23	34	30	203	232	147	160
		N0012968/14			23	34	31	203	239	147	160
90383	ONESIDE SPLIT WASHER GAL'	S54988/3			23	34	34				
OSSLVMG20-18BLACK	ONESIDE SLEEVE BLACK M20 – 18MM LONG	N0013179/100640			34	41	38	150 <sup>ksi</sup>	comply		
90382	ONESIDE SOLID WASHER GAL'	S54624/2			23	34	34				
HSNGL20BLACK	STRUCTURAL MECH' GAL' NUT COAT BLACK	N0013180/54573	285	Pass	24	36	31				
		N0013180/76549	285	Pass	24	36	27				

Signed by John Geros, Quality Manager 



Kloekner Metals Corporation

Kloekner Metals Corp  
1100 Exchange Street  
Charlotte, NC 28208  
(704) 394-5999

Bill # / Pack Slip (111)  
11K6456919\*

Sold To: 110133  
J F Fabricators, LLC  
8158 Mountain Shore Dr  
Sherrills Ford, NC 28673-9247  
Phone # (704) 607-8175

Ship To: 1  
J F Fabricators, LLC  
7315 Galvan Way  
Harrisburg, NC 28075-4300  
Phone # (704) 607-8175

Via Our Truck  
FOB Delivered  
Freight Prepaid  
Carrier Kloekner Metals Corp - ST  
Truck # 111716

KMC Load No. 4010636  
Material # 6418819  
Bill of Lading 6456919  
Ship Date 02/01/22


CUST PO: WINDSOR AERO Order# 21028749 Entered: MMILLER

Line	Item Description	PVC Size	Pcs	Net Weight
1	Mill Rolled Plate 1 3/4 ASTM A514	4.75" X 56.25"	1	133
Heat Num: N/A				
2 FTG				

All claims for rust or water damage must be initiated within 30 calendar days of receipt of material

Carrier Signature \_\_\_\_\_ Customer Signature \_\_\_\_\_ Shipper Signature *Tim Smith* Date 2-1-22

Total Pieces	Gross Wgt	Tare Wgt	Net Wgt
1	133	0	133





Ira Svendsgaard & Associates  
 PO Box 1637  
 Placerville, CA 95667  
 P 530 647-8225 F 530 647-8229

\*\*\* PACKING LIST \*\*\*

ORDER

March 17, 2022 2:52 PM

Order # 00019456

Order Date 02/14/2022

Page 1 of 1

TOWENG  
 BILL TOWER ENGINEERING PROFESSIONALS  
 TO: 326 TRYON ROAD  
  
 RALEIGH, NC 27603

SHIP MWD  
 TO: ATTN: STUART  
 1260 MAIN STREET  
 WALNUT COVE, NC 27052

Confirmed With	
Customer PO#	VPO-629094
BOL #	

Reference #	
Terms	NET 30 DAYS B/L
Freight Charges	PPA

PrePaid \_\_\_\_\_ Collect \_\_\_\_\_ 3rd Party \_\_\_\_\_

Freight	F.O.B	Ship Via	Tracking Number	Req Ship Date
PREPAID ADD CLASS 50	ISA-DALLAS 2	FED EX PRIORITY TRUCK		03/17/2022

Order Qty	Ship Qty	B/O Qty	Item # / Description	Customer Part Number	U/M:
280	280	0	209530TC M20 X 95MM-YELLOW AJAX TC ONESIDE BOLT-OSBATC20.95-30		EA
			Unit Weight: 1	Carton Qty: 20	Carton Amt: 14
				Ext Weight: 378	
240	240	0	2013548TC M20 X 135MM-BROWN AJAX TC ONESIDE BOLT-OSBATC20.135-48		EA
			Unit Weight: 2	Carton Qty: 20	Carton Amt: 12
				Ext Weight: 360	

PPA = 215.70

Total Order Weight: 738

THANK YOU FOR PLACING YOUR ORDER WITH US!!  
 UNAUTHORIZED RETURNS WILL NOT BE ACCEPTED!





Tower Engineering Professionals, Inc.  
326 Tryon Road  
Raleigh, NC 27603  
(919) 661-6351  
[jqueen@tepgroup.net](mailto:jqueen@tepgroup.net)

**Subject: Construction Certificate of Completion**  
**Site Name: TMO Windsor**  
**Site Number: CTHA130A**  
**Date: March 21, 2022**

This letter certifies that all work performed at TMO site CTHA130A Windsor by Tower Engineering Professionals conforms to the standards and specifications required by the customer as per contract and/or drawings and documentation provided.

If you have any questions, or need additional information, please feel free to contact me at the contact information listed above.

Sincerely,

Jonathan Queen, C.W.I.  
Sr. Project Manager  
TEP Design Build



Tower Engineering Professionals, Inc.  
326 Tryon Road  
Raleigh, NC 27603  
(919) 661-6351  
[iqueen@tepgroup.net](mailto:iqueen@tepgroup.net)

**Subject: Cold Galvanization Verification Letter**  
**Site Name: TMO Windsor**  
**Site Number: CTHA130A**  
**Date: March 21, 2022**

This letter certifies that approved cold galvanizing compounds were used on the modifications on this tower. Zinga Cold Galvanizing Compound was used which is an approved compound that meets the requirement of containing 95% dry film zinc content.

If you have any questions, or need additional information, please feel free to contact me at the contact information listed above.

Sincerely,

A handwritten signature in black ink that reads "Jonathan Queen".

Jonathan Queen, C.W.I.  
Senior Project Manager  
Tower Engineering Professionals, Inc.



ALL RIGHTS RESERVED. THIS DRAWING SHALL REMAIN THE PROPERTY OF MALOUF ENGINEERING INTERNATIONAL, INC. NO PART THEREOF SHALL BE REPRODUCED, COPIED, ADAPTED, DISCLOSED, OR DISTRIBUTED TO OTHERS WITHOUT WRITTEN PERMISSION OF MEI, INC.

**PROJECT TEAM**

**CLIENT:**  
 SHELDON FREINCLE  
 NORTHEAST SITE SOLUTIONS  
 SHELDON@NORTHEASTSITESOLUTIONS.COM  
 570-606-4257

**STRUCTURAL ENGINEER:**  
 MALOUF ENGINEERING INTERNATIONAL, INC.  
 17950 PRESTON RD, SUITE 720  
 DALLAS, TX 75252

**CARRIER:**  
 T-MOBILE  
**OWNER:**  
 FRONTIER COMMUNICATIONS

**MEI CONTACT:**  
 KRISHNA MANDA, MS, PE  
 972-783-2578 X 105  
 KMANDA@MALOUFENGINEERING.COM

**PROJECT INFORMATION**



**100 FT MONOPOLE  
 TMO WINDSOR  
 #CTHA130A**

**419 BROAD STREET, WINDSOR, CT 06095  
 LAT: 41-50-45.2 N - LON: 72-38-46.1 W**

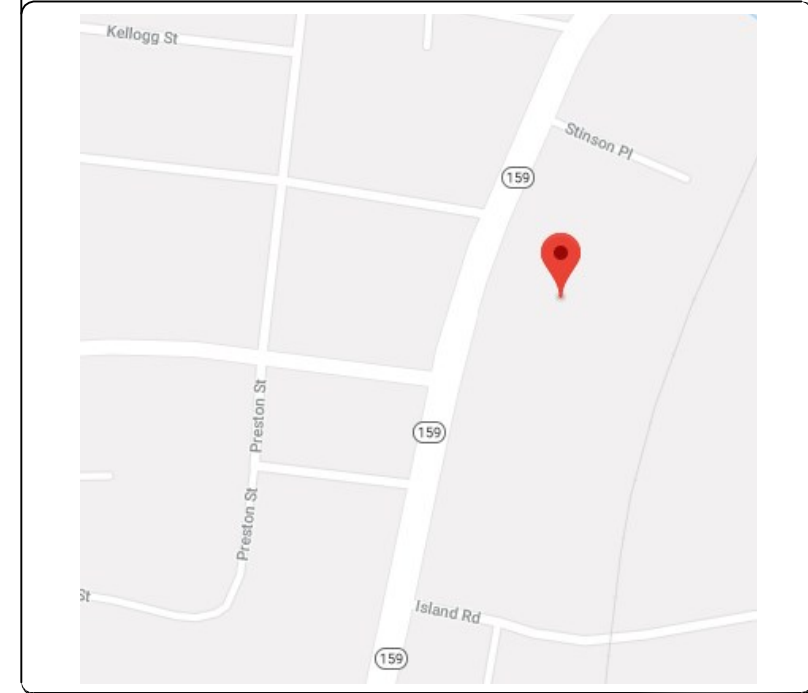
DRAWING INDEX

T01	TITLE SHEET
T02	TECHNICAL SPECIFICATION NOTES
T03	TECHNICAL SPECIFICATION NOTES, POST INSPECTION, AND CHECKLIST
S01	MONOPOLE REINFORCEMENT AND APPURTENANCES SCHEDULE
S02	MONOPOLE SHAFT REINFORCEMENT DETAILS

STRUCTURE ELEVATION PHOTO



VICINITY MAP



CODE COMPLIANCE

ALL WORK SHALL BE PERFORMED AND MATERIAL INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES.

