

July 29, 2015

Members of the Siting Council  
Connecticut Siting Council  
Ten Franklin Square  
New Britain, CT 06051

RE: Notice of Work Complete  
15 North Granby Rd.  
Granby, CT  
Sprint Site #: NV2.5\_CT33XC563  
EM-SPRINT-056-140207

Members of the Siting Council:

On behalf of Sprint Spectrum, SBA Communications is hereby notifying the Connecticut Siting Council that work has been completed at the aforementioned telecommunications facility.

Pursuant to the Council's letter of acknowledgement dated February 21, 2014, please find the enclosed Post Modification Inspection Report and Final Report of Special Inspections confirming that the installation meets with the recommendations made in the structural analysis report.

Thank you,



Kri Pelletier  
Property Specialist  
SBA Communications Corporation  
33 Boston Post Road West, Suite 320  
Marlborough, MA 01752  
508-251-0720 x 3804 + T  
508-251-1755 + F  
[kpelletier@sbsite.com](mailto:kpelletier@sbsite.com)

# Final Report of Special Inspections

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Project: Sprint 2.5 Equipment Installation (Sprint Site No. CT33XC563)

Location: 15 North Granby Road  
Granby, CT 06035

Owner: Property: Town of Granby  
Tower: SBA  
Carrier: Sprint Corporation

Owner's Address: Property: 15 North Granby Road  
Granby, CT 06035  
SBA: 5900 Broken Sound Parkway, NW  
Boca Raton, FL 33487-2797  
Sprint: 1 International BLVD, Suite 800  
Mahwah, NJ 07495

Architect of Record: N/A

Structural Engineer of Record: Marc R. Chretien

To the best of my information, knowledge, and belief, the Special Inspections required for this project, and itemized in the Statement of Special Inspections submitted for permit, have been performed and all discovered discrepancies have been reported and resolved other than the following:

Comments:

None

Interim reports submitted prior to this final report form a basis for and are to be considered an integral part of this final report.

Respectfully Submitted,  
Special Inspector

Marc R. Chretien

(Type or print name)



Signature

7/27/15

Date





# 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](mailto:siting.council@ct.gov)

[www.ct.gov/csc](http://www.ct.gov/csc)

February 21, 2014

Kri Pelletier  
SBA Communications Corporation  
33 Boston Post Road West Suite 320  
Marlborough, MA 01752

RE: **EM-SPRINT-056-140207** - Sprint Spectrum notice of intent to modify an existing telecommunications facility located at 15 North Granby Road, Granby, Connecticut.

Dear Ms. Pelletier:

The Connecticut Siting Council (Council) hereby acknowledges your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies with the following conditions:

- Any deviation from the proposed modification as specified in this notice and supporting materials with the Council shall render this acknowledgement invalid;
- Any material changes to this modification as proposed shall require the filing of a new notice with the Council;
- Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
- The validity of this action shall expire one year from the date of this letter;
- The applicant may file a request for an extension of time beyond the one year deadline provided that such request is submitted to the Council not less than 60 days prior to the expiration;
- The tower shall be modified and coax installed in accordance with the Structural Analysis Report prepared by FDH Engineering, Inc. and dated January 24, 2014; and
- Within 45 days following completion of the antenna installation, Sprint shall provide documentation certified by a professional engineer that its installation complied with the recommendations of the structural analysis.

The proposed modifications including the placement of all necessary equipment and shelters within the tower compound are to be implemented as specified here and in your notice dated February 6, 2014. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base,

consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Thank you for your attention and cooperation.

Very truly yours,



Melanie A. Bachman  
Acting Executive Director

MAB/RDM/cm

- c: The Honorable B. Scott Kuhnly, First Selectman, Town of Granby
- William F. Smith, Jr., Town Manager, Town of Granby
- Paula H. Johnson, Planning and Zoning Chairman, Town of Granby
- SBA



ENGINEERING INNOVATION

6521 Meridien Drive  
Raleigh, NC 27616  
(919) 755-1012 P  
(919) 755-1031 F

July 2, 2014

Stephen Roth  
Regional Site Manager  
SBA Network Services  
5900 Broken Sound Pkwy  
Boca Raton, FL 33487

**Subject:** Modification Inspection Report

**SBA Designation:** SBA Site Number: CT46134-A-03  
SBA Site Name: Granby-N. Granby

**Inspection Firm Designation:** FDH Inc. Project Number: 1304711700

**Site Data:** 15 North Granby Road, Granby, CT 06035  
Latitude: 41.9536° Longitude: -72.7937°  
150' Monopole

FDH Engineering, Inc. is pleased to submit this “**Modification Inspection Report**” (MI Report) to SBA Network Services for the modification/reinforcement to the subject structure. This Modification Inspection (MI) was performed in accordance with Contract Documents, and FDH Inspection Standards. 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 1. The MI is not a review of the adequacy or effectiveness of the modification solution.

**Table 1 – General Information**

	Company	Contact
MI Inspector	FDH, Inc.	Joshua H. Walton 919-755-1012
Independent	<b>EOR</b>	<b>Turnkey</b>
Modification Design EOR	FDH Engineering Inc.	Christopher M. Murphy, P.E. 919-755-1012
General Contractor	Tower Solutions, LLC	Clark Cogan 952-906-5363
Sub to the General Contractor	NA	NA
Field CWI for the General Contractor	Veteran Welding & Consulting	James M. Claypool, CWI 585-233-8257
Field NDE for the General Contractor	NA	NA

Table 2 – Design Documents

Document(s)	Remarks	Source
Tower Modification Drawings	FDH Engineering 1331731400 Dated 9-11-2013	FDH Engineering, Inc.

Based on our inspection, FDH Engineering determines this project:

**X\_PASSING MI**

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

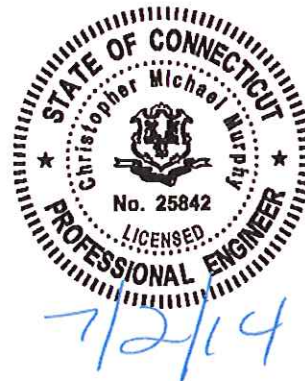
- Issues noted on the MI field notes were fixed by the GC with approved documentation.

All observations were performed after the construction was complete and that FDH Engineering, Inc. was not present during the construction phase.

We at FDH Engineering, Inc. appreciate the opportunity of providing our continuing professional services to you and SBA Network Services. If you have any questions or need further assistance on this or any other projects please give us a call.

Respectfully submitted,

  
Christopher M. Murphy P.E.  
Connecticut License # 25842



## Project Closeout Information - Table of Contents

### PRE-CONSTRUCTION

- MI Checklist Drawing
- EOR Approved Shop Drawings
- Fabrication Inspection
- Fabricator Certified Welding Inspection (CWI)
- Material Testing Report (MTR)
- Fabricator NDE Inspection
- NDE Report of Monopole Base Plate
- Packing Slips

### Reference Document

# 10  
NA  
NA  
# 11  
# 12-16  
NA  
NA  
# 17-18

### CONSTRUCTION

- Construction Inspections
- Foundation Inspections
- Concrete Compression Strength and Slump Tests
- Post Installed Anchor Rod Verification
- Base Plate Grout Verification
- Contractor's Certified Weld Inspection
- Earthwork: Lift and Density
- Galvanization Verification
- Guy Wire Tension Report
- GC As-Built Documents

# 19  
NA  
NA  
Verified per Photos  
NA  
See page 11  
NA  
# 20  
NA  
# 21-29

### POST-CONSTRUCTION

- MI Inspector Redline/Record Drawings
- Engineer Approval
- Post Installed Anchor Rod Pull-out Testing
- On-Site Inspection Photographs

# 30-41  
NA  
# 42-45  
See Table 3

Table 3.0 – On-Site Inspection Photographs





PH#01 Site Sign –	PH#02 Installation of Modification – Verification of Flat Plate Placement
	
PH#03 Installation of Modification – Verification of Flat Plate Size	PH#04 Installation of Modification – Verification of Stiffener Size
	

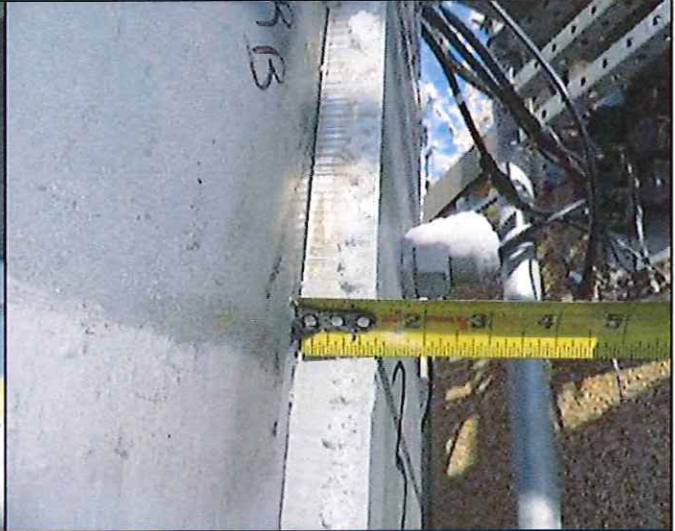


Table 3.1 – On-Site Inspection Photographs

PH#05 Installation of Modification –  
Verification of Stiffener Size



PH#06 Installation of Modification –  
Verification of Flat Plate Size



PH#07 Installation of Modification –  
Verification of Anchor Rod Bracket Size



PH#08 Installation of Modification –  
Verification of Anchor Rod Size



Table 3.2 – On-Site Inspection Photographs

PH#09 Installation of Modification –  
Verification of Anchor Rod Projection



PH#10 Installation of Modification –



PH#11 Installation of Modification –  
New Anchor Rod Hole Depth Verification



PH#12 Installation of Modification –  
New Anchor Rod Hole Depth Verification



Table 3.3 – On-Site Inspection Photographs

<p>PH#13 Installation of Modification – New Anchor Rod Hole Depth Verification</p>	<p>PH#14 Installation of Modification – New Flat Plate Reinforcement</p>
	
<p>PH#15 Installation of Modification – Splice Weld Height Verification</p>	<p>PH#16 Installation of Modification – Verification of Flat Plate Size</p>
	

Table 3.4 – On-Site Inspection Photographs



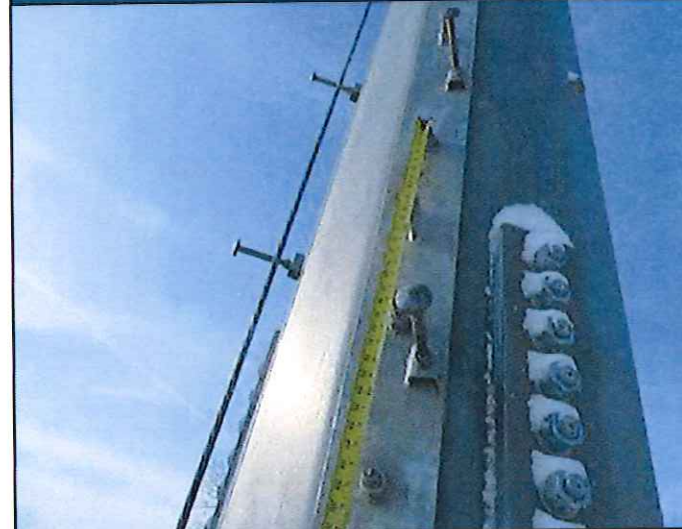

<p>PH#17 Installation of Modification – Verification of Flat Plate Size</p>	<p>PH#18 Installation of Modification – Verification of Flat Plate Size</p>
	
<p>PH#19 Installation of Modification – Verification of Ajax Bolt Spacing</p>	<p>PH#20 Installation of Modification – Verification of Ajax Bolt Spacing</p>
	

Table 3.5 – On-Site Inspection Photographs

PH#21 Installation of Modification –  
Rust on New Ajax Bolts (Before)



PH#22 Installation of Modification –  
Rust on New Ajax Bolts (Before)



PH#23 Installation of Modification –  
Rust on New Flat Plate Reinforcement (Before)



PH#24 Installation of Modification –  
Rust on New Flat Plate Reinforcement (After)



**POST CONSTRUCTION INSPECTION NOTES:**

- GENERAL**
- THE POST CONSTRUCTION INSPECTION (PCI) 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 PCI IS TO CONFIRM INSTALLATION CONFIGURATION AND WORKMANSHIP ONLY AND IS NOT A REVIEW OF THE MODIFICATION DESIGN ITSELF, NOR DOES THE PCI INSPECTOR TAKE OWNERSHIP OF THE MODIFICATION DESIGN. OWNERSHIP OF THE STRUCTURAL MODIFICATION DESIGN EFFECTIVENESS AND INTEGRITY REMAINS WITH THE EOR AT ALL TIMES.
  - ALL PCIS SHALL BE CONDUCTED BY A PCI INSPECTOR THAT IS APPROVED TO PERFORM ELEVATED WORK FOR ENGINEERING, INC.
  - TO ENSURE THAT THE REQUIREMENTS OF THE PCI ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR (GC) AND THE PCI INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS A PO IS RECEIVED. IT IS EXPECTED THAT EACH PARTY WILL BE PROACTIVE IN REACHING OUT TO THE OTHER PARTY. ANY MISSING INFORMATION IS NOT KNOWN, CONTACT YOUR FISH POINT OF CONTACT (POC).
  - REFER TO COR-01 : CONTRACTOR CLOSEOUT REQUIREMENTS FOR FURTHER DETAILS AND REQUIREMENTS.

- PCI INSPECTOR**
- THE PCI INSPECTOR IS REQUIRED TO CONTACT THE GC AS SOON AS RECEIVING A PO FOR THE PCI TO, AT A MINIMUM:
    - REVIEW THE REQUIREMENTS OF THE PCI CHECKLIST
    - WORK WITH THE GC TO DEVELOP A SCHEDULE TO CONDUCT ON-SITE INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS
  - THE PCI INSPECTOR IS RESPONSIBLE FOR COLLECTING ALL GENERAL CONTRACTOR (GC) INSPECTION AND TEST REPORTS, REVIEWING THE DOCUMENTS FOR ADHERENCE TO THE CONTRACT DOCUMENTS, CONDUCTING THE IN-FIELD INSPECTIONS, AND SUBMITTING THE PCI REPORT TO FDH.

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

- REQUIRED PHOTOS**
- BETWEEN THE GC AND THE PCI INSPECTOR THE FOLLOWING PHOTOGRAPHS, AT A MINIMUM, ARE TO BE TAKEN AND INCLUDED IN THE PCI REPORT:
    - PRE-CONSTRUCTION GENERAL SITE CONDITION
    - PHOTOGRAPHS DURING THE REINFORCEMENT MODIFICATION CONSTRUCTION/ERECTION AND INSPECTION
      - RAW MATERIALS
      - FOUNDATION MODIFICATIONS
      - FOUNDATION MODIFICATIONS
      - WELD PREPARATION
      - BOLT INSTALLATION AND TORQUE
      - CONCRETE CURING
      - SURFACE COATING REPAIR
      - POST CONSTRUCTION PHOTOGRAPHS
      - FINAL INFELD CONDITION
  - PHOTOS OF ELEVATED MODIFICATIONS TAKEN FROM THE GROUND SHALL BE CONSIDERED INADEQUATE.

PCI CHECKLIST	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED	REPORT ITEM
<b>PRE-CONSTRUCTION</b>	
X	PCI CHECKLIST DRAWING
N/A	EOR APPROVED SHOP DRAWINGS
N/A	FABRICATION INSPECTION
X	FABRICATOR CERTIFIED WELD INSPECTION
X	MATERIAL TEST REPORT (MTR)
N/A	FABRICATOR NDE INSPECTION
N/A	NDE REPORT OF MONOPOLE BASE PLATE (AS REQUIRED)
X	PACKING SLIPS
ADDITIONAL TESTING AND INSPECTIONS:	
<b>CONSTRUCTION</b>	
X	CONSTRUCTION INSPECTIONS
N/A	FOUNDATION INSPECTIONS
N/A	CONCRETE COMP. STRENGTH AND SLUMP TESTS
X	POST INSTALLED ANCHOR ROD VERIFICATION
N/A	BASE PLATE GROUT VERIFICATION
X	CONTRACTOR'S CERTIFIED WELD INSPECTION
N/A	EARTHWORK: LIFT AND DENSITY
X	ON SITE COLD GALVANIZING VERIFICATION
N/A	CUT WIRE TENSION REPORT
X	GC AS-BUILT DOCUMENTS
ADDITIONAL TESTING AND INSPECTIONS:	
<b>POST-CONSTRUCTION</b>	
X	PCI INSPECTOR REDLINE OR RECORD DRAWING(S)
X	POST INSTALLED ANCHOR ROD PULL-OUT TESTING
X	PHOTOGRAPHS
ADDITIONAL TESTING AND INSPECTIONS:	

NOTE: X DENOTES A DOCUMENT NEEDED FOR THE PCI REPORT  
 N/A DENOTES A DOCUMENT THAT IS NOT REQUIRED FOR THE PCI REPORT

PREPARED BY:  
  
 100 AMERICAN DRIVE  
 KALAMAZOO, MI 49001  
 PHONE: 269-781-4000  
 FAX: 269-781-4001  
**ENGINEERING INNOVATION**

PREPARED FOR:  
  
 5900 BROOKLYN PARKWAY, NW  
 SUITE 100  
 WASHINGTON, DC 20032  
 (800) 407-5872



CHRISTOPHER M. MURPHY, P.E.  
 CONNECTICUT LIC. NO. 25842  
 09/11/13

DRAWN BY: JFS  
 CHECKED BY: DZ  
 ENG. APPROV.: CMM  
 PROJECT NO.: 130123140D

SUBMITTALS	
DATE	DESCRIPTION
09/11/13	PRELIMINARY CONSTRUCTION
09/11/13	CONSTRUCTION

THE INFORMATION CONTAINED IN THIS SET OF DOCUMENTS IS PROPRIETARY TO FISH POINT ENGINEERING, INC. AND IS TO BE REPRODUCED IN WHOLE OR IN PART WITHOUT THE WRITTEN PERMISSION OF FISH POINT ENGINEERING, INC. IS PROHIBITED.

