



February 5, 2021

Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **EM-ATC-064-190913**
EM-ATC-131-190627

To Whom It May Concern,

The purpose of this letter is to notify the Siting Council that construction activity associated with the above-referenced American Tower Corporation telecommunications facilities have been completed.

If you have any questions or need any additional information regarding these facilities please do not hesitate to contact me.

Sincerely,

Ian Culbert

Construction Manager, Site Development – East Region

American Tower Corporation

10 Presidential Way

Woburn, MA 01801

781-926-7805 office

603-401-9127 mobile

ian.culbert@americantower.com



Engineered Tower Solutions
3227 Wellington Court
Raleigh, NC 27615

(919) 782-2710
(919) 782-2495
ETS # 195424

TOWER-POST MODIFICATION SPECIAL INSPECTION MONOPOLE



**STTN - SOUTHINGTON
302475**

PREPARED FOR:



PREPARED BY:

Zelda Perry
Project Assistant
Engineered Tower Solutions, PLLC

DATE:

October 31, 2019





SI REPORT SUMMARY

CLIENT:	<u>American Tower Corporation</u>	DATE AT SITE:	<u>Wednesday, October 23, 2019</u>
SITE NAME:	<u>STTN - SOUTHTON</u>	ATC PROJECT#:	<u>OAA740798_C6_05</u>
SITE NUMBER:	<u>302475</u>	TOWER TYPE:	<u>MONOPOLE</u>
ADDRESS:	<u>80 Shuttle Meadow Road</u> <u>Southington, CT 06489</u>	TOWER HEIGHT:	<u>150'</u>
LEAD:	<u>Bryson Williams</u>	WEATHER:	<u>Sunny, 61°F, Wind 5-15 MPH</u>
		SUPPORT:	<u>Andrew Vickery</u>

PROJECT SUMMARY:

Subject: **TOWER-POST MODIFICATION SPECIAL INSPECTION**

Location: 80 Shuttle Meadow Road
Southington, CT 06489
Lat: 41.6385 °N Long: 72.8411 °W

Structure: **MONOPOLE**

Purpose: The purpose of this special inspection report is to ensure that the proposed construction and or construction activities have been completed and undertaken per design and meet all required Codes, Specifications, and Guidelines.

PARTICIPATION PERSONNEL

ATC Representatives: Ian Culbert
Construction Manager - East
10 Presidential Way, Woburn, MA MA 01801
(781) 926-7805

Engineer of Record: Esha-Kaushal Modi, P.E.
ATC Tower Services, Inc
3500 Regency Pkwy, Suite 100, Cary, NC 27518
(919) 468-0112

General Contractor: Lowell Scarrow
Structural Components
(303) 800-5971

SUPPLEMENTAL INFORMATION

Appendix A - Special Inspection Checklist
Appendix B - Modification Drawings - As Built
Appendix C - EOR Approval Email
Appendix D - Cold Galv Verification
Appendix E - MTRs



SI REPORT CHECKLIST

CLIENT: American Tower Corporation DATE AT SITE: Wednesday, October 23, 2019
SITE NAME: STTN - SOUTHINGTON ATC PROJECT#: OAA740798_C6_05
SITE NUMBE 302475 TOWER TYPE: MONOPOLE
ADDRESS: 80 Shuttle Meadow Road TOWER HEIGHT: 150'
Southington, CT 06489 WEATHER: Sunny, 61°F, Wind 5-15 MPH
LEAD: Bryson Williams SUPPORT: Andrew Vickery

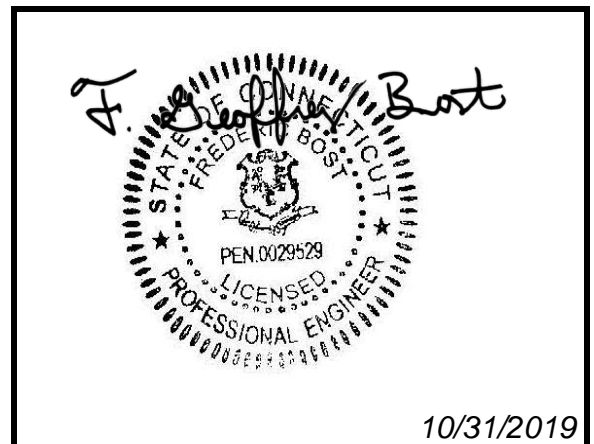
PROJECT

Subject: **TOWER-POST MODIFICATION SPECIAL INSPECTION**

Structure: **MONOPOLE**

Inspection Approvals:

TOWER-POST MODIFICATION SI	
BW/AV	Fit-up of materials
BW/AV	Material grade, shape, fabrication, placement
BW/AV	Verification of proper material coating
N/A	Structural weld verification
BW/AV	Structural bolting / Expansion bolting verification
N/A	Guy tension verification
BW/AV	Full installation verifications per design



CLIENT:	American Tower Corporation	DATE AT SITE:	Wednesday, October 23, 2019
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LEAD:	Southington, CT 06489	WEATHER:	Sunny, 61°F, Wind 5-15 MPH
	Bryson Williams	SUPPORT:	Andrew Vickery



Inspection Item Description

All modifications are within conformance to the modification documents provided by ATC Towers Services, Inc., ATC Project Number :OAA740798_C6_05, Dated: January 28, 2019 with all deviations approved by EOR.

ETS used contractor photos to inspect corrections to deviations identified during inspection.



TOWER-POST MODIFICATION SPECIAL INSPECTION



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LEAD:	<u>Bryson Williams</u>	SUPPORT:	<u>Andrew Vickery</u>

APPENDIX A SI CHECKLIST

SEE FOLLOWING PAGES

MODIFICATION INSPECTION NOTES

THE SPECIAL INSPECTION (SI) PROCEDURE IS INTENDED TO CONFIRM THAT CONSTRUCTION AND INSTALLATION MEETS ENGINEERING DESIGN, ATC PROCEDURES AND ATC STANDARD SPECIFICATIONS FOR WIRELESS TOWER SITES.

TO ENSURE THAT THE REQUIREMENTS OF THE SI ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR AND THE INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS A PO IS RECEIVED FROM AMERICAN TOWER CORPORATION (ATC). IT IS EXPECTED THAT EACH PARTY WILL PROACTIVELY REACH OUT TO THE OTHER PARTY. IF CONTACT INFORMATION IS NOT KNOWN, CONTACT YOUR AMERICAN TOWER POINT OF CONTACT.

SPECIAL INSPECTOR

THE SPECIAL INSPECTOR IS REQUIRED TO CONTACT THE GENERAL CONTRACTOR AS SOON AS RECEIVING A PO FROM ATC. UPON RECEIVING A PO FROM ATC THE SPECIAL INSPECTOR AT A MINIMUM MUST:

- REVIEW THE REQUIREMENTS OF THE SI CHECKLIST.
- WORK WITH THE GENERAL CONTRACTOR TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS.
- ANY CONCERNS WITH THE SCOPE OF WORK OR PROJECT COMMITMENT MUST BE RELAYED TO THE ATC POINT OF CONTACT IMMEDIATELY.

THE SPECIAL INSPECTOR IS RESPONSIBLE FOR COLLECTING ALL GENERAL CONTRACTOR INSPECTION AND TEST REPORTS, REVIEWING THESE DOCUMENTS FOR ADHERENCE TO CONTRACT DOCUMENTS, CONDUCTING THE IN-FIELD INSPECTIONS, AND SUBMITTING THE SI REPORT TO AMERICAN TOWER CORPORATION.

GENERAL CONTRACTOR

THE GENERAL CONTRACTOR IS REQUIRED TO CONTACT THE SI INSPECTOR AS SOON AS RECEIVING A PO FOR THE MODIFICATION INSTALLATION OR TURNKEY PROJECT TO, AT A MINIMUM:

- REVIEW THE REQUIREMENTS OF THE SI CHECKLIST.
- WORK WITH THE SI TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS.
- BETTER UNDERSTAND ALL INSPECTION AND TESTING REQUIREMENTS.

THE GENERAL CONTRACTOR SHALL PERFORM AND RECORD THE TEST AND INSPECTION RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE SI CHECKLIST.

SPECIAL INSPECTION CHECKLIST

INSPECTION DOCUMENT	DESCRIPTION	INSPECTION TESTING REQUIRED	RESPONSIBILITY	SI REVIEW REQUIRED			INSPECTION FREQUENCY	
				PRE CX	DURING CX	POST CX	PERIODIC	CONTINUOUS
SPECIAL INSPECTION FIELD WORK & REPORT	DOCUMENTATION AND SITE VISIT CONDUCTED BY AN ATC APPROVED SPECIAL INSPECTOR AS REQUIRED BY ATC AND OTHER AUTHORITIES HAVING JURISDICTION. INSPECTION PARAMETERS TO FOLLOW ATC'S STANDARD SPECIFICATION FOR WIRELESS TOWER SITES.	✓	SI			✓		
ENGINEERING ASSEMBLY DRAWINGS	GC SHALL SUBMIT DRAWINGS TO SI FOR INCLUSION IN SI REPORT	✓	GC	✓				
FABRICATED MATERIAL VERIFICATION & INSPECTION	MTR AND OR MILL CERTIFICATIONS FOR SUPPLIED MATERIALS GC SHALL SUPPLY SI WITH REPORTS TO BE INCLUDED IN SI REPORT WHEN REQUIRED BY ATC	✓	SI	✓				
CERTIFIED WELD INSPECTION	INSPECTION AND REPORT OF STRUCTURAL WELDING PERFORMED DURING PROJECT COMPLETED BY A CWI AND INCLUDED WITHIN SI REPORT		GC / TA					
FOUNDATION INSPECTION & VERIFICATION	VISUAL OBSERVATION AND APPROVAL OF FOUNDATION EXCAVATION, REBAR PLACEMENT, CASING/SHORING/FORMING PLACEMENT, AND ANCHOR TEMPLATE AND ANCHOR PLACEMENT - TO BE SI APPROVED PRIOR TO CONCRETE POUR AND DOCUMENTED IN THE SI REPORT		SI					
ANCHOR, ROCK ANCHOR OR HELICAL PULL-OUT TEST	PULL TESTING OF INSTALLED ANCHORS TO BE COMPLETED AND DOCUMENTED IN SI REPORT		GC / TA					
CONCRETE INSPECTION & VERIFICATION	CONCRETE MIX DESIGN, SLUMP TEST, COMPRESSIVE TESTING, AND SAMPLE GATHERING TECHNIQUES ARE TO BE PROVIDED FOR INCLUSION IN THE SI REPORT. SI SHALL VERIFY CONCRETE PLACEMENT AS REQUIRED BY THE DESIGN DOCUMENTS (INSPECTION FREQUENCY IS MARKED CONTINUOUS)		GC / TA					
DYWIDAG PLACEMENT/ANCHOR BOLT EMBEDMENT - EPOXY/GROUT INSTALL	ANCHOR/BAR EMBEDMENT, HOLE SIZE, EPOXY/GROUT TYPE, INSTALLATION TEMPERATURE AND INSTALLATION SHALL BE VERIFIED BY THE SI AND INCLUDED IN THE SI REPORT		GC / SI					
BASE PLATE GROUT INSPECTION & VERIFICATION	BASE PLATE GROUTING TYPE AND PLACEMENT SHALL BE CONFIRMED BY THE SI AND INCLUDED IN THE SI REPORT		GC / SI					
EARTHWORK INSPECTION & VERIFICATION	EXCAVATION, FILL, SLOPE, GRADE AND OTHER EARTHWORK REQUIREMENTS PER PLANS SHALL BE VERIFIED BY THE SI AND INCLUDED IN THE SI REPORT		GC / TA					
COMPACTION VERIFICATION	CONTRACTOR SHALL PROVIDE AN INDEPENDENT THIRD PARTY CERTIFIED INSPECTION WHICH PROVIDES TEST RESULTS FOR COMPACTION TEST OF SOILS IN PLACE TO ASTM STANDARDS.		GC / TA					
GROUND TESTING & VERIFICATION	GC SHALL PROVIDE DOCUMENTATION SHOWING THAT THE GROUNDING SYSTEM SHALL HAVE A MEASURED RESISTANCE TO THE GROUND OF NOT MORE THAN THE RECOMMENDED 10 OHMS. PER THE ATC CONSTRUCTION SPECIFICATION UNDER SECTION 2.15 THIS DOCUMENTATION MUST BE AN INDEPENDENT CERTIFICATION.		GC					
STEEL CONSTRUCTION INSPECTION & VERIFICATION	VISUAL OBSERVATION AND APPROVAL OF STEEL CONSTRUCTION TO BE PERFORMED BY THE SI. INSPECTION TO INCLUDE VERIFICATION OF NEW CONSTRUCTION OR MODIFICATION OF EXISTING CONSTRUCTION PER ENGINEERED PLANS. DETAILED VERIFICATION SHALL BE INCLUDED IN SI REPORT.	✓	SI			✓	✓	
ON-SITE COLD GALVANIZING VERIFICATION	SI SHALL VERIFY WITH GC ALL COLD GALVANIZATION TYPE AND APPLICATION AND INCLUDE SUMMARY IN SI REPORT	✓	GC			✓	✓	
GUY WIRE TENSIONING & TOWER ALIGNMENT REPORT	GC SHALL PROVIDE SI EVIDENCE OF PROPER GUY TENSIONING AND TOWER PLUMB PER PLANS. SI SHALL VERIFY AND INCLUDE PLUMB AND TENSION REPORTING IN SI REPORT.		GC					
GC AS-BUILT DRAWINGS WITH CONSTRUCTION RED-LINES	GC SHALL SUBMIT "AS-BUILT" DRAWINGS INDICATING ANY APPROVED CHANGES TO ENGINEERED PLANS TO SI FOR APPROVAL/REVIEW AND INCLUSION IN SI REPORT	✓	GC			✓		
SI AS-BUILT DRAWINGS WITH INSPECTION RED-LINES (AS REQUIRED)	SI SHALL SUBMIT "AS-BUILT" DRAWINGS INDICATING ANY APPROVED CHANGES TO ENGINEERED PLANS WITHIN SI REPORT	✓	SI			✓		
TIA INSPECTION	SI SHALL COMPLETE TIA INSPECTION AND PROVIDE SEPARATE TIA INSPECTION DOCUMENTATION TO ATC CM		SI					
PHOTOGRAPHS	PHOTOGRAPHIC EVIDENCE OF SPECIAL INSPECTION, ON SITE REMEDIATION, AND ITEMS FAILING INSPECTION & REQUIRING FOLLOW UP TO BE INCLUDED WITHIN THE SI REPORT. COMPLETE PHOTO LOG IS TO BE SUBMITTED WITHIN SI REPORT.	✓	GC / SI			✓		

NOTE: SPECIAL INSPECTIONS ARE INTENDED TO BE A COLLABORATIVE EFFORT BETWEEN GC AND SI. WHENEVER POSSIBLE GC IS TO PROVIDE SI WITH PHOTOGRAPHIC OR OTHER ACCEPTABLE EVIDENCE OF PROPER INSTALLATION IF PERIODIC INSPECTION FREQUENCY IS ACCEPTABLE. THE GC AND SI SHALL WORK TO COMPLETE EVIDENCE OF PROPER CONSTRUCTION AND LIMIT THE NUMBER OF SI SITE VISITS REQUIRED.

TABLE KEY:

SI - ATC APPROVED SPECIAL INSPECTOR	CX - CONSTRUCTION
GC - GENERAL CONTRACTOR	CM - CONSTRUCTION MANAGER
TA - 3RD PARTY TESTING AGENCY	ATC - AMERICAN TOWER CORPORATION



THESE DRAWINGS AND/OR THE ACCOMPANYING SPECIFICATION AS INSTRUMENTS OR SERVICE ARE THE EXCLUSIVE PROPERTY OF AMERICAN TOWER. THEIR USE AND PUBLICATION SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH THEY ARE PREPARED. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO AMERICAN TOWER OR THE SPECIFIED CARRIER IS STRICTLY PROHIBITED. TITLE TO THESE DOCUMENTS SHALL REMAIN THE PROPERTY OF AMERICAN TOWER WHETHER OR NOT THE PROJECT IS EXECUTED. NEITHER THE ARCHITECT NOR THE ENGINEER WILL BE PROVIDING ON-SITE CONSTRUCTION REVIEW OF THIS PROJECT. CONTRACTOR(S) MUST VERIFY ALL DIMENSIONS AND ADVISE AMERICAN TOWER OF ANY DISCREPANCIES. ANY PRIOR ISSUANCE OF THIS DRAWING IS SUPERSEDED BY THE LATEST VERSION ON FILE WITH AMERICAN TOWER.

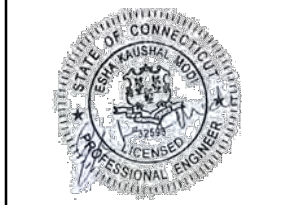
REV.	DESCRIPTION	BY	DATE
△	FIRST ISSUE	NYG	01/22/19
△			
△			
△			
△			

ATC SITE NUMBER:
302475

ATC SITE NAME:
STTN - SOUTHTON

CONNECTICUT

SITE ADDRESS:
80 SHUTTLE MEADOW ROAD
SOUTHTON, CT 06489



Authorized by "EOR"
Jan 28 2019 5:21 PM **cosign**

DRAWN BY:	NYG
APPROVED BY:	MER/NOY
DATE DRAWN:	01/22/19
ATC JOB NO:	OAA740798_C6_05

SPECIAL INSPECTION CHECKLIST

SHEET NUMBER:	REVISION:
SIC	0

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	<u>Southington, CT 06489</u>	WEATHER:	<u>Sunny, 61°F, Wind 5-15 MPH</u>
LEAD:	<u>Bryson Williams</u>	SUPPORT:	<u>Andrew Vickery</u>

APPENDIX B
MODIFICATION DRAWINGS - AS BUILT

SEE FOLLOWING PAGES



AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
 3500 REGENCY PARKWAY
 SUITE 100
 CARY, NC 27518
 PHONE: (919) 468-0112
 COA: PEC.0001553

302475 - STTN - SOUTHINGTON, CONNECTICUT

149.5 FT MONOPOLE MODIFICATIONS

GC As-Built
 Structural Components
 Ryan Hubert
 10.21.2019

AS-BUILT SIGN-OFF

DESCRIPTION	SIGNATURE	DATE
CONTRACTOR NAME		
CONTRACTOR REPRESENTATIVE (PRINT NAME)		
CONTRACTOR REPRESENTATIVE (SIGNATURE)		
REDEVELOPMENT P.M. (PRINT NAME)		
REDEVELOPMENT P.M. (SIGNATURE)		

PROJECT SUMMARY

PROJECT DESCRIPTION

SHEET

SHEET TITLE

REV.