STRUCTURAL CODE: CTBC 2016 / IBC 2012  
 DESIGN STANDARD: ANSI/TIA-222-G

SCOPE OF WORK

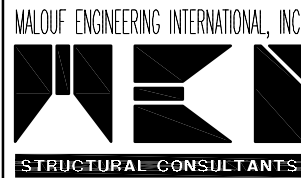
- THESE DRAWINGS INDICATE THE MAJOR OPERATIONS TO BE PERFORMED, BUT DO NOT SHOW EVERY FIELD CONDITION THAT MAY BE ENCOUNTERED. THEREFORE, PRIOR TO BEGINNING OF WORK, THE CONTRACTOR SHALL GET FAMILIARIZED WITH THE WORK NOTED AND SHALL PERFORM A FIELD SITE VISIT TO SURVEY THE STRUCTURE FOR FIELD VERIFICATION / DETERMINATION OF REQUIRED WORK AND THE JOB SITE THOROUGHLY TO MINIMIZE FUTURE FIELD PROBLEMS.
- THE MODIFICATION WORK SCHEDULE IS AS SHOWN ON SHEET S01 WITH THE FOLLOWING MAIN ITEMS:
  - ADD (1) REINFORCING CHANNEL (AERO SOLUTIONS PART #MP306-10-SSI) AS SHOWN, STITCHED BOLTED TO TUBULAR SHAFT AND SPLICED TO EXISTING REINFORCEMENT ON FLAT #14 FROM ELEVATION 15'-5" TO 25'-5"± (REFER TO MODIFICATION DETAILS).
  - FIELD VERIFY LOCATION OF EXISTING CHANNELS, END BOLTS SIZES, AND INTERFERENCES, PRIOR TO FABRICATION.
  - PERFORM MAINTENANCE WORK AS REQUIRED AND APPLICABLE TO BRING THE STRUCTURE INTO GOOD OPERATIONAL CONDITION.

**CONTRACTOR REDLINE DRAWINGS**

MODIFICATION INSTALLATION WAS REVIEWED FOR CONFORMANCE TO CONTRACT DOCUMENTS.

- NO CHANGES FROM ORIGINAL DRAWINGS
- CHANGES AS NOTED

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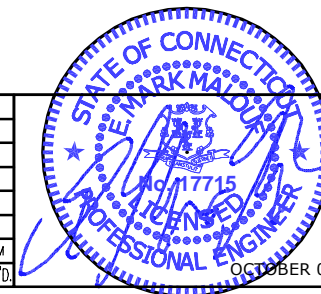
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**100 FT MONOPOLE  
 TMO WINDSOR #CTHA130A**  
 419 BROAD STREET, WINDSOR, CT 06095  
 LAT: 41-50-45.2 N - LON: 72-38-46.1 W



NO.	DATE	ISSUED FOR CONSTRUCTION	REVISIONS	BDB	KMM	MM
0	10/04/18	ISSUED FOR CONSTRUCTION		BDB	KMM	MM
				DRAWN	ENG'D	APP'D



NORTHEAST SITE SOLUTIONS / T-MOBILE

**TITLE SHEET**

MEI PROJECT ID	SHEET NUMBER	REV.
CT00873M-18V3	<b>T01</b>	0

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**GENERAL NOTES**

- STRUCTURAL MODIFICATIONS HAVE BEEN DESIGNED IN CONFORMANCE WITH THE NOTED BUILDING CODE & STANDARD. MATERIALS, FABRICATION, INSTALLATION, AND ALL OTHER SERVICES PROVIDED BY THE CONTRACTOR SHALL CONFORM TO THE NOTED CODES / STANDARDS AND THE CONTRACT SPECIFICATIONS.
- SOURCE DATA REGARDING SUBJECT STRUCTURE HAVE BEEN OBTAINED FROM SUPPLIED / OBTAINED DOCUMENTS. ACTUAL SITE DIMENSIONS SHOULD BE DETERMINED / VERIFIED PRIOR TO FABRICATION OF ANY MATERIAL OR PROVISION FOR FIELD ADAPTATION SHOULD BE MADE. THIS DESIGN IS BEING PROVIDED WITHOUT A CONDITION ASSESSMENT BY THE ENGINEER. CONTRACTOR SHALL PERFORM A COMPLETE CONDITION ASSESSMENT PRIOR TO ORDERING ANY REINFORCING MATERIALS AND NOTIFY ENGINEER OF ANY CONDITION THAT WOULD AFFECT THE DESIGN OR THE WORK SPECIFIED. ANY CHANGES, DISCREPANCIES &/OR MODIFICATIONS THAT MAY BE REQUIRED DUE TO THE EXISTING CONDITIONS SHALL NEED TO BE RESOLVED BEFORE PROCEEDING WITH THE WORK.
- ALL CONSTRUCTION WORK SHALL BE PERFORMED AND INSTALLED BY A CONTRACTOR WITH MIN. 5 YEARS EXPERIENCE IN SIMILAR WORK. ALL WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER IN ACCORDANCE WITH ACCEPTED CONSTRUCTION AND INDUSTRY PRACTICE.
- CONTRACTOR SHALL PERFORM A SITE VISIT TO CONFIRM RELEVANT EXISTING STRUCTURE DIMENSIONS, PROPOSED REINFORCING DIMENSIONS, CLEARANCES AND DETERMINE ANY INTERFERENCES, SITE CONSTRAINTS, UTILITIES AND ALL OTHER INFORMATION NECESSARY TO PERFORM THE WORK. THE CONTRACTOR SHALL NOT START FABRICATION OR CONSTRUCTION PRIOR TO PERFORMING THIS SITE VISIT AND VALIDATING THE INFORMATION ON THESE DRAWINGS AND ANY ADDITIONAL INFORMATION REQUIRED TO SUCCESSFULLY PERFORM THE WORK.
- MATERIAL QUANTITIES AND LENGTH ARE FOR BIDDING PURPOSE - CONTRACTOR TO BE RESPONSIBLE FOR REQUIRED QUANTITIES AND PROPER FIT AND CLEARANCES OF NEW MATERIAL.
- ALL MATERIAL SPECIFIED MUST BE NEW AND FREE OF ANY DEFECTS. ANY MATERIAL SUBSTITUTIONS, INCLUDING BUT NOT LIMITED TO ALTERED SIZES AND/OR STRENGTHS, MUST BE APPROVED BY THE OWNER AND ENGINEER IN WRITING PRIOR TO FABRICATION / ORDERING / INSTALLATION. CONTRACTOR SHALL PROVIDE DOCUMENTATION TO ENGINEER FOR DETERMINING IF SUBSTITUTE IS SUITABLE FOR USE AND MEETS THE ORIGINAL DESIGN CRITERIA. DIFFERENCES FROM THE ORIGINAL DESIGN, INCLUDING MAINTENANCE, REPAIR AND REPLACEMENT, SHALL BE NOTED. COSTS ASSOCIATED WITH THE SUBSTITUTION (INCLUDING REVIEW & RE-DESIGN COSTS) SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL PERMITS, LICENSES, APPROVALS, AND OTHER REQUIREMENTS FOR CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR OR AS DESIGNATED BY THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AMPLE NOTICE TO BUILDING INSPECTION DEPARTMENT TO SCHEDULE ANY REQUIRED INSPECTIONS.
- CONTRACTOR, INCLUDING LOWER TIER CONTRACTORS, SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR MEANS AND METHODS OF CONSTRUCTION AND OF JOB SITE CONDITIONS DURING THE CONSTRUCTION WORK, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY AND INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
- CONTRACTOR IS RESPONSIBLE FOR ENGAGING A MODIFICATION INSPECTOR AT THE TIME OF AWARD TO COORDINATE AN INSPECTION SCHEDULE AND ENSURE PROPER DOCUMENTATION IS RETAINED THROUGHOUT THE PROJECT. FOUNDATION WORK REQUIRES INSPECTION PRIOR TO THE CONCRETE POUR AND MAY INVOLVE A SEPARATE INSPECTION VISIT. REFER TO TABLE FOR MODIFICATION INSPECTION CHECKLIST. CONTACT ENGINEER TO OBTAIN PRICING TO COMPLETE FINAL AND/OR FOUNDATION INSPECTION SERVICES, IF NOT ALREADY COORDINATED WITH THE OWNER / CARRIER. INSTALLATION OF PROPOSED LOADING PRIOR TO COMPLETION OF POST MODIFICATION INSPECTION IS PROHIBITED WITHOUT PRIOR APPROVAL FROM OWNER AND ENGINEER OF RECORD.
- EXISTING STRUCTURE IS ASSUMED TO BE IN GOOD CONDITION AND FREE FROM STRUCTURAL DEFECTS. AT MINIMUM ANSI/TIA-222 RECOMMENDED INSPECTIONS AND ALL MAINTENANCE TYPE & DEFICIENCY REPAIR WORK IS ASSUMED COMPLETED. INSPECTION & MAINTENANCE OF NEW REINFORCEMENTS SHALL BE IMPLEMENTED SUCH AS TO AVOID ANY DETERIORATION OR CORROSION OF REINFORCEMENT.
- REFER TO OWNER REQUIREMENTS FOR NEW MEMBERS PAINT, OTHERWISE PAINT NEW MEMBERS WITH A FINISH COAT OF ACRYLIC PAINT TO MATCH EXISTING PAINT AT THAT ELEVATION.
- ALL EXISTING PAINTED GALVANIZED SURFACES DAMAGED DURING REHAB WORK SHALL BE WIRE BRUSHED CLEAN, REPAIRED BY COLD GALVANIZING BRUSH APPLIED PAINT (ZINGA OR EQUAL), AND REPAINTED TO MATCH THE EXISTING FINISH (AS APPLICABLE).

