



Structural Special Inspections Report

Elm Terrace

Portland, ME
October 15, 2012

*66 Hisk St
2012-02-3048
44-F-1*

Report Prepared by:

Structural Engineer of Record
Becker Structural Engineers, Inc.
75 York Street
Portland, ME 04101
207. 879. 1838

Structural Statement of Special Inspections

Elm Terrace

Portland, Maine
October 15, 2012

Statement Prepared by:

Structural Engineer of Record
Becker Structural Engineers, Inc.
75 York Street
Portland, ME 04101
207. 879. 1838

Owner
Children's Hospital Housing Partners, LP
c/o Community Housing of Maine
309 Cumberland Ave., Ste. 203
Portland, ME 04101
207. 879. 0347

Architect of Record
CWS Architects
434 Cumberland Ave.
Portland, ME 04101
207. 774. 4441

General Contractor
Wright-Ryan Construction
10 Danforth St.
Portland, ME 04101
207. 773. 3625



Elm Terrace

Portland, Maine
October 15, 2012

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Special Inspections – Exhibit A

Statement of Special Inspections
List of Agents
Final Report of Special Inspections
Special Inspector/Agent Report
Qualifications of Inspectors and Technicians
List of Minimum Qualifications

Project: Elm Terrace
Date Prepared: September 8, 2011

Structural Statement of Special Inspections

Project: *Elm Terrace*
Location: *Portland, ME*
Owner: *Children's Hospital Housing Partners, LP c/o Community Housing of Maine*

This *Statement of Special Inspections* encompass the following discipline: **Structural**

This *Statement of Special Inspections* is submitted as a condition for permit issuance in accordance with the Special Inspection and Structural Testing requirements of the Building Code. It includes a schedule of Special Inspection services applicable to this project as well as the name of the Structural Special Inspection Coordinator (SSIC) and the identity of other approved agencies to be retained for conducting these inspections and tests.

The Structural Special Inspection Coordinator shall keep records of all Structural inspections and shall furnish inspection reports to the Building Code Official (BCO) and the Structural Registered Design Professional in Responsible Charge (SRDP). Discovered discrepancies shall be brought to the immediate attention of the Contractor for correction. If such discrepancies are not corrected, the discrepancies shall be brought to the attention of the Building Official and the Structural Registered Design Professional in Responsible Charge. The Special Inspection program does not relieve the Contractor of his or her responsibilities.

Interim reports shall be submitted to the Building Official and the Structural Registered Design Professional in Responsible Charge at an interval determined by the SSIC and the BCO.

A *Final Report of Special Inspections* documenting completion of all required Special Inspections, testing and correction of any discrepancies noted in the inspections shall be submitted to the BCO prior to issuance of a Certificate of Use and Occupancy.

Job site safety and means and methods of construction are solely the responsibility of the Contractor.

Interim Report Frequency: Upon request of Building Official _____ or per attached schedule.

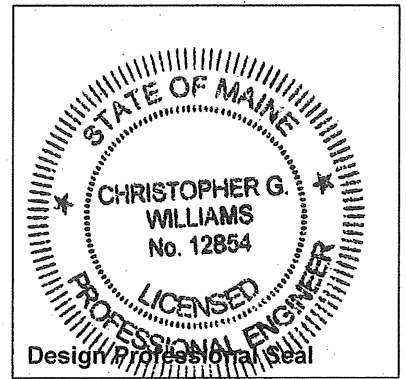
Prepared by:

Christopher G. Williams, P.E., S.E.

(type or print name of the Structural Registered Design Professional in Responsible Charge)

Chris G. Williams
Signature

10/15/2012
Date



Owner's Authorization:

Building Code Official's Acceptance:

Sam Coopersides, Dev. Director
Signature _____ Date _____
CHAM Development Corporation, G.P. of
Children's Hospital Housing Partners, L.P.

Signature _____ Date _____

Project: Elm Terrace
 Date Prepared: September 8, 2011

Structural Statement of Special Inspections (Continued)

List of Agents

Project: Elm Terrace
 Location: Portland, ME
 Owner: Children's Hospital Housing Partners, LP c/o Community Housing of Maine
 This Statement of Special Inspections encompass the following discipline: **Structural**

(Note: Statement of Special Inspections for other disciplines may be included under a separate cover)

This Statement of Special Inspections / Quality Assurance Plan includes the following building systems:

- Soils and Foundations
- Cast-in-Place Concrete
- Precast Concrete System
- Structural Masonry Systems
- Structural Steel
- Wood Construction
- Special Cases

Special Inspection Agencies	Firm	Address, Telephone, e-mail
1. STRUCTURAL Special Inspections Coordinator (SSIC)	Becker Structural Engineers, Inc.	75 York St. Portland, ME 04101 (207) 879-1838 info@beckerstructural.com
2. Special Inspector (SI 1)	Becker Structural Engineers, Inc.	75 York St. Portland, ME 04101 (207) 879-1838 info@beckerstructural.com
3. Special Inspector (SI 2)	Summit Environmental Consultants, Inc.	434 Cony Rd. Augusta, ME 04430 (207) 621-8334
4. Testing Agency (TA 1)	Summit Environmental Consultants, Inc.	434 Cony Rd. Augusta, ME 04430 (207) 621-8334
5. Testing Agency (TA 2)		
6. Other (O1)		

Note: The inspectors and testing agencies shall be engaged by the Owner or the Owner's Agent, and not by the Contractor or Subcontractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official, prior to commencing work.

Project: Elm Terrace
Date Prepared: September 8, 2011

Structural Statement of Special Inspections (Continued)

Final Report of Special Inspections (SSIC/SI 1)

[To be completed by the Structural Special Inspections Coordinator (SSIC/SI 1). Note that all Agent's Final Reports must be received prior to issuance.]

Project: *Elm Terrace*
Location: *Portland, ME*
Owner: *Children's Hospital Housing Partners, LP c/o Community Housing of Maine*
Owner's Address: *309 Cumberland Ave Ste. 203.*
Portland, ME 04101
Architect of Record: *Benedict Walter, AIA* *CWS Architects*
(name) *(firm)*
Structural Registered Design
Professional in Responsible Charge: *Christopher G. Williams, P.E., S.E.* *Becker Structural Engineers, Inc.*
(name) *(firm)*

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.

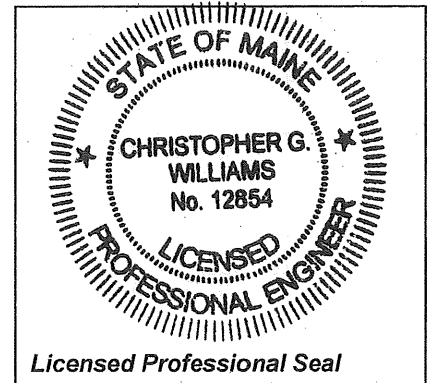
Interim reports submitted prior to this final report form a basis for and are to be considered an integral part of this final report.

Respectfully submitted,
Structural Special Inspection Coordinator

Christopher G. Williams, P.E., S.E.
(Type or print name)

Becker Structural Engineers, Inc.
(Firm Name)

Chris G. Williams 10/15/2012
Signature Date



Project: Elm Terrace
Date Prepared: September 8, 2011

Structural Statement of Special Inspections (Continued)
Special Inspector's/Agent's Final Report

Project: Elm Terrace
Special Inspector or Agent: William Peterlein Summit Geoenvironmental Services, Inc
Designation: SI2 (firm)

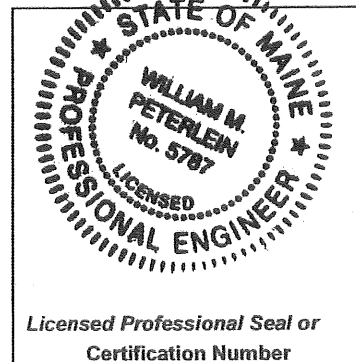
To the best of my information, knowledge and belief, the Special Inspections or testing required for this project, and designated for this Inspector/Agent in the *Statement of Special Inspections* submitted for permit, have been performed and all discovered discrepancies have been reported and resolved.

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 or Agent:

William Peterlein
(Type or print name)

William Peterlein 9-19-12
Signature Date



Project: Elm Terrace
Date Prepared: September 8, 2011

Structural Statement of Special Inspections (Continued)
Special Inspector's/Agent's Final Report

Project: Elm Terrace
Special Inspector or Agent: DARRELL A. GILMAN SUMMIT ENVIRONMENTAL CONSULTANT
(name) (firm)
Designation: TAI

To the best of my information, knowledge and belief, the Special Inspections or testing required for this project, and designated for this Inspector/Agent in the *Statement of Special Inspections* submitted for permit, have been performed and all discovered discrepancies have been reported and resolved.

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 or Agent:

DARRELL A. GILMAN
(Type or print name)

[Signature] SEPTEMBER 17, 2012
Signature Date

Seal not Required for Testing Agency

Licensed Professional Seal or Certification Number

Structural Schedule of Special Inspections

Qualifications of Inspectors and Testing Technicians

The qualifications of all personnel performing Special Inspection and testing activities are subject to the approval of the Building Official. The credentials of all Inspectors and testing technicians shall be provided to the Special Inspector for their records. *NOTE VERIFICATION THAT QUALIFIED INDIVIDUALS ARE AVAILABLE TO PERFORM STIPULATED TESTING AND/OR INSPECTION SHOULD BE PROVIDED PRIOR TO SUBMITTING STATEMENT. AGENT QUALIFICATIONS IN SCHEDULE ARE SUGGESTIONS ONLY; FINAL QUALIFICATIONS ARE SUBJECT TO THE DISCRETION OF THE REGISTERED DESIGN PROFESSIONAL PREPARING THE SCHEDULE.*

Key for Minimum Qualifications of Inspection Agents:

When the Registered Design Professional in Responsible Charge or Special Inspector of Record deems it appropriate that the individual performing a stipulated test or inspection have a specific certification, license or experience as indicated below, such requirement shall be listed below and shall be clearly identified within the schedule under the Agent Qualification Designation.

PE/SE Structural Engineer – a licensed SE or PE specializing in the design of building structures
PE/GE Geotechnical Engineer – a licensed PE specializing in soil mechanics and foundations
EIT Engineer-In-Training – a graduate engineer who has passed the Fundamentals of Engineering examination

Experienced Testing Technician

ETT Experienced Testing Technician – An Experienced Testing Technician with a minimum 5 years experience with the stipulated test or inspection

American Concrete Institute (ACI) Certification

ACI-CFTT Concrete Field Testing Technician – Grade 1
ACI-CCI Concrete Construction Inspector
ACI-LTT Laboratory Testing Technician – Grade 1&2
ACI-STT Strength Testing Technician

American Welding Society (AWS) Certification

AWS-CWI Certified Welding Inspector
AWS/AISC-SSI Certified Structural Steel Inspector

American Society of Non-Destructive Testing (ASNT) Certification

ASNT Non-Destructive Testing Technician – Level II or III.

International Code Council (ICC) Certification

ICC-SMSI Structural Masonry Special Inspector
ICC-SWSI Structural Steel and Welding Special Inspector
ICC-SFSI Spray-Applied Fireproofing Special Inspector
ICC-PCSI Prestressed Concrete Special Inspector
ICC-RCSI Reinforced Concrete Special Inspector

National Institute for Certification in Engineering Technologies (NICET)

NICET-CT Concrete Technician – Levels I, II, III & IV
NICET-ST Soils Technician - Levels I, II, III & IV
NICET-GET Geotechnical Engineering Technician - Levels I, II, III & IV

Other

Special Inspections – Exhibit B

Schedules of Structural Inspections
Observation and Test Reports
Design and Product Data

EXHIBIT B

02000 Soils and Foundations

Project: Elm Terrace

Date Prepared: September 8, 2011

Structural Schedule of Special Inspections

SOILS & FOUNDATION CONSTRUCTION

VERIFICATION AND INSPECTION	REQD Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	TASK COMPLETED
IBC Section 1704.7, 1704.8, 1704.9						
1. Required Verification and Inspection of Soils:						
a. Verify materials below shallow foundations are adequate to achieve the design bearing capacity.	Y	P	IBC 1704.7	SI2	PE/GE, EIT or ETT	3/5/12 – 7/2/12
b. Verify excavations are extended to proper depth and have reached proper material.	Y	P	IBC 1704.7	SI2	PE/GE, EIT or ETT	3/5/12 – 7/2/12
c. Perform classification and testing of compacted fill materials.	Y	P	IBC 1704.7	TA1	PE/GE, EIT or ETT	3/5/12 – 7/2/12
d. Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.	Y	C	IBC 1704.7	TA1	PE/GE, EIT or ETT	3/5/12 – 7/2/12
e. Prior to placement of compacted fill, observe subgrade and verify that site has been prepared properly.	Y	P	IBC 1704.7	SI2	PE/GE, EIT or ETT	3/5/12 – 7/2/12
2. Required Verification and Inspection of Driven Deep Foundation Elements:						
a. Verify element materials, sizes and lengths comply with the requirements.	N	C	IBC 1704.8	TA1	PE/GE, EIT or ETT	
b. Determine capacities of test elements and conduct additional load tests, as required.	N	C	IBC 1704.8	SI2	PE/GE, EIT or ETT	
c. Observe driving operations and maintain complete and accurate records for each element.	N	C	IBC 1704.8	TA1	PE/GE, EIT or ETT	
d. Verify placement locations and plumbness, confirm type and size of hammer, record number of blows per foot of penetration, determine required penetrations to achieve design capacity, record tip and butt elevations and document any damage to foundation element.	N	C	IBC 1704.8	TA1	PE/GE, EIT or ETT	
3. Required Verification and Inspection of Cast-in-Place Deep Foundation Elements:						
a. Observe drilling operations and maintain complete and accurate records for each element.	N	C	IBC 1704.9	TA1	PE/GE, EIT or ETT	
b. Verify placement locations and plumbness, confirm element diameters, bell diameters (if applicable), lengths, embedment into bedrock (if applicable) and adequate end bearing strata capacity. Record concrete or grout volumes.	N	C	IBC 1704.9	TA1	PE/GE, EIT or ETT	

See Concrete, Masonry, and/or Steel Schedules for additional material inspections for deep foundation elements as applicable.

DAILY FIELD REPORT

Date: 3/5/12
Project: Elm Terrace Housing - Portland, Maine
Project #: 14670
Site Contacts: Bruce Morgan - Wright-Ryan Construction
Purpose of Visit: Soil Inspection

Work Activities: A crew from Eastern Excavation Inc. has dewatered the area for the retaining wall and then excavated down to the bottom of footing elevation (61.0) at approximately column line 3. The soil is consistent with the geotechnical soil identification of dense silty glacial till, which was free of frost, debris and was relatively dry. The Wright-Ryan site supervisor, Bruce Morgan, informed me that he plans on placing crushed stone when the entire footing has been excavated to provide a clean and stable surface to work upon, as stated in the geotech report, section 4 - 4.1. Proof rolling for the bottom of the footing, as stated in the geotechnical report, has not been completed at this time.

Test Results:

Remarks:

Portal to Portal

Leave:	<u>7:00am</u>	<u>Expenses</u>	
Return:	<u>11:00am</u>	Mileage:	<u>80</u>
TOTAL:	<u>4</u>	Density Gauge:	<u> </u>
		Other:	<u> </u>

Signed: Frank Clark
cc: E. Cooperrider - CHOM

Reviewed: Darrell A. Gilman, CMT Manager
Date: 3/6/12

DAILY FIELD REPORT

Date: 3/15/12
Project: Elm Terrace Housing - Portland, Maine
Project #: 14670
Site Contacts: Bruce Morgan - Wright-Ryan Construction
Purpose of Visit: Soil Inspection

Work Activities: Upon my arrival, the crew from Eastern Excavation Inc. had not yet had a chance to start the excavation for the retaining wall footing that runs parallel with High street. Mr. Bruce Morgan with Wright Ryan requested that I wait on site until the contractor was able to start the excavation. Due to problems with placing the under drain at the retaining wall that runs along the Kelly property, Eastern Excavation Inc. was unable to start excavation for the footings.

Test Results:

Remarks:

Portal to Portal

Leave:	<u>12:00pm</u>	<u>Expenses</u>	
Return:	<u>5:00pm</u>	Mileage:	<u>80</u>
TOTAL:	<u>5</u>	Density Gauge:	<u> </u>
		Other:	<u> </u>

Signed: Frank Clark
cc: E. Cooperrider - CHOM

Reviewed: Darrell A. Gilman, CMT Manager
 Date: 3/6/12

DAILY FIELD REPORT

Date: 3/19/12
Project: Elm Terrace Housing - Portland, Maine
Project #: 14670
Site Contacts: Bruce Morgan- Wright-Ryan Construction
Purpose of Visit: Soil Inspection

Work Activities: A crew from Eastern Excavation Inc. started excavation down to the bottom of footing at approximately column line 5 from D.1 to D.9 and line E from 5 to 2. The soil is consistent with the geotechnical soil identification of dense silty glacial till, which contained no debris and was relatively dry. The contractor placed crushed stone along column line 5 and placed a sump pit with a pump for dewatering. Proof rolling for the bottom of the footing, as stated in the geotechnical report, has not been completed at this time.

Test Results:

Remarks:

Portal to Portal

Leave:	<u>11:00am</u>	<u>Expenses</u>	
Return:	<u>5:30pm</u>	Mileage:	<u>80</u>
TOTAL:	<u>6</u>	Density Gauge:	<u> </u>
		Other:	<u> </u>

Signed: Frank Clark
cc: E. Cooperrider - CHOM

Reviewed: Darrell A. Gilman, CMT Manager
Date: 3/20/12

DAILY FIELD REPORT

Date: 3/20/12
Project: Elm Terrace Housing - Portland, Maine
Project #: 14670
Site Contacts: Bruce Morgan- Wright-Ryan Construction
Purpose of Visit: Soil Inspection

Work Activities: A crew from Eastern Excavation Inc. continued excavation down to the bottom of footing at approximately column line 1 from C.8 to E and line E from 2 to 1. The soil is consistent with the geotechnical soil identification of dense silty glacial till, which contained no debris and was relatively dry. The contractor continued to place crushed stone to bottom of footing elevation (approximately 61+00) and a pump continued dewatering. Proof rolling for the bottom of the footing with the use of a small vibratory compactor was observed.

Test Results:

Remarks: Mileage split with another project covered in Westbrook.

Portal to Portal

Leave:	6:30am	<u>Expenses</u>	
Return:	12:30pm	Mileage:	60
TOTAL:	4.5	Density Gauge:	
		Other:	

Signed: Frank Clark
cc: E. Cooperrider - CHOM

Reviewed: Darrell A. Gilman, CMT Manager
 Date: 3/20/12

DAILY FIELD REPORT

Date: 4/3/12
Project: Elm Terrace Housing - Portland, Maine
Project #: 14670
Site Contacts: Bruce Morgan- Wright-Ryan Construction
Purpose of Visit: Soil Inspection, Cylinder Retrieval

Work Activities: A crew from Eastern Excavation Inc. continued excavation down to the bottom of footing at approximately column line 1 from C.8 to A and line A from 2 to 1. The soil is consistent with the geotechnical soil identification of dense silty glacial till, which contained no debris and was relatively dry. The contractor continued to place crushed stone to bottom of footing elevation (approximately 61+00) and a pump continued dewatering. Proof rolling for the bottom of the footing with the use of a small vibratory compactor was observed and looked good with no sign of deflection or loose wet material filtering up through the stone. Retrieved one set of concrete test cylinders cast on 4/2/2012 for controlled storage and compressive strength testing.

Test Results:

Remarks: Mileage split with another project covered in Portland.

Portal to Portal

Leave:	<u>12:00pm</u>	<u>Expenses</u>	
Return:	<u>1:30pm</u>	Mileage:	<u>40</u>
TOTAL:	<u>1.5</u>	Density Gauge:	<u> </u>
		Other:	<u> </u>

Signed: Frank Clark
cc: E. Cooperrider - CHOM

Reviewed: Darrell A. Gilman, CMT Manager
Date: 4/4/12

DAILY FIELD REPORT

Date: 4/26/12
Project: Elm Terrace Housing - Portland, Maine
Project #: 14670
Site Contacts: Bruce Morgan - Wright-Ryan Construction
Purpose of Visit: Density Testing.

Work Activities: A crew from Eastern Excavation Inc. had placed the first lift of interior foundation backfill and a short area of the outside foundation backfill prior to my arrival. An approximate 12" lift was placed and compacted with a 500-lb. vibratory plate compactor. All tests taken exceed the 95 % compaction requirement.

Test Results:
 Maximum Density: 126.5 pcf
 Lift Elevation: 3' below finish grade
 Dry Density: 120.7 to 122.6 pcf
 Percent Compaction: 95.6 to 97.0
 Percent Moisture: 2.3 to 3.4

Remarks: Mileage split with another project covered in the area.

Portal to Portal

Leave:	<u>8:00am</u>	<u>Expenses</u>	
Return:	<u>10:30am</u>	Mileage:	<u>40</u>
TOTAL:	<u>2.5</u>	Density Gauge:	<u>x</u>
		Other:	<u> </u>

Signed: Frank Clark
cc: E. Cooperrider - CHOM

Reviewed: Darrell A. Gilman, CMT Manager
 Date: 4/26/12

DAILY FIELD REPORT

Date: 5/21/12
Project: Elm Terrace Housing - Portland, Maine
Project #: 14670
Site Contacts: Bruce Morgan - Wright-Ryan Construction
Purpose of Visit: Density Testing

Work Activities: A crew from Eastern Excavation Inc. placed a lift, 3' below elevation of the slab, for the exterior walls along Danforth St. and Hill St. as well as on the exterior of the north corner of the building which was to be tested for compaction. The lift was approximately 12" and compacted with a 500-lb. vibratory plate compactor. All tests exceed the 95% compaction requirement.

Test Results: Max Density: 126.5 pcf
 Compaction: 95.2 - 96.5%
 Dry Density: 108.8 - 122.3 pcf
 Moisture Content: 2.6 - 4.1

Remarks: Also tested density along exterior of foundation along Danforth st. with compaction between 86.1-88.2%. Spoke with EEI representative who informed me that the area would be dug up for further construction purposes and present compaction was adequate for use as travel way for the time being.

Mileage reduced due to proximity of another site.

Portal to Portal

Leave:	<u>8:30am</u>	<u>Expenses</u>	
Return:	<u>11:30am</u>	Mileage:	<u>41</u>
TOTAL:	<u>3</u>	Density Gauge:	
		Other:	<u>Tolls: 1.75</u>

Signed: Matthew Pellerin
cc: E. Cooperrider - CHOM

Reviewed: Darrell A. Gilman, CMT Manager
 Date: 5/22/12

DAILY FIELD REPORT

Date: 6/26/12
Project: Elm Terrace Housing - Portland, Maine
Project #: 14670
Site Contacts: Bruce Morgan - Wright-Ryan Construction
Purpose of Visit: Soil Compaction Testing.

Work Activities: Performed soil compaction testing of subgrade fill for the garage floor subgrade. All subgrade material was placed and compacted by a crew from Eastern Excavation. All compaction tests taken exceeded the 95% compaction requirement.

Test Results: Compaction %: 95.6 to 97.9%
 Moisture %: 4.7 to 5.9%
 Elevation: Finished Subgrade.

Remarks:

Portal to Portal

Leave:	<u>7:15am</u>	<u>Expenses</u>	
Return:	<u>10:45am</u>	Mileage:	<u>80</u>
TOTAL:	<u>3.5</u>	Density Gauge:	<u>X</u>
		Other:	<u> </u>

Signed: Neil Davis
cc: E. Cooperrider - CHOM

Reviewed: Darrell A. Gilman, CMT Manager
 Date: 6/28/12

DAILY FIELD REPORT

Date: 7/2/12
Project: Elm Terrace Housing - Portland, Maine
Project #: 14670
Site Contacts: Bruce Morgan - Wright-Ryan Construction
Purpose of Visit: Soil Compaction Testing.

Work Activities: Performed soil compaction testing of subgrade fill for the garden area walkway (south side of building). All subgrade material was placed and compacted by a crew from Eastern Excavation. All compaction tests taken exceeded the 95% compaction requirement.

Test Results: Compaction %: 95.1 to 96.5%
Moisture %: 3.1 to 3.6%
Elevation: Finished Subgrade.