ATC PROJECT NUMBER: OAA740798_C6_05 CUSTOMER: AT&T MOBILITY CUSTOMER SITE NAME: SOUTHINGTON CUSTOMER SITE NUMBER: CT1004 SITE ADDRESS: 80 SHUTTLE MEADOW ROAD SOUTHINGTON, CT 06489 DATE: 01/22/19 GEOGRAPHIC COORDINATES: 41.63858333 -72.8411	THE MODIFICATIONS PRESENTED ON THESE DRAWINGS ARE BASED ON THE RECOMMENDATIONS OUTLINED IN THE STRUCTURAL ANALYSIS COMPLETED UNDER ENGINEERING PROJECT NUMBER OAA740798_C3_03 DATED 01/10/19. SATISFACTORY COMPLETION OF THE WORK INDICATED ON THESE DRAWINGS WILL RESULT IN THE STRUCTURE MEETING THE REQUIREMENTS OF THE SPECIFICATIONS UNDER WHICH THE STRUCTURAL WAS COMPLETED.	B-1	BILL OF MATERIALS	0
		IGN	IBC GENERAL NOTES	0
		SIC	SPECIAL INSPECTION CHECKLIST	0
		C-101	SITE PLAN	0
		A-1	MODIFICATION PROFILE	0
		A-2	REINFORCEMENT INSTALLATION DETAILS	0
		A-2A	REINFORCEMENT INSTALLATION DETAILS (CONT'D)	0
		#20SB	#20 STEP BOLT BRACKET INSTALLATION DETAILS	0
		W519-20	#20 BAR BRACKET [W5X19 T-BRACKET]	0
		W519-8U	#20 BAR TERMINATION BRACKET [W5X19 8 U-BOLT]	0

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REV.	DESCRIPTION	BY	DATE
△	FIRST ISSUE	NYG	01/22/19
△			
△			
△			

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CONNECTICUT

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80 SHUTTLE MEADOW ROAD
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Authorized by "EOR"
 Jan 28 2019 5:21 PM


DRAWN BY: NYG
 APPROVED BY: MER/NOY
 DATE DRAWN: 01/22/19
 ATC JOB NO: OAA740798_C6_05

COVER

SHEET NUMBER: **COVER**
 REVISION: **0**

BILL OF MATERIALS

QUANTITY REQUIRED	QUANTITY PROVIDED	PART NUMBER	DESCRIPTION	LENGTH	SHEET LIST	PART WEIGHT	WEIGHT (lb)	NOTES
DYWIDAG REINFORCEMENT MATERIAL & HARDWARE								
4	4	DY D-20-ATR-30	#20 ALL THREAD ROD 30'	30'-0"	A-2	501.0	2004	GALVANIZED
4	4	DY D-20-ATR-PF	#20 ALL THREAD ROD (PER FT)	20'-0"	A-2	334.0	1336	GALVANIZED
4	4	DYD-20-COUP-00	#20 COUPLING HDG	----	----	----	----	GALVANIZED
3	8	DYD-20-HN-00	#20 HEX NUT HDG	----	----	----	----	GALVANIZED
72	72	W519-20	W5X19	1'-3"	A-2, W519-20	25.0	1800	#20 T-BRACKET
12	12	W519-8U	W5X19	2'-5 3/4"	A-2, W519-8U	49.5	594	#20 T-BRACKET
230	294	U3-580-3125	U-BOLT ASSEMBLIES FOR #20 ROD	----	----	----	----	GALVANIZED
204	214	NG-0625-0875-A490	NEXGEN2 BLIND BOLT ASSEMB., M20 W/ SPRING SLEEVE, A490	----	----	----	----	ALLFASTENERS - 2NG2060
30	32	NG-0935-1438-A490	NEXGEN2 BLIND BOLT ASSEMB., M20 W/ SPRING SLEEVE, A490	----	----	----	----	ALLFASTENERS - 2NG2035
40	45	#20SB	STEP BOLT WELDMENT	0'-7 1/4"	#20SB	2.5	113	
						GC As-Built Structural Components Ryan Hubert 10.21.2019		
TOTAL WEIGHT (lb)						5,847	PAGE 1 OF 1	



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DRAWN BY:	NYG
APPROVED BY:	MER/NOY
DATE DRAWN:	01/22/19
ATC JOB NO:	OAA740798_C6_05

BILL OF MATERIALS

SHEET NUMBER: **B-1**

REVISION: **0**

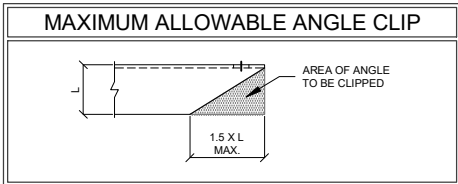
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GENERAL

- ALL WORK TO BE COMPLETED PER APPLICABLE LOCAL, STATE, FEDERAL CODES AND ORDINANCES AND COMPLY WITH ATC MASTER SPECIFICATIONS FOR WIRELESS TOWER SITES. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND ABIDING BY ALL REQUIRED PERMITS.
- ALL WORK INDICATED ON THESE DRAWINGS SHALL BE PERFORMED BY QUALIFIED CONTRACTORS EXPERIENCED IN TOWER AND FOUNDATION CONSTRUCTION.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD IMMEDIATELY OF ANY INSTALLATION INTERFERENCES. ALL NEW WORK SHALL ACCOMMODATE EXISTING CONDITIONS. DETAILS NOT SPECIFICALLY SHOWN ON THE DRAWINGS SHALL FOLLOW SIMILAR DETAILS FOR THIS JOB.
- ANY SUBSTITUTIONS SHALL CONFORM TO THE REQUIREMENTS OF THESE NOTES AND SPECIFICATIONS, AND SHOULD BE SIMILAR TO THOSE SHOWN. ALL SUBSTITUTIONS SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.
- ANY MANUFACTURED DESIGN ELEMENTS SHALL CONFORM TO THE REQUIREMENTS OF THESE NOTES AND SPECIFICATIONS AND SHOULD BE SIMILAR TO THOSE SHOWN. THESE DESIGN ELEMENTS MUST BE STAMPED BY AN ENGINEER PROFESSIONALLY REGISTERED IN THE STATE OF THE PROJECT, AND SUBMITTED TO THE ENGINEER OF RECORD FOR APPROVAL PRIOR TO FABRICATION.
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH LOCAL CODES AND OSHA SAFETY REGULATIONS.
- THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND EXECUTION OF ALL MISCELLANEOUS SHORING, BRACING, TEMPORARY SUPPORTS, ETC. NECESSARY, PER ANSII/A322 AND ANSII/ASSE A10.48, TO PROVIDE A COMPLETE AND STABLE STRUCTURE AS SHOWN ON THESE DRAWINGS.
- CONTRACTOR'S PROPOSED INSTALLATION SHALL NOT INTERFERE, NOR DENY ACCESS TO, ANY EXISTING OPERATIONAL AND SAFETY EQUIPMENT.

STRUCTURAL STEEL

- ALL DETAILING, FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AISC SPECIFICATIONS, LATEST EDITION.
- ALL EXPOSED STRUCTURAL STEEL MEMBERS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION PER ASTM A123. EXPOSED STEEL HARDWARE AND ANCHOR BOLTS SHALL BE GALVANIZED PER ASTM A153 OR B695.
- ALL U-BOLTS SHALL BE ASTM A36 OR EQUIVALENT, WITH LOCKING DEVICE, UNLESS NOTED OTHERWISE.
- FIELD CUT EDGES, EXCEPT DRILLED HOLES, SHALL BE GROUND SMOOTH.
- ALL FIELD CUT SURFACES, FIELD DRILLED HOLES & GROUND SURFACES WHERE EXISTING PAINT OR GALVANIZATION REMOVAL WAS REQUIRED SHALL BE REPAIRED WITH (2) BRUSHED COATS OF ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.
- ALL STRUCTURAL STEEL EMBEDDED IN THE CONCRETE SHALL BE APPLIED WITH (2) BRUSHED COATS OF POLYGUARD CA-14 MASTIC OR EQUIVALENT. REFER TO THE MANUFACTURER SPECIFICATIONS FOR SURFACE PREPARATION AND APPLICATION. APPLICATION OF POLYGUARD 400 WRAP IS NOT ESSENTIAL.
- CONTRACTOR SHALL PERFORM WORK ON ONLY ONE (1) TOWER FACE AND REPLACE/REINFORCE ONE (1) BOLT/MEMBER AT A TIME.
- ALL FIELD DRILLED HOLES TO BE USED FOR FIELD BOLTING INSTALLATION SHALL BE STANDARD HOLES, AS DEFINED BY AISC, UNLESS NOTED OTHERWISE.



PAINT

- AS REQUIRED, CLEAN AND PAINT PROPOSED STEEL ACCORDING TO FAA ADVISORY CIRCULAR AC 70/7460-1L.

WELDING

- ALL WELDING TO BE PERFORMED BY AWS CERTIFIED WELDERS AND CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AWS WELDING CODE D1.1.
- ALL WELDS SHALL BE INSPECTED VISUALLY. IF DIRECTED BY ENGINEER OF RECORD, 25% OF WELDS SHALL BE INSPECTED WITH DYE PENETRANT OR MAGNETIC PARTICLE (100% IF REJECTABLE DEFECTS ARE FOUND) TO MEET THE ACCEPTANCE CRITERIA OF AWS D1.1. REPAIR ALL WELDS AS NECESSARY.
- INSPECTION SHALL BE PERFORMED BY AN AWS CERTIFIED WELD INSPECTOR.
- ALL ELECTRODES TO BE LOW HYDROGEN, MATCHING FILLER METAL, PER AWS D1.1, UNLESS NOTED OTHERWISE.
- ALL WELDING ON LATTICE TOWERS SHALL BE DONE WITH E70XX ELECTRODES. ALL WELDING ON POLE STRUCTURES SHALL BE DONE WITH E80XX ELECTRODES UNLESS NOTED OTHERWISE.
- PRIOR TO FIELD WELDING GALVANIZED MATERIAL, CONTRACTOR SHALL GRIND OFF GALVANIZING 1/2" BEYOND ALL FIELD WELD SURFACES. AFTER WELD AND WELD INSPECTION IS COMPLETE, REPAIR ALL GROUND AND WELDED SURFACES WITH ZRC GALVILITE COLD GALVANIZING COMPOUND PER ASTM A780 AND MANUFACTURERS RECOMMENDATIONS.

BOLT TIGHTENING PROCEDURE

- STRUCTURAL CONNECTIONS TO BE ASSEMBLED AND INSPECTED IN ACCORDANCE WITH RCSC SPECIFICATIONS.
- FLANGE BOLTS SHALL BE INSTALLED AND TIGHTENED USING DIRECT TENSION INDICATING (DTI) SQUIRTER WASHERS. DTI SQUIRTER WASHERS ARE TO BE INSTALLED AND ORIENTED / TIGHTENED PER MANUFACTURER SPECIFICATIONS TO ACHIEVE DESIRED LEVEL OF BOLT PRE-TENSION.
- IN LIEU OF USING DTI SQUIRTER WASHERS, FLANGE BOLTS MAY BE TIGHTENED USING AISC / RCSC "TURN-OF-THE-NUT" METHOD, PENDING APPROVAL BY THE ENGINEER OF RECORD (EOR). TIGHTEN FLANGE BOLTS USING THE CHART BELOW.

BOLT LENGTHS UP TO AND INCLUDING FOUR DIAMETERS

1/2"	BOLTS UP TO AND INCLUDING 2.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
5/8"	BOLTS UP TO AND INCLUDING 2.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
3/4"	BOLTS UP TO AND INCLUDING 3.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
7/8"	BOLTS UP TO AND INCLUDING 3.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1"	BOLTS UP TO AND INCLUDING 4.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-1/8"	BOLTS UP TO AND INCLUDING 4.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-1/4"	BOLTS UP TO AND INCLUDING 5.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-3/8"	BOLTS UP TO AND INCLUDING 5.5 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT
1-1/2"	BOLTS UP TO AND INCLUDING 6.0 INCH LENGTH	+1/3 TURN BEYOND SNUG TIGHT

BOLT LENGTHS OVER FOUR DIAMETERS BUT NOT EXCEEDING EIGHT DIAMETERS

1/2"	BOLTS 2.25 TO 4.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
5/8"	BOLTS 2.75 TO 5.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
3/4"	BOLTS 3.25 TO 6.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
7/8"	BOLTS 3.75 TO 7.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1"	BOLTS 4.25 TO 8.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1-1/8"	BOLTS 4.75 TO 9.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1-1/4"	BOLTS 5.25 TO 10.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1-3/8"	BOLTS 5.75 TO 11.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1-1/2"	BOLTS 6.25 TO 12.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT

- SPLICE BOLTS SUBJECT TO DIRECT TENSION SHALL BE INSTALLED AND TIGHTENED AS PER SECTION 8.2.1 OF THE AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS", LOCATED IN THE AISC MANUAL OF STEEL CONSTRUCTION. THE INSTALLATION PROCEDURE IS PARAPHRASED AS FOLLOWS.

FASTENERS SHALL BE INSTALLED IN PROPERLY ALIGNED HOLES AND TIGHTENED BY ONE OF THE METHODS DESCRIBED IN SUBSECTION 8.2.1 THROUGH 8.2.4.

8.2.1 TURN-OF-NUT PRETENSIONING

BOLTS SHALL BE INSTALLED IN ALL HOLES OF THE CONNECTION AND BROUGHT TO A SNUG TIGHT CONDITION AS DEFINED IN SECTION 8.1, 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.

- ALL OTHER BOLTED CONNECTIONS SHALL BE BROUGHT TO A SNUG TIGHT CONDITION AS DEFINED IN SECTION 8.1 OF THE SPECIFICATION.

ALL BOLT HOLES SHALL BE ALIGNED TO PERMIT INSERTION OF THE BOLTS WITHOUT UNDUE DAMAGE TO THE THREADS. BOLTS SHALL BE PLACED IN ALL HOLES WITH WASHERS POSITIONED AS REQUIRED AND NUTS THREADED TO COMPLETE THE ASSEMBLY. COMPACTING THE JOINT TO THE SNUG-TIGHT CONDITION SHALL PROGRESS SYSTEMATICALLY FROM THE MOST RIGID PART OF THE JOINT. THE SNUG-TIGHTENED CONDITION IS THE TIGHTNESS THAT IS ATTAINED WITH A FEW IMPACTS OF AN IMPACT WRENCH OR THE FULL EFFORT OF AN IRONWORKER USING AN ORDINARY SPUD WRENCH TO BRING THE CONNECTED PLIES INTO FIRM CONTACT.

APPLICABLE CODES AND STANDARDS

- ANSII/A: STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES, 222-G EDITION.
- 2015 INTERNATIONAL BUILDING CODE WITH 2018 CONNECTICUT SUPPLEMENTS AND 2018 CONNECTICUT AMENDMENTS.
- ACI 318: AMERICAN CONCRETE INSTITUTE, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, 318-02.
- CRSI: CONCRETE REINFORCING STEEL INSTITUTE, MANUAL OF STANDARD PRACTICE, LATEST EDITION.
- AISC: AMERICAN INSTITUTE OF STEEL CONSTRUCTION, MANUAL OF STEEL CONSTRUCTION, LATEST EDITION.
- AWS: AMERICAN WELDING SOCIETY D1.1, STRUCTURAL WELDING CODE, LATEST EDITION.

SPECIAL INSPECTION

- A QUALIFIED INDEPENDENT TESTING LABORATORY, EMPLOYED BY THE OWNER, SHALL PERFORM INSPECTION AND TESTING IN ACCORDANCE WITH IBC 2015, SECTION 1704 AS REQUIRED BY PROJECT SPECIFICATIONS FOR THE FOLLOWING CONSTRUCTION WORK:
 - STRUCTURAL WELDING (CONTINUOUS INSPECTION OF FIELD WELD ONLY)
 - HIGH STRENGTH BOLTS (PERIODIC INSPECTION OF A325 EXTENSION FLANGE BOLTS TO BE TIGHTENED PER "TURN-OF-THE-NUT" METHOD)
- THE INSPECTION AGENCY SHALL SUBMIT INSPECTION AND TEST REPORTS TO THE BUILDING DEPARTMENT, THE ENGINEER OF RECORD, AND THE OWNER IN ACCORDANCE WITH IBC 2015, SECTION 1704, UNLESS THE FABRICATOR IS APPROVED BY THE BUILDING OFFICIAL TO PERFORM SUCH WORK WITHOUT THE SPECIAL INSPECTIONS.

**GC As-Built
Structural Components
Ryan Hubert
10.21.2019**



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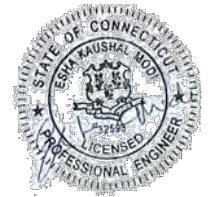
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IBC GENERAL NOTES

SHEET NUMBER:	REVISION:
IGN	0

MODIFICATION INSPECTION NOTES

THE SPECIAL INSPECTION (SI) PROCEDURE IS INTENDED TO CONFIRM THAT CONSTRUCTION AND INSTALLATION MEETS ENGINEERING DESIGN, ATC PROCEDURES AND ATC STANDARD SPECIFICATIONS FOR WIRELESS TOWER SITES.

TO ENSURE THAT THE REQUIREMENTS OF THE SI ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR AND THE INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS A PO IS RECEIVED FROM AMERICAN TOWER CORPORATION (ATC). IT IS EXPECTED THAT EACH PARTY WILL PROACTIVELY REACH OUT TO THE OTHER PARTY. IF CONTACT INFORMATION IS NOT KNOWN, CONTACT YOUR AMERICAN TOWER POINT OF CONTACT.

SPECIAL INSPECTOR

THE SPECIAL INSPECTOR IS REQUIRED TO CONTACT THE GENERAL CONTRACTOR AS SOON AS RECEIVING A PO FROM ATC. UPON RECEIVING A PO FROM ATC THE SPECIAL INSPECTOR AT A MINIMUM MUST:

- REVIEW THE REQUIREMENTS OF THE SI CHECKLIST.
- WORK WITH THE GENERAL CONTRACTOR TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS.
- ANY CONCERNS WITH THE SCOPE OF WORK OR PROJECT COMMITMENT MUST BE RELAYED TO THE ATC POINT OF CONTACT IMMEDIATELY.

THE SPECIAL INSPECTOR IS RESPONSIBLE FOR COLLECTING ALL GENERAL CONTRACTOR INSPECTION AND TEST REPORTS, REVIEWING THESE DOCUMENTS FOR ADHERENCE TO CONTRACT DOCUMENTS, CONDUCTING THE IN-FIELD INSPECTIONS, AND SUBMITTING THE SI REPORT TO AMERICAN TOWER CORPORATION.

GENERAL CONTRACTOR

THE GENERAL CONTRACTOR IS REQUIRED TO CONTACT THE SI INSPECTOR AS SOON AS RECEIVING A PO FOR THE MODIFICATION INSTALLATION OR TURNKEY PROJECT TO, AT A MINIMUM:

- REVIEW THE REQUIREMENTS OF THE SI CHECKLIST.
- WORK WITH THE SI TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS.
- BETTER UNDERSTAND ALL INSPECTION AND TESTING REQUIREMENTS.