**COMPONENTS SPECIFIED**

- ALL PRE-FAB PARTS SHALL BE AS CALLED FOR ON PLANS AND AS MANUFACTURED BY AERO SOLUTIONS LLC, (720)304-6882, [HTTPS://WWW.AEROSOLUTIONSLLC.COM](https://www.aerosolutionsllc.com) OR APPROVED EQUAL. INSTALL AS PER MANUFACTURER'S RECOMMENDATIONS.
- ALL BOLTS SHALL BE AS CALLED FOR ON PLANS AND AS MANUFACTURED BY AJAX FASTENERS, (530)647-8225, [HTTPS://WWW.AJAXFAST.COM.AU](https://www.ajaxfast.com.au) OR APPROVED EQUAL. INSTALL AS PER MANUFACTURER'S RECOMMENDATIONS.

**INSTALLATION NOTES**

- ALL INSTALLATION PROCEDURES, SAFEGUARDS AND MEANS AND METHODS OF CONSTRUCTION ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. ALL WORK SHALL FOLLOW SAFE WORK PRACTICES WITH APPROPRIATE FALL PROTECTION AND SHALL BE PERFORMED IN ACCORDANCE WITH ANSI/ASSE A10.48 AND ANSI/TIA-322 OR ANSI/TIA1019-A CONSTRUCTION STANDARDS, OSHA REQUIREMENTS, INDUSTRY PRACTICE AND NATE GUIDELINES. RIGGING PLANS SHALL BE PREPARED IN ACCORDANCE WITH NOTED STANDARDS. ALL ERECTION STRESSES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE REVIEWED/PERFORMED BY A COMPETENT PROFESSIONAL EXPERIENCED IN SIMILAR WORK.
- MINIMUM RECOMMENDED WEATHER CONDITION THAT INSURES A SAFE WORKING CONDITION SHOULD BE OBSERVED: WIND SPEED NOT TO EXCEED 10-15 MPH AT GROUND LEVEL, NO THUNDERSTORMS FORECASTED, AND WITH TOWER STEEL TEMPERATURE BETWEEN 20 F & 105 F. FOLLOW ALL APPLICABLE INDUSTRY AND OSHA SAFETY GUIDELINES.
- CONTRACTOR SHALL WORK WITHIN THE LIMITS OF THE SITE COMPOUND/ OWNER'S PROPERTY OR LEASE AREA AND APPROVED EASEMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY WORK IS WITHIN THESE BOUNDARIES. ANY WORK OUTSIDE THESE BOUNDARIES SHALL BE APPROVED IN WRITING BY THE LAND OWNER PRIOR TO MOBILIZATION.
- FAA / FCC FILING AND LIGHTING MAY BE REQUIRED. ALL GOVERNMENTAL REGULATORY DETERMINATIONS AND FILINGS ARE TO BE COMPLIED WITH AND SHALL BE BY OTHERS.
- TOWER SHALL BE PROPERLY BRACED AND CARE SHALL BE TAKEN IN THE REMOVAL AND REPLACEMENT OF ANY TOWER MEMBER IN ACCORDANCE WITH RECOGNIZED INDUSTRY STANDARDS AND PROCEDURES.
- ALL PRECAUTIONS AND EFFORTS SHALL BE TAKEN TO INSURE THE STRUCTURE STABILITY DURING THE MODIFICATIONS WORK. BRACING MEMBERS / FRAMES WITH CAPACITY MATCHING MEMBERS BEING WORKED ON SHALL BE REQUIRED AND USED. CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY LOCAL AND GLOBAL SHORING OF THE STRUCTURE AND ALL SHORING OF SURROUNDING BUILDINGS, PADS, AND OTHER OUTDOOR SITE OBSTRUCTIONS.
- PRIOR TO INSTALLATION, INSURE THAT POLE HAS PROPERLY ASSEMBLED POLE SECTIONS - DOES NOT EXHIBIT SIGNIFICANT VISIBLE AIR GAPS (IN EXCESS OF 3/16 IN ON OPPOSITE FLATS). A MINIMUM JACKING FORCE OF 10,000 LBS MUST THEN BE APPLIED TO EACH SIDE OF THE POLE DURING JACKING. THIS FORCE MAY BE APPLIED USING MIN. TWO (2) SIX TON COME-A-LONGS UNDER THE FULL EFFORT OF ONE MAN EACH. JACKING FORCES OF 12,000LBS MINIMUM MAY BE REQUIRED.
- IN AREAS TO BE MODIFIED, CONTRACTOR IS RESPONSIBLE FOR TEMPORARILY REMOVING ANY COAXES, T-BRACKETS, MOUNTS, OR ANY OTHER APPURTENANCES INTERFERING WITH THE WORK. ALL APPURTENANCES MUST BE REPLACED AND/OR RESTORED TO ORIGINAL LOCATION. AS APPLICABLE, RE-WORK ATTACHMENTS THAT REQUIRE MODIFICATIONS TO PROPERLY FIT MODIFIED MEMBERS. THESE CUSTOMIZATIONS ARE TO BE DESIGNED BY OTHERS AND MAINTAIN ORIGINAL CAPACITY. ANY CARRIER DOWNTIME MUST BE COORDINATED WITH THE OWNER / CARRIER IN WRITING.
- CAULKING SHALL BE PROVIDED AROUND PERIMETER OF ALL MODIFICATION MEMBERS TO ENSURE COMPLETE SEAL BETWEEN EXISTING STRUCTURE AND REINFORCING MEMBERS IN FULL CONTACT WITH EXISTING STEEL. SEALANT IS TO BE EXTERIOR GRADE, PAINTABLE SILICONE CAULKING AS MANUFACTURED BY DOW OR EQUIVALENT.
- THE CLIMBING FACILITIES, SAFETY CLIMB AND ALL ASSOCIATED HARDWARE SHALL NOT BE IMPEDED OR MODIFIED WITHOUT THE WRITTEN CONSENT OF THE OWNER.
- ALL SAFETY EQUIPMENT SHALL BE INSPECTED ACCORDING TO ALL OSHA AND INDUSTRY SCHEDULED INTERVALS AND ALL INSPECTIONS SHALL BE DOCUMENTED PER APPLICABLE CODES AND STANDARDS.
- FASTENERS SHALL BE INSTALLED IN PROPERLY ALIGNED HOLES. ALL BOLTS AT EVERY CONNECTION SHALL BE INSTALLED SNUG FIT UNTIL THE SECTION IS FULLY COMPACTED, AND THEN TIGHTENED ADDITIONALLY IN ACCORDANCE WITH THE AISC "TURN-OF-THE-NUT" METHOD. TIGHTENING SHALL PROGRESS SYSTEMATICALLY.
- BOLT LENGTHS UP TO AND INCLUDING FOUR DIAMETERS SHALL BE TENSIONED 1/3 TURN BEYOND SNUG FIT. BOLT LENGTHS OVER 4 DIAMETERS SHALL BE 1/2 TURN BEYOND SNUG TIGHT.
- NO WELDING, TORCH CUTTING, OR OPEN FLAME OF ANY TYPE IS PERMITTED ON THIS STRUCTURE AND ON THIS CONSTRUCTION SITE UNLESS DIRECTLY SPECIFIED WITHIN THESE DRAWINGS.
- ALL MANUFACTURERS HARDWARE AND ASSEMBLY INSTRUCTIONS SHALL BE FOLLOWED. DEVIATION FROM THE INSTRUCTIONS IS UNACCEPTABLE AND REQUIRES WRITTEN APPROVAL FROM THE ENGINEER.
- FOR ANY STEEL MEMBER CUTTING HAS B GALVANIZING BRUS EXISTING FINISH (A
- UPON COMPLETION MATERIALS NOT RE OWNER REPRESENT

**CONTRACTOR REDLINE DRAWINGS**

MODIFICATION INSTALLATION WAS REVIEWED FOR CONFORMANCE TO CONTRACT DOCUMENTS.

