BECKER
structural engineers, inc.

Structural Special Inspections Report

Crescent Heights

Crescent Street
Portland, Maine
May 10, 2010

Report Prepared by:

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

Crescent Heights

Crescent Street
Portland, Maine
May 10, 2010

Table of Contents

Exhibit A

- Structural Statement of Special Inspections
- List of Agents
- Final Report of Special Inspections
- Special Inspector/Agent Report

Exhibit B

- Qualifications of Inspectors
- Minimum Qualifications
- Schedule of Special Inspections
  - 023200 Soil and Foundation Construction
  - 033000 Concrete Construction
  - 042000 Masonry Construction
  - 051200 Steel Construction
  - 061000 Wood Construction

Exhibit C

- Wind and Seismic Quality Assurance Plan
- Schedule of Special Inspections
  - Seismic Resistance

Exhibit D

- Contractor's Statement of Responsibility

End of Report

Special Inspections – Exhibit A

Statement of Special Inspections
List of Agents
Final Report of Special Inspections
Special Inspector/Agent Report

BECKER
structural engineers, inc.

Statement of Special Inspections

Crescent Heights
Portland, Maine

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

Owner
Crescent Heights LLC
17 Chestnut Street, Suite 3
Portland, ME 04101
207. 772. 7673

Architect of Record
Winton Scott Architects
5 Milk Street
Portland, ME 04101
207. 774. 4811

Contractor
Portland Builders, Inc.
85 York Street
Portland, ME 04101
207. 879. 0118

Project: Crescent Heights
Date Prepared: May 10, 2010

Structural Statement of Special Inspections

Project: *Crescent Heights*

Location: *Crescent Street, Portland, ME*

Owner: *Crescent Heights LLC*

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:

Paul B Becker, P.E.
(type or print name of the Structural Registered Design Professional in Responsible Charge)

Signature 5/24/2010 Date

Design Professional Seal

Owner's Authorization:

Signature Date

Building Code Official's Acceptance:

Signature Date

Structural Statement of Special Inspections (Continued)

List of Agents

Project: *Crescent Heights*

Location: *Crescent Street, Portland, ME*

Owner: *Crescent Heights LLC*

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
- ☒ 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*	*75 York Street* *Portland, ME 04101* *(207)879-1838* *info@beckerstructural.com*
2. Special Inspector (SI 1)	*Becker Structural Engineers*	*75 York Street* *Portland, ME 04101* *(207)879-1838* *info@beckerstructural.com*
3. Special Inspector (SI 2)	*S.W. Cole Engineering*	*17 Chestnut Street* *Portland, ME 04101* *(207)773-6800* *infoportland@swcole.com*
4. Testing Agency (TA 1)	*S.W. Cole Engineering*	*266 Portland Road* *Gray, ME 04039* *(207)657-2866* *infogray@swcole.com*
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.

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: *Crescent Heights*

Location: *Crescent Street, Portland, ME*

Owner: *Crescent Heights LLC*

Owner's Address: *17 Chestnut Street*
Portland, ME 04101

Architect of Record: *Winton Scott* (name) — *Winton Scott Architects* (firm)

Structural Registered Design Professional in Responsible Charge: *Paul B Becker, P.E.* (name) — *Becker Structural Engineers, Inc.* (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

PAUL B. BECKER
(Type or print name)

BECKER STRUCTURAL ENGINEERS, INC
(Firm Name)

Signature

5·24·2010
Date

Licensed Professional Seal

Structural Statement of Special Inspections (Continued)

Special Inspector's/Agent's Final Report

Project: *Crescent Heights Luxury Apartments*

Special Inspector or Agent: TIM BOYCE (*name*) S.W. COLEENGINEERING (*firm*)

Designation: SI 2

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.

SWCE scope of work did not include full time observations of subgrade and were provided on an on call basis as scheduled by others. At this time, Tim Boyce who performed the subgrade observations, is serving the United States military oversees and is not availabl until late 2010 to sign and seal this form.

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:

Roger E. Domingo
(Type or print name)

Roger E Domingo

5/20/2010
Signature Date

Licensed Professional Seal or
Certification Number

Structural Statement of Special Inspections (Continued)

Special Inspector's/Agent's Final Report

Project: *Crescent Heights Luxury Apartments*

Special Inspector or Agent: ROGER DOMINGO (*name*) SW. COLE ENGINEERING (*firm*)

Designation: TA 1

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:

Roger E. Domingo
(Type or print name)

Roger E Domingo
Signature

5/18/2010
Date

Licensed Professional Seal or
Certification Number

Special Inspections – Exhibit B

Qualifications of Inspectors and Test Agency
List of Minimum Qualifications
Schedule of Structural Inspections

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

Exhibit B

023200 Soil and Foundation Construction

Project: Crescent Heights
Date Prepared: May 10, 2010

Structural Schedule of Special Inspections

SOILS & FOUNDATION CONSTRUCTION

VERIFICATION AND INSPECTION IBC Section 1704.7, 1704.8, 1704.9	Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	TASK COMPLETED
1. Verify existing soil conditions, fill placement and load bearing requirements						
a. Prior to placement of prepared fill, determine that the site has been prepared in accordance with the approved soils report.	Y	P	IBC 1704.7.1	SI2	PE/GE, EIT or ETT	
b. During placement and compaction of fill material, verify material being used and maximum lift thickness comply with the approved soils report.	Y	P	IBC 1704.7.2	SI2	PE/GE, EIT or ETT	
c. Test in-place dry density of compacted fill complies with the approved soils report.	Y	p	IBC 1704.7.2	TAI	PE/GE, EIT or ETT	
2. Pile foundations:						
a. Observe and record procedures for static load testing of piles.	N	C	IBC 1704.8		PE/GE, EIT or ETT	
b. Observe and record procedures for dynamic load testing of piles.	N	C			PE/GE, EIT or ETT	
c. Record installation of each pile and results of load test. Include cutoff and tip elevations of each pile relative to permanent reference.	N	C			PE/GE, EIT or ETT	
d. Test welded splices of steel piles	N	C	AWS D1.1		AWS-CWI	
3. Pier foundations: Verify installation of pier foundations for buildings assigned to Seismic Design Category C, D, E or F.	N	C	IBC 1704.9		PE/GE, EIT or ETT	
a. Verify pier diameter and length	N	C			PE/GE, EIT or ETT	
b. Verify pier embedment (socket) into bedrock	N	P			PE/GE, EIT or ETT	
c. Verify suitability of end bearing strata	N	P			PE/GE, EIT or ETT	

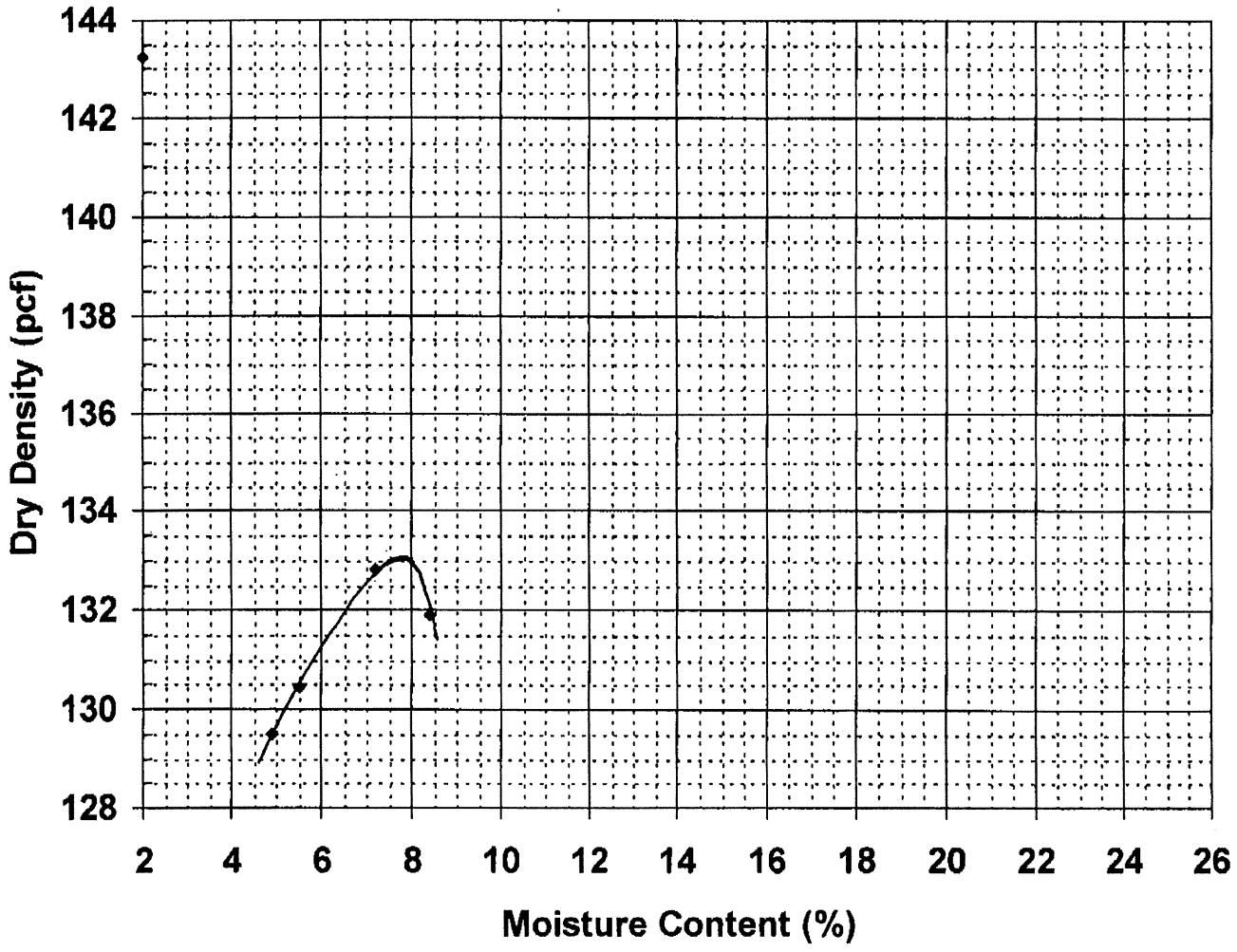
S.W.COLE ENGINEERING, INC.

Report of Moisture-Density

Method ASTM D-1557 MODIFIED Procedure C

Project Name	PORTLAND, ME - CRESCENT HEIGHTS APARTMENTS - MATERIALS TESTING	Project Number	08-0744.1
Client	CRESCENT HEIGHTS, LLC	Lab ID	11222G
Material Type	AGGREGATE SUBBASE	Date Received	7/29/2009
Material Source	ON SITE STOCKPILE	Date Completed	7/30/2009
		Tested By	TIMOTHY POULIN

Moisture-Density Relationship Curve



Maximum Dry Density (pcf)	133.1	Corrected Dry Density (pcf)	**139.5**
Optimum Moisture Content (%)	7.9	Corrected Moisture Content (%)	**6.1**
Percent Oversized	30.0%		

Comments

Roger E. Domingo

286 Portland Road, Gray, ME 04039-9586 • Tel (207) 657-2866 • Fax (207) 657-2840 • www.swcole.com

S.W.COLE ENGINEERING, INC.

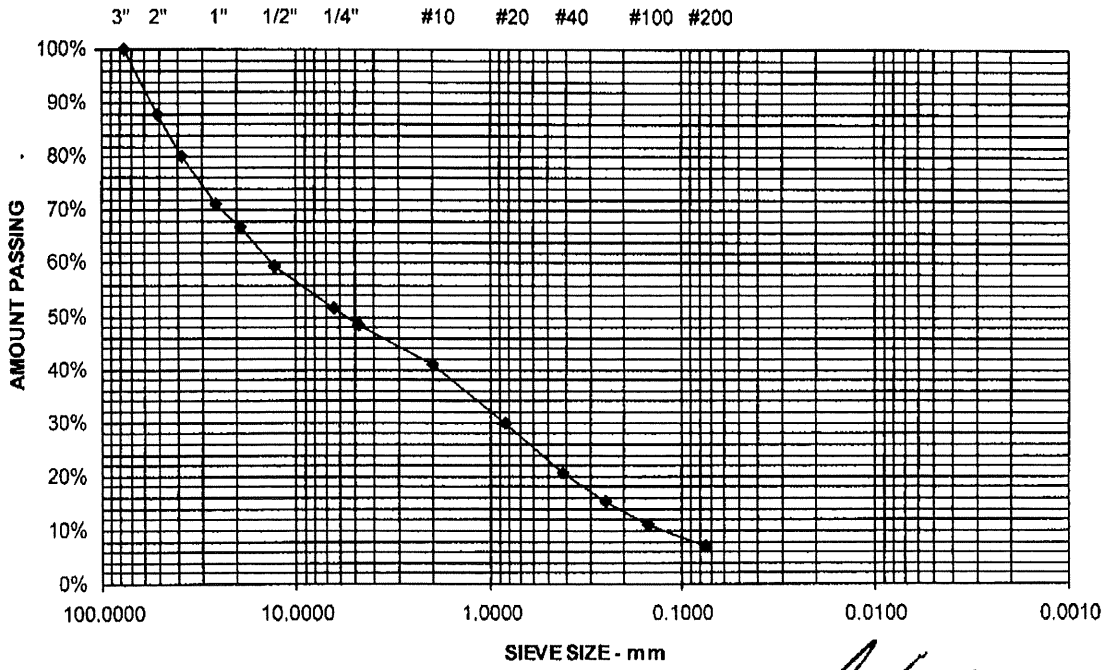
Report of Gradation

ASTM C-117 & C-136

Project Name	PORTLAND, ME - CRESCENT HEIGHTS APARTMENTS - MATERIALS TESTING	Project Number	08-0744.1
Client	CRESCENT HEIGHTS, LLC	Lab ID	11222G
Material Type	AGGREGATE SUBBASE	Date Received	7/29/2009
Material Source	ON SITE STOCKPILE	Date Complete	7/30/2009
		Tested By	TIMOTHY POULIN

STANDARD DESIGNATION (mm/µm)	SIEVE SIZE	AMOUNT PASSING (%)	MDOT 703.06 TYPE D SPECIFICATIONS (%)
150 mm	6"	100	100
125 mm	5"	100	
100 mm	4"	100	
75 mm	3"	100	
50 mm	2"	88	
38.1 mm	1-1/2"	80	
25.0 mm	1"	71	
19.0 mm	3/4"	67	
12.5 mm	1/2"	59	
6.3 mm	1/4"	52	25 - 70
4.75 mm	No. 4	49	
2.00 mm	No. 10	41	
850 um	No. 20	30	
425 um	No. 40	21	0 - 30
250 um	No. 60	15	
150 um	No. 100	11	
75 um	No. 200	7.0	0.0 - 7.0

SAMPLE MEETS SPECIFICATION



Comments

Roger E. Domingo

286 Portland Road, Gray, ME 04039-9586 • Tel (207) 657-2866 • Fax (207) 657-2840 • www.swcole.com

S.W.COLE ENGINEERING, INC.

Soils Observation Report

Project Name/Location:	Crescent Heights	**Project No:**	08-0744.1
Client/Client's Rep.:	Crescent Heights LLC	**Date:**	July 29, 2009
Earthwork Contractor:	Leavitt Earthworks	**Sheet:**	1 of 1
		SWCE Rep.:	TJB
		Arrived at Site:	1300
		Left Site:	1345

Weather			**Site Conditions**		**Materials Used**	
☒ Clear	☐ Snow	☐ Warm	☐ Wet	☐ Dusty	☐ Site Fill	☐ Foundation Backfill
☐ Overcast	☐ Fog	☐ Hot	☐ Muddy	☐ Frozen	☐ Utility Bedding	☐ Subbase
☐ Rain	☐ Cold	☐ Windy	Temperatures: 80s		☐ Base	☐ _____

Soils Work Performed:

☐ Site Prep (Sect. 2230)	☐ Earthwork (Sect. 2300)	☐ Planting Soils (Sect. 2310)
☒ Building Earthwork (Sect. 2315)	☐ Utilities Earthwork (Sect. 2316)	☐ _____

Compaction Equipment Used: ☐ Large Roller ☐ Small Roller ☐ Trench Roller ☐ Large Plate Tamp ☐ Small Tamp ☐ Jumping Jack ☐ _____ ☐ _____

Soils Observations	**Observed**		**Comments**
Site Preparation	Yes ☐	No ☐	
Fill Placement:	Yes ☐	No ☐	
Material Type (proper material used for construction)	Yes ☐	No ☐	
Lift Size	Yes ☐	No ☐	
Compaction	Yes ☐	No ☐	
In-place Densities	Yes ☐	No ☐	
In-place Density Frequency	Yes ☐	No ☐	
Non-Conformance Items Observed	Yes ☐	No ☐	
Non-Conformance Item Description:			
Action Taken by SWCE:			
Person(s) Notified:			

Area(s) of Observation:

Arrived on-site to observe wall footing subgrades along B.5 line from grid 5 to 8. Footing subgrades had been excavated and covered with geotextile fabric and crushed stone. Subgrade exposed at B.5 and grid 8 consisted of hard gray clayey silt. Contractor removed crushed stone and fabric at B.5 and grid 5 to expose subgrade soils consisting of dense gray silty sand with cobbles. Subgrade soils appeared consistent with geotechnical report and suitable for allowable bearing pressure of 2.0 ksf as given in the approved project plans.

Notes:

While on-site, contractor inquired as to feasibility to raise footing bearing elevation of deck footing near B.5 and grid 4 from elevation 102.0 feet. Recommended contractor file RFI through structural engineer. Arranged for S.W.COLE ENGINEERING to be on-site to observe this footing subgrade on July 30, 2009.

Attachments: None Reviewed By: RED

S.W.COLE ENGINEERING, INC.

Soils Observation Report

Project Name/Location:	Crescent Heights	**Project No:**	08-0744.1
Client/Client's Rep.:	Crescent Heights LLC	**Date:**	July 30, 2009
Earthwork Contractor:	Leavitt Earthworks	**Sheet:**	1 of 1
		SWCE Rep.:	TJB
		Arrived at Site:	0900 & 1400
		Left Site:	1000 & 1500

Weather			**Site Conditions**		**Materials Used**	
☒ Clear	☐ Snow	☐ Warm	☐ Wet	☐ Dusty	☐ Site Fill	☐ Foundation Backfill
☒ Overcast	☐ Fog	☐ Hot	☐ Muddy	☐ Frozen	☐ Utility Bedding	☐ Subbase
☐ Rain	☐ Cold	☐ Windy	Temperatures: 80s		☐ Base	☐ _____

Soils Work Performed: ☐ Site Prep (Sect. 2230) ☐ Earthwork (Sect. 2300) ☐ Planting Soils (Sect. 2310)
☒ Building Earthwork (Sect. 2315) ☐ Utilities Earthwork (Sect. 2316) ☐ _____

Compaction Equipment Used: ☐ Large Roller ☐ Small Roller ☐ Trench Roller ☐ Large Plate Tamp
☐ Small Tamp ☐ Jumping Jack ☐ _____ ☐ _____

Soils Observations	**Observed**		**Comments**
Site Preparation	Yes ☐	No ☐	
Fill Placement:	Yes ☐	No ☐	
Material Type (proper material used for construction)	Yes ☐	No ☐	
Lift Size	Yes ☐	No ☐	
Compaction	Yes ☐	No ☐	
In-place Densities	Yes ☐	No ☐	
In-place Density Frequency	Yes ☐	No ☐	
Non-Conformance Items Observed	Yes ☐	No ☐	
Non-Conformance Item Description:			
Action Taken by SWCE:			
Person(s) Notified:			

Area(s) of Observation:

Arrived on-site at 0900 to observe deck column footing at B.5 and grid 4. Contractor excavated footing and encountered native dense glacial till bearing soils at approximate elevation 104.0 feet, which was 2 feet higher that the planned footing subgrade elevation of 102.0 feet, but still below frost depth. Recommended to contractor to file RFI to get structural engineers approval to raise footing elevation.

Arrived on-site at 1400 to observe excavation of wall footing along C line from grid 1 to 5 (area 1 of sequenced excavation recommended by SGH) continuing to join previous excavation at B.5 and grid 5. Excavation encountered native medium dense tan sand bearing soils between grids 1 to 4 transitioned to dense glacial till from 4 to 5 line which continued to join excavation completed previous to B.5 and grid 5.

Subgrade soils observed on both visit today appeared consistent with geotechnical report and suitable for allowable bearing pressure of 2.0 ksf as given in the approved project plans.

Notes:

Attachments: None Reviewed By: RED

S.W.COLE ENGINEERING, INC.

Report of Field Density

ASTM D6938

Project: **PORTLAND, ME - CRESCENT HEIGHTS APARTMENTS - MATERIALS TESTING** Project Number: **08-0744.1**

Client: **CRESCENT HEIGHTS, LLC**

Field Density Test Results

Test #	Test Date	Tech	Test Location	Elev Feet	Test Depth	Lab ID	Dry Density	Moisture Content Percent	Compaction Percent	Required Compaction
1	7/15/2009	SJC	A LINE, WEST SIDE	93	12	11034G	129.1	4.2	95.7	95
2	7/15/2009	SJC	A LINE, EAST SIDE	93	12	11034G	130.4	4.2	96.7	95

Laboratory Compaction Test Reference

Lab ID	Date Received	Material Source	Material Type	Method	Max Dry Density PCF	Optimum Moisture Content (%)	Comments
11034G	6/23/2009	Boundry Rd. Pit	Aggregate Subbase (Type D)	ASTM D-1557 Modified C	134.9	6.4	

Elevation Notes:

Comments:

Reviewed By

S.W.COLE ENGINEERING, INC.

Report of Field Density
ASTM D6938

Project: **PORTLAND, ME - CRESCENT HEIGHTS APARTMENTS - MATERIALS TESTING** Project Number: **08-0744.1**

Client: **CRESCENT HEIGHTS, LLC**

Field Density Test Results

Test #	Test Date	Tech	Test Location	Elev Feet	Test Depth	Lab ID	Dry Density	Moisture Content Percent	Compaction Percent	Required Compaction
3	7/16/2009	TA	BETWEEN LINE 4 & 5 2' SOUTH OF A LINE	93'	10	11034G	131.6	4.5	97.6	95
4	7/16/2009	TA	BETWEEN 7 & 8 4' NORTH OF A LINE	93'	10	11034G	133.2	4.6	98.7	95
5	7/16/2009	TA	2' WEST OF LINE 8 & 3' NORTH OF A LINE	93'	10	11034G	133.3	4.3	98.8	95
6	7/16/2009	TA	ALONG A LINE EAST OF 7 LINE	94' 6"	10	11034G	132.6	3.8	98.3	95
7	7/16/2009	TA	ALONG A LINE WEST OF 7 LINE	94' 6"	10	11034G	131.7	4.2	97.6	95
8	7/16/2009	TA	BETWEEN COLUMN LINES A & B & LINE 5 & 7	95' 6"	10	11034G	130.4	4.3	96.7	95
9	7/16/2009	TA	BETWEEN LINES 5 & 7 5' NORTH OF A LINE	95' 6"	10	11034G	130.4	4.9	96.7	95
10	7/16/2009	TA	BETWEEN LINES 7 & 8 3' NORTH OF A LINE	95' 6"	10	11034G	129.1	4.6	95.7	95
11	7/16/2009	TA	BETWEEN LINES A & 5 1' NORTH OF A LINE	96'	10	11034G	131.5	4.0	97.5	95
12	7/16/2009	TA	BETWEEN LINE 5 & 7 NORTH OF B LINE	96'	10	11034G	129.0	4.2	95.6	95
13	7/16/2009	TA	BETWEEN LINE 7 & 8 1' NORTH OF A LINE	96'	10	11034G	132.4	3.8	98.1	95
14	7/16/2009	TA	BETWEEN LINES 7 & 8 4' NORTH OF B LINE	96'	10	11034G	130.5	6.6	96.7	95

Laboratory Compaction Test Reference

Lab ID	Date Received	Material Source	Material Type	Method	Max Dry Density PCF	Optimum Moisture Content (%)	Comments
11034G	6/23/2009	Boundry Rd. Pit	Aggregate Subbase (Type D)	ASTM D-1557 Modified C	134.9	6.4	

Elevation Notes:
ALL ELEVATIONS ARE ABOVE TOP OF FOOTING

Comments:

Reviewed By

S.W.COLE ENGINEERING, INC.

Report of Field Density

ASTM D6938

Project: **PORTLAND, ME - CRESCENT HEIGHTS APARTMENTS - MATERIALS TESTING** Project Number: **08-0744.1**

Client: **CRESCENT HEIGHTS, LLC**

Field Density Test Results

Test #	Test Date	Tech	Test Location	Elev Feet	Test Depth	Lab ID	Dry Density	Moisture Content Percent	Compaction Percent	Required Compaction
15	7/27/2009	SJC	D - LINE PIERS	98	12	11034G	133.4	5.9	98.9	95
16	7/27/2009	SJC	D - LINE PIERS	99	12	11034G	133.7	5.9	99.1	95
17	7/27/2009	SJC	D - LINE PIERS	102	12	11034G	131.6	6.2	97.6	95

Laboratory Compaction Test Reference

Lab ID	Date Received	Material Source	Material Type	Method	Max Dry Density PCF	Optimum Moisture Content (%)	Comments
11034G	6/23/2009	Boundry Rd. Pit	Aggregate Subbase (Type D)	ASTM D-1557 Modified C	134.9	6.4	

Elevation Notes:

Comments:

Reviewed By

S.W.COLE ENGINEERING, INC.

Report of Field Density

ASTM D6938

Project: **PORTLAND, ME - CRESCENT HEIGHTS APARTMENTS - MATERIALS TESTING** Project Number: **08-0744.1**

Client: **CRESCENT HEIGHTS, LLC**

Field Density Test Results

Test #	Test Date	Tech	Test Location	Elev Feet	Test Depth	Lab ID	Dry Density	Moisture Content Percent	Compaction Percent	Required Compaction
18	8/28/2009	SJC	LINE C + 20' CORNER	-2' TOW	10	11222G	132.5	6.0	95.0	95
19	8/28/2009	SJC	LINE B.5 - 10' LINE 7	-7' TOW	12	11222G	133.2	4.9	95.5	95
20	8/28/2009	SJC	LINE C + 15' CORNER OUTSIDE	-1.5' TOW	12	11222G	132.5	4.8	95.0	95
21	8/28/2009	SJC	LINE B.5 + 15' LINE 7	-104'	12	11034G	129.2	5.8	95.8	95
22	8/28/2009	SJC	LINE C + 10' CORNER	113.6'	12	11034G	128.7	4.9	95.4	95
23	8/28/2009	SJC	LINE C + 10' LINE 7	106'	12	11330G	131.3	4.5	96.0	95
24	8/28/2009	SJC	LINE C - 13' LINE 7	109'	12	11330G	132.7	5.3	97.1	95
25	8/28/2009	SJC	LINE C + 6' LINE 7	108'	12	11330G	131.2	5.5	96.0	95
26	8/28/2009	SJC	LINE C - 6' LINE 7	110'	12	11330G	130.2	5.3	95.2	95
27	8/28/2009	SJC	LINE C + 9' LINE 7	109'	12	11330G	131.4	4.2	96.1	95

Laboratory Compaction Test Reference

Lab ID	Date Received	Material Source	Material Type	Method	Max Dry Density PCF	Optimum Moisture Content (%)	Comments
11034G	6/23/2009	Boundry Rd. Pit	Aggregate Subbase (Type D)	ASTM D-1557 Modified C	134.9	6.4	
11222G	7/29/2009	On Site Stockpile	Aggregate Subbase	ASTM D-1557 Modified C	139.5	6.1	
11330G	8/11/2009	Hurricane Rd Pit	Aggregate Subbase	ASTM D-1557 Modified C	136.7	5.5	

Elevation Notes:
TOW - TOP OF WALL

Comments:

Reviewed By

S.W.COLE ENGINEERING, INC.

Report of Field Density

ASTM D6938

Project: **PORTLAND, ME - CRESCENT HEIGHTS APARTMENTS - MATERIALS TESTING** Project Number: **08-0744.1**

Client: **CRESCENT HEIGHTS, LLC**

Field Density Test Results

Test #	Test Date	Tech	Test Location	Elev Feet	Test Depth	Lab ID	Dry Density	Moisture Content Percent	Compaction Percent	Required Compaction
28	8/31/2009	TA	10' NW OF ELEVATOR PIT	1' BTOS	10	11222G	133.6	3.8	95.8	95
29	8/31/2009	TA	6' NW OF ELEVATOR PIT	1' BTOS	10	11222G	132.6	3.6	95.1	95
30	8/31/2009	TA	50' N WEST OF ELEVATOR PIT	1' BTOS	8	11222G	133.2	5.1	95.5	95
31	8/31/2009	TA	25' N WEST OF ELEVATOR PIT	1' BTOS	10	11222G	133.0	4.4	95.3	95
32	8/31/2009	TA	15' N WEST OF ELEVATOR PIT	1' BTOS	10	11222G	135.9	4.1	97.4	95
33	8/31/2009	TA	25' N WEST OF ELEVATOR PIT	1' BTOS	6	11330G	133.4	4.7	97.6	95
34	8/31/2009	TA	30' N WEST OF ELEVATOR	1' BTOS	8	11330G	134.0	3.9	98.0	95
35	8/31/2009	TA	EXTERIOR F WALL NW	109.0	8	11330G	131.4	5.0	96.1	95
36	8/31/2009	TA	EXTERIOR F WALL NW	109.0	8	11330G	132.1	6.4	96.6	95
37	8/31/2009	TA	EXTERIOR F WALL WEST	109.0	10	11330G	130.8	5.6	95.7	95
38	8/31/2009	TA	EXTERIOR F WALL WEST	109.0	8	11330G	132.5	5.6	96.9	95

Laboratory Compaction Test Reference

Lab ID	Date Received	Material Source	Material Type	Method	Max Dry Density PCF	Optimum Moisture Content (%)	Comments
11222G	7/29/2009	On Site Stockpile	Aggregate Subbase	ASTM D-1557 Modified C	139.5	6.1	
11330G	8/11/2009	Hurricane Rd Pit	Aggregate Subbase	ASTM D-1557 Modified C	136.7	5.5	

Elevation Notes:
BTOS- BELOW TOP OF SOIL

Comments:
NW- NORTH WEST

Reviewed By

S.W.COLE ENGINEERING, INC. • Geotechnical Engineering • Field & Lab Testing • Scientific & Environmental Consulting

DAILY CONSTRUCTION REPORT

Project: Crescent Heights
Client: Crescent Heights LLC
Contractor: Portland Builders

SWCE Project No.: 08-0744.1
Date: 9-23-09
Weather: Sunny, 55 – 80.

General Observations, Discussions, Etc: We made a site visit as coordinated with Portland Builders superintendant (Jack Goulett) to observe subgrade soils at interior column footings 2, 3 and 4 on E-line. During our initial visit traces of brick and ash were visible intermixed with brown gravelly sand. At this time we understood that the bottom of excavation was at approximate elevation 112.3-feet with footing E-3 being approximately 12-inches lower because some ash was reportedly encountered during excavation. We hand dug several shallow test pits and determined that material exposed at all three location still consisted of mixed fill. At E-4, approximately 3 to 6-inches of fill remained overlying dense brown gravelly sand that appeared to be native material. E-3 also appeared to have 3 to 6-inches of fill overlying native dense brown sand and silt with some gravel. At E-2 it appeared that a minimum of 12-inches of granular fill intermixed with brick and stone rubble remained over gravelly sand with cobbles. We requested that fill soils be removed and that arrangements for follow up observations be made when the additional excavation was complete.