THE GENERAL CONTRACTOR SHALL PERFORM AND RECORD THE TEST AND INSPECTION RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE SI CHECKLIST.

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SPECIAL INSPECTION CHECKLIST

INSPECTION DOCUMENT	DESCRIPTION	INSPECTION TESTING REQUIRED	RESPONSIBILITY	SI REVIEW REQUIRED			INSPECTION FREQUENCY	
				PRE CX	DURING CX	POST CX	PERIODIC	CONTINUOUS
SPECIAL INSPECTION FIELD WORK & REPORT	DOCUMENTATION AND SITE VISIT CONDUCTED BY AN ATC APPROVED SPECIAL INSPECTOR AS REQUIRED BY ATC AND OTHER AUTHORITIES HAVING JURISDICTION. INSPECTION PARAMETERS TO FOLLOW ATC'S STANDARD SPECIFICATION FOR WIRELESS TOWER SITES.	✓	SI			✓		
ENGINEERING ASSEMBLY DRAWINGS	GC SHALL SUBMIT DRAWINGS TO SI FOR INCLUSION IN SI REPORT	✓	GC	✓				
FABRICATED MATERIAL VERIFICATION & INSPECTION	MTR AND OR MILL CERTIFICATIONS FOR SUPPLIED MATERIALS GC SHALL SUPPLY SI WITH REPORTS TO BE INCLUDED IN SI REPORT WHEN REQUIRED BY ATC	✓	SI	✓				
CERTIFIED WELD INSPECTION	INSPECTION AND REPORT OF STRUCTURAL WELDING PERFORMED DURING PROJECT COMPLETED BY A CWI AND INCLUDED WITHIN SI REPORT		GC / TA					
FOUNDATION INSPECTION & VERIFICATION	VISUAL OBSERVATION AND APPROVAL OF FOUNDATION EXCAVATION, REBAR PLACEMENT, CASING/SHORING/FORMING PLACEMENT, AND ANCHOR TEMPLATE AND ANCHOR PLACEMENT - TO BE SI APPROVED PRIOR TO CONCRETE POUR AND DOCUMENTED IN THE SI REPORT		SI					
ANCHOR, ROCK ANCHOR OR HELICAL PULL-OUT TEST	PULL TESTING OF INSTALLED ANCHORS TO BE COMPLETED AND DOCUMENTED IN SI REPORT		GC / TA					
CONCRETE INSPECTION & VERIFICATION	CONCRETE MIX DESIGN, SLUMP TEST, COMPRESSIVE TESTING, AND SAMPLE GATHERING TECHNIQUES ARE TO BE PROVIDED FOR INCLUSION IN THE SI REPORT. SI SHALL VERIFY CONCRETE PLACEMENT AS REQUIRED BY THE DESIGN DOCUMENTS (INSPECTION FREQUENCY IS MARKED CONTINUOUS)		GC / TA					
DYWIDAG PLACEMENT/ANCHOR BOLT EMBEDMENT - EPOXY/GROUT INSTALL	ANCHOR/BAR EMBEDMENT, HOLE SIZE, EPOXY/GROUT TYPE, INSTALLATION TEMPERATURE AND INSTALLATION SHALL BE VERIFIED BY THE SI AND INCLUDED IN THE SI REPORT		GC / SI					
BASE PLATE GROUT INSPECTION & VERIFICATION	BASE PLATE GROUTING TYPE AND PLACEMENT SHALL BE CONFIRMED BY THE SI AND INCLUDED IN THE SI REPORT		GC / SI					
EARTHWORK INSPECTION & VERIFICATION	EXCAVATION, FILL, SLOPE, GRADE AND OTHER EARTHWORK REQUIREMENTS PER PLANS SHALL BE VERIFIED BY THE SI AND INCLUDED IN THE SI REPORT		GC / TA					
COMPACTION VERIFICATION	CONTRACTOR SHALL PROVIDE AN INDEPENDENT THIRD PARTY CERTIFIED INSPECTION WHICH PROVIDES TEST RESULTS FOR COMPACTION TEST OF SOILS IN PLACE TO ASTM STANDARDS.		GC / TA					
GROUND TESTING & VERIFICATION	GC SHALL PROVIDE DOCUMENTATION SHOWING THAT THE GROUNDING SYSTEM SHALL HAVE A MEASURED RESISTANCE TO THE GROUND OF NOT MORE THAN THE RECOMMENDED 10 OHMS. PER THE ATC CONSTRUCTION SPECIFICATION UNDER SECTION 2.15 THIS DOCUMENTATION MUST BE AN INDEPENDENT CERTIFICATION.		GC					
STEEL CONSTRUCTION INSPECTION & VERIFICATION	VISUAL OBSERVATION AND APPROVAL OF STEEL CONSTRUCTION TO BE PERFORMED BY THE SI. INSPECTION TO INCLUDE VERIFICATION OF NEW CONSTRUCTION OR MODIFICATION OF EXISTING CONSTRUCTION PER ENGINEERED PLANS. DETAILED VERIFICATION SHALL BE INCLUDED IN SI REPORT.	✓	SI			✓	✓	
ON-SITE COLD GALVANIZING VERIFICATION	SI SHALL VERIFY WITH GC ALL COLD GALVANIZATION TYPE AND APPLICATION AND INCLUDE SUMMARY IN SI REPORT	✓	GC			✓	✓	
GUY WIRE TENSIONING & TOWER ALIGNMENT REPORT	GC SHALL PROVIDE SI EVIDENCE OF PROPER GUY TENSIONING AND TOWER PLUMB PER PLANS. SI SHALL VERIFY AND INCLUDE PLUMB AND TENSION REPORTING IN SI REPORT.		GC					
GC AS-BUILT DRAWINGS WITH CONSTRUCTION RED-LINES	GC SHALL SUBMIT "AS-BUILT" DRAWINGS INDICATING ANY APPROVED CHANGES TO ENGINEERED PLANS TO SI FOR APPROVAL/REVIEW AND INCLUSION IN SI REPORT	✓	GC			✓		
SI AS-BUILT DRAWINGS WITH INSPECTION RED-LINES (AS REQUIRED)	SI SHALL SUBMIT "AS-BUILT" DRAWINGS INDICATING ANY APPROVED CHANGES TO ENGINEERED PLANS WITHIN SI REPORT	✓	SI			✓		
TIA INSPECTION	SI SHALL COMPLETE TIA INSPECTION AND PROVIDE SEPARATE TIA INSPECTION DOCUMENTATION TO ATC CM		SI					
PHOTOGRAPHS	PHOTOGRAPHIC EVIDENCE OF SPECIAL INSPECTION, ON SITE REMEDIATION, AND ITEMS FAILING INSPECTION & REQUIRING FOLLOW UP TO BE INCLUDED WITHIN THE SI REPORT. COMPLETE PHOTO LOG IS TO BE SUBMITTED WITHIN SI REPORT.	✓	GC / SI			✓		

NOTE: SPECIAL INSPECTIONS ARE INTENDED TO BE A COLLABORATIVE EFFORT BETWEEN GC AND SI. WHENEVER POSSIBLE GC IS TO PROVIDE SI WITH PHOTOGRAPHIC OR OTHER ACCEPTABLE EVIDENCE OF PROPER INSTALLATION IF PERIODIC INSPECTION FREQUENCY IS ACCEPTABLE. THE GC AND SI SHALL WORK TO COMPLETE EVIDENCE OF PROPER CONSTRUCTION AND LIMIT THE NUMBER OF SI SITE VISITS REQUIRED.

TABLE KEY:

SI - ATC APPROVED SPECIAL INSPECTOR	CX - CONSTRUCTION
GC - GENERAL CONTRACTOR	CM - CONSTRUCTION MANAGER
TA - 3RD PARTY TESTING AGENCY	ATC - AMERICAN TOWER CORPORATION



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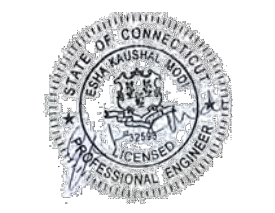
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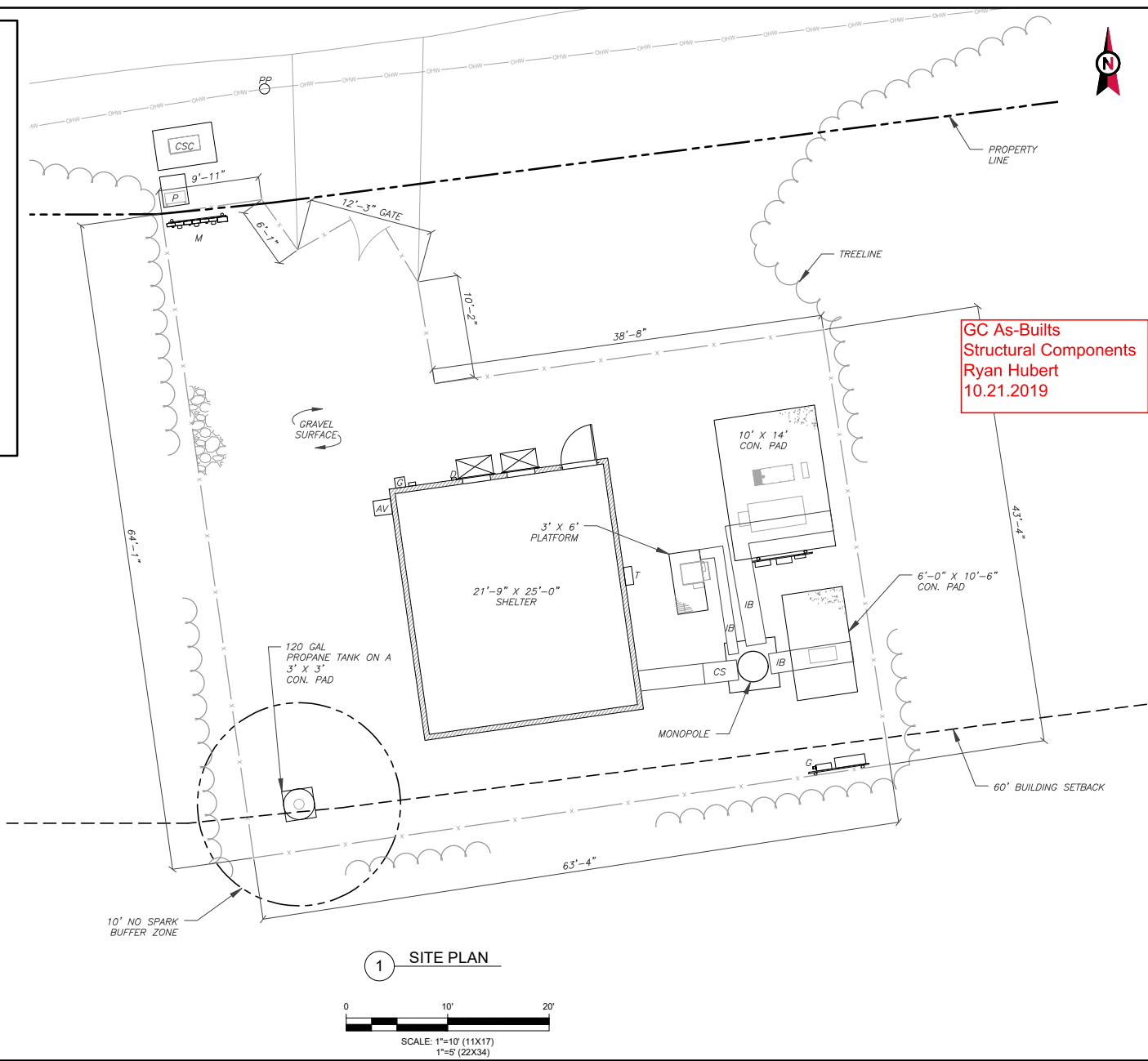
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SPECIAL INSPECTION CHECKLIST

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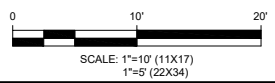
LEGEND

- ⊗ GROUNDING TEST WELL
- AV, AV AIR VENT
- ATS AUTOMATIC TRANSFER SWITCH
- B BOLLARD
- C CABINET
- CS COAX SHROUD
- CSC CELL SITE CABINET
- D DISCONNECT
- E ELECTRICAL
- F FIBER
- GEN GENERATOR
- G GENERATOR RECEPTACLE
- HH, V HAND HOLE, VAULT
- HFC HYDROGEN FUEL CELL
- HSM HYDROGEN STORAGE MATERIAL
- IB ICE BRIDGE
- K KENTROX BOX
- LC LIGHTING CONTROL
- LPG LIQUID PROPANE GAS
- M METER
- OHW OVERHEAD WIRE
- P POWER
- PB PULL BOX
- PP POWER POLE
- T TELCO
- TRN TRANSFORMER
- PROPERTY LINE
- ADJACENT PROPERTY LINE
- LEASE AREA
- EASEMENT
- WOOD FENCE
- WIRE FENCE
- METAL FENCE
- GUARD RAIL
- CHAINLINK FENCE
- ROAD (DIRT)
- ROAD (STONE)
- ROAD (PAVED)



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10.21.2019

1 SITE PLAN




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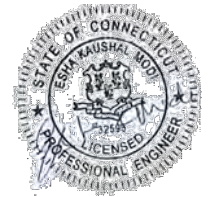
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SITE PLAN	
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AT&T MOBILITY
EL: 153.0' [PROPOSED]

EL: 150.0'
[TOP OF STRUCTURE]

SECTION 4

EL: 109.3'

SECTION 3

EL: 73.5'

SECTION 2

EL: 35.7'

SECTION 1

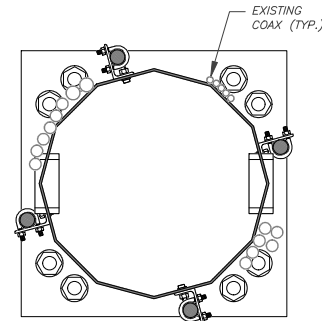
EL: 0.0'
[BOTTOM OF STRUCTURE]



TOWER ELEVATION VIEW

MOUNTS MAY REQUIRE SUPPORT AND RE-MOUNTING DURING INSTALLATION. SEE NOTE BELOW.

INSTALL (4) DWYIDAG #20 ALL-THREAD RODS FROM EL: 69.0' TO 119.0'. SEE SHEETS A-2 TO A-2A FOR INSTALLATION DETAILS.



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- 1) The DWYIDAG bar on FL 5 was slightly skewed throughout the modification on FL 5. **EOR APPROVED**
- 3) (1) NG2 bolt was not sheared off on the plate at 107' located on flat 8. **EOR APPROVED**
- 4) Spacing on the I beam plates exceeded the maximum allowable at 91' by 1/2" on FL 5 and at 103' by 1 1/2" on all flats. **EOR APPROVED**

NOTES:
1. PROPOSED AT&T MOBILITY COAX TO BE INSTALLED INSIDE MONOPOLE.
2. CONTACT AMERICAN TOWER FIELD OPERATIONS WHEN EXISTING EQUIPMENT INTERFERES WITH INSTALLATION OF MODIFICATIONS. ONCE APPROVED, EXISTING EQUIPMENT MAY BE TEMPORARILY MOVED DURING INSTALLATION & REINSTALLED TO THE ORIGINAL HEIGHT & LOCATION BY CONTRACTOR POST COMPLETION OF MODIFICATIONS.

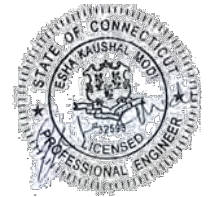


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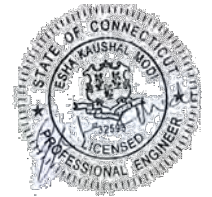
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MODIFICATION PROFILE	
SHEET NUMBER:	REVISION:
A-1	0

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REV.	DESCRIPTION	BY	DATE
△	FIRST ISSUE	NYG	01/22/19
△			
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ATC SITE NUMBER:
302475
 ATC SITE NAME:
STTN - SOUTHTON
 CONNECTICUT
 SITE ADDRESS:
 80 SHUTTLE MEADOW ROAD
 SOUTHTON, CT 06489



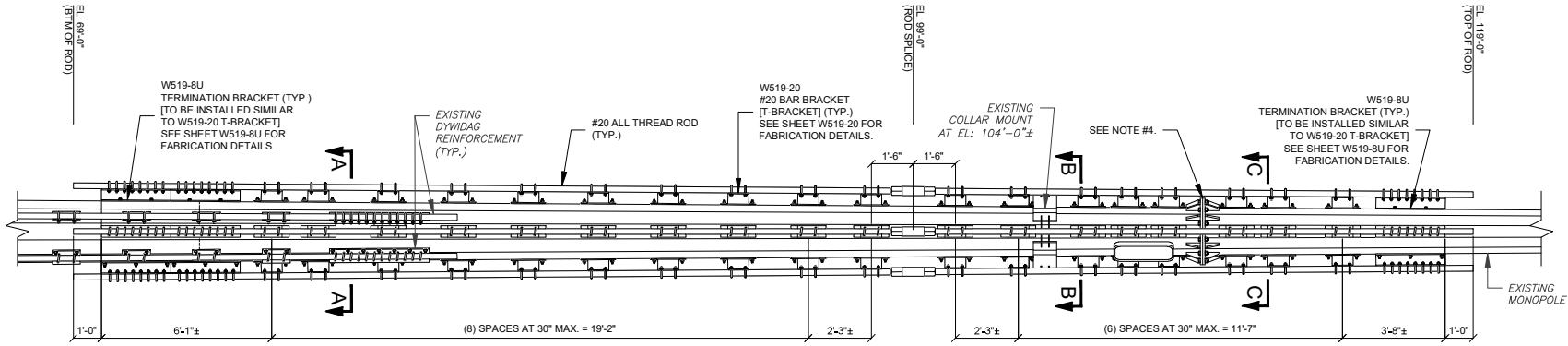
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GC As-Built
Structural Components
Ryan Hubert
10.21.2019

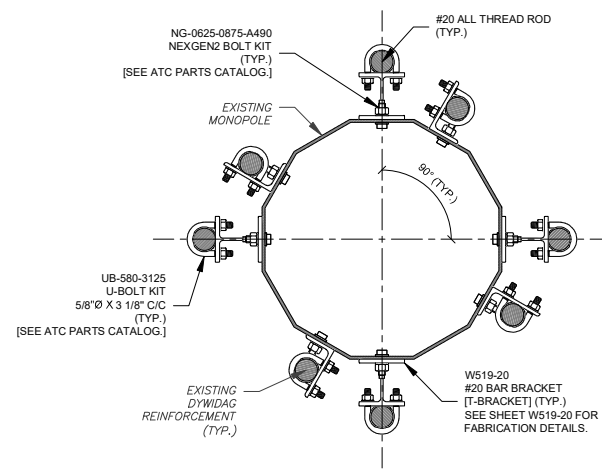
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APPROVED BY:	MER/NOY
DATE DRAWN:	01/22/19
ATC JOB NO:	OAA740798_C6_05