Remarks:

Portal to Portal

Leave:	<u>12:45pm</u>	<u>Expenses</u>	
Return:	<u>4:30pm</u>	Mileage:	<u>80</u>
TOTAL:	<u>3.75</u>	Density Gauge:	<u>X</u>
		Other:	<u> </u>

Signed: Neil Davis
cc: E. Cooperrider - CHOM

Reviewed: Darrell A. Gilman, CMT Manager
Date: 7/9/12



GRAIN SIZE ANALYSIS - ASTM D422

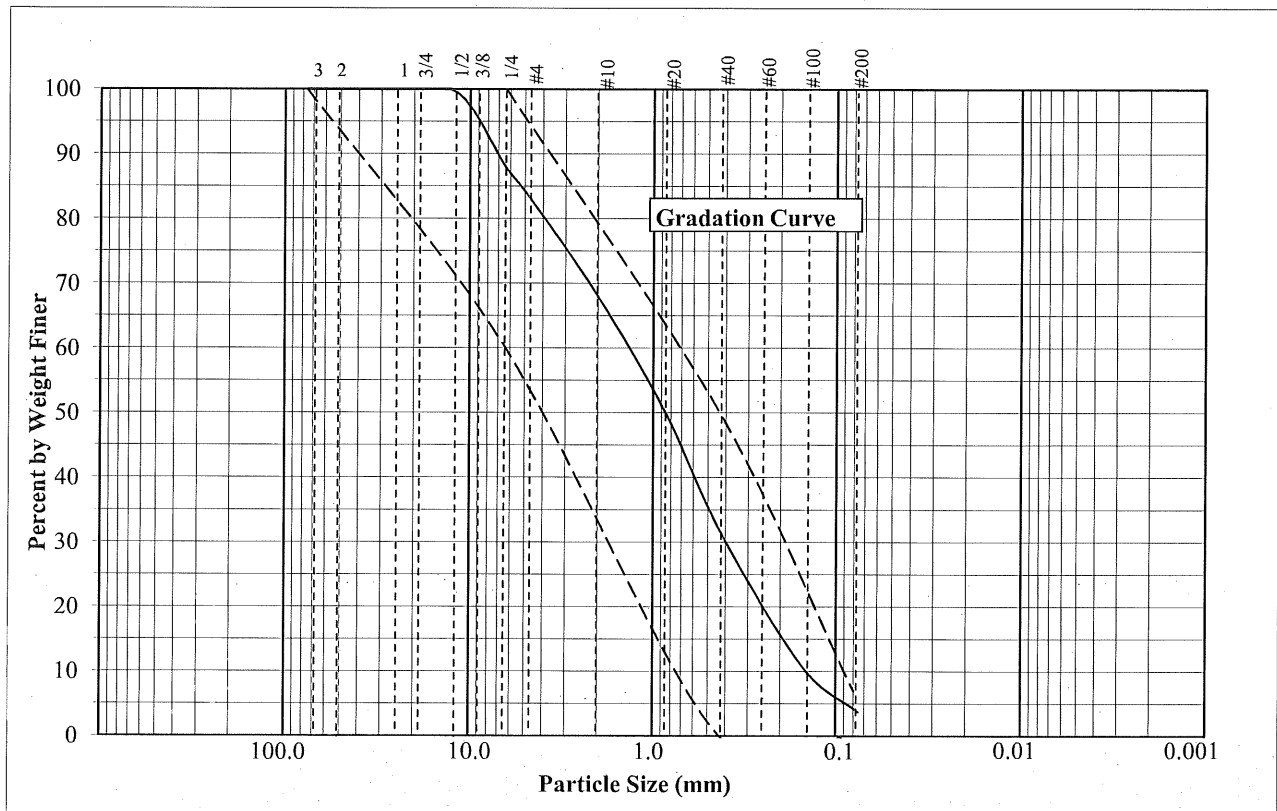
PROJECT NAME: Elm Terrace
 CLIENT: Community Housing of Maine
 CLIENT SOIL DES: Structural Sand
 SOURCE: Portland Sand
 DATE: April 23, 2012

PROJECT #: 14670
 SUMMIT SAMPLE: S1
 INTENDED USE: Foundation Backfill
 SPECIFICATION: Geotechnical Report Section 4.2
 TECHNICIAN: K. Bennett

DATA

MDOT 703.06 Type "F"
 Foundation Backfill

PARTICLE SIZE mm	% BY WT FINER	SPECIFICATION
76.20 (3 in)	100.0	100
50.80 (2 in)	100.0	
38.10 (1-1/2 in)	100.0	
25.40 (1 in)	100.0	
19.05 (3/4 in)	100.0	
12.70 (1/2 in)	99.9	
9.53 (3/8 in)	96.6	
6.35 (1/4 in)	88.0	60 to 100
4.75 (No. 4)	83.5	
2.00 (No. 10)	68.1	
0.85 (No. 20)	50.0	
0.43 (No. 40)	31.7	0 to 50
0.15 (No. 100)	10.7	
0.08 (No. 200)	3.7	0 to 7



REMARKS: Moisture Content: 1.9%

Reviewed: Darrell A. Gilman, CMT Manager
 Date: 4/24/12

MOISTURE DENSITY TEST - ASTM D1557

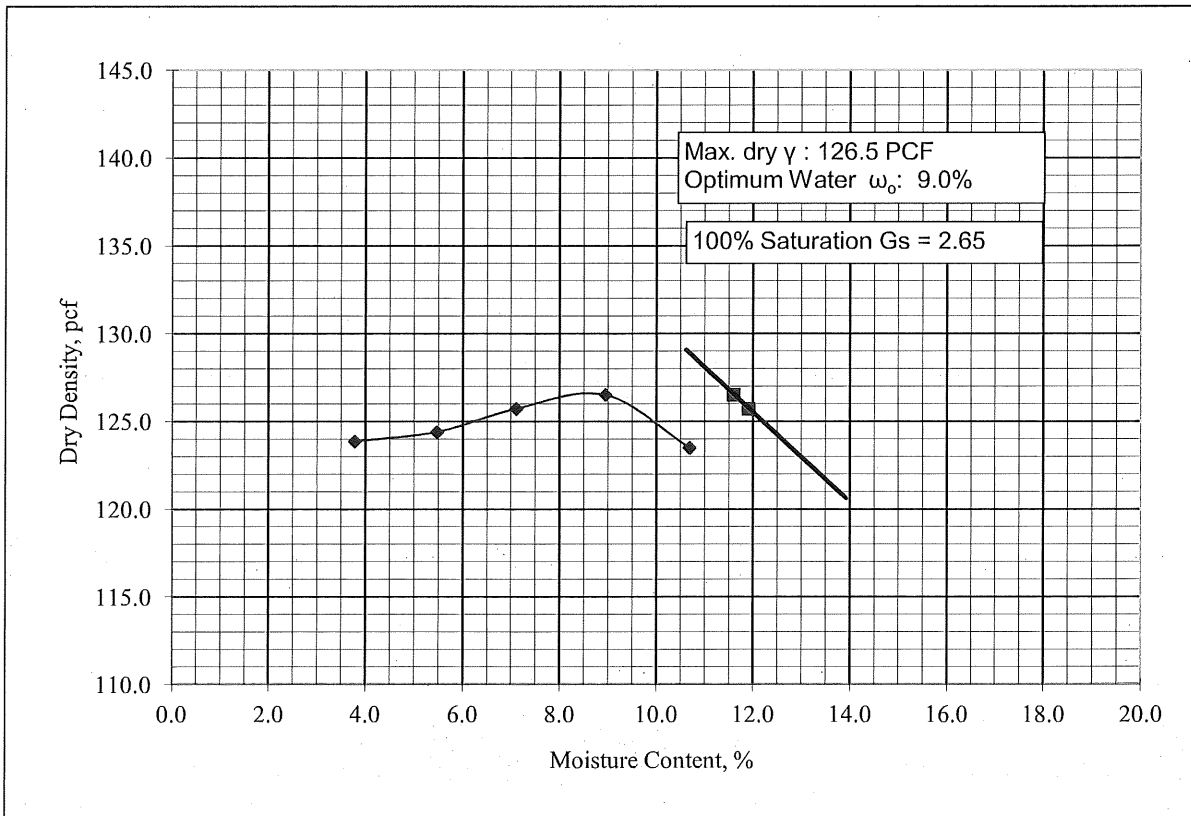
PROJECT NAME: Elm Terrace Housing
 CLIENT: Community Housing of Maine
 SOIL DESCRIPTION: Structural Sand
 INTENDED USE: Structural Sand

PROJECT #: 14670
 SAMPLE #: S1
 DATE: 4/25/2012
 SOURCE: Portland Sand
 TECH.: J. Rouillard

DATA

Method: A
 Max. Particle Size (in): #4
 Oversize Correction (%): 17

Moisture Content %	Dry Density, pcf
3.8	123.9
5.5	124.4
7.1	125.7
9.0	126.5
10.7	123.5



Remarks:

EXHIBIT B

03300 Cast-in-Place Concrete

Project: Elm Terrace
 Date Prepared: September 8, 2011

Structural Schedule of Special Inspections

CONCRETE CONSTRUCTION

VERIFICATION AND INSPECTION	REQD Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	TASK COMPLETED
IBC Section 1704.4						
1. Inspection of reinforcing steel, including prestressing tendons, and placement	Y	P	ACI 318: 3.5, 7.1-7.7	SII	PE/SE or EIT	3/8/12 – 9/7/12
2. Inspection of reinforcing steel welding in accordance with Table 1704.3, Item 5B	N	-	Not applicable. Welding of Reinf Not Allowed	-	-	
3. Inspect bolts to be installed in concrete prior to and during placement of concrete where allowable loads have been increased or where strength design is used.	Y	C	IBC 1911.5	SII	PE/SE or EIT	3/8/12 – 9/7/12
4. Inspection of anchors installed in hardened concrete.	Y	P	IBC 1212.1	SII	PE/SE or EIT	3/8/12 – 9/7/12
5. Verifying use of required design mix	Y	P	ACI 318: Ch 4, 5.2-5.4	TA1	ACI-CFTT or ACI-STT	3/8/12 – 9/7/12
6. At time fresh concrete is sampled to fabricate specimens for strength tests, perform slump and air content tests and determine the temperature of the concrete.	Y	C	ASTM C 172 ASTM C 31 ACI 318: 5.6, 5.8	TA1	ACI-CFTT or ACI-STT	3/8/12 – 9/7/12
7. Inspection of concrete and shotcrete placement for proper application techniques	Y	C	ACI 318: 5.9, 5.10	TA1	ACI-CFTT or ACI-STT	3/8/12 – 9/7/12
8. Inspection for maintenance of specified curing temperature and techniques	Y	P	ACI 318: 5.11-5.13	SII	PE/SE or EIT	3/8/12 – 9/7/12
9. Inspection of Prestressed Concrete						
a. Application of prestressing force.	N	C	ACI 318: 18.20	TA2	PE/SE or EIT	
b. Grouting of bonded prestressing tendons in seismic force resisting system	N	C	ACI 318: 18.18.4	TA1	ACI-CFTT or ACI-STT	
10. Erection of precast concrete members.	N	P	ACI 318: Ch 16	SII	PE/SE or EIT	
11. Verification of in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs.	N	P	ACI 318: 6.2	TA1	ACI-CFTT or ACI-STT	
12. Inspect formwork for shape, location and dimensions of the concrete member being formed.	Y	P	Limitations apply. See below	SII	PE/SE or EIT	3/8/12 – 9/7/12

Limitations of item 12: Special inspection includes periodic review of formwork shape, general location, and formwork dimensions that can be readily measured with conventional tape measure. Verification of building layout, building location, foundation extents, column grids, and foundation elevations is excluded.



03300

Project: Elm Terrace
Location: Portland, ME
Becker Job No: 2585

OBSERVATION REPORT
 Cast in Place Concrete

Date: March 8, 2012
Time: 1:30 pm
Temp: 60 degrees
Weather: Sunny

Observation Location: Observed the site retaining wall footing reinforcement along the adjacent existing building.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Placement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Embed/Anchors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Notes:
 The size and placement of the majority of the reinforcement was in conformance with the structural drawings. There are locations where the temporary shoring behind the wall is restrained by diagonal braces that go through the footing. The footing reinforcement had to be placed to get around these braces, and in some locations, the spacing of the rebar shown on the drawings could not be achieved. The GC was informed in these areas to place additional rebar to account for the larger spacing.

Signed: Christopher G. Williams, P.E., S.E.



03300

Project: Elm Terrace
 Location: Portland, ME
 Becker Job No: 2585

OBSERVATION REPORT

Cast in Place Concrete

Date: March 14, 2012
 Time: 8:00 am
 Temp: 40 degrees
 Weather: Cloudy, Misting

Observation Location: Observed the site retaining wall reinforcement along the adjacent existing building.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	spacing for vertical bars revised from #6@12" O.C. to #6 @16" O.C. for wall detailed on section 5/S2.2 - see below for explanation
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Placement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Embed/Anchors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Notes:

The size and placement of the majority of the wall reinforcement was in conformance with the structural drawings. The vertical reinforcement on the back face of the wall was observed to be placed @16" O.C. for the entire wall, but the structural drawings require that it be spaced @12" O.C. in most locations. Prior to this visit, the GC requested that the footing be raised about 2 feet in elevation due to constraints with the existing building. BSE confirmed that this could be done while still maintaining adequate frost depth. As a result of this adjustment, bending on the wall is reduced. After analyzing the revised conditions, we determined that the observed 16"O.C. spacing is acceptable.

In isolated locations, the soldier piles used as temporary shoring for the existing soils behind the wall impeded into the concrete, and vertical bars spaced around these piles are too far apart. The GC was informed to provide an additional vertical bar where each pile impedes into the wall. The GC was instructed to adjust horizontal bar locations at such piles to maintain cover between the piles and the horizontal bars. And finally, we requested that the GC provide vertical control joints in the wall at the impeding piles. These will be used to control cracking that may occur from the bondout in the concrete for the pile.

Signed: Christopher G. Williams, P.E., S.E.



03300

Project: Elm Terrace
Location: Portland, ME
Becker Job No: 2585

OBSERVATION REPORT
 Cast in Place Concrete

Date: March 21, 2012
Time: 2:00 PM
Temp: 80 degrees
Weather: Sunny

Observation Location: Wall footings along High St.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Placement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Embed/Anchors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Notes:

Signed: Dan S. Burne, P.E.



03300

Project: Elm Terrace
Location: Portland, ME
Becker Job No: 2585

OBSERVATION REPORT
 Cast in Place Concrete

Date: March 27, 2012
Time: 8:00 am
Temp: 35 degrees
Weather: Cloudy, Misting

Observation Location: Observed the foundation wall along High Street.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Placement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Embed/Anchors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Notes:
 The reinforcement observed was in conformance with the structural drawings.

Signed: Christopher G. Williams, P.E., S.E.



03300

Project: Elm Terrace
Location: Portland, ME
Becker Job No: 2585

OBSERVATION REPORT
 Cast in Place Concrete

Date: April 4, 2012
Time: 1:00 pm
Temp: 50 degrees
Weather: Cloudy

Observation Location: Observed the wall footings along Danforth Street

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Placement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Embed/Anchors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Notes:

The reinforcement observed was in conformance with the structural drawings.

Signed: Christopher G. Williams, P.E., S.E.



03300

Project: Elm Terrace
Location: Portland, ME
Becker Job No: 2585

OBSERVATION REPORT
 Cast in Place Concrete

Date: April 9, 2012
Time: 1:00 pm
Temp: 40 degrees
Weather: Overcast, Misting

Observation Location: Observed the foundation wall reinforcement along Danforth Street

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Placement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Embed/Anchors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Notes:
 The reinforcement observed was in conformance with the structural drawings.

Signed: Christopher G. Williams, P.E., S.E.



03300

Project: Elm Terrace
Location: Portland, ME
Becker Job No: 2585

OBSERVATION REPORT
 Cast in Place Concrete

Date: April 20, 2012
Time: 8:00 am
Temp: 50 degrees
Weather: Sunny

Observation Location: Observed the footing reinforcement for the remaining new addition main foundation walls.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Placement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Embed/Anchors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Notes:
 The reinforcement observed was in conformance with the structural drawings.

Signed: Christopher G. Williams, P.E., S.E.



03300

Project: Elm Terrace
 Location: Portland, ME
 Becker Job No: 2585

OBSERVATION REPORT
 Cast in Place Concrete

Date: April 30, 2012
 Time: 3:00 pm
 Temp: 60 degrees
 Weather: Sunny

Observation Location: Observed the footing reinforcement at: C3, C4, D4, B5, C5, vestibule wall footing, and select underpinning at existing.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Placement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Embed/Anchors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Notes:

Signed: Dan S. Burne, P.E.



03300

Project: Elm Terrace
Location: Portland, ME
Becker Job No: 2585

OBSERVATION REPORT
 Cast in Place Concrete

Date: May 7, 2012
Time: 2:00 pm
Temp: 60 degrees
Weather: Sunny

Observation Location: Observed the stair walls at the existing entrance to the building along High Street.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Placement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Embed/Anchors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Notes:
 The reinforcement observed was in conformance with the structural drawings.

Signed: Christopher G. Williams, P.E., S.E.



03300

Project: Elm Terrace
Location: Portland, ME
Becker Job No: 2585

OBSERVATION REPORT
 Cast in Place Concrete

Date: July 25, 2012
Time: 11:00 am
Temp: 75 degrees
Weather: Cloudy

Observation Location: Observed the wall repair at the exterior beam bearing for the garage entry.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Placement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Embed/Anchors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Notes:

During a previous site visit, a crack was observed at the bearing plate for the beam that frames the opening into the garage. It was determined that this crack was to be repaired (refer to SKS-11). The repair construction, along with the new required reinforcement, was observed to be in conformance with the design intent.

Signed: Christopher G. Williams, P.E., S.E.



03300

Project: Elm Terrace
Location: Portland, ME
Becker Job No: 2585

OBSERVATION REPORT
 Cast in Place Concrete

Date: August 28, 2012
Time: 8:00 am
Temp: 65 degrees
Weather: Sunny

Observation Location: Observed the main entry stair wall reinforcement for the new addition.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Placement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Embed/Anchors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Notes:
 All reinforcement observed was in conformance with the structural drawings.

Signed: Christopher G. Williams, P.E., S.E.



Project: Elm Terrace
Location: Portland, ME
Becker Job No: 2585

OBSERVATION REPORT
 Cast in Place Concrete

Date: September 6, 2012
Time: 3:00pm
Temp: 70 degrees
Weather: Sunny

Observation Location: Observed the reinforcement for the retaining wall adjacent to the new addition along grid A

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Placement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Embed/Anchors	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Lap Splices	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hot Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Cold Weather	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bond Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Notes:
 All reinforcement observed was in conformance with the structural drawings.

Signed: Christopher G. Williams, P.E., S.E.

DAILY FIELD REPORT

Date: 3/9/12
Project: Elm Terrace Housing - Portland, Maine
Project #: 14670
Site Contacts: Bruce Morgan - Wright-Ryan Construction
Purpose of Visit: Concrete Testing Services.

Work Activities: A crew from R.H. Contractors Inc. placed a total of 32.5 cubic yards for approximately 56' of the retaining wall footings, from Danforth Street, located next to the Kelly property. All concrete was supplied by Auburn Concrete with a mix design of 3/4" aggregate and a design strength of 3000psi. with a retarder (Pozzutec 20 at 1 %), mid range water reducer (Glenium 7500), and micro air added at the batch plant. One set of four concrete test cylinders was cast from the middle of the second load and placed in an insulated cure box with a min/max thermometer. All tests taken were within project specifications.

Test Results: Concrete Class: L-3034SA
 Initial Air: 7.2%
 Mid Load Air: 7.5%
 Initial Sump: 6-1/4"
 Mid Load Slump: 6"
 Concrete Temperature: 63 to 65 degrees F.

Remarks: Mileage split with another project in Portland.

Portal to Portal

Leave:	<u>10:00am</u>	<u>Expenses</u>	
Return:	<u>2:30pm</u>	Mileage:	<u>40</u>
TOTAL:	<u>4.5</u>	Density Gauge:	<u> </u>
		Other:	<u> </u>

Signed: Frank Clark
cc: E. Cooperrider - CHOM

Reviewed: Darrell A. Gilman, CMT Manager
 Date: 3/14/12



CONCRETE COMPRESSIVE STRENGTH TEST RESULTS - ASTM C39

Project No: 14670
 Project: Elm Terrace Housing - Portland, Maine
 Client: Community Housing of Maine
 957 Boothbay Road
 Edgecomb, ME 04556

Field Test Data

Set No.: C1
 Placement Date: 9-Mar-12
 Lab Rec'd Date: 10-Mar-12
 Location: Retaining Wall Footing; Next to Kelly Property

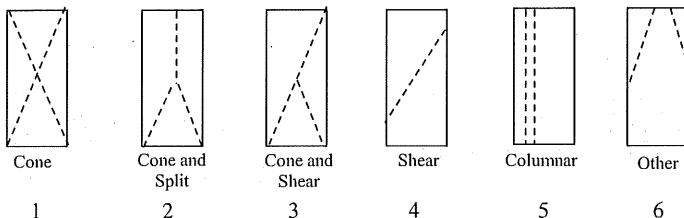
Technician: F. Clark
 Supplier: Auburn Concrete
 Mix Designation: 3/4" Aggregate
 Design Strength: 3000psi

Slump (initial) in.
 Slump (placed) 6 in.
 Air Content 7.5 %
 Conc Temp. 65.0 °F
 Air Temp. 43.0 °F
 Volume (yds) 20.0 of 32.5
 Admixture: 1%-Pozzutec 20, Glenium 7500 (Mid-Range Water Reducer), MicroAir

Laboratory Test Data

Sample No.	Test Date	Age	Type	Unit Wt.	Area (in ²)	Load (K)	Strength (psi)
C1a	16-Mar-12	7	6	144.4	28.27	73.3	2590
C1b	6-Apr-12	28	4	145.3	28.27	86.2	3050
C1c	6-Apr-12	28	4	145.7	28.27	89.8	3180
C1d							

Average 28 Day (psi): 3115



Remarks:

DAILY FIELD REPORT

Date: 3/16/12
Project: Elm Terrace Housing - Portland, Maine
Project #: 14670
Site Contacts: Bruce Morgan- Wright-Ryan Construction
Purpose of Visit: Concrete Testing Services.

Work Activities: A crew from R.H. Contractors Inc. placed a total of 17 cubic yards for approximately 56' of the retaining wall from Danforth Street, located next to the Kelly property. All concrete was supplied by Auburn Concrete with a mix design of 3/4" aggregate and a design strength of 3000psi. with a retarder (Pozzutec 20 at 1 %), mid range water reducer (Glenium 7500), and micro air added at the batch plant. Concrete was placed via pump truck provided by Northeast Pumping Inc.. One set of four concrete test cylinders was cast from the middle of the first load and placed in an insulated cure box with a min/max thermometer. All tests taken were within project specifications.

Test Results: Concrete Class: L-3034SA
 Initial Air Truck: 5.4 to 6.6 %
 Mid Load Air Pump: 5.2 to 5.4 %
 Mid Load Slump Pump: 4 to 4-1/2 "
 Concrete Temperature: 68 to 69 degrees F.

Remarks: 3 ounces of air were added to the second truck after initial testing.

Portal to Portal

Leave:	<u>8:30am</u>	<u>Expenses</u>	
Return:	<u>12:30pm</u>	Mileage:	<u>80</u>
TOTAL:	<u>4</u>	Density Gauge:	<u> </u>
		Other:	<u> </u>

Signed: Kris Bennett
cc: E. Cooperrider - CHOM

Reviewed: Darrell A. Gilman, CMT Manager
 Date: 3/19/12



CONCRETE COMPRESSIVE STRENGTH TEST RESULTS - ASTM C39

Project No: 14670
 Project: Elm Terrace Housing - Portland, Maine
 Client: Community Housing of Maine
 957 Boothbay Road
 Edgecomb, ME 04556

Field Test Data

Set No.: C2
 Placement Date: 16-Mar-12
 Lab Rec'd Date: 17-Mar-12
 Location: Retaining Wall (From Danforth Street Along Kelly Property)

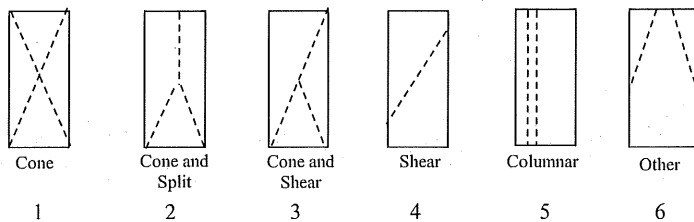
Technician: K. Bennett
 Supplier: Auburn Concrete
 Mix Designation: 3/4" Aggregate
 Design Strength: 3000psi

Slump (initial) in.
 Slump (placed) 4 in.
 Air Content 5.2 %
 Conc Temp. 68.0 °F
 Air Temp. 42.0 °F
 Volume (yds) 4.0 of 17.0
 Admixture: Glenium 7500 (Mid-Range Water Reducer), MicroAir, 2%-Pozzutec 20

Laboratory Test Data

Sample No.	Test Date	Age	Type	Unit Wt.	Area (in ²)	Load (K)	Strength (psi)
C2a	23-Mar-12	7	4	144.3	28.27	97.6	3450
C2b	13-Apr-12	28	2	145.7	28.27	113.0	4000
C2c	13-Apr-12	28	4	144.6	28.27	116.7	4130
C2d							

Average 28 Day (psi): 4065



Remarks:

DAILY FIELD REPORT

Date: 3/22/12
Project: Elm Terrace Housing - Portland, Maine
Project #: 14670
Site Contacts: Bruce Morgan - Wright-Ryan Construction
Purpose of Visit: Concrete Testing Services.