During our second site visit, it appeared that Leavitt Earthworks had performed the additional excavation as recommended. The excavation was made with a smooth edged bucket, but several inches of loose soils remained. We requested that subgrade soils be compacted with a large vibratory plate compactor prior to casting footings. In order to penetrate the fill soils the bottom of elevation at these three spread footings is slightly different; we understand that Portland Builders will likely thicken the footings as needed to achieve a common top of footing elevation.

On Site: 7:30 – 8:30 and 10:30 – 11:00
Attachments: Photos
Sheet: 1 of 1

SWC Rep.: KBG
Rev. by: TJB

P:\2008\08-0744.1 M - Crescent Heights, LLC - Portland, ME - Crescent Heights Apartments - RED\DFR's\DFR 9-23-09 - subgrade.doc

GRAY, ME OFFICE
286 Portland Road, Gray, ME 04039, Tel (207) 657-2866, Fax (207) 657-2840, (E) infogray@swcole.com, (I) www.swcole.com

Exhibit B

033000 Concrete Construction

Project: Crescent Heights
Date Prepared: May 10, 2010

Structural Schedule of Special Inspections
CONCRETE CONSTRUCTION

VERIFICATION AND INSPECTION IBC Section 1704.4	Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	TASK COMPLETED
1. Inspection of reinforcing steel, including prestressing tendons, and placement	Y	P	ACI 318: 3.5, 7.1-7.7	SI I	PE/SE or EIT	
2. Inspection of reinforcing steel welding in accordance with Table 1704.3, Item 5B	N		Welding of Reinf Not Allowed		AWS-CWI	
3. Inspect bolts to be installed in concrete prior to and during placement of concrete where allowable loads have been increased	N	C	IBC 1912.5	SI I	PE/SE or EIT	
4. Verifying use of required design mix	Y	P	ACI 318: Ch 4, 5.2-5.4	SI I	PE/SE or EIT	
5. At time fresh concrete is sampled to fabricate specimens for strength test, perform slump and air content test and temperature	Y	C	ASTM C 172 ASTM C 31 ACI 318: 5.6, 5.8	TA I	ACI-CFTT or ACI-STT	
6. Inspection of concrete and shotcrete placement for proper application techniques	Y	C	ACI 318: 5.9, 5.10	SI I	PE/SE or EIT	
7. Inspection for maintenance of specified curing temperature and techniques	Y	P	ACI 318: 5.11-5.13	SI I	PE/SE or EIT	
8. Inspection of Prestressed Concrete						
a. Application of prestressing force.	N	C	ACI 318: 18.20		PE/SE or EIT	
b. Grouting of bonded prestressing tendons in seismic force resisting system	N	C	ACI 318: 18.18.4		PE/SE or EIT	
9. Erection of precast concrete members	N	P	ACI 318: Ch 16		PE/SE or EIT	
10. Verification of in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms beans and structural slabs	N	P	ACI 318: 6.2		ACI-STT	

BECKER
structural engineers, inc.

03300

Project:	Crescent Heights S.I.
Location:	Portland, ME
Becker Job No:	2129

OBSERVATION REPORT
Cast in Place Concrete

Date:	7-10-09
Time:	1:00 PM
Temp:	80 F
Weather:	Sunny

Observation Location: spread footings: (3) F4 & (2) F510 along grid line A

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	☒	☐	☐	☐	
Quantity	☒	☐	☐	☐	
Condition	☒	☐	☐	☐	
Placement	☒	☐	☐	☐	
Embed/Anchors	☐	☐	☐	☒	
Lap Splices	☐	☐	☐	☒	
Hot Weather	☐	☐	☐	☒	
Cold Weather	☐	☐	☐	☒	
Bond Beams	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	

Notes:

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

03300

Project:	Crescent Heights S.I.
Location:	Portland, ME
Becker Job No:	2129

OBSERVATION REPORT

Cast in Place Concrete

Date:	7-14-09
Time:	9:00 AM
Temp:	70 F
Weather:	Sunny

Observation Location: piers: (7) P3 piers along grid line A up to finish grade (shelf)

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	☒	☐	☐	☐	
Quantity	☒	☐	☐	☐	
Condition	☒	☐	☐	☐	
Placement	☒	☐	☐	☐	
Embed/Anchors	☐	☐	☐	☒	
Lap Splices	☐	☐	☐	☒	
Hot Weather	☐	☐	☐	☒	
Cold Weather	☐	☐	☐	☒	
Bond Beams	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	

Notes:

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

03300

Project:	Crescent Heights S.I.
Location:	Portland, ME
Becker Job No:	2129

OBSERVATION REPORT
Cast in Place Concrete

Date:	7-21-09
Time:	10:00 AM
Temp:	70 F
Weather:	Cloudy

Observation Location: Spread Footings: F4, F5, F6 & F56 along grid line B. Piers: (7)P3 piers along grid line A up to bottom of reinforced concrete beam.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	☒	☐	☐	☐	
Quantity	☒	☐	☐	☐	
Condition	☒	☐	☐	☐	
Placement	☒	☐	☐	☐	
Embed/Anchors	☐	☐	☐	☒	
Lap Splices	☒	☐	☐	☐	
Hot Weather	☐	☐	☐	☒	
Cold Weather	☐	☐	☐	☒	
Bond Beams	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	

Notes:

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

03300

Project:	Crescent Heights S.I.
Location:	Portland, ME
Becker Job No:	2129

OBSERVATION REPORT

Cast in Place Concrete

Date:	7-22-09
Time:	12:00 PM
Temp:	70 F
Weather:	Cloudy

Observation Location: Piers: (2)P1, P3 & P4 along grid line B

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	☒	☐	☐	☐	
Quantity	☒	☐	☐	☐	
Condition	☒	☐	☐	☐	
Placement	☒	☐	☐	☐	See note below
Embed/Anchors	☐	☐	☐	☒	
Lap Splices	☒	☐	☐	☐	
Hot Weather	☐	☐	☐	☒	
Cold Weather	☐	☐	☐	☒	
Bond Beams	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	

Notes:

G/c was made aware that P1 piers have less cover than surrounding piers due to lack of shelf at top and that care should be taken to ensure proper cover was achieved.

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

03300

Project:	Crescent Heights S.I.
Location:	Portland, ME
Becker Job No:	2129

OBSERVATION REPORT

Cast in Place Concrete

Date:	8-3-09
Time:	11:30 AM
Temp:	75 F
Weather:	Sunny

Observation Location: Footings: "B.5", 5, & C lines. 2'x2' ftg at "B.5" line

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	☒	☐	☐	☐	
Quantity	☒	☐	☐	☐	
Condition	☒	☐	☐	☐	
Placement	☒	☐	☒	☐	See note below
Embed/Anchors	☒	☐	☐	☐	
Lap Splices	☒	☐	☐	☐	
Hot Weather	☐	☐	☐	☒	
Cold Weather	☐	☐	☐	☒	
Bond Beams	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	

Notes:

G/C was notified of insufficient reinforcement cover at (3) step locations and notified to remove (1) clay brick bar support. All issues were being corrected while on site.

Signed: Dan S. Burne, P.E.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

03300

Project:	Crescent Heights S.I.
Location:	Portland, ME
Becker Job No:	2129

OBSERVATION REPORT
Cast in Place Concrete

Date:	8-6-09
Time:	10:30 AM
Temp:	80 F
Weather:	Sunny

Observation Location: Walls: "B.5", 5, & C lines. Piers: (1)P1 & (2)P3 on "B.5" line and P2 @ C-5

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	☒	☐	☐	☐	
Quantity	☐	☒	☒	☐	See note below
Condition	☒	☐	☐	☐	
Placement	☐	☒	☒	☐	See note below
Embed/Anchors	☐	☐	☒	☐	See note below
Lap Splices	☒	☐	☐	☐	
Hot Weather	☐	☐	☐	☒	
Cold Weather	☐	☐	☐	☒	
Bond Beams	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	

Notes:
G/C was notified of missing corner bars in wall reinforcing at (3) corners. G/C was notified of insufficient spacing between inside and outside faces of wall reinforcing along line C. I was made aware by the G/C that reinforcing was to be relocated prior to placement in order to obtain adequate spacing. Slab dowels along "B.5" line were not in place at time of inspection. Anchor bolts for sill plate were not in place at time of inspection. G/C was made aware that slab dowels and anchor bolts must be in place prior to placement. Follow-up inspection is scheduled for 8/10 to be performed prior to placement.

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

03300

Project:	Crescent Heights S.I.
Location:	Portland, ME
Becker Job No:	2129

OBSERVATION REPORT
Cast in Place Concrete

Date:	8-10-09
Time:	11:30 AM
Temp:	85 F
Weather:	Sunny

Observation Location: Walls: "B.5", 5, & C lines. Piers: (1)P1 & (2)P3 on "B.5" line and P2 @ C-5

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	☒	☐	☐	☐	
Quantity	☒	☐	☐	☐	
Condition	☒	☐	☐	☐	
Placement	☒	☐	☐	☐	
Embed/Anchors	☒	☐	☐	☐	
Lap Splices	☐	☒	☐	☐	see notes below
Hot Weather	☐	☐	☐	☒	
Cold Weather	☐	☐	☐	☒	
Bond Beams	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	

Notes:
Previous comments made on 8-6-09 have been addressed. G/C was notified that rebar lap splice lengths appeared to be less than specified at two locations. G/C made it known that splice lengths would be verified and modifications made as necessary. Sill plate anchor bolts were not installed at time of visit. G/C was again reminded that all anchor bolts and embedded items shall be installed prior to placement of concrete and that "wet setting" of anchors was prohibited per the construction documents.

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

03300

Project:	Crescent Heights S.I.
Location:	Portland, ME
Becker Job No:	2129

OBSERVATION REPORT

Cast in Place Concrete

Date:	8-19-09
Time:	12:30 PM
Temp:	85 F
Weather:	Sunny

Observation Location: Footings: 7 Line strip footing, elevator pit footing & 8 Line retaining wall footing

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	☒	☐	☐	☐	
Quantity	☒	☐	☐	☐	
Condition	☒	☐	☐	☐	
Placement	☐	☒	☐	☐	see note below
Embed/Anchors	☒	☐	☐	☐	
Lap Splices	☒	☐	☐	☐	
Hot Weather	☐	☐	☐	☒	
Cold Weather	☐	☐	☐	☒	
Bond Beams	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	

Notes:

Rebar with insufficient cover was observed at numerous locations. G/C was made aware and began addressing issue while inspection was ongoing. G/C expressed intent to continue to address areas of low cover prior to placement.

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

03300

Project:	Crescent Heights S.I.
Location:	Portland, ME
Becker Job No:	2129

OBSERVATION REPORT

Cast in Place Concrete

Date:	8-24-09
Time:	10:30 AM
Temp:	75 F
Weather:	Sunny

Observation Location: Walls: 7 Line, elevator pit wall & 8 Line retaining wall

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	☒	☐	☐	☐	
Quantity	☒	☐	☐	☐	
Condition	☒	☐	☐	☐	
Placement	☒	☐	☐	☐	
Embed/Anchors	☒	☐	☒	☐	see note below
Lap Splices	☒	☐	☐	☐	
Hot Weather	☐	☐	☐	☒	
Cold Weather	☐	☐	☐	☒	
Bond Beams	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	

Notes:

Formed walls were observed without required shearwall hold downs and sill plate anchors. Inspector also observed previously cast wall with depressions visible at each anchor indicating anchors were installed after placement of concrete. It was made known that "wet setting" of anchors was prohibited and that every effort should be made to install prior to placement of concrete. Epoxy anchoring of dowels for elevator shaft reinforcement was discussed and deemed acceptable. Sketch will be provided depicting minimum embed and adhesive material prior to placement.

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

03300

Project:	Crescent Heights S.I.
Location:	Portland, ME
Becker Job No:	2129

OBSERVATION REPORT
Cast in Place Concrete

Date:	9-11-09
Time:	11:45 AM
Temp:	75 F
Weather:	Sunny

Observation Location: Ftgs: South Wall from Line 1 to East side of Stair 1

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	☒	☐	☐	☐	
Quantity	☒	☐	☐	☐	
Condition	☒	☐	☐	☐	
Placement	☒	☐	☐	☐	
Embed/Anchors	☒	☐	☐	☐	
Lap Splices	☒	☐	☐	☐	
Hot Weather	☐	☐	☐	☒	
Cold Weather	☐	☐	☐	☒	
Bond Beams	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	

Notes:

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

03300

Project:	Crescent Heights S.I.
Location:	Portland, ME
Becker Job No:	2129

OBSERVATION REPORT
Cast in Place Concrete

Date:	9-14-09
Time:	10:30 AM
Temp:	75 F
Weather:	Sunny

Observation Location: Walls: South Wall from Line 1 to East side of Stair 1

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	☒	☐	☐	☐	
Quantity	☒	☐	☐	☐	
Condition	☐	☒	☐	☐	see notes below
Placement	☒	☐	☐	☐	
Embed/Anchors	☐	☐	☒	☐	
Lap Splices	☒	☐	☐	☐	
Hot Weather	☐	☐	☐	☒	
Cold Weather	☐	☐	☐	☒	
Bond Beams	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	

Notes:
Steel reinforcing bar was observed coated with form oil at one location. G/C notified inspector that bars would be cleaned with degreaser prior to placement schedule for following day.

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

03300

Project:	Crescent Heights S.I.
Location:	Portland, ME
Becker Job No:	2129

OBSERVATION REPORT
Cast in Place Concrete

Date:	9-22-09
Time:	11:00 AM
Temp:	60 F
Weather:	Partly Cloudy

Observation Location: Wall footings, 1 line in the vicinity of "D" to the south of "F"

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	☒	☐	☐	☐	
Quantity	☒	☐	☐	☐	
Condition	☒	☐	☐	☐	see notes below
Placement	☒	☐	☐	☐	
Embed/Anchors	☐	☐	☒	☐	
Lap Splices	☒	☐	☐	☐	
Hot Weather	☐	☐	☐	☒	
Cold Weather	☐	☐	☐	☒	
Bond Beams	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	

Notes:
The retaining wall footing top reinforcement was not located at the top of the footing at when we showed up to do our visit. The contractor elected to add additional mat at the top of the footing rather than relocating the reinf. from the bottom of the footing. This work was in progress as we left the site.

Signed: Ethan A. Rhile, P.E.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

03300

Project:	Crescent Heights S.I.
Location:	Portland, ME
Becker Job No:	2129

OBSERVATION REPORT
Cast in Place Concrete

Date:	9-24-09
Time:	9:00 AM
Temp:	60 F
Weather:	Partly Cloudy

Observation Location: Foundation wall: 1 line in the vicinity of "D" to the south of "F"
Spread footings: Line E (4 total)

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	☒	☐	☐	☐	
Quantity	☐	☒	☐	☐	see notes below
Condition	☒	☐	☐	☐	
Placement	☐	☒	☐	☐	see notes below
Embed/Anchors	☐	☒	☐	☐	see notes below
Lap Splices	☒	☐	☐	☐	
Hot Weather	☐	☐	☐	☒	
Cold Weather	☐	☐	☐	☒	
Bond Beams	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	

Notes:
At time of visit top horizontal bar in exterior face was observed to be omitted and all exterior face verts were observed approximately 12"-18" short of top of wall north of Grid Line F. G/c made it known that horizontal bar and vertical splice bars would be installed prior to concrete placement. Spacing of bar off of form was observed to be insufficient south of Grid Line F at brick shelf. G/C expressed his intent to add rebar spacers at these locations. Beam pocket on E-1 was observed installed on the exterior face of wall, G/C said the pocket would be moved to inside face of wall.

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

03300

Project:	Crescent Heights S.I.
Location:	Portland, ME
Becker Job No:	2129

OBSERVATION REPORT
Cast in Place Concrete

Date:	9-28-09
Time:	3:00 PM
Temp:	65 F
Weather:	Sunny

Observation Location: Wall strip footings: South wall from approximately Line 6 to North side of Stair 2

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	☒	☐	☐	☐	
Quantity	☒	☐	☐	☐	
Condition	☒	☐	☐	☐	
Placement	☒	☐	☐	☐	
Embed/Anchors	☒	☐	☐	☐	
Lap Splices	☒	☐	☐	☐	
Hot Weather	☐	☐	☐	☒	
Cold Weather	☐	☐	☐	☒	
Bond Beams	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	

Notes:

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

03300

Project:	Crescent Heights S.I.
Location:	Portland, ME
Becker Job No:	2129

OBSERVATION REPORT

Cast in Place Concrete

Date:	10-1-09
Time:	2:00 PM
Temp:	55 F
Weather:	Sunny

Observation Location: Elevated structural slab and beams @ ground floor

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	☒	☐	☐	☐	
Quantity	☐	☒	☐	☐	see notes below
Condition	☐	☒	☐	☐	see notes below
Placement	☐	☒	☐	☐	see notes below
Embed/Anchors	☐	☒	☐	☐	see notes below
Lap Splices	☒	☐	☐	☐	
Hot Weather	☐	☐	☐	☒	
Cold Weather	☐	☐	☐	☒	
Bond Beams	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	

Notes:

G/C was notified of several locations that reinforcing bar cover was observed to be insufficient in structural slab and reinforced concrete beams. G/C was also made aware of locations where reinforcing bar quantity was insufficient at slab and where stirrup reinforcing in beams was insufficient. Debris was observed in many of the reinforced beam forms. G/C was shown locations where debris must be removed prior to placement. G/C was made aware of locations where shearwall holddown anchors were observed to be omitted. Follow up visit was scheduled to occur prior to placement in order to confirm comments will be incorporated.

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ▪ Tel 207-879-1838 ▪ Fax 207-879-1822

BECKER
structural engineers, inc.

03300

Project:	Crescent Heights S.I.
Location:	Portland, ME
Becker Job No:	2129

OBSERVATION REPORT
Cast in Place Concrete

Date:	10-1-09
Time:	5:30 PM
Temp:	50 F
Weather:	Sunny

Observation Location: Elevated structural slab and beams @ ground floor

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	☒	☐	☐	☐	
Quantity	☒	☐	☐	☐	
Condition	☒	☐	☐	☐	
Placement	☒	☐	☐	☐	
Embed/Anchors	☒	☐	☐	☐	
Lap Splices	☒	☐	☐	☐	
Hot Weather	☐	☐	☐	☒	
Cold Weather	☐	☐	☐	☒	
Bond Beams	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	

Notes:
Comments from previous visit were addressed and observed prior to placement. Concern was expressed to G/C that insufficient cover would be unacceptable and extra care should be given to accommodate such cover as shown on construction documents.

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

03300

Project:	Crescent Heights S.I.
Location:	Portland, ME
Becker Job No:	2129

OBSERVATION REPORT
Cast in Place Concrete

Date:	10-5-09
Time:	11:00 AM
Temp:	65 F
Weather:	Sunny

Observation Location: Foundation Walls: South wall from approximately Line 6 to North side of Stair 2

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	☒	☐	☐	☐	
Quantity	☐	☒	☐	☐	see notes below
Condition	☒	☐	☐	☐	
Placement	☐	☒	☐	☐	see notes below
Embed/Anchors	☒	☐	☐	☐	
Lap Splices	☒	☐	☐	☐	
Hot Weather	☐	☐	☐	☒	
Cold Weather	☐	☐	☐	☒	
Bond Beams	☐	☐	☐	☒	
Additional Items	☐	☒	☐	☐	see notes below
Additional Items	☐	☐	☐	☒	

Notes:
Horizontal bars at top of wall were observed missing at East side of Stair 2 wall. G/C was shown areas where cover and clear spacing was insufficient at many locations. Bondouts for shelfs were observed to be omitted at time of inspection. G/C made it known that all these concerns would be addressed prior to placement and photos would be provided as confirmation of completed work.

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

03300

Project:	Crescent Heights S.I.
Location:	Portland, ME
Becker Job No:	2129

OBSERVATION REPORT
Cast in Place Concrete

Date:	10-19-09
Time:	2:00 PM
Temp:	58 F
Weather:	Sunny

Observation Location: Ground Level Slab on Grade

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	☒	☐	☐	☐	
Quantity	☒	☐	☐	☐	
Condition	☒	☐	☐	☐	
Placement	☒	☐	☐	☐	
Embed/Anchors	☒	☐	☐	☐	
Lap Splices	☒	☐	☐	☐	
Hot Weather	☐	☐	☐	☒	
Cold Weather	☐	☐	☐	☒	
Bond Beams	☐	☐	☐	☒	
Additional Items	☐	☒	☐	☐	see notes below
Additional Items	☐	☐	☐	☒	

Notes:
Insultarp under slab insulation/membrane was observed along cast edge of structural slab. G/C was made aware that Insultarp should be cut back so that slab on grade may butt up against cast edge of elevated structural slab to minimize joint width.

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

03300

Project:	Crescent Heights S.I.
Location:	Portland, ME
Becker Job No:	2129

OBSERVATION REPORT
Cast in Place Concrete

Date:	10-30-09
Time:	11:30 AM
Temp:	55 F
Weather:	Overcast

Observation Location: Elevated Slab/ Reinforced Concrete Beams between Entry and Stair #2

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	☒	☐	☐	☐	
Quantity	☐	☒	☐	☐	See notes below
Condition	☒	☐	☐	☐	
Placement	☐	☒	☐	☐	See notes below
Embed/Anchors	☒	☐	☐	☐	
Lap Splices	☒	☐	☐	☐	
Hot Weather	☐	☐	☐	☒	
Cold Weather	☐	☐	☐	☒	
Bond Beams	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	

Notes:
#4 closure bar was observed omitted at (2)locations. G/C was shown where closure bars were to be added. Where slab is supported at bottom of reinforced concrete beam slab reinforcement was observed to be below beam reinforcement. G/C was made aware that slab reinforcement must extend over top of beam reinforcement. At same location, beam reinforcement was observed to be too high due to piers being cast too tall. It was made known to the G/C that pier should be chipped down such that top of pier was at bottom of beam elevation. Follow-up visit was schedule for 11/2 to confirm comments are incorporate prior to placement.

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

03300

Project:	Crescent Heights S.I.
Location:	Portland, ME
Becker Job No:	2129

OBSERVATION REPORT
Cast in Place Concrete

Date:	11-3-09
Time:	11:30 AM
Temp:	55 F
Weather:	Sunny

Observation Location: Elevated Slab/ Reinforced Concrete Beams between Entry and Stair #2

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	☒	☐	☐	☐	
Quantity	☒	☐	☐	☐	See notes below
Condition	☒	☐	☐	☐	
Placement	☒	☐	☐	☐	See notes below
Embed/Anchors	☒	☐	☐	☐	
Lap Splices	☒	☐	☐	☐	
Hot Weather	☐	☐	☐	☒	
Cold Weather	☐	☐	☐	☒	
Bond Beams	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	

Notes:
All previous comments per last field report have been addressed.

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

03300

Project:	Crescent Heights S.I.
Location:	Portland, ME
Becker Job No:	2129

OBSERVATION REPORT
Cast in Place Concrete

Date:	12-28-09
Time:	9:30 AM
Temp:	35 F
Weather:	Sunny

Observation Location: Elevated Slab @ Entry

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	☒	☐	☐	☐	
Quantity	☒	☐	☐	☐	
Condition	☒	☐	☐	☐	
Placement	☒	☐	☐	☐	
Embed/Anchors	☒	☐	☐	☐	
Lap Splices	☒	☐	☐	☐	
Hot Weather	☐	☐	☐	☒	
Cold Weather	☒	☐	☐	☐	
Bond Beams	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	

Notes:

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

AUBURN CONCRETE

82 Goldthwaite Road • P.O. Box 1747 • Auburn, Maine 04210
93 Scott Drive • Westbrook, Maine 04092
50 Arthur Reno Road • West Bath, Maine 04530

Phone: (207) 777-7100 • Fax: (207) 777-7171
Phone: (207) 780-0523 • Fax: (207) 780-1521
Phone: (207) 386-5100 • Fax: (207) 386-5151

PORTLAND BUILDERS, INC.

ATTN: DORIAN TARLING
P.O. BOX 4902
Portland, ME 04112
PH: (207) 879-0118
FX: (207) 772-8182

Mix Design Submittals for:

CRESCENT HEIGHTS HOUSING

CRESCENT STREET – PORTLAND, MAINE

As prepared by:
AUBURN CONCRETE
Remi Delcourt, Sales & Quality Control
P.O. Box 1747 - 82 Goldthwaite Road
Auburn, Maine 04210
Office: (207) 777-7100
Facsimile: (207) 777-7171
E-Mail: remi@auburnconcrete.com

AUBURN CONCRETE

82 Goldthwaite Road • P.O. Box 1747 • Auburn, Maine 04210
93 Scott Drive • Westbrook, Maine 04092
50 Arthur Reno Road • West Bath, Maine 04530

Phone: (207) 777-7100 • Fax: (207) 777-7171
Phone: (207) 780-0523 • Fax: (207) 780-1521
Phone: (207) 386-5100 • Fax: (207) 386-5151

PORTLAND BUILDERS

CRESCENT HEIGHTS HOUSING
25 CRESCENT STREET — PORTLAND, MAINE

3000PSI - Air Entrained, ¾" Crushed Stone

FOOTINGS & FOUNDATION WALLS

6/11/2009 — 3034SA-LEED

		Weight-SSD (lbs)	Volume (Cu.Ft.)	Sources
CEMENT, T I/II	ASTM C-150	362	1.84	DRAGON PRODUCTS COMPANY
GGBFS (NEWCEM)	ASTM C989, Grade 120	155	0.84	LAFARGE
COARSE AGG	ASTM C-33: #57/#67	1700	10.28	PIKE INDUSTRIES
FINE AGGREGATE	ASTM C-33	1330	8.17	PORTLAND SAND & GRAVEL
WATER U.S. GAL/CY:	32.4	270	4.33	CITY OF WESTBROOK
AIR CONTENT (%):		6.0 +/- 1.5%	1.63	
WATER/CEMENT RATIO:		0.52		
SLUMP (Inches):		4.00		
YIELD:		135.2 PCF	27.1 Cu.Ft.	

GLENIUM 7500	ASTM C494, TYPE A,F	3.00 oz/cwt	10.9	US oz/CY	BASF/MASTER BUILDERS
MICROAIR	ASTM C-260	0.25 oz/cwt	0.9	US oz/CY	BASF/MASTER BUILDERS

* GLENIUM 7500 dose is for MIDRANGE applications.

OPTIONAL:

POLYMESH	ASTM C-1116 TYPE III	1.5 lbs/cy			O'DEA CONCRETE PRODUCTS
POZZOLITH 100XR	ASTM C-494, Type B,D	2.00 oz/cwt	7.2	US oz/CY	BASF/MASTER BUILDERS
POZZUTEC 20+	ASTM C-494, Type C,E	10.00 oz/cwt	36.2	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 or site addition of 2 - 3 fl.oz./cwt (10.3 - 15.5 fl.oz./cy) will be required to achieve end slump indicated.

AUBURN CONCRETE REPORT AND ANALYSIS OF COMPRESSIVE STRENGTH

MIX IDENTIFICATION #: 30345A
DESIGN STRENGTH: 3000 PSI @ 28 DAYS

PROJECT:
CONTRACTOR:

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

4/21/2007
6:36 AM

DATE	PROJECT	ID#	SLUMP	% AIR	TEMPERATURE CONC	TEMPERATURE AIR	7 DAY	28 DAY	MOVING AVG. OF 3
9/12/2007	CABELAS	4992-1	3.50	6.5	74		3160	4540	
9/12/2007	CABELAS	4992-2	3.50	6.0	74		3340	4435	
9/14/2007	CABELAS	4992-3	4.50	6.0	78		2940	3790	4255
9/14/2007	CABELAS	4992-4	5.00	6.2	74		2870	4030	4285
9/18/2007	CABELAS	4992-5	4.25	5.4	76		3430	4310	4243
9/18/2007	CABELAS	4992-6	3.75	6.0	74		2990	4070	4337
9/19/2007	CABELAS	4992-7	6.00	6.4	73		2940	3775	4052
9/19/2007	CABELAS	4992-8	6.00	6.4	73		2730	3775	3873
9/20/2007	CABELAS	4992-10	5.50	5.9	74		2880	3975	3842
9/20/2007	CABELAS	4992-9	4.50	5.4	74		3130	4210	3987
9/21/2007	CABELAS	4992-11	6.00	6.1	76		2770	3415	3867
9/21/2007	CABELAS	4992-12	5.00	5.5	71		2840	3660	3762
9/24/2007	CABELAS	4992-13	4.50	6.0	77		3040	3815	3663
9/26/2007	CABELAS	4992-14	4.00	6.8	78		3050	4195	3923
9/26/2007	CABELAS	4992-15	4.50	6.5	79		2690	3556	3888
9/27/2007	CABELAS	4992-16	4.75	6.4	76		3160	4380	4043
9/28/2007	CABELAS	4992-17	4.00	6.0	79		2850	3920	3918
9/28/2007	CABELAS	4992-18	6.00	5.8	70		3890	5435	4545
9/28/2007	CABELAS	4992-19	6.00	6.8	70		3760	5140	4798
10/2/2007	CABELAS	4992-20	5.50	5.4	74		3490	4870	5148
10/2/2007	CABELAS	4992-21	6.00	6.2	74		3980	4070	4693
10/5/2007	CABELAS	4992-23	6.00	7.0	72		3100	3995	4312
10/5/2007	CABELAS	4992-24	6.50	6.8	74		3360	4210	4092
10/19/2007	CABELAS	4992-29	5.50	4.5	63		4060	4445	4217
10/31/2007	CABELAS	4992-31	5.50	5.0	66		3240	4250	4302
11/2/2007	CABELAS	4992-32	3.75	5.3	64		3760	5250	4648
11/5/2007	CABELAS	4992-33	4.50	5.7	59		3610	4945	4815
11/20/2007	WAL-MART SCAR.	1788-1	5.00	5.3	64	38	4210	5175	5123
11/20/2007	WAL-MART SCAR.	1788-2	4.00	4.8	65	34	4200	5010	5043
11/21/2007	WAL-MART SCAR.	1788-3	4.50	5.4	66	36	3190	4305	4830
11/21/2007	WAL-MART SCAR.	1788-4	5.00	6.0	60		3930	4970	4762
11/27/2007	WAL-MART SCAR.	1788-5	5.00	6.5	65	55	3910	5006	4760
11/28/2007	WAL-MART SCAR.	1788-6	6.00	5.9	65	38	4200	5370	5115
11/28/2007	WAL-MART SCAR.	1788-7	5.00	6.5	55	34	3820	4685	5020
11/29/2007	WAL-MART SCAR.	1788-8	5.00	3.5	60	45	4010	4585	4880
11/30/2007	WAL-MART SCAR.	1788-10	6.00	6.0	55	36	3800	5420	4897
11/30/2007	WAL-MART SCAR.	1788-9	3.50	4.5	60	36	4780	5920	5308
12/5/2007	WAL-MART SCAR.	1788-11	6.00	5.0	55	34	3880	4935	5225
12/6/2007	WAL-MART SCAR.	1788-12	4.00	6.0	60	28	3980	4755	5003
12/7/2007	TURNER-LEEDS BRIDGES	14039-1					3050	4165	4418
12/7/2007	WAL-MART SCAR.	1788-15	4.00	5.0	62	31	4010	4575	4498
12/10/2007	WAL-MART SCAR.	1788-16	5.00	5.0	60	28	3620	4090	4277
12/11/2007	WAL-MART SCAR.	1788-17	5.00	5.4	60	32	4110	4565	4390
12/12/2007	WAL-MART SCAR.	1788-18	5.00	5.0	68	43	3960	4935	4510
12/12/2007	WAL-MART SCAR.	1788-19	5.00	5.0	67	43	3650	4555	4665
12/13/2007	WAL-MART SCAR.	1788-20	5.00	4.5	59	18	3630	4835	4775
########	TURNER-LEEDS BRIDGES	14039-2					2180	3220	4203
12/14/2007	WAL-MART SCAR.	1788-21	5.00	5.4	57	32	3730	4500	4185
12/18/2007	WAL-MART SCAR.	1788-22	5.00	5.6	61	28	3110	3735	3818
12/19/2007	WAL-MART SCAR.	1788-23	4.50	5.0	60	32	3150	3915	4050
12/21/2007	WAL-MART SCAR.	1788-24	6.50	6.1	60	23	3000	3990	3880
1/10/2008	TURNER-LEEDS BRIDGES	14039-6					2050	3120	3675
1/12/2008	TURNER-LEEDS BRIDGES	14039-12	7.50	6.4	60		2785	3980	3697
3/6/2008	TURNER-LEEDS BRIDGES	14039-13	6.50	6.5	52		2595	3435	3812
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	4150	4213
4/10/2008	RESIDENCE INN-AUBURN	14064-2	3.75	5.0	63		3380	4470	4230
4/11/2008	RESIDENCE INN-AUBURN	14064-3	4.00	5.4	63		3010	4470	4363
4/15/2008	RESIDENCE INN-AUBURN	14064-4	5.25	5.2	61		3140	3885	4275
4/17/2008	RESIDENCE INN-AUBURN	14064-5	5.00	5.8	65		3290	4090	4148
4/22/2008	RESIDENCE INN-AUBURN	14064-6	5.75	5.6	69		2710	3515	3830
4/25/2008	RESIDENCE INN-AUBURN	14064-7	5.00	6.5	66		2950	3770	3792

