



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: siting.council@ct.gov

www.ct.gov/csc

VIA ELECTRONIC MAIL

October 29, 2018

Jeffrey Barbadora
Real Estate Specialist
Crown Castle
12 Gill Street, Suite 5800
Woburn, MA 01801

RE: **EM-SPRINT-134-181015** – Sprint notice of intent to modify an existing telecommunications facility located at 46 Brendan Street, Stafford Springs, Connecticut.

Dear Mr. Barbadora:

The Connecticut Siting Council (Council) is in receipt of your correspondence of October 26, 2018 submitted in response to the Council's October 16, 2018 notification of an incomplete request for exempt modification with regard to the above-referenced matter.

The submission renders the request for exempt modification complete and the Council will process the request in accordance with the Federal Communications Commission 60-day timeframe.

Thank you for your attention and cooperation.

Sincerely,

Melanie A. Bachman
Executive Director

MAB/FC/IN

Robidoux, Evan

From: Barbadora, Jeff <Jeff.Barbadora@crowncastle.com>
Sent: Friday, October 26, 2018 9:01 AM
To: Robidoux, Evan
Cc: CSC-DL Siting Council
Subject: RE: Council Incomplete Letter for EM-SPRINT-134-181015-BrendanSt-StaffordSprings
Attachments: Appendix-D.pdf

Good morning,

Three copies of Appendix D will be overnighted to your office for Monday delivery.

Thanks,

Jeffrey Barbadora

781-970-0053
12 Gill Street, Suite 5800, Woburn, MA 01801
CrownCastle.com

From: Robidoux, Evan
Sent: Wednesday, October 17, 2018 1:40 PM
To: Barbadora, Jeff
Cc: CSC-DL Siting Council
Subject: Council Incomplete Letter for EM-SPRINT-134-181015-BrendanSt-StaffordSprings

Please see the attached correspondence.

Evan Robidoux
Clerk Typist
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

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MONOPOLE REINFORCEMENT DRAWINGS

SITE NAME: HRT 303 943203

BU NUMBER: 806365

**SITE ADDRESS:
BRENDON & QUINN STREETS
STAFFORD, CT 06076
TOLLAND COUNTY, USA**

PREPARED FOR:

**CROWN
CASTLE**



BLACK & VEATCH

6800 W 115TH ST, SUITE 2292
OVERLAND PARK, KS 66211

PROJECT NO: 194393
DRAWN BY: TYW
CHECKED BY: JV

REV	DATE	DESCRIPTION
0	07/29/18	ISSUED FOR CONSTRUCTION



SAFETY CLIMB: 'LOOK UP'
THE INTEGRITY OF THE WIRE ROPE SAFETY CLIMB SYSTEM SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER REINFORCEMENTS AND EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF ANY WIRE ROPE SAFETY CLIMB ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, OR IMPACT TO THE ANCHORAGE POINTS IN ANY WAY. ANY COMPROMISED SAFETY CLIMB MUST BE REPORTED TO YOUR CROWN POC FOR RESOLUTION, INCLUDING EXISTING CONDITIONS.

CODE COMPLIANCE

THIS REINFORCEMENT DESIGN IS BASED ON THE REQUIREMENTS OF THE 2016 CONNECTICUT STATE BUILDING CODE AND THE TIA-222-G STRUCTURAL STANDARD FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS USING A NOMINAL 3-SECOND GUST WIND SPEED OF 97 MPH WITH NO ICE, 50 MPH WITH 1.00 INCH ICE THICKNESS AND 60 MPH UNDER SERVICE LOADS, EXPOSURE CATEGORY C.

TOWER INFORMATION

TOWER MANUFACTURER / CCI DOC #: VALMONT / CCI DOC ID# 2046046
TOWER HEIGHT / TYPE: 129 FT MONOPOLE TOWER
TOWER LOCATION: LATITUDE 41° 57' 51.2"
DATUM: NAD 1983 LONGITUDE -72° 18' 17.8"
STRUCTURAL DESIGN DRAWING: B&V / WO #1596723
STRUCTURAL ANALYSIS REPORT: PJF / WO #1589512
ORDER ID: 441496 REV #1

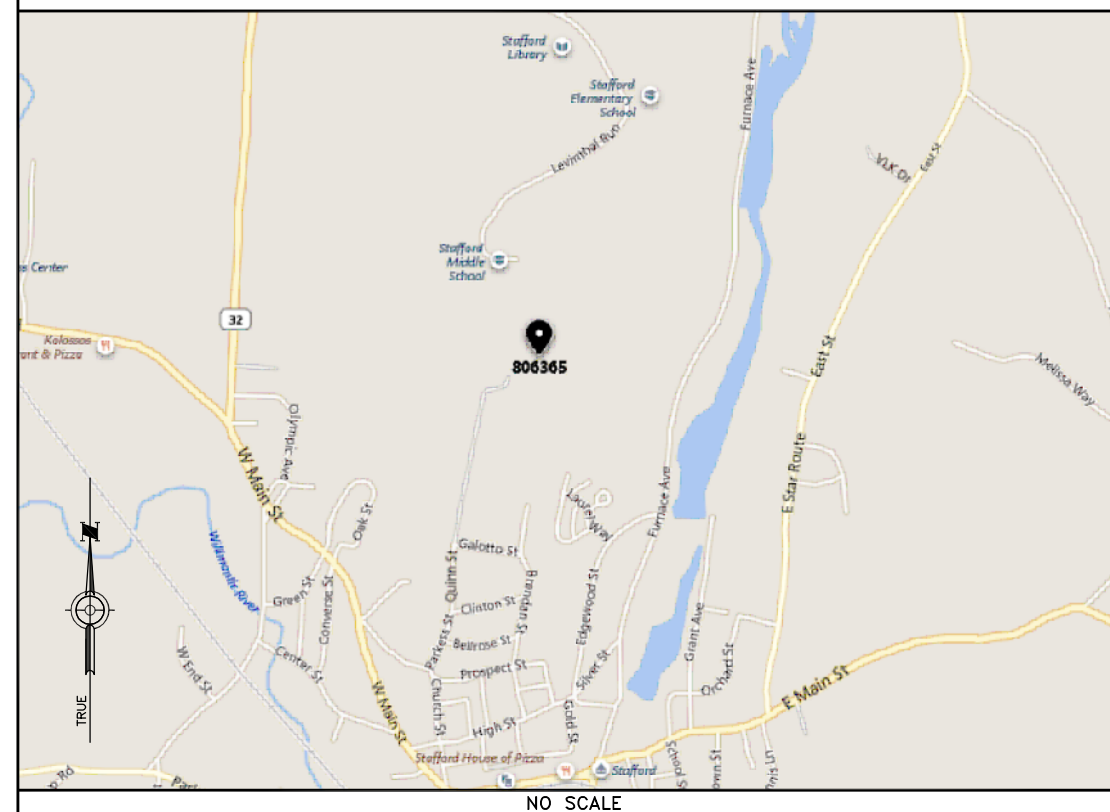
PROJECT CONTACTS

CROWN PROJECT MANAGER
DAN VADNEY
(518) 373-3510
DAN.VADNEY@CROWNCastle.COM

CROWN CONSTRUCTION MANAGER
JASON D'AMICO
(860) 209-0104
JASON.DAMICO@CROWNCastle.COM

BLACK & VEATCH CONTACTS
CROWNCastleRF@BV.COM
PATRICK DAVIS, P.E.
(913) 458-6984

LOCATION MAP



DRIVING DIRECTIONS

MASS PIKE WEST TO RT 84 SOUTH TO EXIT 70 (RT 32) TAKE RT 32 NORTH TOWARDS STAFFORD SPRINGS. TAKE A LEFT ONTO RT190 WEST (CENTER OF TOWN) TAKE FIRST RIGHT ONTO HOWLAND ST. FOLLOW TO TOP OF HILL. BRENDAN ST BRANCHES OFF OF HOWLAND TO THE RIGHT AT TOP OF HILL. STEEL YELLOW GATE AT BOTTOM OF ACCESS RD IS AT END OF BRENDAN ST.

ATTENTION ALL CONTRACTORS

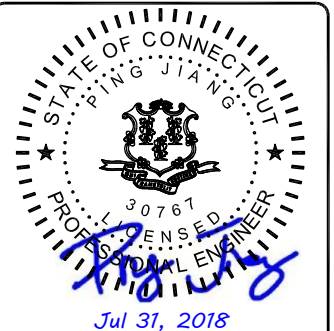
ANYTIME YOU ACCESS A CROWN SITE FOR ANY REASON YOU ARE TO CALL THE CROWN NOC UPON ARRIVAL AND DEPARTURE, DAILY AT 800-788-7011.

DRAWING INDEX

SHEET NO:	SHEET TITLE
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TM-3	NOTES
TM-4	NEXGEN2 BOLT SPECIFICATIONS & TIGHTENING PROCEDURE
TM-5	FORGBOLT BOLT SPECIFICATIONS & TIGHTENING PROCEDURE
TM-6	AJAX ONESIDE BOLT SPECIFICATIONS & TIGHTENING PROCEDURE
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TM-9	TOWER SECTIONS
TM-10	BASE PLATE WELD DETAILS

DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS & EXISTING DIMENSIONS & CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME



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

BU #806365
WO #1596723
HRT 303 943203
BRENDON & QUINN STREETS
STAFFORD, CT 06076
TOLLAND COUNTY, USA

SHEET TITLE
TITLE PAGE

SHEET NUMBER
TM-1

MI CHECKLIST			
REQUIRED	REPORT ITEM	APPLICABLE CROWN DOC #	BRIEF DESCRIPTION
PRE-CONSTRUCTION			
X	MI CHECKLIST DRAWING	CED-SOW-10007	THIS CHECKLIST SHALL BE INCLUDED IN THE MI REPORT.
X	EOR APPROVED SHOP DRAWINGS	CED-SOW-10007	ONCE THE PRE-MODIFICATION MAPPING IS COMPLETE AND PRIOR TO FABRICATION, THE CONTRACTOR SHALL PROVIDE DETAILED ASSEMBLY DRAWINGS AND/OR SHOP DRAWINGS. THESE ARE TO INCLUDE, BUT ARE NOT LIMITED TO, A VISUAL LAYOUT OF NEW REINFORCEMENT, EXISTING REINFORCEMENT CONFIGURATION, PORTHOLES, MOUNTS, STEP PEGS, SAFETY CLIMBS AND ANY OTHER MISCELLANEOUS ITEMS WHICH MAY AFFECT SUCCESSFUL INSTALLATION OF MODIFICATIONS ON THE TOWER. THESE DRAWINGS SHALL BE SUBMITTED TO THE EOR FOR APPROVAL. APPROVED ASSEMBLY/SHOP DRAWINGS SHALL BE SUBMITTED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
X	FABRICATION INSPECTION	CED-SOW-10007	A LETTER FROM THE FABRICATOR, STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH INDUSTRY STANDARDS AND THE CONTRACT DOCUMENTS, SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
X	FABRICATOR CERTIFIED WELD INSPECTION	CED-SOW-10007 CED-STD-10069	A CWI SHALL INSPECT ALL WELDING PERFORMED ON STRUCTURAL MEMBERS DURING FABRICATION. A WRITTEN REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
X	MATERIAL TEST REPORTS (MTR)	CED-SOW-10007	MATERIAL TEST REPORTS SHALL BE PROVIDED FOR MATERIAL USED AS REQUIRED PER SECTION 9.2.5 OF CED-SOW-10007. MTRS SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
N/A	FABRICATOR NDE INSPECTION REPORT	CED-SOW-10066 CED-STD-10069	CRITICAL SHOP WELDS THAT REQUIRE TESTING ARE NOTED ON THESE CONTRACT DRAWINGS. A CERTIFIED NDT INSPECTOR SHALL PERFORM NON-DESTRUCTIVE EXAMINATION AND A REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
N/A	NDE OF MONOPOLE BASE PLATE	ENG-SOW-10033	A NDE OF THE POLE TO BASE PLATE CONNECTION IS REQUIRED AND A WRITTEN REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
X	PACKING SLIPS	CED-SOW-10007	THE MATERIAL SHIPPING LIST SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
ADDITIONAL TESTING AND INSPECTIONS:			
N/A			
CONSTRUCTION			
N/A	FOUNDATION INSPECTIONS	CED-SOW-10144	A VISUAL OBSERVATION OF THE EXCAVATION AND REBAR SHALL BE PERFORMED BEFORE PLACING THE CONCRETE. A VISUAL OBSERVATION OF THE REBAR SHALL BE PERFORMED BEFORE PLACING THE EPOXY. A SEALED WRITTEN REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
N/A	CONCRETE COMP. STRENGTH AND SLUMP TEST	CED-SOW-10144	THE CONCRETE MIX DESIGN, SLUMP TEST, AND COMPRESSIVE STRENGTH TESTS SHALL BE PROVIDED AS PART OF THE FOUNDATION REPORT.
N/A	EARTHWORK	CED-SOW-10144	FOUNDATION SUB-GRADES SHALL BE INSPECTED AND APPROVED BY A GEOTECHNICAL ENGINEER AND RESULTS INCLUDED AS PART OF THE FOUNDATION REPORT.
N/A	MICROPILE/ROCK ANCHOR	CED-SOW-10144	MICROPILES/ROCK ANCHORS SHALL BE INSPECTED BY THE FOUNDATION INSPECTION VENDOR AND SHALL BE INCLUDED AS PART OF THE FOUNDATION INSPECTION REPORT, ADDITIONAL TESTING AND/OR INSPECTION REQUIREMENTS ARE NOTED IN THESE CONTRACT DOCUMENTS.
N/A	POST-INSTALLED ANCHOR ROD VERIFICATION	CED-SOW-10007	POST INSTALLED ANCHOR ROD VERIFICATION SHALL BE PERFORMED IN ACCORDANCE WITH CROWN REQUIREMENTS AND A REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
X	BASE PLATE GROUT VERIFICATION	ENG-STD-10323	THE GENERAL CONTRACTOR SHALL PROVIDE DOCUMENTATION TO THE MI INSPECTOR THAT CERTIFIES THAT THE GROUT WAS REMOVED AND/OR INSTALLED IN ACCORDANCE WITH CROWN REQUIREMENTS FOR INCLUSION IN THE MI REPORT.
X	FIELD CERTIFIED WELD INSPECTION	CED-SOW-10066 CED-STD-10069	A CROWN APPROVED CERTIFIED WELD INSPECTOR SHALL INSPECT AND TEST FIELD WELDS, FOLLOWING ALL PROCEDURES SPECIFIED IN CROWN STANDARD DOCUMENTS APPLICABLE TO WELD INSPECTIONS. A REPORT SHALL BE PROVIDED. NDE OF FIELD WELDS SHALL BE PERFORMED AS REQUIRED BY CROWN STANDARDS AND CONTRACT DOCUMENTS. THE NDE REPORT SHALL BE INCLUDED IN THE CWI REPORT.
X	ON-SITE COLD GALVANIZING VERIFICATION	ENG-STD-10149E NG-BUL-10149	THE GENERAL CONTRACTOR SHALL PROVIDE WRITTEN AND PHOTOGRAPHIC DOCUMENTATION TO THE MI INSPECTOR VERIFYING THAT ANY ON-SITE COLD GALVANIZING WAS APPLIED PER MANUFACTURER SPECIFICATIONS AND APPLICABLE STANDARDS.
N/A	TENSION TWIST AND PLUMB	CED-PRC-10182 CED-STD-10261	THE GENERAL CONTRACTOR SHALL PROVIDE A REPORT IN ACCORDANCE WITH APPLICABLE STANDARDS DOCUMENTING TENSION TWIST AND PLUMB.
X	GC AS-BUILT DRAWINGS	CED-SOW-10007	THE GENERAL CONTRACTOR SHALL SUBMIT A LEGIBLE COPY OF THE ORIGINAL DESIGN DRAWINGS EITHER STATING "INSTALLED AS DESIGNED" OR NOTING ANY CHANGES THAT WERE REQUIRED AND APPROVED BY THE ENGINEER OF RECORD. EOR/RFI FORMS APPROVING ALL CHANGES SHALL BE SUBMITTED WHEN THE EOR IS SPECIFYING ADDITIONAL INSPECTIONS DESCRIPTION AND APPLICABLE STANDARDS SHALL BE APPLIED.
ADDITIONAL TESTING AND INSPECTIONS:			
N/A			
POST-CONSTRUCTION			
X	CONSTRUCTION COMPLIANCE LETTER	CED-SOW-10007	A LETTER FROM THE GENERAL CONTRACTOR STATING THAT THE WORKMANSHIP WAS PERFORMED IN ACCORDANCE WITH INDUSTRY STANDARDS AND THESE CONTRACT DRAWINGS, INCLUDING LISTING ADDITIONAL PARTIES TO THE MODIFICATION PROCESS.
N/A	POST-INSTALLED ANCHOR ROD PULL TESTS	CED-PRC-10119	POST-INSTALLED ANCHOR RODS SHALL BE TESTED BY A CROWN APPROVED PULL TEST INSPECTOR AND A REPORT SHALL BE PROVIDED INDICATING TESTING RESULTS.
X	PHOTOGRAPHS	CED-SOW-10007	PHOTOGRAPHS SHALL BE SUBMITTED TO THE MI. PHOTOS SHALL DOCUMENT ALL PHASES OF THE CONSTRUCTION. THE PHOTOS SHALL BE ORGANIZED IN A MANNER THAT EASILY IDENTIFIES THE EXACT LOCATION OF THE PHOTO.
N/A	BOLT INSTALLATION VERIFICATION REPORT	CED-SOW-10007	THE MI INSPECTOR SHALL VERIFY THE INSTALLATION AND TIGHTNESS 10% OF ALL NON PRE-TENSIONED BOLTS INSTALLED AS PART OF THE MODIFICATION. THE MI INSPECTOR SHALL LOOSEN THE NUT AND VERIFY THE BOLT HOLE SIZE AND CONDITION. THE MI REPORT SHALL CONTAIN THE COMPLETED BOLT INSTALLATION VERIFICATION REPORT, INCLUDING THE SUPPORTING PHOTOGRAPHS.
X	PUNCHLIST DEVELOPMENT AND CORRECTION DOCUMENTATION	CED-PRC-10283 CED-FRM-10285	FINAL PUNCHLIST INDICATING ALL NONCONFORMANCE(S) IDENTIFIED AND THE FINAL RESOLUTION AND APPROVAL.
X	MI INSPECTOR REDLINE OR RECORD DRAWING(S)	CED-SOW-10007	THE MI INSPECTOR SHALL OBSERVE AND REPORT ANY DISCREPANCIES BETWEEN THE CONTRACTOR'S REDLINE DRAWING AND THE ACTUAL COMPLETED INSTALLATION.
ADDITIONAL TESTING AND INSPECTIONS:			
N/A			

MODIFICATION INSPECTION NOTES

GENERAL

1. THE MI IS AN ON-SITE VISUAL AND HANDS-ON INSPECTION OF TOWER MODIFICATIONS INCLUDING A REVIEW OF CONSTRUCTION REPORTS AND ADDITIONAL PERTINENT DOCUMENTATION PROVIDED BY THE GENERAL CONTRACTOR (GC), AS WELL AS ANY INSPECTION DOCUMENTS PROVIDED BY 3RD PARTY INSPECTORS. THE MI IS TO ENSURE THE INSTALLATION WAS CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, NAMELY THE MODIFICATION DRAWINGS; IN ACCORDANCE WITH APPLICABLE CROWN STANDARDS; AND AS DESIGNED BY THE ENGINEER OF RECORD (EOR).
2. NO DOCUMENT, CODE OR POLICY CAN ANTICIPATE EVERY SITUATION THAT MAY ARISE. ACCORDINGLY, THIS CHECKLIST IS INTENDED TO SERVE AS A SOURCE OF GUIDING PRINCIPLES IN ESTABLISHING GUIDELINES FOR MODIFICATION INSPECTION.
3. THE MI IS TO CONFIRM INSTALLATION CONFIGURATION AND WORKMANSHIP ONLY AND IS NOT A REVIEW OF THE MODIFICATION DESIGN ITSELF, AND THE MI INSPECTOR DOES NOT TAKE OWNERSHIP OF THE MODIFICATION DESIGN. OWNERSHIP OF THE STRUCTURAL MODIFICATION DESIGN EFFECTIVENESS AND INTEGRITY RESIDES WITH THE EOR AT ALL TIMES. THE MI INSPECTOR SHALL INSPECT AND NOTE CONFORMANCE/NONCONFORMANCE AND PROVIDE TO THE CROWN POINT OF CONTACT (CROWN POC) FOR EVALUATION.
4. ALL MI'S SHALL BE CONDUCTED BY A CROWN APPROVED MI INSPECTOR, WORKING FOR A CROWN APPROVED MI VENDOR. SEE CROWN CED-LST-10173, "APPROVED MI VENDORS".
5. TO ENSURE THAT THE REQUIREMENTS OF THE MI ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR (GC) AND THE MI INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS A PURCHASE ORDER (PO) IS RECEIVED. IT IS EXPECTED THAT EACH PARTY WILL BE PROACTIVE IN REACHING OUT TO THE OTHER PARTY. IF CONTACT INFORMATION IS NOT KNOWN THE GC AND/OR INSPECTOR SHALL CONTACT THE CROWN POINT OF CONTACT (POC).
6. REFER TO CROWN CED-SOW-10007, "MODIFICATION INSPECTION SOW", FOR FURTHER DETAILS AND REQUIREMENTS.

SERVICE LEVEL COMMITMENT

1. THE FOLLOWING RECOMMENDATIONS AND SUGGESTIONS ARE OFFERED TO ENHANCE THE EFFICIENCY AND EFFECTIVENESS OF DELIVERING AN MI REPORT:
 - THE GC SHALL PROVIDE A MINIMUM OF 5 BUSINESS DAYS NOTICE, PREFERABLY 10, TO THE MI INSPECTOR AS TO WHEN THE SITE WILL BE READY FOR THE MI TO BE CONDUCTED.
 - THE GC AND MI INSPECTOR COORDINATE CLOSELY THROUGHOUT THE ENTIRE PROJECT.
 - WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MI INSPECTOR ON-SITE SIMULTANEOUSLY FOR ANY GUY WIRE TENSIONING OR RE-TENSIONING OPERATIONS.
 - WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MI INSPECTOR ON-SITE DURING THE MI TO HAVE ANY MINOR DEFICIENCIES CORRECTED DURING THE INITIAL MI. THEREFORE, THE GC MAY CHOOSE TO COORDINATE THE MI CAREFULLY TO ENSURE ALL CONSTRUCTION FACILITIES ARE AT THEIR DISPOSAL WHEN THE MI INSPECTOR IS ON SITE.

REQUIRED PHOTOS

1. BETWEEN THE GC AND THE MI INSPECTOR THE FOLLOWING PHOTOGRAPHS, AT A MINIMUM, ARE TO BE TAKEN AND INCLUDED IN THE MI REPORT:
 - PRE-CONSTRUCTION GENERAL SITE CONDITION
 - PHOTOGRAPHS DURING THE REINFORCEMENT MODIFICATION CONSTRUCTION/ERECTION AND INSPECTION
 - RAW MATERIALS
 - PHOTOS OF ALL CRITICAL DETAILS
 - FOUNDATION MODIFICATIONS
 - WELD PREPARATION
 - BOLT INSTALLATION
 - FINAL INSTALLED CONDITION
 - SURFACE COATING REPAIR
 - POST CONSTRUCTION PHOTOGRAPHS
 - FINAL INFIELD CONDITION
2. PHOTOS OF ELEVATED MODIFICATIONS TAKEN ONLY FROM THE GROUND SHALL BE CONSIDERED INADEQUATE.
3. THIS IS NOT A COMPLETE LIST OF REQUIRED PHOTOS, PLEASE REFER TO CROWN DOCUMENT # CED-SOW-10007.