Work Activities: A crew from R.H. Contractors Inc. placed a total of 41.5 cubic yards for footings on column line 5 from D.1 to E, along E from 1 to 5, and 1 from C.8 to E. All concrete was supplied by Auburn Concrete with a mix design of 3/4" aggregate and a design strength of 3000psi. with a mid range water reducer (Glenium 7500), and micro air added at the batch plant. One set of four concrete test cylinders was cast from the middle of the second load and placed in an insulated cure box with a min/max thermometer. All tests taken were within project specifications.

Test Results: Concrete Class: L-3034SA
 Initial Air: 6.0 to 6.2%
 Mid Load Air: 5.5%
 Initial Sump: 5 to 5-1/2"
 Mid Load Slump: 5"
 Concrete Temperature: 73 to 62 degrees F.

Remarks:

Portal to Portal

Leave:	<u>8:00am</u>	<u>Expenses</u>	
Return:	<u>12:45pm</u>	Mileage:	<u>80</u>
TOTAL:	<u>4.75</u>	Density Gauge:	<u> </u>
		Other:	<u> </u>

Signed: Frank Clark
cc: E. Cooperrider - CHOM

Reviewed: Darrell A. Gilman, CMT Manager
 Date: 3/22/12



CONCRETE COMPRESSIVE STRENGTH TEST RESULTS - ASTM C39

Project No: 14670
 Project: Elm Terrace Housing - Portland, Maine
 Client: Community Housing of Maine
 957 Boothbay Road
 Edgecomb, ME 04556

Field Test Data

Set No.: C3
 Placement Date: 22-Mar-12
 Lab Rec'd Date: 23-Mar-12
 Location: Footing; Line 5, 0.1 to E, E, 1 to 5 and 1, C.8 to E

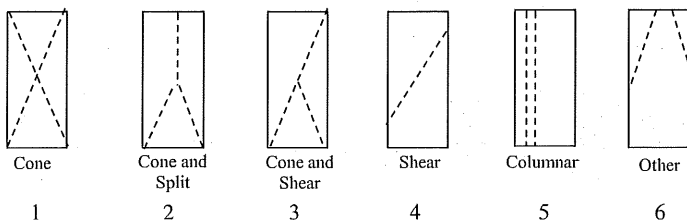
Technician: F. Clark
 Supplier: Auburn Concrete
 Mix Designation: 3/4" Aggregate
 Design Strength: 3000psi

Slump (initial) in.
 Slump (placed) 5 in.
 Air Content 5.5 %
 Conc Temp. 73.0 °F
 Air Temp. 70.0 °F
 Volume (yds) 21.0 of 41.5
 Admixture: Glenium 7500 (Mid-range Water Reducer), MicroAir

Laboratory Test Data

Sample No.	Test Date	Age	Type	Unit Wt.	Area (in ²)	Load (K)	Strength (psi)
C3a	29-Mar-12	7	4	144.5	28.27	98.6	3490
C3b	19-Apr-12	28	3	145.1	28.27	141.0	4990
C3c	19-Apr-12	28	6	144.4	28.27	137.4	4860
C3d							

Average 28 Day (psi): 4925



Remarks:

DAILY FIELD REPORT

Date: 4/2/12
Project: Elm Terrace Housing - Portland, Maine
Project #: 14670
Site Contacts: Bruce Morgan- Wright-Ryan Construction
Purpose of Visit: Concrete Testing Services.

Work Activities: A crew from R.H. Contractors Inc. placed a total of 54 cubic yards for the wall on column line 5 from D.1 to E and E from 5 to 2. All concrete was supplied by Auburn Concrete with a mix design of 3/4" aggregate and a design strength of 3000psi. with a retarder (Pozzutec 20 at 1 %), mid-range water reducer (Glenium 7500), and micro air added at the batch plant. Concrete was placed via pump truck provided by Northeast Pumping Inc.. One set of four concrete test cylinders was cast from the middle of the third load and placed in an insulated cure box with a min/max thermometer. All tests taken were within project specifications.

Test Results: Concrete Class: L-3034SA
 Initial Air Truck: 5.8 to 6.8 %
 Mid Load Air Pump: 6.2 %
 Mid Load Slump Pump: 5-1/2 "
 Concrete Temperature: 54 to 56 degrees F.

Remarks:

Portal to Portal

Leave:	12:00pm	<u>Expenses</u>	
Return:	5:30pm	Mileage:	80
TOTAL:	5.5	Density Gauge:	
		Other:	

Signed: Frank Clark
cc: E. Cooperrider - CHOM

Reviewed: Darrell A. Gilman, CMT Manager
 Date: 4/4/12



CONCRETE COMPRESSIVE STRENGTH TEST RESULTS - ASTM C39

Project No: 14670
 Project: Elm Terrace Housing - Portland, Maine
 Client: Community Housing of Maine
 957 Boothbay Road
 Edgecomb, ME 04556

Field Test Data

Set No.: C4
 Placement Date: 2-Apr-12
 Lab Rec'd Date: 3-Apr-12
 Location: Walls - Line 5, D.1 to E and E, 5 to 2

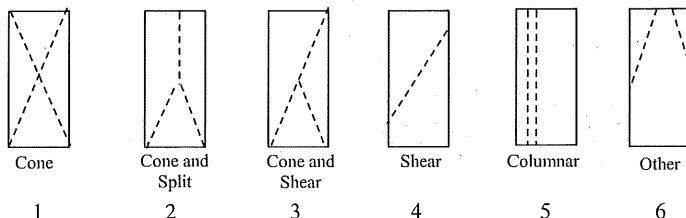
Technician: F. Clark
 Supplier: Auburn Concrete
 Mix Designation: 3/4" Aggregate
 Design Strength: 3000psi

Slump (initial) 6 in.
 Slump (placed) 5 1/2 in.
 Air Content 6.2 %
 Conc Temp. 56.0 °F
 Air Temp. 48.0 °F
 Volume (yds) 27.0 of 54.0
 Admixture: Glenium 7500 (Mid-Range Water Reducer), 1%-Pozzutec20 (Retarder)

Laboratory Test Data

Sample No.	Test Date	Age	Type	Unit Wt.	Area (in ²)	Load (K)	Strength (psi)
C4a	9-Apr-12	7	3	142.9	28.27	105.1	3720
C4b	30-Apr-12	28	2	143.3	28.27	151.1	5340
C4c	30-Apr-12	28	2	143.3	28.27	150.1	5310
C4d							

Average 28 Day (psi): 5325



Remarks:

DAILY FIELD REPORT

Date: 4/4/12
Project: Elm Terrace Housing - Portland, Maine
Project #: 14670
Site Contacts: Bruce Morgan- Wright-Ryan Construction
Purpose of Visit: Concrete Testing Services.

Work Activities: A crew from R.H. Contractors Inc. placed a total of 21 cubic yards for the wall on column line 1 from C.8 to A and A from 1 to 2. All concrete was supplied by Auburn Concrete with a mix design of 3/4" aggregate and a design strength of 3000psi. with a retarder (Pozzutec 20 at 1 %), mid-range water reducer (Glenium 7500), and micro air added at the batch plant. Concrete was placed via pump truck provided by Northeast Pumping Inc.. One set of four concrete test cylinders were cast from the middle of the second load and placed in an insulated cure box with a min/max thermometer. All tests taken were within project specifications.

Test Results: Concrete Class: L-3034SA
Initial Air Truck: 6.2 %
Mid Load Air Pump: 6.0 %
Mid Load Slump Pump: 4-1/2 "
Concrete Temperature: 58 degrees F.

Remarks:

Portal to Portal

Leave:	<u>1:30pm</u>	<u>Expenses</u>	
Return:	<u>5:00pm</u>	Mileage:	<u>80</u>
TOTAL:	<u>3.5</u>	Density Gauge:	<u> </u>
		Other:	<u> </u>

Signed: Frank Clark
cc: E. Cooperrider - CHOM

Reviewed: Darrell A. Gilman, CMT Manager
Date: 4/5/12



CONCRETE COMPRESSIVE STRENGTH TEST RESULTS - ASTM C39

Project No: 14670
 Project: Elm Terrace Housing - Portland, Maine
 Client: Community Housing of Maine
 957 Boothbay Road
 Edgecomb, ME 04556

Field Test Data

Set No.: C5
 Placement Date: 4-Apr-12
 Lab Rec'd Date: 5-Apr-12
 Location: Footing - Line A from 1 to 2 and 1 from C.8 to A

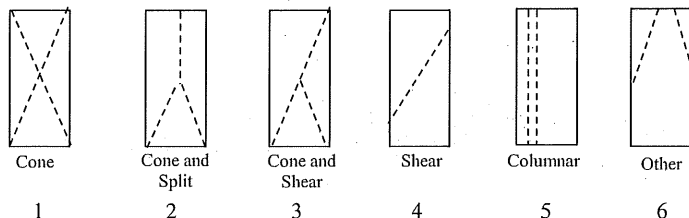
Technician: F. Clark
 Supplier: Auburn Concrete
 Mix Designation: 3/4" Aggregate
 Design Strength: 3000psi

Slump (initial) in.
 Slump (placed) 4 1/2 in.
 Air Content 6.0 %
 Conc Temp. 58.0 °F
 Air Temp. 60.0 °F
 Volume (yds) 21.0 of 21.0
 Admixture: Glenium 7500 (Mid-Range Water Reducer), MicroAir, 1%-Pozzutec 20 (Retarder)

Laboratory Test Data

Sample No.	Test Date	Age	Type	Unit Wt.	Area (in ²)	Load (K)	Strength (psi)
C5a	11-Apr-12	7	4	147.2	28.27	119.3	4220
C5b	2-May-12	28	4	146.8	28.27	170.9	6040
C5c	2-May-12	28	4	147.0	28.27	173.2	6120
C5d							

Average 28 Day (psi): 6080



Remarks:

DAILY FIELD REPORT

Date: 4/11/12
Project: Elm Terrace Housing - Portland, Maine
Project #: 14670
Site Contacts: Bruce Morgan- Wright-Ryan Construction
Purpose of Visit: Concrete Testing Services.

Work Activities: A crew from R.H. Contractors Inc. placed a total of 69 cubic yards for the wall on column line 1 from A to E, E from 1 to 2 and A from 1 to 2. All concrete was supplied by Auburn Concrete with a mix design of 3/4" aggregate and a design strength of 3000psi. with a mid-range water reducer (Glenium 7500), and micro air added at the batch plant. Concrete was placed via pump truck provided by Northeast Pumping Inc.. Two sets of four concrete test cylinders were cast from the middle of the second and seventh loads and placed in an insulated cure box with a min/max thermometer. All tests taken were within project specifications.

Test Results: Concrete Class: L-3034SA
 Initial Air Truck: 6.2 to 7.0 %
 Mid Load Air Pump: 5.8 to 7.0 %
 Mid Load Slump Pump: 5-1/2 " to 6"
 Concrete Temperature: 55 to 57 degrees F.

Remarks: The fifth load was rejected after using approximately 2 cy.'s, due to the loss in slump and the water/cement ratio being delivered at its maximum of 0.54. All loads delivered were at the maximum water/cement ratio allowed, therefore adding of water on site was not allowed, which caused the pump truck to jam several times causing three loads to be over the 1-1/2 hour time limit by 7 to 18 minutes.

Portal to Portal

Leave:	<u>11:30am</u>	<u>Expenses</u>	
Return:	<u>7:15pm</u>	Mileage:	<u>80</u>
TOTAL:	<u>7.75</u>	Density Gauge:	<u> </u>
		Other:	<u> </u>

Signed: Frank Clark
cc: E. Cooperrider - CHOM

Reviewed: Darrell A. Gilman, CMT Manager
 Date: 4/12/12



CONCRETE COMPRESSIVE STRENGTH TEST RESULTS - ASTM C39

Project No: 14670
 Project: Elm Terrace Housing - Portland, Maine
 Client: Community Housing of Maine
 957 Boothbay Road
 Edgecomb, ME 04556

Field Test Data

Set No.: C6
 Placement Date: 11-Apr-12
 Lab Rec'd Date: 12-Apr-12
 Location: Walls: Line A from 1 to 2, E from 1 to 2 and 1 from A to E

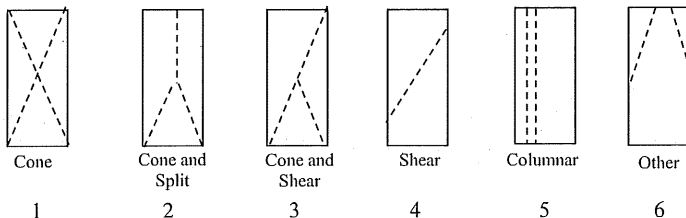
Technician: F. Clark
 Supplier: Auburn Concrete
 Mix Designation: 3/4" Aggregate
 Design Strength: 3000psi

Slump (initial) in.
 Slump (placed) 5 1/2 in.
 Air Content 5.8 %
 Conc Temp. 55.0 °F
 Air Temp. 61.0 °F
 Volume (yds) 57.0 of 67.0
 Admixture: Glenium 7500 (Mid-Range Water Reducer), MicroAir

Laboratory Test Data

Sample No.	Test Date	Age	Type	Unit Wt.	Area (in ²)	Load (K)	Strength (psi)
C6a	18-Apr-12	7	4	137.1	28.27	82.7	2920
C6b	9-May-12	28	4	138.3	28.27	114.2	4040
C6c	9-May-12	28	4	136.6	28.27	116.4	4120
C6d							

Average 28 Day (psi): 4080



Remarks:



CONCRETE COMPRESSIVE STRENGTH TEST RESULTS - ASTM C39

Project No: 14670
 Project: Elm Terrace Housing - Portland, Maine
 Client: Community Housing of Maine
 957 Boothbay Road
 Edgecomb, ME 04556

Field Test Data

Set No.: C7
 Placement Date: 11-Apr-12
 Lab Rec'd Date: 12-Apr-12
 Location: Walls Line A from 1 to 2, Line E from 1 to 2 ; Line 1 from A to E

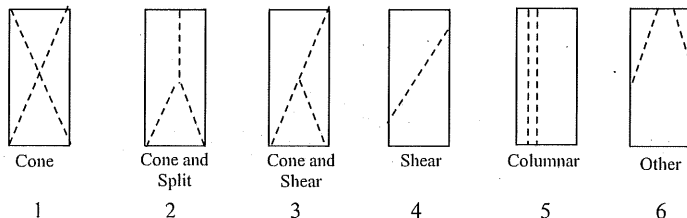
Technician: F. Clark
 Supplier: Auburn Concrete
 Mix Designation: 3/4" Aggregate
 Design Strength: 3000psi

Slump (initial) in.
 Slump (placed) 6 in.
 Air Content 7.0 %
 Conc Temp. 57.0 °F
 Air Temp. 62.0 °F
 Volume (yds) 20.0 of 67.0
 Admixture: Glenium 7500 (Mid-Range Water Reducer), MicroAir

Laboratory Test Data

Sample No.	Test Date	Age	Type	Unit Wt.	Area (in ²)	Load (K)	Strength (psi)
C7a	18-Apr-12	7	4	146.2	28.27	104.1	3680
C7b	9-May-12	28	4	146.3	28.27	144.0	5090
C7c	9-May-12	28	4	146.1	28.27	132.4	4680
C7d							

Average 28 Day (psi): 4885



Remarks:
 434 Cony Road, Augusta, Maine 04330
 Phone: (207) 621-8334 Fax: (207) 626-9094

Reviewed: Darrell Gilman, CMT Manager
 Date: 5-9-12

DAILY FIELD REPORT

Date: 4/16/12
Project: Elm Terrace Housing - Portland, Maine
Project #: 14670
Site Contacts: Bruce Morgan- Wright-Ryan Construction
Purpose of Visit: Concrete Testing Services.

Work Activities: A crew from R.H. Contractors Inc. placed a total of 14 cubic yards for the retaining wall footing next to the existing building. All concrete was supplied by Auburn Concrete with a mix design of 3/4" aggregate and a design strength of 3000psi. with a retarder (Pozzutec 20 at 1 %), mid-range water reducer (Glenium 7500), and micro air added at the batch plant. Concrete was placed via tail gate. One set of four concrete test cylinders were cast from the middle of the second load and placed in an insulated cure box with a min/max thermometer. All tests taken were within project specifications.

Test Results: Concrete Class: L-3034SA
Initial Air Truck: 5.2%
Mid Load Air Pump: 5.1%
Slump : 5 "
Concrete Temperature: 68 degrees F.

Remarks:

Portal to Portal

Leave:	<u>1:30pm</u>	<u>Expenses</u>	
Return:	<u>5:30pm</u>	Mileage:	<u>65</u>
TOTAL:	<u>4</u>	Density Gauge:	<u> </u>
		Other:	<u> </u>

Signed: Justin Rouillard
cc: E. Cooperrider - CHOM

Reviewed: Darrell A. Gilman, CMT Manager
Date: 4/5/12



CONCRETE COMPRESSIVE STRENGTH TEST RESULTS - ASTM C39

Project No: 14670
 Project: Elm Terrace Housing - Portland, Maine
 Client: Community Housing of Maine
 957 Boothbay Road
 Edgecomb, ME 04556

Field Test Data

Set No.: C8
 Placement Date: 16-Apr-12
 Lab Rec'd Date: 17-Apr-12
 Location: Retaining Wall Footing Next to Existing Building

Technician: J. Rouillard
 Supplier: Auburn Concrete
 Mix Designation: 3034SA
 Design Strength: 3000psi

Slump (initial) in.
 Slump (placed) 5 in.
 Air Content 5.1 %
 Conc Temp. 68.0 °F
 Air Temp. 75.0 °F
 Volume (yds) 10.0 of 14.0
 Admixture: Pozz100xr, Glenium 7500 (Mid-Range Water Reducer)

Laboratory Test Data

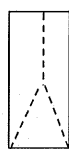
Sample No.	Test Date	Age	Type	Unit Wt.	Area (in ²)	Load (K)	Strength (psi)
C8a	23-Apr-12	7	3	143.9	28.27	125.7	4450
C8b	14-May-12	28	4	146.3	28.27	160.6	5680
C8c	14-May-12	28	4	145.8	28.27	167.2	5910
C8d							

Average 28 Day (psi): 5795



Cone

1



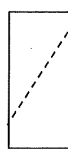
Cone and Split

2



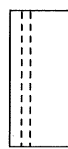
Cone and Shear

3



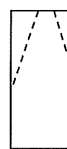
Shear

4



Columnar

5



Other

6

Remarks:

DAILY FIELD REPORT

Date: 4/20/12
Project: Elm Terrace Housing - Portland, Maine
Project #: 14670
Site Contacts: Bruce Morgan - Wright-Ryan Construction
Purpose of Visit: Concrete Testing and Soil Sample Retrieval

Work Activities: A Representative from Summit was onsite to conduct concrete testing for placement of foundation footings located along line A from line 3 to 4, a section of the Retaining Wall from line 3 to 4, and a small wall repair located at the southeast corner of the existing building. A total of 19 cy of 3000 psi concrete was supplied by Auburn Concrete containing 3/4" aggregate, Glenium 7500 (high range water reducer), and Micro-air. One set of four concrete test specimen was cast and placed in an onsite curebox for intermediate storage. Test specimen will be obtained at later date for controlled storage and compressive strength testing.

An in place sample of Structural Sand (foundation backfill) was obtained for laboratory analysis. Sample will be analyzed for gradation (ASTM D422) and maximum density (ASTM D1557).

Test Results:

Concrete:
 Slump: 5-1/2" to 6-1/2"
 Air: 6.2 to 7.0%
 Concrete Temp: 68° F
 Ambient Temp: 76° F

Remarks:

Portal to Portal

Leave:	11:00	<u>Expenses</u>	
Return:	15:00	Mileage:	86
TOTAL:	4	Density Gauge:	
		Other:	

Signed: Tom Daniels
cc: E. Cooperrider - CHOM

Reviewed: Darrell A. Gilman, CMT Manager
 Date:



CONCRETE COMPRESSIVE STRENGTH TEST RESULTS - ASTM C39

Project No: 14670
 Project: Elm Terrace Housing - Portland, Maine
 Client: Community Housing of Maine
 957 Boothbay Road
 Edgecomb, ME 04556

Field Test Data

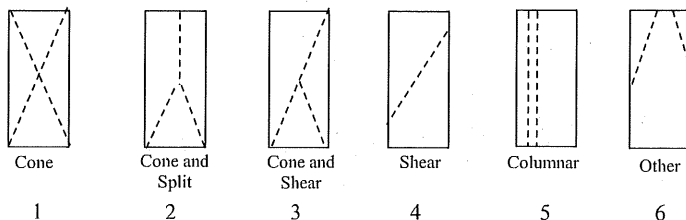
Set No.: C9
 Placement Date: 20-Apr-12
 Lab Rec'd Date: 23-Apr-12
 Location: Footing Line A from 3 to 4
 Section of Retaining wall line 3 to 4
 Technician: T. Daniels
 Supplier: Auburn Concrete
 Mix Designation: 3/4" Aggregate
 Design Strength: 3,000 psi

Slump (initial) 6 1/2 in.
 Slump (placed) 6 1/2 in.
 Air Content 7.0 %
 Conc Temp. 68.0 °F
 Air Temp. 76.0 °F
 Volume (yds) 9.5 of 19.0
 Admixture: Glenium 7500 MRWR, Micro-air

Laboratory Test Data

Sample No.	Test Date	Age	Type	Unit Wt.	Area (in ²)	Load (K)	Strength (psi)
9a	27-Apr-12	7	2	142.5	28.27	71.1	2510
9b	18-May-12	28	4	143.2	28.27	120.0	4250
9c	18-May-12	28	4	142.3	28.27	123.3	4360
9d							

Average 28 Day (psi): 4305



Remarks:

DAILY FIELD REPORT

Date: 4/27/12
Project: Elm Terrace Housing - Portland, Maine
Project #: 14670
Site Contacts: Bruce Morgan- Wright-Ryan Construction
Purpose of Visit: Concrete Testing Services.

Work Activities: A crew from R.H. Contractors Inc. placed a total of 24 cubic yards for the foundation wall along Line A from 3 to 4, and Pier Footing C2, D2 and D3. All concrete was supplied by Auburn Concrete with a mix design of 3/4" aggregate and a design strength of 3000psi. with a high-range water reducer (Glenium 7500), and micro air added at the batch plant. Concrete was placed via pump truck. One set of four concrete test cylinders were cast from the middle of the first load and placed in an insulated cure box with a min/max thermometer. All tests taken were within project specifications.

Test Results: Concrete Class: L-3034SA
Initial Air Truck: 6.0 to 7.1%
Mid Load Air Pump: 6.2%
Slump : 6 "
Concrete Temperature: 63 to 65 degrees F.

Remarks: Milage based on travel from another jobsite.