SITE NAME:  
**GRANBY-N. GRANBY**

SITE NUMBER:  
**CT46134-A-03**

SITE ADDRESS:  
**15 NORTH GRANBY ROAD  
 GRANBY, CT 06035**

SHEET TITLE  
**POST CONSTRUCTION  
 INSPECTION NOTES**

SHEET NUMBER  
**N-1**

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## Veteran Welding & Consulting

James M. Claypool, CWI  
6935 N. Slocum Rd. - Ontario, NY - 14519  
(585) 233-8257

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December 15, 2013

Reference # VW2013-95

**Inspection Site:** CT461144-A-03  
**Project Name:** Granby  
**Contractor Name:** Tower Solutions  
**Client Name:** FDH Inc.  
**Specific Inspection Area:** Tower Retrofit  
**Weldment Types:** Transfer stiffeners/Anchor rods/Flat plate  
**Welder verified:** Yes

### Inspection Results:

In shop/on-site visual inspection of 2 transfer stiffeners with 1/4" welds and 3 Anchor rods with 3/16" welds were acceptable. Also flat plate reinforcement with CJP on splice welds is acceptable. No obvious weld deficiencies were noted. All weld sizes meet the requirements as noted in the drawings. All welding and Fabrication was to D.1.1.



James M Claypool  
CWI 10011081  
QC1 EXP. 1/1/2016

**Re inspection Required:** No  
**Project Status (Continuing/Closed):** Closed  
**Inspection results reported to:** Tower Solutions Inc.

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James M. Claypool, CWI #10011081



Project: Granby - N. Granby / CT 4634-A-03  
Sheet \_\_\_\_\_ of \_\_\_\_\_  
By: Tower Solutions  
Checked By: Steph  
Date: 6/24/13  
FDH Project #: \_\_\_\_\_  
Drawing #: \_\_\_\_\_

1- 1/4" thick plate = ✓  
2- 1/4" Rod = ✓  
4 xx-SLR pipe = ✓

Pipe = A500 GR. B (42ksi)  
Plate = A572-65 (65ksi)  
Rod A. 615-75 (75ksi)

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U





CONSTRUCTION INNOVATION

Fabricator/Supplier Material Statement

Form Number: MTR-01

Site Name:	Granby-N. Granby
Site ID:	CT46134-A-03
Proposed Carrier:	Sprint
Tower Type:	150' Monopole
Site Address:	15 North Granby Road Granby, CT 06035

FDH No.:	1304711700
Str. Analysis Date:	4/15/13
Drawing Date:	9/11/13
Drawing Issue:	Construction
Coordinates:	41.9536° -72.7937°

Material Statement

This statement certifies that all materials and hardware bearing the above listed descriptions were used in this project order. The attached "mill test reports" (MTR) are specific to the site listed above only. The performing contractor must submit all MTRs in order to receive a passing Post Modification Inspection. Failure to provide these documents could result in nonpayment, PO deductions and/or additional scopes of work.

Material Information

No.	Material Description	Project Use	Vendor	QTY	Heat No.	ASTM Spec
1	4.5" x .674 pipe anchor sleeve		BS	3	333356	A53
2	1.25" plate transfer plates and reinforcing plates		Burns Harbor		813A68370	A572
3	2 1/4" thread bar anchors		ESA	3		AG15-75
4	M20 x 95 bolts attach plates		ESA Ajax			

ALL MTRS LISTED ABOVE MUST BE INCLUDED WITH THIS STATEMENT AND HEAT NO. INITIALED. DO NOT INCLUDE NON-APPLICABLE MTRS.

Notary Statement

Tower Solutions LLC

Subcontractor Company Name

Clark Cogan  
Authorized Signature

9/18/13  
Date

Clark Cogan  
Printed Name

President  
Title

State Of: New York

County Of: Monroe

I, Michael Suss, a Notary Public of Monroe County, NY, certify that Clark Cogan personally appeared before me this day and acknowledged that he/she is the President (title) of Tower Solutions (subcontractor), a NY corporation, and as President (title), being authorized to do so, executed the foregoing instrument on behalf of the corporation. Witness my hand and official stamp or seal, this 18 day of September, 20 13.

MICHAEL P. SUSS  
Notary Public, State of New York  
No. 01SU8284219  
Qualified in Monroe County  
Commission Expires June 17, 20 17

Michael Suss  
Notary Public Signature and Printed Name

My Commission Expires: Jun 17 2017

(Notary Stamp or Seal)



Customer Name

Customer PO#

Shipper No

Heat Number

D & D Welding

Granby-N. Granby

487869

813A68370

2

Burns Harbor Plate  
Quality Department  
250 West US Highway 12  
Burns Harbor, IN 46304

Report of tests and analyses

Arcecor Mill

Report No: 803-06817 Date of Report: 04-25-13 Customer: CBS-CHGO-BNBF Heat No: LMC 200001 Page: 6

Customer: SENTRY SUPPLY INC DBA SUPERIOR SUPPLY & STEEL CO PO BOX 2388 SULPHUR LA 70664  
Supplier: SUPERIOR SUPPLY & STEEL CO C/O PTCATOOSA PORT OF CATOOSA CATOOSA OK

Mat. No.	Steel number	Plat. No.	Heat number	Size and quantity				Yield point	Tensile strength	Elong.		Ref. No.
				Thk.	Width	Length	Weight			IN	%	

QUALITY STEEL MELTED & MANUFACTURED IN THE U. S. A.

PLATES - ASTM A572-12 OR 55 MOD ST. 04 MAX AL  
KLD FINE GRAIN PRAC TYPE 3, CH-Q  
A673 FREQ (P) L 15 FTLB AT -20F  
PLT CONTROLLED FINISH TEST  
CERTS ARE PREPARED IN ACCORD WITH  
PROCEDURES OUTLINED IN EN  
10204:2004 TYPE 3.1  
CO# 85099-9 OH 816-4145A

P258166	813A68370		1	1	1/4	96	480	16335	69900	83900	2	43
(M55)MF8T	REF#: 02											
P258167	813A68370		1	1	1/4	96	480	16335	69900	83900	2	43
(M55)MF8T	REF#: 02											
P258172	813A72500		1	1	1/4	96	480	16335	68900	84000	2	53
(M55)MF8T	REF#: 02											
P258168	823A68370		1	1	1/4	96	480	16335	69900	83900	2	43
(M55)MF8T	REF#: 02											

Q-Quench temperature T-Tempering temperature H-Holding temperature

Steel number	Plat. No.	Heat number	Hard.	Tens.	Charpy Impact										MILS			
					Thickness INCHES	Type	Size	Dir.	Temp. F	Energy	FT	BS	1	2		3	1	2
P258166		813A68370			1.250	V	FULL	L	-20	111	148	130						
P258167		813A68370			1.250	V	FULL	L	-20	120	102	107						
P258172		813A72500			1.250	V	FULL	L	-20	159	132	161						
P258168		823A68370			1.250	V	FULL	L	-20	130	149	109						

SEARCHED AND SHOWN TO BE ONE OF THE 2-DAY AT... NOTARY PUBLIC... PORTER COUNTY INDIANA... MAY 17, 2016... COUNTY OF RESIDENCE CENTER.

Heat number	Chemical analysis																Special P-H K-F	
	C	Mn	P	S	Si	Cr	Mo	Co	Ni	Cu	V	Ti	Al	B	O	N		As
813A68370	.12	1.49	.013	.005	.011	.023	.01	.03	.008	.083					.036	.0002	.041	.006
813A72500	.13	1.47	.013	.005	.010	.028	.02	.04	.010	.079					.023	.0002	.034	.007
823A68370	.12	1.49	.013	.005	.011	.023	.01	.03	.008	.083					.036	.0002	.041	.006

I certify that the above results are a true and correct copy of a full results certificate in record analysis by Arcecor Mill steel test and are in full compliance with the requirements of the specification above. This test report cannot be altered and must be transmitted intact with any subsequent third party test reports, if required.

Daniel W. Edwards Quality Manager

2013-01-28 Quality Test Analysis

Order Name

Customer PO#

Shipper No

Heat Number

J. Welding

479464

333358

INSPECTION CERTIFICATE DIN EN 10204: 2004-01 3.1 / No 1-2767-1

Quality management system has been certified according to ISO 9001:2008 by Bureau Veritas Certification (Certificate Number UA 228668)  
 Environmental management system has been certified according to ISO 14001:2004 by Bureau Veritas Certification (Certificate Number UA 228688)  
 Occupational health and safety management system has been certified according to OHSAS 18001:2007 by Bureau Veritas Certification (Certificate Number UA 228638)

Contract No 12024328 approx 1 LOT 3  
 Order No 10403240001-10068  
 PO number 10403240001-10068  
 Invoice No 80779133  
 Country of destination: USA  
 Date of destination: 18/08/2008  
 Customer: Courinho & Feraud Incorporated  
 Telephone: 77080 Houston USA

Description of the goods: Hot finished seamless pipes for oil and gas industry.  
 Описание товара: Горячо обработанные бесшовные трубы для скважин и газопроводов.  
 Plant application: For pipeline transportation systems for petroleum and natural gas industries.  
 Область применения: для транспортировки нефти и природного газа.  
 Identification degree: fully identified steel  
 Степень идентификации: полностью идентифицированная сталь  
 Type of pipe: SMLS Plain End  
 Тип трубы: Бесшовная, с тупым концом  
 Delivery Condition: Normalized. Technical specification level: PSL1  
 Условия поставки: Нормализованная. Технический спецификационный уровень: PSL1

Open Joint-Stock Company "Byelorussian Steel Works" - management company of "Byelorussian Metallurgical Company" holding  
 Открытое акционерное общество "Белорусские Стальные Заводы" - управляющая компания "Белорусского металлургического предприятия" холдинга  
 37, Promyshlennaya street, 247210 Zhitobin - Belarus  
 Tel. +375 (2334) 5-41-28, Fax +375 (2334) 5-60-42  
 www.belsteel.com  
 e-mail: info@bmcz.com.by

Marking / Paint marking: SPEC 5L-0634 <MY> 4500-874 B/A42 PSL1 SMLS HEAT XXXXXX LOT YYYYYY TESTED 2970 <L FT> B ASTM A513ASME SA53 B/C ASTM A106/ASME SA106 NDE 61-18966 BELARUS

No. of test pieces	No. of test pieces from system	Chemical composition, %	C	Si	P	S	Cr	Ni	Cu	Ti	Fe	V	Al	Nb	In-VV	In-VV-MV	C+N	C+N+V	DC. m.	Steel marking	
																					Min.
1	33350	12470	0.25	0.10	0.015	0.008	0.035	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	B-N60

CPS 4.5 x 674

75-18966-12

Order Name

Customer PO#

Shipper No

Heat Number

J Welding

479464

333358

Page 2 of 2

**INSPECTION CERTIFICATE DIN EN 10204: 2005-01 3.1 / No 1-2787-1**  
 Quality management system has been certified according to ISO 9001:2008 by Bureau Veritas Certification (Certificate Number UA 226888)  
 Environmental management system has been certified according to ISO 14001:2004 by Bureau Veritas Certification (Certificate Number UA 226889)  
 Occupational health and safety management system has been certified according to OHSAS 18001:2007 by Bureau Veritas Certification (Certificate Number UA 226839)

No. of coils	CO Property	Length [mm]	Weight [kg]	Net D. [mm]	Gross D. [mm]	Gross W. [kg]	Net W. [kg]	Total length [mm]	Total weight [kg]	Mechanical properties		Dimensions		Remarks	
										Yield strength [N/mm <sup>2</sup> ]	Tensile strength [N/mm <sup>2</sup> ]	Length [mm]	Weight [kg]		
1	T14.3	4230	17.12	0.87	10.0	150.0	120.0	167.00	497.00	162	120	75300	50000	42	
TOTAL															

No. of coils	CO Property	Length [mm]	Weight [kg]	Net D. [mm]	Gross D. [mm]	Gross W. [kg]	Net W. [kg]	Total length [mm]	Total weight [kg]	Mechanical properties		Dimensions		Remarks	
										Yield strength [N/mm <sup>2</sup> ]	Tensile strength [N/mm <sup>2</sup> ]	Length [mm]	Weight [kg]		
1	T14.3	4230	17.12	0.87	10.0	150.0	120.0	167.00	497.00	162	120	75300	50000	42	
TOTAL															

Technical Control Inspector: M. Müller  
 Date: 21.09.2012 02:00:56

- This hereby certified that products covered by this certificate have been tested and is complied with the requirements of the contract.
- Reproaches, no reproaches, because the test results, contained in this certificate, are the result of a representative test.
- Finally, an inspection test was performed with satisfactory result.
- Anytime, a representative sample was taken, and the results were satisfactory.
- No weld repair. Free of porosity and, mercury capillary inspection.
- For every aspect tested, the test results were satisfactory.
- Plastic caps on both ends of pipes with holes (to prevent internal corrosion of pipes with during transportation).
- It is requested please to inform the manufacturer in case of any problem in use (for information, not for responsibility).
- Pipes supply with plain end, square etc.
- The manufacturer is not responsible for the use of the product in any way.
- The manufacturer is not responsible for the use of the product in any way.



FOUNDATION SYSTEMS & ANCHORS INC.  
 2300 Allen Ave. S.E.  
 Canton, Ohio 44707  
 Ph. (330) 454-1700 Fax (330) 454-2336

3

**ACKNOWLEDGEMENT**

**SOLD TO:** TOWER SOLUTIONS LLC  
 280 HEMLOCK TR  
 WEBSTER NY 14580  
 Phone: USA-585-265-1242 Fax: 585-265-1242

**SHIP TO:** Phone: 585-265-1242 Fax: 585-265-1242

Attn:

Attn:

Sales Order	Ship No.	Cust No	Order Date	Tax	Promised	Salesman	Customer P. O. No.	Mark	Shipment
0003150	0000	TOWSO	10/10/2013	E	11/1/2013	NoSalesman	10813		
F.O.B.		Ship Date	Shipped Via	Terms		Waybill Number		Ins	
				NET 30				N	

Item	T	Quantity			Unit	Part Number	Description	Unit Price
		Order	B/O	Ship				
001	S	3			EA	AT092251473H	A616-76 2-1/4" X 147" ALLTHREAD PART GALV 3(2H)HDG NUTS **THERE WILL BE UNUSABLE THREADS AFTER GALVANIZING Order SubTotal	
							Total Order Amount:	



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

\*\*\* PACKING LIST \*\*\*  
ORDER  
September 23, 2013 11:15 AM

Order # 00010322  
Order Date 09/19/2013  
Page 1 of 1

TOWRSOL  
BILL TOWER SOLUTIONS LLC  
TO: 280 HEMLOCK TRAIL

WEBSTER, NY 14580

1  
SHIP D&D WELDING C/O: TWR SOLUTIONS  
TO: 4710 ROUTE 104

WILLIAMSON, NY 14589

Confirmed With	
Customer PO#	3110010011111111
BOL #	10826

Reference #	
Terms	PREPAYMENT OF INVOICE
Freight Charges	PPA

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

Freight	F.O.B	Ship Via	Tracking Number	Req Ship Date
PREPAID ADD CLASS	PJS/DALLAS	YELLOW	708-570850-6	09/20/2013

Order Qty	Shp Qty	B/O Qty	Item # / Description	Customer Part Number	U/M:
23	23	0	458430 ONESIDE 3' M20 HIGH TENSILE SLEEVE		EA

Carton Qty: 1      Carton Amt: 23  
Unit Weight: 5      Ext Weight: 123

PLS SHIP W/10321

Total Order Weight: 123

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



# Contractor Due Diligence Form

Form Number: CDD-01

Site Name:	Granby-N. Granby
Site ID:	CT46134-A-03
Proposed Carrier:	Sprint
Tower Type:	150' Monopole
Site Address:	15 North Granby Road Granby, CT 06035

FDH No.:	1304711700
Str. Analysis Date:	4/15/13
Drawing Date:	8/11/13
Drawing Issue:	Construction
Coordinates:	41.9536° -72.7937°

### Safety Agreement

It is the responsibility of the foreman on-site to comply with all SBA mandated safety guidelines. Safety is a requirement for any on site employment. It is required that all crews on-site must follow all OSHA and SBA safety standards. Should a contractor deliberately violate any mandated safety standards, the general contractor along with all subcontractors associated with job will be pulled from the job site immediately. The General Contractor is responsible for the actions of all subcontractors.

I have read the above statement and understand Contractor's Initials C.C.

### Permit Release

In accordance to paragraph 4.2 on page 3 of the master subcontractor agreement the contractor will obtain all permits and inspections necessary for the proper execution and completion of the project. Contractor is also responsible for all cost associated with obtaining permits. If the state or jurisdiction does not require any permits for the modification as detailed, contractor must submit a form of verification to the FDH construction manager prior to beginning any construction.

Is permit required.  Yes  No Contractor's Initials C.C.