PREPARED FOR:

CROWN CASTLE



BLACK & VEATCH

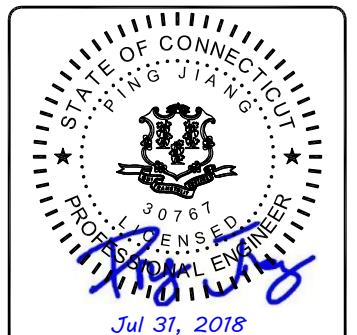
6800 W 115TH ST, SUITE 2292
OVERLAND PARK, KS 66211

PROJECT NO: 194393

DRAWN BY: TYW

CHECKED BY: JV

REV	DATE	DESCRIPTION
0	07/29/18	ISSUED FOR CONSTRUCTION



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

BU #806365
WO #1596723
HRT 303 943203
BRENDON & QUINN STREETS
STAFFORD, CT 06076
TOLLAND COUNTY, USA

SHEET TITLE
MODIFICATION
INSPECTION CHECKLIST

SHEET NUMBER
TM-2

GENERAL NOTES

- ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE. THE CONTRACTOR MUST BE EXPERIENCED IN THE PERFORMANCE OF WORK SIMILAR TO THAT DESCRIBED HEREIN. BY ACCEPTANCE OF THIS ASSIGNMENT, THE CONTRACTOR IS ATTESTING THAT HE DOES HAVE SUFFICIENT EXPERIENCE AND ABILITY, THAT HE IS KNOWLEDGEABLE OF THE WORK TO BE PERFORMED, THAT HE IS PROPERLY LICENSED, AND THAT HE IS PROPERLY REGISTERED TO DO THIS WORK IN THE STATE AND/OR COUNTY IN WHICH IT IS TO BE PERFORMED.
- THE GENERAL NOTES AND TYPICAL DETAILS ARE APPLICABLE TO ALL PARTS OF THE STRUCTURE AND SHALL BE READ IN CONJUNCTION WITH THE STRUCTURAL DRAWINGS AND PROJECT SPECIFICATIONS.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING APPROVALS FROM ALL AUTHORITIES HAVING JURISDICTION FOR THIS PROJECT AND SHALL NOTIFY THE APPLICABLE JURISDICTIONAL (STATE, COUNTY, OR CITY) ENGINEER 24 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
- ERECT GUARDS AND BARRIERS PER APPLICABLE LABOR AND CONSTRUCTION SAFETY REGULATIONS.
- THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS, POSSIBLE INTERFERENCES, AND DIMENSIONS BEFORE PROCEEDING WITH THE WORK. REPORT ANY AND ALL DISCREPANCIES TO THE ENGINEER OF RECORD (EOR) AND FIELD PERSONNEL IMMEDIATELY. ANY AND ALL FIELD CHANGES SHALL BE APPROVED AND DOCUMENTED BY THE EOR PRIOR TO FIELD IMPLEMENTATION.
- ALL MATERIALS AND WORKMANSHIP SHALL BE WARRANTED FOR TWO (2) YEARS FROM THE DATE OF COMPLETED CONSTRUCTION.
- USE ONLY THE LATEST ISSUES OF ANY APPLICABLE CODES, STANDARDS, OR REGULATIONS MENTIONED IN THE FOLLOWING NOTES AND SPECIFICATIONS, UNO.
- ALL WORKMANSHIP SHALL BE IN ACCORDANCE WITH ANSI, ASTM, ACI, TIA, AND AISC STANDARDS AS REFERENCED IN THE APPLICABLE CODE.
- STRUCTURAL ELEMENTS SHOWN ON THESE DRAWINGS ARE DESIGNED IN ACCORDANCE WITH APPLICABLE BUILDING CODES/STANDARDS. ALL CONSTRUCTION, EXCEPT WHERE NOTED OTHERWISE, SHALL COMPLY WITH THOSE CODES/STANDARDS.
- ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW AND OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS, AND IN CONFORMANCE WITH THE DRAWINGS. ANY AND ALL SUBSTITUTIONS MUST BE DULY APPROVED AND AUTHORIZED IN WRITING BY THE OWNER AND ENGINEER OF RECORD PRIOR TO FABRICATION AND INSTALLATION. THE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF THE MATERIALS AND EQUIPMENT BEING SUBSTITUTED.
- ALL MANUFACTURER'S HARDWARE ASSEMBLY INSTRUCTIONS SHALL BE FOLLOWED EXACTLY AND SHALL SUPERSEDE ANY CONFLICTING NOTES ENCLOSED HEREIN.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR IS ALSO RESPONSIBLE FOR ENSURING THAT ALL CONSTRUCTION PROCEDURES MEET THE REQUIREMENTS OF OSHA, THE OWNER, AND ALL OTHER APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY REGULATIONS. CONSTRUCTION SHALL BE PERFORMED ONLY IN "GOOD WEATHER". "GOOD WEATHER" MEANS LITTLE OR NO WIND AND RAIN AND MINIMUM TEMPERATURE OF 50 DEGREES F. CONTACT ENGINEER FOR ADDITIONAL INSTRUCTIONS IF "GOOD WEATHER" CANNOT BE ACHIEVED.
- ACCESS TO THE PROPOSED WORK SITE MAY BE RESTRICTED. THE CONTRACTOR SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULE AND MATERIAL ACCESS, WITH THE RESIDENT LEASING AGENT.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SAFEGUARD ALL EXISTING STRUCTURES OR BURIED SERVICES AFFECTED BY THIS CONSTRUCTION. CONTRACTOR IS ALSO RESPONSIBLE FOR TEMPORARILY RELOCATING ANY LINES OR STRUTS AS NECESSARY TO COMPLETE THE REQUIRED WORK.
- STRUCTURAL DESIGN IS FOR THE COMPLETE CONDITION ONLY. THE CONTRACTOR MUST BE COGNIZANT THAT THE REMOVAL OF ANY STRUCTURAL COMPONENT OF AN EXISTING TOWER HAS THE POTENTIAL TO CAUSE THE PARTIAL OR COMPLETE COLLAPSE OF THE STRUCTURE. ALL NECESSARY PRECAUTIONS MUST BE TAKEN TO ENSURE STRUCTURAL INTEGRITY, INCLUDING, BUT NOT LIMITED TO, ENGINEERING ASSESSMENT OF CONSTRUCTION STRESSES WITH INSTALLATION MAXIMUM WIND SPEED AND/OR TEMPORARY BRACING AND SHORING.
- DO NOT SCALE DRAWINGS.
- FOR THIS ANALYSIS AND MODIFICATION, THE TOWER HAS BEEN ASSUMED TO BE IN GOOD CONDITION WITHOUT ANY DEFECTS. IF THE CONTRACTOR DISCOVERS ANY INDICATION OF AN EXISTING STRUCTURAL DEFECT, CONTACT THE ENGINEER OF RECORD IMMEDIATELY.
- MODIFICATION WORK SHALL BE COMPLETED IN CALM WIND CONDITIONS / OR APPROPRIATE WIND SPEED FOR THE TYPE OF MODIFICATION WORK TO BE INSTALLED.
- THE CLIMBING FACILITIES, SAFETY CLIMB AND ALL PARTS THEREOF SHALL NOT BE IMPEDED, MODIFIED OR ALTERED WITHOUT THE EXPRESS APPROVAL OF THE CROWN POC. ALL ALTERATIONS TO A SAFETY CLIMB'S ORIGINAL MANUFACTURER'S CONFIGURATION MUST BE DESIGNED BY THE ENGINEER OF RECORD. IF THE GENERAL CONTRACTOR FINDS THAT THE CLIMBING FACILITIES ARE IMPEDED, EITHER DURING BIDDING, DURING PRE-FABRICATION MAPPING, OR WHILE ON-SITE, THE GENERAL CONTRACTOR SHALL CONTACT THE CROWN POC TO DETERMINE A METHOD OF RESOLUTION.
- CONTRACTOR TO VERIFY REQUIRED STEEL PLATE LENGTHS FROM BOTTOM OF SECTION TO BOTTOM OF NEXT SECTION.
- THESE DRAWINGS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS, MEANS, TECHNIQUES, SEQUENCES AND PROCEDURES.
- ALL CHANGES/ALTERNATES/REVISIONS TO THESE DRAWINGS SHALL BE DOCUMENTED BY REQUEST FOR INFORMATION (RFI) FORM APPROVED BY ENGINEER OF RECORD. FINAL WORK AUTHORIZATION AND ALL CHANGE ORDERS SHALL BE APPROVED BY CLIENT AND/OR CLIENT REPRESENTATIVE PRIOR TO PROCEEDING WITH ANY WORK THAT DEVIATES FROM THE ORIGINAL DESIGN, SCOPE, PRICE AND/OR SCHEDULE.
- ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND CROWN STANDARD CED-STD-10253 INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH ANSI/TIA-322 (LATEST EDITION).

- IN THE EVENT OF AN EMERGENCY, CONTRACTOR SHALL CONTACT BLACK & VEATCH AND CROWN CASTLE PERSONNEL TO REPORT ANY EVENT OR EMERGENCY INCIDENT AT ANY CROWN CASTLE TOWER SITE PER THE CONTACT INFORMATION PROVIDED ON SHEET TM-1.
- ANY WORK PERFORMED WITHOUT A PREFABRICATION MAPPING IS DONE AT THE RISK OF THE GC AND/OR FABRICATOR.
- IF, DURING THE COURSE OF A FOUNDATION MODIFICATION, THE GC ENCOUNTERS EXISTING CONDUIT LOCATED WITHIN THE CONFINES OF THE EXISTING OR PROPOSED FOUNDATION CONCRETE, AND THIS CONDUIT IS NOT IN A LOCATION THAT IS SPECIFIED WITHIN THESE DESIGN DRAWINGS, THE GC SHALL IMMEDIATELY CONTACT THE EOR FOR GUIDANCE BEFORE PROCEEDING WITH THE INSTALLATION OF THE PROPOSED FOUNDATION MODIFICATIONS. IF CONDUIT IS TO BE INSTALLED THROUGH THE EXISTING FOUNDATION OR PROPOSED FOUNDATION MODIFICATION AND HASN'T BEEN SPECIFIED WITHIN THESE DESIGN DRAWINGS THEN THE GC SHALL IMMEDIATELY CONTACT THE EOR FOR GUIDANCE PRIOR TO PROCEEDING WITH THE INSTALLATION OF THE PROPOSED FOUNDATION MODIFICATIONS.

STRUCTURAL STEEL NOTES

- DESIGN, FABRICATION, ERECTION, ALTERATION AND MAINTENANCE SHALL CONFORM TO THE FOLLOWING, UNLESS NOTED OTHERWISE (UNO).
 - TIA-222: STRUCTURAL STANDARD FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS
 - TIA-1019-A: INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS
 - AISC: MANUAL OF STEEL CONSTRUCTION
- ALL STRUCTURAL ELEMENTS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS, UNO.
 - STRUCTURAL STEEL, ASTM A572 GRADE 65 (FY = 65 KSI).
 - ALL BOLTS, ASTM A325 TYPE 1 GALVANIZED HIGH STRENGTH BOLTS.
 - ALL NUTS, ASTM A563 CARBON AND ALLOY STEEL NUTS.
 - ALL WASHERS, ASTM F436 HARDENED STEEL WASHERS.
 - ALL SHIMS, ASTM A36.
- ALL HOLES SHALL BE CUT WITH A GRINDER OR DRILLED. HOLES SHALL NOT BE FLAME CUT THRU STEEL UNLESS APPROVED BY THE ENGINEER OF RECORD.
- ALL FASTENERS SHALL NOT BE REUSED.
- A NUT LOCKING DEVICE SHALL BE INSTALLED ON ALL PROPOSED AND/OR REPLACED ASTM A325 BOLTS.
- ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT BE AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
- HOT-DIP GALVANIZE ALL ITEMS, UNO. GALVANIZE PER ASTM A123, ASTM A153/A153M OR ASTM A653 G90, AS APPLICABLE.
- FOR A LIST OF CROWN APPROVED COLD GALVANIZING COMPOUNDS, REFER TO CROWN ENG-BUL-10149, "TOWER PROTECTIVE COATINGS BULLETIN".
- AFTER FINAL INSPECTION, ALL EXPOSED STRUCTURAL STEEL AS THE RESULT OF THIS SCOPE OF WORK INCLUDING WELDS, FIELD DRILLED HOLES, AND SHAFT INTERIORS (WHERE ACCESSIBLE), SHALL BE CLEANED AND COLD GALVANIZING APPLIED BY BRUSH IN ACCORDANCE WITH CROWN ENG-BUL-10149, "TOWER PROTECTIVE COATINGS BULLETIN". PHOTO DOCUMENTATION IS REQUIRED TO BE SUBMITTED TO THE MI INSPECTOR.