Portal to Portal

Leave:	<u>12:00</u>	<u>Expenses</u>	
Return:	<u>4:30pm</u>	Mileage:	<u>55</u>
TOTAL:	<u>4.5</u>	Density Gauge:	<u> </u>
		Other:	<u> </u>

Signed: Justin Rouillard
cc: E. Cooperrider - CHOM

Reviewed: Darrell A. Gilman, CMT Manager
Date: 4/5/12



CONCRETE COMPRESSIVE STRENGTH TEST RESULTS - ASTM C39

Project No: 14670
 Project: Elm Terrace Housing - Portland, Maine
 Client: Community Housing of Maine
 957 Boothbay Road
 Edgecomb, ME 04556

Field Test Data

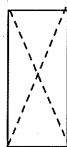
Set No.: 10
 Placement Date: 27-Apr-12
 Lab Rec'd Date: 30-Apr-12
 Location: Foundation Wall on line A from line 3 to line 4
 Pier footings C3, D2, D3
 Technician: JR
 Supplier: Auburn Concrete
 Mix Designation: 3034SA
 Design Strength: 3000 psi

Slump (initial) 6 1/2 in.
 Slump (placed) 6 in.
 Air Content 6.2 %
 Conc Temp. 63.0 °F
 Air Temp. 65.0 °F
 Volume (yds) 8.0 of 24.0
 Admixture: Glenium 7500, Micro Air

Laboratory Test Data

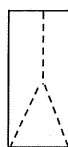
Sample No.	Test Date	Age	Type	Unit Wt.	Area (in ²)	Load (K)	Strength (psi)
10A	4-May-12	7	2	141.7	28.27	67.3	2380
10B	25-May-12	28	4	140.6	28.27	102.1	3610
10C	25-May-12	28	6	141.8	28.27	100.3	3550
10D							

Average 28 Day (psi): 3580



Cone

1



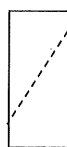
Cone and Split

2



Cone and Shear

3



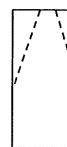
Shear

4



Columnar

5



Other

6

Remarks:

DAILY FIELD REPORT

Date: 4/30/12
Project: Elm Terrace Housing - Portland, Maine
Project #: 14670
Site Contacts: Bruce Morgan - Wright-Ryan Construction
Purpose of Visit: Concrete testing services

Work Activities: Performed concrete testing services on 10 cy of 3000 psi, 3/4 inch aggregate concrete with mid range water reducer and micro air for pier footings B5, C3, C4, C5, D4, D5, and ramp footing on line 5. Concrete was delivered by Auburn Concrete, placed by a crew from Wright Ryan via pump truck from Northeast Concrete Pumping. First truck was rejected after exceeding the 90 minute batch time due to pump truck complications. One set of four test cylinders were cast and stored onsite to be picked up at a later date.

Test Results: Slump: 7 3/4 to 8"
 Air Content: 5.5 to 6.8%
 Concrete Temp: 54 to 56 deg F
 Air Temp: 50 deg F

Remarks:

Portal to Portal

Leave:	2:30	<u>Expenses</u>	
Return:	8:00	Mileage:	118
TOTAL:	5.5	Density Gauge:	
		Other:	

Signed: Aaron Higgins
cc: E. Cooperrider - CHOM

Reviewed: Darrell A. Gilman, CMT Manager
 Date: 5/4/12



CONCRETE COMPRESSIVE STRENGTH TEST RESULTS - ASTM C39

Project No: 14670
 Project: Elm Terrace Housing - Portland, Maine
 Client: Community Housing of Maine
 957 Boothbay Road
 Edgecomb, ME 04556

Field Test Data

Set No.: 11
 Placement Date: 30-Apr-12
 Lab Rec'd Date: 1-May-12
 Location: Pier footings B5, C3, C4, C5, D4, D5 and ramp on line 5

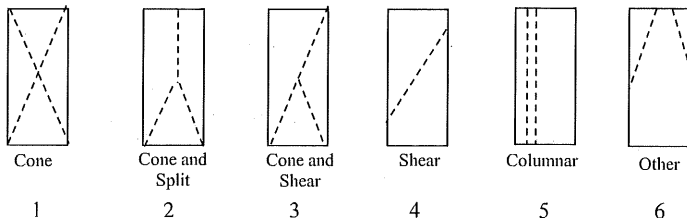
Technician: A Higgins
 Supplier: Auburn Concrete
 Mix Designation: 3/4"
 Design Strength: 3000 psi

Slump (initial) in.
 Slump (placed) 8 in.
 Air Content 6.8 %
 Conc Temp. 53.0 °F
 Air Temp. 50.0 °F
 Volume (yds) 5.0 of 10.0
 Admixture: Glenium 7500, Micro Air

Laboratory Test Data

Sample No.	Test Date	Age	Type	Unit Wt.	Area (in ²)	Load (K)	Strength (psi)
14611 11A	7-May-12	7	2	142.8	28.27	94.7	3350
11B	28-May-12	28	3	144.2	28.27	149.7	5290
11C	28-May-12	28	3	142.2	28.27	144.0	5090
11D	4-May-12	4	3	143.7	28.27	70.6	2500

Average 28 Day (psi): 5190



Remarks:

DAILY FIELD REPORT

Date: 5/3/12
Project: Elm Terrace Housing - Portland, Maine
Project #: 14670
Site Contacts: Bruce Morgan - Wright-Ryan Construction
Purpose of Visit: Concrete Testing Services.

Work Activities: Performed concrete testing for the slab on grade in the two southwest rooms of the main existing building. A total of 70 cy of 3000 psi, 3/4" aggregate concrete containing Glenium 7500 (high range water reducer), Pro-mesh (fiber reinforcement), 2% Pozzutec 20+ (concrete set accelerator), and Barrier-1 was supplied by Auburn Concrete and placed by a crew from A.P. Concrete via concrete pump truck from Northeast Concrete Pumping. Two sets of four concrete test specimens were cast and will be retrieved at a later date.

Test Results: Slump: 6 1/2" to 8"
 Air %: 3.1 to 3.4%
 Concrete Temp: 55 to 59 degrees F
 Air Temp: 45 degrees F

Remarks:

Portal to Portal

Leave:	<u>5:45am</u>	<u>Expenses</u>	
Return:	<u>11:15am</u>	Mileage:	<u>80</u>
TOTAL:	<u>5.5</u>	Density Gauge:	<u> </u>
		Other:	<u> </u>

Signed: Neil Davis
cc: E. Cooperrider - CHOM

Reviewed: Darrell A. Gilman, CMT Manager
 Date: 5/8/12



CONCRETE COMPRESSIVE STRENGTH TEST RESULTS - ASTM C39

Project No: 14670
 Project: Elm Terrace Housing - Portland, Maine
 Client: Community Housing of Maine
 957 Boothbay Road
 Edgecomb, ME 04556

Field Test Data

Set No.: C12
 Placement Date: 3-May-12
 Lab Rec'd Date: 4-May-12
 Location: Slab on Grade Two Southwest Rooms of Existing Buildings

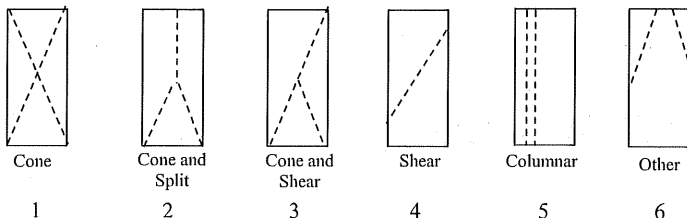
Technician: N. Davis
 Supplier: Auburn Concrete
 Mix Designation: 3/4" Aggregate
 Design Strength: 3000psi

Slump (initial) in.
 Slump (placed) 8 in.
 Air Content 3.4 %
 Conc Temp. 56.0 °F
 Air Temp. 45.0 °F
 Volume (yds) 20.0 of 70.0
 Admixture: Glenium 7500 (High-Range Water Reducer), 2% Pozzutec 20, Barrier-1, Fibermesh

Laboratory Test Data

Sample No.	Test Date	Age	Type	Unit Wt.	Area (in ²)	Load (K)	Strength (psi)
C12a	10-May-12	7	4	146.6	28.27	107.2	3790
C12b	31-May-12	28	4	145.0	28.27	146.1	5170
C12c	31-May-12	28	4	146.9	28.27	148.2	5240
C12d							

Average 28 Day (psi): 5205



Remarks:



CONCRETE COMPRESSIVE STRENGTH TEST RESULTS - ASTM C39

Project No: 14670
 Project: Elm Terrace Housing - Portland, Maine
 Client: Community Housing of Maine
 957 Boothbay Road
 Edgecomb, ME 04556

Field Test Data

Set No.: C13
 Placement Date: 3-May-12
 Lab Rec'd Date: 4-May-12
 Location: Slab on Grade Two Southwest Rooms of Main Existing Building

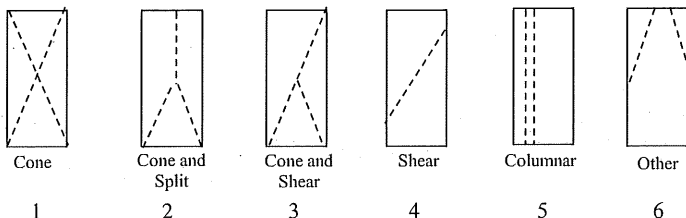
Technician: N. Davis
 Supplier: Auburn Concrete
 Mix Designation: 3/4" Aggregate
 Design Strength: 3000psi

Slump (initial) in.
 Slump (placed) 8 in.
 Air Content 3.2 %
 Conc Temp. 59.0 °F
 Air Temp. 45.0 °F
 Volume (yds) 60.0 of 70.0
 Admixture: Glenium 7500 (High-Range Water Reducer), 2%-Pozzutec 20, Barrier-1, Fibermesh

Laboratory Test Data

Sample No.	Test Date	Age	Type	Unit Wt.	Area (in ²)	Load (K)	Strength (psi)
C13a	10-May-12	7	6	148.7	28.27	103.7	3670
C13b	31-May-12	28	4	148.3	28.27	147.4	5210
C13c	31-May-12	28	4	148.0	28.27	145.5	5140
C13d							

Average 28 Day (psi): 5175



Remarks:

DAILY FIELD REPORT

Date: 5/15/12
Project: Elm Terrace Housing - Portland, Maine
Project #: 14670
Site Contacts: Bruce Morgan - Wright-Ryan Construction
Purpose of Visit: Concrete Testing Services.

Work Activities: Performed concrete testing for the exterior stairs on the High St. side of the building. A total of 14 cy of 3000 psi, 3/4" aggregate concrete containing Glenium 7500 (high range water reducer), and Micro Air (air-entrainment admixture) was supplied by Auburn Concrete and placed by a crew from R.H. Contractors via concrete pump truck from Northeast Concrete Pumping. One set of four concrete test specimens was cast and will be retrieved at a later date.

Test Results: Slump: 8"
 Air %: 6.3%
 Concrete Temp: 63 degrees F
 Air Temp: 57 degrees F

Remarks: Travel time and mileage was split with the Sappi Paper Fishway project (Westbrook).

Portal to Portal

Leave:	5:30am	<u>Expenses</u>	
Return:	8:30am	Mileage:	45
TOTAL:	3	Density Gauge:	
		Other:	

Signed: Neil Davis
cc: E. Cooperrider - CHOM

Reviewed: Darrell A. Gilman, CMT Manager
 Date: 5/15/12



CONCRETE COMPRESSIVE STRENGTH TEST RESULTS - ASTM C39

Project No: 14670
 Project: Elm Terrace Housing - Portland, Maine
 Client: Community Housing of Maine
 957 Boothbay Road
 Edgecomb, ME 04556

Field Test Data

Set No.: C14
 Placement Date: 15-May-12
 Lab Rec'd Date: 16-May-12
 Location: Exterior Stairs - High Street Side

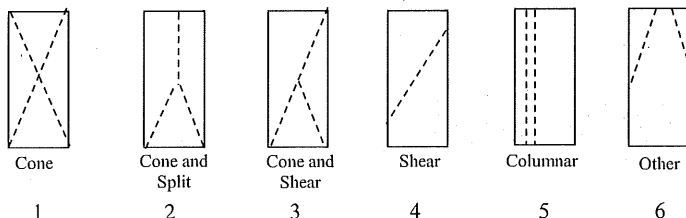
Technician: N. Davis
 Supplier: Auburn Concrete
 Mix Designation: 3/4" Aggregate
 Design Strength: 3000psi

Slump (initial) in.
 Slump (placed) 8 in.
 Air Content 6.3 %
 Conc Temp. 63.0 °F
 Air Temp. 57.0 °F
 Volume (yds) 7.0 of 14.0
 Admixture: High-Range Water Reducer, Air

Laboratory Test Data

Sample No.	Test Date	Age	Type	Unit Wt.	Area (in ²)	Load (K)	Strength (psi)
C14a	22-May-12	7	6	143.1	28.27	104.0	3680
C14b	12-Jun-12	28	5	142.9	28.27	146.4	5180
C14c	12-Jun-12	28	3	142.8	28.27	144.9	5130
C14d							

Average 28 Day (psi): 5155



Remarks:

DAILY FIELD REPORT

Date: 5/18/12
Project: Elm Terrace Housing - Portland, Maine
Project #: 14670
Site Contacts: Bruce Morgan - Wright-Ryan Construction
Purpose of Visit: Concrete Testing Services

Work Activities: Performed concrete testing on the slab on deck for Wright Ryan Construction. A total of 79 cubic yards of 3000psi 3/4" stone concrete was placed. The concrete placed contained Glenium 7500 (high-range water reducer), Pozzutec 20+ (concrete set accelerator) and Barrier-1. The concrete was supplied by Auburn Concrete and was placed by a crew from A.P. Concrete Floors Inc. via pump truck provided by Northeast Concrete Pumping. Two sets of four cylinders were cast and left on site to be retrieved at a later date for controlled storage and compressive strength testing. Two cylinders were also cast for Barrier-1 testing, which were left on site and will be retrieved at a later date.

Test Results: Air Content: 3.6-4.5%
 Slump: 6 1/2-7 3/4"
 Concrete Temp: 63-65°F
 Air Temp: 49-64°F

Remarks: Mileage reduced due to proximity of another site.

Portal to Portal

Leave:	<u>6:00am</u>	<u>Expenses</u>	
Return:	<u>11:00am</u>	Mileage:	<u>45</u>
TOTAL:	<u>5</u>	Density Gauge:	<u> </u>
		Other:	<u> </u>

Signed: Matthew Pellerin
cc: E. Cooperrider - CHOM

Reviewed: Darrell A. Gilman, CMT Manager
 Date: 5/21/12



CONCRETE COMPRESSIVE STRENGTH TEST RESULTS - ASTM C39

Project No: 14670
 Project: Elm Terrace Housing - Portland, Maine
 Client: Community Housing of Maine
 957 Boothbay Road
 Edgecomb, ME 04556

Field Test Data

Set No.: C15
 Placement Date: 18-May-12
 Lab Rec'd Date: 21-May-12
 Location: Slab on Deck

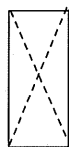
Technician: M. Pellerin
 Supplier: Auburn Concrete
 Mix Designation: 3/4" Aggregate
 Design Strength: 3000psi

Slump (initial) 7 1/2 in.
 Slump (placed) 7 3/4 in.
 Air Content 3.6 %
 Conc Temp. 63.0 °F
 Air Temp. 56.0 °F
 Volume (yds) 30.0 of 79.0
 Admixture: Glenium 7500 (Mid-Range Water Reducer), Pozzutec 20+, Barrier-1

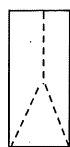
Laboratory Test Data

Sample No.	Test Date	Age	Type	Unit Wt.	Area (in ²)	Load (K)	Strength (psi)
C15a	25-May-12	7	3	146.8	28.37	116.8	4120
C15b	15-Jun-12	28	2	147.4	28.27	158.1	5590
C15c	15-Jun-12	28	2	145.5	28.27	150.7	5330
C15d							

Average 28 Day (psi): 5460



Cone
1



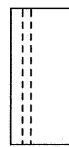
Cone and Split
2



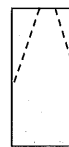
Cone and Shear
3



Shear
4



Columnar
5



Other
6

Remarks:



CONCRETE COMPRESSIVE STRENGTH TEST RESULTS - ASTM C39

Project No: 14670
 Project: Elm Terrace Housing - Portland, Maine
 Client: Community Housing of Maine
 957 Boothbay Road
 Edgecomb, ME 04556

Field Test Data

Set No.: C16
 Placement Date: 18-May-12
 Lab Rec'd Date: 21-May-12
 Location: Slab on Deck

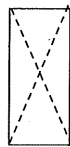
Technician: M. Pellerin
 Supplier: Auburn Concrete
 Mix Designation: 3/4" Aggregate
 Design Strength: 3000psi

Slump (initial) 7 1/4 in.
 Slump (placed) 7 1/4 in.
 Air Content 3.7 %
 Conc Temp. 64.0 °F
 Air Temp. 61.0 °F
 Volume (yds) 60.0 of 79.0
 Admixture: Glenium 7500 (Mid-Range Water Reducer), Pozzutec 20, Barrier-1

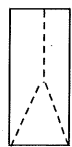
Laboratory Test Data

Sample No.	Test Date	Age	Type	Unit Wt.	Area (in ²)	Load (K)	Strength (psi)
C16a	25-May-12	7	4	146.8	28.37	116.2	4090
C16b	15-Jun-12	28	2	147.8	28.27	155.9	5510
C16c	15-Jun-12	28	2	147.4	28.27	150.8	5330
C16d							

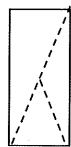
Average 28 Day (psi): 5420



Cone
1



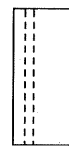
Cone and Split
2



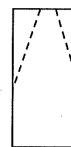
Cone and Shear
3



Shear
4



Columnar
5



Other
6

Remarks:

DAILY FIELD REPORT

Date: 6/22/12
Project: Elm Terrace Housing - Portland, Maine
Project #: 14670
Site Contacts: Bruce Morgan - Wright-Ryan Construction
Purpose of Visit: Concrete Testing Services

Work Activities: Performed concrete testing on 10cy of 4500psi 3/4 inch concrete with Micro Air, Pozzolith 100XR and Glenium 7500 for the outdoor staircase. The concrete was supplied by Auburn Concrete and was placed by a crew from Wright Ryan Construction. One set of four cylinders were cast and left on site to be retrieved at a later date for controlled storage and compressive strength testing.

Test Results: Air Content: 7.5
 Slump: 8"
 Concrete Temp: 77°F
 Air Temp: 83°F

Remarks:

Portal to Portal

Leave:	6:30	<u>Expenses</u>	
Return:	11:00am	Mileage:	114
TOTAL:	4.5	Density Gauge:	
		Other:	

Signed: Spencer Luettich
cc: E. Cooperrider - CHOM

Reviewed: Darrell A. Gilman, CMT Manager
 Date:



CONCRETE COMPRESSIVE STRENGTH TEST RESULTS - ASTM C39

Project No: 14670
 Project: Elm Terrace Housing - Portland, Maine
 Client: Community Housing of Maine
 957 Boothbay Road
 Edgecomb, ME 04556

Field Test Data

Set No.: C17
 Placement Date: 22-Jun-12
 Lab Rec'd Date: 25-Jun-12
 Location: Outdoor Staircase

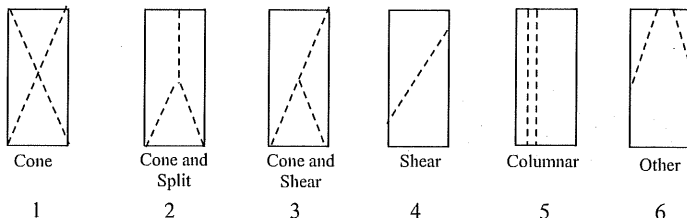
Technician: S. Luettich
 Supplier: Auburn Concrete
 Mix Designation: 3/4" Aggregate
 Design Strength: 4500psi

Slump (initial) 8 in.
 Slump (placed) 8 in.
 Air Content 7.5 %
 Conc Temp. 77.0 °F
 Air Temp. 83.0 °F
 Volume (yds) 4.0 of 10.0
 Admixture: MicroAir, Pozzulith100xr, Glenium 7500 (Mid-Range Water Reducer)

Laboratory Test Data

Sample No.	Test Date	Age	Type	Unit Wt.	Area (in ²)	Load (K)	Strength (psi)
C17a	29-Jun-12	7	2	141.3	28.27	147.6	5220
C17b	20-Jul-12	28	4	142.0	28.27	157.6	5580
C17c	20-Jul-12	28	4	140.5	28.27	171.3	6060
C17d							

Average 28 Day (psi): 5820



Remarks:

DAILY FIELD REPORT

Date: 8/8/12
Project: Elm Terrace Housing - Portland, Maine
Project #: 14670
Site Contacts: Bruce Morgan- Wright-Ryan Construction
Purpose of Visit: Concrete Testing Services.

Work Activities: A crew from A.P Concrete placed a total of 30 cubic yards for the slab on grade in the existing basement. All concrete was supplied by Auburn Concrete with a mix design of 3/4" aggregate and a design strength of 3500psi., with a mid-range water reducer (Glenium 7500), Pozzutec 20, Barrier 1 and fibermesh added at the batch plant. Concrete was placed via pump truck provided by Northeast Pumping Inc.. One set (#18) of four concrete test cylinders were cast from the middle of the third load and placed in an insulated cure box with a min/max thermometer.

Test Results: Concrete Class: L-3550SNA
Initial Air Truck: 6.8 %
Mid Load Air: 5.4 to 6.2 %
Mid Load Slump Pump: 6"
Concrete Temperature: 74 to 77 degrees F.

Remarks: One 4X8 cylinder was cast for Barrier 1. There was no air added at the batch plant, the Auburn Concrete QC technician believed the air was on the high end due to air entrapped in the fibermesh. Mr. Bruce Morgan was notified of the air content results prior to placement.

Portal to Portal

		<u>Expenses</u>	
Leave:	<u>5:30am</u>	Mileage:	<u>80</u>
Return:	<u>11:00am</u>	Density Gauge:	<u> </u>
TOTAL:	<u>5.5</u>	Other:	<u> </u>

Signed: Frank Clark
cc: E. Cooperrider - CHOM

Reviewed: Darrell A. Gilman, CMT Manager
Date: 8/9/12



CONCRETE COMPRESSIVE STRENGTH TEST RESULTS - ASTM C39

Project No: 14670
 Project: Elm Terrace Housing - Portland, Maine
 Client: Community Housing of Maine
 957 Boothbay Road
 Edgecomb, ME 04556

Field Test Data

Set No.: C18
 Placement Date: 8-Aug-12
 Lab Rec'd Date: 9-Aug-12
 Location: Slab on Grade - Basement

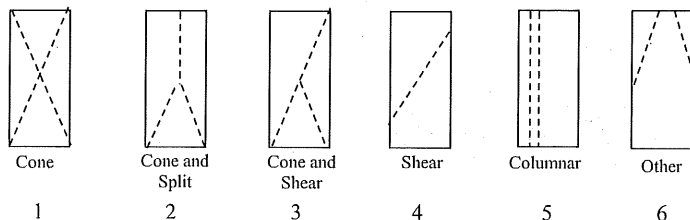
Technician: F. Clark
 Supplier: Auburn Concrete
 Mix Designation: 3/4" Aggregate
 Design Strength: 3500psi

Slump (initial) in.
 Slump (placed) 6 in.
 Air Content 6.2 %
 Conc Temp. 77.0 °F
 Air Temp. 81.0 °F
 Volume (yds) 30.0 of 30.0
 Admixture: Glenium 7500 (Mid-Range Water Reducer), Pozz20, Barrier-1, Fibermesh

Laboratory Test Data

Sample No.	Test Date	Age	Type	Unit Wt.	Area (in ²)	Load (K)	Strength (psi)
C18a	15-Aug-12	7	3	140.6	28.27	96.2	3400
C18b	5-Sep-12	28	6	141.1	28.27	122.1	4320
C18c	5-Sep-12	28	5	141.1	28.27	119.8	4240
C18d							

Average 28 Day (psi): 4280



Remarks:

DAILY FIELD REPORT

Date: 8/29/12
Project: Elm Terrace Housing - Portland, Maine
Project #: 14670
Site Contacts: Bruce Morgan - Wright-Ryan Construction
Purpose of Visit: Concrete testing services.

Work Activities: Performed concrete testing on the 26cy concrete placement of the exterior foundation walls of the stairwell. The 3/4" aggregate, 3,000psi concrete was supplied by Auburn concrete and was placed via pump truck supplied by Northeast Pumping Services.

Test Results: Slump range: 5 1/2" to 6"
 Air Content range: 6.8% to 7.0%
 Concrete Temp.: 70 deg. F
 Air Temp.: 72 deg. F
 One set of four test specimen was cast for compressive strength testing.