Permit Number 94549

### Utility Due Diligence

Contractor is responsible of obtaining utility locates for entire tower compound (a minimum of 500' radius around compound) 72 hours prior to start of construction. Any repairs resulting from the damage of said utilities shall be the sole responsibility of the contractor.

I have read the above statement and understand. Contractor's Initials C.C.

### Pre-Construction Site Walk

A. Contractor has performed site visit to verify all dimensions and existing conditions prior to fabrication.

Yes  No Contractor's Initials C.C.

B. There are no deviations from specifications and drawings. Work can proceed as specified by FDH Engineering.

Yes  No Contractor's Initials C.C.

### Scope and Design Deviation Notification

A. No deviation from the scope of work or operating standards in the Master Contractor Agreement will allowed. Any deviation will result will be corrected at the expense of the contractor and/or termination of the contractor from the work site.

I have read the above statement and understand. Contractor's Initials C.C.

B. If modifications are made to the original design during construction, red-line drawings will be provided by the contractor. Contractor must make FDH aware of their intended changes before said changes take place. If changes are made without consent of FDH in writing, the contractor will be responsible for all cost associated with corrected measures.

I have read the above statement and understand. Contractor's Initials C.C.

### Steel and Concrete Certifications

A. Contractor must submit all documentation required for verification of proposed steel members and their grade of steel, this may include steel certification from steel mill. Contractor must submit a form of verification to FDH prior to beginning any construction.

I have read the above statement and understand. Contractor's Initials C.C.

B. Contractor must submit all batch reports for all concrete poured. If more than 8 yards of concrete are poured then a minimum of 3 cylinders will be made per truck of concrete.

I have read the above statement and understand. Contractor's Initials MA

### Weather and Fabrication Delays

All delays caused by fabrication and weather must be brought to the attention of FDH in writing. Delays at the result of weather shall be sent to FDH immediately. Should there be any delays contractor must submit a written response detailing the delay within 24 hrs of the occurrence. Each occurrence will be evaluated on a case by case basis.

I have read the above statement and understand. Contractor's Initials C.C.

### Subcontractor Notification

Contractor will list all subcontractors that will be utilized below. All subcontractors must have all required local and federal certifications. It is the responsibility of the general contractor to handle all liens and payments of contracted subcontractors.

Contractor: D+D Welding Contact: Matt David Telephone: 585-259-4095

Contractor: \_\_\_\_\_ Contact: \_\_\_\_\_ Telephone: \_\_\_\_\_

Contractor: \_\_\_\_\_ Contact: \_\_\_\_\_ Telephone: \_\_\_\_\_

Contractor has read and understands all aforementioned terms and conditions listed in this document and any preceding bid documents. Contractor also agrees to abide by these terms and conditions for the duration of this project.

Company's Name: Tower Solutions LLC

Contact(Print Name): Clark Cogan

Signature: Clark Cogan

Date: 10/23/13



#: CT46134

1271191

(800) 487-SITE (74

AGENCY (888) 950-SITE (74

WWW.SBASITE.COM

57' 12.90" Lon: -72° 47' 37.4



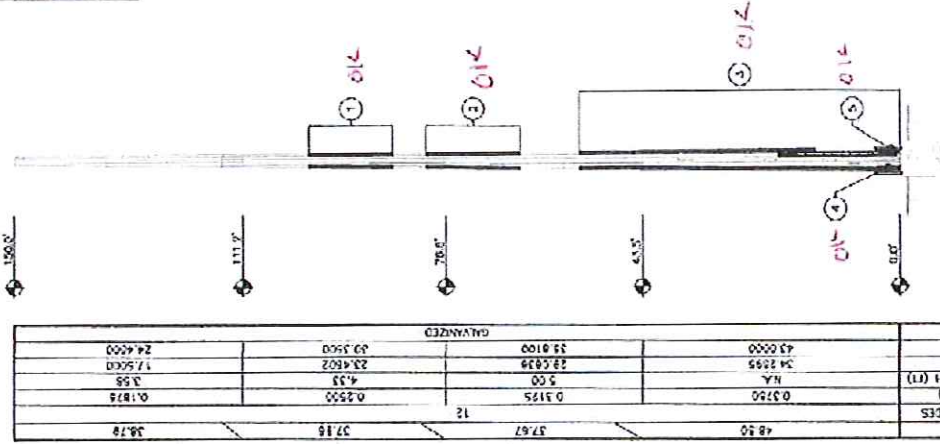


Clark Cragen 12/8/13

- ADJUSTMENTS MAY INTERFERE WITH PROPOSED MODIFICATIONS.
- ALL MODIFICATIONS TO BE INSTALLED CONTIGUOUSLY THROUGH EXISTING EQUIPMENT. ALL EXISTING EQUIPMENT NOT TO BE DAMAGED OR TAKEN OFF AIR DURING INSTALLATION.
- ANTENNA GRAPHICS NOT SHOWN FOR CLARITY. SEE STRUCTURAL ANALYSIS REPORT FOR EXISTING ANTENNA LOADING.

### TOWER MODIFICATION SCHEDULE

NO.	TYPE OF MODIFICATION	BOTTOM ELEV. (FT)	TOP ELEV. (FT)
1	INSTALLATION OF NEW FLAT PLATE REINFORCEMENT. SEE S-2 THROUGH S-8 FOR DETAILS.	85.91	100.02
2	INSTALLATION OF NEW FLAT PLATE REINFORCEMENT. SEE S-2 THROUGH S-6 FOR DETAILS.	64.21	80.21
3	INSTALLATION OF NEW FLAT PLATE REINFORCEMENT. SEE S-2 THROUGH S-6 FOR DETAILS.	0.51	54.21
4	INSTALLATION OF NEW TOWER RIB STIFFENERS. SEE S-7 FOR DETAILS.	0.01	3.71
5	INSTALLATION OF NEW ANCHOR BOLTS. SEE S-8 THROUGH S-9 FOR DETAILS.	-6.41	4.61



DEPTH (FT)	NUMBER OF SECS	THICKNESS (FT)	SOCKET LENGTH (FT)	TOP CM (FT)	EST CM (FT)	TOWER FINISH
36.78	12	0.2500	0.1875	3.58	24.4500	ADVANCED
37.67		0.3175		4.33	25.0000	
48.50		0.3750		5.00	25.8239	
				5.00	33.9100	
				23.6239	39.3500	
				23.6239	43.0000	



ENGINEER: JTC  
 CATEGORY: 02  
 REG. APPROV.: COM  
 PROJECT NO.: 133121400

DATE	DESCRIPTION	PLG
09/25/12	PRELIMINARY DESIGN	A
09/27/12	CONSTRUCTION	B

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SITE NAME: GRANBY-NI GRANBY  
 SITE NUMBER: CT46134-4-03  
 SITE ADDRESS: 15 NORTH GRANBY ROAD, GRANBY, CT 06035  
 SHEET TITLE: MODIFICATION SCHEDULE  
 SHEET NUMBER: S-1

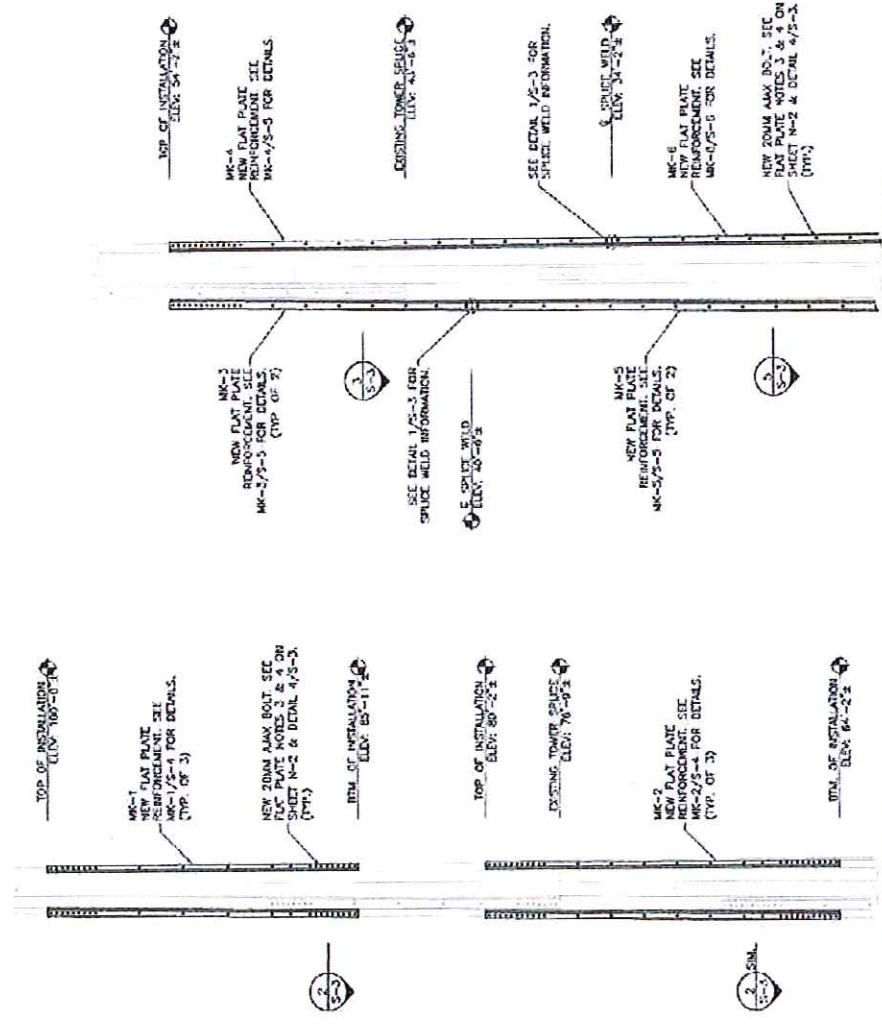
OK C.C.

### FLAT PLATE INSTALLATION SCHEDULE

PART #	QTY.	DESCRIPTION	ELEVATION
MK-1	3	FLAT PLATE REINFORCEMENT	85'-11" TO 100'-0"
MK-2	3	FLAT PLATE REINFORCEMENT	54'-2" TO 80'-2"
MK-3	2	FLAT PLATE REINFORCEMENT	40'-8" TO 54'-2"
MK-4	1	FLAT PLATE REINFORCEMENT	34'-2" TO 54'-2"
MK-5	2	FLAT PLATE REINFORCEMENT	20'-6" TO 40'-6"
MK-6	1	FLAT PLATE REINFORCEMENT	14'-2" TO 54'-2"
MK-7	2	FLAT PLATE REINFORCEMENT	0'-8" TO 20'-0"
MK-8	1	FLAT PLATE REINFORCEMENT	0'-6" TO 20'-6"
-	355	20MM AXIAL BOLTS	VARIABLES

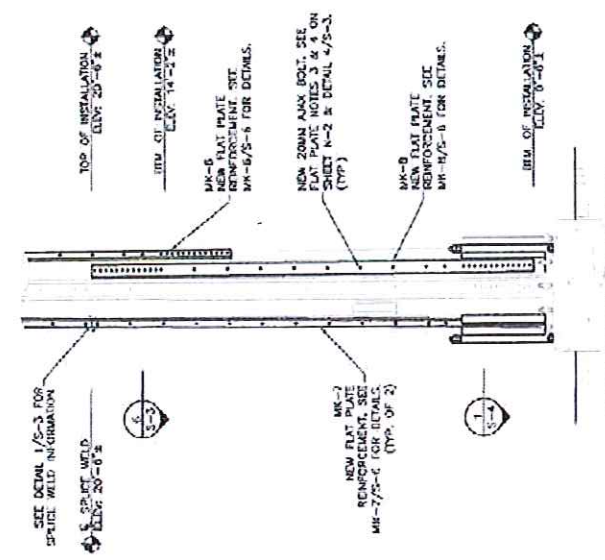
ALL NEW FLAT PLATE STEEL TO HAVE  $F_y = 65$  KSI

OK



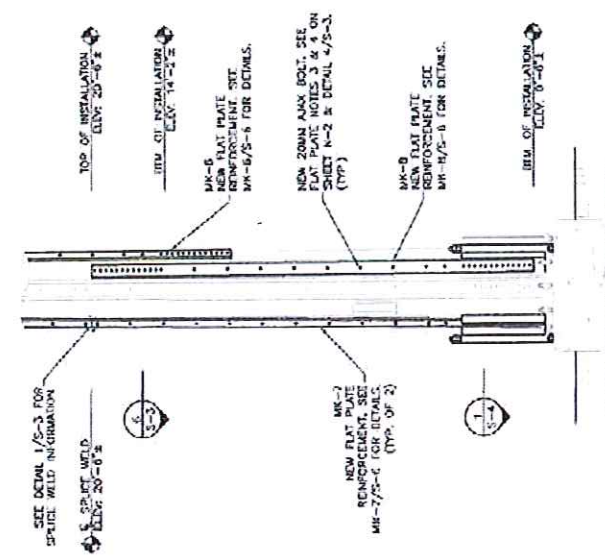
1 ELEVATION SCALE: 3/16" = 1'-0"

OK



2 ELEVATION SCALE: 3/16" = 1'-0"

OK



3 ELEVATION SCALE: 3/16" = 1'-0"

OK

FEDERAL DEFENSE HEALTH

SMALL BUSINESS ADMINISTRATION

STATE OF CONNECTICUT

PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

PROFESSIONAL ENGINEER

SHEET 1  
 GRANBY-4

SHEET 4  
 CT467

15 NORTH OF GRANBY, CT

SHEET  
 FLAT PLATE REINFORCEMENT

SHEET  
 S

OK C.C.



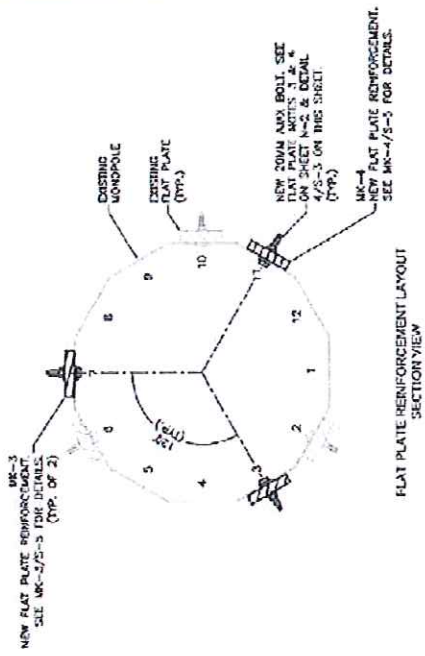
DATE: 09/11/13  
 DRAWN BY: [Blank]  
 CHECKED BY: [Blank]  
 PROJECT NO: 131311002

NO.	DATE	DESCRIPTION
1	09/11/13	ISSUED FOR PERMITS
2		
3		
4		
5		

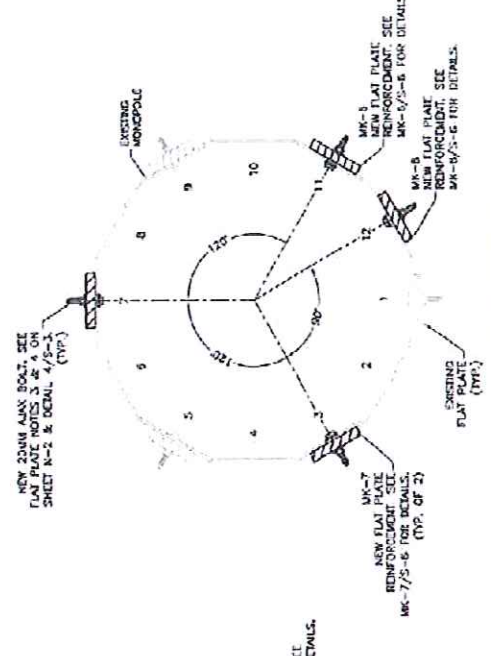
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SITE NAME: GRANBY-N, GRANBY  
 SITE NUMBER: CT4613-A-03  
 SITE ADDRESS: 15 NORTH GRANBY ROAD, GRANBY, CT 06035

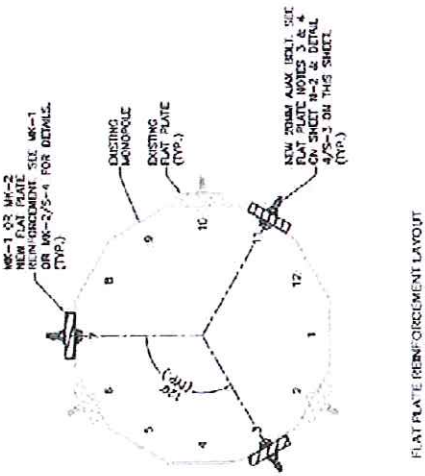
SHEET TITLE: FLAT PLATE REINFORCEMENT (DETAILS 1)  
 SHEET NUMBER: S-3



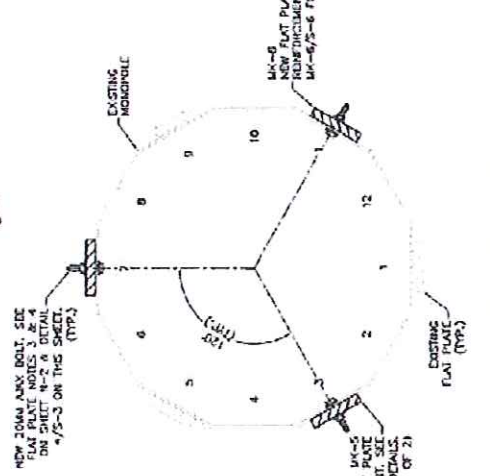
SECTION 1  
 SCALE: 3/4" = 1'-0"  
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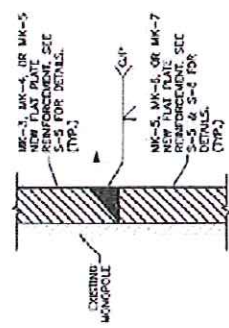
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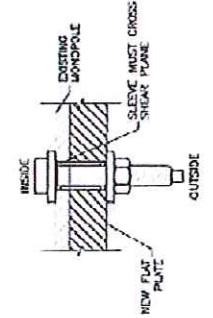
SECTION 3  
 SCALE: 3/4" = 1'-0"  
 OK



SECTION 4  
 SCALE: 3/4" = 1'-0"  
 OK



SECTION 5  
 NTS  
 OK



SECTION 6  
 NTS  
 OK



OK C.C.