- NO CHANGES FROM ORIGINAL DRAWINGS
- CHANGES AS NOTED

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**STEEL / FABRICATION NOTES**

- ALL STEEL FABRICATION AND INSTALLATION SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) MANUAL AND SPECIFICATIONS "SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".
- THESE DRAWINGS SHOW RELATED DETAILS BUT ARE NOT SHOP DRAWINGS. SHOP DRAWINGS SHALL BE PREPARED IN ACCORDANCE WITH AISC DETAILING REQUIREMENTS. DIMENSIONAL TOLERANCES SHALL BE IN ACCORDANCE WITH THE AISC CODE OF STANDARD PRACTICE AND ASTM A7 REQUIREMENTS.
- ALL NEW MEMBERS, UNLESS NOTED OTHERWISE, SHALL MAINTAIN THE EXISTING MEMBER WORK LINES AND NOT INTRODUCE ECCENTRICITIES INTO THE STRUCTURE.
- ALL CONNECTIONS NOT FULLY DETAILED ON THESE PLANS SHALL BE DETAILED BY THE STEEL FABRICATOR IN ACCORDANCE WITH THE AISC STEEL CONSTRUCTION MANUAL, AISC 360-10 LRFD.
- ALL WELDING SHALL BE PERFORMED BY AWS CERTIFIED WELDERS AND BE IN ACCORDANCE WITH AWS D1.1/D1.1M, "STRUCTURAL WELDING CODE-STEEL"(LATEST EDITION).
- FOR ALL WELDING, UNLESS NOTED OTHERWISE, USE E70XX ELECTRODES FOR SMAW PROCESS AND E7XT-XX ELECTRODES FOR FCAW PROCESS.
- FOR WELDING ON MONOPOLE SHAFTS, USE 80 KSI LOW HYDROGEN ELECTRODES. ELECTRODES SHALL BE APPROPRIATE FO THE WELDING POSITION REQUIRED TO MAKE THE JOINT.
- COOLING EFFECTS OF THE WELDED MATERIAL SHALL BE TAKEN INTO CONSIDERATION (I.E. EXPANSION OF HOT MATERIAL AND CONTRACTION OF COOLED MATERIAL).
- ALL NEW STEEL SHALL BE HOT-DIPPED GALVANIZED PER ASTM A123, ASTM A153/A153M, OR ASTM A653 G90, AS APPLICABLE FOR FULL WEATHER PROTECTION. FOR HIGH STRENGTH STEEL FASTENERS WHERE HOT-DIPPED GALVANIZING IS NOT PERMITTED, DACROMET F1136 GRADE 3 COATING (OR ENGINEER APPROVED EQUIVALENT) SHALL BE USED.
- PRIOR TO GALVANIZING, ALL FABRICATED STEEL SHALL BE THOROUGHLY SHOP INSPECTED AND QUANTITIES COUNTED ACCORDING TO THE BEST QUALITY CONTROL AND INSPECTION METHODS.
- MATERIAL MAY BE CUT BY SHEARING, SAWING, OR CUTTING WITH A ROUTER OR GAS CUT. MATERIAL GREATER THAN 1/2" THICKNESS SHALL NOT BE SHEARED.
- CUT EDGES SHALL BE TRUE AND SMOOTH, AND FREE FROM EXCESSIVE BURRS AND RAGGED BREAKS. SHEARED EDGES OF THICK PLATES SHALL BE PLANED TO A DEPTH OF 1/4". RE-ENTRANT CUTS SHALL BE AVOIDED. IF USED, THEY SHALL BE FILLETED BY DRILLING PRIOR TO CUTTING.
- ALL BOLTS, WASHERS AND ANCO LOCKNUTS SHALL BE NEW DOMESTIC HIGH STRENGTH GALVANIZED BOLTS AS NOTED BELOW.
- ALL BOLT ASSEMBLIES FOR STRUCTURAL MEMBERS WILL REQUIRE LOCKING DEVICES TO BE INSTALLED IN CONFORMANCE WITH NOTED STANDARDS/SPECIFICATIONS.
- THE FINISHED DIAMETER OF BOLT HOLES SHALL NOT BE MORE THAN 1/16" LARGER THAN THE NOMINAL BOLT DIAMETER AND SHALL NOT BE FLAME CUT THROUGH STEEL, UNLESS OTHERWISE NOTED.
- ANY BOLT REMOVED FROM EXISTING TOWER STRUCTURE SHALL BE REPLACED WITH A NEW DOMESTIC ASTM A325 HIGH STRENGTH BOLT OF EQUAL DIAMETER SIZE AND OF SUFFICIENT LENGTH TO EXCLUDE THE THREADS, UNLESS NOTED OTHERWISE.
- ALL BOLT HOLES EDGE DISTANCES SHALL BE 1 1/2" UNLESS OTHERWISE NOTED.
- FIELD PUNCH / DRILL HOLES AS REQUIRED FOR ACCURATE FIT OF MODIFICATION MEMBER.
- NEW STEEL MATERIAL SHALL BE DOMESTIC AND SHALL CONFORM TO THE FOLLOWING STEEL SPECIFICATIONS UNLESS NOTED OTHERWISE:

MATERIAL	ASTM SPECS
U-BOLTS	A193 B7, A449 OR SAE J429 (GR. 5 - 1/2" DIA. & GR. 8 - 5/8" DIA.)
BOLTS - 1/2" DIA. & GREATER	A490
BOLTS - 1/2" DIA.	SAE J429 GRADE 5 TYPE X
BOLTS - 3/8" DIA.	A307 OR SAE J429 GRADE 5
CHANNELS	A572 GRADE 65
SPLICE PLATE - M306 CHANNEL	A514 GRADE 100

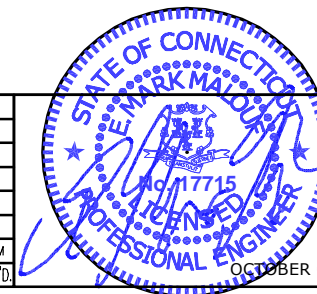


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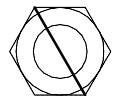


<b>NORTHEAST SITE SOLUTIONS / T-MOBILE</b>		
<b>TECHNICAL SPECIFICATION NOTES</b>		
MEI PROJECT ID	SHEET NUMBER	REV.
CT00873M-18V3	<b>T02</b>	0

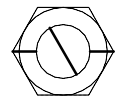
**BOLT TIGHTENING PROCEDURE**

- TIGHTEN BOLTS BY AISC "TURN OF THE NUT" METHOD USING THE CHART BELOW:  
 BOLT LENGTHS UP TO AND INCLUDING FOUR DIAMETERS:  
 + 1/3 TURN BEYOND SNUG TIGHT  
 BOLT LENGTHS OVER FOUR AND UP TO EIGHT DIAMETERS:  
 + 1/2 TURN BEYOND SNUG TIGHT
- ALL ONE-SIDED BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS
- SPLICE BOLTS SUBJECT TO DIRECT TENSION SHALL BE INSTALLED AND TIGHTENED AS PER SECTION 8(D)(1) OF THE AISC MANUAL OF STEEL CONSTRUCTION. THE INSTALLATION PROCEDURE IS AS FOLLOWS:  
 "FASTENERS SHALL BE INSTALLED IN PROPERLY ALIGNED HOLES AND BE TIGHTENED BY ONE OF THE METHODS DESCRIBED IN SUBSECTION 8(D)(1) THROUGH 8(D)(4).