Remarks:

Portal to Portal

Leave:	11:00	<u>Expenses</u>	
Return:	3:30	Mileage:	85
TOTAL:	4.5	Density Gauge:	
		Other:	

Signed: Darrell Gilman
cc: E. Cooperrider - CHOM

Reviewed: Darrell A. Gilman, CMT Manager
 Date: 8/29/12



CONCRETE COMPRESSIVE STRENGTH TEST RESULTS - ASTM C39

Project No: 14670
 Project: Elm Terrace Housing - Portland, Maine
 Client: Community Housing of Maine
 957 Boothbay Road
 Edgecomb, ME 04556

Field Test Data

Set No.: C19
 Placement Date: 29-Aug-12
 Lab Rec'd Date: 30-Aug-12
 Location: Exterior Stairwell Foundation

Technician: D. Gilman
 Supplier: Auburn Concrete
 Mix Designation: 3/4" Aggregate
 Design Strength: 3000psi

Slump (initial) in.
 Slump (placed) 5 1/2 in.
 Air Content 7.0 %
 Conc Temp. 72.0 °F
 Air Temp. 73.0 °F
 Volume (yds) 10.0 of 25.0
 Admixture:

Laboratory Test Data

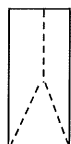
Sample No.	Test Date	Age	Type	Unit Wt.	Area (in ²)	Load (K)	Strength (psi)
C19a	5-Sep-12	7	5	143.6	28.27	78.4	2770
C19b	26-Sep-12	28	2	143.5	28.27	139.9	4950
C19c	26-Sep-12	28	2	143.8	28.27	140.3	4960
C19d							

Average 28 Day (psi): 4955



Cone

1



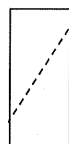
Cone and Split

2



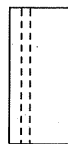
Cone and Shear

3



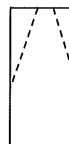
Shear

4



Columnar

5



Other

6

Remarks:

DAILY FIELD REPORT

Date: 9/7/12
Project: Elm Terrace Housing - Portland, Maine
Project #: 14670
Site Contacts: Bruce Morgan - Wright-Ryan Construction
Purpose of Visit: Concrete testing services

Work Activities: Performed concrete testing on the 18cy concrete placement of the exterior upper stairs and retaining wall #2. The 3/4" aggregate, 4,500psi concrete was supplied by Auburn concrete and was placed via pump truck supplied by Northeast Pumping Services.

Test Results: Slump: 4 3/4 to 5 1/4"
 Air Content: 5 to 6.7%
 Concrete temp: 81 to 83 deg F
 Air Temp: 85 deg F

Remarks:

Portal to Portal

Leave:	<u>11:30</u>	<u>Expenses</u>	
Return:	<u>3:30</u>	Mileage:	<u>112</u>
TOTAL:	<u>4</u>	Density Gauge:	<u> </u>
		Other:	<u> </u>

Signed: Aaron Higgins
cc: E. Cooperrider - CHOM

Reviewed: Darrell A. Gilman, CMT Manager
 Date: 9/10/12



CONCRETE COMPRESSIVE STRENGTH TEST RESULTS - ASTM C39

Project No: 14670
 Project: Elm Terrace Housing - Portland, Maine
 Client: Community Housing of Maine
 957 Boothbay Road
 Edgecomb, ME 04556

Field Test Data

Set No.: C20
 Placement Date: 7-Sep-12
 Lab Rec'd Date: 8-Sep-12
 Location: Upper Stairs and Retaining Wall #2

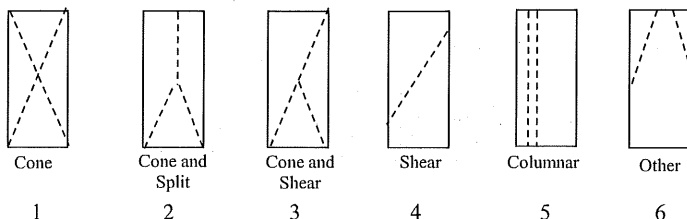
Technician: A. Higgins
 Supplier: Auburn Concrete
 Mix Designation: 3/4" Aggregate
 Design Strength: 4500psi

Slump (initial) in.
 Slump (placed) 4 3/4 in.
 Air Content 5.2 %
 Conc Temp. 83.0 °F
 Air Temp. 85.0 °F
 Volume (yds) 4.0 of 18.0
 Admixture: MicroAir

Laboratory Test Data

Sample No.	Test Date	Age	Type	Unit Wt.	Area (in ²)	Load (K)	Strength (psi)
C20a	14-Sep-12	7	4	145.4	28.27	126.6	4480
C20b	5-Oct-12	28					
C20c	5-Oct-12	28					
C20d							

Average 28 Day (psi): _____



Remarks:



LOCATIONS:

AUBURN - 82 Goldthwaite Road

WESTBROOK - 93 Scott Drive

WEST BATH - 50 Arthur Reno Sr Road

AUGUSTA - 2 Hard Rock Road

Main Office: P.O. Box 1747 • Auburn, Maine 04210

Phone: (207) 777-7100 • Fax: (207) 777-7171

WRIGHT-RYAN CONSTRUCTION

Elm Terrace

68 High Street - Portland, Maine

3000PSI - Air Entrained, 3/4" Crushed Stone

Mix Design Submittal (FOUNDATIONS)

1/3/2012

3034SA-LEED

		<u>Weight-SSD (lbs)</u>	<u>Volume (Cu.Ft.)</u>	<u>Sources</u>
CEMENT	ASTM C150 T I/II	387	1.97	DRAGON PRODUCTS COMPANY
GGBFS (NEWCEM)	ASTM C989, Grade 120	130	0.70	DRAGON PRODUCTS COMPANY
COARSE AGG	ASTM C-33: #57/#67	1830	10.29	PIKE INDUSTRIES
FINE AGGREGATE	ASTM C-33	1320	8.10	PORTLAND SAND & GRAVEL
WATER	U.S. GAL/CY: 33.0	275	4.41	PORTLAND WATER DISTRICT
	AIR CONTENT (%):	6.0 +/- 1.5%	1.63	
	WATER/CEMENT RATIO:	0.53		
	SLUMP (Inches):	4.00	± 1.00"	
	YIELD:	145.5 PCF	27.1 Cu.Ft.	
GLENIUM 7500*	ASTM C494, TYPE A,F	3.00 oz/cwt	15.5 US oz/CY	BASF/MASTER BUILDERS
* GLENIUM 7500 dose is for MIDRANGE applications				
MICRO AIR	ASTM C-260	0.2 oz/cwt	1.0 US oz/CY	BASF/MASTER BUILDERS
OPTIONAL:				
POZZUTEC 20+	ASTM C-494, Type C,E	10.00 oz/cwt	51.7 US oz/CY	BASF/MASTER BUILDERS

AUBURN CONCRETE REPORT AND ANALYSIS OF COMPRESSIVE STRENGTH

MIX IDENTIFICATION #:

DESIGN STRENGTH:

30345A-LEED

3000 PSI @ 28 DAYS



PROJECT:
CONTRACTOR:

W/C: 0.53
MAX. C.A.: 3/4"

11/12/2011
11:36 AM

DATE	PROJECT	ID#	SLUMP	% AIR	TEMPERATURE CONC	AIR	7 DAY	14 DAY	28 DAY	MOVING AVG. OF 3
12/7/2007	TURNER-LEEDS BRIDGES	14039-1					3050		4165	
12/14/2007	TURNER-LEEDS BRIDGES	14039-2					2180		3220	2462
1/10/2008	TURNER-LEEDS BRIDGES	14039-6					2050		3120	3502
1/12/2008	TURNER-LEEDS BRIDGES	14039-12	7.50	6.4	60		2785		3980	3440
3/6/2008	TURNER-LEEDS BRIDGES	14039-13	6.50	8.5	52		2595		3435	3512
3/6/2008	TURNER-LEEDS BRIDGES	14039-14	6.50	7.0	51		3010		3910	3775
4/5/2008	TURNER-LEEDS BRIDGES	14039-17		4.5	62		3410		4055	3800
4/5/2008	TURNER-LEEDS BRIDGES	14039-18	8.00	6.8	64		2130		2930	3632
4/5/2008	TURNER-LEEDS BRIDGES	14039-19		6.5	61		2620		3315	3433
4/5/2008	TURNER-LEEDS BRIDGES	14039-20		6.5	61		3390		4420	3555
4/5/2008	TURNER-LEEDS BRIDGES	14039-21		7.1	63		3580		4070	3935
4/9/2008	RESIDENCE INN-AUBURN	14064-1	3.50	5.3	63		2830	3340	4150	4213
4/10/2008	RESIDENCE INN-AUBURN	14064-2	3.75	5.0	63		3380	4120		
4/11/2008	RESIDENCE INN-AUBURN	14064-3	4.00	5.4	63		3010	3600		
4/15/2008	RESIDENCE INN-AUBURN	14064-4	2.25	5.2	61		3140	3670		
4/17/2008	RESIDENCE INN-AUBURN	14064-5	5.00	5.8	65		3290	4010		
4/22/2008	RESIDENCE INN-AUBURN	14064-6	5.75	5.6	69		2710	3220		
4/25/2008	RESIDENCE INN-AUBURN	14064-7	5.00	6.5	65		2950			
4/30/2008	RESIDENCE INN-AUBURN	14064-8	3.00	6.0	58		3350			
10/2/2008	FITNESS CTR- BOWDOIN COLLEGE	14138-1	5.50	7.8	72		2840		3890	4037
10/14/2008	FITNESS CTR- BOWDOIN COLLEGE	14138-2	5.50	5.6	70		3140		3905	3982
10/14/2008	FITNESS CTR- BOWDOIN COLLEGE	14138-3	5.50	6.5	68		3050		3775	3857
10/21/2008	FITNESS CTR- BOWDOIN COLLEGE	14138-4	6.00	5.8	62		3010		4005	3895
11/3/2008	FITNESS CTR- BOWDOIN COLLEGE	14138-5	8.00	7.8	51		2510		3155	3645
11/3/2008	FITNESS CTR- BOWDOIN COLLEGE	14138-6	8.50	7.4	53		2830		3620	3593
11/14/2008	FITNESS CTR- BOWDOIN COLLEGE	14138-7	8.00	7.2	67		3130		3915	3563
11/14/2008	FITNESS CTR- BOWDOIN COLLEGE	14138-8	8.00	5.8	67		2860		3485	3673
11/25/2008	FITNESS CTR- BOWDOIN COLLEGE	14138-9	7.00	6.8	63		3150		3790	3730
12/3/2008	FITNESS CTR- BOWDOIN COLLEGE	14138-10	3.25	5.5	67		3940		4700	3992
4/1/2009	AVESTA -FLORENCE HOUSE	14194-1	5.00	7.0	62		3630		4385	4292
4/16/2009	AVESTA -FLORENCE HOUSE	14191-2	5.25	5.5	49		3670		4440	4508
4/23/2009	AVESTA -FLORENCE HOUSE	14191-5	5.00	6.5	60		3570		4420	4415
5/4/2009	AVESTA -FLORENCE HOUSE	14191-8	4.50	6.2	66		3640		4470	4443
5/8/2009	AVESTA -FLORENCE HOUSE	14191-9	5.25	6.0	64		3570		4045	4312
5/27/2009	AVESTA -FLORENCE HOUSE	14191-15	6.00	7.6			3550		4450	4322
5/27/2009	AVESTA -FLORENCE HOUSE	14191-16	6.00	7.2			2510		3360	3952
7/1/2009	NEXT ERA ENERGY OFFICE BLDG	953-1	7.25	7.5	73	71	2710		3685	3832
7/1/2009	NEXT ERA ENERGY OFFICE BLDG	953-2	6.00	7.8	75	74	2500		4060	3702
7/11/2009	CRESCENT HEIGHTS APTS	982-1	6.00	7.0	71	60	3020			
7/14/2009	CRESCENT HEIGHTS APTS	982-2	6.00	5.7	75	73	3200		4520	4088
7/17/2009	NEXT ERA ENERGY OFFICE BLDG	953-3	6.75	6.3	77	81	2500		4005	4195
7/17/2009	NEXT ERA ENERGY OFFICE BLDG	953-4	6.75	6.4	79	81	2740		4605	4377
7/17/2009	NEXT ERA ENERGY OFFICE BLDG	953-5	6.50	6.1	78		2790		4605	4405
7/21/2009	CRESCENT HEIGHTS APTS	982-3	5.00	5.0	78	71	3770		4960	4723
7/23/2009	CRESCENT HEIGHTS APTS	982-4	4.75	6.0	75	70	2550		3765	4443
8/3/2009	CRESCENT HEIGHTS APTS	982-5	6.00	5.7	84	83	3010		4585	4437
8/10/2009	CRESCENT HEIGHTS APTS	982-6	6.00	6.0	78	82	3010		4265	4205
8/19/2009	CRESCENT HEIGHTS APTS	982-7	4.75	5.1	86	94	4380			
8/25/2009	CRESCENT HEIGHTS APTS	982-8	4.75	5.3	85	77	4280		4890	4580
8/28/2009	NEXT ERA ENERGY OFFICE BLDG	953-6	6.50	5.0	72	49	1960		3823	4326
8/28/2009	NEXT ERA ENERGY OFFICE BLDG	953-7	5.75	5.4	75	55	2320		4250	4321
9/11/2009	CRESCENT HEIGHTS APTS	982-10	7.00	6.0	77	88	3950			
9/15/2009	CRESCENT HEIGHTS APTS	982-12	6.00	5.2	77		3280			
9/21/2010	MAINE ST STATION INN	14436-1	4.50	6.6	73		3040		3560	3878
9/22/2010	MAINE ST STATION INN	14436-2	2.00	5.0	74		3160		4790	4200
9/23/2010	MAINE ST STATION INN	14436-3	6.00	6.9	75		2880		3900	4083
9/28/2010	MAINE ST STATION INN	14436-4	2.50	6.0	71		3250		4805	4498
9/29/2010	MAINE ST STATION INN	14436-5	6.50	7.3	76		2340		3485	4063
10/4/2010	MAINE ST STATION INN	14436-6	6.00	7.0	67		2010		3415	3902

AUBURN CONCRETE REPORT AND ANALYSIS OF COMPRESSIVE STRENGTH

10/7/2010	MAINE ST STATION INN	14436-7	5.00	7.0	66		2920		4330	3743	
10/14/2010	ME-ANG RIFLE RANGE	142-1	4.00	6.5	65	57	3310		5070	4272	
10/14/2010	MAINE ST STATION INN	14436-8	6.50	7.4	63		3020		4630	4677	
10/19/2010	ME-ANG RIFLE RANGE	142-2	4.50	6.0	65	53	4540		5155	4952	
10/21/2010	MAINE ST STATION INN	14436-10	6.00	7.0	63		3200		4240	4675	
10/28/2010	ME-ANG RIFLE RANGE	142-8	4.25	5.9	64	62	3920		5490	4962	
10/29/2010	MAINE ST STATION INN	14436-11	4.50	6.4	64		3290		4550	4760	
11/1/2010	MAINE ST STATION INN	14436-12	5.50	5.8	63		1920		3330	4457	
11/4/2010	ME-ANG RIFLE RANGE	142-11	5.75	7.2	54	50	3220		5100	4327	
11/8/2010	ME-ANG RIFLE RANGE	142-14	6.00	7.5	62	51	2630				
11/11/2010	ME-ANG RIFLE RANGE	142-16	4.50	4.9	60	47	3920				
11/12/2010	ME-ANG RIFLE RANGE	142-17	4.50	6.2	63	54	4510				
11/15/2010	ME-ANG RIFLE RANGE	142-18	3.25	5.3	67	48	4090				
11/22/2010	MAINE ST STATION INN	14436-15	4.00	4.5	64		3710	5315		4582	
12/31/2010	MAINE ST STATION INN	14436-18	4.50	5.0	54		3460	4125		4847	
1/11/2011	MAINE ST STATION INN	14436-19	3.75	6.1	70		2920				
7/8/2011	FRANKLIN MEM -MOB	191-1	3.50	5.5	88	78	3770		4325	4588	
7/13/2011	FRANKLIN MEM -MOB	191-2	6.00	5.8	87	79	3330		4335	4262	
7/15/2011	FRANKLIN MEM -MOB	191-3	5.00	4.9	86	80	3060		3820	4160	
7/25/2011	FRANKLIN MEM -MOB	191-5	5.50	5.5	83	71	2350		3155	3770	
7/25/2011	FRANKLIN MEM -MOB	191-6	3.50	5.8	85	75	2330		3030	3335	
7/26/2011	FRANKLIN MEM -MOB	191-7	5.00	4.5	88	72	2580		3390	3192	
7/30/2011	FRANKLIN MEM -MOB	191-8	6.00	4.5	85	78	3200		3925	3448	
8/5/2011	FRANKLIN MEM -MOB	191-10	6.00	5.3	84	80	3350				
8/5/2011	FRANKLIN MEM -MOB	191-9	7.25	5.3	83	79	3180				
8/9/2011	FRANKLIN MEM -MOB	191-11	4.75	3.7	85	82	2950	3870		3728	
8/12/2011	FRANKLIN MEM -MOB	191-12	2.75	5.2	88	78	3770	4275		4023	
8/13/2011	FRANKLIN MEM -MOB	191-13	3.25	4.5	85	83	4080				
8/18/2011	FRANKLIN MEM -MOB	191-14	6.00	7.0	83	80	3340	3955		4033	
COUNT:			88	81	85	83	36	88	6	69	67
RANGE:		LOW	2.00	3.7	49	47	1920	3220	2930	3192	
		HIGH	8.50	8.5	88	94	4540	4120	5490	4962	
AVERAGE OF ALL:			5.35	6.1	70	71	3123	3660	4086	4090	
STANDARD DEVIATION:			1.4	1.0	10.1	12.7	578	325	577	419	
COEFFICIENT OF VARIATION:			26.2	15.6	14.5	18.0	18.5	8.9	14.1	10.2	

ICI 214 SUMMARY:

AVERAGE STRENGTH:	4086 PSI	
AVERAGE STRENGTH BASED ON:	69 TESTS	
STANDARD DEVIATION:	577 PSI	
OVERALL COEFFICIENT OF VARIATION:	14.1 %	CONTROL IS GOOD
WITHIN-TEST STANDARD DEVIATION:	146 PSI	
WITHIN-TEST COEFFICIENT OF VARIATION:	3.6 %	CONTROL IS VERY GOOD
BATCH-TO-BATCH STANDARD DEVIATION:	558 PSI	
RECOMMENDED STRENGTH:	3844 PSI	



LOCATIONS:

AUBURN - 82 Goldthwaite Road

WESTBROOK - 93 Scott Drive

WEST BATH - 50 Arthur Reno Sr Road

AUGUSTA - 2 Hard Rock Road

Main Office: P.O. Box 1747 • Auburn, Maine 04210

Phone: (207) 777-7100 • Fax: (207) 777-7171

WRIGHT-RYAN CONSTRUCTION

ELM TERRACE

68 HIGH STREET - PORTLAND, MAINE

3000PSI - Non-Air Entrained, 3/4" Crushed Stone

Mix Design Submittal (INTERIOR S-O-G)

1/3/2012

3534SNA-LEED

		<u>Weight-SSD (lbs)</u>	<u>Volume (Cu.Ft.)</u>	<u>Sources</u>
CEMENT, T I/II	ASTM C-150	380	1.93	DRAGON PRODUCTS COMPANY
GGBFS (NEWCEM)	ASTM C989, Grade 120	160	0.86	DRAGON PRODUCTS COMPANY
COARSE AGG	ASTM C-33: #57/#67	1870	10.52	PIKE INDUSTRIES
FINE AGGREGATE	ASTM C-33	1420	8.72	PORTLAND SAND & GRAVEL
WATER U.S. GAL/CY:	33.6	280	4.49	PORTLAND WATER DISTRICT
AIR CONTENT (%):	2.0 +/- 1.5%		0.54	
WATER/CEMENT RATIO:	0.52			
SLUMP (Inches):	5.00		± 1.00"	
YIELD:	146.0 PCF		27.1 Cu.Ft.	
GLENIUM 7500*	ASTM C494, TYPE A,F	3.50 oz/cwt	18.9 US oz/CY	BASE/MASTER BUILDERS
* GLENIUM 7500 dose is for MIDRANGE applications.				
BARRIER 1		14.00 oz/cwt	75.6 US oz/CY	BARRIER-1
OPTIONAL:				
POLYMESH	ASTM C-1116 TYPE III	1.00 lbs/cy		O'DEA CONCRETE PRODUCTS
POZZUTEC 20+	ASTM C-494, Type C,E	10.00 oz/cwt	54.0 US oz/CY	BASE/MASTER BUILDERS

MIX IDENTIFICATION #:

3534SNA-LEED

DESIGN STRENGTH:

3000 PSI @ 28 DAYS



PROJECT:

W/C: 0.54

CONTRACTOR:

MAX. C.A.: 3/4"

DATE	PROJECT	ID#	SLUMP	% AIR	TEMPERATURE		7 DAY	14 DAY	28 DAY	MOVING AVG. OF 3
					CONC	AIR				
1/24/08	84 MARGINAL WAY	765-65	5.50	2.6	68	25	3380		3855	
1/24/08	84 MARGINAL WAY	765-66	6.50		63	25	2740		3980	
1/24/08	84 MARGINAL WAY	765-67	6.50	2.1	60	25	3400		4360	4065
1/24/08	84 MARGINAL WAY	765-68	5.00	2.5	60	28	3520		4105	4148
1/24/08	84 MARGINAL WAY	765-69	6.75	3.3	50	29	3480		4105	4190
1/24/08	84 MARGINAL WAY	765-70	6.75	2.9	50	28	3450		4640	4283
1/31/08	84 MARGINAL WAY	765-71	6.25	2.0	77	20	3660		3810	4185
1/31/08	84 MARGINAL WAY	765-72	6.50	2.0	65	23	2830		3260	3903
1/31/08	84 MARGINAL WAY	765-73	6.75	2.6	61	25	3710		4000	3690
1/31/08	84 MARGINAL WAY	765-74	6.50	2.2	61	31	3290		3840	3700
1/31/08	84 MARGINAL WAY	765-75	6.75	2.2	55	33	3040		4000	3947
2/8/08	84 MARGINAL WAY	765-76	7.00	2.7	58	23	2920		3560	3800
2/8/08	84 MARGINAL WAY	765-77	7.00	2.5	52	20	2580		3495	3685
2/8/08	84 MARGINAL WAY	765-78	6.50	2.5	48	26	3360		3900	3652
2/8/08	84 MARGINAL WAY	765-79	7.00	2.5	47	22	2600		3505	3633
2/8/08	84 MARGINAL WAY	765-80	6.50	2.5	48	22	3470		4095	3833
2/29/08	84 MARGINAL WAY	765-84	6.00	2.5	72	4	3460		4095	3898
2/29/08	84 MARGINAL WAY	765-85	6.75	2.6	48	11	2900		3885	4025
2/29/08	84 MARGINAL WAY	765-86	5.00	2.4	52	25	3290		4165	4048
6/13/08	RESIDENCE INN-AUBURN	14064-17	6.50	3.8	72		2410		3395	3815
6/13/08	RESIDENCE INN-AUBURN	14064-18	6.00	3.9	71		2530		3035	3532
6/13/08	RESIDENCE INN-AUBURN	14064-19	5.75	4.1	73		2820		3385	3272
6/25/08	RESIDENCE INN-AUBURN	14064-23	5.00	4.5	78		3110		3980	3467
6/25/08	RESIDENCE INN-AUBURN	14064-24	5.00	4.8	78		2950		3425	3597
6/25/08	RESIDENCE INN-AUBURN	14064-25	6.00	4.5	75		2940		3830	3745
6/25/08	RESIDENCE INN-AUBURN	14064-26	5.50	4.9	75		3000		3635	3630
6/25/08	RESIDENCE INN-AUBURN	14064-27	5.75	3.9	77		2920		3700	3722
6/25/08	RESIDENCE INN-AUBURN	14064-28	5.50	4.0	75		2680		3495	3610
9/23/08	St. MARYS ER ADDITION	14093-15	5.25	1.9	68		3690		4160	3785
9/23/08	St. MARYS ER ADDITION	14093-16	6.00	1.8	67		3540		4180	3945
9/23/08	St. MARYS ER ADDITION	14093-17	5.25	1.8	69		3770		4445	4262
10/30/08	ST. MARY'S MOB	14131-13	5.25	2.2	61		2980		4065	4230
10/30/08	ST. MARY'S MOB	14131-14	5.00	2.4	57		3290		3935	4148
10/30/08	ST. MARY'S MOB	14131-15	6.00	2.0	55		3190		4480	4160
12/3/08	BOWDOIN COL FITNESS CTR	14138-10	5.50	3.2	67		3940		4700	4372
12/30/08	ST. MARY'S MOB	14131-16	6.00	2.4	63		3320		3795	4325
12/30/08	ST. MARY'S MOB	14131-17	5.50	2.0	59		3190		3855	4117
12/30/08	ST. MARY'S MOB	14131-18	6.50	2.8	53		3650		3880	3843
12/30/08	ST. MARY'S MOB	14131-19	6.75	3.4	54		3410		3995	3910
3/19/2009	ST. MARY'S MOB	14131-21	5.50	2.5	35		3750		4170	4015
7/6/2009	AVESTA -FLORENCE HOUSE	14191-19	7.50	2.5	71		2430		3630	3932
7/6/2009	AVESTA -FLORENCE HOUSE	14191-20	7.00	2.4	73		2510		3180	3660
8/6/2009	AVESTA -FLORENCE HOUSE	14191-23	6.50	2.5			3300		3145	3318
8/6/2009	AVESTA -FLORENCE HOUSE	14191-24	6.00	3.0			3150		3800	3375
8/6/2009	AVESTA -FLORENCE HOUSE	14191-25	5.50	4.0			3140		3805	3583
8/28/2009	AVESTA -FLORENCE HOUSE	14191-26	5.00	3.0	72		2690		3570	3725
6/8/2010	ST. MARY'S RMC OR ADD'N	14346-35	5.00	3.6	69		3980	4740	5435	4270
6/8/2010	ST. MARY'S RMC OR ADD'N	14346-36	6.50	3.0	69		3240	4470	4970	4658
6/8/2010	ST. MARY'S RMC OR ADD'N	14346-37	6.50	3.2	71		3600	4740	5490	5298
6/8/2010	ST. MARY'S RMC OR ADD'N	14346-38	6.00	3.0	73		3460	4550	5225	5228
6/15/2010	ST. MARY'S RMC OR ADD'N	14346-40	6.25	2.8	56		3090	4540	4440	5052
6/15/2010	ST. MARY'S RMC OR ADD'N	14346-41	6.50	2.8	56		3200	4240	4640	4768
6/15/2010	ST. MARY'S RMC OR ADD'N	14346-42	6.50	3.9	56		2480	3330	4350	4477
6/15/2010	ST. MARY'S RMC OR ADD'N	14346-43	6.00	3.8	74		2600	3770	4620	4537
6/17/2010	ST. MARY'S RMC OR ADD'N	14346-45	6.00	3.5	78		2720	3680	4355	4442