**REINFORCEMENT
 INSTALLATION DETAILS**

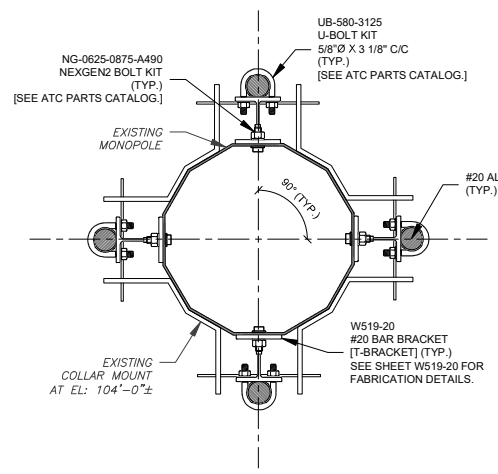
SHEET NUMBER:	REVISION:
A-2	0



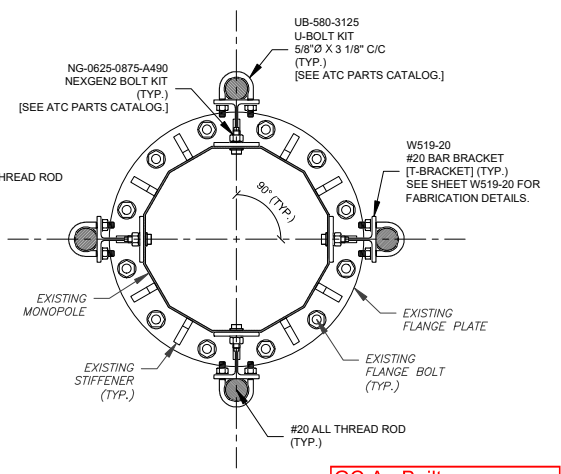
**ELEVATION VIEW
 #20 BAR BRACKET SPACING DETAIL
 (ANTENNAS NOT SHOWN FOR CLARITY)**



**SECTION "A-A"
 TYPICAL DETAIL**



**SECTION "B-B"
 TYPICAL DETAIL**



**SECTION "C-C"
 TYPICAL DETAIL**

- NOTES:**
1. REPLACE ANY EXISTING STEP BOLTS THAT INTERFERE WITH THE NEW #20 ALL THREAD ROD REINFORCEMENTS. THE NEW STEP BOLTS SHALL BE ATTACHED TO THE #20 ALL THREAD RODS IN THE SAME APPROXIMATE LOCATION. SEE SHEET #20SB FOR INSTALLATION DETAILS.
 2. PLACE A BRACKET (W519-20) DIRECTLY ABOVE AND BELOW ANY EXISTING PORTHOLE AS REQUIRED.
 3. SEE SHEET A-2A FOR #20 ALL THREAD ROD BRACKET INSTALLATION DETAILS.
 4. PLACE A BRACKET (W519-20) DIRECTLY ABOVE AND BELOW EXISTING FLANGE PLATE STIFFENERS AS REQUIRED.
 5. EXTRA LONG NEXGEN2 BOLTS SUPPLIED FOR MONOPOLE SLIP JOINT LOCATIONS.

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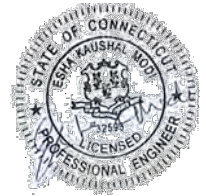
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△	FIRST ISSUE	NYG	01/22/19
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ATC SITE NUMBER:
302475

ATC SITE NAME:
STTN - SOUTHTON

CONNECTICUT

SITE ADDRESS:
 80 SHUTTLE MEADOW ROAD
 SOUTHTON, CT 06489

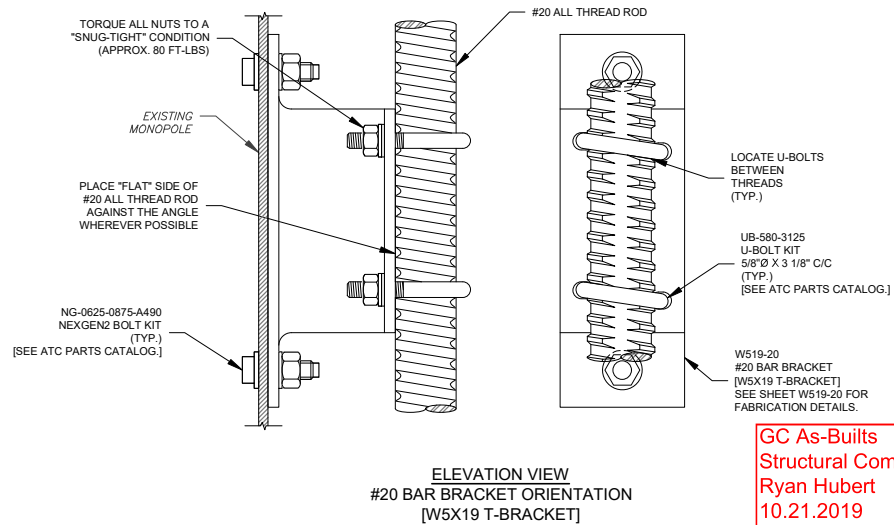
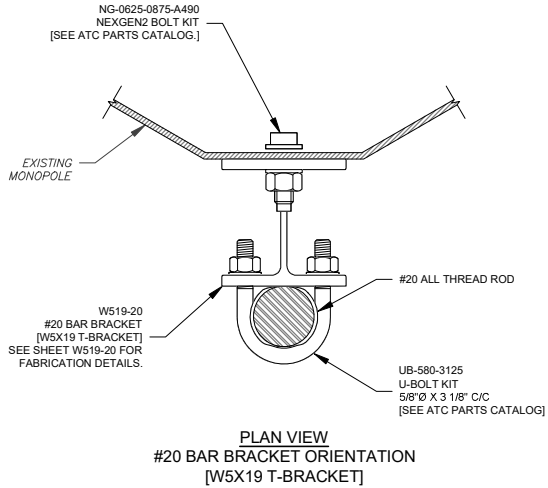


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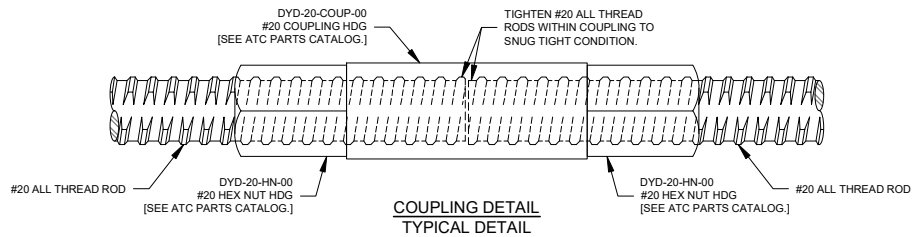
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APPROVED BY:	MER/NY
DATE DRAWN:	01/22/19
ATC JOB NO:	OAA740798_C6_05

**REINFORCEMENT
 INSTALLATION DETAILS
 (CONT'D)**

SHEET NUMBER:	REVISION:
A-2A	0



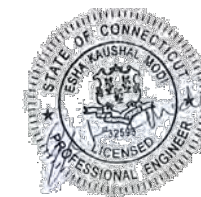
GC As-Builts
Structural Components
Ryan Hubert
10.21.2019




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302475
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STTN - SOUTHTON
 CONNECTICUT
 SITE ADDRESS:
 80 SHUTTLE MEADOW ROAD
 SOUTHTON, CT 06489

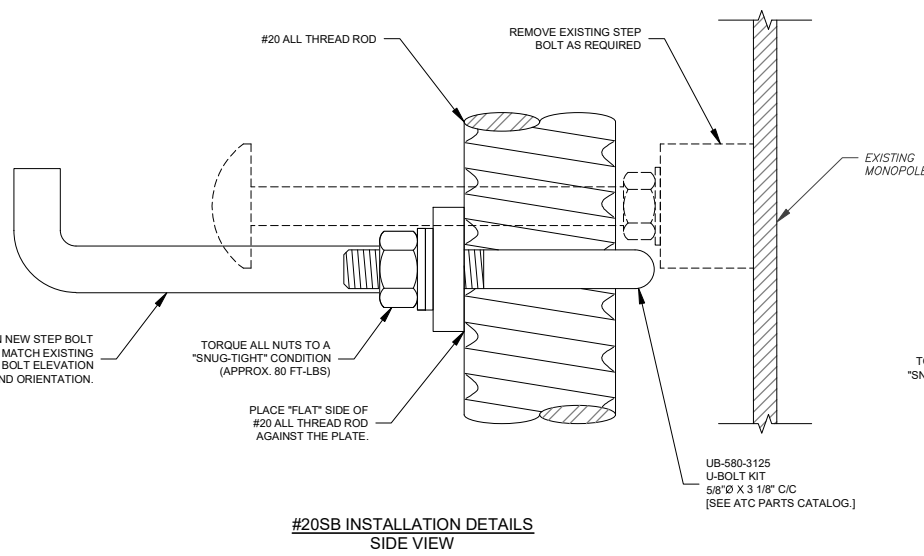


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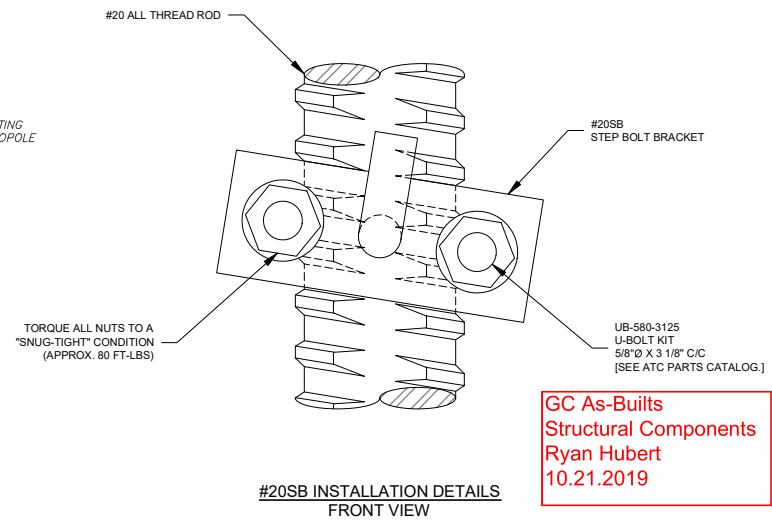
DRAWN BY:	NYG
APPROVED BY:	MER/NOY
DATE DRAWN:	01/22/19
ATC JOB NO:	OAA740798_C6_05

**#20 STEP BOLT BRACKET
 INSTALLATION DETAILS**

SHEET NUMBER:	REVISION:
#20SB	0



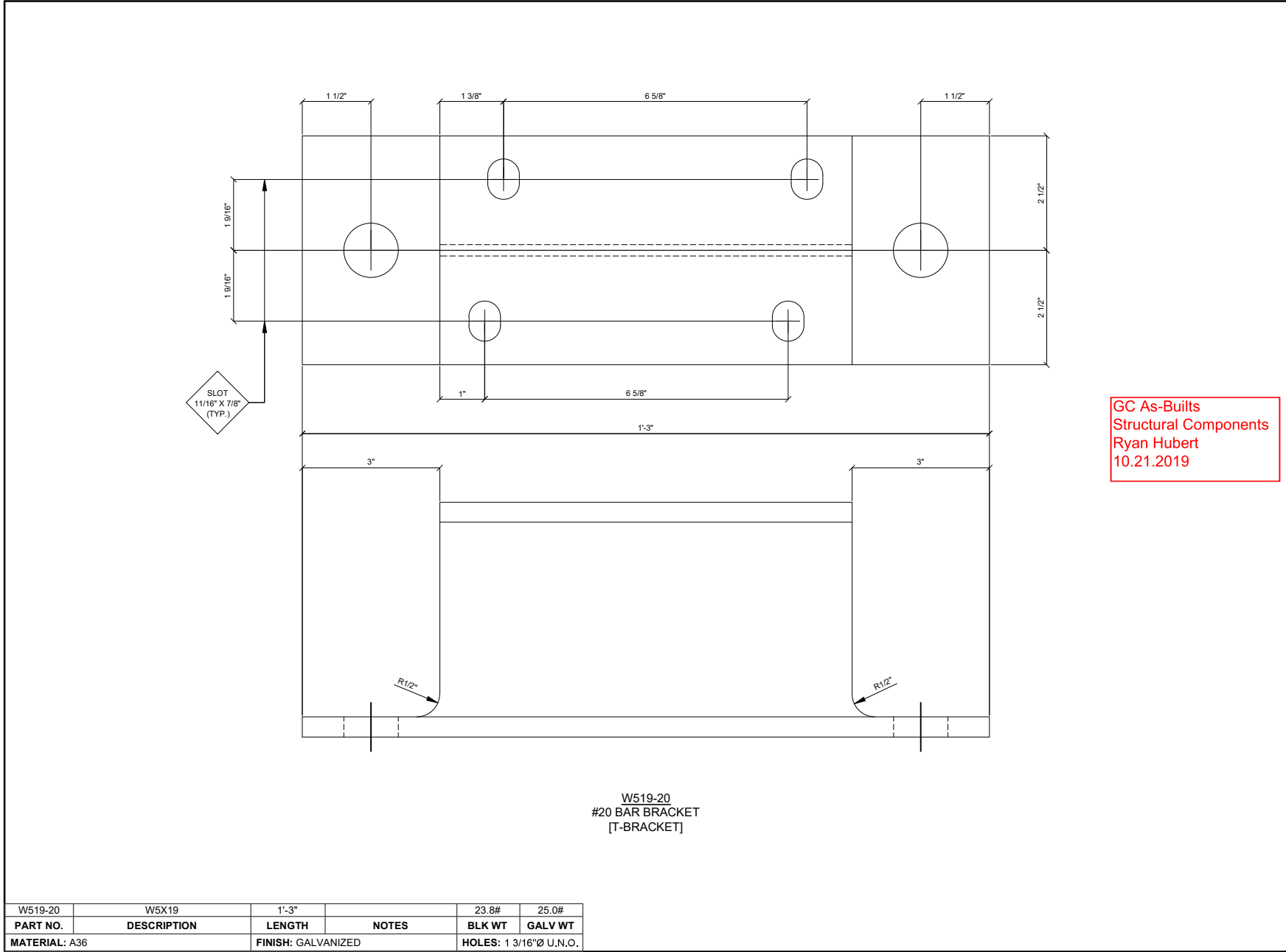
**#20SB INSTALLATION DETAILS
 SIDE VIEW**



**#20SB INSTALLATION DETAILS
 FRONT VIEW**

**GC As-Built
 Structural Components
 Ryan Hubert
 10.21.2019**


NOTE:
 STEP PEG SPACING IS NOT TO EXCEED 15" MAX. STAGGERED OR 30" MAX.
 ON ANY SINGLE SIDE OF THE DYWIDAG BAR.



GC As-Builts
Structural Components
Ryan Hubert
10.21.2019

W519-20
#20 BAR BRACKET
[T-BRACKET]

PART NO.	DESCRIPTION	LENGTH	NOTES	BLK WT	GALV WT
W519-20	W5X19	1'-3"		23.8#	25.0#
MATERIAL: A36		FINISH: GALVANIZED		HOLES: 1 3/16"Ø U.N.O.	



AMERICAN TOWER®
A.T. ENGINEERING SERVICE, PLLC
3500 REGENCY PARKWAY
SUITE 100
CARY, NC 27518
PHONE: (919) 468-0112
COA: PEG.0001553

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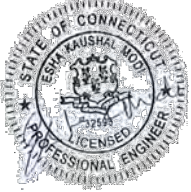
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△	FIRST ISSUE	NYG	01/22/19
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ATC SITE NUMBER:
302475

ATC SITE NAME:
STTN - SOUTHTON

CONNECTICUT

SITE ADDRESS:
80 SHUTTLE MEADOW ROAD
SOUTHTON, CT 06489



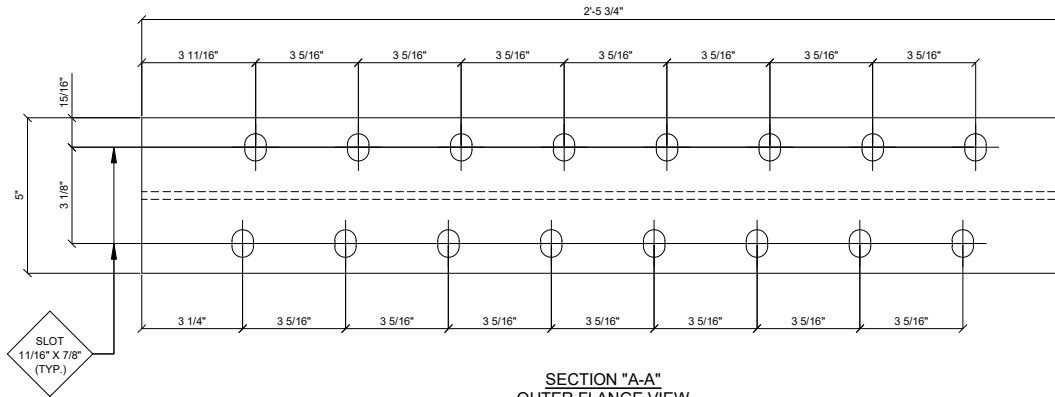
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DRAWN BY: NYG	APPROVED BY: MER/NOY
DATE DRAWN: 01/22/19	ATC JOB NO: OAA740798_C6_05

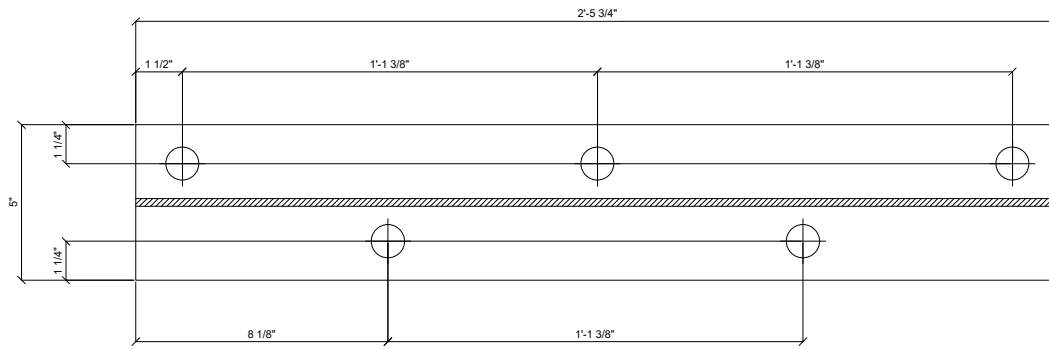
#20 BAR BRACKET
[W5X19 T-BRACKET]

SHEET NUMBER: W519-20	REVISION: 0
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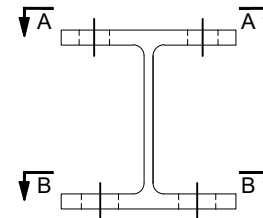
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SECTION "A-A"
OUTER FLANGE VIEW



SECTION "B-B"
INNER FLANGE VIEW



W519-8U
(NTS)

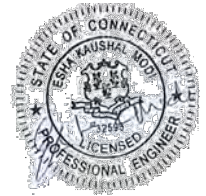
GC As-Built
Structural Components
Ryan Hubert
10.21.2019



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ATC SITE NUMBER:
302475
ATC SITE NAME:
STTN - SOUTHTON
CONNECTICUT
SITE ADDRESS:
80 SHUTTLE MEADOW ROAD
SOUTHTON, CT 06489



Authorized by "EOR"
Jan 28 2019 5:22 PM **cosign**

DRAWN BY:	NYG
APPROVED BY:	MER/NOY
DATE DRAWN:	01/22/19
ATC JOB NO:	OAA740798_C6_05

#20 BAR
TERMINATION BRACKET
(W5X19 8 U-BOLT)

SHEET NUMBER:	W519-8U	REVISION:	0
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PART NO.	DESCRIPTION	LENGTH	NOTES	BLK WT	GALV WT
W519-8U	W5X19	2'-5 3/4"		47.1#	49.5#
MATERIAL: A36		FINISH: GALVANIZED		HOLES: 1 3/16"Ø U.N.O.	