8(D)(1) TURN-OF-THE-NUT TIGHTENING:  
 BOLTS SHALL BE INSTALLED IN ALL HOLES OF THE CONNECTION AND BROUGHT TO A SNUG TIGHT CONDITION. SNUG TIGHT IS DEFINED AS THE TIGHTNESS THAT EXISTS WHEN THE PLIES OF A JOINT ARE IN FIRM CONTACT. THIS MAY BE OBTAINED BY A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF A MAN USING AN ORDINARY SPUD WRENCH. SNUG TIGHTENING SHALL PROGRESS SYSTEMATICALLY...UNTIL ALL THE BOLTS ARE SIMULTANEOUSLY SNUG TIGHT AND THE CONNECTION IS FULLY COMPACTED. FOLLOWING THIS INITIAL OPERATION, ALL BOLTS IN THE CONNECTION SHALL BE TIGHTENED FURTHER BY THE APPLICABLE AMOUNT OF ROTATION SPECIFIED ABOVE. DURING THE TIGHTENING OPERATION, THERE SHALL BE NO ROTATION OF THE PART NOT TURNED BY THE WRENCH. TIGHTENING SHALL PROGRESS SYSTEMATICALLY.

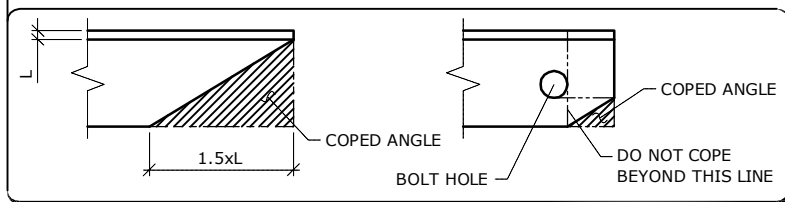


BEFORE 1/3 TURN



AFTER 1/3 TURN

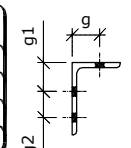
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- ALL DIMENSIONS REPRESENTED IN THE ABOVE TABLES ARE AISC MINIMUM REQUIREMENTS. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN FIELD AND NOTIFY ENGINEER IF DISTANCES ARE LESS THAN THOSE PROVIDED.
- THE DIMENSIONS PROVIDED ARE MINIMUM REQUIREMENTS. ACTUAL DIMENSIONS OR PROPOSED MEMBERS WITHIN THESE DRAWINGS MAY VARY FROM THE AISC MINIMUM REQUIREMENTS.

**USUAL GAGES FOR ANGLES IN INCHES**

LEG	8	7	6	5	4	3 1/2	3	2 1/2	2	1 3/4	1 1/2	1 3/8	1 1/4	1
g	4 1/2	4	3 1/2	3	2 1/2	2	1 3/4	1 3/8	1 1/8	1	7/8	7/8	3/4	5/8
g1	3	2 1/2	2 1/4	2										
g2	3	3	2 1/2	1 3/4										



**POST-MODIFICATION INSPECTION NOTES**

**GENERAL**

THE POST-MODIFICATION INSPECTION (PMI) IS A VISUAL INSPECTION OF TOWER MODIFICATIONS AND A REVIEW OF CONSTRUCTION INSPECTIONS AND OTHER REPORTS TO ENSURE THE INSTALLATION WAS PERFORMED IN ACCORDANCE WITH THE MODIFICATION DESIGN DRAWINGS BY THE ENGINEER OF RECORD (EOR).

ALL PMI'S SHALL BE CONDUCTED BY A QUALIFIED TOWER INSPECTION VENDOR (QTIV) THAT IS APPROVED TO PERFORM ELEVATED WORK AND HAS QUALIFIED RELATED EXPERIENCE.

TO ENSURE THAT THE REQUIREMENTS OF THE PMI ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR (GC) AND THE PMI INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS APPROVAL IS RECEIVED TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS.

**GENERAL CONTRACTOR**

- THE GC IS REQUIRED TO, AT A MINIMUM:
- REVIEW THE REQUIREMENTS OF THE PMI CHECKLIST
  - WORK WITH THE PMI INSPECTOR TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE PMI INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS.
  - BETTER UNDERSTAND ALL INSPECTION AND TESTING REQUIREMENTS.

THE GC SHALL PERFORM AND RECORD THE TEST AND INSPECTION RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE PMI CHECKLIST.

**RECOMMENDATIONS**

- THE FOLLOWING RECOMMENDATIONS AND SUGGESTIONS ARE OFFERED TO ENHANCE THE EFFICIENCY AND EFFECTIVENESS OF DELIVERING A PMI REPORT:
- IT IS SUGGESTED THAT THE GC PROVIDE A MINIMUM OF 5 BUSINESS DAYS NOTICE, PREFERABLY 10, TO THE PMI INSPECTOR AS TO WHEN THE SITE WILL BE READY FOR THE MI TO BE CONDUCTED.
  - IT MAY BE BENEFICIAL TO INSTALL ALL TOWER MODIFICATIONS PRIOR TO CONDUCTING THE FOUNDATION INSPECTIONS TO ALLOW FOUNDATION AND MI INSPECTION(S) TO COMMENCE WITH ONE SITE VISIT.
  - WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND PMI INSPECTOR ON-SITE DURING THE PMI TO HAVE ANY DEFICIENCIES CORRECTED DURING THE INITIAL PMI. THEREFORE, THE GC MAY CHOOSE TO COORDINATE THE PMI CAREFULLY TO ENDURE ALL CONSTRUCTION FACILITIES ARE AT THEIR DISPOSAL WHEN THE PMI INSPECTOR IS ON SITE.

**CORRECTION OF FAILING PMI'S**

- IF THE POST-MODIFICATION INSTALLATION WOULD FAIL THE PMI ("FAILED MI"), THE GC SHALL WORK TO COORDINATE A REMEDIATION PLAN IN ONE OF TWO WAYS:
- CORRECT FAILING ISSUES TO COMPLY WITH THE SPECIFICATIONS CONTAINED IN THE ORIGINAL CONTRACT DOCUMENTS AND COORDINATE A SUPPLEMENT PMI.
  - OR, WITH OWNER'S APPROVAL, THE GC MAY WORK WITH THE EOR TO RE-ANALYZE THE MODIFICATION/REINFORCEMENT USING THE AS-BUILT CONDITION

**REQUIRED PHOTOS**

BETWEEN THE GC AND THE PMI INSPECTOR THE FOLLOWING PHOTOGRAPHS, AT A MINIMUM, ARE TO BE TAKEN AND INCLUDED IN THE PMI REPORT:

- PRE-CONSTRUCTION GENERAL SITE CONDITION
- PHOTOGRAPHS DURING THE REINFORCEMENT MODIFICATION CONSTRUCTION.
- RAW MATERIALS
- PHOTOS OF ALL CRITICAL DETAILS
- FOUNDATION MODIFICATIONS
- WELD PREPARATION
- BOLT INSTALLATION AND TORQUE
- FINAL INSTALLED CONDITION
- SURFACE COATING REPAIR
- POST CONSTRUCTION PHOTOGRAPHS
- FINAL IN-FIELD CONDITION

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**SPECIAL INSPECTION & PMI CHECKLIST**