BASE PLATE GROUT REMOVAL NOTES

- WHEN BASE PLATE GROUT REMOVAL IS SPECIFIED IN THE POLE MODIFICATION TABLE, THE CONTRACTOR SHALL TAKE THE FOLLOWING STEPS:
 - THE GC SHALL BEGIN THIS PROCEDURE AS EARLY AS POSSIBLE DURING THE MODIFICATION PROCESS SO THAT IF ISSUES ARISE, THEY CAN BE RESOLVED WITHIN THE ANTICIPATED MODIFICATION TIMELINE.
 - IF ANY DETERIORATED GROUT EXISTS, BEGIN AT THIS LOCATION. REMOVE DETERIORATED GROUT AND THE GROUT AROUND THE NEAREST ONE OR TWO ANCHOR RODS TO FULLY EXPOSE THE LEVELING NUT. IF THE GC DISCOVERS THAT A HALF NUT OR JAM NUT WAS USED AS A LEVELING NUT, OR IF NO LEVELING NUT IS PRESENT, IMMEDIATELY CONTACT CED AND THE CROWN POC (TYPICALLY THE MOD PM) FOR A RESOLUTION. DO NOT REMOVE ANY ADDITIONAL GROUT UNTIL DIRECTED TO BY CROWN.
 - OTHERWISE, CHECK THE LEVELING NUT FOR TIGHTNESS IN ACCORDANCE WITH SECTION 1.3.2.3 OF ENG-PRC-10012 "BASE PLATE GROUT REPAIR". IF SEVERE CORROSION / MATERIAL LOSS IS FOUND OR CORROSION EXISTS TO THE POINT WHERE THE LEVELING NUT IS UNABLE TO BE TIGHTENED WHEN OBVIOUSLY LOOSE, IMMEDIATELY NOTIFY THE CROWN POC (TYPICALLY THE MOD PM). REFERENCE ENG-BUL-10114 "RUST CLASSIFICATION" FOR EXAMPLES OF MATERIAL LOSS. DO NOT REMOVE ANY ADDITIONAL GROUT UNTIL DIRECTED TO BY CROWN.
 - IN THE EVENT THAT SEVERE CORROSION IS NOT ENCOUNTERED, AND BEING SURE TO CHECK EACH ANCHOR ROD FOR CORROSION PER ENG-BUL-10114 "RUST CLASSIFICATION", REMOVE ALL EXISTING BASEPLATE GROUT WHILE CHECKING EACH LEVELING NUT FOR TIGHTNESS IN ACCORDANCE WITH SECTION 1.3.2.3 OF ENG-PRC-10012 "BASE PLATE GROUT REPAIR".
 - CONSISTENT WITH SECTION 1.3.2.4 OF ENG-PRC-10012 "BASE PLATE GROUT REPAIR", HAND TOOL CLEAN TO SSPC-SP2 AND SOLVENT CLEAN TO SSPC-SP1, ALL EXPOSED STRUCTURAL STEEL ELEMENTS, INCLUDING ANCHOR RODS, LEVELING NUTS, AND UNDERSIDE OF BASE PLATE TO THE GREATEST EXTENT POSSIBLE. ENSURE THAT ALL OLD GROUT IS REMOVED TO ALLOW COLD GALVANIZING TO ADHERE TO THE STEEL.
 - APPLY BY BRUSH TWO COATS OF A CROWN-APPROVED COLD-GALVANIZING COMPOUND TO ALL EXPOSED STRUCTURAL STEEL ELEMENTS BENEATH THE BASE PLATE, AND ALLOW CURING IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION. A LIST OF CROWN-APPROVED DIRECT APPLICATION COLD-GALVANIZING COMPOUNDS CAN BE FOUND IN ENG-STD-10149 "TOWER PROTECTIVE COATINGS GUIDELINES" SECTION 2.1.1.
 - THE GC SHALL PROVIDE PHOTOS OF EACH ANCHOR ROD WITH LEVELING NUT AFTER CLEANING BUT BEFORE COLD-GALVANIZATION, AND ALSO AGAIN AFTER COLD-GALVANIZATION, FOR INCLUSION IN THE MI REPORT.

DETAIL DRAWINGS SHALL GOVERN OVER ANY VARIANCE FROM THIS SHEET

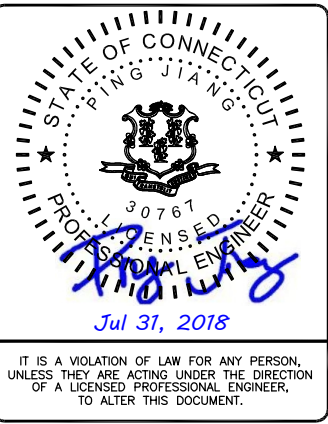
WELDING NOTES

- ALL WELDING SHALL BE IN ACCORDANCE WITH THE AWS D1.1/D1.1M, "STRUCTURAL WELDING CODE-STEEL".
- ALL WELDING SHALL BE PERFORMED BY AWS CERTIFIED WELDERS.
- ALL ARC WELDING ON CROWN STRUCTURES SHALL BE DONE IN ACCORDANCE WITH THE CROWN ENG-PLN-10015, "CUTTING AND WELDING SAFETY PLAN" AND AWS D1.1 (LATEST EDITION). THIS SHALL INCLUDE A CERTIFIED WELDING INSPECTOR (CWI) FOR ACCEPTANCE OR REJECTION OF ALL WELDING OPERATIONS, PRE-DURING-POST, USING THE ACCEPTANCE CRITERIA OF AWS D1.1. THE CWI SHALL WORK WITH THE GC ON THE LEVEL OF INTERACTION NEEDED TO CONDUCT THE WELDING INSPECTION. THE CERTIFIED WELDING INSPECTION IS THE RESPONSIBILITY OF THE GC.
- FOR ALL WELDING, USE E80XX ELECTRODES FOR SMAW PROCESS AND EBXT-XX ELECTRODES FOR FCAW PROCESS, UNO.
- SURFACES TO BE WELDED SHALL BE FREE FROM SCALE, SLAG, RUST, MOISTURE, GREASE OR ANY OTHER FOREIGN MATERIAL THAT WOULD PREVENT PROPER WELDING. GRIND THE SURFACE ADJACENT TO THE WELD FOR A DISTANCE OF 2" MINIMUM ALL AROUND. ENSURE BOTH AREAS ARE 100% FREE OF ALL GALVANIZING.
- REPAIR THE GALVANIZED COATING. ALL AREAS AFFECTED BY THE FIELD DRILLING, FIELD GRINDING AND FIELD WELDING, BOTH INSIDE AND OUTSIDE THE MONOPOLE, SHALL BE REPAIRED PER CROWN DOCUMENT ENG-STD-10149. PRODUCTS TO BE APPLIED IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. AREAS THAT HAVE BEEN TOUCHED UP SHOULD BE INSPECTED AS PART OF THE ROUTINE MAINTENANCE OF THE STRUCTURE. NO SPRAY PAINT IS ALLOWED. AFTER ZINC-RICH PAINT IS DRY, OVERCOAT WITH OWNER'S PAINT SPECIFICATIONS, APPLIED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- DO NOT WELD IF THE TEMPERATURE OF THE STEEL IN THE VICINITY OF THE WELD AREA IS BELOW 0° F. WHEN THE TEMPERATURE IS BETWEEN 0° F AND 32° F, PREHEAT AND MAINTAIN THE STEEL IN THE VICINITY OF THE WELD AREA AT 70° F DURING THE WELDING PROCESS.
- DO NOT WELD ON WET OR FROST-COVERED SURFACES & PROVIDE ADEQUATE PROTECTION FROM HIGH WINDS.
- FIELD NDE MINIMUM REQUIREMENTS
 - FOR NEW BASE STIFFENERS (INCLUDING OF TRANSITION STIFFENERS) AND ANCHOR ROD BRACKETS, COMPLETE JOINT PENETRATION WELDS SHALL BE 100% INSPECTED BY UT. ALL PARTIAL JOINT PENETRATION AND FILLET WELDS SHALL BE 100% INSPECTED BY MT.
 - FOR NEW FLAT PLATE REINFORCEMENT AT THE BASE OF THE TOWER, COMPLETE JOINT PENETRATION WELDS SHALL BE 100% INSPECTED BY UT. ALL PARTIAL JOINT PENETRATION AND FILLET WELDS SHALL BE 100% INSPECTED BY MT, BUT MAY BE LIMITED TO A HEIGHT OF 10"-0".
 - FOR NDE OF THE EXISTING BASE PLATE CIRCUMFERENTIAL WELD, GC SHALL REFERENCE THE MI CHECKLIST FOR APPLICABILITY. PLEASE SEE ENG-SOW-10033: TOWER BASE PLATE NDE, AND ENG-BUL-10051: NDE REQUIREMENTS FOR MONOPOLE BASE PLATE TO PREVENT CONNECTION FAILURE. NOTIFY THE EOR AND CROWN ENGINEERING IMMEDIATELY IF ANY CRACKS ARE SUSPECTED OR HAVE BEEN IDENTIFIED. THE NDE SHALL INCLUDE ALL EXISTING MODIFICATIONS THAT HAVE BEEN WELDED TO THE BASE PLATE.
 - ALL TESTING LIMITATIONS SHALL BE DETAILED IN THE NDE REPORT.
- MOVE ALL COAX AND OTHER FLAMMABLE MATERIALS FROM ANY AREA THAT MAY BE HEATED DURING CONSTRUCTION.
- CONTRACTOR SHALL MAKE PROPER PRECAUTIONS AND PROCEDURES TO PROTECT THE STRUCTURE FROM CATCHING FIRE DURING ALL WELDING OPERATIONS. THE FOLLOWING FIRE SAFETY PREVENTION PROTOCOL IS THE MINIMUM REQUIREMENTS DURING WELDING OPERATIONS. ALSO REFERENCE CROWN DOCUMENT ENG-BUL-10172 FOR ADDITIONAL WELDING REQUIREMENTS.
 - 500 GALLON WATER TANK WITH PUMP TO BE ON SITE AT ALL TIMES.
 - 2 FIRE EXTINGUISHERS ON SITE AT ALL TIMES.
 - 2 MAN FIRE WATCH ON ANY ADJACENT STRUCTURES, FIELDS AND POLE.
 - INTERMITTENT COOLING OF WELDED SURFACE TO REDUCE HEAT IN STRUCTURE.



PROJECT NO:	194393
DRAWN BY:	TYW
CHECKED BY:	JV

REV	DATE	DESCRIPTION
0	07/29/18	ISSUED FOR CONSTRUCTION



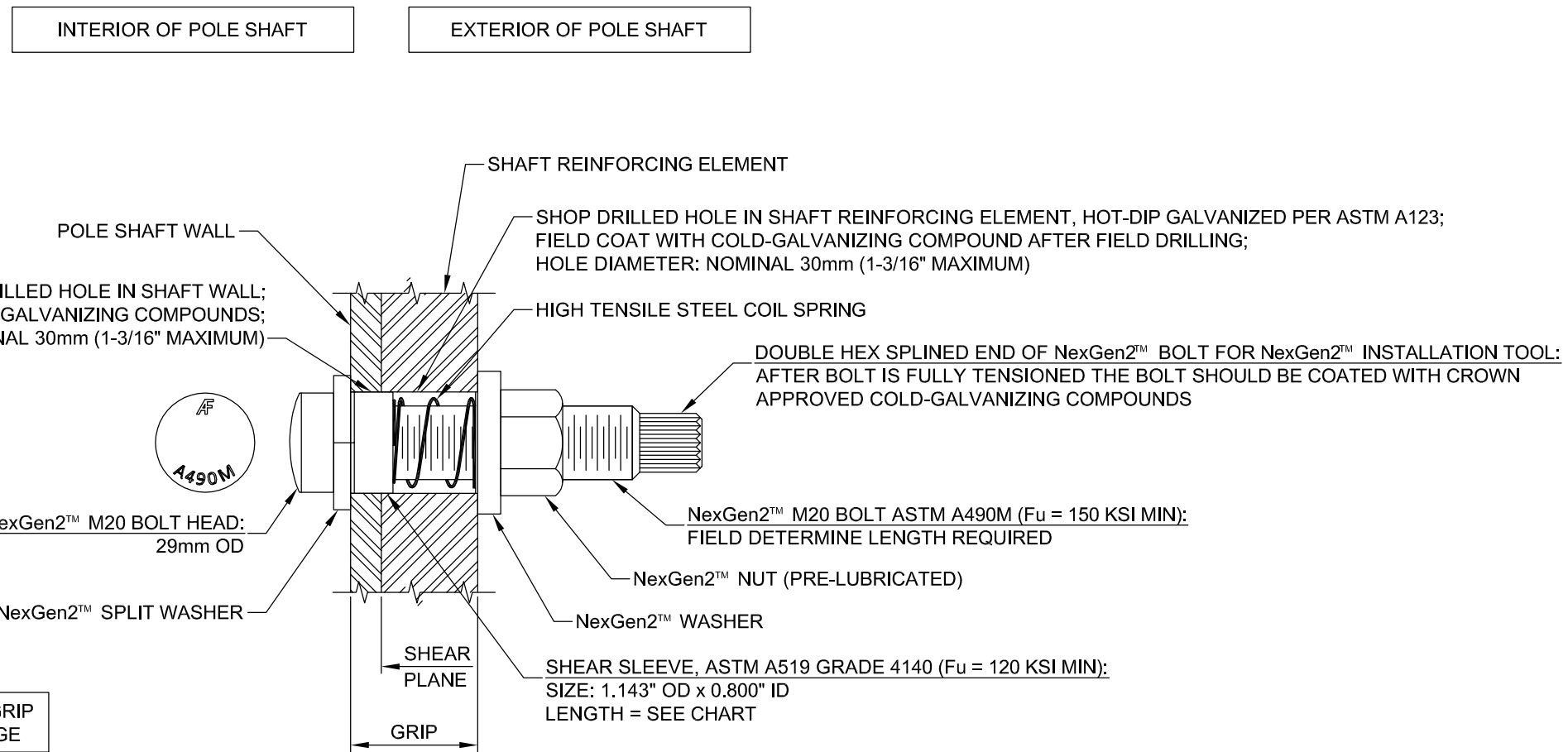
BU #806365
 WO #1596723
 HRT 303 943203
 BRENDON & QUINN STREETS
 STAFFORD, CT 06076
 TOLLAND COUNTY, USA

