

Crown Castle
 3 Corporate Park Drive, Suite 101
 Clifton Park, NY 12065
 518-373-3509
 Frank.Richardson@crowncastle.com



Date: May 31, 2017

Dan Vadney
 Crown Castle USA, Inc.
 3 Corporate Park Drive, Suite 101
 Clifton Park, NY 12065

Subject: Modification Inspection Report

Crown Castle Designation: **Crown Castle BU Number:** 841288
Crown Castle Site Name: BRIDGEPORT NORTH
Crown Castle JDE Job Number: 360013

Engineering Firm Designation: Crown Castle **Project Number:** 1368453

Site Data: 205 Kaechele Place, BRIDGEPORT, CT, FAIRFIELD County
Latitude 41.223344 **Longitude** -73.216772
 150 **Foot -** **MONOPOLE** **Tower**

Crown Castle is pleased to submit this “**Modification Inspection Report**” (MI Report) for the modification/reinforcement to the subject structure. This Modification Inspection (MI) was performed in accordance with Crown Castle ENG-SOW-10007 Modification Inspection SOW, and Contract Documents. The purpose of this MI is to confirm that the modification installation configuration and workmanship are in accordance with the contract document(s) listed in Table 2. The MI is not a review of the adequacy or effectiveness of the modification/reinforcement solution.

Table 1 - General Information

	Company	Contact	Dates On Site
MI Inspector	Crown Castle	Frank Richardson	4/26/2017
MI Inspector Field Representative (if			
<input checked="" type="checkbox"/> Independent	<input type="checkbox"/> EOR	<input type="checkbox"/> Turnkey	
Modification Design EOR	GPD	Christopher J. Sheks	N/A
General Contractor	ANS ADVANCED NETWORK SERVICES, LLC	Ron Brandon	4/20/2017 - 4/21/2017

Sub to the General Contractor			
Field CWI for the General Contractor	RGR Engineering	Robert West	4/21/2017
Field NDE for the General Contractor			

Table 2 - Documents

Document(s)	Remarks	Source
Tower Modification Drawings Christopher J. Sheks CROWNMODS@GPDGROUP.CO M	GPD SDD WO# 1345761 1/19/2017	CCI Sites Document # 6650617

Based on our inspection, *Crown Castle* determines that this project:

PASSING MI

The configuration, materials and/or workmanship of the modifications are installed in accordance with the Contract Documents and no deficiencies were found.

PASS AS NOTED MI

The configuration, materials and/or workmanship of the modifications are accepted as noted (see detail below).

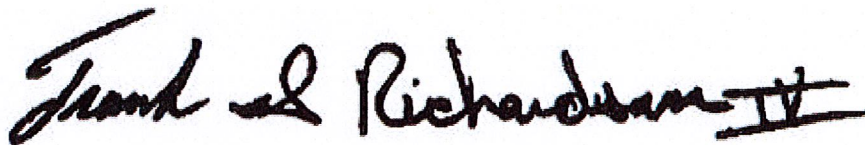
FAILED MI

The configuration, materials and/or workmanship of the modifications are NOT installed in accordance with the Contract Documents. The rejection is based on non-conformance in the following area(s):

- Materials (see detail below)
- Workmanship (see detail below)
- Configuration (see detail below)

We at *Crown Castle* appreciate the opportunity of providing our continuing professional services to you. If you have any questions or need further assistance on this or any other projects please give us a call.

Respectfully submitted,



Frank Richardson

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PRE-CONSTRUCTION

6.1.1
MI CHECKLIST DRAWING

MODIFICATION INSPECTION NOTES

GENERAL

THE MODIFICATION INSPECTION (MI) IS A VISUAL INSPECTION OF TOWER MODIFICATIONS AND A REVIEW OF CONSTRUCTION INSPECTIONS AND OTHER REPORTS TO ENSURE THE INSTALLATION WAS CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, NAMELY THE MODIFICATION DRAWINGS, AS DESIGNED BY THE ENGINEER OF RECORD (EOR).

THE MI IS TO CONFIRM INSTALLATION CONFIGURATION AND WORKMANSHIP ONLY AND IS NOT A REVIEW OF THE MODIFICATION DESIGN ITSELF. NOR DOES THE MI INSPECTOR TAKE OWNERSHIP OF THE MODIFICATION DESIGN. OWNERSHIP OF THE STRUCTURAL MODIFICATION DESIGN EFFECTIVENESS AND INTEGRITY RESIDES WITH THE EOR AT ALL TIMES.