6/21/2010	ST. MARY'S RMC OR ADD'N	14346-46	4.50	2.4	77	2800	4370	4675	4550
6/21/2010	ST. MARY'S RMC OR ADD'N	14346-47	6.00	2.6	77	2900	3710	4420	4483
6/21/2010	ST. MARY'S RMC OR ADD'N	14346-48	6.00	2.6	80	2320	3220	4110	4402
6/25/2010	ST. MARY'S RMC OR ADD'N	14346-51	5.00	2.2	78	2790	3520	4260	4263
6/25/2010	ST. MARY'S RMC OR ADD'N	14346-52	6.00	2.5	79	3000	3650	4230	4200
6/25/2010	ST. MARY'S RMC OR ADD'N	14346-53	5.50	2.3	78	2510	3290	4025	4172
6/30/2010	ST. MARY'S RMC OR ADD'N	14346-54	6.50	2.3	79	2740	3640	4665	4307
6/30/2010	ST. MARY'S RMC OR ADD'N	14346-55	6.50	2.9	75	2560	3710	4535	4408
6/30/2010	ST. MARY'S RMC OR ADD'N	14346-56	6.50	2.7	76	3190	4980	5110	4770
6/30/2010	ST. MARY'S RMC OR ADD'N	14346-57	6.50	3.0	79	2810	4140	4615	4753
6/30/2010	ST. MARY'S RMC OR ADD'N	14346-58	6.50	2.5	77	2770	3800	4665	4797
7/8/2010	ST. MARY'S RMC OR ADD'N	14346-59	6.00	3.0	82	3050	3910	4075	4452
7/15/2010	ST. MARY'S RMC OR ADD'N	14346-60	4.50	2.9	82	2900	3910	4430	4390
7/19/2010	ST. MARY'S RMC OR ADD'N	14346-61	4.00	4.0	87	2480	3750	4340	4282
8/11/2010	ST. MARY'S RMC OR ADD'N	14346-62	5.50	2.8	78	3850	3850	4680	4483

COUNT:		70	70	69	67	19	70	24	70	68
RANGE:	LOW	4.00	1.8	35	4	2320	3220	3035	3272	
	HIGH	7.50	4.9	87	33	3980	4980	5490	5298	
AVERAGE OF ALL:		5.99	2.9	67	23	3092	3980	4110	4106	
STANDARD DEVIATION:		0.7	0.7	11.2	6.5	415	482	518	439	
COEFFICIENT OF VARIATION:		11.8	25.5	16.7	27.7	13.4	12.1	12.6	10.7	

ACI 214 SUMMARY:

AVERAGE STRENGTH:	4110 PSI	
AVERAGE STRENGTH BASED ON:	70 TESTS	
STANDARD DEVIATION:	518 PSI	CONTROL IS GOOD
OVERALL COEFFICIENT OF VARIATION:	12.6 %	
WITHIN-TEST STANDARD DEVIATION:	132 PSI	
WITHIN-TEST COEFFICIENT OF VARIATION:	3.2 %	CONTROL IS VERY GOOD
BATCH-TO-BATCH STANDARD DEVIATION:	501 PSI	
RECOMMENDED STRENGTH:	3707 PSI	



LOCATIONS:

AUBURN - 82 Goldthwaite Road

WESTBROOK - 93 Scott Drive

WEST BATH - 50 Arthur Reno Sr Road

AUGUSTA - 2 Hard Rock Road

Main Office: P.O. Box 1747 • Auburn, Maine 04210

Phone: (207) 777-7100 • Fax: (207) 777-7171

WRIGHT-RYAN CONSTRUCTION

ELM TERRACE

68 HIGH STREET - PORTLAND, ME

4500PSI - Air Entrained, 3/4" Crushed Stone

Mix Design Submittal -EXTERIOR FLATWORK

1/3/2012

4534SA-LEED

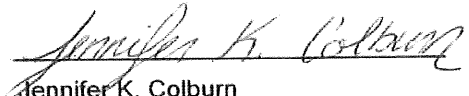
		<u>Weight-SSD (lbs)</u>	<u>Volume (Cu.Ft.)</u>	<u>Sources</u>
CEMENT, T I/II	ASTM C-150	460	2.34	DRAGON PRODUCTS COMPANY
GGBFS (NEWCEM)	ASTM C989, Grade 120	200	1.08	DRAGON PRODUCTS COMPANY
COARSE AGG	ASTM C-33: #57/#67	1800	10.89	PIKE INDUSTRIES
FINE AGGREGATE	ASTM C-33	1150	7.06	PORTLAND SAND & GRAVEL
WATER	U.S. GAL/CY: 33.0	275	4.41	PORTLAND WATER DISTRICT
	AIR CONTENT (%):	5.0 +/- 1.5%	1.36	
	WATER/CEMENT RATIO:	0.42		
	SLUMP (Inches):	4.00	± 1.00"	7.00" ± 1.00" (After Superplasticizer*)
	YIELD:	143.2 PCF	27.1 Cu.Ft.	
GLENIUM 7500	ASTM C494, TYPE A,F	3.00 oz/cwt	19.8 US oz/CY	BASF/MASTER BUILDERS
MICRO AIR	ASTM C-260	0.2 oz/cwt	1.3 US oz/CY	BASF/MASTER BUILDERS
OPTIONAL:				
POZZOLITH 100XR	ASTM C-494, Type B,D	2.00 oz/cwt	13.2 US oz/CY	BASF/MASTER BUILDERS
POZZUTEC 20+	ASTM C-494, Type C,E	10.00 oz/cwt	66.0 US oz/CY	BASF/MASTER BUILDERS

* GLENIUM 7500 meets the requirements of ASTM C494 for Type A (water-reducing) and Type F (high-range water-reducing).
Plant of site addition of 2 - 3 fl.oz./cwt (13.2 - 19.8 fl.oz./cy) will be required to achieve end slump indicated.



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<p>MILL TEST RESULTS Laboratory at Thomaston, Maine</p>	<p>Date: November, 2011 Cement Type: I / II Silo Numbers: 20, 24, 25, 27 & 30</p>
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CHEMICAL DATA	Percent	PHYSICAL DATA	
Silicon Dioxide.....	20.3	Specific Surface.....	370
Aluminum Dioxide.....	3.9	Blaine (sq m /kg)	
Ferric Oxide.....	3.0	(Per ASTM C 204)	
Calcium Oxide.....	61.4	Percent Passing 325 Mesh	97.2
Magnesium Oxide.....	3.3	(Per ASTM C 430)	
Sulphur Trioxide.....	3.7	Compressive Strength (psi)	
Loss on Ignition.....	1.3	(Per ASTM C 109)	
Insoluble Residue.....	0.4	1 day.....	2200
Tricalcium Silicate.....	55	3 day.....	4020
Dicalcium Silicate.....	17	7 day.....	4850
Tricalcium Aluminate.....	5	28 day.....	
Sum of C3S + 4.75*C3A....	79	Vicat Setting Time	
Sodium Oxide.....	0.3	(Per ASTM C 191)	
Potassium Oxide.....	1.2	Initial (min.).....	120
Equivalent Alkalies.....	1.13	Final (min.).....	220
<i>(Chemical Analysis all per ASTM C 114)</i>		Air Content (%).....	8.1
		(Per ASTM C 185)	
		Autoclave Expansion (%)...	0.13
		(Per ASTM C 151)	
		Expansion in water (%).....	0.008
		(Per ASTM C 1038)	
		Heat of Hydration (%)	80
		(Per ASTM C186)	
		Certified by:	
			
		Jennifer K. Colburn	

We hereby certify that this cement complies with current ASTM C 150, AASHTO M-85 and CSA A3001 Type GU specifications.

Testing was completed by Brian Secord and/or Richard Erickson.
This mill test report is generated for silos produced in the calendar month prior to the date upon this report.



P.O. Box 191, U.S. Route 1 • Thomaston, Maine 04861 • 207-594-5555

MILL TEST RESULTS	Date: July, 2011
Laboratory at Thomaston, Maine	Brand: Dragon Ground Granulated Blast Furnace Slag
	Silo Numbers: 23 & 26

Reference Cement Data

Dragon GGBF Slag Data

Specific Surface..... 430
Blaine (sq m /kg)

Specific Surface..... 662
Blaine (sq m /kg)

Alkali Equivalent..... 0.87

Percent Retained on 325 Mesh..... 0.1

Compressive Strength
(psi of reference portland cement)
7 day..... 4818
28 day..... 6037

Air Content (%)..... 5
Sulfide Sulfur (S)..... 0.73
Sulfate Ion (as SO₃)..... 0.21

Potential Compound Composition
C3S (%)..... 54
C2S (%)..... 16
C3A (%)..... 6
C4AF (%)..... 11

Compressive Strength (psi)
(psi of 50:50 slag and reference portland cement)
7 day..... 5254
28 day..... 8294

Activity Index
7 day..... 109%
28 day..... 137%

Specific Gravity (g/ml)..... 2.89

Autoclave Expansion..... 0.022

Certified by:

Jennifer K. Colburn

We hereby certify that this material complies with current ASTM C 989 and AASHTO M 302 Grade 120 specifications as well as CSA-A3001 Type S specifications for slag



--- 2010 - 2011 GRADATION SUMMARY ---

Concrete Sand

Source: Portland Sand & Gravel - Gray, Maine

Specific Gravity: 2.62

Absorption: 0.73%

Tested by: Summit Labs 5/3/10

		FM	Color	3/8"	#4	#8	#16	#30	#50	#100	#200
7/6/2010	SR-PSG	2.57		100	97	91	77	51	22	6	1.2
7/14/2010	SR-WB	2.53		100	97	90	76	51	24	7	1.5
7/15/2010	RD-A	2.72	< 1	100	97	90	72	46	19	4	0.9
7/21/2010	SR-W	2.67		100	97	90	72	46	20	6	1.4
8/17/2010	RD-WB	2.62		100	97	91	76	47	20	7	1.3
8/20/2010	RD-W	2.66	< 1	100	97	90	75	46	20	6	1.1
8/25/2010	RD-WB	2.65		100	98	91	76	47	19	5	1.0
9/9/2010	SR-PSG	2.58		100	97	91	80	50	21	6	1.2
9/15/2010	SR-A	2.48	< 1	100	95	88	74	57	28	8	1.8
9/29/2010	RB-W	2.71		100	96	89	73	46	20	6	1.3
10/4/2010	RD-A	2.63		100	97	90	74	49	22	5	1.2
10/7/2010	SR-PSG	2.87		100	97	89	71	37	14	4	0.8
10/12/2010	DE-WB	2.79		100	97	89	72	43	16	4	0.7
10/18/2010	RD-A	2.52		100	98	93	78	52	23	5	1.1
10/22/2010	RD-W	2.61	< 1	100	98	92	77	49	19	5	0.9
10/25/2010	SR-PSG	2.68		100	97	91	76	46	18	4	0.7
10/26/2010	SR-WB	2.68		100	98	91	76	46	17	4	0.8
10/29/2010	RD-W	2.59		100	97	92	79	50	19	4	0.8
11/3/2010	RD-A	2.65		100	98	92	77	47	18	4	0.9
11/10/2010	RD-W	2.59		100	97	91	77	51	21	4	0.7
11/17/2010	SR-A	2.68		100	97	91	74	48	19	4	0.8
11/19/2010	RB-W	2.59		100	98	92	78	48	20	5	1.0
12/13/2010	RB-W	2.66		100	97	90	79	46	18	4	1.0
12/17/2010	RB-W	2.74		100	97	90	74	43	17	5	1.3
12/21/2010	DE-WB	2.77		100	97	89	72	45	17	4	0.7
12/21/2010	RB-W	2.63		100	97	90	75	48	21	6	1.2
12/28/2010	RD-PSG	2.76		100	97	90	73	42	18	5	0.9
1/11/2011	RB-W	2.78		100	97	90	73	43	16	4	0.8
2/14/2010	RB-W	2.79		100	98	89	71	41	18	5	1.0
2/15/2011	RD-A	2.76		100	98	89	71	44	18	4	0.8
2/22/2011	SR-W	2.89		100	98	87	67	38	16	4	0.8
3/1/2011	SR-A	2.74		100	98	88	70	46	20	5	1.0
3/7/2011	SR-A	2.79		100	98	88	68	43	19	5	1.0
3/9/2011	SR-A	2.81		100	97	88	68	42	19	5	1.0
3/17/2011	SR-PSG	2.73		100	98	88	70	45	21	5	0.9
3/18/2011	SR-WB	2.87		100	97	87	67	43	16	4	0.7
3/21/2011	SR-W	2.81		100	98	88	70	41	18	5	1.0
3/22/2011	RB-W	2.88	< 1	100	98	87	67	38	17	5	0.9
3/24/2011	RD-A	2.82		100	98	88	68	42	19	5	1.1
3/24/2011	RD-A	2.67		100	97	89	72	48	22	5	1.2
4/7/2011	RB-W	2.72		100	97	88	72	45	20	6	1.0
4/12/2011	RD-A	2.85	< 1	100	97	87	67	42	18	4	0.8
4/12/2011	RB-W	2.85		100	97	87	68	40	18	5	0.8
4/13/2011	RD-A	2.79		100	97	99	69	44	19	5	1.0
4/18/2011	RD-W	2.89		100	97	89	71	39	13	2	0.5
4/20/2011	SR-W	2.88		100	96	88	72	40	13	3	0.6
4/22/2011	RD-A	2.82		100	97	89	71	43	16	3	0.6
4/25/2011	DE-WB	2.76		100	96	88	71	45	19	5	0.9
4/27/2011	MDOT	2.68		100	98	91	76	46	17	4	0.9
5/3/2011	RB-W	2.89		100	97	90	71	37	13	3	0.5
5/4/2011	RD-A	2.81		100	97	90	71	42	16	3	0.5
5/4/2011	RD-PSG	2.71	< 1	100	98	91	74	46	17	3	0.6
5/5/2011	RB-W	2.61		100	97	91	78	50	20	4	0.7

5/10/2011	RD-A	2.70		100	97	90	74	47	18	3	0.6
5/12/2011	RD-A	2.75		100	96	90	73	45	17	3	0.7
5/16/2011	RB-W	2.75		100	97	91	75	44	16	3	0.5
5/18/2011	RD-WB	2.69		100	98	92	75	47	17	3	0.6
5/23/2011	RB-W	2.69		100	97	91	76	48	18	4	0.7
5/27/2011	RD-A	2.73		100	98	91	74	45	17	3	0.7
6/1/2011	RB-W	2.72		100	97	91	75	45	17	4	0.8
6/3/2011	RD-A	2.71		100	98	91	73	45	18	4	0.9
6/7/2011	RB-W	2.77		100	97	89	74	43	16	4	0.8
6/10/2011	RD-A	2.88		100	96	88	70	41	15	3	0.7
6/13/2011	DE-WB	2.82		100	95	86	70	45	19	4	0.5
6/13/2011	RD-PSG	2.53	< 1	100	98	92	78	52	22	5	1.0
6/18/2011	RB-W	2.84		100	97	90	72	40	14	4	0.7
6/20/2011	RD-A	2.79		100	97	88	69	44	19	5	1.0
6/22/2011	DE-WB	2.63		100	97	90	75	50	19	5	1.0
6/23/2011	RD-A	2.66		100	98	90	74	48	19	5	1.0
6/27/2011	SR-W	2.72		100	98	91	75	44	17	4	0.8
6/28/2011	SR-W	2.71		100	97	90	74	45	18	5	0.9
6/29/2011	RD-A	2.60		100	98	91	75	50	21	5	0.4
7/5/2011	SR-W	2.48		100	98	92	80	53	23	6	1.2
7/7/2011	SR-A	2.54		100	97	91	76	52	25	6	1.3
7/12/2011	SR-W	2.57		100	98	92	78	48	21	6	1.1
7/13/2011	SR-W	2.55		100	98	91	77	49	23	7	1.2
7/22/2011	RB-W	2.69		100	97	90	73	46	20	5	0.9
8/5/2011	RD-A	2.65		100	98	91	74	47	20	5	1.0
8/18/2011	RD-A	2.68		100	97	91	74	45	20	5	1.0
8/24/2011	RD-PSG	2.60		100	97	91	76	50	22	5	1.1
8/25/2011	SR-A	2.64		100	98	91	75	47	20	5	1.0
9/1/2011	RD-A	2.76		100	97	90	72	44	17	4	1.0
9/6/2011	SR-WB	2.86		100	97	89	70	40	16	4	0.8
9/13/2011	SR-A	2.87		100	97	90	71	39	13	3	0.7
9/15/2011	SR-A	2.85		100	96	88	70	42	15	3	0.6
9/19/2011	RD-A	2.57		100	98	91	75	50	23	6	1.4
9/23/2011	RD-A	2.77	< 1	100	97	90	73	44	16	4	0.8
10/4/2011	RB-W	2.85		100	96	89	73	38	15	4	0.8
10/4/2011	RD-WB	2.76		100	96	89	73	44	18	4	0.8
10/5/2011	RB-W	2.77		100	97	88	72	44	18	5	1.0
10/6/2011	RD-A	2.65		100	98	92	75	47	19	4	0.9
10/8/2011	RD-A	2.65		100	98	91	73	47	21	5	1.2
10/12/2011	RD-WB	2.79		100	97	91	72	42	16	4	0.8
10/15/2011	RD-A	2.64		100	97	91	75	49	20	5	1.1
10/26/2011	RD-A	2.59		100	96	87	73	52	26	8	1.8
10/31/2011	SR-PSG	2.77		100	96	89	73	44	17	5	0.9
11/2/2011	RD-PSG	2.77		100	96	86	83	43	13	3	0.6
11/8/2011	RD-A	2.87		100	96	89	71	38	11	2	0.5
11/15/2011	RD-AUG	2.73	< 1	100	97	91	75	43	17	5	1.0
12/14/2011	RD-A	2.79		100	97	89	71	43	17	4	0.8

AVERAGE 2.71 100.0 97.1 89.9 73.5 45.5 18.2 4.3 0.9

SPECIFICATION: 2.3 - 3.1 100 95-100 80-100 50-85 25-60 10-30 2-10 <3



--- 2010 - 2011 GRADATION SUMMARY ---

3/4" Quarry Stone

Source: K & K Excavation - Christian Hill Quarry, Auburn, Maine
Pike Industries- Poland Quarry

Specific Gravity: 2.64 Absorption: 0.55% Tested by: Summit Labs 7/9/10

	SOURCE		1 1/2"	1"	3/4"	1/2"	3/8"	#4	#8	#200	
7/6/2010	SR-A	K	100	100	90	38	21	7	5		
7/8/2010	RD-WB	K	100	100	92	42	23	9	5		
7/9/2010	SR-WB	K	100	100	93	39	21	8	5		
7/14/2010	SR-CHQ	K	100	100	94	40	20	6	3		
7/16/2010	SR-WB	K	100	100	92	42	23	9	5		
7/16/2010	SR-CHQ	K	100	100	95	45	25	8	3		
8/11/2010	SR-A	K	100	100	92	41	23	8	4		
8/19/2010	RD-W	K	100	100	95	45	21	7	4		
8/23/2010	SR-A	K	100	100	94	40	20	7	5		
8/30/2010	SR-A	K	100	100	97	54	32	10	4		
9/1/2010	K&K	K	100	100	91	49	27	6	2	0.4	
9/10/2010	MDOT	K	100	100	96	46	25	8	4	0.2	
9/24/2010	SR-W	P	100	100	98	60	29	7	3		
9/17/2010	SR-W	K	100	100	93	40	21	6	3		
9/27/2010	SR-A	K	100	100	94	47	30	10	5		
10/7/2010	SR-W	P	100	100	99	65	32	8	4		
10/14/2010	K&K	K	100	100	95	48	31	7	3	0.4	
10/18/2010	RD-A	K	100	100	95	53	31	10	5		
10/18/2010	SR-WB	K	100	100	94	45	25	8	5		
10/21/2011	SR-W	P	100	100	99	66	30	6	3		
10/25/2010	SR-CHQ	K	100	100	96	56	33	10	4		
10/26/2010	SR-WB	K	100	100	96	56	31	10	4		
10/26/2010	SR-A	K	100	100	96	56	33	10	4		
11/5/2010	RD-W	K	100	100	93	48	24	7	3	0.4	
11/17/2010	SR-A	K	100	100	93	46	25	9	5		
11/23/2010	K&K	K	100	100	95	51	26	6	3	0.5	
12/14/2010	K&K	K	100	100	99	58	32	9	3	0.5	
12/20/2010	RB-W	P	100	100	99	53	22	4	3		
12/21/2010	SR-WB	K	100	100	91	42	23	9	5	1.4	w
1/6/2011	SR-WB	K	100	100	92	44	25	8	5	1.3	w
1/25/2011	SR-A	K	100	100	93	46	25	9	5	1.0	
2/9/2011	SR-W	P	100	100	99	65	32	7	3		
2/22/2011	SR-W	P	100	100	99	59	28	7	4		
3/7/2011	SR-A	K	100	100	96	56	33	10	5	1.4	w
3/8/2011	SR-W	P	100	100	99	65	31	8	4		
3/21/2011	SR-W	P	100	100	99	63	31	7	4		
4/11/2011	RD-A	K	100	100	95	56	85	10	5		
4/25/2011	K&K	K	100	100	95	59	27	3	2	0.3	
4/26/2011	RD-A	K	100	100	91	45	22	7	5	0.8	
4/27/2011	K&K	K	100	100	99	51	27	2	1	0.3	
4/27/2011	RD-CHQ	K	100	100	97	45	22	4	2		
4/27/2011	MDOT	K	100	100	92	48	27	9	5	0.9	
4/29/2011	RB-W	K	100	100	99	60	34	6	3		
5/2/2011	SR-WB	K	100	100	97	56	33	9	5		
5/10/2011	RD-A	K	100	100	94	54	29	9	5	0.9	
5/20/2011	K&K	K	100	100	99	56	32	4	1	0.2	
5/23/2011	RD-A	K	100	100	97	57	30	6	4		
5/26/2011	RD-WB	K	100	100	98	58	31	7	5		
6/3/2011	RB-W	K	100	100	98	52	26	6	4		
6/13/2011	RD-A	K	100	100	94	54	29	8	5	0.5	
6/16/2011	RB-W	K	100	100	95	42	20	4	3		
6/16/2011	K&K	K	100	100	98	55	34	6	1	0.2	
6/16/2011	RD-W	K	100	100	95	42	20	4	3		