SHEET TITLE
NOTES

SHEET NUMBER
TM-3

NEXGEN2

BLIND BOLT ASSEMBLY
- PATENT PENDING -



TYPICAL **NG2** BOLT DETAIL

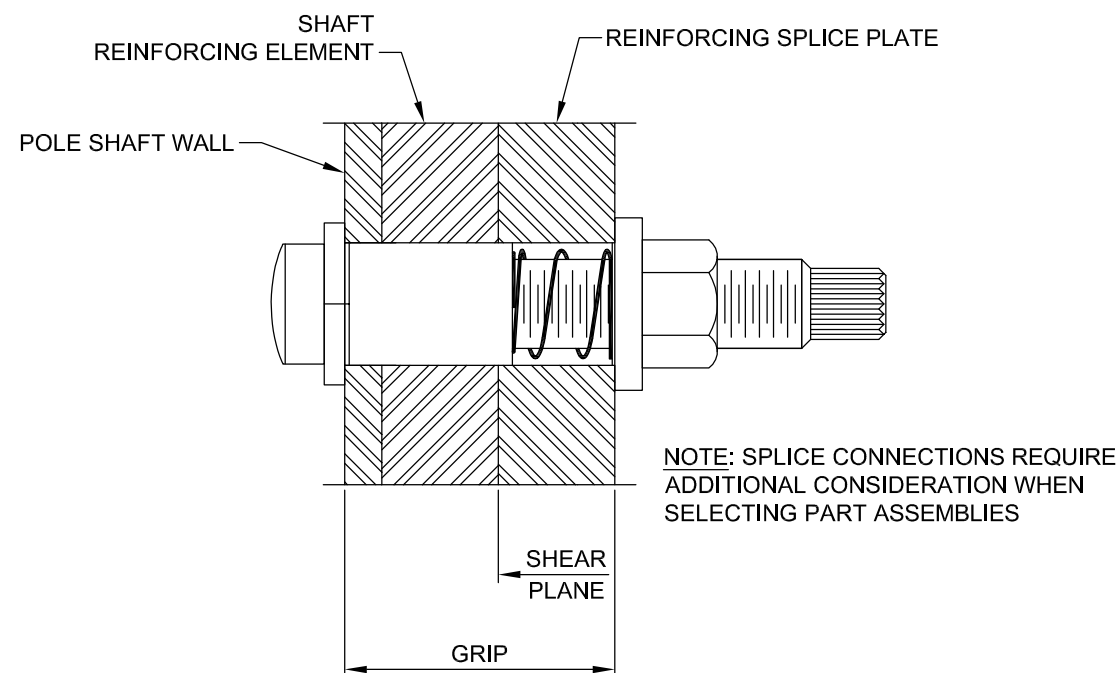
PART NUMBER	BOLT LENGTH	SLEEVE LENGTH	MIN GRIP RANGE	MAX GRIP RANGE
2NG2036	M20x95	11/16"	15/16"	1-7/16"
2NG2048	M20x95	1-3/16"	1-7/16"	1-7/8"
2NG2057	M20x95	1-5/8"	1-7/8"	2-1/4"
2NG2068	M20x135	2"	2-1/4"	2-11/16"
2NG2096	M20x135	2-7/16"	2-11/16"	3-3/4"
2NG2127	M20x175	3"	3-3/4"	5"
2NG2212	M20x250	4"	5"	8-5/16"

MANUFACTURER:
ALLFASTENERS
959 LAKE ROAD, MEDINA, OHIO, USA 44256
PHONE: 440-232-6060 | FAX: 440-232-60625
WEBSITE: WWW.ALLFASTENERS.COM | WWW.AFTOWER.COM

NOTE: ALL SHOP AND FIELD DRILLED HOLES SHALL BE NOMINAL 30mm DIAMETER. THE MAXIMUM HOLE DIAMETER PERMITTED IS 1-3/16".

NOTE: NexGen2™ COMPLETE ASSEMBLY SHALL BE MAGNI 565 COATED PER ASTM F2833 AS APPROPRIATE.

NOTE: INSTALL PER MANUFACTURER'S INSTRUCTIONS.



PREPARED FOR:

**CROWN
CASTLE**

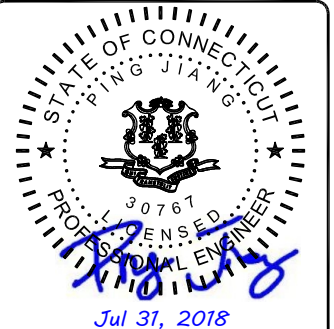


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OVERLAND PARK, KS 66211

PROJECT NO: 194393
DRAWN BY: TYW
CHECKED BY: JV

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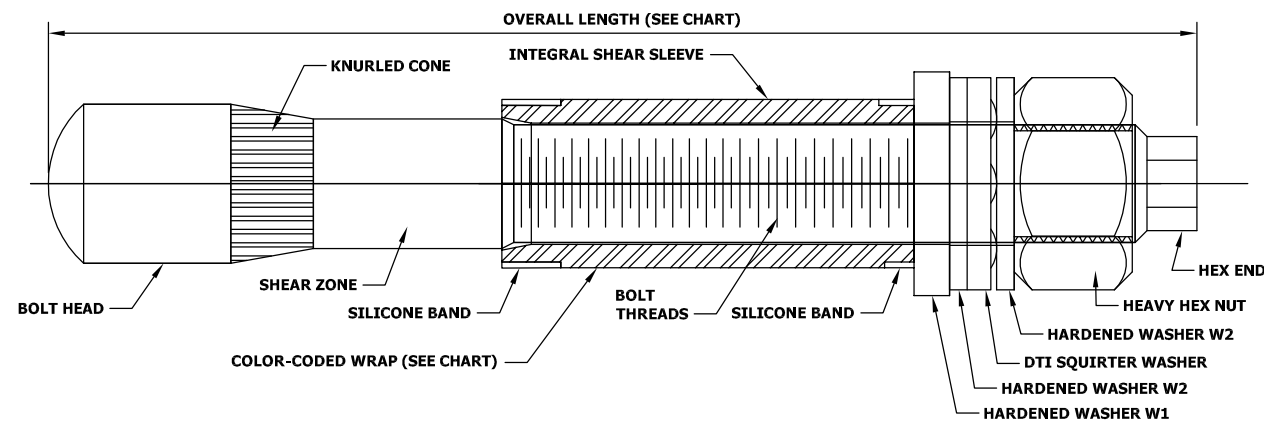
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STAFFORD, CT 06076
TOLLAND COUNTY, USA

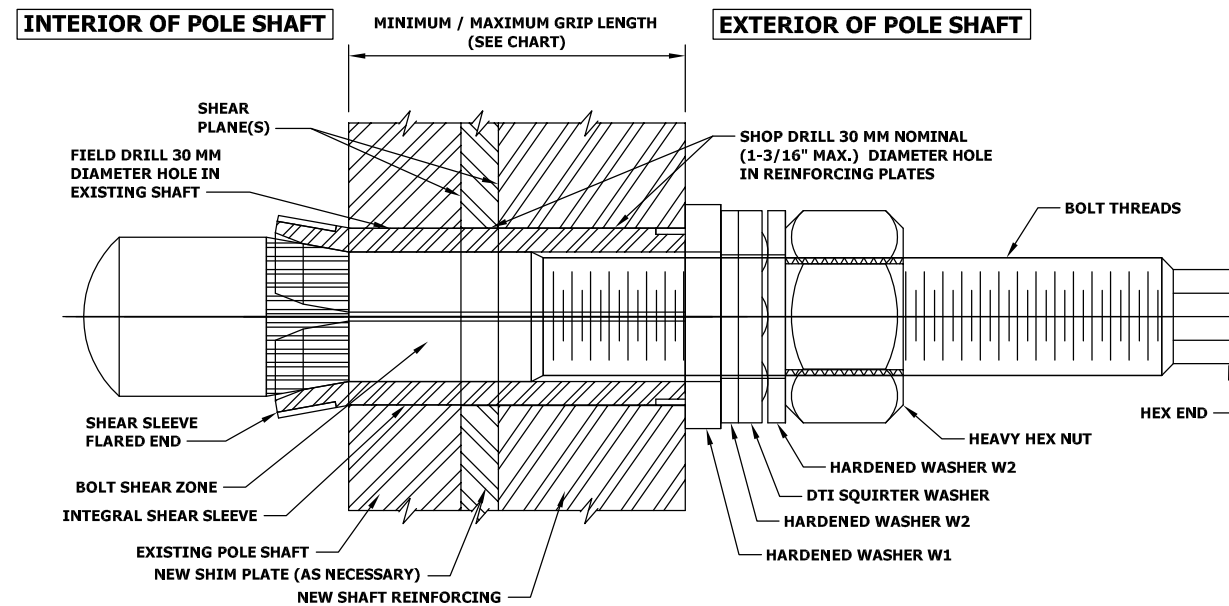
SHEET TITLE
NEXGEN2 BOLT SPECS
& TIGHTENING PROCEDURE

SHEET NUMBER
TM-4

NOTES: 1. ALL STRUCTURAL BOLTS SHALL BE INSTALLED AND TIGHTENED TO THE PRETENSIONED CONDITION ACCORDING TO THE REQUIREMENTS OF THE AISC 'SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS', DEC. 31, 2009.
 2. ALL STRUCTURAL BOLTS SHALL BE INSPECTED ACCORDING TO THE REQUIREMENTS OF THE AISC 'SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS', DEC. 31, 2009.



PRE-INSTALLED FORGBolt™ ASSEMBLY DETAIL 1



INSTALLED FORGBolt™ ASSEMBLY DETAIL 2

BOLT HOLE NOTES:

1. ALL SHOP-DRILLED HOLES SHALL BE NOMINAL 30 MM DIAMETER. THE **MAXIMUM** SHOP-DRILLED HOLE DIAMETER PERMITTED IS 1-3/16".
2. ALL FIELD-DRILLED HOLES SHALL BE NOMINAL 30 MM DIAMETER. THE **MAXIMUM** FIELD-DRILLED HOLE DIAMETER PERMITTED IS 30 MM.

DISTRIBUTOR CONTACT:

PRECISION TOWER PRODUCTS
 PHONE: 888-926-4857
 EMAIL: info@precisiontowerproducts.com
 WEB: www.precisiontowerproducts.com
CONTAINS PROPRIETARY INFORMATION PATENT PENDING
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FORGBolt™ Installation

Follow all Manufacturer/Distributor Recommendations for Installation, Tightening, and Inspection.

1. FIELD DRILL HOLES TO 30 MM DIAMETER.
2. SELECT CORRECT BOLT SIZE FOR INSTALLATION GRIP (REFER TO PLANS).
3. INSERT BOLT ASSEMBLY THROUGH HOLES IN SHAFT REINFORCING PLATES AND SEAT THE HARDENED WASHER W1 FLUSH AGAINST OUTSIDE OF PLATE.
4. HAND TIGHTEN NUT TO FINGER TIGHT.
5. TIGHTEN NUT TO PRETENSIONED CONDITION AND UNTIL DTI SHOWS PROPER INDICATION.
6. PROPERLY DOCUMENT AND INSPECT BOLT TIGHTENING PER PLAN REQUIREMENTS.

FORGBolt™		AISC Group A Material: ASTM A325 and PC8.8 (Tensile Stress, Fu = 120 ksi minimum)				
GROUP	FORGBolt™ Size (mm)	Overall Length (inches)	Estimated Weight Each (lbs)	Grip Range (inch)	Comment	Color Code
FORGBolt™ A325 - PC8.8	1 135	5.31	1.3	3/8" to 1"	--	RED
	2 160	6.30	1.6	3/4" to 1-1/2"	--	GREEN
	3 195	7.68	1.9	1-1/4" to 2-1/4"	--	BLUE
	4 260	10.24	2.6	2" to 3-1/2"	Splice Bolt	YELLOW
	5 365	14.37	3.6	3-1/2" to 5-1/2"	Flange Jump Bolt	ORANGE
	6 440	17.32	4.3	5-1/2" to 8-1/2"	Flange Jump Bolt	BLACK
DTI Note	Each Group A (A325/PC8.8) FORGBolt™ assembly shall have a 'Squirter' DTI that is compatible with a M20-PC8.8 bolt.					