ALL MTS SHALL BE CONDUCTED BY A CROWN ENGINEERING VENDOR (AEV) OR ENGINEERING SERVICE VENDOR (AESV) THAT IS APPROVED TO PERFORM ELEVATED WORK FOR CROWN. (SEE CROWN ENG-SOW-10173, "APPROVED MI VENDOR").

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 CONTACTING A PARTY IS NOT KNOWN, CONTACT YOUR CROWN POINT OF CONTACT (POC).

REFER TO CROWN ENG-SOW-10007, "MODIFICATION INSPECTION SOW", FOR FURTHER DETAILS AND REQUIREMENTS.

MI INSPECTOR

THE MI INSPECTOR IS REQUIRED TO CONTACT THE GC AS SOON AS RECEIVING A PO FOR THE MI TO, AT A MINIMUM:

- REVIEW THE REQUIREMENTS OF THE MI CHECKLIST
- WORK WITH THE GC TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS

THE MI INSPECTOR IS RESPONSIBLE FOR COLLECTING ALL GC INSPECTION AND TEST REPORTS, REVIEWING THE DOCUMENTS FOR ADHERENCE TO THE CONTRACT DOCUMENTS, CONDUCTING THE IN-FIELD INSPECTIONS, AND SUBMITTING THE MI REPORT TO CROWN.

GENERAL CONTRACTOR

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

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

THE GC SHALL REFORM AND RECORD THE TEST AND INSPECTION RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE MI CHECKLIST AND CROWN ENG-SOW-10007.

RECOMMENDATIONS

THE FOLLOWING RECOMMENDATIONS AND SUGGESTIONS ARE OFFERED TO ENHANCE THE EFFICIENCY AND EFFECTIVENESS OF DELIVERING AN MI REPORT:

- IT IS SUGGESTED THAT THE GC 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.
- WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MI INSPECTOR ON-SITE SIMULTANEOUSLY FOR FOUNDATION INSPECTIONS. IT MAY BE BENEFICIAL TO INSTALL TOWER MODIFICATIONS PRIOR TO CONDUCTING THE FOUNDATION INSPECTIONS TO ALLOW THE FOUNDATION AND MI INSPECTIONS TO COMMENCE WITH ONE SITE VISIT.
- WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MI INSPECTOR ON-SITE DURING THE MI TO HAVE ANY DEFICENCIES CORRECTED DURING THE INITIAL MI. THEREFORE, THE GC MAY CHOOSE TO HAVE THE MI INSPECTOR PRESENT TO ENSURE ALL CONSTRUCTION FACILITIES ARE AT THEIR DISPOSAL WHEN THE MI INSPECTOR IS ON SITE.

CANCELLATION OR DELAYS IN SCHEDULED MI

IF THE GC AND MI INSPECTOR AGREE TO A DATE ON WHICH THE MI WILL BE CONDUCTED, AND EITHER PARTY CANCELS THE MI, THE OTHER PARTY SHALL BE RESPONSIBLE FOR THE CANCELLATION OR DELAY INCURRED BY EITHER PARTY. FOR ANY TIME (E.G., TRAVEL AND LODGING, COSTS OF KEEPING EQUIPMENT ON-SITE, ETC.), IF CROWN CONTRACTS DIRECTLY FOR A THIRD PARTY MI, EXCEPTIONS MAY BE MADE IN THE EVENT THAT THE DELAY/CANCELLATION IS CAUSED BY WEATHER OR OTHER CONDITIONS THAT MAY COMPROMISE THE SAFETY OF THE PARTIES INVOLVED.