AUBURN CONCRETE REPORT AND ANALYSIS OF COMPRESSIVE STRENGTH

4/30/2008	RESIDENCE INN-AUBURN	14064-9	3.00	6.0	68		3350	4400	3895
5/5/2008	RESIDENCE INN-AUBURN	14064-9	5.50	4.5	64		3030	3540	3903
5/8/2008	RESIDENCE INN-AUBURN	14064-10	5.75	6.0	67		2960	3555	3832
5/13/2008	RESIDENCE INN-AUBURN	14064-11	3.50	5.8	64		3310	3970	3668
5/19/2008	RESIDENCE INN-AUBURN	14064-12	5.25	6.2	68		3230	3470	3665
5/29/2008	RESIDENCE INN-AUBURN	14064-13	4.25	5.5	68		3900	4550	3997
7/2/2008	TURNER-LEEDS BRIDGES	14039-33	6.00	6.0	77		2850	3640	3887
7/2/2008	TURNER-LEEDS BRIDGES	14039-34	6.50	6.1	81		3100	3850	4013
7/2/2008	TURNER-LEEDS BRIDGES	14039-35	6.50	8.0	81		2940	3640	3710
7/2/2008	TURNER-LEEDS BRIDGES	14039-36	8.00	8.2	84		2670	3365	3615
7/15/2008	GORHAM BY-PASS	869-10	6.00	6.6	81	53	2920	3200	3398
7/25/2008	St. MARYS ER ADDITION	14093-7	5.00	4.7	64		3080	3935	3497
7/29/2008	St. MARYS ER ADDITION	14093-8	4.00	5.4	67		3140	4096	3743
7/30/2008	St. MARYS ER ADDITION	14093-9	4.25	4.9	83		3390	4255	4086
8/1/2008	St. MARYS ER ADDITION	14093-10	5.00	5.5	82		3030	3735	4026
8/4/2008	St. MARYS ER ADDITION	14093-11	5.00	6.9	84		2810	3200	3730
8/7/2008	St. MARYS ER ADDITION	14093-12	5.50	5.9	71		3040	4195	3710
8/9/2008	St. MARYS ER ADDITION	14093-13	5.00	6.8	79		3270	3795	3730
8/15/2008	St. MARYS ER ADDITION	14093-14	4.00	6.9	86		2800	3190	3727
9/17/2008	ST. MARY'S MOB	14131-1	4.50	5.8	81		4550	4915	3967
9/18/2008	ST. MARY'S MOB	14131-2	7.25	6.0	76		3290	4110	4072
9/23/2008	ST. MARY'S MOB	14131-3	3.75	7.3	70		3310	4090	4372
9/23/2008	ST. MARY'S MOB	14131-4	5.00	6.9	76		3600	4135	4105
9/30/2008	ST. MARY'S MOB	14131-5	5.50	6.6	74		2990	4055	4087
10/2/2008	ST. MARY'S MOB	14131-6	5.50	7.2	70		2990	3935	4035
10/2/2008	BOWDOIN COL. FITNESS CTR	14138-1	5.50	6.0	72		2840	3890	3960
10/6/2008	ST. MARY'S MOB	14131-7	5.50	6.8	63		3320	3825	3983
10/7/2008	ST. MARY'S MOB	14131-8	4.50	7.3	61		3100	3920	3878
10/8/2008	ST. MARY'S MOB	14131-9	5.50	5.0	71		3680	4140	3962
10/13/2008	ST. MARY'S MOB	14131-10	5.25	5.9	73		3410	3910	3990
10/14/2008	BOWDOIN COL. FITNESS CTR	14138-2	5.50	5.6	70		3140	3905	3985
10/14/2008	BOWDOIN COL. FITNESS CTR	14138-3	5.50	6.5	68		3050	3775	3883
10/17/2008	ST. MARY'S MOB	14131-11	6.00	7.0	68		2740	3565	3745
10/21/2008	BOWDOIN COL. FITNESS CTR	14138-4	6.00	5.8	62		3010	4005	3778
10/22/2008	St. MARYS ER ADDITION	14093-18	5.00	5.8	60		3290	4100	3887
10/24/2008	St. MARYS ER ADDITION	14093-19	6.25	6.0	57		1980	3270	3782
11/3/2008	BOWDOIN COL. FITNESS CTR	14138-5	8.00	7.8	51		2510	3155	3508
11/3/2008	BOWDOIN COL. FITNESS CTR	14138-6	8.50	7.4	53		2830	3520	3348
11/14/2008	BOWDOIN COL. FITNESS CTR	14138-7	8.00	7.2	67		3130	3915	3569
11/14/2008	BOWDOIN COL. FITNESS CTR	14138-8	8.00	5.8	67		2860	3495	3673
11/25/2008	BOWDOIN COL. FITNESS CTR	14138-9	7.00	6.8	63		3150	3790	3730
1/6/2009	HANNAFORD-GRAY	946-1	4.50	4.8	65	36	4110	4535	4070
1/9/2009	HANNAFORD-GRAY	946-2	4.00	5.5	64	20	3120	3575	4100
1/9/2009	HANNAFORD-GRAY	946-3	6.50	6.0	56	25	3730	4130	4213
1/9/2009	HANNAFORD-GRAY	946-4	4.75	5.5	58	28	3200	3940	3982
1/13/2009	HANNAFORD-GRAY	946-5	4.00	5.2	72	29	3440	3820	3963
1/14/2009	HANNAFORD-GRAY	946-6	3.50	5.0	63	8	4390	5015	4258
1/19/2009	HANNAFORD-GRAY	946-7	4.00	4.5	78	31	3760	4115	4317
1/21/2009	HANNAFORD-GRAY	946-8	5.00	5.0	54	31	4060	4485	4538
1/22/2009	HANNAFORD-GRAY	946-9	5.25	5.0	50	32	3880	4820	4490
1/23/2009	HANNAFORD-GRAY	946-10	6.00	5.0	50	22	3990	4060	4472
1/27/2009	HANNAFORD-GRAY	946-12	4.50	6.2	60	31	3570	4420	4450
1/30/2009	HANNAFORD-GRAY	946-13	5.00	4.5	58	31	3680	4420	4300
2/2/2009	HANNAFORD-GRAY	946-14	5.50	6.3	75	40	3220	3555	4132
1/26/009	HANNAFORD-GRAY	946-11	6.00	5.4	58	26	4040	4925	4300
COUNT:			122	115	119	119	37	122	122	115
RANGE:		LOW	3.00	3.5	50	8	1980	2930	3398
		HIGH	8.50	8.5	87	80	4760	5920	5308
AVERAGE OF ALL:			5.22	5.9	67	33	3305	4135	4135
STANDARD DEVIATION:			1.1	0.9	8.8	11.8	513	564	443
COEFFICIENT OF VARIATION:			20.8	15.0	13.1	35.3	15.5	13.6	10.7

ACI 214 SUMMARY:

AVERAGE STRENGTH:	4135 PSI	
AVERAGE STRENGTH BASED ON:	122 TESTS	
STANDARD DEVIATION:	564 PSI	CONTROL IS GOOD
OVERALL COEFFICIENT OF VARIATION:	13.6 %	
WITHIN-TEST STANDARD DEVIATION:	145 PSI	
WITHIN-TEST COEFFICIENT OF VARIATION:	3.5 %	CONTROL IS VERY GOOD
BATCH-TO-BATCH STANDARD DEVIATION:	545 PSI	
RECOMMENDED STRENGTH:	3814 PSI	

AUBURN CONCRETE

82 Goldthwaite Road • P.O. Box 1747 • Auburn, Maine 04210
93 Scott Drive • Westbrook, Maine 04092
50 Arthur Rene Road • West Bath, Maine 04530

Phone: (207) 777-7100 • Fax: (207) 777-7171
Phone: (207) 780-0523 • Fax: (207) 780-1521
Phone: (207) 386-5100 • Fax: (207) 386-5151

PORTLAND BUILDERS

CRESCENT HEIGHTS HOUSING
25 CRESCENT STREET — PORTLAND, MAINE

3000PSI - Non-Air Entrained, ¾" Crushed Stone
INTERIOR SLABS ON GRADE & ELEVATED SLABS

6/11/2009 — 3034SNA-1 FED

			Weight-SSD (lbs)		Volume (Cu.Ft.)		Sources
CEMENT, T I/II	ASTM C-150		362		1.84		DRAGON PRODUCTS COMPANY
GGBFS (NEWCEM)	ASTM C989, Grade 120		155		0.84		LAFARGE
COARSE AGG	ASTM C-33: #57/#67		1750		10.58		PIKE INDUSTRIES
FINE AGGREGATE	ASTM C-33		1440		8.84		PORTLAND SAND & GRAVEL
WATER	U.S. GAL/CY:	33.6	280		4.49		CITY OF WESTBROOK
	AIR CONTENT (%):		2.0 +/- 1.5%		0.54		
	WATER/CEMENT RATIO:		0.54				
	SLUMP (Inches):		4.00	± 1.00"			7.00" ± 1.00" (After Superplasticizer**)
	YIELD:		141.2	PCF	27.1	Cu.Ft.	
GLENIUM 7500*	ASTM C494, TYPE A,F		3.50 oz/cwt		12.7	US oz/CY	BASF/MASTER BUILDERS

* GLENIUM 7500 dose is for MIDRANGE applications.

OPTIONAL:

POLYMESH	ASTM C-1116 TYPE III	1.5 lbs/cy			O'DEA CONCRETE PRODUCTS
POZZOLITH 100XR	ASTM C-494, Type B,D	2.00 oz/cwt	0.0	US oz/CY	BASF/MASTER BUILDERS
POZZUTEC 20+	ASTM C-494, Type C,E	10.00 oz/cwt	0.0	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 or site addition of 2 - 3 fl.oz./cwt (9.6 - 14.4 fl.oz./cy) will be required to achieve end slump indicated.

MIX IDENTIFICATION #: 3000NA

DESIGN STRENGTH: 3000 PSI @ 28 DAYS

PROJECT:

CONTRACTOR:

W/C: 0.54

MAX. C.A.: 3/4"

DATE	PROJECT	ID#	SLUMP	% AIR	TEMPERATURE CONC	TEMPERATURE AIR	7 DAY	28 DAY	MOVING AVG. OF 3
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	3280	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	3480	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	4.6	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	14136-10	5.50	3.2	67		3940	4700	4372
12/30/08	ST. MARY'S MOB	14131-16	6.00	2.4	63		3320		
12/30/08	ST. MARY'S MOB	14131-17	5.50	2.0	59		3190		
COUNT:		39	39	38	39	19	39	35	33
RANGE:	LOW	5.00	1.8	47	4	2410	3035	3272	
	HIGH	7.00	4.9	78	33	3940	4700	4372	
AVERAGE OF ALL:		6.04	2.9	63	23	3190	3900	3878	
STANDARD DEVIATION:		0.6	0.9	9.7	6.5	377	382	266	
COEFFICIENT OF VARIATION:		10.8	30.7	15.4	27.7	11.8	9.8	6.9	

ACI 214 SUMMARY:

AVERAGE STRENGTH:	3900 PSI	
AVERAGE STRENGTH BASED ON:	35 TESTS	
STANDARD DEVIATION:	382 PSI	CONTROL IS EXCELLENT
OVERALL COEFFICIENT OF VARIATION:	9.8 %	
WITHIN-TEST STANDARD DEVIATION:	121 PSI	
WITHIN-TEST COEFFICIENT OF VARIATION:	3.1 %	CONTROL IS VERY GOOD
BATCH-TO-BATCH STANDARD DEVIATION:	362 PSI	
RECOMMENDED STRENGTH:	3512 PSI	

AUBURN CONCRETE

82 Goldthwaite Road • P.O. Box 1747 • Auburn, Maine 04210
93 Scott Drive • Westbrook, Maine 04092
50 Arthur Reno Road • West Bath, Maine 04530

Phone: (207) 777-7100 • Fax: (207) 777-7171
Phone: (207) 780-0523 • Fax: (207) 780-1521
Phone: (207) 386-5100 • Fax: (207) 386-5151

PORTLAND BUILDERS

CRESCENT HEIGHTS HOUSING
25 CRESCENT STREET — PORTLAND, MAINE

4500PSI - Air Entrained, ¾" Crushed Stone

EXTERIOR SLABS & ALL OTHER EXPOSED CONCRETE NOT SPECIFIED ELSEWHERE

6/11/2009 — 4534SA-LEED

		Weight-SSD (lbs)	Volume (Cu.Ft.)	Sources
CEMENT, T I/II	ASTM C-150	460	2.34	DRAGON PRODUCTS COMPANY
GGBFS (NEWCEM)	ASTM C989, Grade 120	200	1.08	LAFARGE
COARSE AGG	ASTM C-33: #57/#67	1800	10.89	PIKE INDUSTRIES
FINE AGGREGATE	ASTM C-33	1100	6.75	PORTLAND SAND & GRAVEL
WATER U.S. GAL/CY:	33.6	280	4.49	CITY OF WESTBROOK
	AIR CONTENT (%):	6.0 +/- 1.5%	1.63	
	WATER/CEMENT RATIO:	0.61		
	SLUMP (Inches):	3.00		
	YIELD:	134.0 PCF	27.2 Cu.Ft.	
GLENIUM 7500	ASTM C494, TYPE A,F	3.00 oz/cwt	13.8 US oz/CY	BASF/MASTER BUILDERS
MICRO AIR	ASTM C-260	0.25 oz/cwt	1.2 US oz/CY	BASF/MASTER BUILDERS
OPTIONAL:				
POZZOLITH 100XR	ASTM C-494, Type B,D	2.00 oz/cwt	0.0 US oz/CY	BASF/MASTER BUILDERS
POZZUTEC 20+	ASTM C-494, Type C,E	10.00 oz/cwt	0.0 US oz/CY	BASF/MASTER BUILDERS
RHEOCRETE CNI	ASTM C-494, Type C,E	3.00 gal/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 - 19.7 fl.oz./cy) will be required to achieve end slump indicated.

MIX IDENTIFICATION #: 4000SA

DESIGN STRENGTH: 4000 PSI @ 28 DAYS

AUBURN CONCRETE

MIX MUST MEET 4500 PSI DESIGN STRENGTH

PROJECT:
CONTRACTOR:

W/C: 0.45
MAX. C.A.: 3/4"

DATE	PROJECT	ID#	SLUMP	% AIR	TEMPERATURE CONC	TEMPERATURE AIR	7 DAY	28 DAY	MOVING AVG. OF 3
10/22/2007	SCARBOROUGH GATEWAY	810-1	6.50	5.0	64	52	4250	5760	
10/23/2007	SCARBOROUGH GATEWAY	810-2	6.50	4.2	69	68	4300	5730	
10/26/2007	SCARBOROUGH GATEWAY	810-3	6.00	4.6	66	52	4210	5640	5710
10/29/2007	SCARBOROUGH GATEWAY	810-4	7.00	4.0	67	48	4250	5575	5648
10/31/2007	SCARBOROUGH GATEWAY	810-5	7.50	3.7	61	60	5010	6235	5817
11/5/2007	SCARBOROUGH GATEWAY	810-8	6.50	5.1	54	41	4100	5145	5652
11/7/2007	SCARBOROUGH GATEWAY	810-9	7.00	5.3	61	43	4230	4965	5448
11/9/2007	SCARBOROUGH GATEWAY	810-10	7.50	5.7	61	40	4460	5440	5183
11/12/2007	SCARBOROUGH GATEWAY	810-11	7.00	5.3	58	29	3890	4545	4983
11/19/2007	SCARBOROUGH GATEWAY	810-15	6.00	5.8	59	34	4320	5190	5058
11/26/2007	SCARBOROUGH GATEWAY	810-18	4.50	5.0	65	40	4490	4915	4883
11/28/2007	SCARBOROUGH GATEWAY	810-19	6.25	5.0	62	38	4580	5835	5313
12/5/2007	SCARBOROUGH GATEWAY	810-23	6.75	6.6	54	25	5060	6545	5432
12/8/2007	SCARBOROUGH GATEWAY	810-24	6.50	4.8	54	25	4660	5110	5497
12/10/2007	SCARBOROUGH GATEWAY	810-25	6.25	6.1	58	24	4100	5050	5236
12/11/2007	SCARBOROUGH GATEWAY	810-26	5.50	5.4	56	25	3480	4210	4790
12/12/2007	SCARBOROUGH GATEWAY	810-27	5.00	5.6	68	26	4700	5870	5043
12/13/2007	SCARBOROUGH GATEWAY	810-29	5.50	6.2	59	30	3570	5525	5202
12/14/2007	SCARBOROUGH GATEWAY	810-28	5.50	6.3	58	25	3360	4595	5330
1/4/2008	SCARBOROUGH GATEWAY	810-34	4.00	5.2	60	35	3290	4335	4818
1/7/2008	SCARBOROUGH GATEWAY	810-35	5.50	5.9	60	38	2830	4280	4403
3/27/2008	CABELAS	4992-92	5.00	5.8	69		3730	4530	4382
3/27/2008	CABELAS	4992-93	5.50	5.1	67		3950	4965	4558
4/2/2008	CABELAS	4992-86	5.00	5.4	67		4010	4355	4583
4/3/2008	CABELAS	4992-88	6.00	5.8	64		3510	4065	4428
4/8/2008	CABELAS	4992-90	5.50	5.6	56		3830	4455	4292
4/9/2008	CABELAS	4992-91	5.00	5.8	56		4200	4950	4490
4/10/2008	CABELAS	4992-92	6.00	5.8	59		3790	4560	4655
4/11/2008	CABELAS	4992-93	5.50	6.7	58		3260	4145	4552
6/6/2008	RESIDENCE INN-AUBURN	14064-14	4.25	6.0	67		4090	4655	4453
6/12/2008	RESIDENCE INN-AUBURN	14064-15	5.00	5.5	78		4370	5195	4665
7/22/2008	A/L AIRPORT HANGAR	14091-1	4.00	5.8	85		4000	4635	4828
8/4/2008	A/L AIRPORT HANGAR	14091-2	4.25	7.4	84		3830	4460	4763
8/5/2008	A/L AIRPORT HANGAR	14091-3	4.25	5.2	82		4230	5070	4722
8/6/2008	A/L AIRPORT HANGAR	14091-4	4.25	4.6	76		4470	5790	5107
8/11/2008	A/L AIRPORT HANGAR	14091-5	4.50	5.4	77		3770	4450	5103
8/11/2008	A/L AIRPORT HANGAR	14091-6	6.50	5.2	78		3570	4445	4896
8/13/2008	A/L AIRPORT HANGAR	14091-7	4.00	5.6	78		4290	4450	4448
8/15/2008	A/L AIRPORT HANGAR	14091-8	6.50	5.0	86		3950	4860	4585
8/18/2008	A/L AIRPORT HANGAR	14091-9	4.00	5.1	87		4120	4710	4673
8/20/2008	A/L AIRPORT HANGAR	14091-10	4.50	5.5	80		4160	5035	4868
8/21/2008	A/L AIRPORT HANGAR	14091-11	4.00	6.3	86		4130	4750	4832
1/15/2009	HANNAFORD-WINTHROP	932-7	5.25	5.6	58	5	3635	4230	4672
1/15/2009	HANNAFORD-WINTHROP	932-8	5.00	5.2	56	5	3400	3845	4275
COUNT:		44	44	44	44	24	44	44	42
RANGE:		LOW	4.00	3.7	54	5	2830	3845	4275
		HIGH	7.50	7.4	87	68	5060	6235	5817
AVERAGE OF ALL:			5.61	5.4	66	35	4031	4909	4911
STANDARD DEVIATION:			1.0	0.7	10.3	14.0	456	569	412
COEFFICIENT OF VARIATION:			18.7	12.7	15.6	40.4	11.3	11.6	8.4

RESULTS NO GOOD FOR 4500 MIX PER ACI 5.3.2.1

ACI 214 SUMMARY:

AVERAGE STRENGTH:	4909 PSI
AVERAGE STRENGTH BASED ON:	44 TESTS
STANDARD DEVIATION:	569 PSI
OVERALL COEFFICIENT OF VARIATION:	11.6 %
WITHIN-TEST STANDARD DEVIATION:	137 PSI
WITHIN-TEST COEFFICIENT OF VARIATION:	2.8 %
BATCH-TO-BATCH STANDARD DEVIATION:	552 PSI
RECOMMENDED STRENGTH:	4826 PSI

CONTROL IS GOOD

CONTROL IS EXCELLENT

AUBURN CONCRETE

82 Goldthwaite Road • P.O. Box 1747 • Auburn, Maine 04210
93 Scott Drive • Westbrook, Maine 04092
50 Arthur Reno Road • West Bath, Maine 04530

Phone: (207) 777-7100 • Fax: (207) 777-7171
Phone: (207) 780-0523 • Fax: (207) 780-1521
Phone: (207) 386-5100 • Fax: (207) 386-5151

PORTLAND BUILDERS

CRESCENT HEIGHTS HOUSING
25 CRESCENT STREET --- PORTLAND, MAINE

4500PSI - Air Entrained, ¾" Crushed Stone

EXTERIOR SLABS & ALL OTHER EXPOSED CONCRETE NOT SPECIFIED ELSEWHERE

7/3/2009

4534SA-LEED

			Weight-SSD (lbs)		Volume (Cu.Ft.)		Sources
CEMENT, T I/II	ASTM C-150		460		2.34		DRAGON PRODUCTS COMPANY
GGBFS (NEWCEM)	ASTM C989, Grade 120		200		1.08		LAFARGE
COARSE AGG	ASTM C-33: #57/#67		1800		10.89		PIKE INDUSTRIES
FINE AGGREGATE	ASTM C-33		1100		6.75		PORTLAND SAND & GRAVEL
WATER	U.S. GAL/CY:	33.0	275		4.41		CITY OF WESTBROOK
	AIR CONTENT (%):		6.0 +/- 1.5%		1.63		
	WATER/CEMENT RATIO:		0.42				
	SLUMP (Inches):		4.00	± 1.00"			7.00" ± 1.00" (After Superplasticizer*)
	YIELD:		141.6	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		0.25 oz/cwt		1.7	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
RHEOCRETE CNI	ASTM C-494, Type C,E				3.0	US gal/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.

MIX IDENTIFICATION #: 4534SA-LEED
DESIGN STRENGTH: 4500 PSI @ 28 DAYS

AUBURN CONCRETE

PROJECT:
CONTRACTOR:

W/C: 0.42
MAX. C.A.: 3/4"

7/3/2009
9:11

DATE	PROJECT	ID#	SLUMP	% AIR	TEMPERATURE CONC	TEMPERATURE AIR	7 DAY	28 DAY	MOVING AVG. OF 3
5/3/2007	MTA-Congress St.	4901-2	7.75	4.9	65		5190	6080	
5/3/2007	MTA-Congress St.	4901-3	7.75	4.7	66		4840	6245	
5/11/2007	LLB Hunting & Fishing	749-1	6.50	6.3	69	75	4650		
5/11/2007	LLB Hunting & Fishing	749-2	5.25	5.9	64	55	4780		
5/16/2007	MTA-Congress St.	4901-4	6.00	5.6	69		5120	6560	6295
5/22/2007	LLB Hunting & Fishing	749-4	6.75	6.3	73	68	4000	4880	5895
5/22/2007	LLB Hunting & Fishing	749-5	5.00	5.3	60	60	4480		
5/22/2007	LLB Hunting & Fishing	749-6	6.50	6.2	69	70	4810		
5/23/2007	MTA-Congress St.	4901-5	7.50	6.1	61		3745	4885	5442
5/24/2007	MTA-Congress St.	4901-6	4.50	4.2	70		5070	6445	5403
5/24/2007	LLB Hunting & Fishing	749-7	6.50	5.0	69	70	3630		
5/25/2007	MTA-Congress St.	4901-7	8.00	5.6	72		3980	5675	5668
5/30/2007	LLB Hunting & Fishing	749-8	7.75	4.0	75	73	5020		
5/31/2007	MTA-Congress St.	4901-8	9.00	5.4	68		4560	5925	6015
6/5/2007	MTA-Congress St.	4901-9	4.50	5.2	70		4620	6400	6000
6/6/2007	MTA-Congress St.	4901-10	7.50	5.1	70		4800	6205	6177
6/8/2007	MTA-Congress St.	4901-11	8.00	6.0	72		5280	5670	6092
6/8/2007	MTA-Congress St.	4901-12	7.00	4.1	69		5930	6655	6177
6/13/2007	MTA-Congress St.	4901-13	7.00	6.0	72		4480	5950	6092
6/20/2007	MTA-Congress St.	4901-14	5.50	5.3	80		4950	6190	6265
6/21/2007	MTA-Congress St.	4901-15	7.75	5.8	75		4890	6065	6068
6/27/2007	MTA-Congress St.	4901-16	7.50	5.4	80		4540	5545	5933
6/28/2007	MTA-Congress St.	4901-17	8.00	5.4	82		4500	5315	5642
7/2/2007	MTA-Congress St.	4901-18	6.00	5.2	82		5040	5710	5523
7/3/2007	MTA-Congress St.	4901-19	7.00	5.5	75		5050	6180	5735
7/10/2007	MTA-Congress St.	4901-20	7.50	6.6	72		4450	5715	5868
7/17/2007	MTA-Congress St.	4901-21	4.50	4.8	83		5280	5645	5847
7/24/2007	MTA-Congress St.	4901-22	6.75	5.4	78		4280	5345	5568
8/15/2007	MTA-Congress St.	4901-23	6.25	6.6	73		5010	6370	5787
8/21/2007	MTA-Congress St.	4901-24	5.50	5.0	78		5790	6065	5927
8/23/2007	MTA-Congress St.	4901-25	6.75	6.2	76		4940	6385	6273
8/24/2007	MTA-Congress St.	4901-26	6.75	5.8	75		4730	6000	6150
9/4/2007	MTA-Congress St.	4901-27	6.00	6.0	74		5080	6035	6140
9/14/2007	MTA-Congress St.	4901-28	7.50	4.5	77		5690		
9/18/2007	MTA-Congress St.	4901-29	5.25	6.2	72		4680		
9/19/2007	MTA-Congress St.	4901-30	4.00	5.8	76		4500		
9/21/2007	MTA-Congress St.	4901-31	7.50	5.5	73		5290		
COUNT:		37	37	37	37	8	37	27	25
RANGE:	LOW		4.00	4.0	60	55	3630	4880	5403
	HIGH		9.00	8.1	83	75	5930	6655	6295
AVERAGE OF ALL:			6.61	5.5	73	67	4802	5931	5919
STANDARD DEVIATION:			1.2	0.8	5.4	6.7	498	454	260
COEFFICIENT OF VARIATION:			18.0	14.1	7.5	9.9	10.4	7.7	4.4

ACI 214 SUMMARY:

AVERAGE STRENGTH:	5931 PSI	
AVERAGE STRENGTH BASED ON:	27 TESTS	
STANDARD DEVIATION:	454 PSI	CONTROL IS VERY GOOD
OVERALL COEFFICIENT OF VARIATION:	7.7 %	
WITHIN-TEST STANDARD DEVIATION:	160 PSI	
WITHIN-TEST COEFFICIENT OF VARIATION:	2.7 %	CONTROL IS EXCELLENT
BATCH-TO-BATCH STANDARD DEVIATION:	425 PSI	
RECOMMENDED STRENGTH:	5108 PSI	

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

MILL TEST RESULTS
Laboratory at Thomaston, Maine

Date: May, 2009
Cement Type: I / II

CHEMICAL DATA	Percent
Silicon Dioxide	19.8
Aluminum Dioxide	4.0
Ferric Oxide	3.1
Calcium Oxide	61.7
Magnesium Oxide	3.5
Sulphur Trioxide	3.7
Loss on Ignition	1.4
Insoluble Residue	0.3
Tricalcium Silicate	59
Dicalcium Silicate	12
Tricalcium Aluminate	5
Sum of C3S + 4.75*C3A	85
Sodium Oxide	0.7
Potassium Oxide	1.0
Equivalent Alkalies	1.4

(Chemical Analysis all per ASTM C 114)

PHYSICAL DATA	
Specific Surface Blaine (sq m /kg) *(Per ASTM C 204)*	377
Percent Passing 325 Mesh. *(Per ASTM C 430)*	96.8
Compressive Strength (psi) *(Per ASTM C 109)*	
1 day	2270
3 day	3910
7 day	4980
28 day	
Vicat Setting Time *(Per ASTM C 191)*	
Initial (min.)	120
Final (min.)	230
Air Content (%) *(Per ASTM C 185)*	6.9
Autoclave Expansion (%) *(Per ASTM C 151)*	0.09
Expansion in water (%) *(Per ASTM C 1038)*	0.013
Heat of Hydration (%) *(Per ASTM C186)*	80

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.

LAFARGE NORTH AMERICA

NewCem

Mill Test Certificate - Sparrows Point Plant

Chemical

		Specification
Sulfide Sulfur (S), %:	1.1	2.5 max.
Sulfate Ion (as SO_3), %:	2.7	4.0 max.
Equivalent Alkalies, %:	0.55	n/a

Certification: NSF Certified to NSF/ANSI 61

Sample Identification

NewCem shipping composite sample results for the month of :

April-09

Physical

		Specification
Slag Activity Index, %:		
7 Day	112	95
28 Day	133	115
Compressive Strength, psi:		
7 Day	5,120	n/a
28 Day	7,083	n/a
Fineness:		
Blaine, cm^2/g	5,315	n/a
45 Micron:		
% retained	2	20 max.
Other:		
Air Content, %	3	12 max.
Specific Gravity:	2.93	n/a

This ground granulated blast furnace slag complies with the current specification of the chemical and physical requirements of ASTM C-989, AASHTO M-302, Grade 120. NewCem is guaranteed to meet all applicable MDOT, FDOT, GADOT, PennDOT, SCDOT, NJDOT, NY DOT and VADH specifications.