PREPARED FOR:

CROWN CASTLE

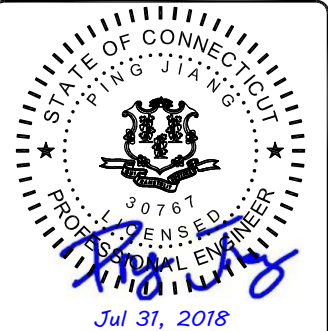


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6800 W 115TH ST, SUITE 2292
 OVERLAND PARK, KS 66211

PROJECT NO: 194393
 DRAWN BY: TYW
 CHECKED BY: JV

REV	DATE	DESCRIPTION
0	07/29/18	ISSUED FOR CONSTRUCTION



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 STAFFORD, CT 06076
 TOLLAND COUNTY, USA

SHEET TITLE
 FORGBOLT BOLT SPECS & TIGHTENING PROCEDURE

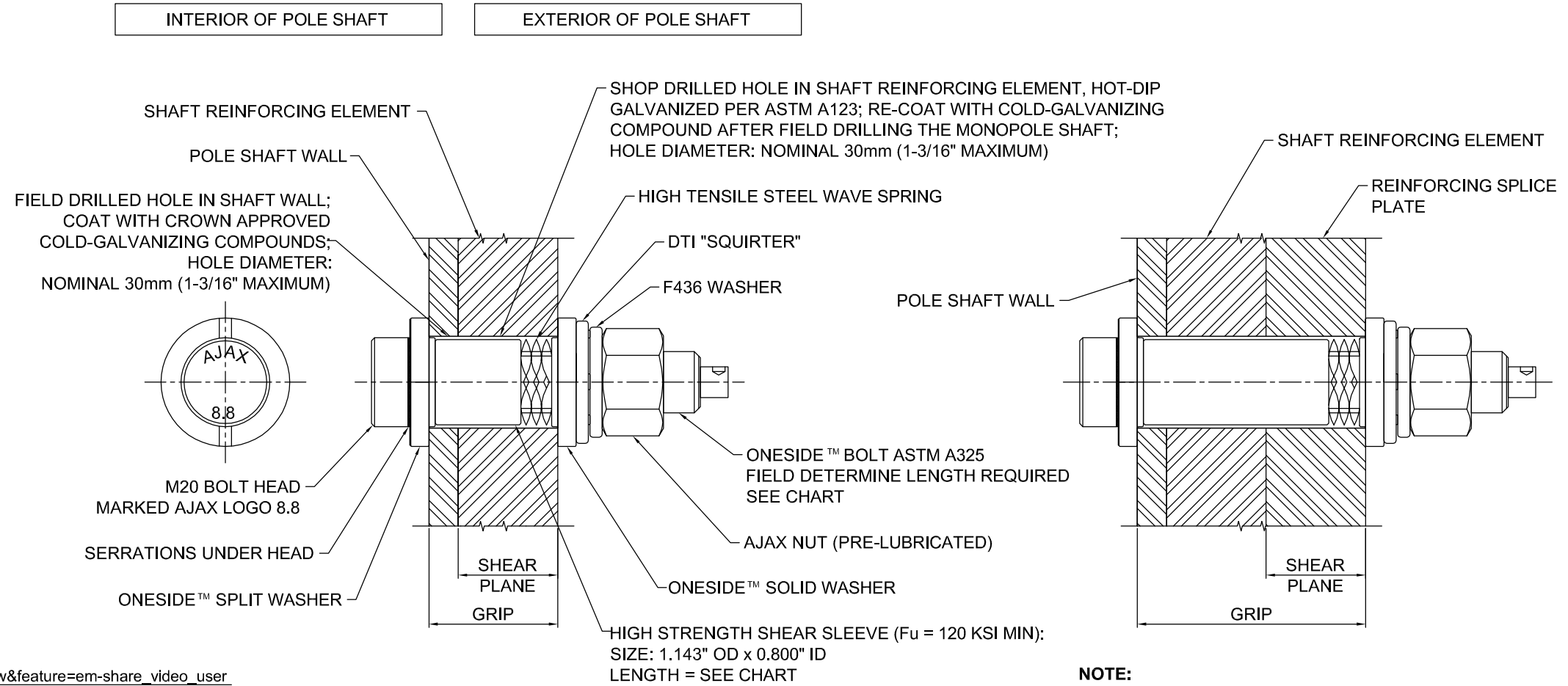
SHEET NUMBER
TM-5



MANUFACTURER INSTALLATION VIDEO



https://www.youtube.com/watch?v=ZGBS0eLrZsw&feature=em-share_video_user



NOTE:
SPLICE CONNECTIONS REQUIRE ADDITIONAL CONSIDERATION WHEN SELECTING PART ASSEMBLIES

AJAX ONESIDE™ BOLT DETAIL

CODE	SIZE	COLOR	SLEEVE LENGTH	GRIP	GRIP IMP
OSBA20.65-6	M20 x 65	ORANGE	6.0 (0.236")	12.5 / 20.0	0.500" / 0.787"
OSBA20.95-14	M20 x 95	BLACK	14.0 (0.551")	20.0 / 32.0	0.787" / 1.259"
OSBA20.95-22	M20 x 95	GREEN	22.0 (0.866")	30.0 / 50.0	1.181" / 1.968"
OSBA20.95-30	M20 x 95	YELLOW	30.0 (1.181")	40.5 / 50.0	1.595" / 1.968"
OSBA20.135-39	M20 x 135	BLUE	39.0 (1.535")	49.0 / 77.0	1.929" / 3.031"
OSBA20.135-48	M20 x 135	BROWN	48.0 (1.889")	60.5 / 77.0	2.375" / 3.031"
OSBA20.135-57	M20 x 135	PURPLE	57.0 (2.244")	67.0 / 90.0	2.637" / 3.543"
OSBA20.165-76	M20 x 165	RED	76.0 (3.000")	87.0 / 120.0	3.425" / 4.724"
OSBA20.250	M20 x 250	SILVER	MTO	121.0 / 211.0	4.724" / 8.310"

MANUFACTURER
AJAX FASTENERS
SALES + TECH: ONESIDE@AJAXFAST.COM.AU

DISTRIBUTOR
IRA SVENSGAARD AND ASSOCIATES
PETER SVENDSGAARD - PETERS@IRASVENS.COM
JOHN KILLAM - JOHN@IRASVENS.COM
PHONE (530) 647-8225
FAX (530) 647-8229

BOLT ASSEMBLY AND INSTALLATION:

- BOLT MUST BE PURCHASED PRE-ASSEMBLED.
- FOLLOW BOLT AND DTI MANUFACTURERS INSTRUCTIONS FOR INSTALLATION.

INSPECTION:

- A MINIMUM OF 4 OUT OF 5 SQUIRTER® DTI PROTRUSIONS SHALL BE ENGAGED IN ANY AJAX/DTI BOLT ASSEMBLY IN THE REINFORCING MEMBERS. A FEELER GAGE MAY BE USED TO VERIFY PROTRUSION COMPRESSION.
- INSPECTIONS SHALL BE IN ACCORDANCE WITH THE MANUFACTURERS REQUIREMENTS AND CROWN DOCUMENT ENG-SOW-10007: *MODIFICATION INSPECTION SOW.*

PREPARED FOR:

CROWN CASTLE

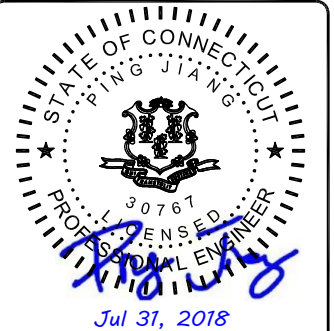


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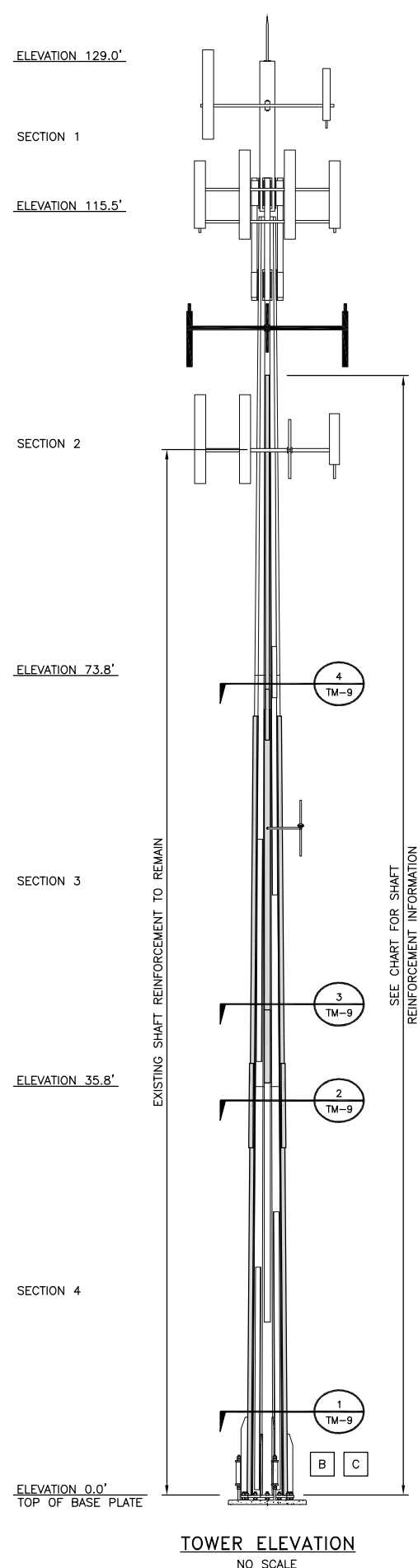


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TOLLAND COUNTY, USA

SHEET TITLE
AJAX ONESIDE BOLT SPECS & TIGHTENING PROCEDURE

SHEET NUMBER
TM-6



TOWER ELEVATION
NO SCALE

POLE MODIFICATION SCHEDULE			
CALLOUT	ELEVATION (FT)	MODIFICATION	REFERENCE SHEET
A	0.0 - 100.8	INSTALL NEW FLAT PLATE REINFORCEMENT	TM-8, TM-9, & TM-10
B	0.0	REMOVE EXISTING BASE PLATE GROUT SEE BASE PLATE GROUT REMOVAL NOTES	TM-3
C	0.0	CLIMBING PATH MAY BECOME OBSTRUCTED AFTER INSTALLATION OF THE PROPOSED MODIFICATIONS. IF NOT ALREADY EXISTING ON THIS TOWER, CONTRACTOR TO PROVIDE NEW SIGNAGE PER CROWN CASTLE REQUIREMENTS.	-

CCI FLAT PLATE (65 KSI) REINFORCEMENT SCHEDULE										
BOTTOM ELEVATION	TOP ELEVATION	PART NUMBER	FLATS / DEGREES (°)	TERMINATION BOLTS (BOTTOM)	TERMINATION BOLTS (TOP)	MAX INTERMEDIATE BOLT SPACING	BOLT QUANTITY PER PLATE	STEEL WEIGHT PER PLATE (BLACK)	TOTAL BOLT QUANTITY	TOTAL STEEL WEIGHT (BLACK)
0'-0"	35'-0"	CCI-WSFP-08512535	5, 9, 12	0	15	1'-5"	37	1264.4	111	3793.2
35'-1"	70'-1"	CCI-SFP-08512535	5, 9	15	15	1'-5"	49	1264.4	98	2528.8
40'-8"	70'-8"	CCI-SFP-06512530	3, 7, 11	11	11	1'-7"	37	828.8	111	2486.4
70'-9"	100'-9"	CCI-SFP-04510030	3, 7, 11	6	6	1'-8"	28	459.0	84	1377.0
								TOTAL	404	10185.4