CLIENT:	<u>American Tower Corporation</u>	DATE AT SITE:	<u>Wednesday, October 23, 2019</u>
SITE NAME:	<u>STTN - SOUTHINGTON</u>	ATC PROJECT#:	<u>OAA740798_C6_05</u>
SITE NUMBER:	<u>302475</u>	TOWER TYPE:	<u>MONOPOLE</u>
ADDRESS:	<u>80 Shuttle Meadow Road</u>	TOWER HEIGHT:	<u>150'</u>
	<u>Southington, CT 06489</u>	WEATHER:	<u>Sunny, 61°F, Wind 5-15 MPH</u>
LEAD:	<u>Bryson Williams</u>	SUPPORT:	<u>Andrew Vickery</u>

APPENDIX C
EOR APPROVAL EMAIL

SEE FOLLOWING PAGES

From: PMI <PMI@americantower.com>
Sent: Monday, October 21, 2019 1:47 PM
To: Ian Culbert <Ian.Culbert@americantower.com>
Cc: PMI <PMI@americantower.com>
Subject: RE: [EXTERNAL] Re: ReDev NTP: AT&T Mobility_302475 @ STTN-Southington

Ian,

If the bolt end is not able to be sheared off, the crew is fine to leave them. They just need to confirm/verify that the bolts have been tightened to the necessary torque.

Christopher Jolly, P.E.
Structural Engineer III
American Tower Corporation
3500 Regency Parkway, Suite 100
Cary, NC 27518
(919) 466-5007
christopher.jolly@americantower.com

From: Ian Culbert <Ian.Culbert@americantower.com>
Sent: Monday, October 21, 2019 1:43 PM
To: PMI <PMI@americantower.com>
Subject: FW: [EXTERNAL] Re: ReDev NTP: AT&T Mobility_302475 @ STTN-Southington

Good Afternoon PMI,

Please see email below and attached mod drawings. Let us know if you approve.

Thanks,

Ian Culbert
Construction Manager – East
American Tower Corporation
10 Presidential Way
Woburn, MA 01801
781-926-7805 (Office)
603-401-9127 (Mobile)
Ian.Culbert@americantower.com



From: Ryan Hubert <rhubert@structuralcomponents.net>
Sent: Monday, October 21, 2019 1:40 PM
To: Ian Culbert <Ian.Culbert@americantower.com>
Cc: Victoria McKee <victoria.mckee@ets-pllc.com>; Scott Blake <Scott.Blake@AmericanTower.com>; Radostina Rhein <Radostina.Rhein@americantower.com>; lscarrow@structuralcomponents.net; Jon

Rodgers <jon.rodgers@americantower.com>

Subject: Re: [EXTERNAL] Re: ReDev NTP: AT&T Mobility_302475 @ STTN-Southington

Ian,

Could you please ask engineering for approval on the following issues:

The termination brackets do not allow the nexgen bolts to be sheared off with the shear wrench due to bolt access.



Thank you



Kent Ramey

180 Industrial Park Blvd.

Commerce GA 30529

706-335-7045 (O)

706-982-9788 (M)

From: Ryan Hubert <rhubert@structuralcomponents.net>

Sent: Wednesday, September 25, 2019 2:22 PM

To: Ian Culbert <ian.Culbert@americantower.com>

Cc: Fred Mansfield <fmansfield@metrositellc.com>; Brittney Ballenger <bballenger@metrositellc.com>;

Victoria McKee <victoria.mckee@ets-pllc.com>; Radostina Rhein

<Radostina.Rhein@americantower.com>; lscarrow@structuralcomponents.net; Jon Rodgers

<jon.rodgers@americantower.com>; Scott Blake <Scott.Blake@americantower.com>; Kent Ramey

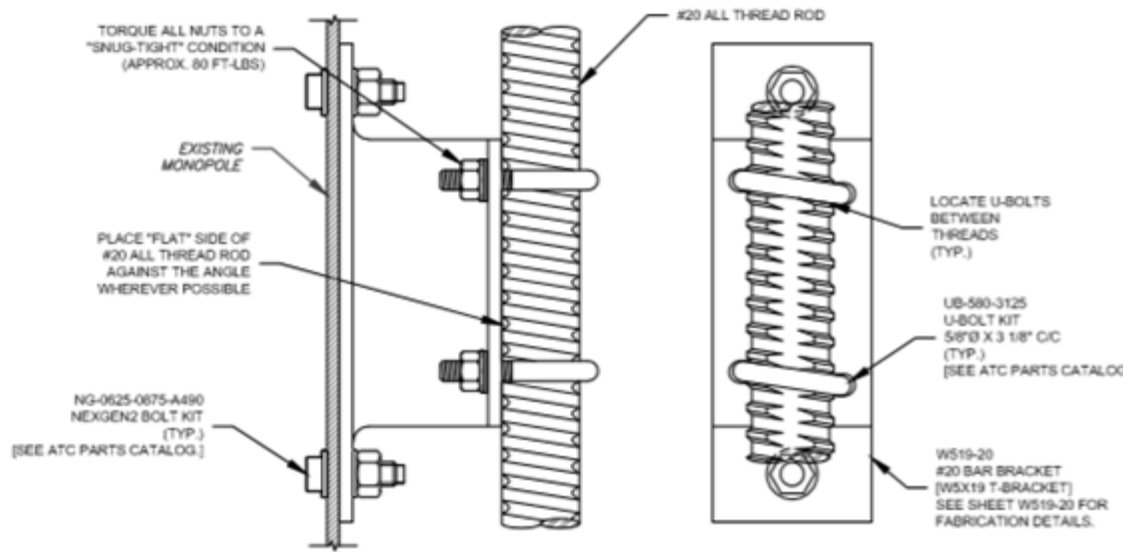
<kent@metrositellc.com>; Elizabeth Bakunas <ebakunas@metrositellc.com>; Mackenzie Brown

<mbrown@metrositellc.com>; Savannah Callicoatt <savannah@metrositellc.com>

Subject: Re: [EXTERNAL] Re: ReDev NTP: AT&T Mobility_302475 @ STTN-Southington

Ian,

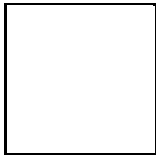
We were installing the first handful of brackets and have noticed that the u-bolt pattern is the opposite of what it needs to be for the dywidag bar. Only 6 of the 72 brackets were punched correctly. Please see the photos below and let me know how to proceed.



ELEVATION VIEW
 #20 BAR BRACKET ORIENTATION
 [W5X19 T-BRACKET]







Ryan Hubert
Project Manager
Structural Components LLC
207-450-2369

From: PMI <PMI@americantower.com>
Sent: Friday, October 25, 2019 10:25 AM
To: Ian Culbert <Ian.Culbert@americantower.com>
Cc: Jon Rodgers <jon.rodgers@americantower.com>; PMI <PMI@americantower.com>
Subject: RE: ATC#302475 - STTN-Southington Punch List

Ian,

Please see below responses:

- 1) The DWYIDAG bar on FL 5 was slightly skewed throughout the modification on FL 5. **Approved**
- 2) Chipped galv/Surface corrosion was observed at the following locations: **Contractor Repair Required**
- 3) (1) NG2 bolt was not sheared off on the plate at 107' located on flat 8. **Approved**
- 4) Spacing on the I beam plates exceeded the maximum allowable at 91' by 1/2" on FL 5 and at 103' by 1 1/2" on all flats. **Approved**

Christopher Jolly, P.E.
Structural Engineer III
American Tower Corporation
3500 Regency Parkway, Suite 100
Cary, NC 27518
(919) 466-5007
christopher.jolly@americantower.com

From: Ian Culbert <Ian.Culbert@americantower.com>
Sent: Friday, October 25, 2019 8:15 AM
To: PMI <PMI@americantower.com>
Cc: Jon Rodgers <jon.rodgers@americantower.com>
Subject: FW: ATC#302475 - STTN-Southington Punch List

Good Morning PMI,

Please see punch list items below. I have attached PMI approval email for item #3. Let us know if you approve at your earliest convenience.

Thanks!

Ian Culbert
Construction Manager – East
American Tower Corporation
10 Presidential Way
Woburn, MA 01801
781-926-7805 (Office)
603-401-9127 (Mobile)
Ian.Culbert@americantower.com



From: Victoria McKee <victoria.mckee@ets-pllc.com>
Sent: Thursday, October 24, 2019 4:59 PM
To: Ian Culbert <Ian.Culbert@americantower.com>; Ryan Hubert <rhubert@structuralcomponents.net>; Scott Blake <Scott.Blake@AmericanTower.com>; lscarrow@structuralcomponents.net; Jon Rodgers <jon.rodgers@americantower.com>
Cc: Kyle Evans <Kyle.Evans@ets-pllc.com>; Zelda Perry <Zelda.Perry@ets-pllc.com>
Subject: [EXTERNAL] ATC#302475 - STTN-Southington Punch List

All,

Engineered Tower Solutions visited ATC#302475 "STTN-Southington" on October 23, 2019. We verified that the previously installed modifications were installed per the provided drawings (Project# OAA740798_C6_05) and observed the following punch list items:

- 1) The DWYIDAG bar on FL 5 was slightly skewed throughout the modification on FL 5. **EOR Approval Required**
- 2) Chipped galv/Surface corrosion was observed at the following locations: **Contractor Repair Required**
 - a. 77' 2" on FL 11 (bolt tip)
 - b. 113' on FL 2 (termination plate)
- 3) (1) NG2 bolt was not sheared off on the plate at 107' located on flat 8. **EOR Approval Required**
- 4) Spacing on the I beam plates exceeded the maximum allowable at 91' by 1/2" on FL 5 and at 103' by 1 1/2" on all flats. **EOR Approval Required**

Please see the attached zip-file for photos detailing these issues.

Thanks,



Victoria McKee
Program Manager – Inspections Division
Engineered Tower Solutions, PLLC
3227 Wellington Court | Raleigh, NC 27615
Office: (919) 782-2710, Ext.: 307 | Mobile: (919) 619-9209 | Fax: (919) 435-0631
Email: Victoria.McKee@ets-pllc.com



CLIENT:	<u>American Tower Corporation</u>	DATE AT SITE:	<u>Wednesday, October 23, 2019</u>
SITE NAME:	<u>STTN - SOUTHINGTON</u>	ATC PROJECT#:	<u>OAA740798_C6_05</u>
SITE NUMBER:	<u>302475</u>	TOWER TYPE:	<u>MONOPOLE</u>
ADDRESS:	<u>80 Shuttle Meadow Road</u>	TOWER HEIGHT:	<u>150'</u>
	<u>Southington, CT 06489</u>	WEATHER:	<u>Sunny, 61°F, Wind 5-15 MPH</u>
LEAD:	<u>Bryson Williams</u>	SUPPORT:	<u>Andrew Vickery</u>

APPENDIX D
COLD GALV VERIFICATION

SEE FOLLOWING PAGES



Structural Components, LLC
1870 W 64th Lane Unit A
Denver, CO 80221

Voice: 720-304-8839
Fax: 720-489-3764

Ryan Hubert
1870 W 64th Lane Unit A
Denver, CO 80221
Office: (508) 210-4340
Mobile: (207) 450-2369
Rhubert@StructuralComponents.net

October 21, 2019

RE: On-Site Cold Galvanizing Verification
Customer: American Tower Corporation
Site # 302475
Site Name: STTN - SOUTHTON CT

Scope of Work:

- Install dywidag reinforcement bars from 69.0' to 119.0'.

All drilled and scraped surfaces on site were painted with (2) coats of Cold Galvanizing Compounds, 95% ZRC applied by paint brush. Pictures were taken throughout the process and upon completion.

Ryan Hubert
Project Manager





CLIENT:	<u>American Tower Corporation</u>	DATE AT SITE:	<u>Wednesday, October 23, 2019</u>
SITE NAME:	<u>STTN - SOUTHINGTON</u>	ATC PROJECT#:	<u>OAA740798_C6_05</u>
SITE NUMBER:	<u>302475</u>	TOWER TYPE:	<u>MONOPOLE</u>
ADDRESS:	<u>80 Shuttle Meadow Road</u>	TOWER HEIGHT:	<u>150'</u>
	<u>Southington, CT 06489</u>	WEATHER:	<u>Sunny, 61°F, Wind 5-15 MPH</u>
LEAD:	<u>Bryson Williams</u>	SUPPORT:	<u>Andrew Vickery</u>

APPENDIX E

MTRS

SEE FOLLOWING PAGES



70#15672

TEST REPORT

SHIPMENT 001

MICHIGAN SEAMLESS TUBE SOUTH LYON, MICHIGAN 48178

ORDER NUMBER	CUSTOMER ORDER NUMBER	DATE	OFC	COM	DIWI	NET SLS	GR SLS	ACCOUNT NUMBER	US	PAGE
084490	P0482906	07/10/18	24	00	57	05	01	02233010000	BN	2JJ 1

DYWIDAG SYSTEMS INTERNATIONAL
ATTENTION ACCOUNTS PAYABLE
320 MARMON DR
BOLINGBROOK IL USA 60440

SHIP TO
DYWIDAG SYSTEMS INTERNATIONAL SN 2
320 MARMON DRIVE TR 3
BOLINGBROOK IL 60440 INV 3

JTING
OPEN TOP/FULLY TARPED/FOB SOUTH LYON MI/*RTG BELOW PPD TRUCK

ANALYSIS	SHAPE	PRODUCT	FC	ANNEAL	REQUESTED
1026	IRREGULAR	COLD DRAWN		STRESS RELIEVED	08/17/18
SPECIFICATION	CMST	DESCRIPTION	PROMISE		
SEAMLESS ASTM/A 519 17		CD CARBON MECHANICAL	08/17/18		

SPECIAL INSTRUCTIONS
OIL (HEX OD/ROUND ID) 3/8" CORNER RADIUS. 80 KSI MIN YIELD.
95 KSI MIN TENSILE. 20% MIN ELONGATION IN 2". HRB-93 MIN.
MARK W/PART# & DSI-REPEAT FULL LENGTH OF TUBE. T/R W/SHIPMENT &
INVOICE TO INCLUDE CHEM & PHYS. AIM LONGEST LENGTH. *RTG-SHIP
TO ARRIVE ASAP.

ITEM	QUANTITY	O.D.	I.D.	WALL	LENGTH	WT/FT	WEIGHT	
		3.670	2.511			22.82		09:40:24
		+ .0150	+ .0000					08/22/18
		- .0100	- .0080					

ITM NUM	BALE NUM	--BALE-- PCS	FTG	HEAT NO.	LENGTH	ITM STATUS	PART NUMBER
1	1 1	7	109	00A182818 ✓	RAND 13'-17'	COM	B63W40490 ✓
1	2 1	7	109	00A182818	RAND 13'-17'	COM	B63W40490
1	3 1	5	77	00A182818	RAND 13'-17'	COM	B63W40490

HEAT NO.	C	Mn	P	S	SI	Ni	Cr	Mo	Cu	Al	REMARKS
00A182818	.260	.740	.006	.016	.240	.080	.110	.050	.110	.017	EF SDI

HEAT NO.	ULT. STR. PSI	YIELD, PSI	% ELONG 2"	HARDNESS	HYDRO TEST PSI	ULTRA SONIC %	EDDY CURRENT	EXPANSION	
00A182818	109,675 ✓	100,022 ✓	25.6 ✓	HRB 102-103 ✓			OK		
					BEND	FLATTEN	FLARE	REV. FLATTEN	FLANGE

100% MELTED & MANUFACTURED USA ✓

Jeffrey A. Gendach
Jeffrey A Gendach Metallurgical Sales Eng

We hereby certify that the reported data are correct according to Michigan Seamless Tube tests and those of its suppliers.