Lafarge North America
US East Region
Sparrows Point Plant
2001 Wharf Rd, Baltimore, MD 21219
Telephone: (410) 388-1177 x202

Thomas R. Griffiths
Quality Control Manager

5/8/2009
Date

- - - 2008 - 2009 GRADATION SUMMARY - - -

Concrete Sand

Source: Portland Sand & Gravel - Gray, Maine

Specific Gravity: 2.63 Absorption: 0.67% Tested by: Summit Labs 4/24/08

		FM	Color	3/8"	#4	#8	#16	#30	#50	#100	#200
7/1/2008	RD-PSG	2.49		100	98	92	79	56	22	5	1.1
7/10/2008	RD-W	2.71	<1	100	97	90	72	46	19	5	1.2
7/16/2008	RD-PSG	2.71		100	97	90	75	46	17	4	0.9
7/21/2008	RD-A	2.54	<1	100	98	92	77	53	21	5	1.1
7/30/2008	RD-A	2.45		100	98	93	80	56	23	5	1.1
7/31/2008	JC-W	2.70		100	97	91	76	48	15	4	0.8
8/13/2008	RD-A	2.57		100	97	89	74	53	24	6	1.3
8/21/2008	RD-WB	2.79		100	97	89	72	44	15	4	0.9
9/3/2008	RD-W	2.64	<1	100	96	90	75	50	20	5	1.2
9/25/2008	RD-A	2.65	<1	100	98	92	76	48	18	4	0.9
9/29/2008	RD-A	2.65		100	98	93	77	49	15	3	0.8
10/9/2008	RD-WB	2.75		100	97	90	74	46	15	3	0.7
11/7/2008	RD-WB	2.83	<1	100	98	93	75	40	10	1	0.3
11/13/2008	RD-WB	2.72		100	97	91	75	47	15	3	0.5
12/8/2008	RD-WB	2.74		100	98	93	77	45	13	2	0.4
1/6/2009	RD-PSG	2.63	<1	100	99	90	73	49	21	5	0.8
2/17/2009	RD-WB	2.71		100	98	90	72	47	19	4	0.8
2/26/2009	RD-WB	2.71		100	98	90	72	47	19	4	0.9
2/27/2009	MDOT	2.70		100	98	90	74	46	19	5	1.4
3/2/2009	RD-WB	2.69	<1	100	98	90	73	47	19	4	0.9
3/6/2009	RD-WB	2.62		100	99	91	74	49	20	5	1.0
3/27/2009	RD-WB	2.72		100	99	89	71	45	19	5	0.8
4/3/2009	RD-WB	2.71		100	98	90	72	46	19	4	0.7
4/6/2009	RD-WB	2.75		100	98	89	71	44	18	4	0.6
4/16/2009	RD-PSG	2.67		100	98	91	75	48	18	4	0.8
4/20/2009	RD-W	2.70	<1	100	98	91	75	46	16	3	0.7
5/4/2009	RD-WB	2.68		100	97	90	72	39	11	2	0.6
5/5/2009	RD-WB	2.58		100	97	91	77	51	20	4	0.8
5/9/2009	RD-A	2.82	<1	100	99	92	72	42	13	2	0.5
5/14/2009	RD-PSG	2.74		100	98	92	75	45	14	2	0.6
5/18/2009	RD-W	2.72		100	98	91	75	46	15	3	0.6
5/28/2009	RD-A	2.49		100	98	93	80	54	22	4	0.8
6/1/2009	RD-WB	2.66	<1	100	98	91	74	47	19	5	1.1
AVERAGE		2.68		100.0	97.8	90.9	74.6	47.4	17.7	3.9	0.8
SPECIFICATION:		2.3 - 3.1		100	95-100	80-100	50-85	25-60	10-30	2-10	<3

- - - 2008 - 2009 GRADATION SUMMARY - - -

3/4" Quarry Stone

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

Specific Gravity: 2.66 Absorption: 0.70% Tested by: SWC 9/27/05

8/12/2008	K&K	100	100	97	46	21	6	3	0.6	
8/13/2008	RD-A	100	100	94	42	21	8	3	0.7	
8/14/2008	K&K	100	100	98	60	28	9	3	0.6	
8/18/2008	K&K	100	100	92	45	20	5	2	0.5	
8/19/2008	K&K	100	100	96	47	24	5	2	0.3	
8/20/2008	RD-WB	100	100	97	55	32	8	3	0.4	
8/22/2008	K&K	100	100	92	51	32	8	3	0.7	
8/25/2008	K&K	100	100	94	53	27	6	3	0.7	
9/3/2008	RD-W	100	100	94	54	31	9	4	0.7	
9/25/2008	RD-A	100	100	96	53	32	9	4	0.2	
9/26/2008	K&K	100	100	94	44	22	5	2	0.6	
9/29/2008	RD-A	100	100	93	44	23	8	4	0.6	
10/1/2008	K&K	100	100	94	57	29	8	3	0.5	
10/2/2008	K&K	100	100	91	50	24	3	2	0.5	
10/9/2008	RD-WB	100	100	91	42	22	6	3	0.6	
10/15/2008	K&K	100	100	92	48	22	4	2	0.4	
11/6/2008	K&K	100	100	91	52	31	8	3	0.6	
11/7/2008	RD-WB	100	100	90	45	24	6	3	1.0	w
12/8/2008	RD-WB	100	100	90	49	30	10	5	0.4	
1/6/2009	RD-A	100	100	91	46	22	4	2	0.3	
2/17/2009	RD-WB	100	100	90	37	20	7	5	1.1	w
2/26/2009	RD-WB	100	100	90	40	20	8	3	0.5	
2/27/2009	MDOT	100	100	95	52	28	9	4		
2/27/2009	MDOT	100	100	92	47	23	7	4		
3/2/2009	RD-WB	100	100	90	43	21	7	4	0.7	
3/12/2009	RD-WB	100	100	91	48	26	7	4	0.6	
3/27/2009	RD-WB	100	100	92	46	27	9	5	0.8	
4/3/2009	RD-WB	100	100	90	45	25	10	5	0.9	
4/6/2009	RD-WB	100	100	89	47	28	10	5	0.9	w
4/17/2009	RD-CHQ	100	100	91	41	21	6	4	0.6	
4/20/2009	RD-A	100	100	90	37	21	7	5	1.0	
5/5/2009	RD-WB	100	100	95	52	28	9	5	0.6	
5/5/2009	K&K	100	100	95	58	31	7	2		
5/9/2009	RD-A	100	100	98	59	34	9	4	0.7	
5/13/2009	K&K	100	100	96	51	29	9	5	0.9	
5/14/2009	RD-CHQ	100	100	97	46	21	8	4	0.4	
5/19/2009	RD-A	100	100	95	45	20	7	4	0.8	
5/28/2009	RD-CHQ	100	100	94	49	23	8	5	0.9	
6/1/2009	RD-A	100	100	94	55	29	9	5	1.5	w
AVERAGE		**100.0**	**100.0**	**93.5**	**48.2**	**25.6**	**7.4**	**3.7**	**0.7**	
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**	

S.W.COLE ENGINEERING, INC.

Concrete Construction Observation Report

Project Name/Location:	Crescent Heights Apartments	**Project No:**	08-0744.1
Client/Client's Rep.:	Crescent Heights, LLC./Kevin Bunker	**Date:**	07/11/09
Concrete Contractor:	Portland Builders	**Sheet:**	1 of 1
Placement Location:	Line A Spread Footings	**SWCE Rep.:**	SJC
Placement Type:	Footing ☒ Wall ☐ Column ☐ Slab ☐ Other ☐	**Arrived at Site:**	7:30 AM
		Left Site:	9:00 AM

PRE PLACEMENT OBSERVATIONS	In Compliance		N/O	Comments
Bar Size (diameter, length, bend and anchorage)	Yes ☐	No ☐	☒	Inspected By Becker
Location (# of bars, spacing, and cover)	Yes ☐	No ☐	☐	
Splicing (weld joint, overlap)	Yes ☐	No ☐	☐	
Stability (wiring, chairs, and spacers)	Yes ☐	No ☐	☐	
Reinforcement free from mud, oil, rust, or other nonmetallic coatings	Yes ☐	No ☐	☐	
Reinforcement appears in conformance to specifications	Yes ☐	No ☐	☐	
Soil subgrade prepared in accordance with project specifications	Yes ☐	No ☐	☐	Previously Inspected

Referenced Drawings	Date	Page	Rev.	ASTM	GRADE
				A 615 ☐	40 ☐ 50 ☐ 60 ☐
				A 616 ☐	75 ☐
				A 617 ☐	
				A 706 ☐	A 775 Epoxy ☐

CONCRETE PLACEMENT OBSERVATIONS	In Compliance		N/O	Comments
Required mix used	Yes ☒	☐	☐	3000 psi, ¾" agg.
Placement and consolidation of concrete observed	Yes ☒	☐	☐	
Concrete properly conveyed to all areas of placement	Yes ☒	☐	☐	
Depth of layer maximum limits not exceeded	Yes ☒	☐	☐	
Internal vibration (depth of insertion, spacing, time, vertical insertion, no conveyance of concrete by vibration)	Yes ☒	☐	☐	
Even layering around openings and embedments	Yes ☒	☐	☐	
Removal of temporary ties and spacers	Yes ☒	☐	☐	None used

FIELD TESTING OF CONCRETE PERFORMED Yes ☒ No ☐

***CYLINDER SET NO:** 982-1 ←**refer to associated concrete test report*

POST PLACEMENT OBSERVATIONS	In Compliance		N/O	Comments
Specified finish	Yes ☒	☐	☐	Trowel
Protection of surfaces from cracking due to rapid drying	Yes ☐	☐	☒	
Proper curing procedures implemented	Yes ☐	☐	☒	

NON-CONFORMANCE ITEMS OBSERVED Yes ☐ No ☒

Non-Conformance Item Description:

Action Taken by SWCE:

Person(s) Notified:

N/O = Not Observed

Notes:

Slump – 6", Air – 7.0%, Temp – 71 F

Attachments: None

Reviewed By: RED

Red

S.W.COLE ENGINEERING, INC.

Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: PORTLAND, ME - CRESCENT HEIGHTS APARTMENTS - MATERIALS TESTING

Project Number: 08-0744.1

Client: CRESCENT HEIGHTS, LLC

Client Contract Number:

General Contractor:

Concrete Supplier: AUBURN CONCRETE

PLACEMENT INFORMATION

Date Cast: 7/11/2009 **Time Cast:** 7:55

Date Received: 7/13/2009

Placement Location: SPREAD FOOTINGS ON A LINE

Placement Method: PUMP (NE)

Placement Vol. (yd^3): 9

Cylinders Made By: SJC

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures: GLENIUM

TEST RESULTS

Slump (in) (C-143): **Slump WR:** 6

Air Content (%) (C-231): **Air WR:** 7.0

Air Temp (°F): 60

Conc. Temp (°F) (C-1064): 71

Load Number: 1

Mixer Number: 99

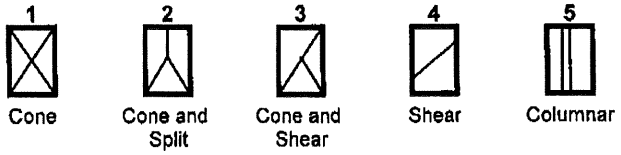
Ticket Number: 152466

Cubic Yards: 9

Design (psi): **3000**

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	**Age (days)**	Fracture Type	Load (kips)	**Strength (psi)**
982-1A		4.00	12.57	7/18/2009	Lab	**7**	4	38.0	**3020**
982-1B		4.00	12.57	8/8/2009	Lab	**28**	4	50.4	**4010**
982-1C		4.00	12.57	8/8/2009	Lab	**28**	4	49.6	**3950**
982-1D				Hold	Lab				

Fracture Types



Remarks:

S.W.COLE ENGINEERING, INC.

Concrete Construction Observation Report

Project Name/Location:	Crescent Heights Apartments	**Project No:**	08-0744.1
Client/Client's Rep.:	Crescent Heights, LLC./Kevin Bunker	**Date:**	07/14/09
Concrete Contractor:	Portland Builders	**Sheet:**	1 of 1
Placement Location:	Line A Piers, Elevations 92 - 99.6	**SWCE Rep.:**	SJC
Placement Type:	Footing ☐ Wall ☐ Column ☒ Slab ☐ Other ☐	**Arrived at Site:**	1:40 PM
		Left Site:	3:00 PM

PRE PLACEMENT OBSERVATIONS	**In Compliance**		**N/O**	**Comments**
Bar Size (diameter, length, bend and anchorage)	Yes ☐	No ☐	☒	Inspected By Becker
Location (# of bars, spacing, and cover)	Yes ☐	No ☐	☐	
Splicing (weld joint, overlap)	Yes ☐	No ☐	☐	
Stability (wiring, chairs, and spacers)	Yes ☐	No ☐	☐	
Reinforcement free from mud, oil, rust, or other nonmetallic coatings	Yes ☐	No ☐	☐	
Reinforcement appears in conformance to specifications	Yes ☐	No ☐	☐	
Soil subgrade prepared in accordance with project specifications	Yes ☐	No ☐	☐	

Referenced Drawings	**Date**	**Page**	**Rev.**	**ASTM**	**GRADE**
				A 615 ☐	40 ☐ 50 ☐ 60 ☐
				A 616 ☐	75 ☐
				A 617 ☐	
				A 706 ☐	A 775 Epoxy ☐

CONCRETE PLACEMENT OBSERVATIONS	**In Compliance**		**N/O**	**Comments**
Required mix used	Yes ☒	☐	☐	3000 psi, ¾" agg.
Placement and consolidation of concrete observed	Yes ☒	☐	☐	
Concrete properly conveyed to all areas of placement	Yes ☒	☐	☐	
Depth of layer maximum limits not exceeded	Yes ☒	☐	☐	
Internal vibration (depth of insertion, spacing, time, vertical insertion, no conveyance of concrete by vibration)	Yes ☒	☐	☐	
Even layering around openings and embedments	Yes ☒	☐	☐	
Removal of temporary ties and spacers	Yes ☒	☐	☐	None used

FIELD TESTING OF CONCRETE PERFORMED Yes ☒ No ☐

***CYLINDER SET NO:** 982-2 ←**refer to associated concrete test report*

POST PLACEMENT OBSERVATIONS	**In Compliance**		**N/O**	**Comments**
Specified finish	Yes ☒	☐	☐	Trowel
Protection of surfaces from cracking due to rapid drying	Yes ☐	☐	☒	
Proper curing procedures implemented	Yes ☐	☐	☒	

NON-CONFORMANCE ITEMS OBSERVED Yes ☐ No ☒

Non-Conformance Item Description:

Action Taken by SWCE:

Person(s) Notified:

N/O = Not Observed

Notes:

Slump – 6", Air – 5.7%, Temp – 75° F

Attachments: None

Reviewed By: RED

RED

S.W.COLE ENGINEERING, INC.

Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: PORTLAND, ME - CRESCENT HEIGHTS APARTMENTS - MATERIALS TESTING
Project Number: 08-0744.1

Client: CRESCENT HEIGHTS, LLC
Client Contract Number:

General Contractor:
Concrete Supplier: AUBURN CONCRETE

PLACEMENT INFORMATION

Date Cast: 7/14/2009 **Time Cast:** 2:30 **Date Received:** 7/16/2009

Placement Location: PIERS A LINE ELEVATION (92 - 99.6)

Placement Method: PUMP (NE)
Placement Vol. (yd^3): 9.5

Cylinders Made By: SJC
Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures: GLENIUM
MICRO AIR
POZZOLITH 100XR

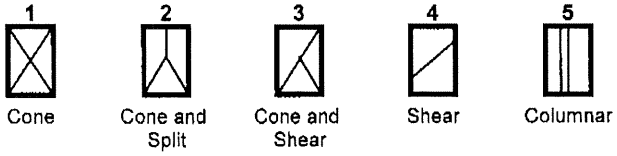
TEST RESULTS

Slump (in) (C-143): **Slump WR:** 6
Air Content (%) (C-231): **Air WR:** 5.7
Air Temp (°F): 73
Conc. Temp (°F) (C-1064): 75

Load Number: 1
Mixer Number: 84
Ticket Number: 152478
Cubic Yards: 9.5
Design (psi): **3000**

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	**Age (days)**	Fracture Type	Load (kips)	**Strength (psi)**
982-2A		4.00	12.57	7/21/2009	Lab	**7**	4	40.2	**3200**
982-2B		4.00	12.57	8/11/2009	Lab	**28**	4	58.4	**4650**
982-2C		4.00	12.57	8/11/2009	Lab	**28**	4	55.2	**4390**
982-2D				Hold	Lab				

Fracture Types



Remarks:

286 Portland Road, Gray, ME 04039-9586 • Tel (207) 657-2866 • Fax (207) 657-2840 • www.swcole.com

S.W.COLE ENGINEERING, INC.

Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: PORTLAND, ME - CRESCENT HEIGHTS APARTMENTS - MATERIALS TESTING

Project Number: 08-0744.1

Client Contract Number:

Client: CRESCENT HEIGHTS, LLC

General Contractor:

Concrete Supplier: AUBURN CONCRETE

PLACEMENT INFORMATION

Date Cast: 7/21/2009 **Time Cast:** 1:15 **Date Received:** 7/22/2009

Placement Location: PIERS ALONG A LINE FOOTINGS ALONG B LINE

Placement Method: PUMP TRUCK

Placement Vol. (yd^3): 16

Cylinders Made By: TA

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures: GLENIUM 7500
MICRO AIR
POZZOLITH

TEST RESULTS

Slump (in) (C-143): 5

Air Content (%) (C-231): 5

Air Temp (°F): 71

Conc. Temp (°F) (C-1064): 76

Load Number: 2

Mixer Number: 107

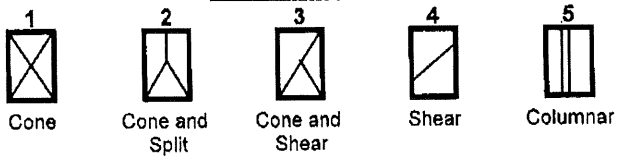
Ticket Number: 152496

Cubic Yards: 7

Design (psi): **3000**

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	**Age (days)**	Fracture Type	Load (kips)	**Strength (psi)**
982-3A		4.00	12.57	7/28/2009	Lab	**7**	4	47.4	**3770**
982-3B		4.00	12.57	8/18/2009	Lab	**28**	4	64.8	**5160**
982-3C		4.00	12.57	8/18/2009	Lab	**28**	4	59.8	**4760**
982-3D				Hold	Lab				

Fracture Types



Remarks:

S.W.COLE ENGINEERING, INC.

Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: PORTLAND, ME - CRESCENT HEIGHTS APARTMENTS - MATERIALS TESTING
Project Number: 08-0744.1
Client Contract Number:
Client: CRESCENT HEIGHTS, LLC
General Contractor:
Concrete Supplier: AUBURN CONCRETE

PLACEMENT INFORMATION

Date Cast: 7/23/2009 **Time Cast:** 12:45 **Date Received:** 7/24/2009
Placement Location: PIERS D-LINE
Placement Method: PUMP*
Placement Vol. (yd³): 8.5
Cylinders Made By: VLT
Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures
Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

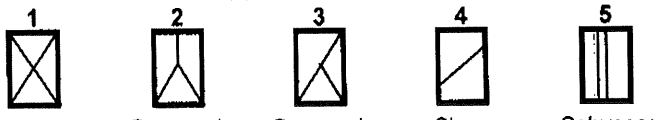
Admixtures: GLENIUM 7500 (MRWR)

TEST RESULTS

Slump (in) (C-143): **Slump WR:** 4 3/4
Air Content (%) (C-231): **Air WR:** 6.0
Air Temp (°F): 70
Conc. Temp (°F) (C-1064): 75
Load Number: 1
Mixer Number: 116
Ticket Number: 152496
Cubic Yards: 10
Design (psi): **3000**

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	**Age (days)**	Fracture Type	Load (kips)	**Strength (psi)**
982-4A		4.00	12.57	7/30/2009	Lab	**7**	4	32.0	**2550**
982-4B		4.00	12.57	8/20/2009	Lab	**28**	4	46.4	**3690**
982-4C		4.00	12.57	8/20/2009	Lab	**28**	4	48.2	**3840**
982-4D				Hold	Lab				

Fracture Types



1 Cone; 2 Cone and Split; 3 Cone and Shear; 4 Shear; 5 Columnar

Remarks: *NORTHEAST CONCRETE

286 Portland Road, Gray, ME 04039-9586 • Tel (207) 657-2866 • Fax (207) 657-2840 • www.swcole.com

S.W.COLE ENGINEERING, INC.

Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: PORTLAND, ME - CRESCENT HEIGHTS APARTMENTS - MATERIALS TESTING
Project Number: 08-0744.1

Client: CRESCENT HEIGHTS, LLC
Client Contract Number:

General Contractor:
Concrete Supplier: AUBURN CONCRETE

PLACEMENT INFORMATION

Date Cast: 8/3/2009 **Time Cast:** 1:50 **Date Received:** 8/4/2009

Placement Location: FOOTING: LINE B.5, LINE 5 + LINE C

Placement Method: PUMP*
Cylinders Made By: VLT

Placement Vol. (yd³): 18
Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures: GLENIUM 7500 (MRWR)
POZZOLITH 100 XR

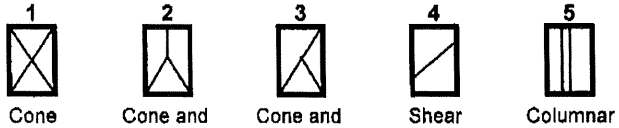
TEST RESULTS

Slump (in) (C-143): **Slump WR:** 6
Air Content (%) (C-231): 4.5 **Air WR:** 5.7
Air Temp (°F): 84
Conc. Temp (°F) (C-1064): 83

Load Number: 1
Mixer Number: 84
Ticket Number: 152961
Cubic Yards: 8.5
Design (psi): **3000**

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	**Age (days)**	Fracture Type	Load (kips)	**Strength (psi)**
982-5A		4.00	12.57	8/10/2009	Lab	**7**	4	37.8	**3010**
982-5B		4.00	12.57	8/31/2009	Lab	**28**	4	56.6	**4510**
982-5C		4.00	12.57	8/31/2009	Lab	**28**	4	58.6	**4660**
982-5D				9/28/2009	Lab	**56**			

Fracture Types



1 Cone; 2 Cone and Split; 3 Cone and Shear; 4 Shear; 5 Columnar

Remarks: MAX AGG. WITH SLAG LEEDS

286 Portland Road, Gray, ME 04039-9586 • Tel (207) 657-2866 • Fax (207) 657-2840 • www.swcole.com

S.W.COLE ENGINEERING, INC.

Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: PORTLAND, ME - CRESCENT HEIGHTS APARTMENTS - MATERIALS TESTING

Project Number: 08-0744.1

Client: CRESCENT HEIGHTS, LLC

Client Contract Number:

General Contractor:

Concrete Supplier: AUBURN CONCRETE

PLACEMENT INFORMATION

Date Cast: 8/10/2009 **Time Cast:** 2:30

Date Received: 8/11/2009

Placement Location: WALL: C LINE B.5 AND 5 LINE

Placement Method: PUMP

Placement Vol. (yd³): 38

Cylinders Made By: TKM

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures: MIDRANGE

TEST RESULTS

Slump (in) (C-143): **Slump WR:** 6

Air Content (%) (C-231): **Air WR:** 6

Air Temp (°F): 82

Conc. Temp (°F) (C-1064): 78

Load Number: 2

Mixer Number: 98

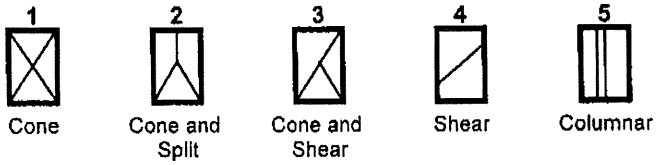
Ticket Number: 152528

Cubic Yards: 10

Design (psi): **3000**

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	**Age (days)**	Fracture Type	Load (kips)	**Strength (psi)**
982-6A		4.00	12.57	8/17/2009	Lab	**7**	4	37.8	**3010**
982-6B		4.00	12.57	9/7/2009	Lab	**28**	4	53.2	**4230**
982-6C		4.00	12.57	9/7/2009	Lab	**28**	4	54.0	**4300**
982-6D				Hold	Lab				

Fracture Types



Remarks: STRENGHT: WITH AIR

286 Portland Road, Gray, ME 04039-9586 • Tel (207) 657-2866 • Fax (207) 657-2840 • www.swcole.com

S.W.COLE ENGINEERING, INC.

Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: PORTLAND, ME - CRESCENT HEIGHTS APARTMENTS - MATERIALS TESTING
Project Number: 08-0744.1
Client Contract Number:
Client: CRESCENT HEIGHTS, LLC
General Contractor:
Concrete Supplier: AUBURN CONCRETE

PLACEMENT INFORMATION

Date Cast: 8/19/2009 **Time Cast:** 2:05 **Date Received:** 8/20/2009
Placement Location: FOOTING: LINE 7, LINE 1, LINE 8

Placement Method: PUMP
Placement Vol. (yd^3): 27
Cylinders Made By: VLT
Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures
Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

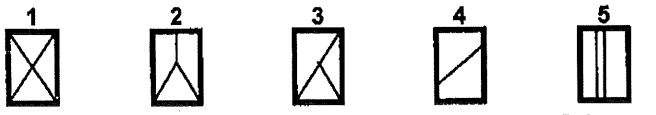
Admixtures: MRWR
GLENIUM 7500
POZZOLITH 100XR

TEST RESULTS

Slump (in) (C-143): **Slump WR:** 4 3/4
Air Content (%) (C-231): **Air WR:** 5.1
Air Temp (°F): 94
Conc. Temp (°F) (C-1064): 86
Load Number: 1
Mixer Number: 107
Ticket Number: 165491
Cubic Yards: 10
Design (psi): **3000**

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	**Age (days)**	Fracture Type	Load (kips)	**Strength (psi)**
982-7A		4.00	12.57	8/26/2009	Lab	**7**	4	55.0	**4380**
982-7B		4.00	12.57	9/16/2009	Lab	**28**	4	71.2	**5670**
982-7C		4.00	12.57	9/16/2009	Lab	**28**	4	74.8	**5950**
982-7D				Hold	Lab				

Fracture Types



1 Cone; 2 Cone and Split; 3 Cone and Shear; 4 Shear; 5 Columnar

Remarks:

S.W.COLE ENGINEERING, INC.

Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: PORTLAND, ME - CRESCENT HEIGHTS APARTMENTS - MATERIALS TESTING
Project Number: 08-0744.1
Client Contract Number:
Client: CRESCENT HEIGHTS, LLC
General Contractor:
Concrete Supplier: AUBURN CONCRETE

PLACEMENT INFORMATION

Date Cast: 8/25/2009 **Time Cast:** 2:45 **Date Received:** 8/27/2009
Placement Location: WALLS: LINE 8, 7 + ELEVATOR PIT WALL LINE 1

Placement Method: PUMP*
Cylinders Made By: VLT
Placement Vol. (yd^3): 30
Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures
Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

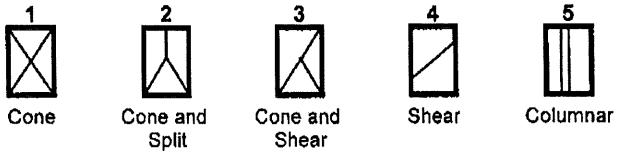
Admixtures: MRWR - GLENIUM
POZZOLITH 100XR

TEST RESULTS

Slump (in) (C-143): **Slump WR:** 4 3/4
Air Content (%) (C-231): **Air WR:** 5.3
Air Temp (°F): 77
Conc. Temp (°F) (C-1064): 85
Load Number: 1
Mixer Number: 98
Ticket Number: 165529
Cubic Yards: 10
Design (psi): **3000**

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	Age (days)	Fracture Type	Load (kips)	Strength (psi)
982-8A		4.00	12.57	9/1/2009	Lab	**7**	4	53.8	**4280**
982-8B		4.00	12.57	9/22/2009	Lab	**28**	4	58.4	**4650**
982-8C		4.00	12.57	9/22/2009	Lab	**28**	4	64.5	**5130**
982-8D				Hold	Lab				

Fracture Types



Remarks: *NORTHEAST CONCRETE PUMPING

286 Portland Road, Gray, ME 04039-9586 • Tel (207) 657-2866 • Fax (207) 657-2840 • www.swcole.com

S.W.COLE ENGINEERING, INC.

Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: PORTLAND, ME - CRESCENT HEIGHTS APARTMENTS - MATERIALS TESTING

Project Number: 08-0744.1

Client: CRESCENT HEIGHTS, LLC

Client Contract Number:

General Contractor:

Concrete Supplier: AUBURN CONCRETE

PLACEMENT INFORMATION

Date Cast: 9/11/2009 **Time Cast:** 3:30 **Date Received:** 9/16/2009

Placement Location: FOOTING SOUTHEAST OF ELEVATOR PITS

Placement Method:

Cylinders Made By: TA

Placement Vol. (yd^3): 12.5

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures: GLENIUM 7500
MICRO AIR
POZZOLITH 100 XR

TEST RESULTS

Slump (in) (C-143): 7

Air Content (%) (C-231): 6

Air Temp (°F): 66

Conc. Temp (°F) (C-1064): 77

Load Number: 1

Mixer Number: 101

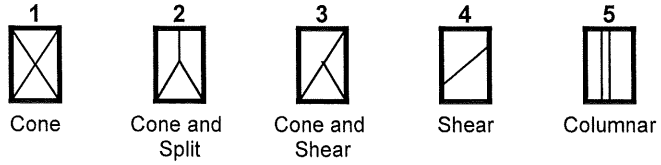
Ticket Number: 160149

Cubic Yards: 6.25

Design (psi): **3000**

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	**Age (days)**	Fracture Type	Load (kips)	**Strength (psi)**
982-10A		4.00	12.57	9/18/2009	Lab	**7**	4	49.6	**3950**
982-10B		4.00	12.57	10/9/2009	Lab	**28**	4	70.4	**5600**
982-10C		4.00	12.57	10/9/2009	Lab	**28**	4	70.0	**5570**
982-10D				Hold	Lab				

Fracture Types



Remarks:

S.W.COLE ENGINEERING, INC.

Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: PORTLAND, ME - CRESCENT HEIGHTS APARTMENTS - MATERIALS TESTING

Project Number: 08-0744.1

Client Contract Number:

Client: CRESCENT HEIGHTS, LLC

General Contractor:

Concrete Supplier: AUBURN CONCRETE

PLACEMENT INFORMATION

Date Cast: 9/15/2009 **Time Cast:** 3:30 **Date Received:** 9/16/2009

Placement Location: G-LINE WALLS

Placement Method: PUMP

Placement Vol. (yd³): 31

Cylinders Made By: CT

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures: GLENIUM 7500, POZZOLITH 100XR, MICRO AIR

TEST RESULTS

Slump (in) (C-143): 6

Air Content (%) (C-231): 5.2

Air Temp (°F):

Conc. Temp (°F) (C-1064): 77

Load Number: 2

Mixer Number: 99

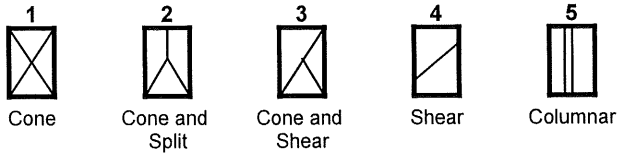
Ticket Number: 160175

Cubic Yards: 10.5

Design (psi): **3000**

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	**Age (days)**	Fracture Type	Load (kips)	**Strength (psi)**
982-12A		4.00	12.57	9/22/2009	Lab	**7**	4	41.2	**3280**
982-12B		4.00	12.57	10/13/2009	Lab	**28**	4	68.0	**5410**
982-12C		4.00	12.57	10/13/2009	Lab	**28**	4	64.0	**5090**
982-12D				Hold	Lab				

Fracture Types



Remarks:

286 Portland Road, Gray, ME 04039-9586 • Tel (207) 657-2866 • Fax (207) 657-2840 • www.swcole.com

S.W.COLE ENGINEERING, INC.

Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: PORTLAND, ME - CRESCENT HEIGHTS APARTMENTS - MATERIALS TESTING
Project Number: 08-0744.1
Client Contract Number:
Client: CRESCENT HEIGHTS, LLC
General Contractor:
Concrete Supplier: AUBURN CONCRETE

PLACEMENT INFORMATION

Date Cast: 9/22/2009 **Time Cast:** 2:40 **Date Received:** 9/23/2009
Placement Location: NORTHERN MOST SPREAD FOOTING

Placement Method: PUMP TRUCK
Cylinders Made By: TA
Placement Vol. (yd^3): 11
Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures
Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

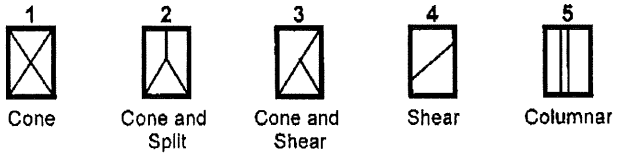
Admixtures: GLENIUM 7500
MICRO AIR

TEST RESULTS

Slump (in) (C-143): 4
Air Content (%) (C-231): 5
Air Temp (°F): 68
Conc. Temp (°F) (C-1064): 72
Load Number: 1
Mixer Number: 97
Ticket Number: 160219
Cubic Yards: 11
Design (psi): **3000**

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)^2	Date Of Test	Cure Type	**Age (days)**	Fracture Type	Load (kips)	**Strength (psi)**
982-13A		4.00	12.57	9/29/2009	Lab	**7**	4	50.2	**4000**
982-13B		4.00	12.57	10/20/2009	Lab	**28**	4	69.0	**5490**
982-13C		4.00	12.57	10/20/2009	Lab	**28**	4	65.6	**5220**
982-13D				Hold	Lab				

Fracture Types



Remarks:

S.W.COLE ENGINEERING, INC.

Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: PORTLAND, ME - CRESCENT HEIGHTS APARTMENTS - MATERIALS TESTING

Project Number: 08-0744.1

Client Contract Number:

Client: CRESCENT HEIGHTS, LLC

General Contractor:

Concrete Supplier: AUBURN CONCRETE

PLACEMENT INFORMATION

Date Cast: 9/24/2009 **Time Cast:** 2:40

Date Received: 9/25/2009

Placement Location: SOUTH EAST FOUNDATION WALL

Placement Method: PUMP TRUCK

Cylinders Made By: TA

Placement Vol. (yd^3): 21

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures: GLENIUM - MIDRANGE, MICRO AIR

TEST RESULTS

Slump (in) (C-143): 6

Air Content (%) (C-231): 5.5

Air Temp (°F): 68

Conc. Temp (°F) (C-1064): 75

Load Number: 2

Mixer Number: 116

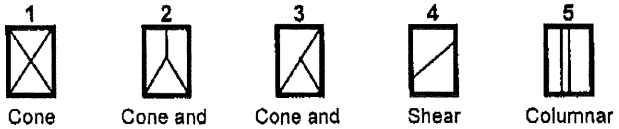
Ticket Number: 160250

Cubic Yards: 10.5

Design (psi): **3000**

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)^2	Date Of Test	Cure Type	**Age (days)**	Fracture Type	Load (kips)	**Strength (psi)**
982-15A		4.00	12.57	10/1/2009	Lab	**7**	4	47.0	**3740**
982-15B		4.00	12.57	10/22/2009	Lab	**28**	4	72.2	**5750**
982-15C		4.00	12.57	10/22/2009	Lab	**28**	4	73.8	**5870**
982-15D				Hold	Lab				

Fracture Types



Remarks:

S.W.COLE ENGINEERING, INC.

Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: PORTLAND, ME - CRESCENT HEIGHTS APARTMENTS - MATERIALS TESTING
Project Number: 08-0744.1
Client Contract Number:
Client: CRESCENT HEIGHTS, LLC
General Contractor:
Concrete Supplier: AUBURN CONCRETE

PLACEMENT INFORMATION

Date Cast: 9/20/2009 **Time Cast:** 4:35 **Date Received:** 9/29/2009
Placement Location: FOOTINGS: LINE 7 + LINE G

Placement Method: PUMP*
Placement Vol. (yd³): 16
Cylinders Made By: VLT/TA
Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures
Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

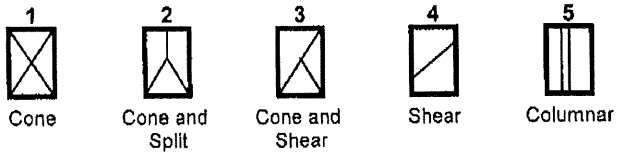
Admixtures: MRWR

TEST RESULTS

Slump (in) (C-143): **Slump WR:** 4.5
Air Content (%) (C-231): **Air WR:** 4.8
Air Temp (°F): 70
Conc. Temp (°F) (C-1064): 75
Load Number: 2
Mixer Number: 85
Ticket Number: 160267
Cubic Yards: 8
Design (psi): **3000**

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	**Age (days)**	Fracture Type	Load (kips)	**Strength (psi)**
982-17A		4.00	12.57	10/9/2009	Lab	**19**	4	52.4	**4170**
982-17B		4.00	12.57	10/19/2009	Lab	**29**	4	57.0	**4540**
982-17C		4.00	12.57	10/19/2009	Lab	**29**	4	60.8	**4840**
982-17D				Hold	Lab				

Fracture Types



Remarks: * NORTHEAST CONCRETE PUMPING

286 Portland Road, Gray, ME 04039-9586 • Tel (207) 657-2866 • Fax (207) 657-2840 • www.swcole.com

S.W.COLE ENGINEERING, INC.

Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: PORTLAND, ME - CRESCENT HEIGHTS APARTMENTS - MATERIALS TESTING

Project Number: 08-0744.1

Client Contract Number:

Client: CRESCENT HEIGHTS, LLC

General Contractor:

Concrete Supplier: AUBURN CONCRETE

PLACEMENT INFORMATION

Date Cast: 10/2/2009 **Time Cast:** 8:00 **Date Received:** 10/5/2009

Placement Location: ELEVATED SLAB ON DECK

Placement Method: PUMP*

Placement Vol. (yd^3): 38

Cylinders Made By: VLT

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures: MRWR - GLENIUM, WCNI, 1% POZZUTEC 20+

TEST RESULTS

Slump (in) (C-143): **Slump WR:** 6

Air Content (%) (C-231): **Air WR:** 6.7

Air Temp (°F): 45

Conc. Temp (°F) (C-1064): 62

Load Number: 2

Mixer Number: 84

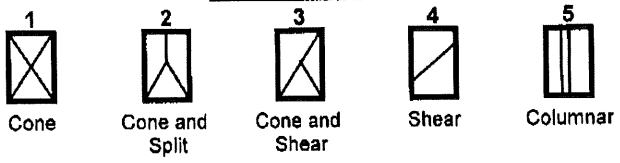
Ticket Number: 163556

Cubic Yards: 10

Design (psi): 3000

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	Age (days)	Fracture Type	Load (kips)	Strength (psi)
982-18A		4.00	12.57	10/9/2009	Lab	7	4	45.4	3610
982-18B		4.00	12.57	10/30/2009	Lab	28	4	52.6	4190
982-18C		4.00	12.57	10/30/2009	Lab	28	4	52.8	4200
982-18D				Hold	Lab				

Fracture Types



Remarks: *NORTHEAST COCNRETE PUMPING

286 Portland Road, Gray, ME 04039-9586 • Tel (207) 657-2866 • Fax (207) 657-2840 • www.swcole.com

S.W.COLE ENGINEERING, INC.

Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: PORTLAND, ME - CRESCENT HEIGHTS APARTMENTS - MATERIALS TESTING

Project Number: 08-0744.1

Client Contract Number:

Client: CRESCENT HEIGHTS, LLC

General Contractor:

Concrete Supplier: AUBURN CONCRETE

PLACEMENT INFORMATION

Date Cast: 10/2/2009 **Time Cast:** 8:45 **Date Received:** 10/5/2009

Placement Location: ELEVATED SLAB ON DECK

Placement Method: PUMP*

Placement Vol. (yd³): 38

Cylinders Made By: VLT

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures: MRWR - GLENIUM, WCNI, 1% POZZUTEC 20+

TEST RESULTS

Slump (in) (C-143): **Slump WR:** 5

Air Content (%) (C-231): **Air WR:** 5.7

Air Temp (°F): 45

Conc. Temp (°F) (C-1064): 63

Load Number: 3

Mixer Number: 97

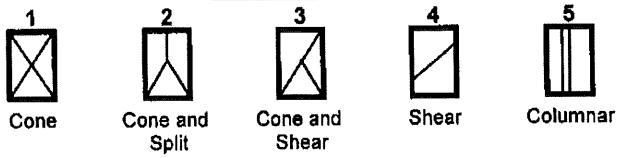
Ticket Number: 163559

Cubic Yards: 8

Design (psi): **3000**

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	**Age (days)**	Fracture Type	Load (kips)	**Strength (psi)**
982-19A		4.00	12.57	10/30/2009	Lab	**28**	4	53.6	**4270**
982-19B		4.00	12.57	10/30/2009	Lab	**28**	4	51.4	**4090**

Fracture Types



Remarks: *NORTHEAST COCNRETE PUMPING

286 Portland Road, Gray, ME 04039-9586 • Tel (207) 657-2866 • Fax (207) 657-2840 • www.swcole.com

S.W.COLE ENGINEERING, INC.

Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: PORTLAND, ME - CRESCENT HEIGHTS APARTMENTS - MATERIALS TESTING

Project Number: 08-0744.1

Client: CRESCENT HEIGHTS, LLC

Client Contract Number:

General Contractor:

Concrete Supplier: AUBURN CONCRETE

PLACEMENT INFORMATION

Date Cast: 10/5/2009 **Time Cast:** 3:20 **Date Received:** 10/6/2009

Placement Location: EXTERIOR WALL BEHIND ELEVATOR SHAFT (SOUTH EAST FACE)

Placement Method: PUMP TRUCK

Cylinders Made By: TA

Placement Vol. (yd^3): 42

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures: GLENIUM 7500, MICRO AIR

TEST RESULTS

Slump (in) (C-143): 6.5

Air Content (%) (C-231): 6

Air Temp (°F): 65

Conc. Temp (°F) (C-1064): 66

Load Number: 2

Mixer Number: 97

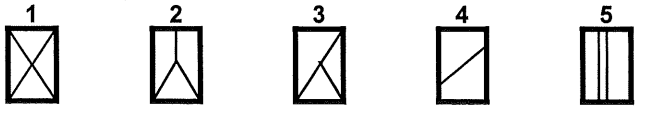
Ticket Number: 153406

Cubic Yards: 10.5

Design (psi): **3000**

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	**Age (days)**	Fracture Type	Load (kips)	**Strength (psi)**
982-20A		4.00	12.57	10/12/2009	Lab	**7**	4	34.0	**2710**
982-20B		4.00	12.57	11/2/2009	Lab	**28**	4	55.6	**4430**
982-20C		4.00	12.57	11/2/2009	Lab	**28**	4	56.2	**4470**
982-20D				Hold	Lab				

Fracture Types



1 Cone; 2 Cone and Split; 3 Cone and Shear; 4 Shear; 5 Columnar

Remarks:

S.W.COLE ENGINEERING, INC.

Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: PORTLAND, ME - CRESCENT HEIGHTS APARTMENTS - MATERIALS TESTING

Project Number: 08-0744.1

Client Contract Number:

Client: CRESCENT HEIGHTS, LLC

General Contractor:

Concrete Supplier: AUBURN CONCRETE

PLACEMENT INFORMATION

Date Cast: 10/20/2009 **Time Cast:** 9:00

Date Received: 10/22/2009

Placement Location: SLAB ON GRADE

Placement Method: PUMP

Placement Vol. (yd^3): 40

Cylinders Made By: CT

Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures: GLENIUM 7500, POZZUTEC 20, PRO MESH

TEST RESULTS

Slump (in) (C-143): 6.5

Air Content (%) (C-231): 5.2

Air Temp (°F):

Conc. Temp (°F) (C-1064): 55

Load Number: 3

Mixer Number: 107

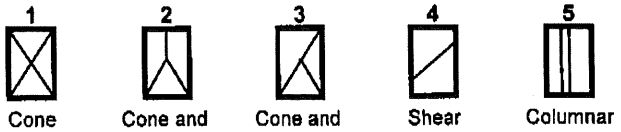
Ticket Number: 159429

Cubic Yards: 10

Design (psi): **3000**

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)^2	Date Of Test	Cure Type	**Age (days)**	Fracture Type	Load (kips)	**Strength (psi)**
982-21A		4.00	12.57	10/27/2009	Lab	**7**	4	47.8	**3800**
982-21B		4.00	12.57	11/17/2009	Lab	**28**	4	67.8	**5400**
982-21C		4.00	12.57	11/17/2009	Lab	**28**	4	65.6	**5220**
982-21D				Hold	Lab				

Fracture Types



Remarks:

S.W.COLE ENGINEERING, INC.

Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: PORTLAND, ME - CRESCENT HEIGHTS APARTMENTS - MATERIALS TESTING
Project Number: 08-0744.1
Client Contract Number:
Client: CRESCENT HEIGHTS, LLC
General Contractor:
Concrete Supplier: AUBURN CONCRETE

PLACEMENT INFORMATION

Date Cast: 11/3/2009 **Time Cast:** 3:00 **Date Received:** 11/4/2009
Placement Location: ELEVATED SLAB FIRST FLOOR - ELEVATION 125

Placement Method: TAILGATE
Cylinders Made By: CT
Placement Vol. (yd³): 9
Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures
Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

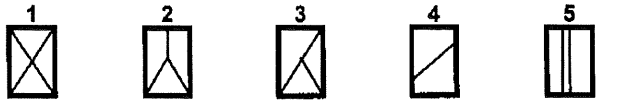
Admixtures: 1% POZZUTEC 20, GLENIUM 7500

TEST RESULTS

Slump (in) (C-143): 7
Air Content (%) (C-231): 6.6
Air Temp (°F):
Conc. Temp (°F) (C-1064): 64
Load Number: 1
Mixer Number: 94
Ticket Number: 159516
Cubic Yards: 9
Design (psi): **3000**

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	**Age (days)**	Fracture Type	Load (kips)	**Strength (psi)**
982-22A		4.00	12.57	11/10/2009	Lab	**7**	4	30.4	**2420**
982-22B		4.00	12.57	12/1/2009	Lab	**28**	4	53.0	**4220**
982-22C		4.00	12.57	12/1/2009	Lab	**28**	4	49.2	**3920**
982-22D				Hold	Lab				

Fracture Types



1 Cone; 2 Cone and Split; 3 Cone and Shear; 4 Shear; 5 Columnar

Remarks:

S.W.COLE ENGINEERING, INC.

Report of Concrete Compressive Strength

ASTM C-31 & C-39

Project Name: PORTLAND, ME - CRESCENT HEIGHTS APARTMENTS - MATERIALS TESTING
Project Number: 08-0744.1
Client Contract Number:
Client: CRESCENT HEIGHTS, LLC
General Contractor:
Concrete Supplier: AUBURN CONCRETE

PLACEMENT INFORMATION

Date Cast: 12/28/2009 **Time Cast:** 11:30 **Date Received:** 12/29/2009
Placement Location: Entrance slab on grade near elevator pit
Placement Method: TAILGATE
Cylinders Made By: TBA
Placement Vol. (yd³): 2.5
Aggregate Size (in): 3/4

INITIAL CURING CONDITIONS

Temperatures
Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

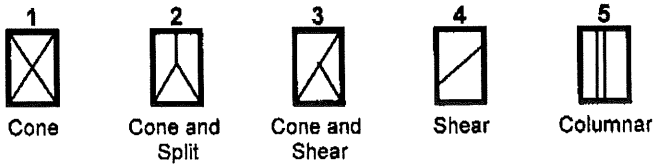
Admixtures: GLENIUM 7500, Micro Air

TEST RESULTS

Slump (in) (C-143): 4
Air Content (%) (C-231): 5
Air Temp (°F): 41
Conc. Temp (°F) (C-1064): 68
Load Number: 1
Mixer Number: 97
Ticket Number: 154366
Cubic Yards: 2.5
Design (psi): **3000**

Cylinder Designation	Cylinder Weight (lbs)	Cylinder Diameter (in)	Cross Sectional Area(In)²	Date Of Test	Cure Type	**Age (days)**	Fracture Type	Load (kips)	**Strength (psi)**
982-23A		4.00	12.57	1/4/2010	Lab	**7**	4	48.0	**3820**
982-23B		4.00	12.57	1/25/2010	Lab	**28**	4	65.0	**5170**
982-23C		4.00	12.57	1/25/2010	Lab	**28**	4	68.6	**5460**
982-23D				Hold	Lab				

Fracture Types



Remarks:

Exhibit B

042000 Masonry Construction

Project: Crescent Heights
Date Prepared: May 10, 2010

Structural Schedule of Special Inspections

MASONRY CONSTRUCTION – LEVEL 1 (NON-ESSENTIAL FACILITY)

VERIFICATION AND INSPECTION IBC Section 1704.5	Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	TASK COMPLETED
1. As masonry construction begins, the following shall be verified to ensure compliance:						
a. Proportions of site-prepared mortar.	Y	P	ACI530.1, 2.6A	SI	PE/SE or EIT	
b. Construction of mortar joints.	Y	P	ACI530.1, 3.3B	SI	PE/SE or EIT	
c. Location of reinforcement and connectors.	Y	P	ACI530.1, 3.4, 3.6A	SI	PE/SE or EIT	
d. Prestressing technique.	N	P	ACI530.1, 3.6B		PE/SE or EIT	
e. Grade and size of prestressing tendons and anchorages.	N	P	ACI530.1, 2.4B, 2.4H		PE/SE or EIT	
2. The inspection program shall verify:						
a. Size and location of structural elements.	Y	P	ACI530.1, 3.3G	SI	PE/SE or EIT	
b. Type, size and location of anchors, including other details of anchorage of masonry to structural members, frames or other construction.	Y	P	ACI530, 1.2.2(e), 2.1.4, 3.1.6	SI	PE/SE or EIT	
c. Specified size, grade and type of reinforcement.	Y	P	ACI530, 1.12, ACI530.1, 2.4, 3.4	SI	PE/SE or EIT	
d. Welding of reinforcing bars.	N	C	AC530, 2.1.10.6.2, 3.2..4 (b)		AWS-CWI	
e. Protection of masonry during cold weather (temperature below 40°F) or hot weather (temperature above 90°F).	N	P	IBC 2104.3, 2104.4; ACI530.1, 1.8C, 1.8D		PE/SE or EIT	
f. Application and measurement of prestressing force.	N	P	ACI530.1, 3.6B		PE/SE or EIT	
3. Prior to grouting, the following shall be verified to ensure compliance:						
a. Grout space is clean.	Y	P	ACI530.1, 3.2D	SI	PE/SE or EIT	
b. Placement of reinforcement and connectors and prestressing tendons and anchorages.	Y	P	ACI530, 1.12, ACI530.1, 3.4	SI	PE/SE or EIT	
c. Proportions of site-prepared grout and prestressing grout for bonded tendons.	Y	P	ACI530.1, 2.6B	SI	PE/SE or EIT	
d. Construction of mortar joints.	Y	P	ACI530.1, 3.3B	SI	PE/SE or EIT	
4. Grout placement shall be verified to ensure compliance with code and construction document provisions.	Y	C	ACI530.1, 3.5	SI	PE/SE or EIT	
a. Grouting of prestressing bonded tendons.	N	C	ACI530.1, 3.6C		PE/SE or EIT	
5. Preparation of any required grout specimens, mortar specimens and/or prisms shall be observed.	Y	C	IBC 2105.2.2, 2105.3; ACI530.1, 1.4	TA-1	PE/SE or EIT	
6. Compliance with required inspection provisions of the construction documents and the approved submittals shall be verified.	Y	P	ACI530.1, 1.5	SI	PE/SE or EIT	

BECKER
structural engineers, inc.

04230

OBSERVATION REPORT
CMU

Date:	9-9-09
Time:	12:30 pm
Temp:	70 F
Weather:	Sunny

Project:	Crescent Heights
Location:	Portland, ME
Becker Job No:	2035

Observation Location: elevator shaft ground floor to first floor

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Reinforcement Size	☒	☐	☐	☐	
Quantity	☒	☐	☐	☐	
Condition	☒	☐	☐	☐	
Placement	☒	☐	☐	☐	
Embed/Anchors	☐	☐	☐	☒	
Lap Splices	☒	☐	☐	☐	
Hot Weather	☐	☐	☐	☒	
Cold Weather	☐	☐	☐	☒	
CMU Size	☒	☐	☐	☐	
Layout/Fit-up/Plumbness	☒	☐	☐	☐	
Mortar/Grouting Procedure	☐	☐	☒	☐	
Lift Height	☒	☐	☐	☐	
Clean Outs	☒	☐	☐	☐	
Bond Beams	☒	☐	☐	☐	
Additional Items	☐	☐	☐	☒	

Notes:

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

S.W.COLE ENGINEERING, INC.

Report of Grout Compressive Strength

ASTM C109

Project Name: PORTLAND, ME - CRESCENT HEIGHTS APARTMENTS - MATERIALS TESTING

Project Number: 08-0744.1

Client: CRESCENT HEIGHTS, LLC

Client Contract Number:

General Contractor:

Supplier: AUBURN CONCRETE

PLACEMENT INFORMATION

Date Cast: 9/9/2009 **Time Cast:**

Date Received: 9/10/2009

Placement Location: ELEVATOR PIT

Placement Method: PUMP

Cylinders Made By: CT

Placement Vol. (yd³): 3

Aggregate Size (in): SAND

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures:

TEST RESULTS

Slump (in) (C-143):

Air Temp (°F):

Grout Temp (°F) (C-1064):

Batch Number: 1

Mixer Number: 97

Ticket Number: 160422

Design (psi): **4000**

Cube Designation	Area(In)²	Date Of Test	Age (days)	Load (kips)	Strength (psi)
982-9A	4.00	9/16/2009	**7**	13.6	**3400**
982-9B	4.00	9/16/2009	**7**	14.5	**3620**
982-9C	4.00	9/16/2009	**7**	15.4	**3850**
982-9D	4.00	10/7/2009	**28**	19.9	**4980**
982-9E	4.00	10/7/2009	**28**	19.4	**4850**
982-9F	4.00	10/7/2009	**28**	20.4	**5100**

Remarks:

S.W.COLE ENGINEERING, INC.

Report of Grout Compressive Strength

ASTM C109

Project Name: PORTLAND, ME - CRESCENT HEIGHTS APARTMENTS - MATERIALS TESTING

Project Number: 08-0744.1

Client Contract Number:

Client: CRESCENT HEIGHTS, LLC

General Contractor:

Supplier: AUBURN CONCRETE

PLACEMENT INFORMATION

Date Cast: 9/15/2009 **Time Cast:**

Date Received: 9/16/2009

Placement Location: ELEVATOR PIT - 4TH FLOOR SECTION

Placement Method: PUMP

Placement Vol. (yd^3): 4

Cylinders Made By: CT

Aggregate Size (in): SAND

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures:

TEST RESULTS

Slump (in) (C-143):

Air Temp (°F):

Grout Temp (°F) (C-1064): 76

Batch Number: 1

Mixer Number: 101

Ticket Number: 160172

Design (psi): **4000**

Cube Designation	Area(In)²	Date Of Test	Age (days)	Load (kips)	Strength (psi)
982-11A	4.00	9/22/2009	**7**	6.8	**1700**
982-11B	4.00	9/22/2009	**7**	6.5	**1620**
982-11C	4.00	9/22/2009	**7**	7.4	**1850**
982-11D	4.00	10/13/2009	**28**	12.7	**3180**
982-11E	4.00	10/13/2009	**28**	10.9	**2720**
982-11F	4.00	10/13/2009	**28**	11.2	**2800**

Remarks:

S.W.COLE ENGINEERING, INC.

Report of Grout Specimen Compressive Strength

ASTM C1019

Project Name: PORTLAND, ME - CRESCENT HEIGHTS APARTMENTS - MATERIALS TESTING

Project Number: 08-0744.1

Client Contract Number:

Client: CRESCENT HEIGHTS, LLC

General Contractor:

Supplier: AUBURN CONCRETE

PLACEMENT INFORMATION

Date Cast: 9/22/2009 **Time Cast:**

Date Received: 9/23/2009

Placement Location: STAIR TOWER 16 ABOVE FOUNDATION

Placement Method: PUMP TRUCK

Placement Vol. (yd^3): 5

Cylinders Made By: TA

Aggregate Size (in): FINE GROUT

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures:

TEST RESULTS

Slump (in) (C-143):

Air Temp (°F): 63

Grout Temp (°F) (C-1064): 68

Batch Number: 1

Mixer Number: 76

Ticket Number: 163752

Design (psi): **4000**

Specimen Designation	Area(In)²	Date Of Test	Age (days)	Load (kips)	Strength (psi)
982-14A	4.00	10/20/2009	**28**	16.3	**4080**
982-14B	4.00	10/20/2009	**28**	14.7	**3680**
982-14C	4.00	10/20/2009	**28**	17.6	**4400**

Remarks:

S.W.COLE ENGINEERING, INC.

Report of Grout Compressive Strength

ASTM C109

Project Name: PORTLAND, ME - CRESCENT HEIGHTS APARTMENTS - MATERIALS TESTING

Project Number: 08-0744.1

Client: CRESCENT HEIGHTS, LLC

Client Contract Number:

General Contractor:

Supplier: AUBURN CONCRETE

PLACEMENT INFORMATION

Date Cast: 9/24/2009 **Time Cast:** 4:00

Date Received: 9/25/2009

Placement Location: STAIR TOWER 26 AFF

Placement Method:

Cylinders Made By: TA

Placement Vol. (yd^3): 5

Aggregate Size (in): FINE

INITIAL CURING CONDITIONS

Temperatures

Minimum (°F) **Maximum (°F)**

DELIVERY INFORMATION

Admixtures:

TEST RESULTS

Slump (in) (C-143):

Air Temp (°F):

Grout Temp (°F) (C-1064): 75

Batch Number: 1

Mixer Number: 84

Ticket Number: 163841

Design (psi): 4000

Cube Designation	Area(In^2)	Date Of Test	Age (days)	Load (kips)	Strength (psi)
982-16A	4.00	10/1/2009	7	8.3	2080
982-16B	4.00	10/1/2009	7	7.9	1980
982-16C	4.00	10/1/2009	7	8.9	2220
982-16D	4.00	10/22/2009	28	14.1	3520
982-16E	4.00	10/22/2009	28	15.5	3880
982-16F	4.00	10/22/2009	28	13.1	3280

Remarks:

Exhibit B

051200 Steel Construction

Project: Crescent Heights
Date Prepared: May 10, 2010

Structural Schedule of Special Inspections - STEEL CONSTRUCTION

VERIFICATION AND INSPECTION IBC Section 1704.3	Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	TASK COMPLETED
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	S	Applicable ASTM material specifications; AISC 335, Section A3.4; AISC LRFD, Section A3.3	SI	PE/SE or EIT	
b. Manufacturer's certificate of compliance required.	Y	S		SI	PE/SE or EIT	
2. Inspection of high-strength bolting						
a. Bearing-type connections.	Y	P	AISC LRFD Section M2.5 IBC Sect 1704.3.3	TAI	AWS/AISC-SSI	
b. Slip-critical connections.	N	C or P (method dependent)			AWS/AISC-SSI	
3. Material verification of structural steel (IBC Sect 1708.4):						
a. Identification markings to conform to ASTM standards specified in the approved construction documents.	Y	S	ASTM A 6 or ASTM A 568 IBC Sect 1708.4	SI	PE/SE or EIT	
b. Manufacturers' certified mill test reports.	Y	S	ASTM A 6 or ASTM A 568 IBC Sect 1708.4	SI	PE/SE or EIT	
4. Material verification of weld filler materials:						
a. Identification markings to conform to AWS specification in the approved construction documents.	Y	S	AISC, ASD, Section A3.6; AISC LRFD, Section A3.5	SI	PE/SE or EIT	
b. Manufacturer's certificate of compliance required.	Y	S		SI	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	SI	PE/SE or EIT	
6. Inspection of welding (IBC 1704.3.1): a. Structural steel:						
1) Complete and partial penetration groove welds.	Y	C	AWS D1.1	TAI	AWS-CWI	
2) Multipass fillet welds.	Y	C		TAI	AWS-CWI	
3) Single-pass fillet welds> 5/16"	Y	C		TAI	AWS-CWI	
4) Single-pass fillet welds< 5/16"	Y	P		TAI	AWS-CWI	
5) Floor and deck welds.	N	P	AWS D1.3		AWS-CWI	
b. Reinforcing steel (IBC Sect 1903.5.2):						
1) Verification of weldability of reinforcing steel other than ASTM A706.	N	C				
2) Reinforcing steel-resisting flexural and axial forces in intermediate and special moment frames, and boundary elements of special reinforced concrete shear walls and shear reinforcement.	N	C	AWS D1.4 ACI 318: 3.5.2		AWS-CWI	
3) Shear reinforcement.	N	C			AWS-CWI	
4) Other reinforcing steel.	N	P			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		SI	PE/SE or EIT	
b. Member locations.	Y	P		SI	PE/SE or EIT	
c. Application of joint details at each connection.	Y	P		SI	PE/SE or EIT	

Project: Crescent Heights
Date Prepared: May 10, 2010

Structural Schedule of Special Inspection Services

FABRICATION AND IMPLEMENTATION PROCEDURES – STRUCTURAL STEEL

VERIFICATION AND INSPECTION IBC Section 1704.2	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- 2. AISC Certification	Y	S	Fabricator shall submit one of the two qualifications	SI	PE/SE or EIT	
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	SI	PE/SE or EIT	

Project: Crescent Heights
Date Prepared: May 10, 2010

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: Crescent Heights

Fabricator's Name: LMC Light Iron

Address: 151 E. Range Rd, Limerick ME 04048

Certification or Approval Agency: Quality Assurance Labs

Certification Number: QAL-09-1629

Date of Last Audit or Approval: 9/11/09

Description of structural members and assemblies that have been fabricated:

column to base plates, shear tabs, top plates

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

Signature

5-25-10
Date

CHIEF DRAFTSMAN
Title

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

BECKER
structural engineers, inc.

05120

OBSERVATION REPORT
Structural Steel

Date:	10-19-09
Time:	2:00 PM
Temp:	58 F
Weather:	Sunny

Project:	Crescent Heights S.I.
Location:	Portland, ME
Becker Job No:	2129

Observation Location:
First Floor Steel Framing

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Bolt Condition	☒	☐	☐	☐	
Weld Condition	☐	☐	☐	☒	
Anchor Bolts, Nuts, & Washers	☒	☐	☐	☐	
Grout/Leveling Plates	☒	☐	☐	☐	
Fit Up/Plumbness	☐	☒	☐	☐	See notes below
Metal Deck Welds	☐	☐	☐	☒	
Pour Stops	☐	☐	☐	☒	
Bracing	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	

Notes:
Beam on line E which bears on foundation wall at Line 1 was found to be coped due to incorrect bearing seat elevation. Web reinforcing must be installed per SKS-21.