**FDH** CORPORATION  
ENGINEERING INNOVATION  
107 WATERLOO  
MIDDLEBURY, VT 05750  
PHONE: 802.249.2211  
FAX: 802.249.2218

**SBA**  
THIRD MICHIGAN POWER PARTNER, INC.  
2000 WOODRIDGE  
ANN ARBOR, MI 48106

**STATE OF CONNECTICUT**  
REGISTERED PROFESSIONAL ENGINEER  
No. 22042  
EXPIRES 12/31/2010

DIRECTOR: V. MURPHY, P.E.  
CONNECTION DE. NO. 2584E

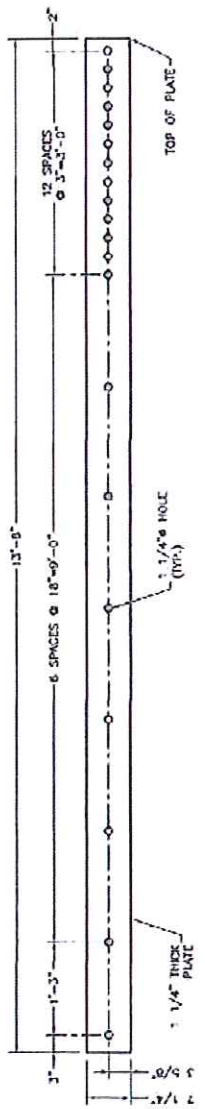
DRAWN BY: JFS  
CHECKED BY: DC  
DATE: 02/04/10  
PROJECT NO.: 1351721400

DATE	SUBMITTALS	NO.
02/04/10	PROVISIONALITY	1
02/04/10	CONSTRUCTION	2

BE ADVISED: CONTRACTOR IS TO BE RESPONSIBLE FOR VERIFYING ALL INFORMATION FOR CONFORMANCE WITH ALL APPLICABLE CODES AND REGULATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS.

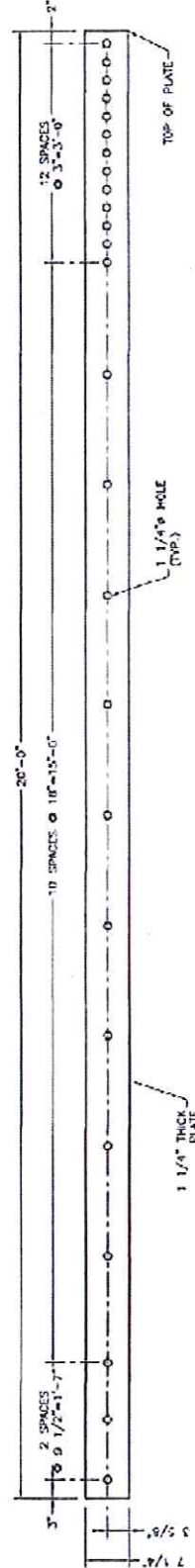
SITE NAME: GRANBY-N, GRANBY  
SITE NUMBER: CT48104-A-03  
SITE ADDRESS: 15 NORTH GRANBY ROAD  
GRANBY, CT 06035

SHEET TITLE: FLATPLATE REINFORCEMENT DETAILS II  
SHEET NUMBER: S-5



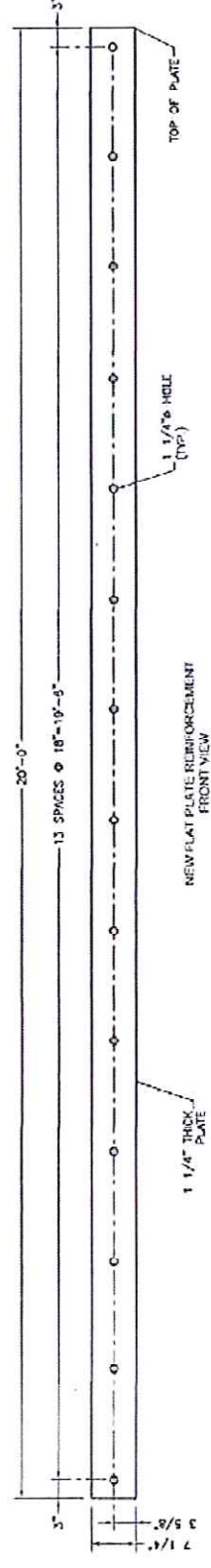
NEW FLAT PLATE REINFORCEMENT FRONT VIEW

DETAIL SCALE: NTS **OK**



NEW FLAT PLATE REINFORCEMENT FRONT VIEW




DETAIL SCALE: NTS **OK**

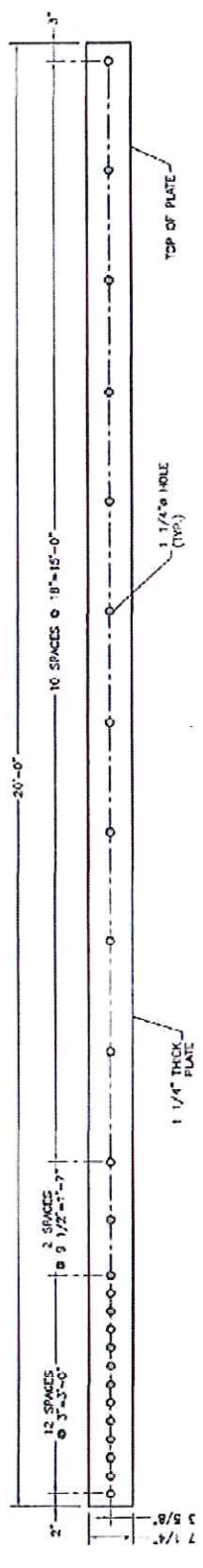


NEW FLAT PLATE REINFORCEMENT FRONT VIEW

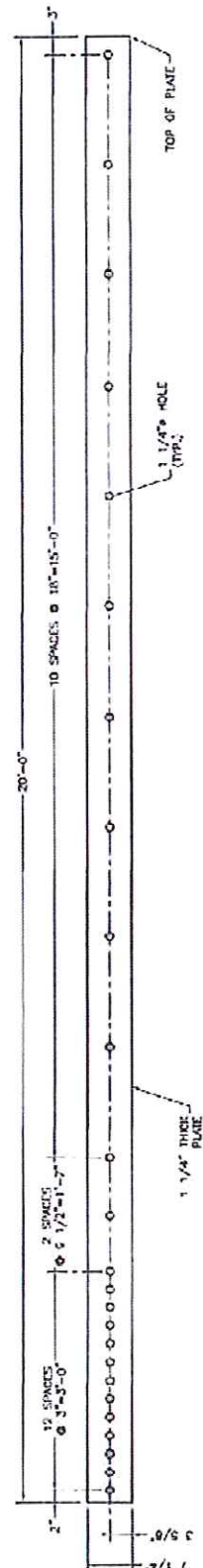
DETAIL SCALE: NTS **OK**

OK C.C.

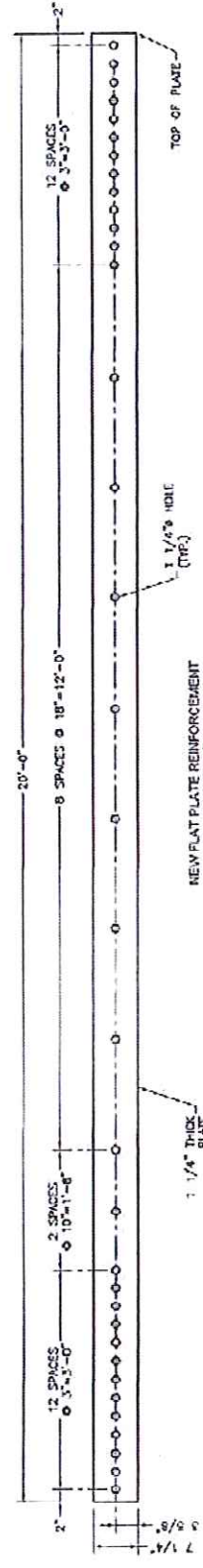
						PROJECT NO. 15-121102 DATE 11/15	
PREPARED FOR: GRANBY-N, GRANBY		PREPARED BY: CHRYSTOPHER M. MURRAY, P.E. CHRISTOPHER M. MURRAY, P.E. GRANBY, CT 06035		CHECKED BY: DATE:		SUBMITTED TO: PREPARED BY: DATE:	
SHEET TITLE: FLAT PLATE REINFORCEMENT DETAILS V		SHEET NUMBER: S-6		THE INFORMATION CONTAINED IN THIS SET OF DOCUMENTS IS UNWARRANTED BY GRANBY-N, GRANBY. GRANBY-N, GRANBY IS NOT RESPONSIBLE FOR ANY DAMAGE TO PROPERTY OR PERSONS ARISING FROM THE USE OF THESE DRAWINGS WITHOUT THE PERMISSION OF FDH ENGINEERING, INC. © PROHIBITED.		SITE NAME: GRANBY-N, GRANBY SITE NUMBER: CT-46134-A-03 SITE ADDRESS: 15 NORTH GRANBY ROAD GRANBY, CT 06035	



NEW FLAT PLATE REINFORCEMENT  
FRONT VIEW  
MK-6  
S-6  
SCALE: NTS  
OK



NEW FLAT PLATE REINFORCEMENT  
FRONT VIEW  
MK-7  
S-6  
SCALE: NTS  
OK



NEW FLAT PLATE REINFORCEMENT  
FRONT VIEW  
MK-8  
S-6  
SCALE: NTS  
OK

OK C.C.

**PROPOSED:**

**FDH** ENGINEERING INNOVATION  
 100 WINDY HOLLOW PARKWAY, WEST HAVEN, CT 06611  
 PHONE: (203) 399-1000

**SBA**  
 100 WINDY HOLLOW PARKWAY, WEST HAVEN, CT 06611  
 PHONE: (203) 399-1000

**STATE OF CONNECTICUT PROFESSIONAL ENGINEER**  
 No. 25843  
 CHRISTOPHER M. MURPHY, P.E.  
 CHRISTOPHER M. MURPHY, P.E.  
 CONNECTICUT J.C. NO. 25843

DATE: 03/17/15  
 CHECKED BY: JFS  
 DRAWN BY: DZ  
 DATE APPROX: CMA  
 PROJECT NO: 1317231400

NO.	DATE	DESCRIPTION
1	03/17/15	CONSTRUCTION

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SITE NAME: GRANBY-N. GRANBY  
 SITE NUMBER: CT146134-A-03  
 SITE ADDRESS: 15 NORTH GRANBY ROAD GRANBY, CT 06035

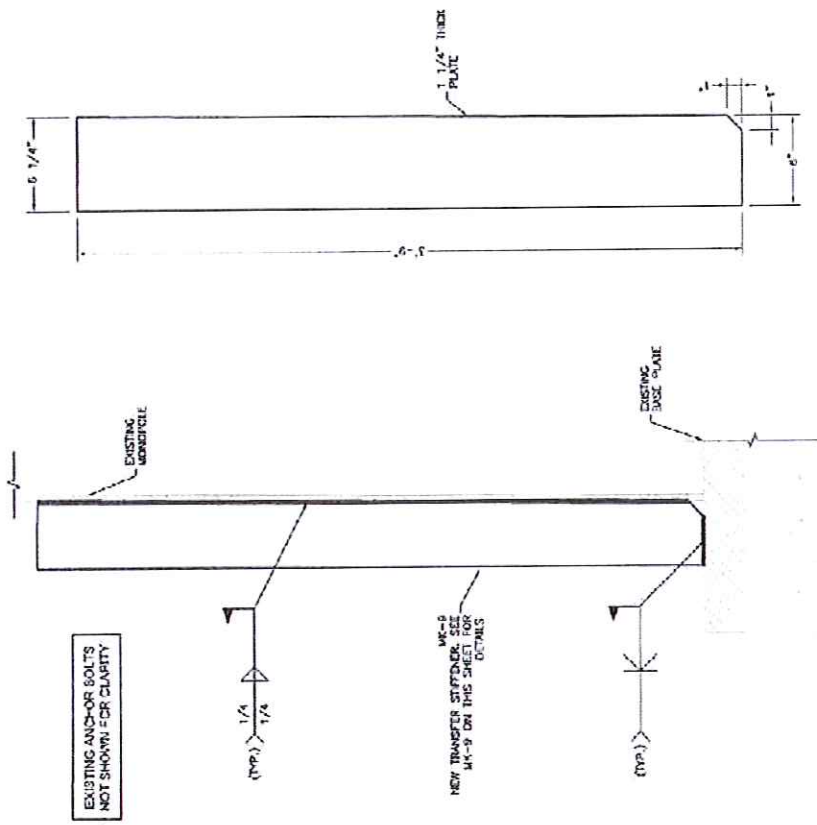
SHEET TITLE: TRANSFER STIFFENER INSTALLATION DETAILS  
 SHEET NUMBER: S-7

**TRANSFER STIFFENER INSTALLATION SCHEDULE**

PART NO.	QUANTITY	DESCRIPTION	ELEVATION
MK-B	2	TRANSFER STIFFENER	0'-0" TO 3'-0"

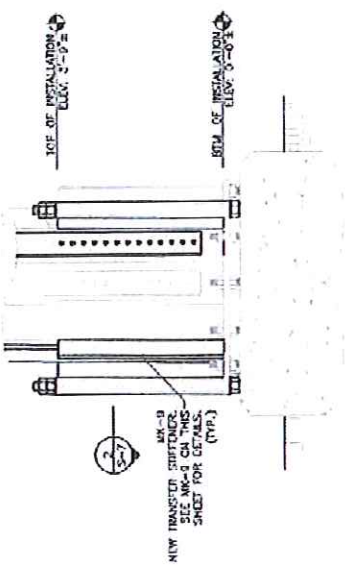
ALL NEW TRANSFER STIFFENER STEEL TO HAVE 50-MS KSI

OK

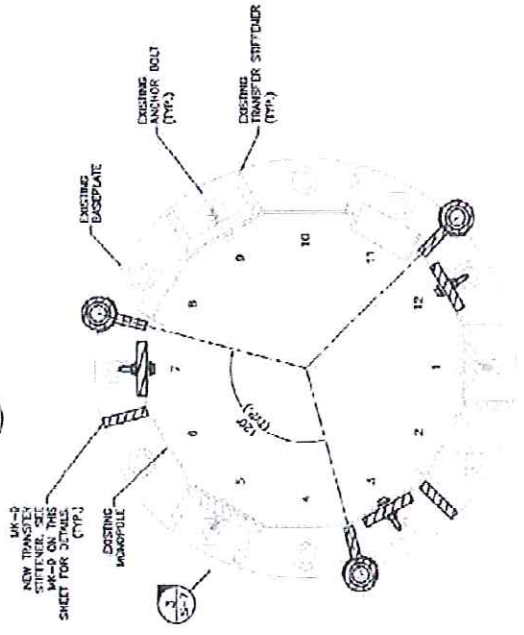


NEW TRANSFER STIFFENER FRONT VIEW  
 DETAIL  
 MK-B  
 S-7  
 NTS  
 OK

NEW TRANSFER STIFFENER WELD DETAIL  
 FRONT VIEW  
 DETAIL  
 3  
 S-7  
 NTS  
 OK



NEW TRANSFER STIFFENER LAYOUT  
 ELEVATION VIEW  
 SCALE: 3/8" = 1'-0"  
 1  
 S-7  
 OK



NEW TRANSFER STIFFENER LAYOUT  
 PLAN VIEW  
 SECTION  
 SCALE: 3/8" = 1'-0"  
 2  
 S-7  
 OK

OK

<p>FH FACILITY MANAGEMENT 101 WASHINGTON STREET HARTFORD, CT 06103 PH: 860-486-2000 WWW.FHCT.COM</p>	<p>PROFESSIONAL ENGINEER SBA 100 WASHINGTON STREET HARTFORD, CT 06103 PH: 860-486-2000</p>	<p>FOR BID ONLY</p>	<p>CLIENT: GRANBY PROJECT NO.: 1311731-000 DATE: 02/11/2013 DRAWN BY: JTS CHECKED BY: DJM</p>	<p>THE INFORMATION CONTAINED IN THIS DOCUMENT IS THE PROPERTY OF FH AND IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREIN. REPRODUCTION OR TRANSMISSION OF THIS DOCUMENT IN ANY FORM OR BY ANY MEANS IS PROHIBITED.</p>	<p>SITE NAME: GRANBY-11, GRANBY SITE NUMBER: CT14B134-A-03 SITE ADDRESS: 15 NORTH GRANBY ROAD, GRANBY, CT 06035</p>	<p>SHEET TITLE: ANCHOR ROD INSTALLATION DETAILS I</p>	<p>SHEET NUMBER: S-8</p>
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### ANCHOR ROD MATERIAL LIST