MI CHECKLIST

CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED (COMPLETED BY EOR)	REPORT ITEM
PRE-CONSTRUCTION	
MI CHECKLIST DRAWINGS	X
EOR REVIEW	X
FABRICATOR INSPECTION	X
FABRICATOR CERTIFIED WELD INSPECTION	NA
MATERIAL TEST REPORT (MTR)	X
FABRICATOR NDE INSPECTION	NA
NDE REPORT OF MONOPOLE BASE PLATE PER ENG-SOW-10033	NA
PACKING SLIPS	X
ADDITIONAL TESTING AND INSPECTIONS:	
CONSTRUCTION	
CONSTRUCTION INSPECTIONS	X
FOUNDATION INSPECTIONS	NA
CONCRETE COMP. STRENGTH AND SLUMP TESTS	NA
POST INSTALLED ANCHOR ROD VERIFICATION	NA
BASE PLATE GROUT VERIFICATION	NA
CONTRACTOR'S CERTIFIED WELD INSPECTION AND NDE REPORTS	X
EARTHWORK, LIFT AND DENSITY	NA
ON SITE COLD GALVANIZING VERIFICATION	X
GUY WIRE TENSION REPORT	NA
GC AS-BUILT DOCUMENTS	X
ADDITIONAL TESTING AND INSPECTIONS:	
POST-CONSTRUCTION	
MI INSPECTOR RESUBLINE OR RECORD DRAWINGS(S)	X
POST INSTALLED ANCHOR ROD PULL-OUT TESTING	NA
PHOTOGRAPHS	X
ADDITIONAL TESTING AND INSPECTIONS:	

NOTE: X DENOTES A DOCUMENT REQUIRED FOR THE MI REPORT
NA DENOTES A DOCUMENT THAT IS NOT REQUIRED FOR THE MI REPORT

CORRECTION OF FAILING MTS

IF THE MODIFICATION INSTALLATION WOULD FAIL THE MI (FAILED MI), THE GC SHALL WORK WITH CROWN TO COORDINATE A REMEDIATION PLAN IN ONE OF TWO WAYS:

- CORRECT FAILING ISSUES TO COMPLY WITH THE SPECIFICATIONS CONTAINED IN THE ORIGINAL CONTRACT DOCUMENTS AND COORDINATE SUPPLEMENTAL PHOTOGRAPHS AND DOCUMENTS.
- OR WITH CROWN'S APPROVAL, THE GC MAY WORK WITH THE EOR TO REANALYZE THE MODIFICATION/REINFORCEMENT USING THE AS-BUILT CONDITION

MI VERIFICATION INSPECTIONS

CROWN RESERVES THE RIGHT TO CONDUCT AN MI VERIFICATION INSPECTION TO VERIFY THE ACCURACY AND COMPLETENESS OF PREVIOUSLY COMPLETED MI INSPECTIONS ON TOWER MODIFICATION PROJECTS.

ALL VERIFICATION INSPECTIONS SHALL BE HELD TO THE SAME SPECIFICATIONS AND REQUIREMENTS IN THE CONTRACT DOCUMENTS AND IN ACCORDANCE WITH CROWN ENG-SOW-10007.

VERIFICATION INSPECTION MAY BE CONDUCTED BY AN INDEPENDENT ADVISEE FIRM AFTER A MODIFICATION PROJECT IS COMPLETED, AS MARKED BY THE DATE OF AN ACCEPTED **PASSING MI** OR **PASS AS NOTED MI** REPORT FOR THE ORIGINAL PROJECT.


REQUIRED PHOTOS

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/RESECTION AND INSPECTION
- RAW MATERIALS
- FOUNDATION MODIFICATIONS
- WELD PREPARATION
- BOLT INSTALLATION
- FINAL INSTALLED CONDITION
- POST CONSTRUCTION PHOTOGRAPHS
- FINAL IN-FIELD CONDITION

PHOTOS OF ELEVATED MODIFICATIONS TAKEN ONLY FROM THE GROUND SHALL BE CONSIDERED INADEQUATE.

THIS IS NOT A COMPLETE LIST OF REQUIRED PHOTOS. PLEASE REFER TO CROWN ENG-SOW-10007.

	
GPO PROJECT NUMBER	2017777.841.288.07
SITE NAME	BRIDGEPORT NORTH
BU NUMBER	841288
WFO NUMBER	1345761
SITE ADDRESS	2 HACHELLE PLACE
	FAIRFIELD COUNTY, USA
ENGINER BY	BK DATE: 19/17
DFT BY	SES DATE: 19/17
DFTQA BY	CB DATE: 19/17
APRVD BY	CJS DATE: 19/17
SCALE	N.T.S.
MODIFICATION INSPECTION CHECKLIST	
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REV. 9	

NO.	DATE	DESCRIPTION	BY