SHIP TO: DYWIDAG SYSTEMS INTERNATIONAL
320 MARMON DR
BOLINGBROOK, IL, 60440-0951, US

BILL TO: DYWIDAG SYSTEMS INTERNATIONAL
320 MARMON DR
BOLINGBROOK, IL, 60440-0951, US

WORK ORDER	
ORDER NUMBER 480005228	RECEIVER NUMBER 18110238
ORDER DATE 14-NOV-18	PAGE 1 of 2
PURCHASE ORDER NUMBER PO490442	
CUSTOMER NUMBER 90960	
PAYMENT TERM NET 30 DAYS	FREIGHT TERMS
F.O.B.	CARRIER
CURRENCY USD	AGREEMENT

AZZ INC

LINE	PART NUMBER / ITEM DESCRIPTION	ENTERED DATE	PROMISED DATE	SCHEDULED DATE	WEIGHT / QTY	UNIT
1.1	ROC MSC MISCELLANEOUS FABRICATED STEEL <u>82 PCS</u> HT # 00 A182818 1 Box 63MM HEX NUT 5-1/8" LONG PART#B63W40458		21-NOV-18	21-NOV-18	0.00 802	POUND
2.1	ROC MSC MISCELLANEOUS FABRICATED STEEL 1 Box <u>97 PCS</u> HT # 00 A160471 PART# B10K4045810 HEX NUT (1.92 OD X 2.700" LONG)		21-NOV-18	21-NOV-18	0.00 144	POUND
3.1	ROC MSC MISCELLANEOUS FABRICATED STEEL 100 PCS 101 PCS HT # 00 A162877 1 Box PART#B10K24058 #10 LOCK NUT		21-NOV-18	21-NOV-18	0.00 58	POUND
4.1	ROC MSC MISCELLANEOUS FABRICATED STEEL 200 PCS 199 PCS HT # 00 A172983 1 Box PART#B08K40458 #8 HEX NUT		21-NOV-18	21-NOV-18	0.00 128	POUND
5.1	ROC MSC MISCELLANEOUS FABRICATED STEEL <u>30 PCS</u> HT # 00 A164665 1 Box PART#B18W70758 #18 COUPLER		21-NOV-18	21-NOV-18	0.00 360	POUND
6.1	ROC MSC MISCELLANEOUS FABRICATED STEEL 100 PCS 102 PCS HT # EC/92-79661 2 cartons 1" ANCHOR NUT PART#B26E20158		21-NOV-18	21-NOV-18	0.00 144	POUND
7.1	ROC MSC MISCELLANEOUS FABRICATED STEEL <u>60 PCS</u> 1 Box PART #B10K70758 #10 COUPLER HT # 000W19825		21-NOV-18	21-NOV-18	0.00 180	POUND

DRIVER



SHIP TO: DYWIDAG SYSTEMS INTERNATIONAL
320 MARMON DR
BOLINGBROOK, IL, 60440-0951, US

BILL TO: DYWIDAG SYSTEMS INTERNATIONAL
320 MARMON DR
BOLINGBROOK, IL, 60440-0951, US

WORK ORDER	
ORDER NUMBER 480005228	RECEIVER NUMBER 18110238
ORDER DATE 14-NOV-18	PAGE 2 of 2
PURCHASE ORDER NUMBER PO490442	
CUSTOMER NUMBER 90960	
PAYMENT TERM NET 30 DAYS	FREIGHT TERMS
F.O.B.	CARRIER
CURRENCY USD	AGREEMENT

AZZ INC

LINE	PART NUMBER ITEM DESCRIPTION	ENTERED DATE	PROMISED DATE	SCHEDULED DATE	WEIGHT / QTY	UNIT
8.1	ROC MSC MISCELLANEOUS FABRICATED STEEL <i>139 PCS</i> <i>MT # 072074395</i> <i>1-3/8" HEX PART#B36E20658</i> <i>1 Box</i>		21-NOV-18	21-NOV-18	0.00 <i>572</i>	POUND
9.1	ROC MSC MISCELLANEOUS FABRICATED STEEL <i>250 PCS</i> <i>251 PCS</i> <i>MT # 072074395</i> <i>1-1/4" HEX PART#B32E20658</i> <i>2 Boxes</i>		21-NOV-18	21-NOV-18	0.00 <i>758</i>	POUND
10.1	ALL ABOVE LINES BLK WT 3189# - 2 SKIDS ROC*ENV ENVIRONMENTAL FEE NUMBER OF AZZ BOXES USED <i>9</i> CALL MICHELLE FOR ROUTING 630-972-4057 WE CERTIFY THAT THE ABOVE SIZES AND LOT NUMBERS WERE GALVANIZED IN ROCKFORD, IL USA AND MEET SPECS ASTM A153 CLASS <i>✓</i> OR ASTM A123. ROHS COMPLIANT AS IT PERTAINS TO HDG. DATE: <i>11-27-2018</i> QC DEPT: <i>[Signature]</i>		21-NOV-18	21-NOV-18	0.00	EACH

DRIVER

NUCOR**NUCOR CORPORATION
NUCOR STEEL SOUTH CAROLINA****Mill Certification**

9/21/2018

MTR #: C1-446382
300 Steel Mill Road
DARLINGTON, SC 29540
(843) 393-5841
Fax: (843) 395-8701Sold To: ATLANTA ROD MFG CO INC
PO BOX 435
LAVONIA, GA 30553
(706) 356-4446
Fax: (706) 356-1842Ship To: ATLANTA ROD MFG CO INC
144 SCHOKBETON RD
PO BOX 435
LAVONIA, GA 30553
(706) 356-4446
Fax: (706) 356-1842

Customer P.O.	23630	Sales Order	293107.1
Product Group	Merchant Bar Quality	Part Number	30000563360DESO
Grade	F1554-07a gr 55, S1, A307 gr 55	Lot #	DL1810113003
Size	9/16" (.5625) Round	Heat #	DL18101130
Product	9/16" (.5625) Round 30' A307-55	B.L. Number	C1-765410
Description	A307-55, F1554 GR 55, S1	Load Number	C1-446382
Customer Spec		Customer Part #	

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed above and that it satisfies those requirements.

Roll Date: 3/7/2018 Melt Date: 2/17/2018 Qty Shipped LBS: 4,923 Qty Shipped Pcs: 194

Melt Date: 2/17/2018

C	Mn	V	Si	S	P	Cu	Cr	Ni	Mo	Cb	CE1554
0.22%	0.86%	0.0420%	0.21%	0.023%	0.007%	0.19%	0.13%	0.07%	0.018%	0.003%	0.38%

CE1554: CE per F1554 GR55, S1

Roll Date: 3/7/2018

Yield 1: 66,000psi

Tensile 1: 88,000psi

Elongation: 22% in 8"(% in 203.3mm)

Yield 2: 65,000psi

Tensile 2: 86,000psi

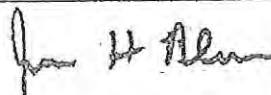
Elongation 20% in-8"(% in 203.3mm)

Reduction of Area: 59%

Reduction of Area #2: 58.89%

Specification Comments:

1. WELDING OR WELD REPAIR WAS NOT PERFORMED ON THIS MATERIAL
2. MELTED AND MANUFACTURED IN THE USA
3. MERCURY, RADIUM, OR ALPHA SOURCE MATERIALS IN ANY FORM HAVE NOT BEEN USED IN THE PRODUCTION OF THIS MATERIAL


James H. Blew
Division Metallurgist



TENNESSEE GALVANIZING®

April 8, 2019

GALVANIZING CERTIFICATION

The following materials have been galvanized in accordance with the specifications as set forth by ASTM-153/A, 153 M-16. We further certify that the fasteners we galvanize comply with the coating, workmanship, finish and appearance requirements of ASTM F2329-11.

Final inspection has been made and materials meet all requirements. All material was galvanized in the USA. THE ZINC IS KEPT AT A TEMPERATURE BETWEEN 835-850 DEGREES FAHRENHEIT.

Customer Name: Atlanta Rod and Manufacturing Co., Inc.
144 Schokbeton Street (P.O. Box 435)
Lavonia, Georgia 30553

Customer Shipper Number: 12101

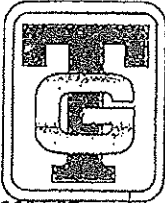
Load Number: 04032019

Our Job Number: 72206

MATERIAL GALVANIZED:

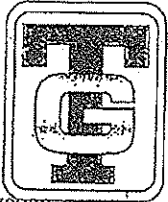
Work Order No.	Quantity	Description
70159-4	2	1-1/4" x 186-1/2" DER
70159-3	2	1-1/4" x 170-3/4" DER
701591	6	1-1/4" X 144" DER
70094-38	1	1-3/4" x 10' DER
70094-34	1	1-3/4" x 10' DER
70094-26	1	1-3/4" x 10' DER
70094-30	1	1-3/4" x 10' DER
70057-34	2	1-3/4" x 40' SER
70057-9	1	1-3/4" x 40' SER
70057-30	1	1-3/4" x 40' SER
70057-26	1	1-3/4" x 40' SER
70057-22	1	1-3/4" x 40' SER
70057-18	1	1-3/4" x 40' SER
70094-33	1	1-3/4" x 40' SER
70057-5	1	1-3/4" x 40' SER
70094-24	1	1-3/4" x 40' SER

Page 1 of 3



TENNESSEE GALVANIZING®

70094-37	1	1-3/4" x 40' SER
70094-29	1	1-3/4" x 40' SER
70200-1	6	1-3/4" x 128" ATR
70233-19	2	5/8" x 74-1/8" SER
70233-4	2	5/8" x 213-13/16" SER
70233-1	2	5/8" X 240" SER
70233-8	1	5/8" x 175-15/16" SER
70233-22	2	5/8" x 60" SER
70233-17	1	5/8" x 197-3/8" SER
70233-11	1	5/8" x 133-15/16" SER
70233-13	1	5/8" X 137" SER
70233-21	2	5/8" x 133-15/16" SER
70233-6	2	5/8" x 127-5/8" SER
70233-9	1	5/8" x 179" SER
70233-15	1	5/8" x 197-7/16" SER
70233-5	2	5/8" x 60" SER
70233-20	2	5/8" x 60" SER
70233-2	2	5/8" X 206-1/8" SER
70233-10	1	5/8" x 60" SER
70233-3	2	5/8" x 60" SER
70233-14	1	5/8" x 60" SER
70233-12	1	5/8" x 60" SER
70233-18	1	5/8" x 60" SER
70233-7	1	5/8" x 60" SER
70205-1	200	1-3/4" x 90" A/B
***	*****	PALLET 3 DIDN'T MAKE IT ON THE TRUCK
70150-1	30	2" x 57" DER
70079-5	12	1-3/4" x 60" ATR
70107-3	1713	7/8" x 10-1/2" HEX BOLT
70215-1	1200	1-1/4" X 34-1/4" DER WITH NUT TK
70197-1	100	1/2" x 20" SQUARE HEAD BOLT
70194-1	34	5/8" x 14" SQUARE HEAD BOLT
70136-1	39	7/8" x 38" ATR
70185-7	24	1-1/8" x 17-1/2" ATR
70271-1	12	7/8" x 26" DER
70270-2	300	5/8" x 2-1/2" x 4-3/8" U BOLT
69743-1	150	3" NUTS
70176-2	30	1-1/4" NUTS (IN BOX IN CAB WITH DRIVER)
70156-11	1	60" ANGLE
70156-12	1	72" ANGLE
70244-1	4	1/2" x 10" EMBED PLT
70277-1	6	1-3/4" x 55" DER



TENNESSEE GALVANIZING®

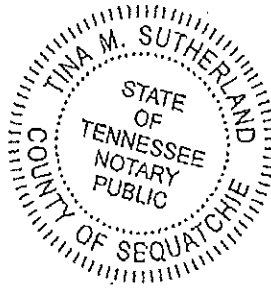
70283-1	32	1-3/4" x 28" ATR
70281-1	600	1-1/8" x 22" DER
70150-2	60	4-3/8" x 2-1/8" OD PLT
70156-9	38	1/4" x 2" x 9" PLT
70257-6	84	3/8" x 2-3/8" x 3-1/2" PLT
70214-2	100	3/4" x 4" PLT
70190-3	128	1/2" x 7" x 5" PLT
70158-8	38	1/4" x 2" x 9" PLT
70191-2	64	3/8" x 2-1/2" PLT
70250-1	13	1" x 16" SWEDGE BOLT
70250-3	34	5/8" x 10" SWEDGE BOLT
70250-4	80	1-1/4" x 12" SWEDGE BOLT
70221-1	26	1" x 24" SWEDGE BOLT
70160-2	34	3-1/2" x 6" x 5" ANGLE
70158-5	44	6" x 3-1/2" x 5" ANGLE

David S. Ware

David S. Ware, President / CEO

Tina M. Sutherland

Tina M. Sutherland, Tennessee Notary Public
My Commission Expires: 08/09/2020





TEST REPORT

PO# 16375

SHIPMENT 001

6715

MICHIGAN SEAMLESS TUBE

SOUTH LYON, MICHIGAN 48178

ORDER NUMBER	CUSTOMER ORDER NUMBER	DATE	OFC	COM	DIWI	NET SLS	GR SLS	ACCOUNT NUMBER	US	PAGE
086625	PO492192	12/14/18	24	00	57	05	01	02233010000	RN	2JJ 1

3) DYWIDAG SYSTEMS INTERNATIONAL 5) ATTENTION ACCOUNTS PAYABLE 7) 320 MARMON DR 8) BOLINGBROOK IL USA 60440	S H I P T O DYWIDAG SYSTEMS INTERNATIONAL SN 2 320 MARMON DRIVE TR 3 BOLINGBROOK IL 60440 INV 3
--	---

ROUTING OPEN TOP/FULLY TARPED/FOB SOUTH LYON MI/*RTG BELOW PPD TRUCK

ANALYSIS	SHAPE	PRODUCT	FC	ANNEAL	REQUESTED
1026 ✓	IRREGULAR	COLD DRAWN		STRESS RELIEVED	01/25/19
SPECIFICATION	CMST	DESCRIPTION	PROMISE		
SEAMLESS ASTM/A 519 17		CD CARBON MECHANICAL	01/25/19		

SPECIAL INSTRUCTIONS
 OIL (HEX OD/ROUND ID) 3/8" CORNER RADIUS. 80 KSI MIN YIELD.
 95 KSI MIN TENSILE. 20% MIN ELONG IN 2". HRB-93 MIN. T/R
 W/SHPT & INV TO INCL CHEM & PHYS. MARK W/PART# & DSI-REPEAT FULL
 LENGTH OF TUBE. AIM LONGEST LENGTH. *RTG-SHIP TO ARRIVE 1-30-19.

ITEM	QUANTITY	O.D.	I.D.	WALL	LENGTH	WT/FT	WEIGHT	
		3.670	2.511			22.82		09:16:32
		+ .0150	+ .0000					01/23/19
		- .0100	- .0080					

ITEM	BALE	--	BALE--		ITEM	PART	
NUM	NUM	PCS	FTG	HEAT NO.	LENGTH	STATUS	NUMBER
1	1	8	115	00A186316	RAND 13'-17'	COM	B63W40490
1	2	8	115	00A186316 ✓	RAND 13'-17'	COM	B63W40490 ✓
1	3	2	29	00A186316	RAND 13'-17'	COM	B63W40490
1	4	1	12	00A186316	RAND 13'-17'	COM	B63W40490

HEAT NO.	C	Mn	P	S	Si	Ni	Cr	Mo	Cu	Al	REMARKS
00A186316	.250	.720	.010	.019	.240	.050	.090	.030	.150	.023	EF SDY

HEAT NO.	ULT. STR. PSI	YIELD, PSI	% ELONG	HARDNESS	HYDRO TEST PSI	ULTRA SONIC %	EDDY CURRENT	EXPANSION
00A186316	105,639	99,615	21.6	HRB 95-99			OK	

BEND	FLATTEN	FLARE	REV. FLATTEN	FLANGE

100% MELTED & MANUFACTURED USA

Jeffrey A. Gunklach Metallurgical Sales Eng

We hereby certify that the reported data are correct according to Michigan Seamless Tube tests and those of its suppliers.



SHIP TO: DYWIDAG SYSTEMS INTERNATIONAL
320 MARMON DR
BOLINGBROOK, IL, 60440-0951, US

BILL TO: DYWIDAG SYSTEMS INTERNATIONAL
320 MARMON DR
BOLINGBROOK, IL, 60440-0951, US

WORK ORDER	
ORDER NUMBER 480006563	RECEIVER NUMBER 19020095
ORDER DATE 06-FEB-19	PAGE 1 of 2
PURCHASE ORDER NUMBER PO494958	
CUSTOMER NUMBER 90960	
PAYMENT TERM NET 30 DAYS	FREIGHT TERMS
F.O.B.	CARRIER
CURRENCY USD	AGREEMENT

AZZ INC

LINE	PART NUMBER ITEM DESCRIPTION	ENTERED DATE	PROMISED DATE	SCHEDULED DATE	WEIGHT / QTY	UNIT
1.1	ROC MSC MISCELLANEOUS FABRICATED STEEL <i>365 HT # 00 A186316</i> 850 PCS 63MM HEX NUT 5-1/8" LONG PART#B63W40458 BLK WT 1368#		13-FEB-19	13-FEB-19	0.00 <i>2 boxes 3522</i>	POUND
2.1	ROC MSC MISCELLANEOUS FABRICATED STEEL <i>647 HT # 071077495</i> 850 PCS PART #B06K40458 #6 HEX BLK WT 182#		13-FEB-19	13-FEB-19	0.00 <i>3 boxes 202</i>	POUND
3.1	ROC MSC MISCELLANEOUS FABRICATED STEEL <i>202 HT # 00 A184094</i> 200 PCS PART#B08K40458 #8 HEX NUT BLK WT 122#		13-FEB-19	13-FEB-19	0.00 <i>3 boxes 132</i>	POUND
4.1	ROC MSC MISCELLANEOUS FABRICATED STEEL <i>253 HT # 071077744</i> 250 PCS PART#B26E20658 1" HEX BLK WT 385#		13-FEB-19	13-FEB-19	0.00 <i>1 box 408</i>	POUND
5.1	ROC MSC MISCELLANEOUS FABRICATED STEEL <i>99 HT # 00 A160471</i> 100 PCS PART#B10K24058 #10 LOCK NUT BLK WT 55#		13-FEB-19	13-FEB-19	0.00 <i>1 carton 54</i>	POUND

DRIVER

5634



SHIP TO: DYWIDAG SYSTEMS INTERNATIONAL
320 MARMON DR
BOLINGBROOK, IL, 60440-0951, US

BILL TO: DYWIDAG SYSTEMS INTERNATIONAL
320 MARMON DR
BOLINGBROOK, IL, 60440-0951, US

WORK ORDER	
ORDER NUMBER 480006563	RECEIVER NUMBER 19020095
ORDER DATE 06-FEB-19	PAGE 2 of 2
PURCHASE ORDER NUMBER PO494958	
CUSTOMER NUMBER 90960	
PAYMENT TERM NET 30 DAYS	FREIGHT TERMS
F.O.B.	CARRIER
CURRENCY USD	AGREEMENT

AZZ INC

LINE	PART NUMBER ITEM DESCRIPTION	ENTERED DATE	PROMISED DATE	SCHEDULED DATE	WEIGHT QTY	UNIT
6.1	ROC MSC MISCELLANEOUS FABRICATED STEEL <i>52 HT # 071077533</i> 50 PCS 63MM COUPLER 11" LONG PART#B63W70758		13-FEB-19	13-FEB-19 <i>1 Box</i>	0.00 <i>1022</i>	POUND
7.1	BLK WT 985# ROC MSC MISCELLANEOUS FABRICATED STEEL <i>HT # 000W19825</i> 25 PCS PART #B10K70758 #10 COUPLER		13-FEB-19	13-FEB-19 <i>2 coils</i>	0.00 <i>74</i>	POUND
8.1	BLK WT 73# ALL ABOVE LINES ON 2 SKIDS ROC*ENV ENVIRONMENTAL FEE NUMBER OF AZZ BOXES USED CALL MICHELLE FOR ROUTING 630-972-4057 WE CERTIFY THAT THE ABOVE SIZES AND LOT NUMBERS WERE GALVANIZED IN ROCKFORD, IL USA AND MEET SPECS ASTM A153 CLASS <u>C</u> OR ASTM A123. ROHS COMPLIANT AS IT PERTAINS TO HDG. DATE: <i>02142019</i> QC DEPT: <i>[Signature]</i>		13-FEB-19	13-FEB-19	0.00	EACH

DRIVER



CERTIFIED MATERIAL TEST REPORT

US-ML-ST PAUL
1678 RED ROCK ROAD
SAINT PAUL, MN 55119
USA

CUSTOMER SHIP TO DYWIDAG SYSTEMS INTL USA INC 320 MARMON DR BOLINGBROOK,IL 60440-3078 USA		CUSTOMER BILL TO DYWIDAG SYSTEMS INTL USA INC 320 MARMON DR BOLINGBROOK,IL 60440-3078 USA		GRADE GR80DED	SHAPE / SIZE Continuous Thread Bar / 63M LH	DOCUMENT ID: 0000029878
SALES ORDER 7358635/000010		CUSTOMER MATERIAL N° B63W06010 A		LENGTH 60'04"	WEIGHT 44,419 LB	HEAT / BATCH 62149329/02
CUSTOMER PURCHASE ORDER NUMBER 493108			BILL OF LADING 1332-0000069523	DATE 04/19/2019		
SPECIFICATION / DATE or REVISION						

CHEMICAL COMPOSITION												
C %	Mn %	P %	S %	Si %	Cu %	Ni %	Cr %	Mo %	Sn %	V %	Nb %	
0.37	1.39	0.012	0.023	0.25	0.24	0.12	0.19	0.018	0.027	0.054	0.002	

MECHANICAL PROPERTIES						
YS PSI	YS MPa	UTS PSI		UTS MPa	G/L inch	Elong. %
81936	565	122656		846	8.000	6.20

MECHANICAL PROPERTIES						
lb/f						
16.900						

COMMENTS / NOTES

Material 100% melted and rolled in the USA. Manufacturing processes for this steel, which may include scrap melted in an electric arc furnace and hot rolling, have been performed at Gerdau St. Paul Mill, 1678 Red Rock Road, Saint Paul, Minnesota, USA. All product produced from strand cast billets. Silicon killed (deoxidized) steel. No weld repairmen performed. Steel not exposed to mercury or any liquid alloy which is liquid at ambient temperatures during processing or while in Gerdau St. Paul Mills possession. Any modification to this certification as provided by Gerdau-St. Paul Mill without the expressed written consent of Gerdau St. Paul Mill negates the validity of this test report. This report shall not be reproduced except in full, without the expressed written consent of Gerdau St. Paul Mill. Gerdau St. Paul Mill is not responsible for the inability of this material to meet specific applications.