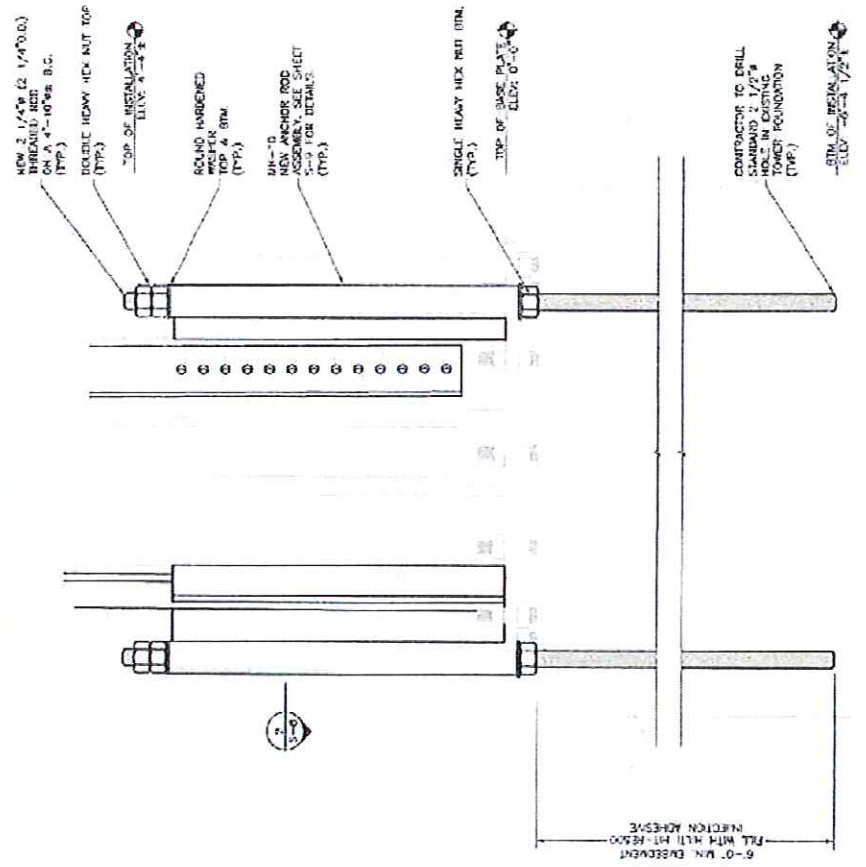
PART #	QTY.	DESCRIPTION	ELEVATION
MR-10	3	ANCHOR ROD ASSEMBLY	-6'-1 3/4" ± TO 3'-9 1/2" ±
-	3	2 1/4" Ø (2 1/4" O.C.) ASTM A615-75 (17-20KSI) THREADED ROD X 10'-5 1/2" ±	-6'-4 1/2" ± TO 4'-4" ±
-	6	ROUND WARDENED WASHER	-
-	9	HEAVY HEX NUT	-

CONTRACTOR TO REMOVE EXISTING STIFFENERS FOR PROPER INSTALLATION OF ANCHOR ROD ASSEMBLIES AS SHOWN.

CONTRACTOR TO PROVIDE PHOTOS OF THE ANCHOR ROD HOLES TO FHM CONSTRUCTION MANAGER PRIOR TO INSTALLING NEW ANCHOR RODS. PHOTOS MUST SHOW THE DEPTH AND DIAMETER OF ANCHOR ROD HOLES.

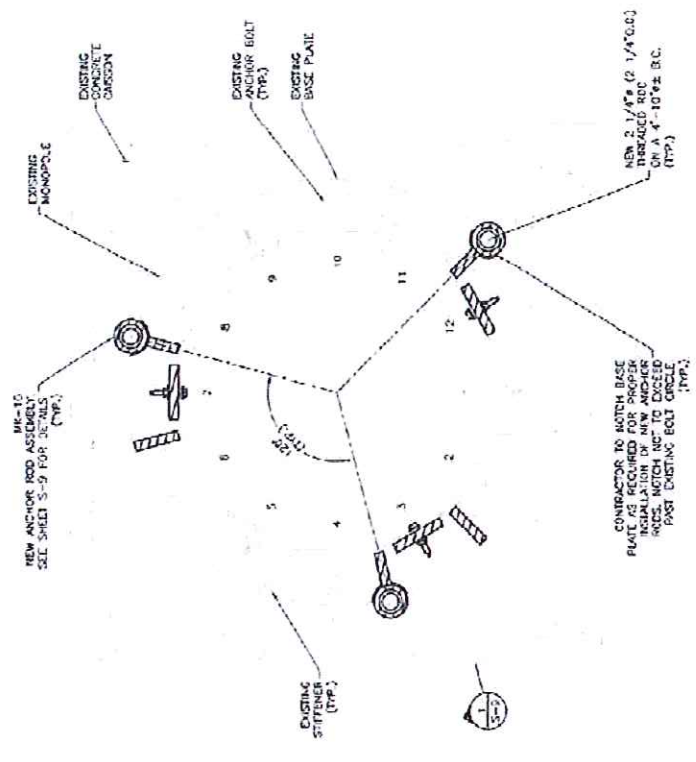
PISTON PLUGS TO BE USED IN ALL REJECTION ADHESIVE APPLICATIONS.

PULL TEST SHOULD BE PERFORMED PER PULL TEST NOTES ON SHEET I-2. THE TARGET TENSION OF THIS PULL TEST IS 18K.



1  
9-8  
ANCHOR ROD INSTALLATION  
ELEVATION VIEW

SECTION 1  
SCALE: 3/4" = 1'-0"  
OK



2  
S-8  
ANCHOR ROD INSTALLATION  
SECTION VIEW

SECTION 2  
SCALE: 3/4" = 1'-0"  
OK

SECTION 1  
SCALE: 3/4" = 1'-0"  
OK



OK C.C.

FDH  
ENGINEERING INNOVATION

SBA  
2008 SMALL BUSINESS PROMOTER AWARD  
BEST OF SIZE

STATE OF CONNECTICUT  
CHRISTOPHER M. WHERRY, P.E.  
CONNECTIONICUT LIC. NO. 26843  
PROFESSIONAL ENGINEER  
EXPIRES 08/11/13

PROJECT NO. 133721470

ENGINEER: CHM

DRAWN BY: JCS

CHECKED BY: CHM

THE INFORMATION CONTAINED IN THIS SET OF DOCUMENTS IS PROPRIETARY TO THE ENGINEER AND SHALL BE KEPT IN CONFIDENTIALITY. NO PART OF THESE DRAWINGS WITHOUT THE PERMISSION OF FDM ENGINEERING, INC. IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.

SITE NAME: GRANBY, N. GRANBY

SITE NUMBER: CT48134-4-03

SITE ADDRESS: 15 NORTH GRANBY ROAD, GRANBY, CT 06033

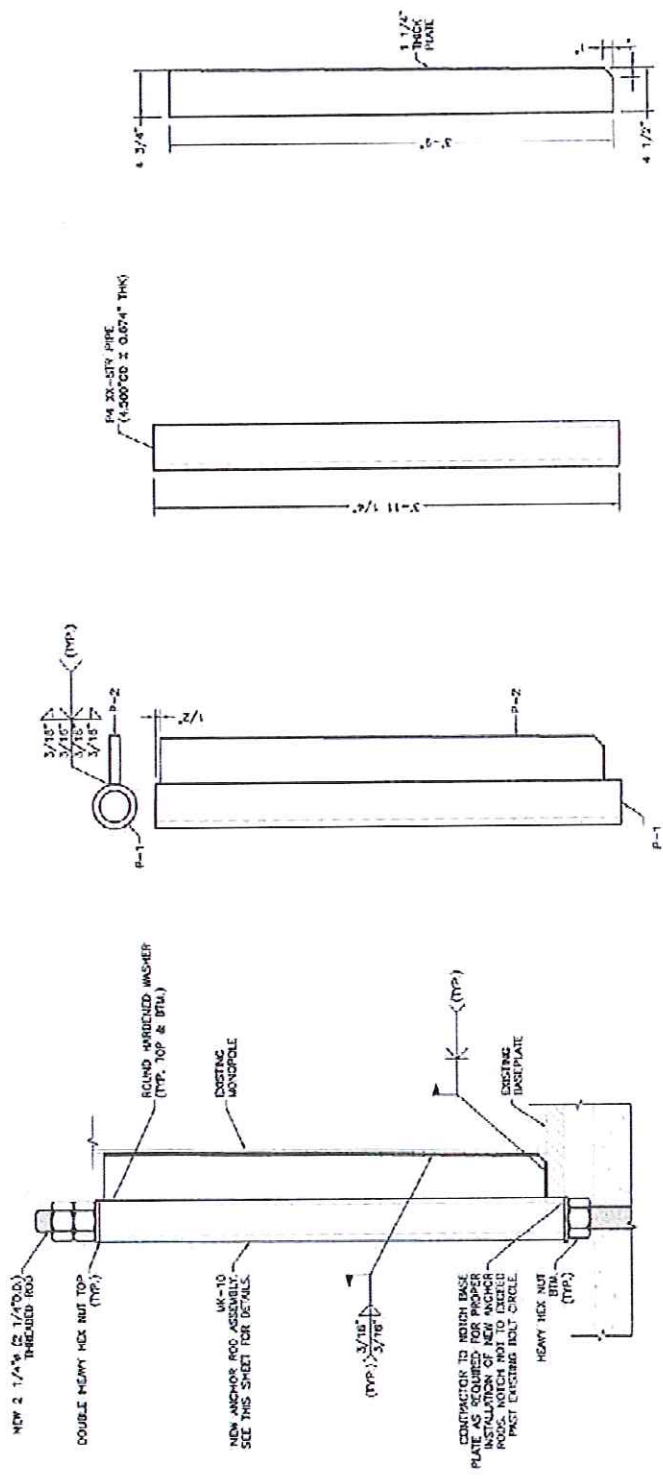
SHEET TITLE: ANCHOR ROD INSTALLATION DETAIL B

SHEET NUMBER: S-9

**MATERIAL LIST (MK-10)**

PART NO.	QTY.	DESCRIPTION
P-1	3	ANCHOR ROD SLEEVE
P-2	3	TRANSFER PLATE

EXISTING ANCHOR BOLTS NOT SHOWN FOR CLARITY



ANCHOR ROD ASSEMBLY WELD DETAIL  
ELEVATION VIEW  
SCALE: 1"=1'-0"  
S-9

ANCHOR ROD ASSEMBLY  
TOP & SIDE VIEW  
SCALE: 1"=1'-0"  
MK-10  
S-9

ANCHOR ROD SLEEVE  
SIDE VIEW  
SCALE: 1"=1'-0"  
P-1  
S-9

TRANSFER PLATE  
SIDE VIEW  
SCALE: 1"=1'-0"  
P-2  
S-9

OK

OK

OK

OK

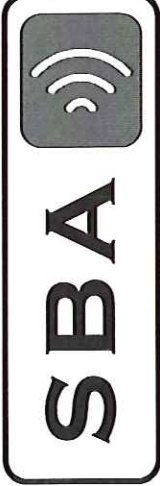
FOR INQUIRIES REGARDING THE CONTENT OF THESE  
 MODIFICATION DRAWINGS, PLEASE CONTACT STEVEN STRICKLAND  
 WITH THE FDH CONSTRUCTION DEPARTMENT (818) 755-1012

THE MODIFICATIONS DEPICTED ON THESE DRAWINGS ARE BASED ON  
 THE RECOMMENDATIONS OUTLINED IN THE STRUCTURAL ANALYSIS  
 COMPLETED BY FDH ENGINEERING, INC., PROJECT NO. 1321551400  
 DATED APRIL 15, 2013.

THIS REPORT WAS BASED ON A SPECIFIC ANTENNA AND COAX  
 CONFIGURATION PROVIDED BY THE TOWER OWNER. ANY CHANGE TO  
 THIS INFORMATION MUST BE REVIEWED BY FDH ENGINEERING, INC.

ALL DIMENSIONS, MEASUREMENTS, QUANTITIES, PART NUMBERS AND  
 COAX/ANTENNA PLACEMENTS TO BE FIELD VERIFIED BY CONTRACTOR  
 PRIOR TO MATERIAL ORDERS AND CONSTRUCTION.

PROJECT DESCRIPTION:  
**MODIFICATION DRAWINGS  
 FOR A 150' MONOPOLE**



SITE NAME:  
**GRANBY-N. GRANBY**

SITE NUMBER:  
**CT46134-A-03**

SITE ADDRESS:  
 15 NORTH GRANBY ROAD  
 GRANBY, CT 06035

COORDINATES:  
 LATITUDE: 41.9536°  
 LONGITUDE: -72.7937°

1) Rust on New Ajax Bolts  
**CORRECTED BY THE GC**

1) Rust on New Flat Plate Reinforcement  
**CORRECTED BY THE GC**



CHRISTOPHER M. MURPHY, P.E.  
 CONNECTICUT LIC. NO. 35842

DRAWN BY: JFS  
 CHECKED BY: DE  
 INGLE APPR: CMA  
 PROJECT NO: 1331731400

SUBMITTALS	
DATE	DESCRIPTION
09/27/13	PROVISIONAL REVIEW
09/27/13	CONSTRUCTION

THE INFORMATION CONTAINED IN THIS SET OF DOCUMENTS IS PROPRIETARY TO FDH ENGINEERING, INC. AND IS NOT TO BE REPRODUCED IN WHOLE OR IN PART OF THESE DRAWINGS WITHOUT THE PERMISSION OF FDH ENGINEERING, INC. IS PROHIBITED.

SITE NAME:  
**GRANBY-N. GRANBY**

SITE NUMBER:  
**CT46134-A-03**

SITE ADDRESS:  
 15 NORTH GRANBY ROAD  
 GRANBY, CT 06035

**SECONDARY INSPECTION**

EOR has reviewed the issues noted and passed the as-built condition(s).

GC has revisited the site and corrected the punchlist items shown. Documentation showing these corrections has been received by the EOR.

SHEET INDEX	
SHT. NO.	DESCRIPTION
T-1	TITLE SHEET
N-1	POST CONSTRUCTION INSPECTION NOTES
N-2	GENERAL NOTES
S-1	MODIFICATION SCHEDULE
S-2	FLAT PLATE REINFORCEMENT DETAILS I
S-3	FLAT PLATE REINFORCEMENT DETAILS II
S-4	FLAT PLATE REINFORCEMENT DETAILS III
S-5	FLAT PLATE REINFORCEMENT DETAILS IV
S-6	FLAT PLATE REINFORCEMENT DETAILS V
S-7	TRANSFER STIFFENER INSTALLATION DETAILS I
S-8	ANC
S-9	ANC





CHRISTOPHER M. MURPHY, P.E.  
 CONNECTICUT LIC. NO. 25942  
 09/11/13

DATE	DESCRIPTION
09/20/13	PRELIMINARY/FORM
09/17/13	CONSTRUCTION

THE INFORMATION CONTAINED IN THIS SET OF DOCUMENTS IS PROPRIETARY TO FDH ENGINEERING, INC. AND IS TO BE REPRODUCED IN WHOLE OR IN PART WITHOUT THE WRITTEN PERMISSION OF FDH ENGINEERING, INC. IS PROHIBITED.

SITE NAME:  
**GRANBY-N. GRANBY**

SITE NUMBER:  
**CT146134-A-03**

SITE ADDRESS:  
**15 NORTH GRANBY ROAD  
 GRANBY, CT 06036**

**SECONDARY INSPECTION**

EOR has reviewed the issues noted and passed the as-built condition(s).

GC has revisited the site and corrected the as-built condition(s). Documentation showing these corrections has been received by the EOR.

SHEET NUMBER  
**N-1**

**POST CONSTRUCTION INSPECTION NOTES:**

- GENERAL**
- THE POST CONSTRUCTION INSPECTION (PCI) 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 AND ANY MODIFICATIONS. THE MODIFICATION DRAWINGS, AS DESIGNED BY THE ENGINEER OF RECORD (EOR).
  - THE PCI IS TO CONFIRM INSTALLATION CONFIGURATION AND WORKMANSHIP ONLY AND IS NOT TO BE USED AS A BASIS FOR THE DESIGN OF THE STRUCTURE. THE EOR IS RESPONSIBLE FOR THE DESIGN OF THE MODIFICATION DESIGN. OWNERSHIP OF THE STRUCTURE MODIFICATION DESIGN EFFECTIVENESS AND INTEGRITY RESIDES WITH THE EOR AT ALL TIMES.
  - ALL PCIS SHALL BE CONDUCTED BY A PCI INSPECTOR THAT IS APPROVED TO PERFORM ELEVATED WORK FOR FDH ENGINEERING, INC.
  - TO ENSURE THAT THE REQUIREMENTS OF THE PCI ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR (GC) AND THE PCI INSPECTOR BEGIN COMMUNICATING AND COORDINATING EARLY IN THE PROJECT. THE PCI INSPECTOR'S SCHEDULE THROUGH PARTY WILL BE PROACTIVE IN REACHING OUT TO THE OTHER PARTY. IF CONTACT INFORMATION IS NOT KNOWN, CONTACT YOUR FDH POINT OF CONTACT (POC).
  - REFER TO COR-01 : CONTRACTOR CLOSEOUT REQUIREMENTS FOR FURTHER DETAILS AND REQUIREMENTS.