REQ'D	REPORT ITEM	BRIEF DESCRIPTION
<b>PRE-CONSTRUCTION</b>		
X	MI CHECKLIST	THIS CHECKLIST SHALL BE INCLUDED IN THE MI REPORT
X	EOR APPROVED SHOP DRAWINGS	FABRICATION DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW. THE CONTRACTOR SHALL PROVIDE APPROVED SHOP DRAWINGS TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
N/A	FABRICATOR CERTIFIED WELD INSPECTION	A LETTER FROM THE FABRICATOR, STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH INDUSTRY STANDARDS AND THE CONTRACT DOCUMENTS SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
X	MATERIAL CERT. REPORT (MTR)	MILL CERTIFICATION SHALL BE PROVIDED FOR ALL STEEL AS SPECIFIED IN THE MODIFICATION DRAWINGS AND THIS DOCUMENTATION SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
N/A	FABRICATOR NDE INSPECTION	CRITICAL SHOP WELDS THAT REQUIRE TESTER ARE NOTED ON THESE CONTRACT DRAWINGS. A CERTIFIED WELD INSPECTOR SHALL PERFORM NON-DESTRUCTIVE EXAMINATION AND REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
N/A	NDE REPORT OF MONOPOLE BASE PLATE	A NDE OF THE POLE TO BASE PLATE CONNECTION IS REQUIRED AND WRITTEN REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
X	PACKING SLIPS	THE MATERIAL SHIPPING LIST SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
<b>CONSTRUCTION</b>		
X	CONSTRUCTION INSPECTIONS	A LETTER FROM THE GENERAL CONTRACTOR STATING THAT THE WORKMANSHIP WAS PERFORMED IN ACCORDANCE WITH INDUSTRY STANDARDS AND THESE CONTRACT DRAWINGS SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
N/A	FOUNDATION INSPECTIONS	A VISUAL OBSERVATION OF THE EXCAVATION AND REBAR SHALL BE PERFORMED BEFORE PLACING THE CONCRETE. A WRITTEN REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
N/A	CONCRETE COMP. STRENGTH AND SLUMP TESTS	THE CONCRETE MIX DESIGN, SLUMP TEST, AND COMPRESSIVE STRENGTH TESTS SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
N/A	POST INSTALLED ANCHOR ROD VERIFICATION	POST INSTALLED ANCHOR ROD VERIFICATION SHALL BE PERFORMED IN ACCORDANCE WITH ACI318 AND MANUFACTURERS REQUIREMENTS AND A REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
N/A	BASE PLATE GROUT VERIFICATION	THE GENERAL CONTRACTOR SHALL PROVIDE DOCUMENTATION TO THE MI INSPECTOR THAT VERIFIES THAT THE GROUT WAS INSTALLED IN ACCORDANCE WITH MEI SPECS FOR INCLUSION IN THE MI REPORT.
X	CONTRACTOR'S CERTIFIED WELD INSPECTION	A CERTIFIED WELD INSPECTOR SHALL INSPECT AND TEST AS NECESSARY ALL FIELD WELDS. A REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
N/A	EARTHWORK: LIFT AND DENSITY	FOUNDATION SUB-GRADES SHALL BE INSPECTED AND APPROVED BY A GEOTECHNICAL ENGINEER AND A REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
X	ON SITE COLD GALVANIZING VERIFICATION	THE GENERAL CONTRACTOR SHALL PROVIDE DOCUMENTATION TO MI INSPECTOR VERIFYING THAT ANY ON-SITE COLD GALVANIZING WAS APPLIED IN ACCORDANCE WITH MANUF. INSTRUCTIONS.
N/A	GUY WIRE TENSION REPORT	THE GENERAL CONTRACTOR SHALL PROVIDE A REPORT TO THE MI INSPECTOR INDICATING THE TEMPERATURE AND TENSION IN EVERY GUY CABLE AS PART OF PLUMB AND TENSION PROCEDURE FOR INCLUSION IN THE MI REPORT.
X	GC AS-BUILT DOCUMENTS	THE GENERAL CONTRACTOR SHALL SUBMIT A COPY OF THE CONTRACT DRAWINGS EITHER STATING "INSTALLED AS DESIGNED" OR NOTING ANY CHANGES THAT WERE REQUIRED AND APPROVED BY THE ENGINEER OF RECORD DUE TO FIELD CONDITIONS.
<b>POST-CONSTRUCTION</b>		
X	MI INSPECTOR REDLINE OF RECORD DRAWING(S)	THE MI INSPECTOR SHALL OBSERVE AND REPORT ANY DISCREPANCIES BETWEEN THE CONTRACTORS REDLINE DRAWING AND THE ACTUAL COMPLETED INSTALLATION.
X	POST INSTALLED ANCHOR ROD PULL-OUT TESTING	POST-INSTALLED ANCHOR RODS SHALL BE TESTED IN ACCORDANCE WITH MANUF. REQUIREMENTS AND A REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
X	PHOTOGRAPHS	PHOTOGRAPHS SHALL BE SUBMITTED TO THE MI WHICH DOCUMENT ALL PHASES OF THE CONSTRUCTION. THE PHOTOS SHALL BE ORGANIZED IN A MANNER THAT EASILY IDENTIFIES THE EXACT LOCATION OF THE PHOTO.
ADDITIONAL TESTING AND INSPECTIONS:		
NOTES: X DENOTES A DOCUMENT NEEDED FOR THE MI REPORT N/A DENOTES A DOCUMENT THAT IS NOT REQUIRED FOR THE MI REPORT		

ALL RIGHTS RESERVED. THIS DRAWING SHALL REMAIN THE PROPERTY OF MALOUF ENGINEERING INTERNATIONAL, INC. NO PART THEREOF SHALL BE REPRODUCED, COPIED, ADAPTED, DISCLOSED, OR DISTRIBUTED TO OTHERS WITHOUT WRITTEN PERMISSION OF MEI, INC.

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 DALLAS, TEXAS 75252-5635  
 972-783-2578 (fax: 2583)  
 www.maloufengineering.com  
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**100 FT MONOPOLE  
 TMO WINDSOR #CTHA130A**  
 419 BROAD STREET, WINDSOR, CT 06095  
 LAT: 41-50-45.2 N - LON: 72-38-46.1 W



NO.	DATE	REVISIONS	DRAWN	ENG'D	APP'D
0	10/04/18	ISSUED FOR CONSTRUCTION	BDB	KMM	MM



**NORTHEAST SITE SOLUTIONS / T-MOBILE**  
 TECHNICAL SPECIFICATION NOTES, POST INSPECTION, AND CHECKLIST

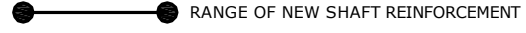
MEI PROJECT ID	SHEET NUMBER	REV.
CT00873M-18V3	T03	0

\*NOTE:  
REWORK ALL EXISTING APPURTENANCES OR TX-LINES  
WHICH MAY INTERFERE WITH THE NEW STRENGTHENING  
MODIFICATIONS.

REFER SHEET T02 - T03 FOR TECH. SPEC. NOTES

TOWER HEIGHT & TYPE:	<b>100 FT MONOPOLE</b>
SITE NAME:	<b>TMO WINDSOR #CTHA130A</b>
SITE LOCATION:	<b>HARTFORD COUNTY, WINDSOR, CT 06095</b>
TOWER MANUF. / MODEL:	<b>ENGINEERED ENDEAVORS / 18-SIDED</b>
ORIGINAL DESIGN CRITERIA:	<b>TIA/EIA-222-F 70 MPH + 0.50" ICE</b>
ANALYSIS CRITERIA:	<b>TIA-222-G 95/50 MPH + 0.00"/1.00" ICE</b>
SITE SPECIFICATIONS:	<b>CLASS. II / EXP. C / TOPO. 1 / Ss &lt; 1.0</b>

**MODIFICATION LEGEND**

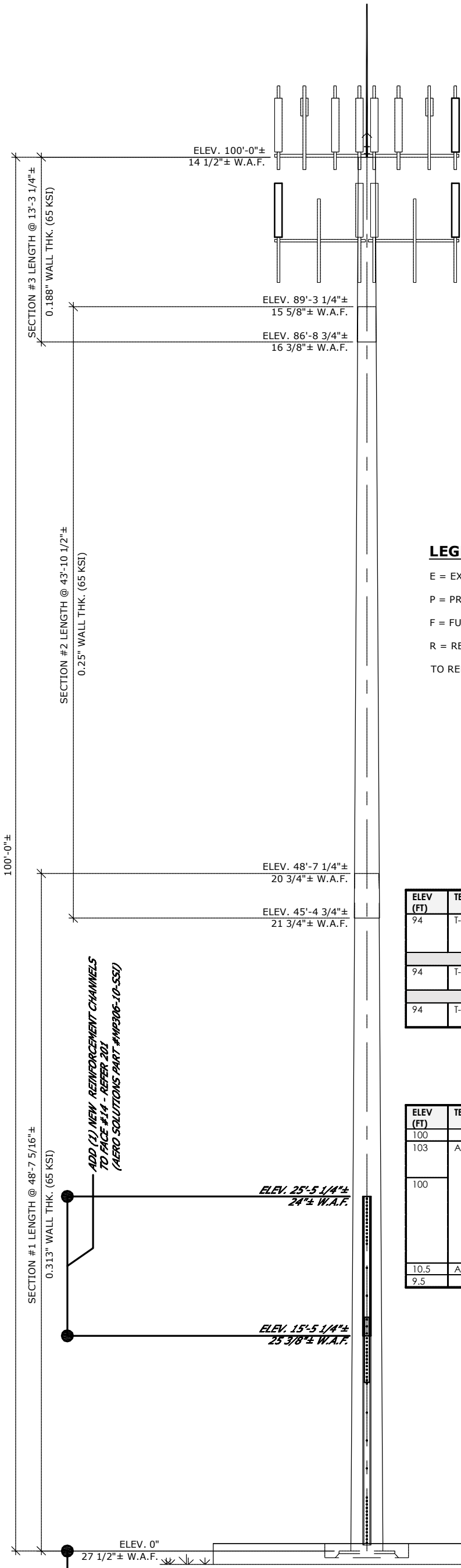


No.	QTY.	DESCRIPTION	ELEV.	TENANT
1	12	1 1/4"	100'	ATT / E
2	2	3/4" DC POWER CABLE	100'	ATT / E
3	1	5/8" FIBER CABLE	100'	ATT / E
4	1	1/2"	10'	ATT / E
5	16	7/8"	94'	T-MOBILE / E / F
6	1	1-1/4" HYBRID CABLE	94'	T-MOBILE / E
7	1	1-5/8" HYBRID CABLE	94'	T-MOBILE / P