NOTES FOR CROWN REINFORCING (65 KSI) MATERIAL

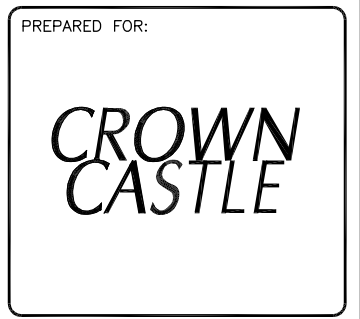
- DO NOT WELD WITHOUT APPROVAL FROM THE EOR.
- SHIMS FOR MONOPOLE REINFORCEMENT MEMBER SHALL BE REQUIRED WHERE GAPS BETWEEN THE POLE SHAFT AND REINFORCING MEMBER EXIST AT FASTENER LOCATIONS. FOR INTERMEDIATE CONNECTIONS, THE MINIMUM SHIM LENGTH AND WIDTH SHALL BE THE WIDTH OF THE REINFORCING MEMBER. FOR TERMINATION CONNECTIONS, A CONTINUOUS SHIM PLATE (PREFERRED) OR EQUIVALENT INDIVIDUAL SHIM PLATES THE WIDTH OF THE REINFORCING MEMBER MAY BE USED. SHIM THICKNESS SHALL BE NO LESS THAN 1/16". STACKING OF SHIMS IS PERMITTED. FINGER SHIMS AND HORSESHOE SHIMS ARE PERMITTED. STACKED SHIMS SHALL BE NO GREATER THAN 1/4" WITHOUT EOR APPROVAL.
- ALL FLAT PLATE REINFORCEMENT IS TO BE INSTALLED CENTERED ON ITS DESIGNATED FLAT, UNO.
- SEE CMRP 65 KSI PARTS CATALOG 2nd EDITION FOR PART DETAILS.
- TOWER SHAFT REINFORCEMENTS MAY BE INSTALLED WITH ALLFASTENERS NEXGEN2 BLIND BOLT ASSEMBLY, AS DETAILED ON SHEET TM-4, FORGBOLTS, AS DETAILED ON SHEET TM-5, OR AJAX ONESIDE BOLTS, AS DETAILED ON SHEET TM-6.
- THE FOLLOWING ELEVATION TOLERANCES ARE ACCEPTABLE. ANY FURTHER DEVIATIONS REQUIRE EOR REVIEW AND APPROVAL.
 - FOR PLATE STARTING AT 6", THE BOTTOM OF THE FLAT PLATE SHALL BEGIN AT 6" ± 1". FOR SINGLE PLATES OR MULTIPLE PLATES SPLICED TOGETHER, THE BOTTOM OF THE FLAT PLATE RUN SHALL BEGIN AT THE PROPOSED ELEVATION ± 3".
 - FOR MULTIPLE PLATES SPLICED TOGETHER, THE TOP OF THE FLAT PLATE IS TO BE PLACED SUCH THAT THERE IS NO MORE THAN 3" DIFFERENCE BETWEEN THE ACTUAL OVERALL LENGTH OF THE SPAN AND THE PROPOSED OVERALL LENGTH OF THE SPAN, FROM THE BOTTOM OF THE BOTTOM PLATE TO THE TOP OF THE TOP PLATE.
- PRIOR TO FABRICATION AND INSTALLATION, CONTRACTOR SHALL FIELD VERIFY ALL LENGTHS AND QUANTITIES GIVEN. LENGTH AND QUANTITIES PROVIDED ARE FOR QUOTING PURPOSES ONLY, AND SHALL NOT BE USED FOR FABRICATION.

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MANUFACTURER POLE SPECIFICATIONS	
POLE SHAFT TYPE	12 SIDED POLYGON
SHAFT STEEL	ASTM A572 GRADE 65
BASE PLATE STEEL	ASTM A633 GRADE 60 (60 KSI)
ANCHOR RODS	2 1/4" #18J ASTM A615 GRADE 75

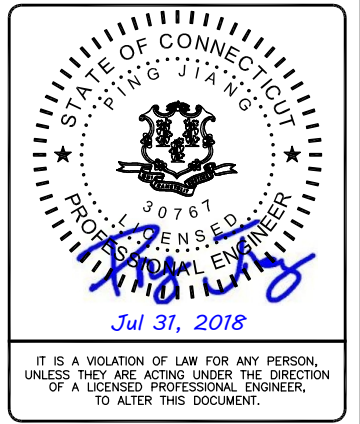
MANUFACTURER SHAFT SECTION DATA					
SHAFT SECTION	SHAFT LENGTH (FT)	THICKNESS (IN)	LAP SPLICE (IN)	DIAMETER ACROSS FLAT (IN)	
				⊙ TOP	⊙ BOTTOM
1	13.50	0.3750	N/A	16.00	16.00
2	41.25	0.21875	51	17.81	27.30
3	41.25	0.3125	63	25.88	35.36
4	42.00	0.3750		33.53	43.20

NOTE: DIMENSIONS SHOWN DO NOT INCLUDE GALVANIZING TOLERANCES



PROJECT NO:	194393
DRAWN BY:	TYW
CHECKED BY:	JV

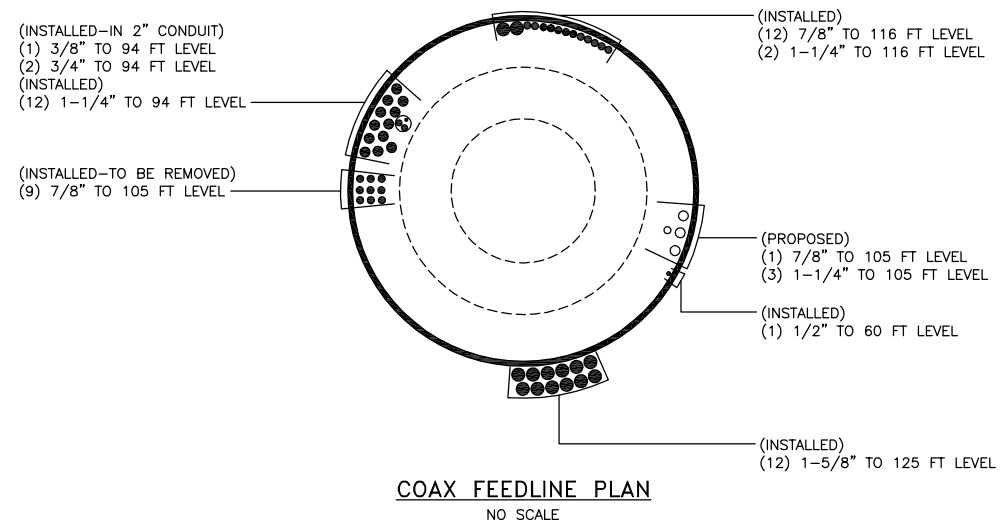
REV	DATE	DESCRIPTION
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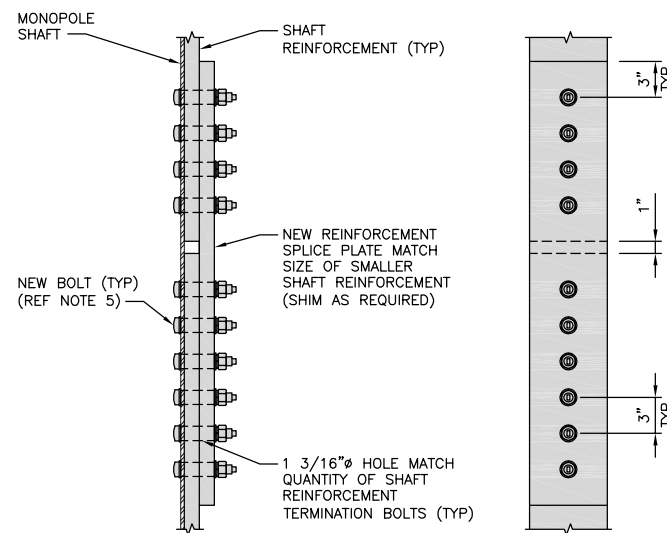
BU #806365
WO #1596723
HRT 303 943203
BRENDON & QUINN STREETS
STAFFORD, CT 06076
TOLLAND COUNTY, USA

SHEET TITLE
TOWER
ELEVATION

SHEET NUMBER
TM-7



EXISTING FEEDLINE PLAN SHOWN ON THIS DRAWING IS BASED ON CURRENT BEST KNOWLEDGE OF THE EXISTING CONDITION. IF THE EXISTING FEEDLINE LAYOUT IS NOT AS SHOWN ON THIS DRAWING CONTRACTOR SHALL NOTIFY ENGINEER.



REINFORCED SPLICE PLATE DETAIL
NO SCALE

SPLICE PLATE SCHEDULE							
BOTTOM ELEVATION	TOP ELEVATION	CCI-PART # / DIMENSIONS	FLATS / DEGREES (°)	QUANTITY	QUANTITY OF BOLT HOLES PER PLATE	TOTAL BOLT HOLE QUANTITY	ADDITIONAL BOLTS*
31'-0"	39'-1"	CCI-SP-085125-15-15	5, 9	2	30	60	-
36'-10"	43'-8"	CCI-SP-065125-11-14	3, 7, 11	3	25	75	42
67'-8"	72'-6"	CCI-SP-045100-6-11	3, 7, 11	3	17	51	-
					TOTAL	186	42

* NUMBER OF ADDITIONAL BOLTS WHEN SPLICING INTO EXISTING FLAT PLATE.

PREPARED FOR:

CROWN CASTLE



BLACK & VEATCH

6800 W 115TH ST, SUITE 2292
OVERLAND PARK, KS 66211

PROJECT NO: 194393
DRAWN BY: TYW
CHECKED BY: JV

REV	DATE	DESCRIPTION
0	07/29/18	ISSUED FOR CONSTRUCTION



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BU #806365
WO #1596723
HRT 303 943203
BRENDON & QUINN STREETS
STAFFORD, CT 06076
TOLLAND COUNTY, USA

SHEET TITLE
**COAX FEEDLINE PLAN
& SPLICE PLATE DETAIL**

SHEET NUMBER
TM-8

CLIMBING PATH MAY BECOME OBSTRUCTED AFTER INSTALLATION OF THE PROPOSED MODIFICATIONS. IF NOT ALREADY EXISTING ON THIS TOWER, CONTRACTOR TO PROVIDE NEW SIGNAGE PER CROWN CASTLE REQUIREMENTS.

PREPARED FOR:

**CROWN
CASTLE**

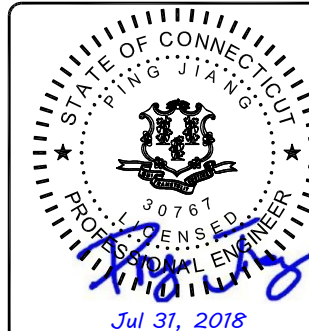


BLACK & VEATCH

6800 W 115TH ST, SUITE 2292
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PROJECT NO: 194393
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REV	DATE	DESCRIPTION
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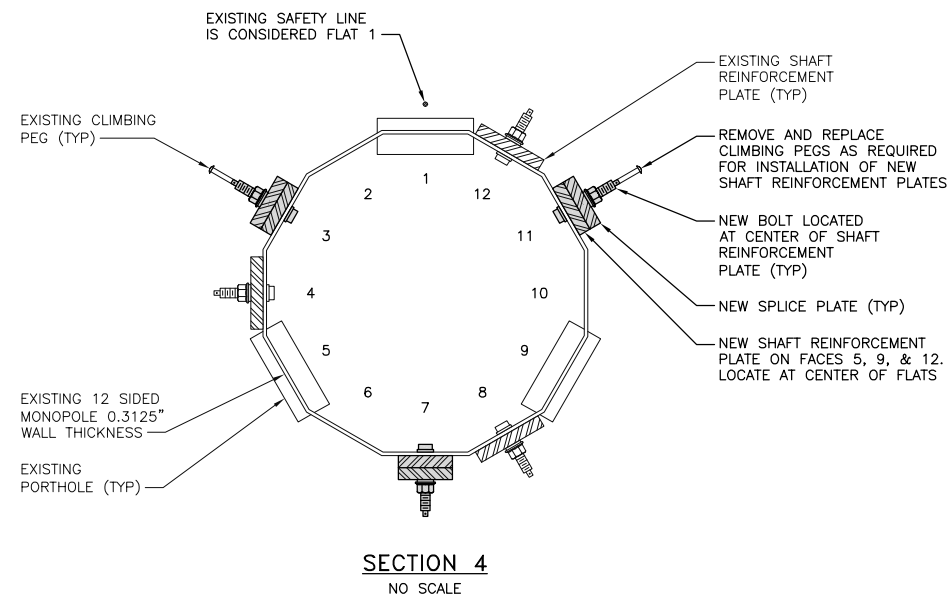
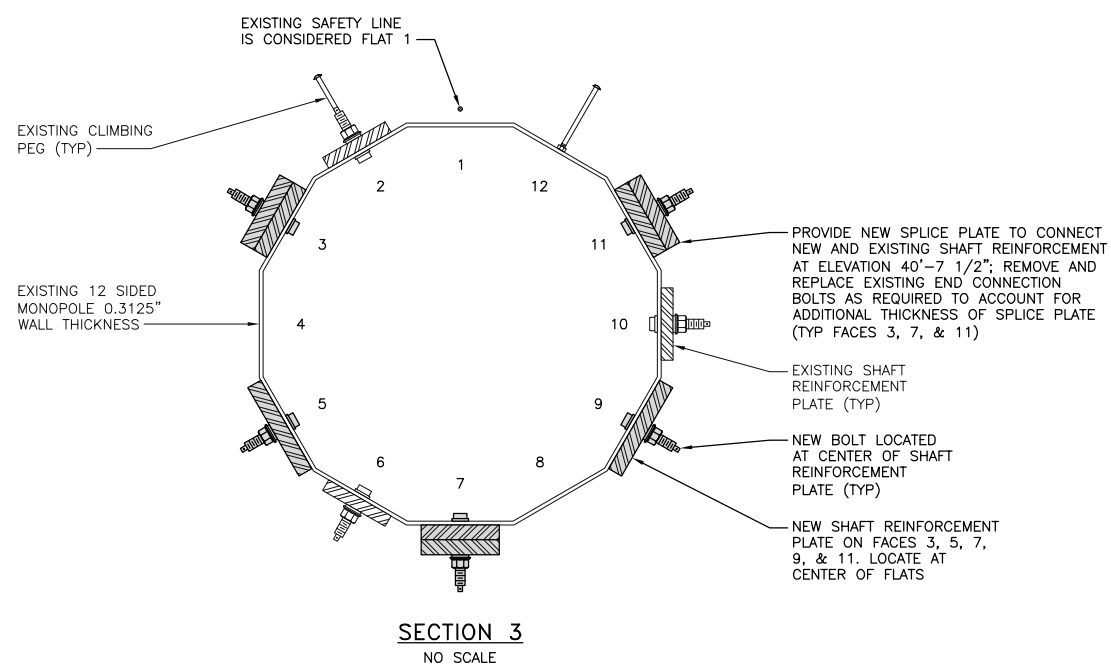
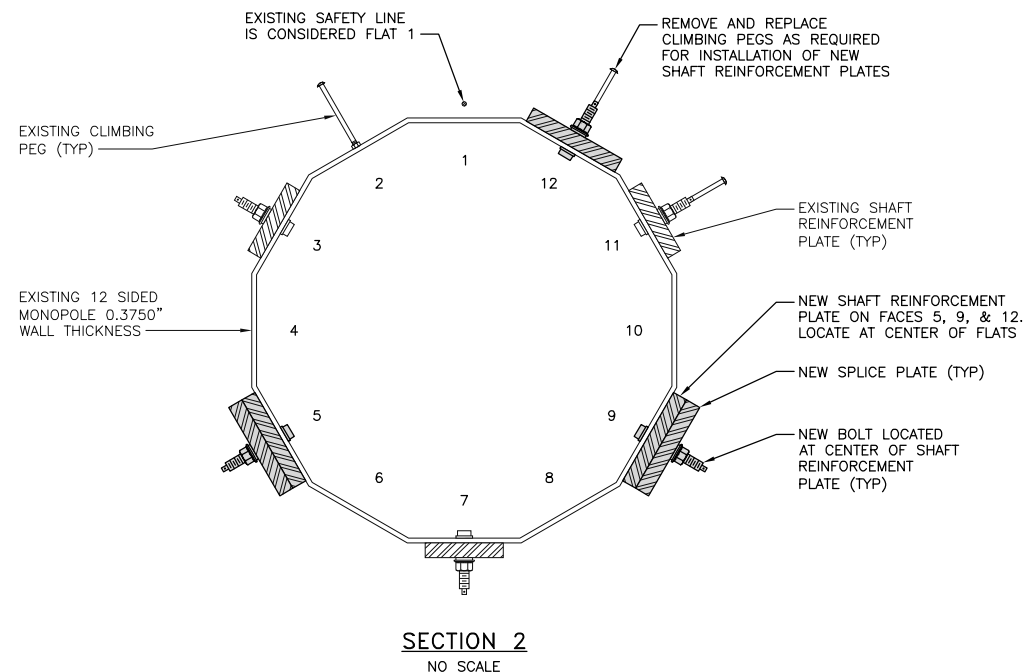
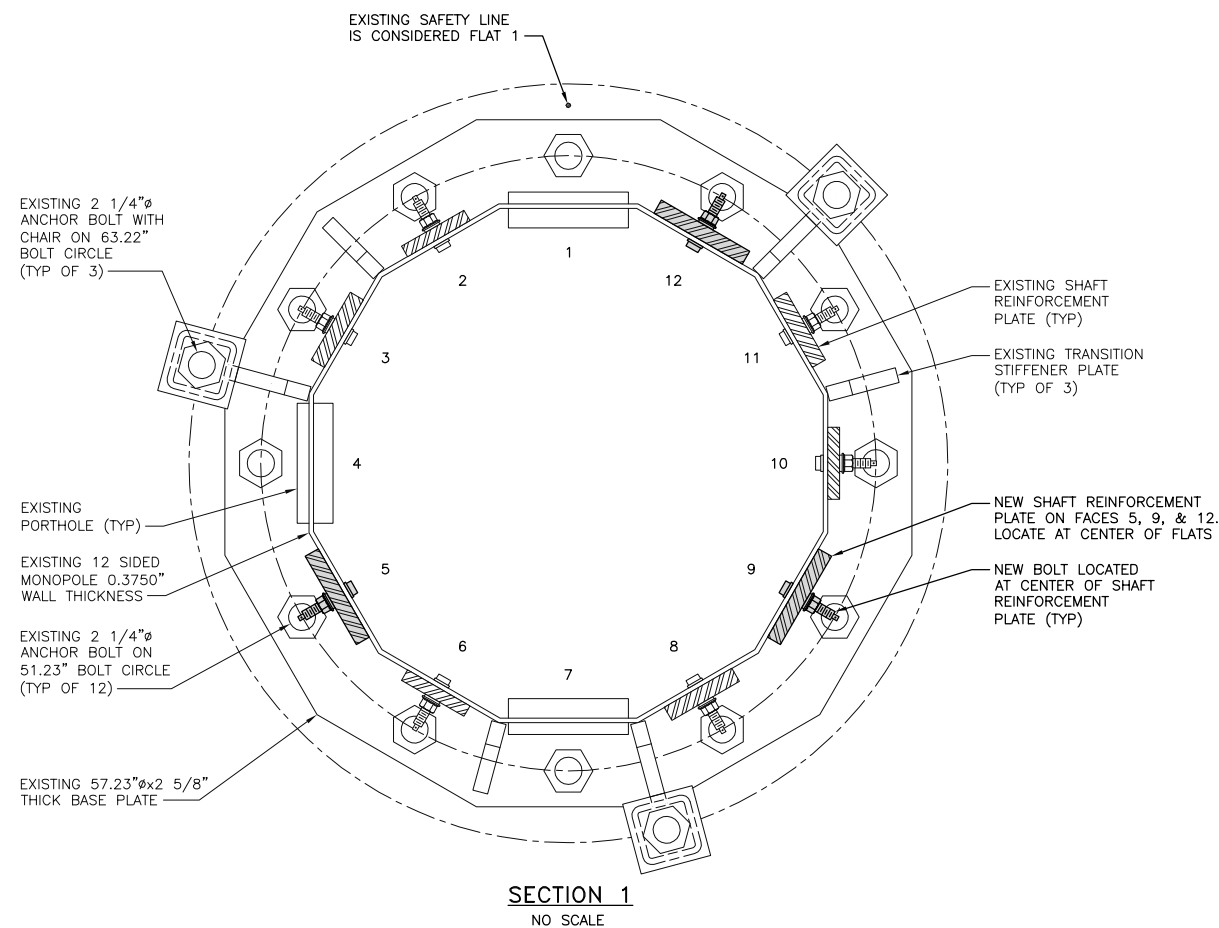


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BU #806365
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STAFFORD, CT 06076
TOLLAND COUNTY, USA

SHEET TITLE
**TOWER
SECTIONS**

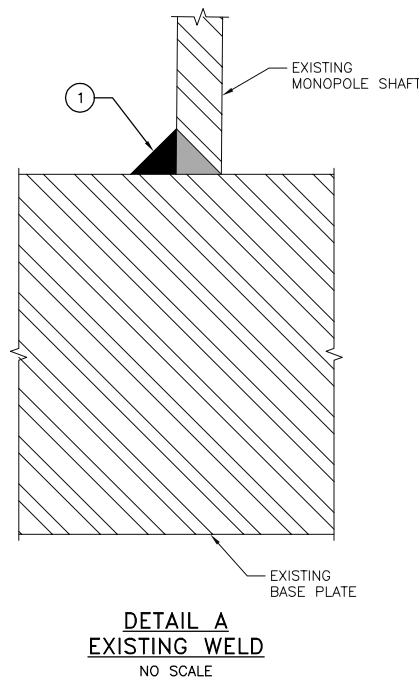
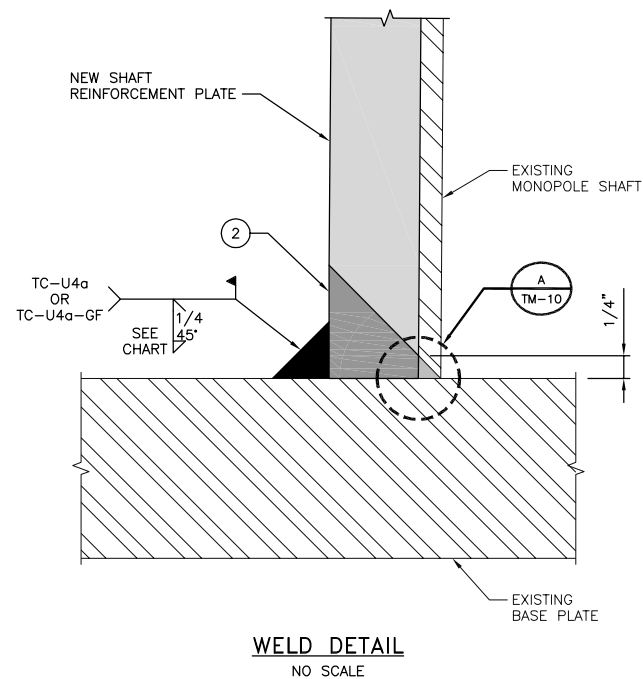
SHEET NUMBER
TM-9



OPTION 1

NOTES

- ① GRIND EXISTING FILLET WELD FLUSH TO BASE PLATE & POLE FOR THE WIDTH OF THE REINFORCEMENT PLATE PLUS 1/4" ON EACH SIDE (DO NOT OVER GRIND).
- ② PERFORM CJP WELD WITH REINFORCING FILLET WELD USING POLE AS BACKING BAR.

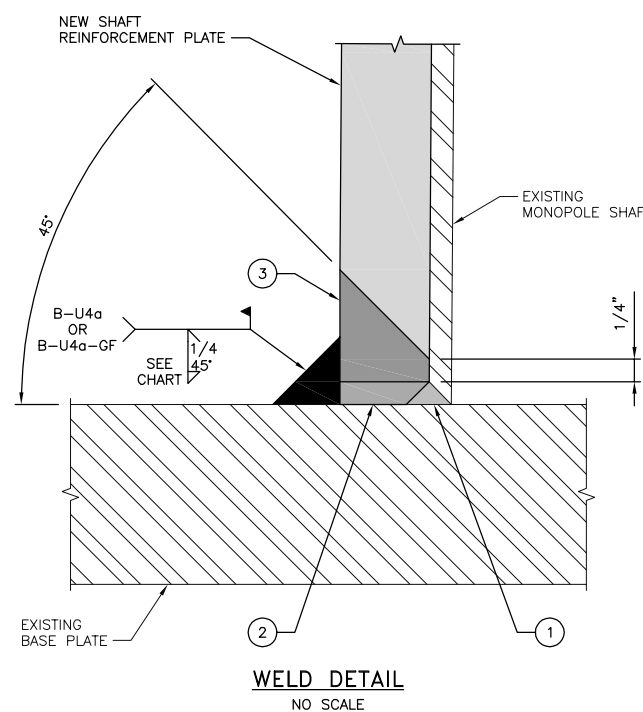


PART NUMBER	PLATE SIZE	MINIMUM REINFORCING WELD
CCI-WSFP-040075 CCI-WAFP-040075	3/4" x 4"	1/4"
CCI-WSFP-045100 CCI-WAFP-045100	1" x 4 1/2"	1/4"
CCI-WSFP-060100 CCI-WAFP-060100	1" x 6"	3/8"
CCI-WSFP-065125 CCI-WAFP-065125	1 1/4" x 6 1/2"	1/2"
CCI-WSFP-085125 CCI-WAFP-085125	1 1/4" x 8 1/2"	5/8"

OPTION 2

NOTES

- ① CLEAN EXISTING WELD FROM GALVANIZING
- ② BUILD A PLATFORM WITH WELD AT THE SAME HEIGHT OF THE EXISTING FILLET WELD (TO REDUCE THE AMOUNT OF WELD TO BUILD THE PLATFORM, IT IS ALLOWABLE TO PARTIALLY GRIND THE HEIGHT OF THE EXISTING FILLET WELD TO A 1/4" MINIMUM).
- ③ PERFORM CJP WELD WITH REINFORCING FILLET WELD USING POLE AS BACKING BAR.



PREPARED FOR:

**CROWN
CASTLE**



BLACK & VEATCH

6800 W 115TH ST, SUITE 2292
OVERLAND PARK, KS 66211

PROJECT NO: 194393
DRAWN BY: TYW
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REV	DATE	DESCRIPTION
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BU #806365
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STAFFORD, CT 06076
TOLLAND COUNTY, USA

SHEET TITLE
**BASE PLATE
WELD DETAILS**

SHEET NUMBER
TM-10