- PCI INSPECTOR**
- THE PCI INSPECTORS IS REQUIRED TO CONTACT THE GC AS SOON AS RECEIVING A PO FOR THE PCI TO, AT A MINIMUM:
    - REVIEW THE REQUIREMENTS OF THE PCI CHECKLIST
    - COORDINATE WITH THE GC SCHEDULE TO CONDUCT ON-SITE INSPECTIONS, INCLUDING FOUNDATION INSPECTIONS
  - THE PCI INSPECTOR IS RESPONSIBLE FOR COLLECTING ALL GENERAL CONTRACTOR (GC) INSPECTION AND TEST REPORTS, REVIEWING THE DOCUMENTS FOR ADHERENCE TO THE CONTRACT REQUIREMENTS, CONDUCTING THE IN-FIELD INSPECTIONS, AND SUBMITTING THE PCI REPORT TO FDH.

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

- REQUIRED PHOTOS**
- BEFORE THE GC AND THE PCI INSPECTOR THE FOLLOWING PHOTOGRAPHS. AT A MINIMUM, ARE TO BE TAKEN AND INCLUDED IN THE PCI REPORT:
    - PRE-CONSTRUCTION GENERAL SITE CONDITION
    - PHOTOGRAPHS DURING THE REINFORCEMENT MODIFICATION CONSTRUCTION/ERECTION AND INSPECTION
    - PHOTOS OF ALL CRITICAL DETAILS
      - FOUNDATION MODIFICATIONS
      - WELD PREPARATION AND TORQUE
      - FINAL INSTALLED CONDITION
      - SURFACE COATING REPAIR
    - POST CONSTRUCTION PHOTOGRAPHS
    - FINAL INFELD CONDITION
  - PHOTOS OF ELEVATED MODIFICATIONS TAKEN FROM THE GROUND SHALL BE CONSIDERED INADEQUATE.

PCI CHECKLIST	
CONSTRUCTION/INSTALLATION INSPECTIONS AND TESTING REQUIRED	REPORT ITEM
<b>PRE-CONSTRUCTION</b>	
X	PCI CHECKLIST DRAWING
N/A	EOR APPROVED SHOP DRAWINGS
N/A	FABRICATION INSPECTION
X	FABRICATOR CERTIFIED WELD INSPECTION
X	MATERIAL TEST REPORT (MTR)
N/A	FABRICATOR NDE INSPECTION
N/A	NDE REPORT OF MONOPOLE BASE PLATE (AS REQUIRED)
X	PACKING SLIPS
ADDITIONAL TESTING AND INSPECTIONS:	
<b>CONSTRUCTION</b>	
X	CONSTRUCTION INSPECTIONS
N/A	FOUNDATION INSPECTIONS
N/A	CONCRETE COMP. STRENGTH AND SLUMP TESTS
X	POST INSTALLED ANCHOR ROD VERIFICATION
N/A	BASE PLATE GROUT VERIFICATION
X	CONTRACTOR'S CERTIFIED WELD INSPECTION
N/A	EARTHWORK: LIFT AND DENSITY
X	ON SITE COLD GALVANIZING VERIFICATION
N/A	CUT WIRE TENSION REPORT
X	GC AS-BUILT DOCUMENTS
ADDITIONAL TESTING AND INSPECTIONS:	
<b>POST-CONSTRUCTION</b>	
X	PCI INSPECTOR REDLINE OR RECORD DRAWING(S)
X	POST INSTALLED ANCHOR ROD PULL-OUT TESTING
X	PHOTOGRAPHS
ADDITIONAL TESTING AND INSPECTIONS:	

NOTE: X DENOTES A DOCUMENT NEEDED FOR THE PCI REPORT  
 N/A DENOTES A DOCUMENT THAT IS NOT REQUIRED FOR THE PCI REPORT





PREPARED BY:



151 MARKET STREET  
MILLBURY, CT 06108  
PHONE: 860-262-0102  
FAX: 860-262-0101

PREPARED FOR:



3400 BROOKS ROAD  
PARKWAY, NY  
06042-4072



CHRISTOPHER M. MURPHY, P.E.  
CONNECTICUT LIC. NO. 258942  
09/11/13

DRAWN BY: JFS  
CHECKED BY: DZ  
ENG. APPROV: CMW  
PROJECT NO: 1331731400

SUBMITTALS		REV
DATE	DESCRIPTION	
09/11/13	PROVISION	A
		B
		C
		D
		E
		F
		G
		H
		I
		J

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SITE NUMBER:  
**CT46134-A-03**

SITE ADDRESS:  
**15 NORTH GRANBY ROAD  
GRANBY, CT 06035**

**SECONDARY INSPECTION**

EOR has reviewed the issues noted and passed the as-built condition(s).

GC has revisited the site and corrected the punchlist items shown. Documentation of the corrections has been received by the EOR.



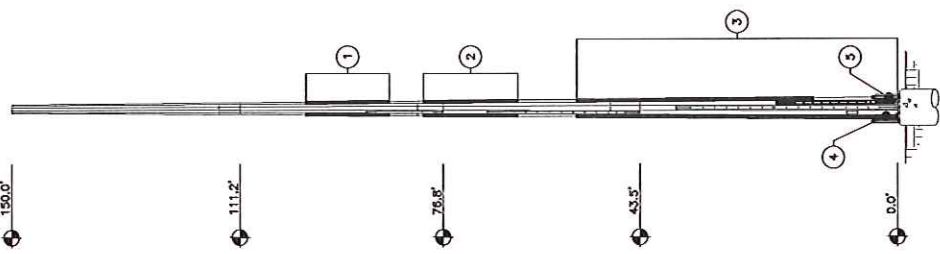
SHEET NUMBER

**S-1**

**TOWER MODIFICATION SCHEDULE**

NO.	TYPE OF MODIFICATION	BOTTOM ELEV. (FT)	TOP ELEV. (FT)
1	INSTALLATION OF NEW FLAT PLATE REINFORCEMENT. SEE S-2 THROUGH S-6 FOR DETAILS.	85.9±	100.0±
2	INSTALLATION OF NEW FLAT PLATE REINFORCEMENT. SEE S-2 THROUGH S-6 FOR DETAILS.	84.2±	80.2±
3	INSTALLATION OF NEW FLAT PLATE REINFORCEMENT. SEE S-2 THROUGH S-6 FOR DETAILS.	0.5±	54.2±
4	INSTALLATION OF NEW TRANSFER STIFFENERS. SEE S-7 FOR DETAILS.	0.0±	3.7±
5	INSTALLATION OF NEW ANCHOR RODS. SEE S-8 THROUGH S-9 FOR DETAILS.	-6.4±	4.6±

- APPURTENANCES MAY INTERFERE WITH PROPOSED MODIFICATIONS.
- ALL MODIFICATIONS TO BE INSTALLED CONTINUOUSLY THROUGH EXISTING EQUIPMENT. ALL EXISTING EQUIPMENT NOT TO BE DAMAGED OR TAKEN OFF AIR DURING INSTALLATION.
- ANTENNA GRAPHICS NOT SHOWN FOR CLARITY. SEE STRUCTURAL ANALYSIS REPORT FOR EXISTING ANTENNA LOADING.



**TOWER ELEVATION**  
SCALE: NTS

LENGTH (FT)	NUMBER OF SECS	THICKNESS (IN)	SOCKET LENGTH (FT)	TOP PA (IN)	BOT PA (IN)	TOWER FINISH
48.50	0.3750	0.3125	N/A	34.2895	43.0000	
37.67	5.00	28.0636	5.00	30.3500	35.8100	GALVANIZED
37.96	0.2500	4.33	0.1875	23.4602	30.3500	
38.79	3.58	17.5000	24.4800			

PREPARED BY:  
**FDH**  
 ENGINEERING INNOVATION

100 MILLINGTON DRIVE  
 WALLINGFORD, CT 06495  
 PHONE: (860) 291-0100  
 FAX: (860) 291-0101

PREPARED FOR:  
**SBA**

3500 BROOKER SOUND PARKWAY, NW  
 ROSA WATSON, FL 33487  
 (813) 945-5476

STATE OF CONNECTICUT  
 REGISTERED PROFESSIONAL ENGINEER  
 09/11/13

CHRISTOPHER M. MURPHY, P.E.  
 CONNECTICUT LIC. NO. 25842

DATE: 09/11/13  
 DRAWING NO: 133173140D  
 PROJECT: 133173140D

DATE	DESCRIPTION	BY
09/11/13	CONSTRUCTION	0

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SITE NAME:  
**GRANBY-N. GRANBY**

SITE NUMBER:  
**CT146134-A-03**

SITE ADDRESS:  
**15 NORTH GRANBY ROAD  
 GRANBY, CT 06035**

**SECONDARY INSPECTION**

EOR has reviewed the issues noted and passed the as-built condition(s).

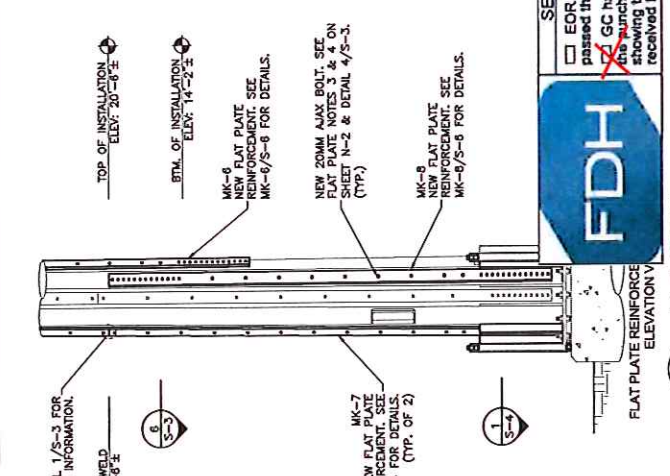
GC has revisited the site and corrected the punchlist items shown. Documentation attesting these conditions has been received by the EOR.

SHEET NUMBER  
**S-2**

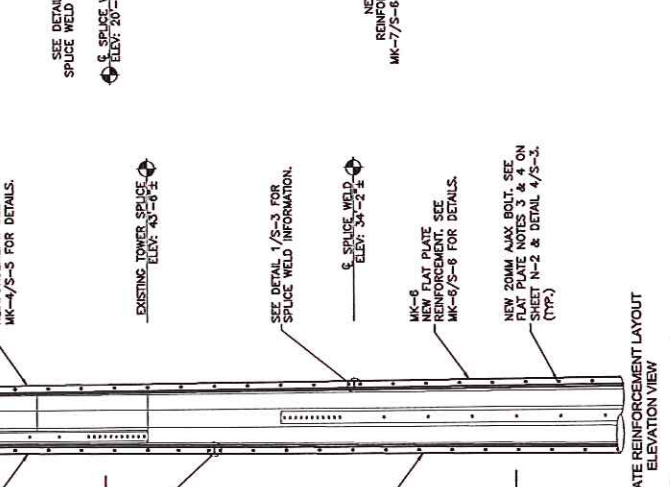
### FLAT PLATE INSTALLATION SCHEDULE

PART #	QTY.	DESCRIPTION	ELEVATION
MK-1	3	FLAT PLATE REINFORCEMENT	85'-11"± TO 100'-0"±
MK-2	3	FLAT PLATE REINFORCEMENT	84'-2"± TO 80'-2"±
MK-3	2	FLAT PLATE REINFORCEMENT	40'-8"± TO 54'-2"±
MK-4	1	FLAT PLATE REINFORCEMENT	34'-2"± TO 54'-2"±
MK-5	2	FLAT PLATE REINFORCEMENT	20'-6"± TO 40'-6"±
MK-6	1	FLAT PLATE REINFORCEMENT	14'-2"± TO 34'-2"±
MK-7	2	FLAT PLATE REINFORCEMENT	0'-6"± TO 20'-6"±
MK-8	1	FLAT PLATE REINFORCEMENT	0'-6"± TO 20'-6"±
-	335	20MM AJAX BOLTS	VARIES

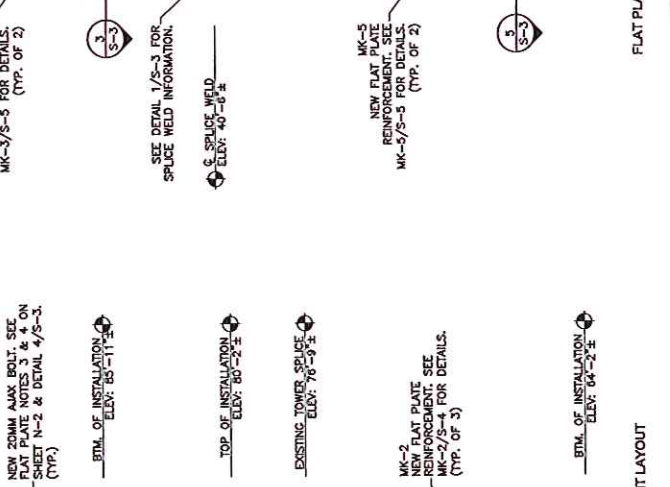
ALL NEW FLAT PLATE STEEL TO HAVE F<sub>y</sub>=65 KSI



1  
 ELEVATION  
 SCALE: 3/16" = 1'-0"



2  
 ELEVATION  
 SCALE: 3/16" = 1'-0"



3  
 ELEVATION  
 SCALE: 3/16" = 1'-0"

FLAT PLATE REINFORCEMENT LAYOUT  
 ELEVATION VIEW

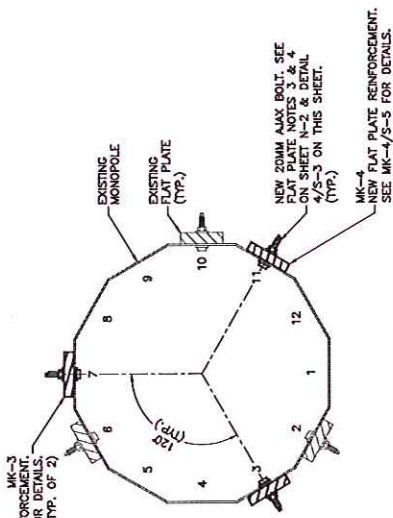
SUBMITTALS	
NO.	DESCRIPTION
1	PROVISIONAL/REVIEW
2	CONSTRUCTION
3	
4	
5	
6	

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SITE NAME:  
**GRANBY-N. GRANBY**  
 SITE NUMBER:  
**CT146134-A-03**  
 SITE ADDRESS:  
**15 NORTH GRANBY ROAD  
 GRANBY, CT 06033**

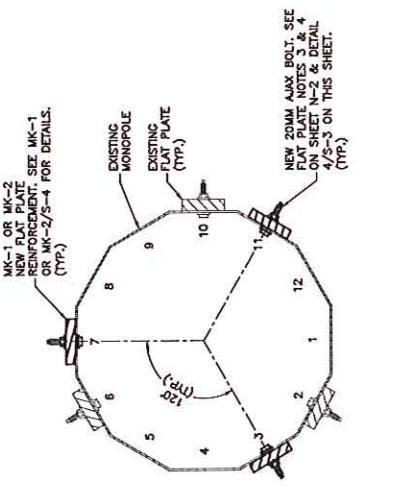
**SECONDARY INSPECTION**  
 EOR has reviewed the issues noted and passed the as-built condition(s).  
 GC has revisited the site and corrected the punchlist items shown. Documentation showing these corrections has been received by the EOR.