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

05120

OBSERVATION REPORT
Structural Steel

Date:	1-15-10
Time:	3:00 PM
Temp:	35 F
Weather:	overcast

Project:	Crescent Heights S.I.
Location:	Portland, ME
Becker Job No:	2129

Observation Location:
Roof, Third and Second floor steel framing

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Bolt Condition	☒	☐	☐	☐	
Weld Condition	☐	☐	☐	☒	
Anchor Bolts, Nuts, & Washers	☐	☐	☐	☒	
Grout/Leveling Plates	☐	☐	☐	☒	
Fit Up/Plumbness	☒	☐	☐	☐	
Metal Deck Welds	☐	☐	☐	☒	
Pour Stops	☐	☐	☐	☒	
Bracing	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	
Additional Items	☐	☐	☐	☒	

Notes:

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

Quality Assurance Labs Inc.
NON-DESTRUCTIVE TESTING AND INSPECTION SERVICES
80 PLEASANT AVENUE • SOUTH PORTLAND, MAINE 04106 • TEL: (207) 799-8911 • FAX: (207) 799-7251

INSPECTION REPORT

CUSTOMER:	L M C , INC.	PAGE 1 OF 1	
ADDRESS:	151 E. RANGE ROAD , P.O. BOX 521 , LIMERICK , ME. 04048		
ATTENTION:	STEVE HAMILTON		
COPIES:			
PROJECT:	FAB-SHOP - INSPECTION PER JOB SPECIFICATION		
OWNER:			
CONTRACTOR:	L M C, INC.		
JOB No.:	REPORT No.: QAL-09-1629	P. O. NUMBER:	DATES INSPECTED: 09-11-09

REMARKS

>>>>>>>> SITE VISIT TO PERFORM VISUAL INSPECTION OF COLUMN AND BEAM FAB-SHOP WELDS PER JOB SPEC. AND AWS D1.1 REQUIREMENTS FOR VISUAL ACCEPTANCE .

> PROJECT : PORTLAND BUILDERS FOR CRESANTS HEIGHTS PROJECT .

A) REVIEW OF WELDER CURRENT STATUS COMPLIES WITH AWS D1.1 FOR (6) MONTH CONTINUITY .

B) REVIEW OF SHOP WELD PROCEDURE SPECIFICATION COMPLIES WITH AWS D1.1 FOR PREQUALIFIED WELD METAL AND BASE METAL COMBINATIONS . REF. AWS D1.1 TABLE 3.1 .

C) COLUMN TO BASE PLATES , SHEAR TABS , AND TOP PLATES COMPLY WITH SHOP DRAWINGS 1 THU 13. AND AWS D1.1 REQUIREMENTS FOR VISUAL ACCEPTANCE , TO INCLUDE ALL BEAM STIFFNER WELDMENTS .

END ITEMS ////

MICHAEL W. DREW
CWI 99050211
QC1 EXP. 06/01/11

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

ADDITIONAL INFORMATION - SEE ATTACHED: ☐ SKETCH(ES) ☐ SUPPLEMENTARY SHEET(S) ☐ NDT REPORTS ☐ VIDEO

SIGNATURES		CERTIFICATION	LEVEL	DATE M	D	Y
INSPECTOR	M. Drew CWI # 99050211	ASNT	II	09	11	09
SUPERVISOR						

(FORM Q703 REV 0)

WELDER, WELDING OPERATOR OR TACK WELDER QUALIFICATION TEST RECORD

Type of Welder ESAB -250
Name Richard Manson Identification No. 6296
Welding Procedure Specification No. Table 3.1 Rev AWS D1.1 Date 3-3-08

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type [Table 4.10, Item (2)]	FCAW	
Electrode (single or multiple) [Table 4.9, Item (9)]	SINGLE	SAME
Current/Polarity	DCEN	
Position [Table 4.10, Item (5)]	1F	1F
Weld Progression [Table 4.10, Item (7)]	FLAT	FLAT
Backing (YES or NO) [Table 4.10, Item (8)]	NO	N/A
Material/Spec. [Table 4.10, Item (1)]	A36 to A36	
Base Metal		
Thickness: (Plate)	N/A	N/A
Groove	.500	.125 - UNLIMITED
Fillet		
Thickness: (Pipe/tube)	N/A	N/A
Groove	N/A	N/A
Fillet	N/A	N/A
Diameter: (Pipe)	N/A	N/A
Groove	N/A	N/A
Fillet	N/A	N/A
Filler Metal [Table 4.10, Item (3)]		
Spec. No.	A5.20	
Class	E71T-1M	F6 AND LOWER
F-No.	F6	
Gas/Flux Type [Table 4.10, Item (4)]	CO2	
Other		

VISUAL INSPECTION (4.8.1)
Acceptable YES or NO YES

Guided Bend Test Results (4.30.5)

Type	Result	Type	Result
N/A		N/A	

Fillet Test Results (4.30.2.3 and 4.30.4.1)

Appearance Acceptable Fillet Size 5/16"
Fracture Test Root Penetration Acceptable Macroetch Acceptable
(Describe the location, nature, and size of any crack or tearing of the specimen.)

AWS D1.1 MICHAEL W. DREW 99050211 CWI

Inspected by M. DREW Test Number 99050211
Organization MDT Date 3-3-08

RADIOGRAPHIC TEST RESULTS (4.30.3.1)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks
N/A			N/A		

Interpreted by Test Number
Organization Date

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section 4 of ANSI/AWS D1.1, (_____) Structural Welding Code—Steel.
(year)

Manufacturer or Contractor LMC LIGHT IRON Authorized By STEVE HAMILTON - PRESIDENT
Date 3-3-08

Form E-4

WELDER, WELDING OPERATOR, OR TACK WELDER QUALIFICATION TEST RECORD

Name of Welder: JOHN McNICHOLAS
Name: LMC Light Iron, Inc. Identification No. 009-56-7142
Welding Procedure Specification No. 1 Rev. N/A Date: 2/03/05

Variables	Record Actual Values Used in Qualifications	Qualification Range
Process/Type [Tale 4.10, Item (1)]	FCAW	
Electrode (single or multiple) [Table 4.10, Item (8)]	~~E45 E71T-1~~	ALL
Current Polarity	210 Amps DC+	
Position [Table 4.10, Item (6)	1G	1G
Weld Progression [Table 4.10, Item (6)]	N/A	N/A
Backing (YES or NO) [Table 4.10, Item (7)]	YES	YES
Material/Spec.	~~Group~~ 1 to Group 1	
Base Metal		
Thickness (Plate)		
Groove	~~3/8"~~	1/8-3/4
Fillet	~~N/A~~	F & H Unlimited
Thickness (Pipe/Tube)		
Groove	~~N/A~~	1/8-3/4
Fillet	N/A	F & H Unlimited
Diameter: (Pipe)		
Groove	N/A	OVER 24" DIA.
Fillet	N/A	OVER 24" DIA.
Filler Metal [Table 4.10, Item (3)]		
Spec. No.	~~A5.20~~	
Class	~~E71T-1~~	
F-No. [Table 4.10, Item (2)]	~~F6~~	F6
Gas/Flux Type [Table 4.10 Item (3)]	~~75% Argon/25% CO2~~	
Other	N/A	N/A

VISAL INSPECTION (4.8.1)
Acceptable YES or NO YES

Guided ~~Bend~~ Test Results (4.30.5)

Type	Result	Type	Result
1G FACE BEND	ACCEPTABLE	1G ROOT BEND	ACCEPTABLE

Fillet Test Reports (4.30.2.3 and 4.30.4.1)

Appearance	N/A	Fillet Size	N/A
Fracture Test Root Penetration	N/A	Macroetch	N/A

(Describe the location, nature and size of any crack or tearing of the specimen.)

Inspected by: Stephen D. Hamilton Test Number N/A
Organization LMC Light Iron, Inc. Date 2/03/05

RADIOGRAPHIC TEST RESULTS (4.30.3.1)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Interpreted by: N/A Test Number N/A
Organization N/A Date N/A

We, the ~~undersigned~~, certify that the ~~statements in this record are~~ correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section 4 of AWS d1.1 (2000) Structural Welding Code — Steel.

Manufacturer or Contractor LMC Light Iron, Inc. Authorized By
Date 2-3-06

WELDER, WELDING OPERATOR OR TACK WELDER QUALIFICATION TEST RECORD

Type of Welder ESAB -250
Name BRUCE BRAGG Identification No. 3649
Welding Procedure Specification No. Table 3.1 Rev AWS D1.1 Date 3-3-08

Variables	Record Actual Values Used in Qualification	Qualification Range
Process/Type [Table 4.10, Item (2)]	FCAW	SAME
Electrode (single or multiple) [Table 4.9, Item (9)]	SINGLE	
Current/Polarity	DCEN	
Position [Table 4.10, Item (5)]	1F	1F
Weld Progression [Table 4.10, Item (7)]	FLAT	FLAT
Backing (YES or NO) [Table 4.10, Item (8)]	NO	N/A
Material/Spec. [Table 4.10, Item (1)]	A36 to A36	
Base Metal		
Thickness: (Plate)	N/A	N/A
Groove	.500	.125 - UNLIMITED
Fillet		
Thickness: (Pipe/tube)	N/A	N/A
Groove	N/A	N/A
Fillet	N/A	N/A
Diameter: (Pipe)	N/A	N/A
Groove	N/A	N/A
Fillet		
Filler Metal [Table 4.10, Item (3)]	A5.20	
Spec. No.	E71T-1M	
Class	E6	F6 AND LOWER
F-No.	CO2	
Gas/Flux Type [Table 4.10, Item (4)]		
Other		

VISUAL INSPECTION (4.8.1)
Acceptable YES or NO YES

Guided Bend Test Results (4.30.5)

Type	Result	Type	Result
N/A		N/A	

Fillet Test Results (4.30.2.3 and 4.30.4.1)
Appearance Acceptable Fillet Size 5/16"
Fracture Test Root Penetration Acceptable Macroetch Acceptable
(Describe the location, nature, and size of any crack or tearing of the specimen.)

AWS QC1 MICHAEL W. DREW WELD0211 CWI

Inspected by M. DREW Test Number 99050211
Organization MDI Date 3-3-08

RADIOGRAPHIC TEST RESULTS (4:30.3.1)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks
N/A			N/A		

Interpreted by Test Number
Organization Date

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section 4 of ANSI/AWS D1.1, (_____ (year)) Structural Welding Code—Steel.

Manufacturer or Contractor LMC LIGHT IRON Authorized By STEVE HAMILTON - PRESIDENT
Date 3-3-08

Form E-4

WELDER, WELDING OPERATOR OR TACK WELDER QUALIFICATION TEST RECORD

Type of Welder ESAB -250
Name JERRY ZARATE Identification No. 1403
Welding Procedure Specification No. Table 3.1 Rev AWS D1.1 Date 3-3-08

	Record Actual Values Used in Qualification	Qualification Range
Variables		
Process/Type [Table 4.10, Item (2)]	FCAW	
Electrode (single or multiple) [Table 4.9, Item (9)]	SINGLE	SAME
Current/Polarity	DCEN	
Position [Table 4.10, Item (5)]	1F	1F
Weld Progression [Table 4.10, Item (7)]	FLAT	FLAT
Backing (YES or NO) [Table 4.10, Item (8)]	NO	N/A
Material/Spec. [Table 4.10, Item (1)]	A36 to A36	
~~Base Metal~~		
Thickness: (Plate)	N/A	N/A
Groove	.500	.125 - UNLIMITED
Fillet		
Thickness: (Pipe/tube)	N/A	N/A
Groove	N/A	N/A
Fillet	N/A	N/A
Diameter: (Pipe)	N/A	N/A
Groove	N/A	N/A
Fillet		
Filler Metal [Table 4.10, Item (3)]	A5.20	
Spec. No.	E71T-1M	
Class	E6	F6 AND LOWER
F-No.	CO2	
Gas/Flux Type [Table 4.10, Item (4)]		
Other		

VISUAL INSPECTION (4.8.1)
Acceptable YES or NO YES

Guided Bend Test Results (4.30.5)

Type	Result	Type	Result
N/A		N/A	

Fillet Test Results (4.30.2.3 and 4.30.4.1)

Appearance Acceptable Fillet Size 5/16"
Fracture Test Root Penetration Acceptable Macroetch Acceptable
(Describe the location, nature, and size of any crack or tearing of the specimen.)

Inspected by M. DREW Test Number 99050211
Organization M.D.I. Date 3-3-08

RADIOGRAPHIC TEST RESULTS (4.30.3.1)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks
N/A			N/A		

Interpreted by _____ Test Number _____
Organization _____ Date _____

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section 4 of ANSI/AWS D1.1, (_____ (year)) Structural Welding Code—Steel.

Manufacturer or Contractor LMC LIGHT IRON Authorized By STEVE HAMILTON - PRESIDENT
Date 3-3-08

Form E-4

WELDER, WELDING OPERATOR, OR TACK WELDER QUALIFICATION TEST RECORD

Name of Welder: JODY NADEAU
Name: LMC Light Iron, Inc.
Identification No.: 007-70-5910
Welding Procedure Specification No: 1 Rev N/A
Date: 2/03/05

Variables	Record Actual Values Used in Qualifications	Qualification Range
Process/Type [Table 4.10, Item (1)]	FCAW	
Electrode (single or multiple) [Table 4.10, Item (8)]	045 E71T-1	ALL
Current Polarity	210 Amps DC+	
Position [Table 4.10, Item (6)]	1G	1G
Weld Progression [Table 4.10, Item (6)]	N/A	N/A
Backing (YES or NO) [Table 4.10, Item (7)]	YES	YES
Material/Spec.	Group 1 to Group 1	
Base Metal		
Thickness (Plate)		
Groove	3/8"	1/8-3/4
Fillet	N/A	F & H Unlimited
Thickness (Pipe/Tube)		
Groove	N/A	1/8-3/4
Fillet	N/A	F & H Unlimited
Diameter: (Pipe)		
Groove	N/A	OVER 24" DIA.
Fillet	N/A	OVER 24" DIA.
Filler Metal [Table 4.10, Item (3)]		
Spec. No.	A5.20	
Class	E71T-1	
F-No. [Table 4.10, Item (2)]	F6	F6
Gas/Flux Type [Table 4.10 Item (9)]	75% Argon/25% CO2	
Other	N/A	N/A

VISUAL INSPECTION (4.8.1)
Acceptable YES or NO: YES

Guided Bend Test Results (4.30.5)

Type	Result	Type	Result
1G FACE BEND	ACCEPTABLE	1G ROOT BEND	ACCEPTABLE

Fillet Test Reports (4.30.2.3 and 4.30.4.1)

Appearance	N/A	Fillet Size	N/A
Fracture Test Root Penetration	N/A	Macroetch	N/A

(Describe the location, nature and size of any crack or tearing of the specimen.)

Inspected by: Stephen D. Hamilton
Organization: LMC Light Iron, Inc.
Test Number: N/A
Date: 2/03/05

RADIOGRAPHIC TEST RESULTS (4.30.3.1)

Film Identification Number	Results	Remarks	Film Identification Number	Results	Remarks
N/A	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A

Interpreted by: N/A
Organization: N/A
Test Number: N/A
Date: N/A

We, the undersigned, certify that the statements in this record are correct and that the test welds were prepared, welded, and tested in accordance with the requirements of section 4 of AWS d1.1 (2000) Structural Welding Code — Steel.

Manufacturer or Contractor: LMC Light Iron, Inc.
Authorized By: [signature]
Date: 2-3-05

GERDAU AMERISTEEL

WHITBY STEEL MILL
HOPKINS STREET SOUTH
WHITBY ON L1N 5T1 CAN
(905) 668-8811

Chemical and Physical Test Report

MADE IN CANADA

JUL 14 2009

W-096958

SHIP TO
MILL METALS CORPORATION
603-626-7351
62 MAPLE ST.
MANCHESTER, NH 03103

INVOICE TO
MILL METALS
MILL STEEL INC
62 MAPLE STREET
MANCHESTER, NH 03103

SHIP DATE
07/13/09

CUST. ACCOUNT NO
60076023

PRODUCED IN: WHITBY HCF 128

SHAPE + SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST P.O. NUMBER
F1/2 X 6	A36	ASTM: A36 - 05 ASTM A709-06a ASME: SA36-00A (ASTM A36-05)	9167871-03	54219-03

HEAT I.D.	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Nb	B	N	Sn	Al	Ti	Zr	Ca	C Eqv
W901508	.16	.76	.009	.029	.23	.28	.12	.05	.033	<.008	.007	.0005	.0154	.010	.000	.00000	.000	.00000	.335

Mechanical Test: Yield 52357 PSI, 360.99 MPA Tensile: 74027 PSI, 510.4 MPA %El: 23.6/8in, 23.6/200MM Def HT: 0, 0MM %Th 0
Mechanical Test: Yield 53344 PSI, 367.79 MPA Tensile: 74866 PSI, 516.18 MPA %El: 25.0/8in, 25.0/200MM Def HT: 0, 0MM %Th 0

PRODUCED IN: WHITBY A 333/6

SHAPE + SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST P.O. NUMBER
A3 X 3 X 5/16	A36	ASTM: A36 - 05 ASTM A709-06a ASME: SA36-00A (ASTM A36-05)	9167871-06	54219-06

HEAT I.D.	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Nb	B	N	Sn	Al	Ti	Zr	Ca	C Eqv
W901626	.17	.68	.006	.036	.17	.31	.13	.07	.041	<.008	<.008	.0000	.0933	.011	.000	.00000	.000	.00000	.333

Mechanical Test: Yield 56055 PSI, 386.49 MPA Tensile: 76767 PSI, 529.29 MPA %El: 29.4/8in, 29.4/200MM Def HT: 0, 0MM %Th 0L

PRODUCED IN: WHITBY A 3314

SHAPE + SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST P.O. NUMBER
A3 X 3 X 1/4	A36	ASTM: A36 - 05 ASTM A709-06a ASME: SA36-00A (ASTM A36-05)	9167871-05	54219-05

HEAT I.D.	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Nb	B	N	Sn	Al	Ti	Zr	Ca	C Eqv
W901647	.14	.76	.011	.033	.20	.30	.11	.07	.034	<.008	<.008	.0004	.0150	.011	.024	.00000	.000	.00000	.318

Mechanical Test: Yield 51191 PSI, 352.95 MPA Tensile: 71837 PSI, 495.3 MPA %El: 30.0/8in, 30.0/200MM Def HT: 0, 0MM %Th 0
Mechanical Test: Yield 51424 PSI, 354.56 MPA Tensile: 71541 PSI, 493.26 MPA %El: 32.5/8in, 32.5/200MM Def HT: 0, 0MM %Th 0

This material, including the billets, was produced and manufactured in Canada

Bhaskar Yelamanchili
Quality Director
Gerdau Ameristeel

THE ABOVE FIGURES ARE CERTIFIED EXTRACTS FROM THE ORIGINAL CHEMICAL AND PHYSICAL TEST RECORDS AS CONTAINED IN THE PERMANENT RECORDS OF COMPANY.

Mgr. Metallurg. Svcs
WHITBY STEEL MILL

PO#4444

GERDAU AMERISTEEL

JACKSON STEEL MILL
601 AMERISTEEL ROAD
JACKSON TN 38305 USA
(731) 424-5600

Chemical and Physical Test Report

MADE IN UNITED STATES

AUG 25 2009

V-660632

SHIP TO	INVOICE TO	SHIP DATE
MILL METALS CORPORATION 603-626-7351 62 MAPLE ST. MANCHESTER, NH 03103	MILL METALS MILL STEEL INC 62 MAPLE STREET MANCHESTER, NH 03103	08/22/09 CUST. ACCOUNT NO 60076023

PRODUCED IN: JACKSON TN Ref 142

SHAPE + SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST P.O. NUMBER
F1/4 X 2	A36	ASTM A36-08; ASME SA-36	9180192-02	54562-02

HEAT I.D.	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Nb	B	N	Sn	Al	Ti	Zr	Ca	C Eqv
V902218	.15	.63	.015	.033	.20	.32	.09	.13	.024	.003	.002	.0005	.0096	.012	.002	.00100	.000	.00000	.313

Mechanical Test: Yield 48520 PSI, 334.53 MPA Tensile: 68770 PSI, 474.15 MPA %El: 33.0/8in, 33.0/200MM Def HT: 0, 0MM %Rh 0L
Mechanical Test: Yield 48740 PSI, 336.05 MPA Tensile: 69080 PSI, 476.29 MPA %El: 31.5/8in, 31.5/200MM Def HT: 0, 0MM %Rh 0L

PRODUCED IN: JACKSON TN A4414

SHAPE + SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST P.O. NUMBER
A4 X 4 X 1/4	A36	ASTM A36-08; ASME SA-36	9180192-08	54562-08

HEAT I.D.	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Nb	B	N	Sn	Al	Ti	Zr	Ca	C Eqv
V902671	.15	.64	.014	.026	.21	.33	.08	.12	.028	.003	.001	.0005	.0089	.011	.002	.00100	.000	.00000	.317

Mechanical Test: Yield 46490 PSI, 320.54 MPA Tensile: 65440 PSI, 451.19 MPA %El: 34.5/8in, 34.5/200MM Def HT: 0, 0MM %Rh 0L
Mechanical Test: Yield 46870 PSI, 323.16 MPA Tensile: 66110 PSI, 455.81 MPA %El: 35.0/8in, 35.0/200MM Def HT: 0, 0MM %Rh 0L

PRODUCED IN: JACKSON TN A33316

SHAPE + SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST P.O. NUMBER
3 X 3 X 3/16	A36	ASTM A36-08; ASME SA-36	9180192-05	54562-05

HEAT I.D.	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Nb	B	N	Sn	Al	Ti	Zr	Ca	C Eqv
V902842	.15	.64	.009	.030	.20	.32	.09	.10	.026	.002	.001	.0006	.0082	.010	.001	.00100	.000	.00000	.308

Mechanical Test: Yield 47090 PSI, 324.67 MPA Tensile: 68220 PSI, 470.36 MPA %El: 32.0/8in, 32.0/200MM Def HT: 0, 0MM %Rh 0L
Mechanical Test: Yield 46490 PSI, 320.54 MPA Tensile: 67150 PSI, 462.98 MPA %El: 33.0/8in, 33.0/200MM Def HT: 0, 0MM %Rh 0L

his material, including the billets, was produced and manufactured in the United tates of America

Bhaskar Yalamanchili
Quality Director
Gerdau Ameristeel

THE ABOVE FIGURES ARE CERTIFIED EXTRACTS FROM THE ORIGINAL CHEMICAL AND PHYSICAL TEST RECORDS AS CONTAINED IN THE PERMANENT RECORDS OF COMPANY.

Mgr. Metallurg. Svcs.
JACKSON STEEL MILL

eller warrants that all material furnished shall comply with specifications subject to standard published manufacturing variations. NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, ARE MADE BY THE ELLER, AND SPECIFICALLY EXCLUDED ARE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE
no event shall seller be liable for indirect, consequential or punitive damages arising out of or related to the materials furnished by seller.
ny claim for damages for materials that do not conform to specifications must be made from buyer to seller immediately after delivery of same in order to allow the seller the opportunity to inspect the material in estion.

PO#4444

NUCOR STEEL - BERKELEY
P.O. Box 2239
Mt. Pleasant, S.C. 29466
Phone: (843) 336-6000

CERTIFIED MILL TEST REPORT

5/18/09 3:59:01

100% MELTED AND MANUFACTURED IN THE USA
All beams produced by Nucor-Berkeley are cast and rolled to a fully killed and fine grain practice.

Sold To: INFRA METALS CORP - CT
8 PENT HIGHWAY

WALLINGFORD, CT 06492

Ship To: INFRA METALS CORP - CT
8 PENT HIGHWAY

WALLINGFORD, CT 06492

Customer #.: 502 - 1
Customer PO: C13908-FE
B.O.L. #...: 742181

SPECIFICATIONS: Tested in accordance with ASTM specification A6/A6M and A370.
AASHTO : M270-50-05
ASTM : A992-06a;A36-08/A529-05-50/A572-07-50/A709-08 50/A709-345M

W1017

Description	Heat# Grade(s) Test	Yield/ Tensile Ratio	Yield (PSI) (MPa)	Tensile (PSI) (MPa)	Elong %	C Cr xxxxxx	Mn Mo xxxxxx	P Sn xxxxxx	S B xxxxxx	Si V N	Cu Nb xxxxxx	Ni xxxxxx CI	CE1 CE2 Pcm
W10x17	16J3332	.81	55200	68400	28.09	.06	.86	.009	.030	.17	.21	.05	.28
.040" 00.00"	A992-06a		381	472		.05	.01	.0008	.0003	.003	.015		.2753
W250X25.3		.80	54500	68000	28.53					.0050		4.59	.1343
012.1920m			376	469			8 Piece(s)					Lot#:	0
W10x19	2902066	.83	59900	72400	24.19	.06	.84	.008	.036	.20	.27	.06	.24
.040" 00.00"	A992-06a		413	499		.07	.01	.0108	.0003	.003	.029		.2873
W250X28.4		.85	61700	72700	24.39					.0068		5.28	.1369
012.1920m			425	501			16 Piece(s)					Lot#:	0
W10x22.0	2902132	.80	57400	72100	26.05	.06	.83	.009	.035	.20	.18	.05	.23
.040" 00.00"	A992-06a		396	497		.03	.01	.0081	.0003	.003	.027		.2711
W250X32.7		.80	57500	72200	25.44					.0069		4.35	.1269
012.1920m			396	498			12 Piece(s)					Lot#:	0
W12x19	1901042	.83	59300	71800	27.08	.06	.88	.008	.023	.21	.25	.06	.25
.045" 00.00"	A992-06a		409	495		.05	.01	.0098	.0003	.002	.026		.2920
W310X28.3		.83	60800	73000	26.64					.0060		5.13	.1385
013.7160m			419	503			16 Piece(s)					Lot#:	0

Elongation based on 8" (20.32cm) gauge length. 'No Weld Repair' was performed.
CI = 26.01Cu+3.88Ni+1.20Cr+1.49Si+17.28P-(7.29CuxNi)-(9.10NixP)-33.39(CuxCu)
Pcm = C+(Si/30)+(Mn/20)+(Cu/20)+(Ni/60)+(Cr/20)+(Mo/15)+(V/10)+5B

Hg free and no contact with Hg during manufacture.
CE1= C+(Mn/6)+((Cr+Mo+V)/5)+((Ni+Cu)/15)
CE2 = C+((Mn+Si)/6)+((Cr+Mo+V+Cb)/5)+((Ni+Cu)/15)

I hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with material specifications, and when designated by the Purchaser, meet applicable specifications.

Bruce A. Work
Metallurgist

(State of South Carolina
(County of Berkeley
Sworn and subscribed before me

_____ day of _____

6/27/09 20:36:17

CERTIFIED MILL TEST REPORT

NUCOR STEEL - BERKELEY
P.O. Box 2259
Mt. Pleasant, S.C. 29464
Phone: (843) 336-6000

100% MELTED AND MANUFACTURED IN THE USA
All beams produced by Nucor-Berkeley are cast and rolled to a fully killed and fine grain practice.

Sold To: INFRA METALS CORP - CT
8 PENT HIGHWAY
WALLINGFORD, CT 06492

Ship To: INFRA METALS CORP - CT
8 PENT HIGHWAY
WALLINGFORD, CT 06492

Customer #.: 502 - 1
B.O.L. #...: 757177

SPECIFICATIONS: Tested in accordance with ASTM specification A6/A6M and A370.
AASHTO : M270-50-05
ASTM : A992-06a:A36-08/A529-05-50/A572-07-50/A709-09S0S/A709-36M

W1039 (60')

Description	Heat# Grade(s) Test	Yield/ Tensile Ratio	Yield (PSI) [MPa]	Tensile (PSI) (MPa)	%Long %	C Cr	Mn Mo	P Sn	S B	Si V N	Cu Ni	Al CI	CEI CE2 Pcm
S8X23	2901861	.79	53900	68100	24.21	.07	.92	.008	.032	.21	.12	.09	.22
058' 00.00"	A992-06a		372	470		.03	.06	.0062	.0031	.002	.029		.2716
S200X34		.79	54200	68200	22.44					.0057		3.23	.1385
015.2400m			374	470		8 Piece(s)		Customer PO: C1901R				Inv#:	0
W10X39.0	2813897	.79	57300	72100	21.90	.07	1.11	.007	.025	.27	.19	.04	.28
060' 00.00"	A992-06a		395	497		.05	.00	.0093	.0004	.003	.028		.3364
W250X58		.80	57400	72200	21.43					.0047		4.47	.1509
018.2880m			396	498		4 Piece(s)		Customer PO: C1904REFX				Inv#:	0
W10X39.0	2902085	.80	58400	72200	24.65	.07	1.05	.009	.042	.28	.25	.06	.29
060' 00.00"	A992-06a		403	501		.07	.01	.0103	.0003	.003	.032		.3449
W250X58		.80	57200	71900	20.39					.0065		5.30	.1576
018.2880m			394	496		4 Piece(s)		Customer PO: C1904REFX				Inv#:	0
W12X26	2904690	.80	56400	70200	24.74	.06	.82	.011	.031	.22	.19	.04	.22
035' 00.00"	A992-06a		389	484		.03	.00	.0076	.0003	.002	.026		.2698
W310X38.7		.80	56300	70300	24.65					.0045		3.66	.1290
010.6680m			388	485		2 Piece(s)		Customer PO: C1909REFX				Inv#:	0

Elongation based on 8" (21.32cm) gauge length. "No Weld Repair" was performed. Hg free and no contact with Hg during manufacture.
CI = 26.01Cu+3.88Ni+1.20Cr+1.49Si+17.28P-(1.23Cu*Ni)-(9.10Ni*P)-33.39(Cu*Cu)
Pcm = C+(Si/30)+(Mn/20)+(Cu/20)+(Ni/60)+(Cr/20)+(Mo/15)+(V/10)+5B
CEI= C+(Mn/6)+[(Cr+Mo+V)/5]+[(Ni+Cu)/15]
CE2 = C+[(Mn+Si)/6]+[(Cr+Mo+V+Cb)/5]+[(Ni+Cu)/15]

I hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with material specifications, and when designated by the Purchaser, meet applicable specifications.

Bruce R. Work
Metallurgist

[State of South Carolina
[County of Berkeley
Sworn and subscribed before me

_____ day of _____

[redacted]

AHMSA ALTOS HORNOS DE MEXICO **MILL TEST CERTIFICATE** **AHMSA:QUALITY WITH THE STRENGTH OF STEEL** B977562

DATE OF ISSUE	PAGE
18.05.2003	1

WE HEREBY THAT CHEMICAL AND / OR TEST SHOW IN THIS REPORT ARE CORRECT AS CONTAINED THE RECORDS OF THE COMPANY.

ING. EDUARDO VILLANUEVA
METALLURGY MANAGER

CUSTOMER: COMMERCIAL METALS COMPANY DALLAS TRADING DIVISION

ADDRESS: 8545 N. MACARTHUR BLVD SUITE 800 .