**NORTHEAST SITE SOLUTIONS / T-MOBILE**  
**MONOPOLE REINFORCEMENT AND APPURTENANCES SCHEDULE**  
MEI PROJECT ID: **CT00873M-18V3**  
SHEET NUMBER: **S01**  
REV: **0**



DATE: OCTOBER 04, 2018



**101 ELEVATION: 100 FT MONOPOLE**

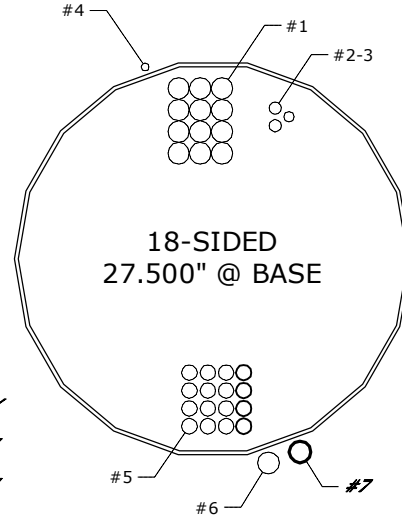
SCALE: 1/8" = 1'-0"

**104 PLAN: SCHEMATIC Tx-LINE LAYOUT**

SCALE: NOT TO SCALE

**LEGEND:**

- E = EXISTING
- P = PROPOSED
- F = FUTURE
- R = REMOVE
- TO RELOCATE



PLEASE CONTACT ENGINEER IF LINE LAYOUT IS DIFFERENT FROM WHAT IS SHOWN BELOW.

**NOTES:**

- Tx LINE LAYOUT IS SCHEMATIC ONLY, BASED UPON MEI MAPPING (SUB: HTS) DATED 8/15/2017 .
- NEW BRACKET SUPPORT SPECIFICATION BY OTHERS.

**102 PROPOSED CHANGED APPURTENANCES SCHEDULE**

ELEV (FT)	TENANT	ANTS QTY	APPURTENANCE MODEL / DESCRIPTION	MOUNT DESCRIPTION	LINES QTY	LINE SIZE & LOCATION
100		1	LIGHTNING ROD			
103	AT&T	3	QS66512-2 PANEL ANTENNAS	PLATFORM WITHOUT RAILS WITH LADDER	12	1-1/4"
		3	7770.00 PANEL ANTENNAS		2	3/4" DC POWER
		3	HPA-65R-BUU-H6 PANEL ANTS.		1	5/8" FIBER -(I)
100		3	RRUS-32 BOXES [SHIELDED BEHIND ANT.]			
		1	RAYCAP OVP BOX			
		6	DBC0061F1V51-2 COMBINERS			
		3	TT19-08BP111-001 ANTENNAS			
		3	RRUS-11 BOXES [SHIELDED BEHIND ANT.]			
		3	RRUS-32 B2 BOXES			
		1	RAYCAP OVP BOX			
10.5	AT&T	1	GPS	EMPTY PIPE MOUNT	1	1/2"-(I)
9.5				2.25FT STANDOFF		

**103 EXISTING AND RESERVED APPURTENANCES SCHEDULE**

ELEV (FT)	TENANT	ANTS QTY	APPURTENANCE MODEL / DESCRIPTION	MOUNT DESCRIPTION	LINES QTY	LINE SIZE & LOCATION
94	T-MOBILE	3	AIR-32 PANEL ANTENNAS	[EXISTING MOUNT]	1	1-5/8" HYBRID CABLE-(I)
		3	APXVAARR24_43-U-NA20 PANEL ANTS.			
		3	RADIO 4449 BOXES			
<b>APPURTENANCES TO REMAIN</b>						
94	T-MOBILE	3	AIR21 PANEL ANTENNAS	LP PLATFORM WITHOUT RAILS / WITH NEW REINFORCEMENT	16	7/8"-(I)
		3	KRY 112 71/2 TMA'S			
<b>APPURTENANCES TO REMAIN</b>						
94	T-MOBILE	3	AIR21 PANEL ANTENNA		1	HUBER-SUHNER HYBRID -(I)

**CONTRACTOR REDLINE DRAWINGS**

MODIFICATION INSTALLATION WAS REVIEWED FOR CONFORMANCE TO CONTRACT DOCUMENTS.

- ✗ NO CHANGES FROM ORIGINAL DRAWINGS
- CHANGES AS NOTED

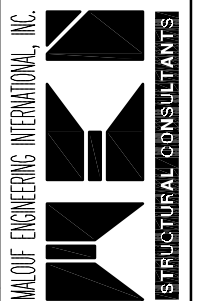
JONATHAN QUEEN, C.W.I.  
CONSTRUCTION PROJECT MANAGER | TOWER ENGINEERING PROFESSIONALS, INC.

NO.	DATE	ISSUED FOR CONSTRUCTION	BY	APPD.
0	10/04/18		BDB KAM MM	DRW(ENCL)APPD



**100 FT MONOPOLE**  
**TMO WINDSOR #CTHA130A**  
419 BROAD STREET, WINDSOR, CT 06095  
LAT: 41-50-45.2 N LON: 72-38-46.1 W

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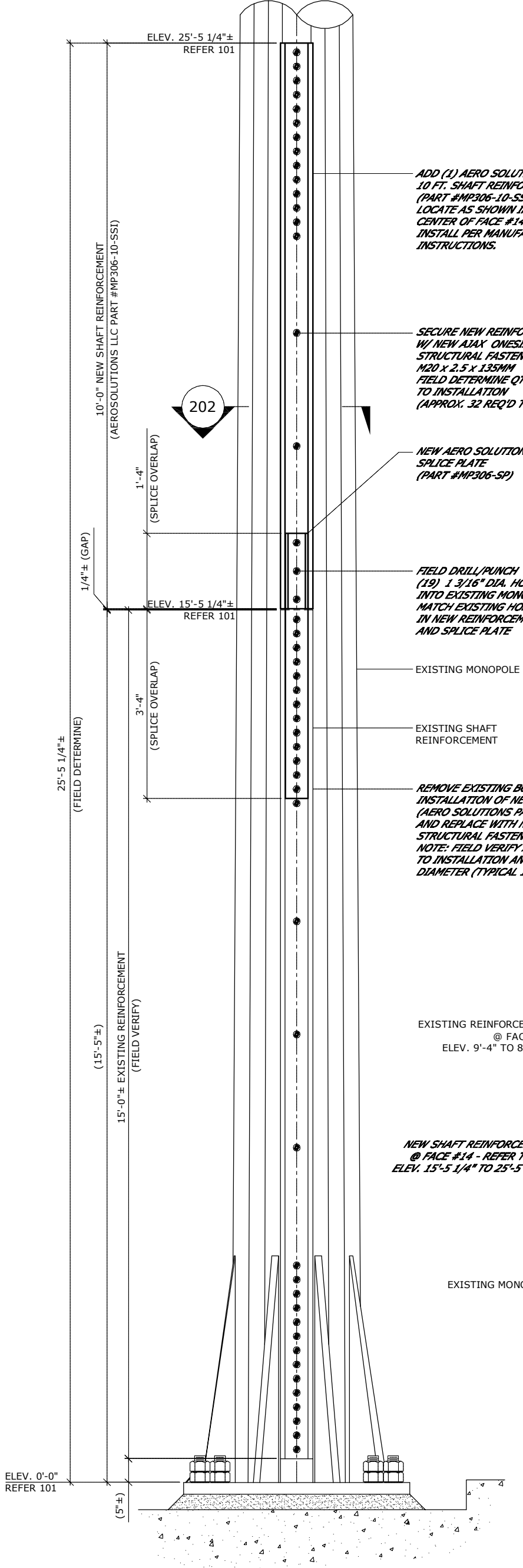
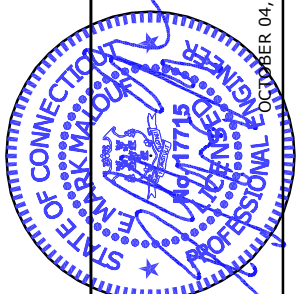
EXISTING MEMBER SCHEDULE

NEW MEMBER SCHEDULE

NEW SHAFT REINFORCEMENTS

\*NOTE:  
REWORK ALL EXISTING APPURTENANCES OR TX-LINES WHICH MAY INTERFERE WITH THE NEW STRENGTHENING MODIFICATIONS.