SHEET NUMBER  
**S-3**



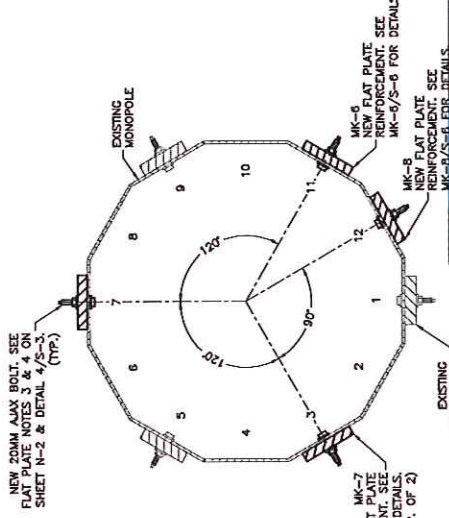
FLAT PLATE REINFORCEMENT LAYOUT SECTION VIEW

**SECTION 3**  
 S-3  
 SCALE: 3/4" = 1'-0"



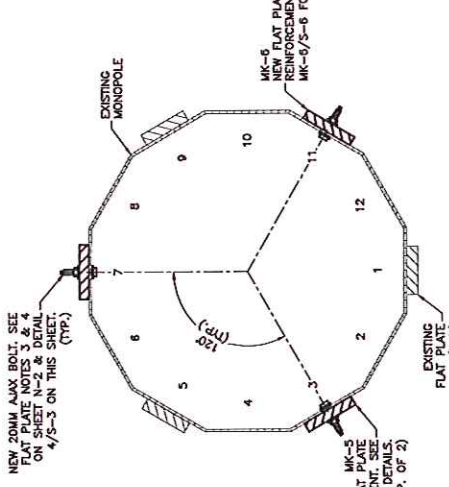
FLAT PLATE REINFORCEMENT LAYOUT SECTION VIEW

**SECTION 2**  
 S-3  
 SCALE: 3/4" = 1'-0"



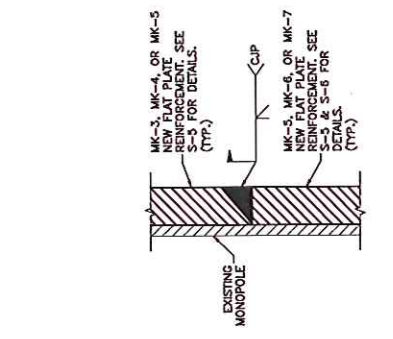
FLAT PLATE REINFORCEMENT LAYOUT SECTION VIEW

**SECTION 6**  
 S-3  
 SCALE: 3/4" = 1'-0"



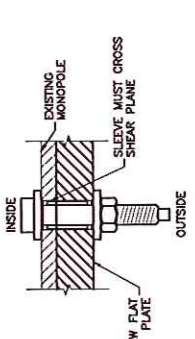
FLAT PLATE REINFORCEMENT LAYOUT SECTION VIEW

**SECTION 5**  
 S-3  
 SCALE: 3/4" = 1'-0"



SPRICE WELD ELEVATION VIEW

**SECTION 1**  
 S-3  
 NTS



AJAX BOLT ASSEMBLY PLAN VIEW

**SECTION 4**  
 S-3  
 NTS

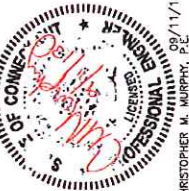






PREPARED BY:  
  
**FDH**  
 1811 HUNTERS DRIVE  
 FRODO BEAGLES  
 PHONE 860-266-0022  
 FAX 860-266-1031

PREPARED FOR:  
  
**SBA**  
 3600 BRONX SOUND PARKWAY, NW  
 ROCK HAVEN, IL 33487  
 (800) 467-5476



CHRISTOPHER M. MURPHY, P.E.  
 LICENSE NO. 23642  
 STATE OF CONNECTICUT

DATE: 09/11/13  
 DRAWN BY: JFS  
 CHECKED BY: DJ  
 TING APPROV: CMJ  
 PROJECT NO: 133731-400

DATE	DESCRIPTION	REV
09/17/13	PRELIMINARY/REVIEW	A
	CONSTRUCTION	B

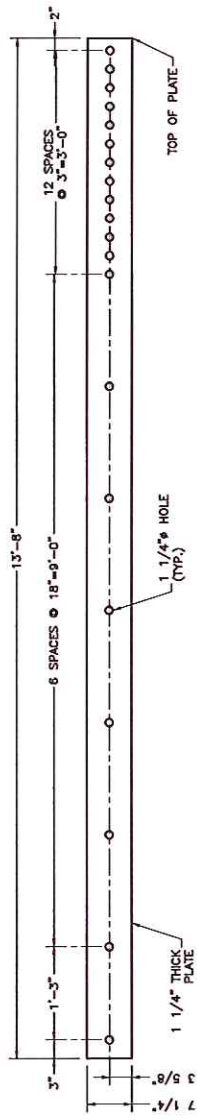
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SITE NAME:  
**GRANBY-N, GRANBY**  
 SITE NUMBER:  
**CT46134-A-03**

SITE ADDRESS:  
**15 NORTH GRANBY ROAD  
 GRANBY, CT 06033**

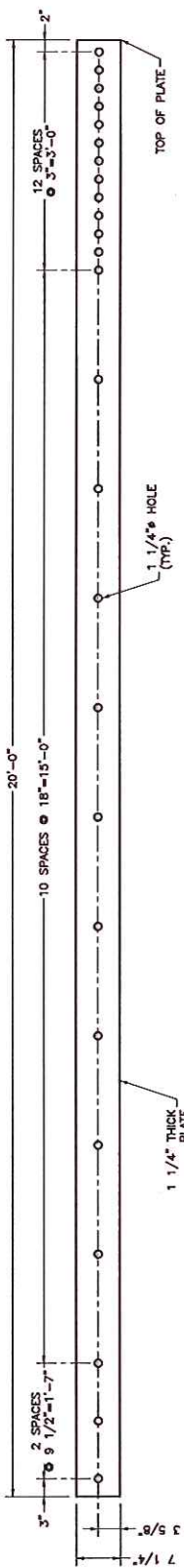
**SECONDARY INSPECTION**  
 EGR has reviewed the issues noted and passed the air-built condition(s).  
 SC has revisited the site and corrected one punchlist item shown. Documentation showing these corrections has been received by the EGR.

SHEET NUMBER  
**S-5**



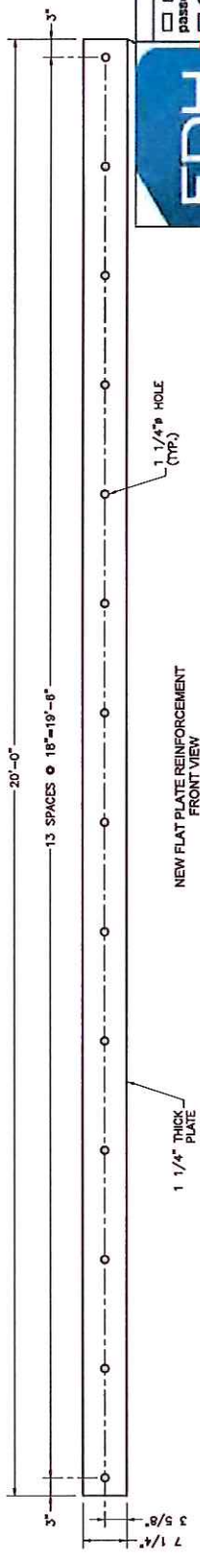
NEW FLAT PLATE REINFORCEMENT  
 FRONT VIEW

**MK-3**  
**S-5**  
 SCALE: NTS



NEW FLAT PLATE REINFORCEMENT  
 FRONT VIEW

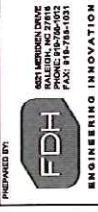
**MK-4**  
**S-5**  
 SCALE: NTS



NEW FLAT PLATE REINFORCEMENT  
 FRONT VIEW

**MK-5**  
**S-5**  
 SCALE: NTS





DRAWN BY: JFS  
 CHECKED BY: OZ  
 ENG. APPR.: CMA  
 PROJECT NO: 1331731-000

DATE: 09/11/13

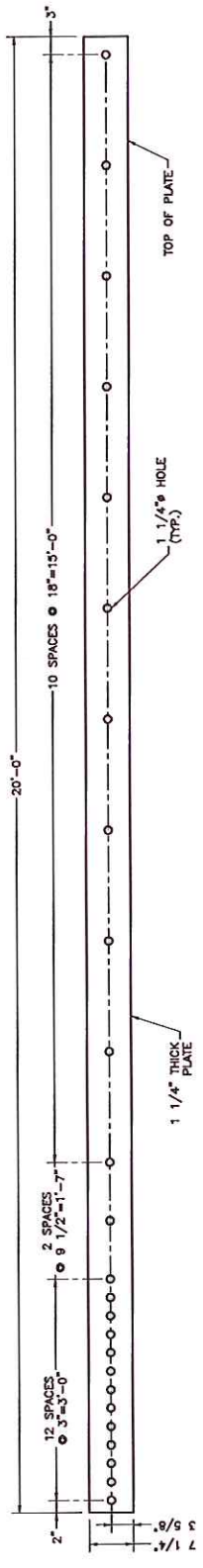
NO.	DESCRIPTION	REV.
1	FOR CONSTRUCTION	0

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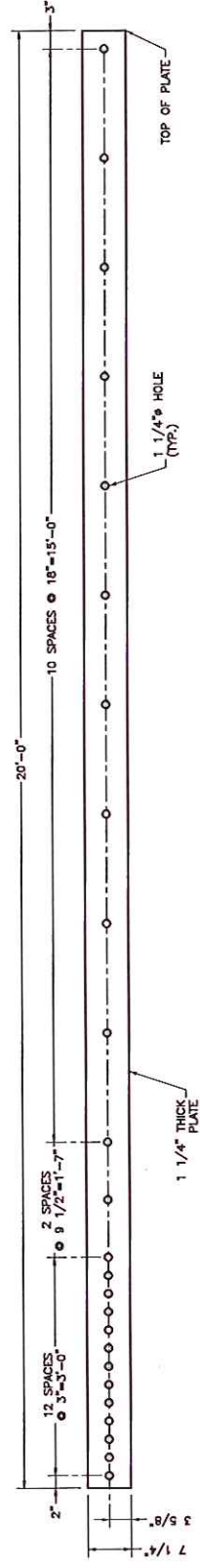
SITE NAME: GRANBY-N. GRANBY  
 SITE NUMBER: CT46134-A-03  
 SITE ADDRESS: 15 NORTH GRANBY ROAD, GRANBY, CT 06033

**SECONDARY INSPECTION**  
 EOR has reviewed the issues noted and passed the as-built condition(s).  
 GC has revisited the site and corrected the punchlist items shown. Documentation showing how the corrections has been received by EOR.

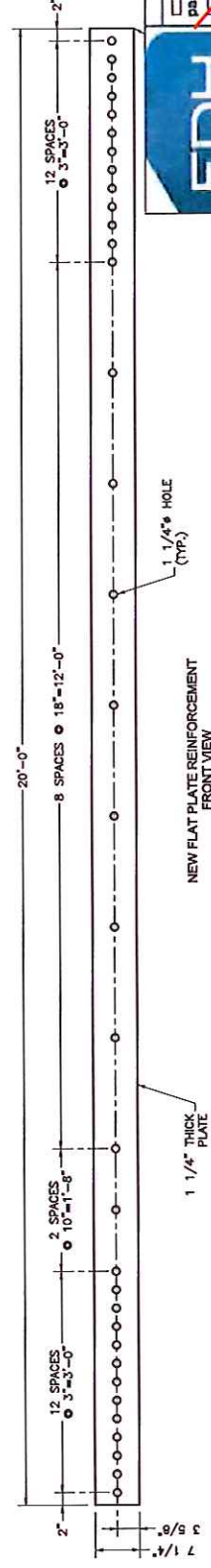
SHEET NUMBER  
**S-6**



NEW FLAT PLATE REINFORCEMENT  
 FRONT VIEW  
 MK-6  
 S-6  
 SCALE: NTS



NEW FLAT PLATE REINFORCEMENT  
 FRONT VIEW  
 MK-7  
 S-6  
 SCALE: NTS



NEW FLAT PLATE REINFORCEMENT  
 FRONT VIEW  
 MK-8  
 S-6  
 SCALE: NTS



PREPARED BY:  
**FDH**  
 ENGINEERING INNOVATION  
 1001 AMERICAN DRIVE  
 WESTPORT, CT 06880  
 PHONE: 860-766-9933  
 FAX: 860-766-1051

PREPARED FOR:  
**SBA**  
 1000 BAYVIEW SQUARE BARRINGTON, ILL  
 BARRINGTON, IL 60015  
 (847) 487-3171

REGISTERED PROFESSIONAL ENGINEER  
 STATE OF CONNECTICUT  
 CHRISTOPHER M. MURPHY, P.E.  
 LICENSE NO. 253842  
 EXPIRES 11/13

DRAWN BY: JFS  
 CHECKED BY: DJZ  
 PLO APPROV: CMM  
 PROJECT NO: 1331731400

DATE	DESCRIPTION	REV
07/26/13	PRELIMINARY REVIEW	A
09/11/13	CONSTRUCTION	B
		C
		D
		E
		F
		G
		H
		I
		J

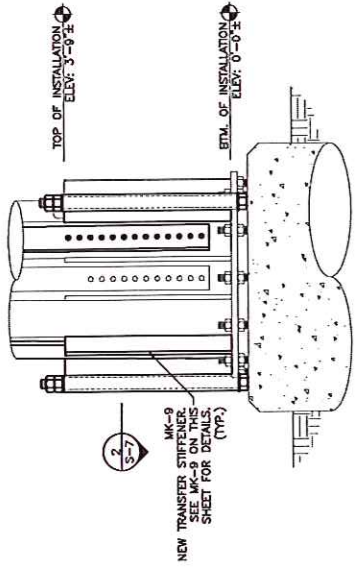
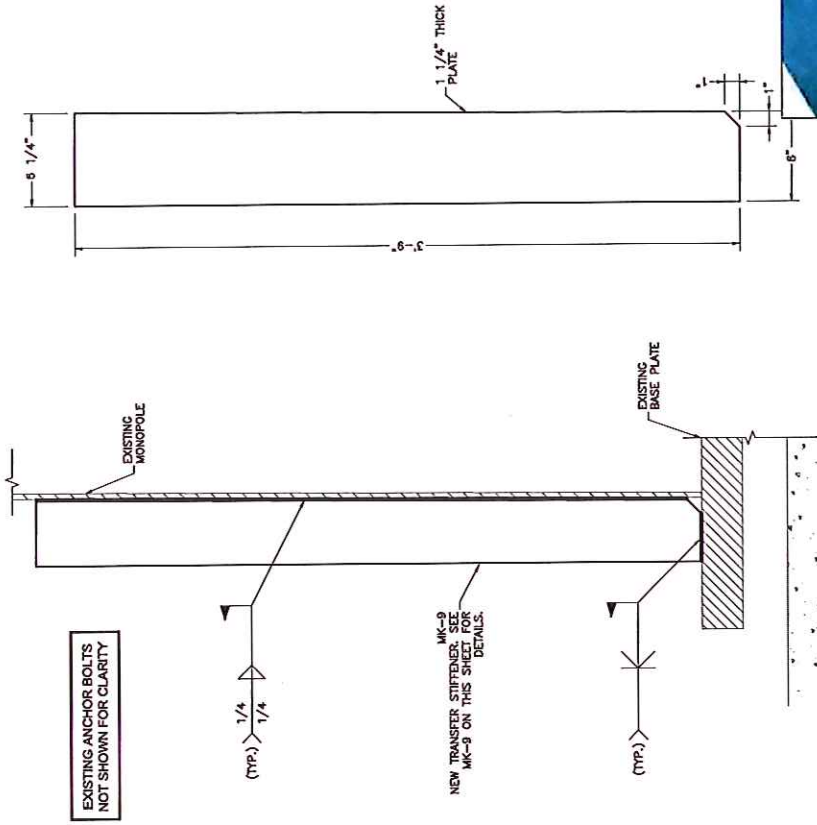
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SITE NAME:  
**GRANBY-N. GRANBY**  
 SITE NUMBER:  
**CT46134-A-03**  
 SITE ADDRESS:  
**15 NORTH GRANBY ROAD  
 GRANBY, CT 06033**

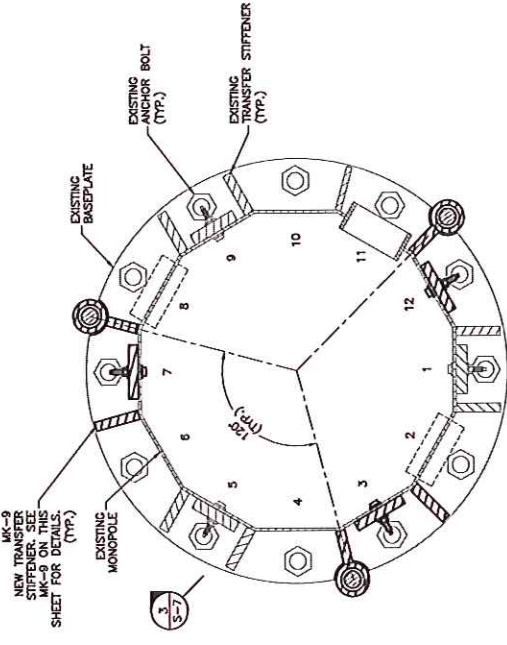
**SECONDARY INSPECTION**  
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SHEET NUMBER  
**S-7**

TRANSFER STIFFENER INSTALLATION SCHEDULE			
PART. NO	QUANTITY	DESCRIPTION	ELEVATION
MK-9	2	TRANSFER STIFFENER	0'-0"± TO 3'-9"±
ALL NEW TRANSFER STIFFENER STEEL TO HAVE Fy=65 KSI			



1 NEW TRANSFER STIFFENER LAYOUT ELEVATION VIEW SCALE: 3/8" = 1'-0"



2 NEW TRANSFER STIFFENER LAYOUT PLAN VIEW SCALE: 3/4" = 1'-0"



3 NEW TRANSFER STIFFENER WELD DETAIL FRONT VIEW NTS

4 NEW TRANSFER STIFFENER FRONT VIEW NTS

PREPARED BY:  
**FDH**  
 ENGINEERING INNOVATION  
 801 WEST WASHINGTON DRIVE  
 FORT WORTH, TEXAS 76102  
 PHONE: 817-756-9322  
 FAX: 817-756-1031

PREPARED FOR:  
**SBA**  
 3500 BROWN SOUND PARKWAY, NW  
 BOCA RATON, FL 33487  
 (561) 407-5172

**THE COMPASS ENGINEERS**  
 LICENSED PROFESSIONAL ENGINEERS  
 CHRISTOPHER M. MURPHY, P.E.  
 REGISTRATION NO. 09/11/13  
 CONNECTICUT LIC. NO. 25842

DRAWN BY: JLS  
 CHECKED BY: DZ  
 ENG. APPROV: CMM  
 PROJECT NO: 1331731400

SUBMITTALS	
DATE	DESCRIPTION
09/29/13	PRELIMINARY/REVIEW
09/11/13	CONSTRUCTION

THE INFORMATION CONTAINED IN THIS SET OF DOCUMENTS IS PROPRIETARY BY NATURE. REPRODUCTION OR CAUSING TO BE REPRODUCED IN ANY MANNER WITHOUT THE PERMISSION OF FDH ENGINEERING, INC. IS PROHIBITED.