PRODUCT: WIDE FLANGE BEAMS

TEST OF THE PRODUCT

HEAT	PACKET NO.	Y.STRENGTH	T.STRENGTH	ELON.
483451	2408211108	60.465(KSI)	79.191(KSI)	22(%)
411492	2601122758	58.148(KSI)	77.761(KSI)	22(%)
483492	2608389868	58.538(KSI)	79.866(KSI)	22(%)
483241	2508802298	60.068(KSI)	75.959(KSI)	20(%)
403341	2608082378	57.487(KSI)	75.789(KSI)	21(%)
483341	2608176488	68.118(KSI)	78.891(KSI)	12(%)
483341	2808174418	65.665(KSI)	79.826(KSI)	21(%)

SHIPPED PRODUCT

HEAT	PACKET NO.	NO.PIECES	HEIGHT(Inch)	FLANGE(Inch)	LENGTH(Foot)	WEIGHT(Lb/ft)	CUSTOMER ORD.	ORDER	ITEM	DELIVERY
188751	2805166628	6	11.0000	4.5400	48.0263	18.0	62111LOT1-	0000184979	000050	1803184149
311940	2408462708	32	8.2000	5.1500	48.0342	18.0	63318LOT1-	0040184919	000059	1081194148
288657	2605108618	31	8.0000	5.2500	48.0262	11.0	63318LOT1-	0000184979	000050	1801194169
291441	2409008958	16	6.0000	6.0000	40.0262	15.0	62311LOT1-	0000184975	000010	1083154149
191501	2608801178	24	6.0000	6.0000	48.0361	20.0	63317LOT1-	0080184919	000030	1801194149
291584	2609001178	24	6.0000	6.0000	49.0162	30.0	63318LOT1-	3080184979	000020	1001194149
291505	2408041218	12	6.0000	6.0000	48.0262	25.0	63331LOT1-	0000184979	000018	1081194149
301505	2609801310	6	6.0000	6.0000	48.0262	25.0	63331LOT1-	0000184938	000039	1081194149
482413	2480088660	36	6.0000	6.0000	48.0262	15.0	63318LOT1-	0100184979	028010	1001154169
481241	2600145110	27	6.0000	6.0000	48.0263	15.0	63331LOT1-	0000184972	000040	1003184149

END OF DATA

ISSUED : [illegible]

AHMSA'S COMPROMISE IS ONLY WITH THE CUSTOMER MENTIONED IN THIS CERTIFICATE. AHMSA WILL ONLY ACCEPT THE ORIGINAL DOCUMENT.

CC-01-F-01-A

Customer Name	Customer PO#	Shipper No	Heat Number
Mill Metals	54476	59482	291499

COMPAÑIA ESPAÑOLA DE LAMINACION, S.L.
OFICINAS: Polígono Industrial "SAN VICENTE", s/n
08755 Castellbisbal (BARCELONA) SPAIN
NIF: B-[illegible] Sociedad Unipersonal
Teléfono: +34 93 773 04 00 - Fax: +34 93 772 02 75
Calidad: +34 93 877 08 04 - Fax: +34 93 773 09 82

GRUPO CELSA

TEST CERTIFICATE
EN 10.204:2004, Type 3.1.

W1438 (60')

Standard: CSA G40.21-04 50W/ASTM A572-07, GRADE 50/A992-06A
Type: GRADE 50
St. Mec.: ASTM A6/A6M
St. Tol.: ASTM A6/A6M
Our Ref: 01370604 (B49-31B013)

Customer: WIRTH
1, WESTMOUNT SQUARE-SUITE 208
MONTREAL
Canada

Destination: WIRTH
CFR P.Q. [illegible]
Canada

Delivery number: 20311333
Order number: 18264183
Your order: 1461-M

*HEAT # CE150475

Material		Heat Number	C %	Mn %	Si %	S %	P %	Cr %	Ni %	Cu %	Mo %	Sn %	V %	Nb %	Al %	N %	CE %	Yield Str. MPa	Tensile Str. MPa	Yield/Tens. Str.	Elong. % in. %
GRADE 50	14" @ 30 LB/FT 40'	CE150473	0,140	1,120	0,210	0,020	0,015	0,070	0,090	0,360	0,015	0,014	0,039	0,000	0,001	0,0105	0,381	424	553	0,734	29,1
GRADE 50	14" @ 30 LB/FT 50'	CE150473	0,140	1,120	0,210	0,020	0,015	0,070	0,090	0,360	0,015	0,014	0,039	0,000	0,001	0,0105	0,381	401	553	0,733	29,2
GRADE 50	21" @ 76 LB/FT 35'	CE150473	0,140	1,120	0,210	0,020	0,015	0,070	0,090	0,360	0,015	0,014	0,039	0,000	0,001	0,0105	0,381	431	571	0,755	26,2
GRADE 50	21" @ 76 LB/FT 35'	CE150473	0,140	1,170	0,210	0,020	0,015	0,070	0,090	0,360	0,015	0,014	0,039	0,000	0,001	0,0105	0,381	433	568	0,761	25,4
GRADE 50	14" @ 38 LB/FT 50'	CE150474	0,110	1,140	0,180	0,013	0,017	0,080	0,100	0,440	0,017	0,015	0,039	0,000	0,002	0,0114	0,349	419	515	0,814	30,7
GRADE 50	14" @ 38 LB/FT 60'	CE150474	0,110	1,143	0,170	0,013	0,017	0,080	0,100	0,440	0,017	0,015	0,038	0,000	0,002	0,0116	0,345	437	537	0,813	30,0
GRADE 50	16" @ 31 LB/FT 60'	CE150475	0,120	1,145	0,170	0,008	0,017	0,100	0,100	0,490	0,022	0,016	0,031	0,002	0,001	0,0114	0,346	430	596	0,734	23,9
GRADE 50	16" @ 31 LB/FT 60'	CE150475	0,120	1,145	0,170	0,008	0,017	0,100	0,100	0,490	0,022	0,015	0,031	0,000	0,001	0,0114	0,349	412	510	0,747	23,3
GRADE 50	16" @ 36 LB/FT 60'	CE150477	0,110	1,110	0,160	0,019	0,023	0,130	0,120	0,450	0,020	0,016	0,037	0,002	0,002	0,0117	0,342	430	587	0,733	24,0
GRADE 50	16" @ 36 LB/FT 60'	CE150477	0,110	1,110	0,140	0,018	0,023	0,130	0,120	0,410	0,020	0,017	0,037	0,002	0,000	0,0117	0,342	436	585	0,745	24,4
GRADE 50	8" @ 24 LB/FT 45'	CE150478	0,110	1,100	0,180	0,015	0,020	0,110	0,110	0,480	0,020	0,016	0,036	0,000	0,002	0,0118	0,343	423	531	0,798	23,0
GRADE 50	8" @ 24 LB/FT 50'	CE150478	0,110	1,100	0,180	0,015	0,020	0,110	0,110	0,480	0,020	0,016	0,036	0,000	0,002	0,0118	0,343	428	561	0,763	22,6
GRADE 50	14" @ 31 LB/FT 40'	CE150479	0,120	1,120	0,110	0,012	0,015	0,100	0,110	0,470	0,021	0,016	0,037	0,003	0,002	0,0122	0,376	432	550	0,785	26,2
GRADE 50	14" @ 34 LB/FT 50'	CE150479	0,120	1,121	0,110	0,012	0,015	0,100	0,110	0,470	0,021	0,016	0,037	0,003	0,002	0,0121	0,376	416	564	0,733	28,1
GRADE 50	14" @ 34 LB/FT 55'	CE150479	0,120	1,121	0,110	0,012	0,015	0,100	0,110	0,410	0,021	0,016	0,037	0,003	0,002	0,0121	0,376	421	530	0,785	26,1

-Product suitable for galvanizing: 0.14<=Si<=0.25 & P<=0.035.
-Intended use: construction and civil engineering.
-Durability: not determined.
-Regulated substances: not determined

Castellbisbal, 23.10.2008

Javier González Urbea
Quality Control Manager

COMPAÑIA ESPAÑOLA DE LAMINACION, S.L.
CELSA
CASTELLBISBAL

P.O.: 54228 BOB
95179651

095027891

Customer Name Mill Metals

Customer PO# 54476

Shipper No 59482

Heat Number 293365

ALTOS HORNOS DE MEXICO S.A. DE C.V.

PACKING LIST

DATE	CLIENT	RECEIPT	HEAT NUMBER	COIL NUMBER	NET WEIGHT (MT)	GROSS WEIGHT (MT)	OUR ORDER	PRODUCT	YOUR ORDER	THICKNESS (IN)	WIDTH (IN)	INVOICE NUMBER	RAILCAR NUMBER
24-Jul-09	COMMERCIAL METALS COMPANY	1001214996	186512	260817435A	9.531	9.531	105628 - 30	PGOV	62397LOT1-JUN09	8.0000	4.0000	8000033111	ATW-400632
24-Jul-09	COMMERCIAL METALS COMPANY	1001214996	187777	260815002A	4.468	4.468	104979 - 70 -	PGOV	62319LOT1-MAY09	18.0000	6.0000	8000033111	ATW-400632
24-Jul-09	COMMERCIAL METALS COMPANY	1001214996	187778	260814974A	4.468	4.468	104979 - 70 -	PGOV	62319LOT1-MAY09	18.0000	6.0000	8000033111	ATW-400632
24-Jul-09	COMMERCIAL METALS COMPANY	1001214996	193471	260902960B	6.535	6.535	104979 - 60 -	PGOV	62319LOT1-MAY09	12.0000	6.5000	8000033111	ATW-400632
24-Jul-09	COMMERCIAL METALS COMPANY	1001214996	193469	260902985B	2.723	2.723	105628 - 60	PGOV	62397LOT1-JUN09	12.0000	6.5000	8000033111	ATW-400632
24-Jul-09	COMMERCIAL METALS COMPANY	1001214996	193469	260902985F	2.723	2.723	105628 - 60	PGOV	62397LOT1-JUN09	12.0000	6.5000	8000033111	ATW-400632
24-Jul-09	COMMERCIAL METALS COMPANY	1001214996	193469	260902985E	2.179	2.179	105628 - 60	PGOV	62397LOT1-JUN09	12.0000	6.5000	8000033111	ATW-400632
24-Jul-09	COMMERCIAL METALS COMPANY	1001214996	193469	260902985C	2.178	2.178	105628 - 60	PGOV	62397LOT1-JUN09	12.0000	6.5000	8000033111	ATW-400632
24-Jul-09	COMMERCIAL METALS COMPANY	1001214996	192707	260900722A	9.531	9.531	105628 - 40	PGOV	62397LOT1-JUN09	8.0000	5.2500	8000033111	ATW-400632
24-Jul-09	COMMERCIAL METALS COMPANY	1001214996	192708	260900758B	9.150	9.150	105628 - 40	PGOV	62397LOT1-JUN09	8.0000	5.2500	8000033111	ATW-400632
24-Jul-09	COMMERCIAL METALS COMPANY	1001214996	192708	260900756C	2.287	2.287	105628 - 40	PGOV	62397LOT1-JUN09	8.0000	5.2500	8000033111	ATW-400632
24-Jul-09	COMMERCIAL METALS COMPANY	1001214996	293140	260902074A	9.440	9.440	105628 - 50	PGOV	62397LOT1-JUN09	10.0000	5.7500	8000033111	ATW-400632
24-Jul-09	COMMERCIAL METALS COMPANY	1001214996	293365	260902564A	9.531	9.531	105628 - 70	PGOV	62397LOT1-JUN09	12.0000	6.5000	8000033111	ATW-400632
					74.744	74.744						Total 8000033111	

Received: 10/20/08 17:54; -> ACIER LEROUX ; Page 5
10/20/2008 LUN 17:36 FAX 006/008
08:44 10-01 TO: 14506227105

NUCOR STEEL - BERKELEY
P.O. Box 2259
Mt. Pleasant, S.C. 29464
Phone: (843) 336-6000

MILL TEST REPORT

10/01/08 6:38:44

100% MELTED AND MANUFACTURED IN THE USA
All beams produced by Nucor-Berkeley are cast and rolled to a fully killed and fine grain practice.

Sold To: ACIER LEROUX, A DIVISION OF
RUSSEL METALS, INC.
1331 GRAHAM BELL
BOUCHERVILLE, QC J4B 6A1

Ship To: ACIER LEROUX, A DIVISION OF
RUSSEL METALS, INC.
1331 GRAHAM BELL
BOUCHERVILLE, QC J4B 6A1

Customer #.: 610 - 10
B.O.L. #...: 719506

SPECIFICATIONS: Tested in accordance with ASTM specification A6/A6M and A370.
AASHTO : M270-50-05
ASTM : A992-06a:A572-07-50/A709-07 50/A709-345M

W1015

Description	Heat# Grade(s) Test	Yield/ Tensile Ratio	Yield (PSI) (MPa)	Tensile (PSI) (MPa)	Elong %	C Cr xxxxxx	Mn Mo xxxxxx	P Sn xxxxxx	S B xxxxxx	Si V N	Cu Nb xxxxxx	Ni xxxxxx CI	CE1 CE2 Pcm
W10x12 035' 00.00" W250X17.9 010.6680m	2813348 A992-06a	.82 .81	55200 381 55200 381	67500 463 67900 468	24.84 25.18	.06 .04	.85 .00	.008 .0073	.044 .0002	.18 .002 .0064	.17 .012	.04 4.10	.23 .2721 .1321
						24 Piece(s)		Customer PO: M95005987				Inv#:	0
W10x12 040' 00.00" W250X17.9 012.1920m	1813485 A992-06a	.82 .83	54500 378 55400 382	67100 463 67100 463	28.65 26.56	.06 .03	.84 .01	.008 .0089	.027 .0002	.19 .003 .0096	.20 .013	.05 4.51	.23 .2700 .1302
						40 Piece(s)		Customer PO: M95005987				Inv#:	0
W10x12 050' 00.00" W250X17.5 015.2400m	1813437 A992-06a	.83 .83	58000 400 58100 401	69900 482 70200 484	27.36 25.48	.07 .06	.85 .00	.031 .0074	.037 .0002	.24 .003 .0084	.20 .019	.04 4.62	.24 .2903 .1376
						24 Piece(s)		Customer PO: M95005987				Inv#:	0
W10x15 050' 00.00" W250X22.3 015.2400m	2812325 A992-06a	.82 .81	57100 394 56000 386	69500 479 69200 477	27.46 26.89	.07 .05	.89 .01	.009 .0063	.036 .0004	.21 .002 .0053	.16 .015	.04 4.08	.25 .2939 .1422
						8 Piece(s)		Customer PO: M95005987				Inv#:	0

Elongation based on 8" (20.32cm) gauge length. 'No Weld Repair' was performed.
CI = 26.01(Cu)+3.88Ni+1.20Cr+1.49Si+17.28P-(7.29CuxNi)-(9.10NixP)-33.39(CuxCu)
Pcm = C+(Si/30)+(Mn/20)+(Cu/20)+(Ni/60)+(Cr/20)+(Mo/15)+(V/10)+5B

Hg free and no contact with Hg during manufacture.
CE1= C+(Mn/6)+((Cr+Mo+V)/5)+((Ni+Cu)/15)
CE2 = C+((Mn+Si)/6)+((Cr+Mo+V+Cb)/5)+((Ni+Cu)/15)

I hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with material specifications, and when designated by the Purchaser, meet applicable specifications.

Bruce A. Work
Metallurgist

51710.60'
9 [illegible]0084

LEROUX

095025999

(10)

W810 (40')

檢査證明書
INSPECTION CERTIFICATE

MILL TEST CERTIFICATE

현대제철주식회사
HYUNDAI STEEL COMPANY
본 사 :인천광역시 동구 송현동 1번지
Head Office : Song Hyun-Dong, Dong Ku, Incheon, Korea

契約番號 Contract No.:
注文者 Customer: WIRTH STEEL
信用狀番號 L/C No.:
購買番號 P/O No.: 46200901B003
品名 Commodity: WIDE FLANGE BEAMS
規格 Specification: CSA G40.21 50W/ASTM A572 GRADE 50/ASTM A992-06(TRIPLE CERTIFIED)

證明書番號 Certificate No.: IH20090300225 - 3
船級證明書番號 Class Cert. No.:
發行日字 Date of Issue: 2009-03-04

規格 Dimensions & Length	製鋼番號 Heat No.	數量 (PCS) 重量 (KgS)	C (x100)	Si (x100)	Mn (x100)	P (x1000)	S (x1000)	Cu Ni (x100)	Mo Cr (x100)	Al V (x1000)	Nb (x1000)			引張强度 T.S (N/mm2)	降伏點 Y.P (N/mm2)	延伸率 EL(2) (%)	屈曲試驗 Bend Test ( )	Impact Test AVG	1	2	3	備考 Remarks(3)
6X6X20 20.00 FT	D 085319	8 4,352	18	18	64	35	13	23 7	2 12	1	14			543.3 539.4	407.0 403.1	26.5 26.0						
6X6X25 40.00 FT	D 085306	8 3,624	18	15	66	30	21	25 8	2 7	2	18			544.3 539.4	396.2 402.1	25.5 25.0						
6X6X25 40.00 FT	D 085307	8 3,624	18	14	65	24	19	29 10	3 6	1	17			544.3 541.3	396.2 393.2	26.0 25.5						
8X8X25 40.00 FT	D 085309	16 7,248	12	13	124	29	21	32 12	3 8	1	22			543.3 540.3	397.2 400.1	25.2 25.5						
6X6X25 50.00 FT	D 085308	24 13,608	16	15	66	30	21	25 8	2 7	2	18			544.3 539.4	396.2 402.1	25.5 25.0						
8X6X25 60.00 FT	D 083949	1 680	17	19	78	30	20	25 8	2 10	4	15			509.6 514.8	375.6 380.5	27.0 26.5						
8X6X25 60.00 FT	D 085307	12 8,160	18	14	65	24	19	29 10	3 6	1	17			544.3 541.3	398.2 393.2	25.0 25.5						
6X6X25 60.00 FT	D 085309	2 1,360	12	13	124	29	21	32 12	3 8	1	22			543.3 540.3	397.2 400.1	25.2 25.5						
8X4X10 40.00 FT	D 084957	60 10,860	19	18	67	34	21	34 9	3 9	1	23			544.3 546.2	418.7 420.7	25.0 25.5						
SUB TOTAL		139 53,516																				

(Impact Test columns 1–3: C, V-Notch)

(註) (1) Ceq:　　(2) Gauge length : 200 mm　　(3) Impact Specimen Size

Note : ISSUED ONLY BY HYUNDAI STEEL COMPANY
- ORDER NUMBER : 8457-M

상기의 제품은 검사의 결과 지정된 규격에 합격된 것을 증명합니다.

WE HEREBY CERTIFY THAT THE MATERIAL HAS BEEN MADE AND TESTED IN ACCORDANCE WITH THE ABOVE SPECIFICATION AND ALSO WITH THE REQUIREMENTS CALLED FOR THE ABOVE ORDER

K. S. Shim

品質保証 Team 長
MGR of Q.A Team

입 회 자
Witnessed by

2009014　　A4(210×297)

양식 HMS 1102(A)-3a

LEROUX

095028309

※ 위 이미지는 국소 자체 인증 내용 ... 에서 사용되는 2D 코드 입니다.

PO#4444

#3.

Atlas Tube Canada ULC
200 Clark St.
Harrow, Ontario, Canada
N0R 1G0
Tel: 519-738-3541
Fax: 519-738-3537

Ref.B/L: 80341226
Date: 05.14.2009
Customer: 97

MATERIAL TEST REPORT

Sold to

Leroux Steel-Div of Russel M
1331 Graham Bell
BOUCHERVILLE QC J4B 6A
CANADA

Shipped to

Leroux Steel-Div of Russel M
1331 Graham Bell
BOUCHERVILLE QC J4B 6A
CANADA

Material: 4.0x3.0x188x48'0"0(5x3). Material No: 400301884800 Made in: Canada
Sales order: 470448 Purchase Order: M94020444 SP

Heat No	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V	Ti
M84049	0.170	0.780	0.014	0.010	0.011	0.049	0.020	0.001	0.003	0.010	0.030	0.001	0.001

Bundle No	Yield	Tensile	Eln.2in	Certification	CE: 0.31
M100849649	064450 Psi	074280 Psi	31.8 %	ASTM A500-07 GRADE B&C	

Material Note:
Sales Or.Note:

Material: 4.0x4.0x375x48'0"0(4x2). Material No: 400403754800 Made in: Canada
Sales order: 466381 Purchase Order: M94020225 SP

Heat No	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V	Ti
756420	0.060	0.540	0.011	0.007	0.012	0.036	0.030	0.036	0.003	0.009	0.030	0.000	0.002

Bundle No	Yield	Tensile	Eln.2in	Certification	CE: 0.16
M100857084	077150 Psi	083760 Psi	25.0 %	ASTM A500-07 GRADE B&C	

Material Note:
Sales Or.Note: T4438

Material: 4.0x4.0x375x48'0"0(4x2). Material No: 400403764800 Made in: Canada
Sales order: 466381 Purchase Order: M94020225 SP

Heat No	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V	Ti
801436	0.060	0.540	0.013	0.010	0.010	0.061	0.027	0.035	0.007	0.009	0.037	0.000	0.002

Bundle No	Yield	Tensile	Eln.2in	Certification	CE: 0.16
M100854572	075080 Psi	081280 Psi	25.0 %	ASTM A500-07 GRADE B&C	

Material Note:
Sales Or.Note:

Material: 7.0x5.0x500x48'0"0(3x1). Material No: 700505004800 Made in: Canada
Sales order: 466411 Purchase Order: M94020240 SP

Heat No	C	Mn	P	S	Si	Al	Cu	Cb	Mo	Ni	Cr	V	Ti
M84307	0.190	0.810	0.018	0.010	0.014	0.054	0.020	0.004	0.002	0.010	0.030	0.001	0.001

Bundle No	Yield	Tensile	Eln.2in	Certification	CE: 0.34
M100853017	066000 Psi	085030 Psi	34.5 %	ASTM A500-07 GRADE B&C	

Material Note:
Sales Or.Note:

Authorized by Quality Assurance:
The results reported on this report represent the actual attributes of the material furnished and indicate full compliance with all applicable specification and contract requirements.
CE calculated using the AWS D1.1 method.

Steel Tube Institute OF NORTH AMERICA

LEROUX

094048851

Metals Service Center Institute

NOVAMERICAN STEEL PHILADELPHIA
600 Dean Sievers Place
Morrisville, PA, 19067
Tel: 215-295-8813 Fax: 215-295-8790

TEST CERTIFICATE

JUL 24 2009

Sold to: MILL STEEL CORP
Ship to: MILL STEEL CORP
62 MAPLE STREET
MANCHESTER, NH

03103

DATE SHIPPED: 07/23/09
B/L #: 170759
P.O. #.54210
SALES ORDER #: 136505

Description	Dimensions	Pcs	Mill/Heat Number	Specifications
HSS Square Tubing	4x4x0.250x576	24	DOF /209360	ASTM A 500 GR C T4414

Chemical Analysis

Heat Number	C	Mn	P	S	Si	Cu	Ni	Cr	Cb	Mo	V	Al	N	Sn	B	Ti
DOF 209360	0.200	0.789	0.009	0.008	0.012	0.022	0.011	0.037	0.000	0.004	0.001	0.038	0.004	0.001	-	0.000

Mechanical Test Results

Heat Number/Size or Ser#	Yield	Tensile	Elong.%	N-fact	Crush
209360 HSS 4x4x0.250 (Tail)	58,450 PSI	68,704 PSI	32.00(2")		

Heat # Manufactured in
209360 United States DOFASCO INC.

Authorized by Damian Onuoha, Quality Ctrl Dept

JUL 23, 2009N

PO#4444

BULL MOOSE TUBE COMPANY

BULL MOOSE TUBE ELKHART FACILITY — CERTIFICATION OF TESTS — Page 1 of 2

1819 Clarkson Rd
Chesterfield Missouri 63017

BILL TO: Mill Metals Corp.
62 Maple Street
Manchester NH 03103

JUL 22 2009

SHIP TO: Mill Metals Corp
62 Maple Street
Manchester NH 03103

S/L Number 191857 — Ship Via — 139_4919.F

1.25" Sch 40 X 21' UP11440
42.2 mm — Ladle Analysis and Physicals
ASTM A500-07 GRADE B
Order # 289618
Purchase Order # 54202
Item # 104176 1062
Ticket # = 31100879 — Heat # = 76166M09

C	MN	P	S	AL	SI	CB	CU	NI	VA	P	NB	YLD psi	TSN psi	EL
170	340	.006	.008	033	013	.001	010	0.000	001			59700	68200	49

1.25" Sch 40 X 21' UP11440
42.2 mm — Ladle Analysis and Physicals
ASTM A500-07 GRADE B
Order # 289618
Purchase Order # 54202
Item # 104176 1062
Ticket # = 31102166 — Heat # = 10913910

C	MN	P	S	AL	SI	CB	CU	NI	VA	P	NB	YLD psi	TSN psi	EL
050	.320	.008	.005	.020	.010	0.000	120	050	001			63800	66300	40

4" SQ X 0.375 HR X 24' T4438
101.6 mm — Ladle Analysis and Physicals
ASTM A500-07 GRADE B & C — Structural-Dual Certified
Order # 289676
Purchase Order # 54202
Item # 107642 2560
Ticket # = 50932922 — Heat # = 75796M09

C	MN	P	S	AL	SI	CB	CU	NI	VA	P	NB	YLD psi	TSN psi	EL
060	.810	.011	.010	046	020	030	010	010	002			60190	70440	36

Heat # = 87973M09

C	MN	P	S	AL	SI	CB	CU	NI	VA	P	NB	YLD psi	TSN psi	EL
050	.760	.011	.008	.043	016	028	.010	0.000	002			63570	72281	35

4" SQ X 0.375 HR X 24' T4438
101.6 mm — Ladle Analysis and Physicals
ASTM A500-07 GRADE B & C — Structural-Dual Certified
Order # 289676
Purchase Order # 54202
Item # 107642 2560
Ticket # = 51924227 — Heat # = L4817

C	MN	P	S	AL	SI	CB	CU	NI	VA	P	NB	YLD psi	TSN psi	EL
060	660	.010	.008	.036	.020	024	140	040	001			60390	71411	36

Quality Manager: Richard Long

THIS WELDED STEEL TUBING IS MANUFACTURED IN THE UNITED STATES OF AMERICA AND HAS BEEN PRODUCED IN ACCORDANCE WITH THE STATED SPECIFICATION. LADLE CHEMISTRIES ARE REPORTED FROM DOCUMENTS PROVIDED BY THE SUPPLYING STEEL MIL. ANY PHYSICAL AND MECHANICAL TESTING RESULTS SHOWN ON THIS CERTIFICATION ARE CORRECT AS CONTAINED IN THE RECORDS OF THE COMPANY

GERDAU AMERISTEEL

CARTERSVILLE STEEL MILL
384 OLD GRASSDALE RD NE
CARTERSVILLE GA 30121 USA
(770) 387-3300

Chemical and Physical Test Report

Made and Melted in USA

G-123708

SHIP TO	INVOICE TO	SHIP DATE
LEROUX STEEL 167 ROTTERDAM ST AUGUSTIN, PQ G3A 2K2	LEROUX-STEEL D/V of RUSSEL METALS INC. 1331 GRAHAM BELL BOUCHERVILLE, PQ J4B 6A1	08/29/08 CUST. ACCOUNT NO 80005840

PRODUCED IN: CARTERSVILLE

SHAPE + SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST P.O. NUMBER
W10 X 12#	A572Gr50/992	ASTM A572 GR50-07, ASTM A992 -06A	8070725-01	85014390-01

HEAT I.D.	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Nb	B	N	Sn	Al	Ti	Ca	Zn	C Eqv
G804544	.09	.38	.010	.025	.29	.26	.08	.04	.019	.025	.002	.0005	.0112	.009	.000	.00200	.00410	.00280	.29

Mechanical Test: Yield 62800 PSI, 432.99 MPA Tensile: 76400 PSI, 519.66 MPA %El: 23.8/8in, 23.8/200MM
Customer Requirements: CASTING: STRAND CAST
Mechanical Test: Yield 63500 PSI, 437.82 MPA Tensile: 76000 PSI, 524 MPA %El: 25.3/8in, 25.3/200MM
Customer Requirements: CASTING: STRAND CAST

PRODUCED IN: CARTERSVILLE W810

SHAPE + SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST P.O. NUMBER
W8 X 10#	A572Gr50/992	ASTM A572 GR50-07, ASTM A992 -06A	8071857-02	95005861-02

HEAT I.D.	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Nb	B	N	Sn	Al	Ti	Ca	Zn	C Eqv
G804698	.14	.94	.010	.027	.20	.26	.09	.04	.020	.016	.001	.0004	.0112	.011	.001	.00150	.00170	.00300	.338

Mechanical Test: Yield 60300 PSI, 415.75 MPA Tensile: 76900 PSI, 530.21 MPA %El: 21.6/8in, 21.6/200MM
Customer Requirements: CASTING: STRAND CAST
Mechanical Test: Yield 57500 PSI, 396.45 MPA Tensile: 76300 PSI, 526.07 MPA %El: 24.8/8in, 24.8/200MM
Customer Requirements: CASTING: STRAND CAST

All manufacturing processes including melt and cast, occurred in USA. MTR complies with EN10204 3.1B

Bhaskar Yalamanchili
Quality Director
Gerdau Ameristeel

THE ABOVE FIGURES ARE CERTIFIED EXTRACTS FROM THE ORIGINAL CHEMICAL AND PHYSICAL TEST RECORDS AS CONTAINED IN THE PERMANENT RECORDS OF COMPANY.

Mgr. Metallurg. Svcs.
CARTERSVILLE STEEL MILL

LEROUX

095025764

PO#4444

NOVAMERICAN STEEL PHILADELPHIA
600 Dean Sievers Place
Morrisville, PA, 19067
Tel: 215-295-8813 Fax: 215-295-8798

TEST CERTIFICATE

JUL 24 2009

Sold to: MILL STEEL CORP
Ship to: MILL STEEL CORP
62 MAPLE STREET
MANCHESTER, NH

03103

DATE SHIPPED: 07/23/09
B/L #: 170759
P.O. #:54210
SALES ORDER #: 136505

Description	Dimensions	Pcs	Mill/Heat Number	Specifications
HSS Square Tubing	4x4x0.250x576	24	DOF /209360	ASTM A 500 GR C T4414

Chemical Analysis

Heat Number	C	Mn	P	S	Si	Cu	Ni	Cr	Cb	Mo	V	Al	N	Sn	B	Ti
DOF 209360	0.200	0.789	0.009	0.008	0.012	0.022	0.011	0.037	0.000	0.004	0.001	0.038	0.004	0.001	-	0.000

Mechanical Test Results

Heat Number/Size or Ser#	Yield	Tensile	Elong.%	N-face	Crush
209360 HSS 4x4x0.250 (Tail)	58,450 PSI	68,704 PSI	32.00(2")		

Heat # Manufactured in
209360 United States DOFASCO INC.

Authorized by Damian Onuoha, Quality Ctrl Dept

JUL 23, 2009N

FASTENAL®

Certificate of Compliance

Sold To:

L.M.C. LIGHT IRON INC.

Purchase Order: 2876

Job:

Invoice Date: 09/10/2009

THIS IS TO CERTIFY THAT WE HAVE SUPPLIED YOU WITH THE FOLLOWING PARTS.
THESE PARTS WERE PURCHASED TO THE FOLLOWING SPECIFICATIONS.

105 PCS 3/4"-10 x 1-3/4" w/ Nuts A325 Plain Structrl Bolt ASTM FQI SUPPLIED UNDER OUR TRACE NUMBER 160016821 AND UNDER PART NUMBER 42603

105 PCS 3/4"A325 Plain F436 Dom Structural Flat Washer SUPPLIED UNDER OUR TRACE NUMBER 120053423 AND UNDER PART NUMBER 0133546

8 PCS 3/4"-10 x 7-1/2" NAP ASTM A325 Plain Structural Bolt w/Nut SUPPLIED UNDER OUR TRACE NUMBER 120060932 AND UNDER PART NUMBER 19248

8 PCS 3/4"A325 Plain F436 Dom Structural Flat Washer SUPPLIED UNDER OUR TRACE NUMBER 120053423 AND UNDER PART NUMBER 0133546

2 PCS 5/8"-11 x 6' Low Carbon Zinc Plated Continuous Threaded Rod SUPPLIED UNDER OUR TRACE NUMBER 160015308 AND UNDER PART NUMBER 47169

20 PCS 5/8" USS Yellow Zinc Plated Thru-Hard Washer SUPPLIED UNDER OUR TRACE NUMBER 160020818 AND UNDER PART NUMBER 1133863

50 PCS 1/2" x 6-1/8" Weld Stud Concrete Anchors SUPPLIED UNDER OUR TRACE NUMBER 160019424 AND UNDER PART NUMBER 35020

This is to certify that the above document is true and accurate to the best of my knowledge.