6/22/2011	SR-WB	K	100	100	99	45	21	6	4		
6/23/2011	SR-CHQ	K	100	100	95	52	27	7	4	0.5	
6/24/2011	RD-A	K	100	100	94	48	24	7	5	0.8	
6/24/2011	MDOT	K	100	100	98	50	24	7	5	1.1	w
6/24/2011	RD-A	K	100	100	96	54	27	8	5	0.8	
6/28/2011	SR-W	K	100	100	97	44	21	9	3		
7/8/2011	RD-A	K	100	100	94	44	20	4	3	0.6	
7/11/2011	DE-WB	K	100	100	98	54	28	6	4		
7/14/2011	SR-W	K	100	100	98	52	28	8	4		
7/18/2011	SR-W	K	100	100	99	49	24	7	4		
7/22/2011	RB-W	K	100	100	100	53	28	7	4		
7/30/2011	K&K	K	100	100	92	44	22	6	4	0.8	
8/2/2011	K&K	K	100	100	91	48	21	5	3	0.5	
8/11/2011	RB-W	K	100	100	100	54	32	4	3		
8/11/2011	RD-CHQ	K	100	100	99	51	34	4	3		
8/22/2011	RD-WB	K	100	100	98	43	21	6	4		
8/22/2011	SR-A	K	100	100	99	43	22	5	4		
8/25/2011	K&K	K	100	100	97	43	23	5	3	0.4	
9/8/2011	SR-CHQ	K	100	100	98	55	33	9	4		
9/21/2011	MDOT	K	100	100	99	49	24	7	4	1.0	w
9/23/2011	K&K	K	100	100	97	55	32	7	3	0.5	
9/23/2011	SR-AG	Q	100	100	99	53	33	7	3		
9/26/2011	SR-AG	Q	100	100	99	56	27	2	2		
9/28/2011	SR-AG	Q	100	100	99	54	31	6	3	1.3	
10/4/2011	RD-WB	Q	100	100	98	53	28	5	3	1.5	w
10/6/2011	RD-A	K	100	100	96	44	22	6	4		
10/13/2011	JC-AG	Q	100	100	99	47	22	2	1		
10/15/2011	RD-A	K	100	100	97	54	30	9	5		
10/28/2011	RD-A	K	100	100	91	57	29	3	2	0.3	
11/18/2011	RD-A	K	100	100	96	53	27	7	5		
12/1/2011	K&K	K	100	100	96	58	31	4	2	0.5	

AVERAGE	K	100.0	100.0	95.6	48.6	25.4	7.4	4.1	0.7		
	P	100.0	100.0	98.8	62.2	30.3	7.3	3.8	0.7		
	Q	100.0	100.0	98.8	52.6	28.2	4.4	2.4	1.4		

SPECIFICATION:	#57	100	95-100	-----	25-60	-----	0-10	0-5	<1.5		
ASTM C33	#67		100	90-100	-----	20-55	0-10	0-5	<1.5		

EXHIBIT B

05120 Structural Steel

Project: Elm Terrace

Date Prepared: September 8, 2011

Structural Schedule of Special Inspections – STEEL CONSTRUCTION

VERIFICATION AND INSPECTION	REQD Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	TASK COMPLETED
IBC Section 1704.3						
1. Material verification of high-strength bolts, nuts and washers:						
a. Identification markings to conform to ASTM standards specified in the approved construction documents.	Y	P	Applicable ASTM material standards, AISC 360, A3.3	TA1	AWS/AISC-SSI	5/9/12 – 9/7/12
b. Manufacturer's certificate of compliance required.	Y	S		SII	PE/SE or EIT	5/9/12 – 9/7/12
2. Inspection of high-strength bolting						
a. Snug-tight joints.	Y	P		TA1	AWS/AISC-SSI	5/9/12 – 9/7/12
b. Pretensioned and slip-critical joints using turn-of-nut with matchmaking, twist-off bolt or direct tension indicator methods of installation.	N	P	AISC LRFD Section M2.5 IBC Sect 1704.3.3	TA1	AWS/AISC-SSI	
c. Pretensioned and slip-critical joints using turn-of-nut without matchmaking or calibrated wrench methods of installation.	N	C		TA1	AWS/AISC-SSI	
3. Material verification of structural steel and cold-formed steel deck:						
a. For structural steel, identification markings to conform to AISC 360.	Y	P	AISC 360, M5.5	SII	PE/SE or EIT	5/9/12 – 9/7/12
b. For other steel, identification markings to conform to ASTM standards specified in the approved construction documents.	N	P	Applicable ASTM material standards	SII	PE/SE or EIT	
c. Manufacturer's certified test reports.	Y	S		SII	PE/SE or EIT	5/9/12 – 9/7/12
4. Material verification of cold-formed materials:						
a. Identification markings to conform to AWS specification in the approved construction documents.	Y	P	AISC 360, M5.5	TA1	AWS/AISC-SSI	
b. Manufacturer's certificate of compliance required.	Y	S		SII	PE/SE or EIT	
5. Submit current AWS D1.1 welder certificate for all field welders who will be welding on this project.						
	Y	S	AWS D1.1	SII	PE/SE or EIT	
6. Inspection of welding (IBC 1704.3.1):						
a. Structural steel and cold-formed deck:						
Weld certifications excluded due to minimal field welding						
1) Complete and partial joint penetration groove welds.	N	C	AWS D1.1	TA1	AWS-CWI	
2) Multipass fillet welds.	N	C		TA1	AWS-CWI	
3) Single-pass fillet welds > 5/16"	N	C		TA1	AWS-CWI	
4) Plug and slot welds	N	C		TA1	AWS-CWI	
5) Single-pass fillet welds ≤ 5/16"	Y	P		TA1	AWS-CWI	5/9/12 – 9/7/12
6) Floor and deck welds.	Y	P	AWS D1.3	TA1	AWS-CWI	5/9/12 – 9/7/12
b. Reinforcing steel:						
1) Verification of weldability of reinforcing steel other than ASTM A706.	N	-	Not applicable.	-	-	
2) Reinforcing steel-resisting flexural and axial forces in intermediate and special moment frames, and boundary elements of special structural walls of concrete and shear reinforcement.	N	C	AWS D1.4 ACI 318: 3.5.2	TA1	AWS-CWI	
3) Shear reinforcement.	N	C		TA1	AWS-CWI	
4) Other reinforcing steel.	N	P		TA1	AWS-CWI	
7. Inspection of steel frame joint details for compliance (IBC Sect 1704.3.2) with approved construction documents:						
a. Details such as bracing and stiffening.	Y	P	IBC 1704.3.2	SII	PE/SE or EIT	5/9/12 – 9/7/12
b. Member locations.	Y	P		SII	PE/SE or EIT	5/9/12 – 9/7/12
c. Application of joint details at each connection.	Y	P		SII	PE/SE or EIT	5/9/12 – 9/7/12

Project: Elm Terrace
 Date Prepared: September 8, 2011

Structural Schedule of Special Inspection Services
FABRICATION AND IMPLEMENTATION PROCEDURES – STRUCTURAL STEEL

VERIFICATION AND INSPECTION IBC Section 1704.2	REQD Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	TASK COMPLETED
1. Fabrications Procedures: Review of fabricator's written procedural and quality control manuals and periodic auditing of fabrication practices by an approved special inspection agency. At the completion of fabrication, the approved fabricator shall submit a certificate of compliance to the building code official stating that the work was performed in accordance with the approved construction documents. -OR-	Y	S	Fabricator shall submit one of the two qualifications	SI1	PE/SE or EIT	5/9/12 – 9/7/12
2. AISC Certification	Y					5/9/12 – 9/7/12
3. At completion of fabrication, the approved fabricator shall submit a certificate of compliance to the building code official stating that the work was performed in accordance with the approved construction documents.	Y	S	IBC 1704.2.2	SI1	PE/SE or EIT	5/9/12 – 9/7/12

OBSERVATION REPORT
Structural Steel

Date: May 9, 2012
Time: 2:00pm
Temp: 55 degrees
Weather: Overcast, Misting

Project: Elm Terrace
Location: Portland, ME
Becker Job No: 2585

Observation Location:

Observed the structural steel columns, beams and connections at the new addition first floor.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Bolt Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Weld Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Anchor Bolts, Nuts, & Washers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Grout/Leveling Plates	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Fit Up/Plumbness	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Metal Deck Welds	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Pour Stops	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bracing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Bolt holes for kicker connections misaligned, see below
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Notes:

The kickers attached to the beams that span over the garage entrance and over the garage turnaround are expansion bolted into the slab. This is done by using a continuous angle, which the kickers are welded to, that is bolted to the deck ribs every 3 feet. Some of the holes provided in this angle do not align with the ribs in the deck. The GC was instructed to field drill new holes in the angle so the expansion bolts are aligned with the ribs.

All other structural steel members and connections were observed to be in conformance with the structural drawings.

Signed: Christopher G. Williams, P.E., S.E.

OBSERVATION REPORT
Structural Steel

Date: May 17, 2012
Time: 2:00pm
Temp: 55 degrees
Weather: Overcast, Misting

Project: Elm Terrace
Location: Portland, ME
Becker Job No: 2585

Observation Location:

Observed the steel beam shear stud placements and wire mesh in the elevated slab prior to concrete placement.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Bolt Condition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Weld Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shear stud welding
Anchor Bolts, Nuts, & Washers	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Shear stud placement
Grout/Leveling Plates	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Fit Up/Plumbness	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Metal Deck Welds	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Pour Stops	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bracing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Welded wire mesh in slab
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Notes:

The location and quantities of the shear studs in the first floor slab were observed to be in conformance with the structural drawings. In addition, the size and placement of the welded wire mesh was observed to be in conformance. The ferrules from the shear studs were still sitting in the bottom of the metal deck. The GC was informed that all ferrules shall be removed prior to concrete placement.

Signed: Christopher G. Williams, P.E., S.E.

OBSERVATION REPORT
Structural Steel

Date: July 18, 2012

Time: 8:00am

Temp: 80 degrees

Weather: Sunny

Project: Elm Terrace

Location: Portland, ME

Becker Job No: 2585

Observation Location:

Observed the steel framing for the mechanical chase in the existing building. Also observed the existing beam reinforcement for the ERV unit on the roof.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Bolt Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Weld Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Anchor Bolts, Nuts, & Washers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Grout/Leveling Plates	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Fit Up/Plumbness	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Metal Deck Welds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Pour Stops	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bracing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Notes:

The steel members and connections at the mechanical chase, as well as the existing beam reinforcement, were observed to be in conformance with the structural drawings.

Signed: Christopher G. Williams, P.E., S.E.



05120

OBSERVATION REPORT
Structural Steel

Date: September 6, 2012
Time: 3:00pm
Temp: 70 degrees
Weather: Sunny

Project: Elm Terrace
Location: Portland, ME
Becker Job No: 2585

Observation Location:
 Observed the low roof steel for the entry along High Street.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Bolt Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Weld Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Anchor Bolts, Nuts, & Washers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Grout/Leveling Plates	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Fit Up/Plumbness	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Metal Deck Welds	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Pour Stops	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bracing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Notes:
 The steel members and connections were observed to be in conformance with the structural drawings.

Signed: Christopher G. Williams, P.E., S.E.

INSPECTION REPORT

CUSTOMER: Summit Geotech Engineering			PAGE 1 OF 1
ADDRESS: Augusta , Me.			
ATTENTION: Darrel Gilman			
COPIES: File			
PROJECT: Elm Terrace , 66 High Street , Portland , Me.			
OWNER: Same			
CONTRACTOR: Wright - Ryan Construction			
JOB No.: 14670	REPORT No.: RTD-12-0907	P. O. NUMBER:	DATES INSPECTED: 05-16-12

REMARKS

>>>> Site visit to perform visual inspections of structural steel field connections per site documents .

> First level framing plan at grid line locations 1 - 5 , A - E :

- A) Column anchor bolted connections complete .
- B) Column to beam and beam to beam high strength A325 T/C bolted connections complete .
- C) Welded angle brace kickers complete .
- D) Decking puddle welds and side lap connections complete . Decking shear stud connections complete .

Completed items comply with site documents and AWS D1.1 , D1.3 requirements for visual acceptance .

End Items ///



Michael W Drew
 CWI 99050211
 QC1 EXP. 5/1/2014

FAA REPAIR STATION NUMBER RX5R187N
 METHOD(S),PROCESS(ES),PROCEDURE(S) MERCURY FREE

ADDITIONAL INFORMATION - SEE ATTACHED: <input type="checkbox"/> SKETCH(ES) <input type="checkbox"/> SUPPLEMENTARY SHEET(S) <input type="checkbox"/> NDT REPORTS <input type="checkbox"/> VIDEO													
SIGNATURES			CERTIFICATION										
INSPECTOR	M. Drew	CWI # 99050211	ASNT										
			<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: center;">LEVEL</td> <td style="text-align: center;">M</td> <td style="text-align: center;">DATE</td> <td style="text-align: center;">D</td> <td style="text-align: center;">Y</td> </tr> <tr> <td style="text-align: center;">II</td> <td style="text-align: center;">05</td> <td style="text-align: center;">16</td> <td style="text-align: center;">12</td> <td style="text-align: center;"></td> </tr> </table>	LEVEL	M	DATE	D	Y	II	05	16	12	
LEVEL	M	DATE	D	Y									
II	05	16	12										
SUPERVISOR													



MILL CERTIFICATIONS

PROJECT **ELM TERRACE**

STRUCTURAL STEEL RECEIVED DATE: 10-3-2012 NOT RECEIVED

BOLTS RECEIVED DATE: 10-5-2012 NOT RECEIVED

ITEMS ABOVE MARKED "RECEIVED" HAVE NOT BEEN INCLUDED IN THIS REPORT DUE TO THE LARGE VOLUME. HARD COPIES ARE AVAILABLE UPON REQUEST.

SPECIAL INSPECTOR: CHRISTOPHER G. WILLIAMS

DATE: 10-15-12

EXHIBIT B

06100 Rough Carpentry

Project: Elm Terrace
 Date Prepared: September 8, 2011

Structural Schedule of Special Inspections
WOOD CONSTRUCTION

VERIFICATION AND INSPECTION IBC Section 1704.6	REQD Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	TASK COMPLETED
1. Fabrication of high-load diaphragms						
a. Verify wood structural panel sheathing for grade and thickness	Y	P	IBC 1704.6	SI1	PE/SE or EIT	6/1/12 – 9/27/12
b. Verify the nominal size of framing members at adjoining panel edges	Y	P	IBC 1704.6	SI1	PE/SE or EIT	6/1/12 – 9/27/12
b. Verify the nail or staple diameter and length	Y	P	IBC 1704.6	SI1	PE/SE or EIT	6/1/12 – 9/27/12
b. Verify the number of fastener lines	Y	P	IBC 1704.6	SI1	PE/SE or EIT	6/1/12 – 9/27/12
b. Verify the spacing between fasteners in each line and at edge margins	Y	P	IBC 1704.6	SI1	PE/SE or EIT	6/1/12 – 9/27/12
2. Load Tests for Joist Hangers: Provide evidence of manufacturer's load test in accordance with ASTM D1761 including the vertical load bearing capacity, torsional moment capacity, and deflection characteristics when there is no calculated procedure recognized by the code.	N	S	IBC 1716 [submit ICBO reports]	SI1	PE/SE or EIT	
3. Metal-plate-connected wood trusses spanning 60 feet or greater:						
a. Verify the temporary installation restraint / bracing and the permanent individual truss member restraint / bracing is installed per the approved truss submittal package.	N	P	IBC 1704.6.2.	SI1	PE/SE or EIT	

OBSERVATION REPORT
Rough Carpentry

Date: June 1, 2012
Time: 8:00am
Temp: 65 degrees
Weather: Sunny

Project: Elm Terrace
Location: Portland, ME
Becker Job No: 2585

Observation Location: Observed the first floor wall panels and their connections.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Member Sizes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Material Quality	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bearing Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Connections	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Nailing Pattern	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bridging/Bracing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Notes:

Overall the location and condition of the walls panels and their connections were in conformance with the structural drawings. At the shearwall against the existing building, the top of wall is too high to accept the 2x10 floor framing at the second floor. A ledger will need to be provided that will be fastened through the wall sheathing and into the studs behind. We will design the fastening for the this ledger and give this information to the GC.

At one location, there is about a 1-1/2" gap between the face of the shearwall PSL post and the holdown. The GC was informed that blocking can be provided within this gap, provided that the blocking is an engineered lumber product (LVL, PSL, etc.). The blocking shall be fastened to the post with the same size and quantity of fasteners as the holdown.

There were two trusses observed where wall studs did not align. The GC was instructed to provided wall studs below these trusses at all floors.

Signed: Christopher G. Williams, P.E., S.E.

OBSERVATION REPORT
Rough Carpentry

Date: June 12, 2012
Time: 8:30am
Temp: 65 degrees
Weather: Cloudy

Project: Elm Terrace
Location: Portland, ME
Becker Job No: 2585

Observation Location: Observed the second floor wall panels and their connections.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Member Sizes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Material Quality	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bearing Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Connections	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Nailing Pattern	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bridging/Bracing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	see below

Notes:

The second floor wall panels were observed to be in conformance with the structural drawings.

Signed: Christopher G. Williams, P.E., S.E.



06100

OBSERVATION REPORT
Rough Carpentry

Date: June 15, 2012

Time: 10:00pm

Temp: 75 degrees

Weather: Sunny

Project: Elm Terrace

Location: Portland, ME

Becker Job No: 2585

Observation Location: Observed the connection of the shearwall holdwn anchors to the interior steel beams at the first floor.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Member Sizes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Material Quality	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bearing Condition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Connections	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Nailing Pattern	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bridging/Bracing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Notes:

The holdowns were observed to be adequately welded to the steel beams at all of the shearwalls.

Signed: Christopher G. Williams, P.E., S.E.

OBSERVATION REPORT
Rough Carpentry

Date: June 20, 2012
Time: 2:00pm
Temp: 90 degrees
Weather: Sunny

Project: Elm Terrace
Location: Portland, ME
Becker Job No: 2585

Observation Location: Observed the third floor wall panels and their connections.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Member Sizes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Material Quality	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bearing Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Connections	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Nailing Pattern	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bridging/Bracing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Panel-to-panel vertical joint connections, see below
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Notes:

The wall panels that were observed were in conformance with the structural drawings.

The vertical wall joints between shearwall panels have not been fastened together at this time. The GC was asked to fasten the panels together with (2)10d nails at 12" O.C. throughout the joint. We will observe these connections during a future site visit.

Signed: Christopher G. Williams, P.E., S.E.

OBSERVATION REPORT
Rough Carpentry

Date: July 3, 2012
Time: 1:30pm
Temp: 80 degrees
Weather: Sunny

Project: Elm Terrace
Location: Portland, ME
Becker Job No: 2585

Observation Location: Observed the shearwall panel-to-panel connections

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Member Sizes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Material Quality	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bearing Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Connections	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Nailing Pattern	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bridging/Bracing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Notes:

Rough Carpentry Observation Report 2012-06-20 indicated that the shearwall panel-to-panel vertical joints were not fastened together. During today's visit, I observed that these connections have been adequately installed at all required locations.

Signed: Christopher G. Williams, P.E., S.E.



06100

OBSERVATION REPORT
Rough Carpentry

Date: July 18, 2012
Time: 8:00am
Temp: 80 degrees
Weather: Sunny

Project: Elm Terrace
Location: Portland, ME
Becker Job No: 2585

Observation Location: Observed the shearwall holdowns and sill plate fastening.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Member Sizes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Material Quality	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bearing Condition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Connections	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Nailing Pattern	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bridging/Bracing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Notes:

I observed that all required shearwall holdowns have been properly installed in the correct locations as indicated by the structural drawings. The wall sill and top plates have all been fastened together with RSS screws at the spacings indicated by the structural drawings. At this time, shearwall construction has been completed.

Signed: Christopher G. Williams, P.E., S.E.

OBSERVATION REPORT
Rough Carpentry

Date: September 27, 2012
Time: 8:30am
Temp: 55 degrees
Weather: Sunny

Project: Elm Terrace
Location: Portland, ME
Becker Job No: 2585

Observation Location: Observed the Danforth Street canopy framing

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Member Sizes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Material Quality	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bearing Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Connections	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Nailing Pattern	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bridging/Bracing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Notes:

The framing observed was in conformance with the structural drawings

Signed: Christopher G. Williams, P.E., S.E.

EXHIBIT B

06190 Metal Plate Pre-Fabricated Wood Trusses

Project: Elm Terrace
 Date Prepared: September 8, 2011

Structural Schedule of Special Inspection Services
FABRICATION AND IMPLEMENTATION PROCEDURES – WOOD TRUSSES

VERIFICATION AND INSPECTION IBC Section 1704.2	REQD Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	TASK COMPLETED
1. Fabrications Procedures: Review of fabricator's written procedural and quality control manuals and periodic auditing of fabrication practices by an approved special inspection agency. At the completion of fabrication, the approved fabricator shall submit a certificate of compliance to the building code official stating that the work was performed in accordance with the approved construction documents. -OR-	Y	S	Fabricator shall submit one of the two qualifications	SI1	PE/SE or EIT	6/1/12 – 7/18/12
2. TPI Inspection Program: Fabricator shall participate in the TPI Quality Assurance Inspection Program, and maintain a copy of the Quality Assurance Procedures Manual, QAP-90. Submit copy of certificate. All trusses shall bear the TPI Registered Mark.	Y					6/1/12 – 7/18/12
3. At completion of fabrication, the approved fabricator shall submit a certificate of compliance to the building code official stating that the work was performed in accordance with the approved construction documents	Y	S	IBC 1704.2.2	SI1	PE/SE or EIT	6/1/12 – 7/18/12

OBSERVATION REPORT
Wood Trusses

Date: June 1, 2012
Time: 8:00am
Temp: 65 degrees
Weather: Sunny

Project: Elm Terrace
Location: Portland, ME
Becker Job No: 2585

Observation Location: Observed the second floor trusses

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Overall Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Truss Spacing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bearing Ends Correct	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Connections/Hold Downs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Truss Plate Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Permanent Lateral Bracing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bearing End Over Studs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2 conditions noted where unsatisfactory
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Notes:

The size and location of the majority of the floor trusses appeared to be in conformance with the structural drawings. At two locations, floor trusses did not align with the studs below. The GC was instructed to provide studs at these location for all levels.

Signed: Christopher G. Williams, P.E., S.E.

OBSERVATION REPORT

Wood Trusses

Date: June 12, 2012

Time: 8:30am

Temp: 65 degrees

Weather: Cloudy

Project: Elm Terrace
Location: Portland, ME
Becker Job No: 2585

Observation Location: Observed the third floor trusses

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Overall Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Truss Spacing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bearing Ends Correct	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Connections/Hold Downs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Truss Plate Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Permanent Lateral Bracing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bearing End Over Studs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Notes:

The size and location of the floor trusses appeared to be in conformance with the structural drawings.

Signed: Christopher G. Williams, P.E., S.E.

OBSERVATION REPORT
Wood Trusses

Date: June 20, 2012
Time: 2:00pm
Temp: 90 degrees
Weather: Sunny

Project: Elm Terrace
Location: Portland, ME
Becker Job No: 2585

Observation Location: Observed the roof trusses

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Overall Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Truss Spacing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bearing Ends Correct	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Connections/Hold Downs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Truss Plate Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Permanent Lateral Bracing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bearing End Over Studs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Hurricane ties, see below

Notes:

The size and location of the floor trusses appeared to be in conformance with the structural drawings.

The hurricane ties for the roof trusses were not installed during my site visit. We will inspect these during a future visit to the site.

Signed: Christopher G. Williams, P.E., S.E.

OBSERVATION REPORT
Wood Trusses

Date: July 3, 2012
Time: 1:30pm
Temp: 80 degrees
Weather: Sunny

Project: Elm Terrace
Location: Portland, ME
Becker Job No: 2585

Observation Location: Observed the first floor infill trusses.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Overall Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Truss Spacing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bearing Ends Correct	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Connections/Hold Downs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Truss Plate Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Permanent Lateral Bracing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bearing End Over Studs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Notes:

The size and location of the infill trusses were observed to be in conformance with the structural drawings.

Signed: Christopher G. Williams, P.E., S.E.



06190

OBSERVATION REPORT
Wood Trusses

Date: July 18, 2012
Time: 1:30pm
Temp: 75 degrees
Weather: Cloudy

Project: Elm Terrace
Location: Portland, ME
Becker Job No: 2585

Observation Location: Observed the roof truss hurricane ties.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Overall Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Truss Spacing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bearing Ends Correct	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Connections/Hold Downs	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Truss Plate Condition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Permanent Lateral Bracing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Bearing End Over Studs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

Notes:

The hurricane ties were observed to be installed in conformance with the structural drawings.