SITE NAME:  
**GRANBY-N. GRANBY**  
 SITE NUMBER:  
**CT46134-A-03**

SITE ADDRESS:  
**15 NORTH GRANBY ROAD  
 GRANBY, CT 06033**

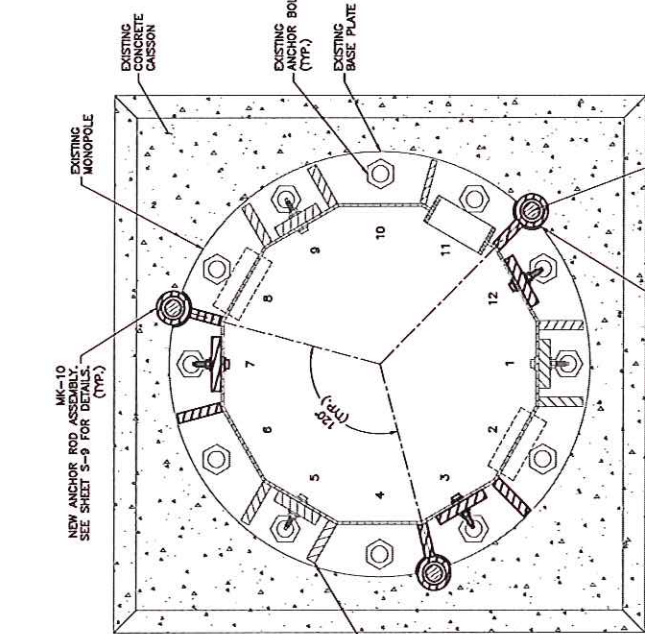
**SECONDARY INSPECTION**  
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SHEET NUMBER  
**S-8**

### ANCHOR ROD MATERIAL LIST

PART #	QTY.	DESCRIPTION	ELEVATION
MK-10	3	ANCHOR ROD ASSEMBLY	-0'-1 3/4"± TO 3'-9 1/2"±
-	3	2 1/4" (2 1/4" O.D.) ASTM A615-55 (60-75ksi) THREADED ROD X 10'-8 1/2"±	-6'-4 1/2"± TO 4'-4"±
-	6	ROUND HARDENED WASHER	-
-	9	HEAVY HEX NUT	-

CONTRACTOR TO REMOVE EXISTING STIFFENERS FOR PROPER INSTALLATION OF ANCHOR ROD ASSEMBLIES AS SHOWN.



**FDH**

CONTRACTOR TO NOTCH BASE PLATE AS REQUIRED FOR PROPER INSTALLATION OF NEW ANCHOR RODS. NOTCH NOT TO EXCEED PAST EXISTING BOLT CIRCLE (TYP.)

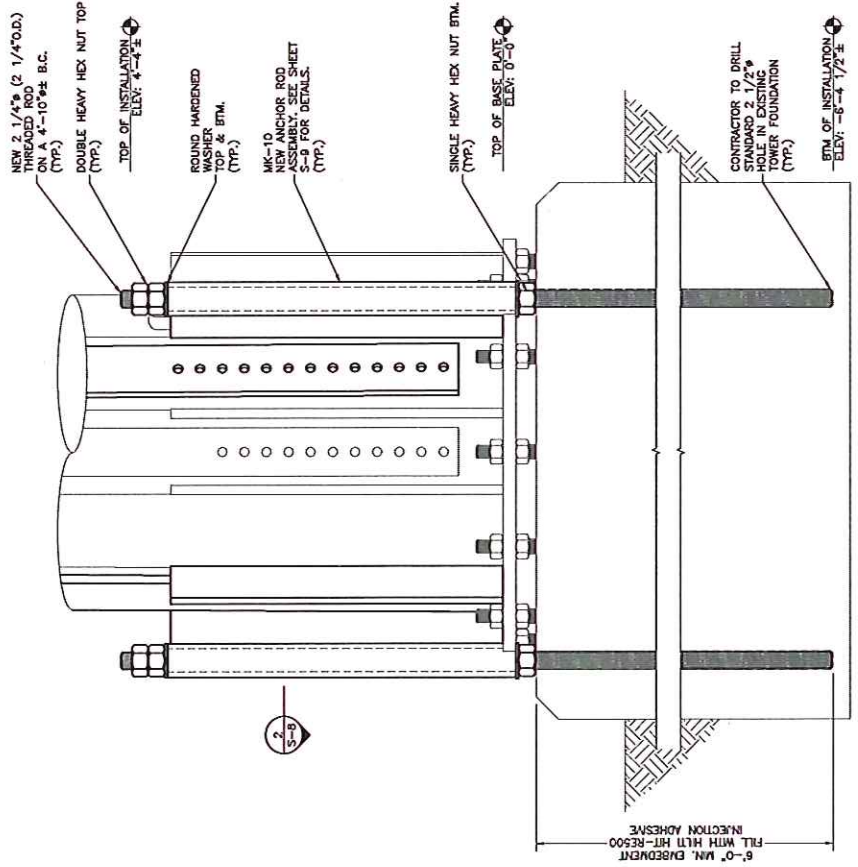
ANCHOR ROD INSTALLATION SECTION VIEW

SECTION  
 2  
 S-8 SCALE: 3/4" = 1'-0"

CONTRACTOR TO PROVIDE PHOTOS OF THE ANCHOR ROD HOLES TO FDH CONSTRUCTION MANAGER PRIOR TO INSTALLING NEW ANCHOR RODS. PHOTOS MUST SHOW THE DEPTH AND DIAMETER OF ANCHOR ROD HOLES.

PISTON PLUGS TO BE USED IN ALL INJECTION ADHESIVE APPLICATIONS

PULL TEST SHOULD BE PERFORMED PER PULL TEST NOTES ON SHEET N-2. THE TARGET TENSION OF THIS PULL TEST IS 185K.



ANCHOR ROD INSTALLATION ELEVATION VIEW

ELEVATION  
 1  
 S-8 SCALE: 3/4" = 1'-0"


**FDH**  
 WILLIAMSDALE DRIVE  
 PROPOC 09426-0025  
 FAX: 918-756-1071  
**ENGINEERING INNOVATION**

PREPARED FOR:  

**SBA**  
 3000 BROOKLYN BOUND PARKWAY, NW  
 ROCKY MOUNT, IL 33487  
 (800) 461-5476


 PROFESSIONAL ENGINEER  
 CHRISTOPHER M. MURPHY, P.E.  
 CONNECTICUT LIC. NO. 25842  
 09/11/13

DRAWN BY: JFS  
 CHECKED BY: DZ  
 TNG APP'D: CMM  
 PROJECT NO.: 133737-400

SUBMITTALS	
DATE	DESCRIPTION
08/29/13	PRELIMINARY/REVIEW
09/17/13	CONSTRUCTION

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SITE NAME:  
**GRANBY-N. GRANBY**  
 SITE NUMBER:  
**CT46134-A-03**

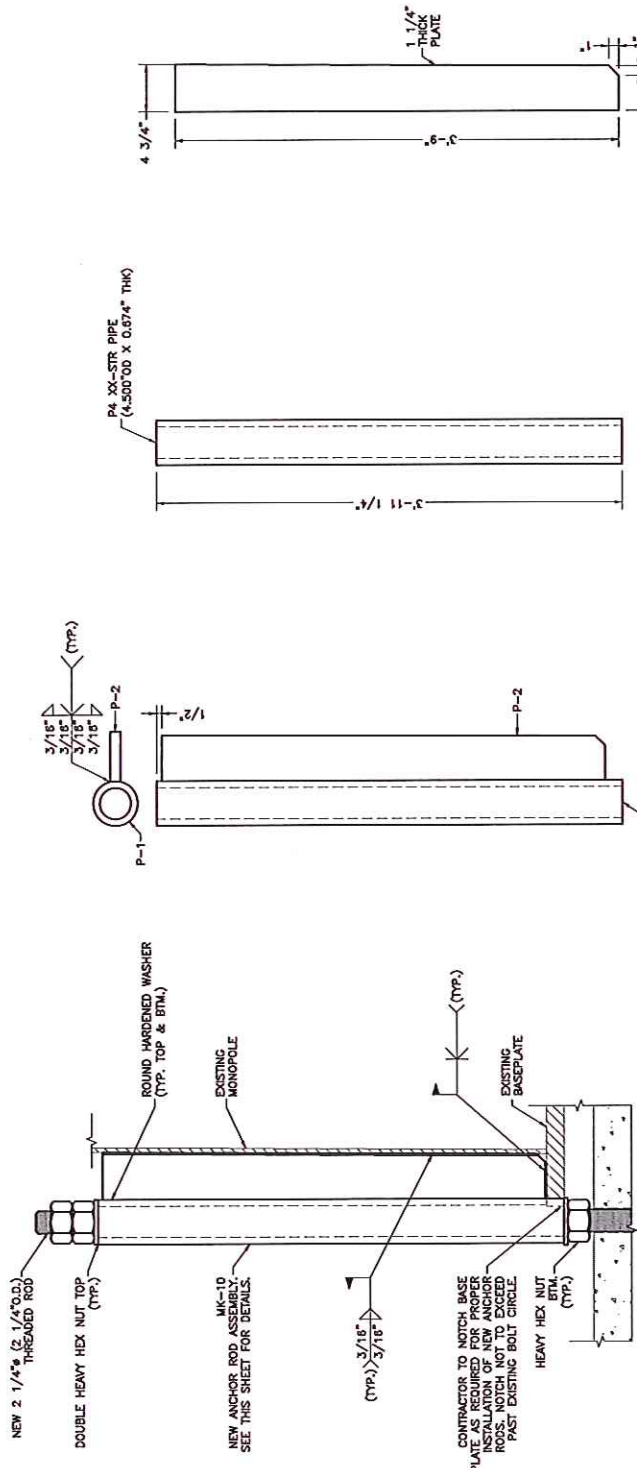
SITE ADDRESS:  
**15 NORTH GRANBY ROAD  
 GRANBY, CT 06033**

**SECONDARY INSPECTION**  
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 GC has revisited the site and corrected the punchlist items shown. Documentation showing these corrections has been received by the EOR.

SHEET NUMBER  
**S-9**

PART. NO.	QTY.	DESCRIPTION
P-1	3	ANCHOR ROD SLEEVE
P-2	3	TRANSFER PLATE

EXISTING ANCHOR BOLTS NOT SHOWN FOR CLARITY



ANCHOR ROD ASSEMBLY WELDED DETAIL  
 ELEVATION VIEW  
 1  
 S-9  
 SCALE: 1" = 1'-0"

ANCHOR ROD ASSEMBLY  
 TOP & SIDE VIEW  
 MK-10  
 S-9  
 SCALE: 1" = 1'-0"

ANCHOR ROD SLEEVE  
 SIDE VIEW  
 P-1  
 S-9  
 SCALE: 1" = 1'-0"

P4 2X-STR. PIPE  
 (4.500 OD X 0.374" THK)

1 1/4" THICK PLATE



---

FDH Engineering, Inc., 6521 Meridien Dr. Suite 170, Raleigh, NC, 27616, Ph. 919.755.1012, Fax 919.755.1031

June 30, 2014

Mr. Steven Strickland  
FDH Inc.  
6521 Meridien Dr.  
Raleigh, NC 27616

RE: Inspection and Anchor Pull Test  
SBA Site Name: Granby-N. Granby  
SBA Site ID: CT46134-A-03  
FDH Job #1467VI1500

Dear Steven:

The modification anchor rods installed at the Granby-N. Granby (CT46134-A-03) in Granby, CT pass the acceptance criteria set forth by FDH Engineering Project 1331731400 Dated 9/11/2013. All three (3) anchors were tested and passed the test criteria.

Should you require additional information, please do not hesitate to contact our office.

Sincerely,

A handwritten signature in black ink, appearing to read "Grady A. McCollum", written in a cursive style.

Grady A. McCollum, PE  
Project Manager  
Engineering Investigative Services



Project, Anchor, and Test Equipment Information	
<b>Project Information</b>	
Project	Granby-N. Granby
Site ID	CT43134-A-03
Location	Granby, CT
FDH Job #	1467V11500
Test Date	6/26/2014
Test Company	FDH Engineering, Inc.
Technician	Scott Ferry
Weather	80°F, Partly Cloudy
<b>Jack Information</b>	
Hydraulic Area	16.21 in <sup>2</sup>
<b>Gauge Information</b>	
Pressure Gauge ID	1042097A
Calibration Date	5/12/2014
Displacement Gauge ID	5926
Calibration Date	2/20/2014

Load Test Field Data					
Pre-Test Field Data					
Reading	Duration (min)	Load Percentage	Load Applied (kips)	Gauge Pressure (psi)	Gauge Displacement (in)
1	1	30%	58.4	3600	0.041
2	1	60%	116.7	7200	0.095
3	1	100%	197.8	12200	0.186
Residual		0%	0.0	0	0.017
Load Test 1 Field Data					
Reading	Duration (min)	Load Percentage	Load Applied (kips)	Gauge Pressure (psi)	Gauge Displacement (in)
1	2	0%	0.0	0	0.000
2	2	5%	9.7	600	0.005
3	2	15%	29.2	1800	0.020
4	2	30%	58.4	3600	0.035
5	2	45%	87.5	5400	0.072
6	2	60%	116.7	7200	0.099
7	2	75%	145.9	9000	0.125
8	2	90%	175.1	10800	0.154
	2	100%	197.8	12200	0.172
		0%	0.0	0	0.005

Summary of Results	
<b>Anchor Information</b>	
Anchor ID	1
Anchor Location	Northeast
Anchor Size	2.25 in
Anchor Grade	75 ksi
Anchor Proof Load	195 kips
Residual Displacement (in)	
Pre-Test	0.017
Test 1	0.005
Test 2	-
Test 3	-
<b>Result Summary Comments</b>	
PASS	
Refer to FDH Engineering, Inc. Project 1331731400 Dated 9/11/2013 for passing criteria.	



Project, Anchor, and Test Equipment Information	
<b>Project Information</b>	
Project	Granby-N. Granby
Site ID	CT43134-A-03
Location	Granby, CT
FDH Job #	1467V11500
Test Date	6/26/2014
Test Company	FDH Engineering, Inc.
Technician	Scott Ferry
Weather	80°F, Partly Cloudy
<b>Jack Information</b>	
Hydraulic Area	16.21 in <sup>2</sup>
<b>Gauge Information</b>	
Pressure Gauge ID	1042097A
Calibration Date	5/12/2014
Displacement Gauge ID	5926
Calibration Date	2/20/2014

Load Test Field Data					
Pre-Test Field Data					
Reading	Duration (min)	Load Percentage	Load Applied (kips)	Gauge Pressure (psi)	Gauge Displacement (in)
		0%	0.0	0	0.000
1	1	30%	58.4	3600	0.041
2	1	60%	116.7	7200	0.088
3	1	100%	197.8	12200	0.172
Residual		0%	0.0	0	0.021

Load Test 1 Field Data					
Reading	Duration (min)	Load Percentage	Load Applied (kips)	Gauge Pressure (psi)	Gauge Displacement (in)
		0%	0.0	0	0.000
1	2	5%	9.7	600	0.005
2	2	15%	29.2	1800	0.018
3	2	30%	58.4	3600	0.037
4	2	45%	87.5	5400	0.059
5	2	60%	116.7	7200	0.085
6	2	75%	145.9	9000	0.113
7	2	90%	175.1	10800	0.139
8	2	100%	197.8	12200	0.161
		0%	0.0	0	0.006

Summary of Results	
<b>Anchor Information</b>	
Anchor ID	2
Anchor Location	South
Anchor Size	2.25 in
Anchor Grade	75 ksi
Anchor Proof Load	195 kips
Residual Displacement (in)	
Pre-Test	0.021
Test 1	0.006
Test 2	-
Test 3	-
<b>Result Summary Comments</b>	
Refer to FDH Engineering, Inc. Project 1331731400 Dated 9/11/2013 for passing criteria.	
<b>PASS</b>	





Project, Anchor, and Test Equipment Information	
Project Information	
Project	Granby-N. Granby
Site ID	CT43134-A-03
Location	Granby, CT
FDH Job #	1467V11500
Test Date	6/26/2014
Test Company	FDH Engineering, Inc.
Technician	Scott Ferry
Weather	80°F, Partly Cloudy
Jack Information	
Hydraulic Area	16.21 in <sup>2</sup>
Gauge Information	
Pressure Gauge ID	1042097A
Calibration Date	5/12/2014
Displacement Gauge ID	5926
Calibration Date	2/20/2014

Load Test Field Data					
Pre-Test Field Data					
Reading	Duration (min)	Load Percentage	Load Applied (kips)	Gauge Pressure (psi)	Gauge Displacement (in)
		0%	0.0	0	0.000
1	1	30%	58.4	3600	0.043
2	1	60%	116.7	7200	0.094
3	1	100%	197.8	12200	0.172
Residual		0%	0.0	0	0.015
Load Test 1 Field Data					
Reading	Duration (min)	Load Percentage	Load Applied (kips)	Gauge Pressure (psi)	Gauge Displacement (in)
		0%	0.0	0	0.000
1	2	5%	9.7	600	0.007
2	2	15%	29.2	1800	0.019
3	2	30%	58.4	3600	0.037
4	2	45%	87.5	5400	0.073
5	2	60%	116.7	7200	0.093
6	2	75%	145.9	9000	0.117
7	2	90%	175.1	10800	0.144
8	2	100%	197.8	12200	0.167
		0%	0.0	0	0.003

Summary of Results	
Anchor Information	
Anchor ID	3
Anchor Location	West
Anchor Size	2.25 in
Anchor Grade	75 ksi
Anchor Proof Load	195 kips
Residual Displacement (in)	
Pre-Test	0.015
Test 1	0.003
Test 2	-
Test 3	-
Result Summary Comments	
PASS	
Refer to FDH Engineering, Inc. Project 1331791400 Dated 9/11/2013 for passing criteria.	