Fastenal Account Representative

This document was printed on 10/01/2009 and was current at that time. Please check current revision to avoid using obsolete copies.

Exhibit B

061000 Wood Construction

Project: Crescent Heights
Date Prepared: May 10, 2010

Structural Schedule of Special Inspection Services

FABRICATION AND IMPLEMENTATION PROCEDURES – WOOD TRUSSES

VERIFICATION AND INSPECTION IBC Section 1704.2	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- 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	S	Fabricator shall submit one of the two qualifications	SI I	PE/SE or EIT	
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	SI I	PE/SE or EIT	

Project: Crescent Heights
Date Prepared: May 10, 2010

Structural Schedule of Special Inspections
WOOD CONSTRUCTION

VERIFICATION AND INSPECTION IBC Section 1704.6	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	SI	PE/SE or EIT	
b. Verify the nominal size of framing members at adjoining panel edges	Y	P	IBC 1704.6	SI	PE/SE or EIT	
b. Verify the nail or staple diameter and length	Y	P	IBC 1704.6	SI	PE/SE or EIT	
b. Verify the number of fastener lines	Y	P	IBC 1704.6	SI	PE/SE or EIT	
b. Verify the spacing between fasteners in each line and at edge margins	Y	P	IBC 1704.6	SI	PE/SE or EIT	
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 1715 [submit ICBO reports]		PE/SE or EIT	

Project: Crescent Heights Luxury Apartments
Date Prepared: May 10, 2010

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: Crescent Heights Luxury Apartments

Fabricator's Name: Hancock Lumber Company Inc

Address: PO Box 299 Casco Maine 04015

Certification or Approval Agency:

Certification Number:

Date of Last Audit or Approval:

Description of structural members and assemblies that have been fabricated:

To the best of my knowledge; Hancock Lumber Company supplied pre-fabricated wall panels and pre-engineered floor + Roof trusses in compliance with construction drawings and contractor approved shop drawings.

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

Signature

5/26/10
Date

CFO
Title

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

BECKER
structural engineers, inc.

CRESCENT HEIGHTS APARTMENT SUITES – FRAMING			
1	Open 11/25/09	First Floor Framing: At column line E between column lines 1 & 2, W8x10 is coped due to beam pocket elevation being too high. Provide coping as detailed on SKS-21 REV. 1. 2/17/10 – reinforcing plates observed.	**Closed** 2/17/10
2	Open 11/25/09	First Floor Framing: (2)2x10 w/Simpson MSTC40 strap drag strut not installed on west side of Stair 1 as indicated on S1.2. Install as indicated on drawings. 2/5/10 – Strap observed.	**Closed** 2/5/10
3	Open 11/25/09	First Floor Framing: Bearing wall and LVL corridor framing per SKS-5 & SKS-11 not installed. Wall and floor framing must be revised per drawings. 2/5/10 – Framing observed	**Closed** 2/5/10
4	Open 11/25/09	First Floor Framing: Shearwall SW-3 on east side of building has many nails overdriven. G/C shall provide means for special inspector to observe entirety of shearwall elevation to evaluate extents of overdriven fasteners prior to recommendations being issued. 3/17/10 – Observed fastening for SW-3 on east side of building is acceptable.. 3/22/10 – Observed fastening for shearwall on North side of building is acceptable.. **4/1/10 – Observed fastening for shearwall on Line 5 is acceptable.**. G/C shall also provide means for special inspector to observe plywood fastening at SW-3 on grid line 5.	**Revised** 3/17/10 **Revised** 3/22/10 **Closed** 4/1/10
5	Open 11/25/09	First Floor Framing: Plywood overlap onto P.T. sill plate at Shearwall SW-3 on east side of building is damaged due to removing fasteners into bottom plate and "ripping" studs to height while still assembled as a panel. Damaged plywood overlap was also observed at SW-3 on grid line 5. G/C shall provide means for special inspector to observe damaged plywood at SW-3 on grid line 5 prior to recommendations being issued. 2/5/10 – G/C expressed desire to incorporate (2) layers of blocking screwed down into wall bottom plate w/ 5/16" dia x 5 1/8" long RSS screws @6" o.c. and provide new sheathing fastening into new blocking at all exterior shearwalls. This option is acceptable, G/C must provide special inspector access to view new shearwall fasteners. *3/9/10 - New fastening of exterior sheathing along wall bottom plate @SW-5 on Line C was observed to be overdriven. This is acceptable provided that when installing interior gypsum wallboard finish, screws of a minimum length of 1 5/8" shall be used to fasten wallboard to studs & blocking @12" o.c.* 3/17/10 – Observed new fastening for SW-3 into new blocking on east side of building is acceptable. 3/22/10 – Observed new fastening into new blocking on North side of building is acceptable. **4/1/10 – Observed new fastening into new blocking on Line 5 is acceptable.**	**Revised** 3/9/10 **Revised** 3/17/10 **Revised** 3/22/10 **Closed** 4/1/10
6	Open 11/25/09	First Floor Framing: Hot dipped galvanized nails were not present where plywood is to be fastened to P.T. sill plate. Provide per ~~**Shearwall Schedule or**~~ IBC Table 2304.9.1 where not specified per general noted on S1.0. **Revised 2/5/10 4/8/10 - Observed fastening**	**Closed** 4/8/10
7	Open 11/25/09	First Floor Framing: Posts must be provided each end of LVL alongside SW-3 on Column Line B. At noted SW-3, end post must be provided at exterior wall. 2/5/10 – Posts observed, strap at exterior wall not continuous from post above. G/C shall install Simpson HTS30 twist strap ea side of beam.. 2/17/10 – strap observed	**Closed** 2/17/10
8	Open 11/25/09	First Floor Framing: Post must be provided at end of East exterior wall adjacent to existing shearwall end post to support top plate at truss bearing. 2/5/10 – Post observed	**Closed** 2/5/10
9	Open	First Floor Framing: Blocking at SW-3 locations is split due to lack of	**Revised**

	11/25/09	3x (or (2)2x) blocking as specified. Install new blocking top and bottom of existing blocking and re-nail into new blocking as specified in shearwall schedule. *2/5/10 – New blocking observed, G/C must provide access to special inspector to view fastening into new blocking.* *3/9/10 – nailing into new blocking was observed omitted in SW-3 along column line 1* 3/17/10 – Observed new fastening for SW-3 into new blocking on east side of building is acceptable. **4/1/10 – Observed new fastening for SW-3 into new blocking on Line 5 is acceptable** **4/8/10 – Observed fastening for all SW-3**	3/9/10 **Revised** 3/17/10 **Revised** 4/1/10 **Closed** 4/8/10
10	Open 11/25/09	First Floor Framing:. Shearwall Hold downs must be installed as specified at all shearwall locations. 2/5/10 – Hold downs observed at all locations.	**Closed** 2/5/10
11	Open 11/25/09	First Floor Framing:. Bottom plates typically not fastened to sill plate. Provide hot dipped galvanized fastening per IBC table 2304.9.1. 2/17/10 – RSS screws observed fastening bottom plate to sill plate.	**Closed** 2/17/10
12	Open 11/25/09	First Floor Framing:. Locations of double-sided shearwalls SW-4 & SW-5 must receive 2nd. layer of sheathing per shearwall schedule. **2/5/10 – G/C made it known that interior layer of sheathing will be installed once "rough-ins" and insulating is complete.** 3/4/10 – interior sheathing observed installed at all exterior locations. Interior wall yet to be sheathed both sides	**Closed** 3/4/10
13	Open 11/25/09	First Floor Framing:. Posts in corridor wall adjacent to elevator noted on S1.2 as "from above" are missing. See S1.3 for posts sizes and locations. 2/5/10 – Posts observed.	**Closed** 2/5/10
14	Open 11/25/09	First Floor Framing:. Concrete pier below HSS 4x4 @ grid intersection A-8 is spawled. Please patch with approved patching compound per SKS-22. **5/5/10** – photo provided by G/C showing patch installed..	**Closed** 5/5/10
15	Open 11/25/09	First Floor Framing:. Where 5 1/4x16 LVL is supported on PSL post at North side of building provide Simpson LCE4 post cap. 2/5/10 – Post and cap observed.	**Closed** 2/5/10
16	Open 11/25/09	First Floor Framing:. Many truss bearing locations do not coordinate with stud locations below in exterior wall along grid line C as specified in bearing stud schematic on S1.2. G/C please verify if top plate material is MSR or ME lumber or provide (2)2x6 solid blocking (vertically oriented) below top plate at each truss bearing location. 2/5/10 – Lumber grade confirmed.	**Closed** 2/5/10
17	Open 11/25/09	First Floor Framing:. LVL Ledger @ elevator is not snugly fastened to CMU block. Please fasten ledger to CMU such that no gap between the two is present. 2/5/10 – Ledger fastening to CMU is adequate.	**Closed** 2/5/10
18	Open 11/25/09	First Floor Framing:. Exterior wall below W14 steel beam on grid line 8 must be fastened to bottom flange of beam per section 6/S3.1. Shim top of wall with plywood strip such that no gap exists between bottom flange and wall. 3/22/10 – Observed bolting.	**Closed** 3/22/10
19	Open 11/25/09	First Floor/Second Floor Framing:. Floor to floor joints in exterior wall sheathing are at a different location than what was specified in the construction documents ("Typ Ext Wall Panel-Panel Conn Detail" on S3.1). Due to this, all exterior SW-3 locations must have bottom of sheathing trimmed 3/4" to align with top of wall bottom plate. 2x6 blocking shall be installed between studs directly on top of existing bottom plate and sheathing shall be nailed to new blocking. Top of sheathing from panel in floor below shall fasten to bottom plate of panel above. **4/8/10 – Lap observed to be adequate.**	**Closed** 4/8/10
20	Open 1/15/10	Roof Framing:. All locations of shearwall holddowns HD-A as noted on S1.5 were observed to have only (1)CS18 strap at each post. G/C	**Closed** 1/22/10

		has the option to install second strap either on exterior face of post or interior face of post. 1/22/10 – (2) straps found at each H.D. location.	
21	Open 1/15/10	Roof Framing: Ledger attachment to supporting studs in corridor was found to have only (2) RSS screws at each stud. Per detail 5 on S3.2, ledger shall be fastened to each stud with minimum of (4) RSS screws. 1/22/10 – (4) screws found at each stud.	**Closed** 1/22/10
22	Open 1/15/10	Roof Framing: Ledger attachment to supporting header at corridor bay window was found to lack any means of fastening. Gap between ledger and header shall be shimmed solid and ledger shall be fastened to header per detail 15 on S3.2. 1/22/10 – Shim and fastening observed.	**Closed** 1/22/10
23	Open 1/15/10	Roof Framing: Ledger attachment to supporting header at bay window in suite 301 was found to lack any means of fastening. Ledger shall be fastened to header per detail 14 on S3.2. 1/22/10 – Fastening observed.	**Closed** 1/22/10
24	Open 1/15/10	Roof Framing: Attachment of MSTC40 at Stair 1 was to be into CMU stair shaft by design. Strap is fastened to rimboard as observed in field. See attached SKS-26 for rimboard attachment to CMU wall. 1/22/10 – Plates installed as detailed in SKS-26 were observed.	**Closed** 1/22/10
25	Open 1/15/10	Roof Framing: Panelized wood infill wall between steel columns D-1 & F-1 was observed to have no means of attachment to surrounding steel columns/beam above. Due to lack of access, attaching beam to top plate per detail 5 on S3.1 is not possible. We recommend G/C attach wood panel to surrounding steel columns/beam with powder actuated fasteners @12" o.c. Provide pins long enough to fasten (2)2x6 jamb to steel columns. 1/22/10 – Self-drilling screws observed in lieu of P.A.F.'s, this substitution is acceptable.	**Closed** 1/22/10
26	Open 1/15/10	Roof Framing: Framing at roof penetration for RTU support was observed to differ from that shown on SKS-13 dated June 10, 2009. In lieu of removing and replacing dimensional roof joists with LVL's as specified, G/C may provide (2) additional 2x10's at each side of penetration. Simpson LUS210-3 hangers shall be provided at revised (3)2x10 framing. Framed opening adjacent to actually opening shall be infilled with 2x10 joists @24" o.c. 1/22/10 – Reinforcement of existing roof joists and infill was observed.	**Closed** 1/22/10
27	Open 1/15/10	Roof Framing: G/C shall provide special inspector access to view fastening of exterior wall sheathing at shearwall locations. **4/8/10 – Fastening observed.**	**Closed** 4/8/10
28	Open 1/15/10	Roof Framing: G/C shall provide special inspector access to view Stair 1 & 2 roof framing. 3/22/10 – framing observed	**Closed** 3/22/10
29	Open 1/22/10	Third Floor Framing: At all window locations where identical window opening occurs on the floor above, we recommend cripple jack studs be provided above header to match quantity below header. 1/27/10 – Cripple stud observed in-place.	**Closed** 1/27/10
30	Open 1/22/10	Third Floor Framing: End post at south end of shearwall SW-2 in exterior East wall was found to have only (1)2x6 stud continuous. Please provide continuous (2)2x6 end post this location. Post may be in addition and adjacent to existing window jamb. 2/5/10 – Post observed.	**Closed** 2/5/10
31	Open 1/22/10	Third Floor Framing: Window jamb between side-by-side rough openings was found with only (1) continuous king stud at (2) locations. Please see sketches of header reinforcement issued 1/26/10 for recommended retrofit. 2/17/10 – reinforcing observed.	**Closed** 2/17/10
32	Open 1/22/10	Third Floor Framing: At all shearwall holddown HD-B locations only (1) strap was observed. G/C made it known that the 2nd strap will be installed on the exterior of the building once access is provided. **4/8/10 – Holddowns observed.**	**Closed** 4/8/10
33	Open 1/22/10	Third Floor Framing: G/C shall provide special inspector access to view fastening of exterior wall sheathing at shearwall locations.	**Closed** 4/8/10

		4/8/10 – Fastening observed.	
34	Open 1/27/10	Second Floor Framing:. End post at south end of shearwall SW-3 in exterior East wall was found to have only (1)2x6 stud continuous. Please provide continuous (2)2x6 end post this location. Post may be in addition and adjacent to existing window jamb. Provide strap as specified in drawings at new post location. 2/5/10 – Post observed.	**Closed** 2/5/10
35	Open 1/27/10	Second Floor Framing:. Window jamb between side-by-side rough openings was found with only (1) continuous king stud at (2) locations. Please see sketches of header reinforcement issued 1/26/10 for recommended retrofit. 2/17/10 – reinforcing observed.	**Closed** 2/17/10
36	Open 1/27/10	Second Floor Framing:. End post at north end of shearwall SW-3 in exterior East wall was found to have no strap installed at time of visit. Please provide (2) HD-B as shown on S1.3. At all shearwall holddown HD-B locations only (1) strap was observed. G/C made it known that the 2nd. strap will be installed on the exterior of the building once access is provided. **4/8/10 – Holddowns observed.**	**Revised** 2/17/10 **Closed** 4/8/10
37	Open 1/27/10	Second Floor Framing:. Post continuing from floor above between bedrooms 4 & 5 in suite 103 was observed missing. Install continuous 3 1/2x7 PSL post from floor sheathing to floor sheathing. 2/17/10 – post observed.	**Closed** 2/17/10
38	Open 1/27/10	Second Floor Framing:. Built-up 2x post continuing from floor above between bedrooms 1 in suite 102 & 5 in suite 103 was found to have wall plate running over top of post with a gap between plates and floor sheathing. Install solid blocking between top plate and sheathing at post location. 2/5/10 – Blocking observed	**Closed** 2/5/10
39	Open 1/27/10	Second Floor Framing:. Solid blocking between cantilevered floor joists was observed missing at bay window in corridor. G/C made it known that blocking will be installed once cantilevered floor cavity has been insulated. 2/5/10 – Blocking observed	**Closed** 2/5/10
40	Open 1/27/10	Second Floor Framing:. It should be noted that interior layer of sheathing must be added to SW-4 on column line C once insulation is completed. 3/4/10 – sheathing observed installed.	**Closed** 3/4/10
41	Open 1/27/10	Second Floor Framing. G/C shall provide special inspector access to view fastening of exterior wall sheathing at shearwall locations.. **4/8/10 – Fastening observed.**	**Closed** 4/8/10
42	Open 2/5/10	Second Floor Framing. Attachment of continuous rimboard at entry roof overhang was observed to be missing. Please provide Simpson framing angle per section 4/S3.1. Once connector is observed, sheathing shall be applied to underside of joists per detail. **4/12/10 – Connectors observed installed.**	**Closed** 4/12/10

BECKER
structural engineers, inc.

06100

OBSERVATION REPORT

Rough Carpentry

Date:	11-25-09
Time:	2:00 PM
Temp:	40 F
Weather:	overcast

Project:	Crescent Heights
Location:	Portland, ME
Becker Job No:	2035

Observation Location: First floor framing & walls below

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Member Sizes	☒	☐	☐	☐	
Material Quality	☒	☐	☐	☐	
Bearing Condition	☐	☐	☒	☐	
Connections	☐	☐	☒	☐	
Nailing Pattern	☒	☐	☐	☐	
Bridging/Bracing	☐	☐	☒	☐	
Other:	☐	☒	☐	☐	See attached framing comments from 11-25-09
Other:	☐	☐	☐	☐	

Notes:

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

06100

OBSERVATION REPORT

Rough Carpentry

Date:	12-23-09
Time:	9:30 AM
Temp:	20 F
Weather:	sunny

Project:	Crescent Heights
Location:	Portland, ME
Becker Job No:	2035

Observation Location: Roof sheathing

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Member Sizes	☒	☐	☐	☐	
Material Quality	☒	☐	☐	☐	
Bearing Condition	☐	☐	☐	☒	
Connections	☐	☐	☐	☒	
Nailing Pattern	☒	☐	☐	☐	
Bridging/Bracing	☐	☐	☐	☒	
Other:	☐	☐	☐	☐	
Other:	☐	☐	☐	☐	

Notes:

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

06100

OBSERVATION REPORT

Rough Carpentry

Date:	1-15-10
Time:	3:00 PM
Temp:	35 F
Weather:	overcast

Project:	Crescent Heights
Location:	Portland, ME
Becker Job No:	2035

Observation Location: Roof framing & walls below

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Member Sizes	☒	☐	☐	☐	
Material Quality	☒	☐	☐	☐	
Bearing Condition	☒	☐	☐	☐	
Connections	☒	☐	☐	☐	
Nailing Pattern	☒	☐	☐	☐	
Bridging/Bracing	☒	☐	☐	☐	
Other:	☐	☒	☐	☐	See attached framing comments from 1-15-10
Other:	☐	☐	☐	☐	

Notes:

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

06100

OBSERVATION REPORT

Rough Carpentry

Date:	1-22-10
Time:	8:00 AM
Temp:	35 F
Weather:	overcast

Project:	Crescent Heights
Location:	Portland, ME
Becker Job No:	2035

Observation Location: Roof framing & walls below. 3rd floor framing & walls below.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Member Sizes	☒	☐	☐	☐	
Material Quality	☒	☐	☐	☐	
Bearing Condition	☒	☐	☐	☐	
Connections	☒	☐	☐	☐	
Nailing Pattern	☒	☐	☐	☐	
Bridging/Bracing	☒	☐	☐	☐	
Other:	☐	☒	☐	☐	See attached framing comments from 1-22-10
Other:	☐	☐	☐	☐	

Notes:

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

06100

OBSERVATION REPORT

Rough Carpentry

Date:	1-28-10
Time:	3:00 PM
Temp:	35 F
Weather:	overcast

Project:	Crescent Heights
Location:	Portland, ME
Becker Job No:	2035

Observation Location: 3rd floor framing & walls below. 2nd floor framing & walls below.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Member Sizes	☒	☐	☐	☐	
Material Quality	☒	☐	☐	☐	
Bearing Condition	☒	☐	☐	☐	
Connections	☒	☐	☐	☐	
Nailing Pattern	☒	☐	☐	☐	
Bridging/Bracing	☒	☐	☐	☐	
Other:	☐	☒	☐	☐	See attached framing comments from 1-28-10
Other:	☐	☐	☐	☐	

Notes:

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

06100

OBSERVATION REPORT

Rough Carpentry

Date:	2-5-10
Time:	1:00 PM
Temp:	35 F
Weather:	Sunny

Project:	Crescent Heights
Location:	Portland, ME
Becker Job No:	2035

Observation Location: 1st , 2nd and 3rd floor framing & walls below.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Member Sizes	☒	☐	☐	☐	
Material Quality	☒	☐	☐	☐	
Bearing Condition	☒	☐	☐	☐	
Connections	☒	☐	☐	☐	
Nailing Pattern	☒	☐	☐	☐	
Bridging/Bracing	☒	☐	☐	☐	
Other:	☐	☒	☐	☐	See attached framing comments from 2-5-10
Other:	☐	☐	☐	☐	

Notes:

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

06100

OBSERVATION REPORT
Rough Carpentry

Date:	2-17-10
Time:	1:00 PM
Temp:	35 F
Weather:	Sunny

Project:	Crescent Heights
Location:	Portland, ME
Becker Job No:	2035

Observation Location: 1st , 2nd and 3rd floor framing & walls below.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Member Sizes	☒	☐	☐	☐	
Material Quality	☒	☐	☐	☐	
Bearing Condition	☒	☐	☐	☐	
Connections	☒	☐	☐	☐	
Nailing Pattern	☒	☐	☐	☐	
Bridging/Bracing	☒	☐	☐	☐	
Other:	☐	☒	☐	☐	See attached framing comments from 2-5-10
Other:	☐	☐	☐	☐	

Notes:

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

06100

OBSERVATION REPORT
Rough Carpentry

Date:	3-4-10
Time:	8:00 AM
Temp:	35 F
Weather:	Cloudy

Project:	Crescent Heights
Location:	Portland, ME
Becker Job No:	2035

Observation Location: SW-4 and SW-5 locations.

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Member Sizes	☒	☐	☐	☐	
Material Quality	☒	☐	☐	☐	
Bearing Condition	☒	☐	☐	☐	
Connections	☒	☐	☐	☐	
Nailing Pattern	☒	☐	☐	☐	
Bridging/Bracing	☒	☐	☐	☐	
Other:	☐	☒	☐	☐	See attached framing comments from 3-4-10
Other:	☐	☐	☐	☐	

Notes:

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

06100

OBSERVATION REPORT

Rough Carpentry

Date:	3-9-10
Time:	8:00 AM
Temp:	35 F
Weather:	Overcast

Project:	Crescent Heights
Location:	Portland, ME
Becker Job No:	2035

Observation Location: First floor SW-5 on Line C & Second Floor SW-3 on Line 1

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Member Sizes	☒	☐	☐	☐	
Material Quality	☒	☐	☐	☐	
Bearing Condition	☒	☐	☐	☐	
Connections	☒	☐	☐	☐	
Nailing Pattern	☒	☐	☐	☐	
Bridging/Bracing	☒	☐	☐	☐	
Other:	☐	☒	☐	☐	See attached framing comments from 3-9-10
Other:	☐	☐	☐	☐	

Notes:

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

06100

OBSERVATION REPORT

Rough Carpentry

Date:	3-17-10
Time:	8:00 AM
Temp:	40 F
Weather:	Sunny

Project:	Crescent Heights
Location:	Portland, ME
Becker Job No:	2035

Observation Location: First & Second Floor SW-3 on Line 8 and Third Floor & Roof SW-2 on Line 8 (East side of Building)

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Member Sizes	☒	☐	☐	☐	
Material Quality	☒	☐	☐	☐	
Bearing Condition	☒	☐	☐	☐	
Connections	☒	☐	☐	☐	
Nailing Pattern	☒	☐	☐	☐	
Bridging/Bracing	☒	☐	☐	☐	
Other:	☐	☒	☐	☐	See attached framing comments from 3-17-10
Other:	☐	☐	☐	☐	

Notes:

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

06100

OBSERVATION REPORT
Rough Carpentry

Date:	3-22-10
Time:	11:00 AM
Temp:	40 F
Weather:	Overcast

Project:	Crescent Heights
Location:	Portland, ME
Becker Job No:	2035

Observation Location: Shearwall at First Floor, Second Floor, Third Floor and Roof on North side of Building

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Member Sizes	☒	☐	☐	☐	
Material Quality	☒	☐	☐	☐	
Bearing Condition	☒	☐	☐	☐	
Connections	☒	☐	☐	☐	
Nailing Pattern	☒	☐	☐	☐	
Bridging/Bracing	☒	☐	☐	☐	
Other:	☐	☒	☐	☐	See attached framing comments from 3-22-10
Other:	☐	☐	☐	☐	

Notes:

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

06100

OBSERVATION REPORT
Rough Carpentry

Date:	4-1-10
Time:	11:00 AM
Temp:	40 F
Weather:	Sunny

Project:	Crescent Heights
Location:	Portland, ME
Becker Job No:	2035

Observation Location: Shearwall at First Floor, Second Floor, Third Floor and Roof on Column line 5

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Member Sizes	☒	☐	☐	☐	
Material Quality	☒	☐	☐	☐	
Bearing Condition	☒	☐	☐	☐	
Connections	☒	☐	☐	☐	
Nailing Pattern	☒	☐	☐	☐	
Bridging/Bracing	☒	☐	☐	☐	
Other:	☐	☒	☐	☐	See attached framing comments from 4-1-10
Other:	☐	☐	☐	☐	

Notes:

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

06100

OBSERVATION REPORT
Rough Carpentry

Date:	4-8-10
Time:	9:00 AM
Temp:	50 F
Weather:	Overcast

Project:	Crescent Heights
Location:	Portland, ME
Becker Job No:	2035

Observation Location: Shearwall at First Floor, Second Floor, Third Floor and Roof on Column line C

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Member Sizes	☒	☐	☐	☐	
Material Quality	☒	☐	☐	☐	
Bearing Condition	☒	☐	☐	☐	
Connections	☒	☐	☐	☐	
Nailing Pattern	☒	☐	☐	☐	
Bridging/Bracing	☒	☐	☐	☐	
Other:	☐	☒	☐	☐	See attached framing comments from 4-8-10
Other:	☐	☐	☐	☐	

Notes:

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

BECKER
structural engineers, inc.

06100

OBSERVATION REPORT

Rough Carpentry

Date:	4-12-10
Time:	2:00 PM
Temp:	50 F
Weather:	Sunny

Project:	Crescent Heights
Location:	Portland, ME
Becker Job No:	2035

Observation Location: Shearwall at First Floor, Second Floor, Third Floor and Roof on Column line 7 and entry roof framing

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Member Sizes	☒	☐	☐	☐	
Material Quality	☒	☐	☐	☐	
Bearing Condition	☒	☐	☐	☐	
Connections	☒	☐	☐	☐	
Nailing Pattern	☒	☐	☐	☐	
Bridging/Bracing	☒	☐	☐	☐	
Other:	☒	☐	☐	☐	See attached framing comments from 4-12-10
Other:	☐	☐	☐	☐	

Notes:

Signed: Nathan Merrill, E.I.

75 York Street, Portland, ME 04101-4701 ■ Tel 207-879-1838 ■ Fax 207-879-1822

Special Inspections – Exhibit C

Quality Assurance for Seismic Resistance Seismic Checklist
Quality Assurance for Seismic Resistance Wind Checklist
Schedule of Inspections

Project: Crescent Heights
Date Prepared: May 10, 2010

Quality Assurance Plan – Seismic and Wind

QUALITY ASSURANCE FOR SEISMIC RESISTANCE CHECK LIST [IBC 1705]

Seismic Design Category C

☒ **FOR SEISMIC DESIGN CATEGORY C OR HIGHER:**

Structural:

☒ The seismic-force-resisting systems

- ☐ Steel Braced Frames and associated connections/anchorage
- ☐ Steel Moment Frames and associated connections
- ☒ Shear walls: ☒ CMU ☒ Wood ☐ Concrete ☒ Diaphragms: ☒ Floor ☒ Roof
- ☐ Other:

QUALITY ASSURANCE FOR WIND RESISTANCE CHECK LIST [IBC 1706]

Wind Exposure Category B

REQUIRED	NOT REQUIRED	NOT APPLICABLE	QUALITY ASSURANCE PLAN REQUIREMENTS (A Quality Assurance Plan is required where indicated below)
☐	☐	☒	In wind exposure Categories A and B, where the 3-second-gust basic wind speed is 120 miles per hour (mph) (52.8 *m/sec)* or greater.
☐	☐	☒	In wind exposure Categories C and D, where the 3-second-gust basic wind speed is 110 mph (49 *m/sec)* or greater.

Prepared by:

Signature 5/24/2010 Date

Building Code Official's Acceptance:

Signature Date

Project: Crescent Heights
Date Prepared: May 10, 2010

Structural Schedule of Special Inspections

SEISMIC RESISTANCE - STRUCTURAL

VERIFICATION AND INSPECTION IBC Section 1707	Y/N	EXTENT: CONTINUOUS, PERIODIC, SUBMITTAL, OR NONE	COMMENTS	AGENT	AGENT QUALIFICATION	TASK COMPLETED
1. Special inspections for seismic resistance. Special inspection as specified in this section is required for the following:			Seismic Design Category: B			
a. The seismic-force-resisting systems in structures assigned to Seismic Design Category C, D, E or F	Y	P	IBC 1707.1	SI	PE/SE or EIT	
2. Structural steel: Continuous special inspection for structural welding in accordance with AISC 341.	N	P	IBC 1702.2		AWS-CWI	
3. Structural wood:						
a. Continuous special inspection during field gluing operations of elements of the seismic-force-resisting system.	Y	C	IBC 1702.3	SI	PE/SE or EIT	
b. Periodic special inspections for nailing, bolting, anchoring and other fastening of components within the seismic-force-resisting system, including drag struts, braces and hold-downs	Y	P	IBC 1702.3	SI	PE/SE or EIT	
4. Cold-formed steel framing: Periodic special inspections during welding operations of elements of the seismic-force-resisting system. Periodic special inspections for screw attachment, bolting, anchoring and other fastening of components within the seismic-force-resisting system, including struts, braces, and hold-downs	N	N				
4. Seismic isolation system. Provide periodic special inspection during the fabrication and installation of isolator units and energy dissipation devices if used as part of the seismic isolation system	N	N	IBC 1707.8			

Special Inspections – Exhibit D

Statement of Responsibility

Contractor's Statement of Responsibility

Each contractor responsible for the construction or fabrication of a system or component designated in the Quality Assurance Plan must submit a Statement of Responsibility. The Statement of Responsibility is required for Seismic Design Category C or higher. Make additional copies of this form as required.

Project: Crescent Heights

Contractor's Name: Portland Builders, Inc.

Address: 85 York Street, Portland ME 04101

License No.:

Description of designated building systems and components included in the Statement of Responsibility:

Contractor's Acknowledgment of Special Requirements

I hereby acknowledge that I have received, read, and understand the Quality Assurance Plan and Special Inspection program.

I hereby acknowledge that control will be exercised to obtain conformance with the construction documents approved by the Building Official.

Signature

5/26/10
Date

Contractor's Provisions for Quality Control

Procedures for exercising control within the contractor's organization, the method and frequency of reporting and the distribution of reports is attached to this Statement.

Identification and qualifications of the person(s) exercising such control and their position(s) in the organization are attached to this Statement.

End of Special Inspections Report