Signed: Christopher G. Williams, P.E., S.E.

Special Inspections – Exhibit C

Quality Assurance for Seismic Resistance Checklist
Quality Assurance for Wind Resistance Checklist

Project: Elm Terrace
 Date Prepared: September 8, 2011

SEISMIC RESISTANCE CHECK LIST [IBC 1705.3]

Seismic Design Category B

FOR SEISMIC DESIGN CATEGORY C OR HIGHER:

Structural:

The seismic-force-resisting systems

Steel Braced Frames and associated connections/anchorage (Not required for SDC C, R=3)

Steel Moment Frames and associated connections (Not required for SDC C, R=3)

Shear walls: CMU Wood Concrete Diaphragms: Floor Roof

Other:

WIND RESISTANCE CHECK LIST [IBC 1705.4]

Wind Exposure Category B

REQUIRED	NOT REQUIRED	NOT APPLICABLE	WIND RESISTANCE REQUIREMENTS
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	In wind exposure Category B, where the 3-second-gust basic wind speed is 120 miles per hour (mph) (52.8 m/sec) or greater.
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	In wind exposure Categories C and D, where the 3-second-gust basic wind speed is 110 mph (49 m/sec) or greater.

End of Structural Statement of Special Inspections

Special Inspections – Exhibit D

Fabricators' Certificates of Compliance

Project: Elm Terrace
Date Prepared: September 8, 2011

Fabricator's Certificate of Compliance

Each approved fabricator that is exempt from Special Inspection of shop fabrication and implementation procedures per section 1704.2 of the International Building Code must submit a *Fabricator's Certificate of Compliance* at the completion of fabrication.

Project: Elm Terrace

Fabricator's Name: Novel Iron Works, Inc.

Address: 250 Ocean Road, Greenland, NH 03840

Certification or Approval Agency: American Institute of Steel Construction

Certification Number: N/A

Date of Last Audit or Approval: April 2013

Description of structural members and assemblies that have been fabricated:

Structural steel framing and connections for the new addition, including steel beams, columns, shear studs, high-strength bolts, welds and miscellaneous framing and connection materials.

I hereby certify that items described above were fabricated in strict accordance with the approved construction documents.



Signature

9/18/12

Date

Production Manager

Title

Attach copies of fabricator's certification or building code evaluation service report and fabricator's quality control manual

American Institute of Steel Construction

is proud to recognize

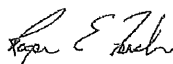
Novel Iron Works, Inc.

Greenland, NH

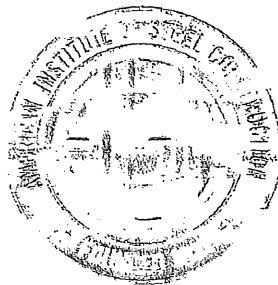
for successfully meeting the quality certification requirements for

**Standard for Steel Building Structures, Standard for Bridge and
Highway Metal Component, Simple Steel Bridges**

Sophisticated Paint Coating Endorsement-Enclosed



Roger E. Ferch



Certification valid through April 2012

Project: Elm Terrace
Date Prepared: September 8, 2011

Fabricator's Certificate of Compliance

Each approved fabricator that is exempt from Special Inspection of shop fabrication and implementation procedures per section 1704.2 of the International Building Code must submit a *Fabricator's Certificate of Compliance* at the completion of fabrication.

Project: Elm Terrace

Fabricator's Name: Aroogook Trusses

Address: Presque Isle Maine

Certification or Approval Agency: TPI

Certification Number: 936

Date of Last Audit or Approval: 8/1/12

Description of structural members and assemblies that have been fabricated:

Wood trusses for new addition floors and roofs, and all associated connections and materials.

I hereby certify that items described above were fabricated in strict accordance with the approved construction documents.

Gangne
Signature

10/5/12
Date

Manager
Title

Attach copies of fabricator's certification or building code evaluation service report and fabricator's quality control manual



TRUSS PLATE INSTITUTE
218 N. Lee Street, Suite 312
Alexandria, VA 22314
Ph. 703-683-1010
www.tpinst.org

June 15, 2010

Ref: **Aroostook Trusses, Inc.- TPI PLANT #936**

To Whom It May Concern:

Please be advised that **Aroostook Trusses, Inc.** located in **Presque Isle, ME** is an active participant in good standing with the Truss Plate Institute's Quality Assurance Inspection Program. The TPI program is recognized by the International Code Council in accordance with ICC's IAS Report AA-648 Type A (3rd Party) Body (<http://www.iasonline.org/PDF/AA/aa648.pdf>); it serves as a means for truss manufacturers to comply with IBC Section 1704.2 and 2303.4. Based on random, unannounced inspections and/or audits of in-house QC records conducted by TPI staff, **Aroostook Trusses, Inc.** truss design and manufacturing quality are in accordance with ANSI/TPI 1-2002 referenced in ICC's "International Building Code 2003 & 2006".

Aroostook Trusses, Inc. is authorized to affix TPI's Quality Assurance Stamp provided that it maintains continued satisfactory conformance with the above requisites of ANSI/TPI 1 & IRC & IBC 2003 & 2006 Standards. The TPI mark is the property of Truss Plate Institute at all times. Its approved usage signifies that the truss manufacturer licensee is complying with the applicable provisions of the model building code. In the event of unsatisfactory performance (*cycle of non-conforming reports*), TPI quality stamps may be removed from the premises of the TPI licensee and decertification proceedings initiated.

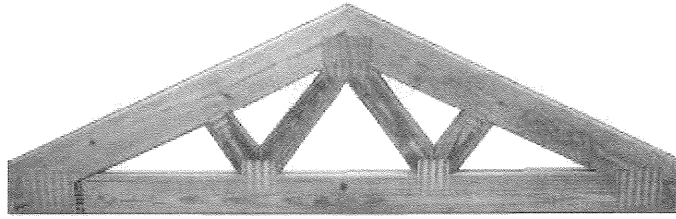
If TPI can be of further assistance in familiarizing you with its voluntary Quality Assurance Inspection Program, or the ongoing status of **Aroostook Trusses, Inc.**, or any other of TPI's Quality Assurance Licensees; please do not hesitate to contact us, or visit our website at <http://www.tpinst.org/quality.html> for a complete listing of truss manufacturers that are participating in our quality auditing program.

Sincerely,

TRUSS PLATE INSTITUTE

Michael A. Cassidy, R. A.
Executive Director

"TPI MISSION STATEMENT - Established in 1960 to maintain the truss industry on a sound engineering basis. To accomplish its purpose, the Truss Plate Institute establishes methods of design and construction (ANSI/TPI 1) for wood trusses in accordance with the American National Standards Institute's accredited consensus procedures for coordination and development of American National Standards."



Aroostook Trusses Inc.

Engineered Roof and Floor Trusses

P.O. Box 548 Presque Isle, Me. 04769
Ph 207-768-5817 or 877-287-8777 fax 207-768-5818
geb@aroostooktrusses.com

Certificate Letter

I Garry Nelson, manager of Aroostook Trusses Inc. to the best of my knowledge and ability will ensure Aroostook Trusses Inc. manufactures and supplies metal plate connected wood trusses for the **ELM TERRACE PROJECT** that will comply with all applicable drawings, designs and loading specifications as indicated on plans.

Thank you

Garry Nelson Jr.

Design / Estimation / Sales

Truss Plate Institute
3rd Party QC Audit/Inspection Report

CONFIDENTIAL



Report No: 936 - 8/1/12
 (Plant No.) - (Date of Visit)
 Time: 3.15
 (IN) (OUT)

TPI Agent: J HART

Company Name: ARCO STOCK TRUSS
 Address: 655 MISSILE ST
 City/State: PRESQUE ISLE ME 04769
 Phone#: 207/768-5847 QC Contact: SHAWN LIZOTHE

Date of last inspection by plant personnel: 7/27/12

Score	Description	Remarks/Observations	CC# or CAR # (Corrective Comment or Corrective Action Req.)
(01/26/11)			
(Score from 1 through 4 (exception is Part III) where 4 is the highest/best level and 1 is the lowest/worst level: 1=NO - Fail/Corrective Action Required (CAR) issued; 2=YES - minimal/improvement needed & Corrective Comment (CC) issued; 3=YES - Adequately meets requirements or Not Applicable.; 4=YES - meets or exceeds requirements)			
PART I - Audit Checklist - (review plant records/documentation)			
4	1 Plant has a QC Manual (3.2.1) <i>Revised annually, revision dates indicated, current org chart & manuf. floor plan, etc.</i>	<i>did more updates.</i>	
4	2 In-house QC data maintained <i>Log or eq., ShopDwg/Truss Dwg, QC Detail, Detailed Inspection Forms, JSI for all joints, Other</i>		
4	3 Material & Product Traceability <i>Based on review of plant records: - incoming material is as specified - a system is in place to address non-conforming materials - a system is in place to address finished product to incoming material</i>		
4	4 Performing inspection frequency <i>(3 trusses per setup per shift per wk) (3.2.2)</i>		
4	5 Evidence of representative and random sampling of trusses <i>(3.2.3)</i>		
4	6 Proper number of detailed joint inspections per truss as per Standard/QC manual (3.7.1) <i>(Req: /Actual: ✓)</i>		
4	7 Documentation adequately capturing raw data during in-plant inspection (3.2.0) <i>Preliminary truss inspection form or truss drawing w/actuals marked on dwg, Detailed joint inspection reports &/or, Full scale Joint Detail w/actuals marked on dwg., Production log or eq., WTCA QC - optional, Other</i>		
4	8 Prior Discrepancy Resolution <i>(Indication or evidence that discrepancies noted during previous TPI inspections/audits have been resolved.)</i>		
4	9 Management Review (Evidence of management review)		
	COMMENTS:	<i>busy</i>	
Plant to initial verifying that discrepancies/errors on PART I of this report have been resolved.			

Score	Description	Remarks/Observations	CC# or CAR # (Corrective Comment or Corrective Action Req.)
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(Score from 1 through 4 (exception is Part III) where 4 is the highest/best level and 1 is the lowest/worst level: 1=NO - Fail/Corrective Action Required (CAR) issued; 2=YES - minimal/improvement needed & Corrective Comment (CC) issued; 3=YES - Adequately meets requirements or Not Applicable.; 4=YES - meets or exceeds requirements)

PART II - Yard/Plant Observation - (Note general observations or patterns during yard/plant walk -through.)

7	1 Lumber Soundness (ANSI/TPI 1, Sec. 3.4) - Generally, lumber appears sound with no general signs of mold or decayed lumber; large splits; broken members; unusual amount of wane, knots, and other visual defects for observed grades		
7	2 Plate Embedment (ANSI/TPI 1, Sec. 3.7.5) - Plates are generally embedded as per ANSI/TPI 1 (1/32" max gap).		
7	3 Plate Rotation (ANSI/TPI 1, Sec. 3.7.3) - Generally, plates appear to be parallel with chord members (when required) or in the correct position for standard joints.		
7	4 Plate Placement (ANSI/TPI 1, Sec. 3.7.2) - Generally, plate midpoints appear to be placed in the proper position for standard joints. Plate placement is consistent on like joints.		
4	5 Defects at Plate Contact Area (ANSI/TPI 1, Sec. 3.7.4) - Generally no unusual amount of damaged or rolled teeth; wane and knots in plate contact area which might exceed allowable tolerances.	<i>Lumber looks good.</i>	
4	6 Member -to-Member Gaps (ANSI/TPI 1, Sec. 3.7.6) - No excessive member-to-member gaps at joints (1/8" max for roof trusses, 1/16" max for floor trusses)		
4	7 Truss Storage (BCSI) - Trusses generally do not show signs of excessive exposure to the elements - turning gray and plates backing out. Trusses are adequately stacked on blocks or are not sitting in water, etc.	<i>all off ground.</i>	
	COMMENTS:		

Plant to initial verifying that discrepancies/errors on PART II of this report have been resolved.

Score | Description

Remarks/Observations

CC# or CAR #
(Corrective Comment or Corrective Action Req.)

(Score from 1 through 4 (exception is Part III) where 4 is the highest/best level and 1 is the lowest/worst level: 1=NO - Fall/Corrective Action Required (CAR) issued; 2=YES - minimal/improvement needed & Corrective Comment (CC) issued; 3=YES - Adequately meets requirements or Not Applicable.; 4=YES - meets or exceeds requirements)

PART III - Preliminary & Detailed Individual Truss Inspection(s) - (If deemed necessary)

Note: PART III only enter scores of 1-4. NO non-compliance or CC's, CAR's, etc. to be entered.
(Use this page to summarize any detailed truss inspection(s). Attach Truss Drawing, full scale QC detail and other paperwork used for inspection.)

Identify Trusses Inspected:			
1	Lumber grade (as specified or better)		
2	Truss Dim. (within allowable limits)		
3	Plate Size/Gauge (as specified or greater)		
4	Plate Embedment (1/32" max. gap)		
5	Plate Rotation (10° or less unless specified otherwise)		
6	Mbr-to-Mbr gap (1/8" max roof; 1/16" max. fl)		
7	Acceptable defects (wane/knots/rolled teeth/etc.)		
8	Acceptable Plate Placement of mid-point (detailed joint inspection req'd) w/in x% fabrication tolerance polygon w/in zero % fabrication tolerance or w/in 1/2" of required location (tooth count required)		
9	Acceptable # effective teeth/member if tooth count required (detailed joint inspection req'd)		
COMMENTS:			

Plant to initial verifying that discrepancies/errors on PART III of this report have been resolved. _____

Overall/Summary

Provide general comments if needed. Use this space to list any outstanding CC or CAR from prior TPI visit and total CC's & CAR's issued this visit, if any.

TPI Agent Signature: _____
Plant Rep Signature: _____
TPI Management Review (initials and date): _____

In-Plant WTCA Quality Control Manual

In-Plant WTCA QC AC-10 Manual Supplement

Sections:

- | | |
|--------------------------------------|-------------------------------------|
| 1) Contact Signature | 12) Incoming Material Inspection |
| 2) Plant Information | 13) In-process QC |
| 3) Manual Revision | 14) Final Inspection |
| 4) Product Identification | 15) Nonconforming Materials |
| 5) Traceability | 16) Test Equipment |
| 6) Work Flow | 17) Calibrations |
| 7) Product Description, etc. | 18) Sample Documents |
| 8) Agency Agreement | 19) Document Approval |
| 9) Organizational Information | 20) Records Retention |
| 10) Packaging | 21) ICC-ES Use Statement |
| 11) Incoming Material Specifications | 22) Material & Product Traceability |

1) Contact Signature – The manual shall be signed and dated by an authorized representative of the plant.

Signature: 

Date: 5/13/11

2) Plant Information – The manual shall clearly state the manufacturing location and relative information.

Plant Name: Aroostook Trusses Inc.
QC Inspector: Shaw J. Lizotte
Plant Manager: Garry Nelson Jr.

Address: 655 Missile St.
Presque Isle, ME 04769
Telephone: 207-768-5817

3) Manual Revision – The manual should be reviewed at least annually.

Name: In-Plant WTCA Quality
Control Manual V1.1

Manual Revision Date: May 13, 2011

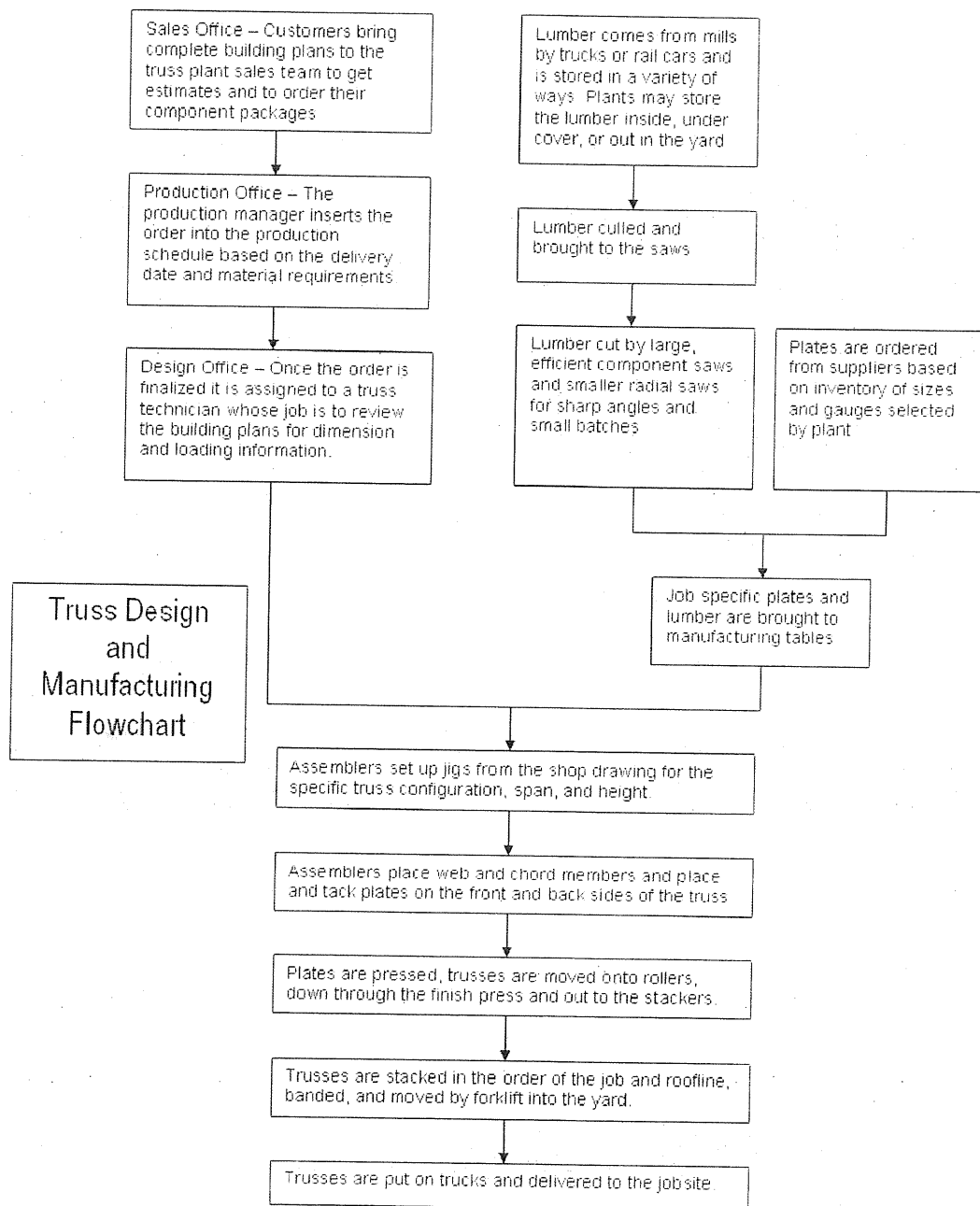
4) Product Identification – The manual shall indicate how the product is to be identified in the field.

Job number and truss labels are to be printed directly on each wood member after being cut. Job number will be painted on the stack before placing in the holding area. Job number will be painted on stack after construction and banding. Some jobs will have a waterproof identification tag fastened to the truss.

5) Traceability – The manual shall provide a means to trace the finished product back to the production and quality control records.

The recordkeeping source for tracing the product back to production and quality control is the **In-Plant WTCA QC** hard copy filled on site. Records will be moved to storage after 1 year and retained for 2 years from date of inspection.

6) Work Flow – The manual shall include either a production flowchart or a description of the manufacturing process.



7) Product Description, etc. – The product shall be described, and the manual shall provide specifications, manufacturing tolerances, and assembly drawings.

A truss is an individual metal plate connected wood component supplied for the Building Structural System. Design software will contain specifications and assembly drawings for the truss and this **In-Plant WTCA QC** manual will contain manufacturing tolerances.

8) Agency Agreement – Evidence shall be provided that there is an agreement to perform inspections between the manufacturer and an accredited inspection agency.

Third Party Inspection Agency: Truss Plate Institute

Date Third Party Inspections Began: ONGOING

Third Party Inspector: Mike Casidy

Third Party Inspector Phone Number: 608-123-4567

Annual Frequency of Inspection (circle one): Quarterly Monthly

*see plant manager for copy of third party inspection agency approval letter.

9) Organizational Information – The manual shall include the manufacturer's organizational chart and a description of the duties and responsibilities assigned to key positions in the quality program.

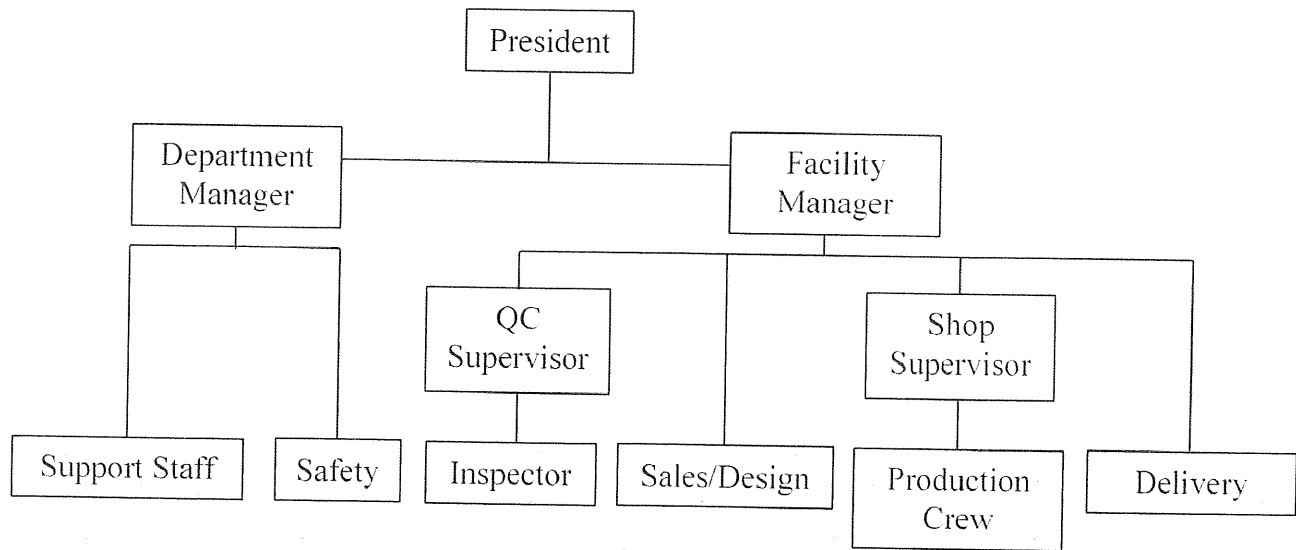
Facility Manager – Oversees all plant operations under the direction of the president. Oversight responsibilities include sales, production, quality control & shipping. Answers questions from customers regarding product or service.

Department Manager – Oversees all plant operations under the direction of the president. Oversight responsibilities include personnel, finance, maintenance, safety, administrative functions, develops operating budgets and capital expenditure recommendations and creates operating policies and procedures as required.

Shop supervisor - Facilitates the smooth flow of work through the plant. Ensures that outgoing products meet or exceed standards. Coordinates all activities that relate to trucking, forklifts, and work flow in the yard.

Quality Control Supervisor - Reports to the engineering department or management that does not have direct line production responsibilities. Has knowledge of company standards and requirements, lumber grading rules, TPI requirements and how the product is used by the customer. Records and identifies product by origin and date. Records data to identify progress of quality, either positive or negative.

Plant organizational chart:



10) Packaging – The manual shall contain information on packaging and storage of the product.

Truss jobs are to be banded and stored in the designated truss storage area. Trusses are off the ground and will be covered if the trusses are not to be shipped for longer than a week.

11) Incoming Material Specifications – The manual shall provide specifications for incoming materials used for the manufacture of the product.

Incoming lumber must be grade stamped and records kept of size, species, and grade. Incoming metal connector plates must meet appropriate suppliers ICC-ES reports.

12) Incoming Material Inspection – Details shall be provided of inspections or tests that are conducted on incoming materials.

Lumber is inspected by the sawer at time of cutting. If any lumber is unsuitable for production it is set aside to be recut into smaller suitable pieces or discarded. The builders also inspect the lumber after it has been cut and is also set aside to be recut into smaller suitable pieces or discarded if any piece is determined to be unsuitable. Metal plates are inspected at time of truss assembly. Any plates that are defective are discarded. If any large number of lumber or plates are discarded the shop manager is informed and reports it to the ordering supervisor.

End of Special Inspections Report