NORTHEAST SITE SOLUTIONS / T-MOBILE  
MONOPOLE SHAFT REINFORCEMENT DETAILS  
MEI PROJECT ID: CT00873M-18V3  
SHEET NUMBER: S02  
REV. 0



ADD (1) AERO SOLUTIONS LLC 10 FT. SHAFT REINFORCEMENT KIT (PART #MP306-10-SS1) LOCATE AS SHOWN IN 202 ON CENTER OF FACE #14. INSTALL PER MANUFACTURERS INSTRUCTIONS.

SECURE NEW REINFORCEMENT W/ NEW AJAX ONESIDE STRUCTURAL FASTENERS M20 x 2.5 x 1.35MM FIELD DETERMINE QTY. PRIOR TO INSTALLATION (APPROX. 32 REQ'D TOTAL)

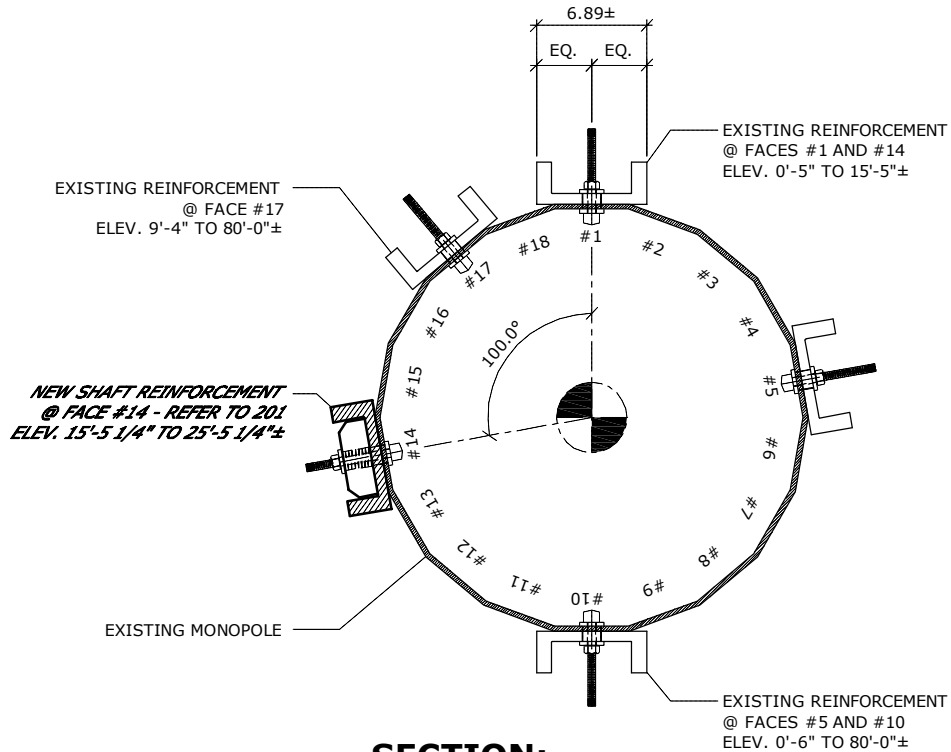
NEW AERO SOLUTIONS LLC SPLICE PLATE (PART #MP306-SP)

FIELD DRILL/PUNCH (19) 1 3/16" DIA. HOLES INTO EXISTING MONOPOLE MATCH EXISTING HOLE LOCATIONS IN NEW REINFORCEMENT CHANNEL AND SPLICE PLATE

EXISTING MONOPOLE  
EXISTING SHAFT REINFORCEMENT

REMOVE EXISTING BOLTS DURING INSTALLATION OF NEW SPLICE PLATE (AERO SOLUTIONS PART #MP306-SP) AND REPLACE WITH NEW AJAX ONESIDE STRUCTURAL FASTENERS, M20 x 2.5 x 1.35MM NOTE: FIELD VERIFY AND DETERMINE SIZE PRIOR TO INSTALLATION AND MATCH EXISTING BOLTS DIAMETER (TYPICAL 1.3X)

NOTE:  
ALL HARDWARE IS TO BE INSTALLED AS PER MANUFACTURERS INSTRUCTIONS W/ ALL RELATED HARDWARE.  
ALL RELATED PARTS AND HARDWARE ARE DISTRIBUTED BY AERO SOLUTIONS LLC:  
AERO SOLUTIONS LLC.  
BOULDER, CO 80301  
(720)304-6882  
RFQ@AEROSOLUTIONSLLC.COM  
IF ADDITIONAL AJAX ONE SIDED BOLTS ARE REQ'D AND/OR NEEDED PLEASE CONTACT THE DISTRIBUTOR BELOW FOR MORE INFORMATION:  
AJAX FASTENERS / IRA SVENDSGAARD AND ASSOCIATES  
PO BOX 1637, PLACEVILLE, CA 95667  
(530)647-8225  
PETERS@IRASVENS.COM  
FIELD VERIFY ALL NEW AND EXISTING PLATE THICKNESS RELATIVE TO SIZE/LENGTH OF APPROPRIATE AJAX PRODUCTS PRIOR TO FABRICATION.



**202** SECTION: NEW SHAFT REINFORCEMENT  
SCALE: 1" = 1'-0"

NOTES:  
1. LAYOUT IS ESTIMATED FROM PHOTOS AND MAPPING. FIELD VERIFY ALL DIMENSIONS PRIOR TO INSTALLATION FOR FIT.  
2. FIELD LOCATED REINFORCEMENT ABOUT SHAFT AS SHOWN AND REQ'D TO AVOID EXISTING INTERFERENCES, SUCH AS PORTHOLES, STEP BOLTS, AND ETC.

**CONTRACTOR REDLINE DRAWINGS**  
MODIFICATION INSTALLATION WAS REVIEWED FOR CONFORMANCE TO CONTRACT DOCUMENTS.  
❌ NO CHANGES FROM ORIGINAL DRAWINGS  
□ CHANGES AS NOTED  
JONATHAN QUEEN, C.W.I.  
CONSTRUCTION PROJECT MANAGER | TOWER ENGINEERING PROFESSIONALS, INC.

**201** ELEVATION: NEW SHAFT REINFORCEMENT - 1  
SCALE: 1/2" = 1'-0" (1 FACE SHOWN/1)



**100 FT MONOPOLE**  
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419 BROAD STREET, WINDSOR, CT 06095  
LAT: 41-50-45.2 N - LON: 72-38-46.1 W

MALOUF ENGINEERING INTERNATIONAL, INC.  
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DALLAS, TEXAS 75252-5635  
972-783-2578 (fax: 2583)  
www.maloufengineering.com  
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STRUCTURAL CONSULTANTS



SITE NAME: Windsor CO  
SITE ID: 701776  
ADDRESS: 419 Broad Street, Windsor, CT  
FCC ID: N/A

For Access or Leasing Call:  
(844) 282-7748

**NO TRESPASSING**

**CAUTION**



**Beyond this point:  
Radio frequency fields at this  
site may exceed FCC rules for  
human exposure.**

**For your safety, obey all posted signs and  
site guidelines for working in radio  
frequency environments.**

In accordance with Federal Communications Commission rules on radio  
frequency emissions 47 CFR 1.1307(b)





**CAUTION**



Beyond this point,  
Radio frequency fields at this  
site may exceed FCC rules for  
human exposure.

For your safety, please do not touch any  
equipment or wiring at this site.  
Please do not touch any equipment or wiring at this site.













3/16/2022 8:31:30 AM CDT (41.84587,-72.646233)

EXTERIOR | SATIN



by **SHERWIN WILLIAMS**

QUALITY SINCE 1866

# WEATHERSHIELD

DIRT & STAIN-BLOCKING PAINT & PRIMER

**SHIELDS AGAINST**

CRACKING, PEELING,  
BLISTERING & FADING

**ADVANCED ALL WEATHER PROTECTION**



PROVIDES  
**MILDEW- & ALGAE-RESISTANT COATING**

SATINADO  
PARA EXTERIORES

Pintura e imprimador para bloqueo de manchas y suciedad | Protección contra todas las condiciones climáticas  
Protección contra agrietamiento, descascaramiento, ampollas y decoloración | Proporciona un recubrimiento resistente al moho y a las algas

29.5 FL OZ  
(1<sup>27</sup>/<sub>32</sub> U.S. PT)

**637564 DEEP BASE**  
MUST BE TINTED BEFORE USE

872 mL

BEFORE COLORANT IS ADDED

Ingredientes: Water, Acrylic Polymer, Titanium Dioxide, Polyethylene Glycol, Zinc Oxide, Polyisobutylate, C15-30, oil-based

42 lb/gal

406

FR 59.406

LY REACTIVE

UNICAMENTE


PROTECT FROM FREEZING

PROTEGER DEL CONGELAMIENTO

with some materials

U.S. or materials

may be used



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44115

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