The above figures are certified chemical and physical test records as contained in the permanent records of company. We certify that these data are correct and in compliance with specified requirements. This material, including the billets, was melted and manufactured in the USA. CMTR complies with EN 10204 3.1.

Bhaskar
BHASKAR YALAMANCHILI
QUALITY DIRECTOR

Alea
ALEA BRANDENBURG
QUALITY ASSURANCE MGR.

Phone: (409) 267-1071 Email: Bhaskar.Yalamanchili@gerdau.com

Phone: (651) 731-5662 Email: Alea.Brandenburg@gerdau.com

DYWIDAG-SYSTEMS INTERNATIONAL



SHIP-TO ADDRESS:

Metro Site Fabricators, LLC
 Email invoices: acallahan@metrositellc.com
 180 Industrial Park Blvd
 COMMERCE, GA 30529
 Contact: Scott Ledford, Christy~A/P
 Phone No.:

Dywidag Systems International USA, Inc.

DSI - North Central Division
 320 Marmon Drive
 Bolingbrook, IL. 60440-0951
 Phone No: 630-739-1100
 Fax No.: 630-739-5517
 E-Mail: dsiamerica@dsiamerica.com

Job No.	J130585 - Metrosite Bars # 20 grade 80
Department	PTE25
Shipment Method	Customer Pick Up
Carrier	Customer Pickup
Your Reference:	metrosite # 20 grade 80 PO16479
External Document No.	

Ship Ticket ST490244

Order No. **CO155186**
 Customer No. C004013
 Contact Mauro Barbosa
 Document Date June 18, 2019
 Shipment Date June 18, 2019
 Page No. 1

Pos.	Quantity	Unit	Description	Item No.	Location	Backorder
20	80	pieces	#20(63MM) THREADBAR® x 30' GRADE 80	B63W CUT	NC	0

Net Weight: 40,080.00 lbs
 Gross Weight: 40,080.00 lbs

act. delivery date: _____



Product Certificate of Conformance

AF Lot #: 8640		Part #: 2NG2036									
Lot Number	Component Part Number	Description	Test Results								
			Proof Load (Mpa)		Hardness (HRC)				Wedge Tensile Test (psi)		
			Spec		Spec		Sample		Spec		Sample
			Min	Sample	Min	Max	A	B	Min	A	B
26308	2NG20095A490M	M20 x 95 NexGen2™ Structural Bolt			33	38	Pass	Pass	150000	Pass	Pass
41002	2HHNM2025G2HM	M20-2.50 Heavy Hex Nut Grade 2H	1165	Pass	24	36	Pass	Pass			
794351	14SLS51116M	11/16" Shear Sleeve			24	33	Pass	Pass			
54179	2NG2SWH	M20 NexGen2™ Collapsible Split Washer			23	34	Pass	Pass			
51974	2NG2CWM	M20 Solid Collar Washer			23	34	Pass	Pass			



Product Certificate of Conformance

AF Lot #: 8219		Part #: 2NG2060									
Lot Number	Component Part Number	Description	Test Results								
			Proof Load (Mpa)		Hardness (HRC)				Wedge Tensile Test (psi)		
			Spec		Spec		Sample		Spec		Sample
			Min	Sample	Min	Max	A	B	Min	A	B
39312	2NG20060A490M	M20 x 60 NexGen2™ Structural Bolt			33	38	Pass	Pass	150000	Pass	Pass
3373340001	2HHNM2025G2HM	M20-2.50 Heavy Hex Nut Grade 2H	1165	Pass	24	36	Pass	Pass			
5195	2NG2ECWM	Extended Collar			24	33	Pass	Pass			
775354	2NG2CW20	M20 NexGen2™ Collapsible Split Washer			23	34	Pass	Pass			
N/A	#N/A	#N/A			23	34	#N/A	#N/A			

New York

69 Orchard Street
 Ramsey, New Jersey 07446
 Tel 800 577 3171
 Fax 201 783 8840

Cleveland

959 Lake Road
 Medina, Ohio 44256
 Tel 888 859 6060
 Fax 440 232 6062

Los Angeles

5450 W 83rd Street
 Los Angeles, California 90045
 Tel 310 410 5007
 Fax 866 553 7702

Nebraska

806 8th Street
 Gothenburg, Nebraska 69138
 Tel 855 330 2210
 Fax 308 537 3500

010

STAMPING THE FUTURE
WROUGHT WASHER MFG., INC.



May 24, 2019

Certification of Compliance

008182
BRIGHTON-BEST INTERNATIONAL
5855 OBISPO AVENUE
LONG BEACH, CA 90805

Wrought Washer
Order/Lot Number
314447

HT ORDER 312874
PL ORDER 315360

Heat Number
182532

Chemical Analysis				
C	Mn	P	S	Si
0.340	0.840	0.012	0.000	0.223

Purchase
Order Number
U62748

Part Description
257081 5/8 F436 S MARK HDG

Date
Shipped
05/24/2019

Quantity
Shipped
18,000

We hereby certify that the subject parts conform to the requirements of the applicable specification indicated for the subject parts and are in complete conformance to F436-18. We hereby certify that the subject parts were hardened to RC 26-45. We hereby certify that the subject parts were hot dip galvanized in accordance with specification ASTM A153 CLASS D and ASTM F2329.

We hereby certify that all statutory requirements as to American Production and Labor Standards and all conditions of purchase applicable to the transaction have been complied with and that the subject parts were melted and manufactured in the U.S.A. No weld repairs were made to the material.

Truly yours,
Wrought Washer Mfg., Inc.

Paul J. Seggelink

Paul Seggelink
Q.A. Manager

Susan M. Draoust

Sworn and subscribed before me on May 24, 2019
My commission expires April 24, 2021



(032) SMARK, HT, HDG, F436
WW INTERNAL USE : 66512901/001/067286/62389

Standard Heat Treating, LLC
Certification

Order No.: 220129
Date: 11/20/2018
Entry Date: 11/19/2018
Page: 1 of 1

To:

Wrought Washer Mfg., Inc
2100 South Bay Street

Milwaukee WI 53207

Purchase Order No.: 312874
Packing List No.:
Material: 1034

Standard Heat Treating certifies the listed results of inspection and testing to accurately reflect the processes performed and data obtained as a result of our heat treatment of the specified product.

Quantity	Part Number / Part Name / Part Description	Pounds
511,253	017280 454362	15583

Insp. Type	Scale	Minimum	Maximum	Number	Other
Customer Requirements:					
Test	RC	38.	45.		38-45 HRC

Austenitized, quenched and tempered to obtain a hardness of 40-43 HRC.

Processed in the USA.

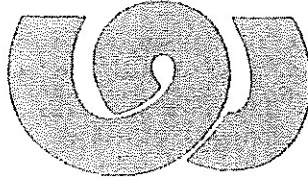
Alternate signature may include James Perkne (Dir., Customer Service)
or Efrain Santoyo (Dir., Production) or Walter Santoyo (Plant Manager).



John Christ
Quality Manager
Standard Heat Treating, LLC

002

STAMPING THE FUTURE
WROUGHT WASHER MFG., INC.



March 22, 2019

Certification of Compliance

003466
SLSB, LLC dba
ST. LOUIS SCREW AND BOLT
MADISON, IL 620600260

Wrought Washer
Ordr/Lot Number
314506

Heat Number
10577990

Chemical Analysis			
C	Mn	P	S
0.630	0.640	0.007	0.011

Purchase
Order Number
SB002683

Part Description
5/8"REG L/W 1060 HOT DIP GALV

Date
Shipped
03/21/2019

Quantity
Shipped
28,000

We hereby certify that the subject parts conform to the requirements of the applicable specification indicated for the subject parts and are in complete conformance to ASME B18.21.1. We hereby certify that the subject parts were hardened to RC 38-46. We hereby certify that the subject parts were hot dip galvanized in accordance with specification ASTM A153 CLASS C.

We hereby certify that all statutory requirements as to American Production and Labor Standards and all conditions of purchase applicable to the transaction have been complied with and that the subject parts were manufactured in the U.S.A.

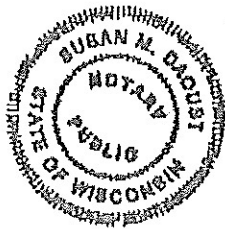
Truly yours,
Wrought Washer Mfg., Inc.

Paul J. Seggelink

Ewan M. Daoust

Paul Seggelink
Q.A. Manager

Sworn and subscribed before me on March 22, 2019
My commission expires April 24, 2021



(057) LOCKS, HIT, HDG
WROUGHT WASHER INTERNAL USE : 66632802/002/018129



**CHARTER
STEEL**

A Division of
Charter Manufacturing Company, Inc.

LOAD

1658 Cold Springs Road
Saukville, Wisconsin 53080
(262) 268-2400
1-800-437-8789
Fax (262) 268-2570

Melted in USA Manufactured in USA

CHARTER STEEL TEST REPORT

Wrought Washer Mfg. Inc.
2100 S. Bay ST.
Milwaukee, WI-53207

Cust P.O.	H3490
Customer Part #	600218
Charter Sales Order	70089144
Heat #	10577990
Ship Lot #	4568048
Grade	1060 A SK FG HQ 7/32 RNDCOIL
Process	HRCC
Finish Size	7/32
Ship date	10-JAN-19

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed below and that it satisfies these requirements. The recording of false, fictitious and fraudulent statements or entries on this document may be punishable as a felony under federal statute.

Test results of Heat Lot # 10577990

Lab Code: 7388

CHEM	C	MN	P	S	SI	NI	CR	MO	CU	SN	V
%Wt	.63	.64	.007	.011	.200	.05	.09	.02	.09	.005	.002
	AL	N	B	TI	NB						
	.024	.0060	.0001	.002	.001						

Test results of Rolling Lot # 1260104

	# of Tests	Min Value	Max Value	Mean Value	
TENSILE (KSI)	2	140.4	144.3	142.4	TENSILE LAB = 0356-02
REDUCTION OF AREA (%)	2	49	51	50	RA LAB = 0356-02

REDUCTION RATIO=803:1

Specifications:

Manufactured per Charter Steel Quality Manual Rev Date 05/12/17
Charter Steel certifies this product is indistinguishable from background radiation levels by having process radiation detectors in place to measure for the presence of radiation within our process & products.
Meets customer specifications with any applicable Charter Steel exceptions for the following customer documents:
Customer Document = 1060 HR Revision = Dated = 21-OCT-98

Additional Comments:

Melt Source:
Charter Steel
Saukville, WI, USA



This MTR supersedes all previously dated MTRs for this order

Janice Barnard
Janice Barnard Division Mgr. of Quality Assurance
barnardJ@chartersteel.com
Printed Date : 01/10/2019

Triip: 1334687

005



UNYTITE INC.
 INNOVATIVE FASTENING SYSTEMS

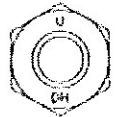
Unytite, Inc.
 One Unytite Drive
 Peru, IL 61354
 Tel 815-224-2221
 Fax 815-224-3434

INSPECTION CERTIFICATE

Job No: 30899-S	Job Information	Certified Date: 6/24/19
Customer: ST LOUIS SCREW & BOLT CO		Ship To: ST LOUIS
Customer Part No:		Shipped Qty: 55,729
Customer PO No: SB001814		
Lot Number: 30899-S-75076151		

Part Information

Part No: A563 5/8-11 +0.020 DH HHN HDG BLUE DYE



Description: ASTM A563 HHN, Grade DH, Hot Dipped Galv, Blue Dye

Manufactured Quantity: 218,258

Applicable Specifications

Specification	Amend	Specification	Amend
ASME B1.1	2003	ASME B18.2.2	2015
ASME B18.2.6	2011	ASME B18.2.6M	2012
ASTM A563	2015	ASTM F2329/F2329M	2015
ASTM F606/606M	2016	ASTM F812	2017

Test Results

Test No: 20061 **Test:** A563 DH Mechanical Properties

Description	Hardness (HRC)	Tempering Temp (800 degree F Min)	Proof Load (Pass/Fail) (ASTM Min LBS)	Shape & Dimension ASME B18.2.2	Thread Precision ASME B18.1.1	Visual ASTM F812
Sample Inspection	27.85	1,238	33,900	Pass	Pass	Pass

Certified Chemical Analysis

Heat No	Grade	Manufacturer	Origin	C	Mn	Si
75076151	1045	Gerdau Special Steel North America	USA	0.4300	0.6000	0.1500

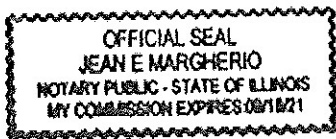
Notes

All tests are in accordance with the latest revisions of the methods prescribed in the applicable SAE and ASTM Specifications.

The samples tested conform the specifications as described/listed above and were manufactured free of mercury contamination and there is no welding performed in the production of the products. No heats to which Bismuth, Selenium, Tellurium, or Lead was intentionally added have been used to produce products.

The steel was melted and manufactured in the U.S.A. and the product was manufactured and tested in the U.S.A.

We certify that this data is true representation of information provided by the material supplier and our testing laboratory. This certified material test report relates only to the items listed on this document and may not be reproduced except in full.



Chris Thorsen

Thorsen, Chris - Supervisor, Quality

6/24/19

Date



GERDAU SPECIAL STEEL NORTH AMERICA
 5591 MORRILL ROAD
 JACKSON, MICHIGAN 49201 USA

CERTIFIED MATERIAL TEST REPORT

CUSTOMER ORDER NUMBER P008373-1	CUSTOMER PART NUMBER B1045SC0.8750	HEAT NUMBER 75076151	WORK ORDER NUMBER 329926 101	DATE 5/17/19
---	--	--------------------------------	--	------------------------

240mm Bloom

REPORT TO

UNYTITE INC
 ONE UNYTITE DRIVE

PERU , IL 61354-9710

SHIP TO

UNYTITE, INC
 LASALLE PLANT

325 CIVIC RD
 LASALLE , IL 61301

ORDERED

GRADE 1045	SIZE 0 7/8" RND	LENGTH 24' 10 1/2"
----------------------	---------------------------	------------------------------

CUSTOMER SPECIFICATIONS

SAE 1045; ASTM E381-17; RMS 021 DATED 9/28/06

CHEMICAL ANALYSIS

C	Mn	P	S	Si	Ni	Cr	Mo	Cu	Sn	Al
0.46	0.73	0.016	0.033	0.26	0.09	0.20	0.03	0.17	0.009	0.002
V	Nb									
0.058	0.002									

GRAIN SIZE SPECIFICATION ASTM E112 FINE GRAIN 5-8

MICROCLEANLINESS SPECIFICATION ASTM E45 METH A

	A		B		C		D	
	T	H	T	H	T	H	T	H
AVERAGE	1.8	0.7	1.2	0.1	0.5	0.0	0.8	0.5

MACROSTRUCTURAL TEST PER - ASTM E381

PLATE I

	S	R	C
FRONT	1	1	1
MIDDLE	1	1	1

PAGE 1

We certify that these data are correct and in compliance with specified requirements.

Gerdau Monroe
 3000 East Front Street
 Monroe, MI 48161

Patrick Doyle
 Patrick Doyle
 Pat.Doyle@Gerdau.com
 Quality Assurance Representative

CONTINUED ON PAGE 2



GERDAU SPECIAL STEEL NORTH AMERICA
 5591 MORRILL ROAD
 JACKSON, MICHIGAN 49201 USA

CERTIFIED MATERIAL TEST REPORT

CUSTOMER ORDER NUMBER	CUSTOMER PART NUMBER	HEAT NUMBER	WORK ORDER NUMBER	DATE
P008373-1	B1045SC0.8750	75076151	329926 101	5/17/19

240mm Bloom

REPORT TO

SHIP TO

UNYTITE INC
 ONE UNYTITE DRIVE

UNYTITE, INC
 LASALLE PLANT

PERU , IL 61354-9710

325 CIVIC RD
 LASALLE , IL 61301

ORDERED

GRADE	SIZE	LENGTH
1045	0 7/8" RND	24' 10 1/2"

CUSTOMER SPECIFICATIONS

SAE 1045; ASTM E381-17; RMS 021 DATED 9/28/06

BACK 1 1 1

DECARB SPECIFICATION ASTM E1077

F TOTAL= 0.009

REDUCTION RATIO

RATIO= 148.5 TO 1.0

RESIDUAL MAX SPECIFICATION RMS 021

Ni+Cr = 0.2900

** MATERIAL 100% MELTED AND MANUFACTURED IN THE U.S.A. BY THE ELECTRIC ARC FURNACE AND CONTINUOUS CASTING METHOD. THE PRODUCT HAS NOT BEEN REPAIRED BY WELDING AND THIS MATERIAL HAS NOT BEEN EXPOSED TO MERCURY OR TO ANY OTHER METAL ALLOY THAT IS LIQUID AT AMBIENT TEMPERATURES DURING PROCESSING OR WHILE IN OUR POSSESSION. GERDAU MONITORS ALL INCOMING SCRAP AND ALL HEATS OF STEEL TO ENSURE THAT PRODUCTS SHIPPED ARE FREE OF RADIOACTIVE MATERIAL. MATERIAL IS 100% RECYCLABLE.

PAGE 2 OF 2

We certify that these data are correct and in compliance with specified requirements.

Gerdau Monroe
 3000 East Front Street
 Monroe, MI 48161

Patrick Doyle
 Pat.Doyle@Gerdau.com

Quality Assurance Representative

Packing Slip



From:
888.859.6060
Allfasteners Cleveland
959 Lake Road
Medina OH 44256

Shipment: 31897

From Warehouse: 10

Bill To: 8251

Angie Callahan
Metro Site Fabricators LLC
585 Pritchett Road
Lula GA 30529
UNITED STATES

Ship To: (1)

Metro Site Fabricators LLC
180 Industrial Park Blvd
Commerce GA 30529
UNITED STATES

Order Contact:

Ship Contact:

706 335 7045

Reference:

Pickup Date	Order	Cust PO	Ship Via	Carrier	Weight	Packages		
8/7/2019	S000026111	16782			1440.00	1		
CO Num	Line/Release	Item	U/M	Qty Ordered	Qty Backordered	Qty Shipped	Package ID	Picklist Id
S000026111	1- 0	2NG2060	EA	1,000.000	0.000	1,000.000	1	33183

Description:

M20 x 60 Grip Length NexGen2™ Structural Bolt Assembly Magni 24/Box

ALL ITEMS MUST BE CHECKED BEFORE UNLOADING. ANY DISCREPANCIES MUST BE REPORTED WITHIN 7 DAYS.

Certification Report

August 2019

Metro Site Fabricators LLC

PO: 16782

SO: 26111

New York

69 Orchard Street
Ramsey, New Jersey 07446
Tel 800 577 3171
Fax 201 783 8840

Cleveland

959 Lake Road
Medina, Ohio 44256
Tel 888 859 6060
Fax 440 232 6062

Los Angeles

5450 W 83rd Street
Los Angeles, California 90045
Tel 310 410 5007
Fax 866 553 7702

Nebraska

806 8th Street
Gothenburg, Nebraska 69138
Tel 855 330 2210
Fax 308 537 3500



Product Certificate of Conformance

AF Lot #: 9679		Part #: 2NG2060										
Lot Number	Component Part Number	Description	Test Results									
			Proof Load (Mpa)		Hardness (HRC)				Wedge Tensile Test (psi)			
			Spec		Spec		Sample		Spec		Sample	
			Min	Sample	Min	Max	A	B	Min	A	B	
39312	2NG20060A490M	M20 x 60 NexGen2™ Structural Bolt			33	38	Pass	Pass	150000	Pass	Pass	
3373340001	2HHNM2025G2HM	M20-2.50 Heavy Hex Nut Grade 2H	1165	Pass	24	36	Pass	Pass				
5195	2NG2ECWM	Extended Collar			24	33	Pass	Pass				
775354	2NG2CW20	M20 NexGen2™ Collapsible Split Washer			23	34	Pass	Pass				
N/A	#N/A	#N/A			23	34	#N/A	#N/A				

New York

69 Orchard Street
 Ramsey, New Jersey 07446
 Tel 800 577 3171
 Fax 201 783 8840

Cleveland

959 Lake Road
 Medina, Ohio 44256
 Tel 888 859 6060
 Fax 440 232 6062

Los Angeles

5450 W 83rd Street
 Los Angeles, California 90045
 Tel 310 410 5007
 Fax 866 553 7702

Nebraska

806 8th Street
 Gothenburg, Nebraska 69138
 Tel 855 330 2210
 Fax 308 537 3500

08-14-2019 06:14

Load - 3387398

BL - 3339255

blr466

Metro Site Fabricators LLC

Heat - 1908974

Cust. PO - 16829

Order - 17721648

NUCOR STEEL - BERKELEY
1455 Hagan Avenue
Huger, SC 29450
Phone: (843) 336-6000

CERTIFIED MILL TEST REPORT

7/23/19 11:51:44

100% EAF MELTED AND MANUFACTURED IN THE USA

Structural sections produced by Nucor-Berkeley are cast
and hot rolled to a fully killed and fine grain practice.
Mercury has not been used in the direct manufacturing of this material.

Sold To: KLOECKNER METALS CORPORATION
500 COLONIAL CTR PKWY
SIE 500
ROSWELL, GA 30076

Ship To: KLOECKNER METALS
3775 INDUSTRIAL PARK
OFF HWY US 23
SUWANEE, GA 30024

Customer #: 405 - 5
Customer PO: 7412085
B.o.L. H...: 1423510
MOS: I

SPECIFICATIONS: Tested in accordance with ASTM specification A6/A6M-17a and A370. Quality Manual Rev #10 (3-14-19).
AASHIO : m270-345M270-50-15
ASME : SA-36 13
ASTM : A992-11(15)/A36-19/A529-19-50/A5725018T1/A7093618/A7095018
CSA : G40.21-44w/G40.2150WM

Description Part #	Heat# Grade(s) Test/Heat JW	Yield/ Tensile Ratio	Yield (PSI) (MPa)	Tensile (PSI) (MPa)	Elong %	C Cr *****	Mn Mo Ti	P Sn *****	S B *****	Si V N	Cu Nb *****	Ni ***** CI	CE1 CE2 Pcm
W12X40 040' 00.00" W310X60 012.1920m B1240W14000480	1904256 A992-11(15)	.80	56100 387 483	70000 483	24.00	.07 .04	1.08 .01	.011 .0058	.028 .0002	.22 .004 .0052	.10 .029	.04	.27 .3087 .1380
						4 Pc(s)		6,400 lbs		Customer PO: 7412085		Inv#:	0
W16x26 035' 00.00" W410x39 010.6680m B1626W14000420	2904179 A992-11(15)	.85	59300 409 481	69700 481	26.00	.07 .03	.85 .01	.008 .0064	.029 .0001	.19 .004 .0059	.09 .031	.03	.23 .2644 .1243
						6 Pc(s)		5,460 lbs		Customer PO: 7412085		Inv#:	0
W16x26 050' 00.00" W410x39 015.2400m B1626W14000600	2907786 A992-11(15)	.84	58600 404 481	69800 481	25.00	.07 .07	.85 .04	.006 .0075	.021 .0001	.19 .005 .0071	.17 .027	.14	.25 .2892 .1348
						12 Pc(s)		15,600 lbs		Customer PO: 7412085		Inv#:	0

NUCOR STEEL - BERKELEY
1455 Hagan Avenue
Huger, SC 29450
Phone: (843) 336-6000

CERTIFIED MILL TEST REPORT

7/23/19 11:51:44

100% EAF MELTED AND MANUFACTURED IN THE USA

Structural sections produced by Nucor-Berkeley are cast and hot rolled to a fully killed and fine grain practice. Mercury has not been used in the direct manufacturing of this material.

Sold To: KLOECKNER METALS CORPORATION
500 COLONIAL CIR PKWY
SIE 500
ROSWELL, GA 30076

Ship To: KLOECKNER METALS
3775 INDUSTRIAL PARK
OFF HWY US 23
SUWANEE, GA 30024

Customer #: 405 - 6
Customer PO: 7412086
B.o.I. H...: 1423510

MOS: I

SPECIFICATIONS: Tested in accordance with ASTM specification A6/A6M-17a and A370. Quality Manual Rev #10 (3-14-19).

RASHTD : m270-345M270-50-15
ASME : SA-36 13
ASTM : A992-11(15)/A36-19/A529-19-50/A5725018T1/A7093618/A7095018
CSA : G40.21-44w/G40.2150WM

Description Part #	Heat# Grade(s) Test/Heat JW	Yield/ Tensile Ratio	Yield (PSI) (MPa)	Tensile (PSI) (MPa)	Elong %	C Cr *****	Mn Mo Ti	P Sn *****	S B *****	Si V N	Cu Nb *****	Ni Nb ***** CI	CE1 CE2 Pcm
W4X13 050' 00.00* W100X19.3 015.2400m B413W14000600	1909494 A992-11(15)	.82	57600	70200	25.00	.07 .04	.81 .01	.010 .0060	.031 .0002	.23 .003	.13 .026	.04	.22 .2634 3.50 Inv#:
WSX19 040' 00.00* W130X28.1 012.1920m B519W14000480	1908974 A992-11(15)	.83	54800	66300	22.00	.07 .04	.81 .01	.010 .0033	.023 .0001	.19 .003	.07 .029	.03	.22 .2560 2.31 Inv#:

5 Heat(s) for this MTR.

=====
Elongation based on 8" (20.32cm) gauge length. 'No Weld Repair' was performed. 'All mechanical testing is performed by the Quality testing lab, which is independent of the production departments'
CI = 26.01Cu+3.88Ni+1.20Cr+1.49Si+17.28P-(7.29Cu*Ni)-(9.10Ni*P)-33.39(Cu*Cr)
Pcm = C+{Si/30}+{Mn/20}+{Cu/20}+{Ni/60}+{Cr/20}+{Mo/15}+{V/10}+5B
CE1 = C+{Mn/6}+{Cr+Mo+V/5}+{(Ni+Cu)/15}
CE2 = C+{(Mn+Si)/6}+{Cr+Mo+V+Cb/5}+{(Ni+Cu)/15}

I 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 material specifications, and when designated by the Purchaser, meet applicable specifications.

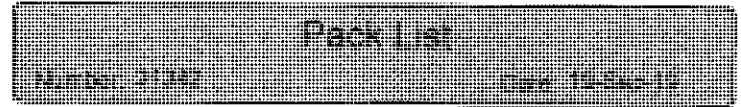
Bruce A. Work
Metallurgist
Quality Control



Metro Site Fabricators, LLC
 180 Industrial Park Boulevard
 Commerce, GA 30529
 United States of America

Ph: 706-335-7045

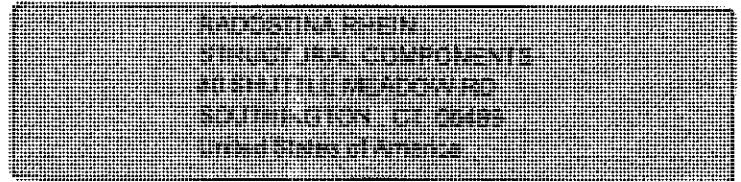
Fax: 706-335-7056



To



Ship To



Ph: 877-778-2938

Fax: 781-926-7849 ap

Ph: 517-662-0408

Terms	Ship Via
Net 60 Days	

Quantity	Description	Rev:
1 ea	Part: STTN SOUTHINGTON CT 302475 PROVIDE MATERIAL Job: 20031	
	PO: 544589-I.CULBERT	Line: 1

Job Bill of Materials

Job	Job Part Number	Material	Description	Make Qty	Qty Per
20031		DSI-#20 30' HDG	DSI #20 ROD 30' GR75 HDG		4.00
20031		MS2021	#20 COUPLING HDG		4.00
20031		MS2022	#20 HEX NUT HDG		8.00
20031		MS02-625-250-4375	5/8 X2-1/2 IW X4-3/8 IL U-BOLT		294.00
20031		MS01-625-SFLW-HDG	5/8 STR FLAT WASHER F436-1 HDG		588.00
20031		MS01-625-SHHN-HDG	5/8 STR HVY HXNT A563-DH HDG		588.00
20031		MS01-625-LKW-HDG	5/8" LOCK WASHER HDG		588.00
20031		MS01-M20-60-BB-MC	M20 X 60 BLIND BOLT, MC		214.00
20031		MS01-M20-36-BB-MC	M20 X 95 BLIND BOLT, MC		32.00
20031		MS01-750-SP-HDG	3/4 STEP PEG, HDG U-BOLT BRKT		45.00
20031-1	DYD-20-ATR-PF		#20 ALL THREAD ROD, 20'-0"	4	
20031-2	W519-20		W5 X 19, 1'-3"	72	
20031-3	W519-8U		W5X 19 , 2'-5 3/4"	12	

[DON - 9/19/2019 12:20:24 PM]

MILL TEST CERTIFICATE

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

Load Number	Tally	Mill Order Number	PO NO Line NO	Part Number	Certificate Number	Prepared
C185442	0000000795361	N-165069-003	APP-7265196 3		S79536101-1	09/27/2018 09:16

Grade	Customer:
Order Description: Hot Roll Plate From Coil A572 50, 0.5000 IN x 60.000 IN x 240.000 IN Quality Plan Description: A57250/A70950: ASTM A572-50-15/SA572-50/A709-50-15/M270-50	Sold TO: KLOECKNER METALS Alpharetta GA Ship TO: KLOECKNER METALS/ALPHARETTA Alpharetta GA Sent TO:

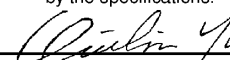
Shipped Item	Heat/Slab Number	Certified By	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Cb	V	Al	Ti	N2	B	Ca	Sn	CEV	ACI
8F2489E	B8S4890-04 ***	B8S4890	0.05	1.16	0.008	0.003	0.05	0.24	0.04	0.06	0.023	0.003	0.022	0.035	0.001	0.008	0.0002	0.0016			

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				
8F2489E	S8F2489FTT	B8S4890-04 ***	67.3	76.8	87.6	26.6																
8F2489E	S8F2489MTT	B8S4890-04 ***	65.7	72.9	90.1	30.0																

Items: 1 PCS: 1 Weight: 2042 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.


Dr. Quilin Yu - Metallurgist

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

03-28-2019 06:07
Metro Site Fabricators LLC
Cust. PO - 16176

Load - 3274872

BL - 3332980

Heat - B8S4890

Order - 17234698

blr466

Report - Of - Information



OWNER:

KLOECKNER METALS CORP.
1355 INDUSTRIAL BLVD.

SHIP TO:

KLOECKNER BESS TOLL
1355 INDUSTRIAL PARKWAY

DATE: 3/19/19

BESSEMER, AL 35022

BESSEMER, AL 35020

BILL OF LADING: 603 - 201100 - 10
HEAT/MILL COIL: SJ0519 3536075.000
SKID NO: 773575
TAG NUMBER: 163002 - 01
PROCESSED AS: ASTM A572 HR HSLA Plate, Grade 50 Type 1
REFERENCING: ASTM A-572 HSLA Cb-V Structural Steel

PART NO: .500-GR50-60X240
SIZE: .5000 X 60.000 X 240.000
PRODUCT: HR H50T1 A572
CUSTOMER PO NUMBER: BIR7368646 1

Element	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Al	Fe	Sb
Weight %	.0600	.9900	.0070	.0020	.1960	.0700	.0300	.0300	.0100	.0270	9.9990	9.9990
Element	Nb	V	Ti	Zr	B	CA	N	H	O	Sn	Zn	Mg
Weight %	.0190	.0050	.0120	9.9990	.0001	.0023	.0070			.0020	9.9990	9.9990
Carbon Equiv. (Calc'd): (IIW) (AWS D1.1) (AWS) Corrosion Ind: G101(6.3.1)												

Tensile Properties			TTM:				Toughness (Charpy)			
Loc/Dir	YS-(PS)	TS-(PS)	EL-%	NVal	Y/T	ROA%			Energy	Grain Size
HD TX	62500	72900	34.6				Coupon:			
MD							Dir'n :			Bend Test
TL							Temp. :			
ML							Units :			Hardness/Scale
									Avg	

This material processed at & shipped from:

The values published in this 'Report-of-Information' are transcribed from information provided by the owner and the owner's suppliers including mills, testing laboratories, etc. Feralloy makes no representation or warrantee based on this information unless it is generated, reviewed and authorized by Feralloy agents.

FERALLOY SOUTHERN
SOUTHERN DIVISION
1435 RED HAT ROAD
DECATUR, AL 35601

03-28-2019 06:07
Metro Site Fabricators LLC
Cust. PO - 16176

Load - 3274872

BL - 3332980

Heat - SJ0519

Order - 17234698

bl466



US-ML-CHARLOTTE
6601 LAKEVIEW ROAD
CHARLOTTE, NC 28269
USA

CERTIFIED MATERIAL TEST REPORT

CUSTOMER SHIP TO KLOECKNER METALS US 3775 S NAMASCO CT HWY 23 SUWANEE,GA 30024 USA		CUSTOMER BILL TO KLOECKNER METALS CORPORATION 500 COLONIAL CENTER PKWY ROSWELL,GA 30076-8853 USA		GRADE GGMULTI	SHAPE / SIZE Round Bar / 3/4"	DOCUMENT ID: 0000000000
SALES ORDER 6707137000020		CUSTOMER MATERIAL N° MB34RND20A36		LENGTH 20'00"	WEIGHT 9,612 LB	HEAT / BATCH 54161110/02
CUSTOMER PURCHASE ORDER NUMBER 7290970			BILL OF LADING 1321-0000057240	DATE 07/10/2018	SPECIFICATION / DATE or REVISION ASME SA36, ASTM A529-14 ASTM A6-17, A36-14, A572-15 ASTM A709-17, AASHTO M270-15 CSA G40.20-13/G40.21-13	

CHEMICAL COMPOSITION											
C %	Mn %	P %	S %	Si %	Cr %	Ni %	Cr %	Mo %	V %	Nb %	
0.15	0.71	0.012	0.037	0.20	0.35	0.39	0.15	0.070	0.004	0.007	

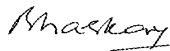
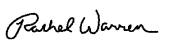
MECHANICAL PROPERTIES					
Elong. %	G/L Inch	UTS PSI	UTS MPa	YS PSI	YS MPa
25.00	8.000	77849	537	58111	401

GEOMETRIC CHARACTERISTICS	
R.R	
56.00	

COMMENTS / NOTES

This grade meets the requirements for the following grades:
 ASTM Grades: A36; A529-50; A572-50; A709-36; A709-50
 CSA Grades: 44W; 50W
 AASHTO Grades: M270-36; M270-50
 ASME Grades: SA36

The above figures are certified chemical and physical test records as contained in the permanent records of company. We certify that these data are correct and in compliance with specified requirements. This material, including the billets, was melted and manufactured in the USA. CMTR complies with EN 10204 3.1.

 BHASKAR YALAMANCHILI QUALITY DIRECTOR	 RACHEL WARREN QUALITY ASSURANCE REP.
Phone: (409) 267-1071 Email: Bhaskar.Yalamanchili@gerdau.com	Phone: (704) 896-0361 EX3039 Email: Rachel.Webster@gerdau.com

12-13-2018 05:00
Metro Site Fabricators LLC
Cust. PO - 15727

Load - 3203142

BL - 3328377

Heat - 54161110

Order - 16872993

blr466