

DISPLAY THIS CARD ON PRINCIPAL FRONTAGE OF WORK

# CITY OF PORTLAND

BUILDING DEPARTMENT

## PERMIT

PERMIT ISSUED

Permit Number: 050434

APR 21 2005

CITY OF PORTLAND

Please Read Application And Notes, If Any, Attached

This is to certify that HARKINS JAMES /Quality Control Service has permission to Foundation ONLY for new construction of 1 building w/ two floors AT 326 PRESUMPCOT ST City of Portland ID: 422 B009001

provided that the person or persons, firm or corporation accepting this permit shall comply with all of the provisions of the Statutes of Maine and of the ordinances of the City of Portland regulating the construction, maintenance and use of buildings and structures, and of the application on file in this department.

Apply to Public Works for street line and grade if nature of work requires such information.

Notification of inspection must be given and written permission procured before this building or part thereof is altered or closed-in. HOUR NOTICE IS REQUIRED.

A certificate of occupancy must be procured by owner before this building or part thereof is occupied.

**OTHER REQUIRED APPROVALS**

Fire Dept. \_\_\_\_\_  
Health Dept. \_\_\_\_\_  
Appeal Board \_\_\_\_\_  
Other \_\_\_\_\_  
Department Name

*Allyson King* 4/20/05  
Director - Building & Inspection Services

**PENALTY FOR REMOVING THIS CARD**

**City of Portland, Maine - Building or Use Permit Application**

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

Permit No: 05-0434	Issue Date: <b>APR 21 2005</b>	CBL: 422 B009001
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<b>Location of Construction:</b> 326 PRESUMPSCOT ST	<b>Owner Name:</b> HARKINS JAMES	<b>Owner Address:</b> 31 BATES ST	<b>Phone:</b>
<b>Business Name:</b>	<b>Contractor Name:</b> Quality Crane Services	<b>Contractor Address:</b> 31 Bates St Portland	<b>Phone:</b> 78749957
<b>Lessee/Buyer's Name</b>	<b>Phone:</b>	<b>Permit Type:</b> Foundation Only/Commercial	<b>Zone:</b>

<b>Past Use:</b> Vacant Land	<b>Proposed Use:</b> Commerical Foundation ONLY for new construction steel building w/ two bays	<b>Permit Fee:</b>	<b>Cost of Work:</b> \$0.00	<b>CEO District:</b> 4
<b>Proposed Project Description:</b> Foundation ONLY for new construction steel building w/ two bays		<b>FIRE DEPT:</b> <input type="checkbox"/> Approved <input type="checkbox"/> Denied	<b>INSPECTION:</b> Use Group: <i>FOUNDATION ONLY</i> Type: <i>FOUNDATION ONLY</i> 4/20/05 <i>[Signature]</i>	
		Signature:	Signature: <i>[Signature]</i>	

**PEDESTRIAN ACTIVITIES DISTRICT (P.A.D.)**

Action:  Approved  Approved w/Conditions  Denied

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

<b>Permit Taken By:</b> ldobson	<b>Date Applied For:</b> 04/20/2005	<b>Zoning Approval</b>		
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Special Zone or Reviews	Zoning Appeal	Historic Preservation
<input type="checkbox"/> Shoreland	<input type="checkbox"/> Variance	<input type="checkbox"/> Not in District or Landmarl
<input type="checkbox"/> Wetland	<input type="checkbox"/> Miscellaneous	<input type="checkbox"/> Does Not Require Review
<input type="checkbox"/> Flood Zone	<input type="checkbox"/> Conditional Use	<input type="checkbox"/> Requires Review
<input type="checkbox"/> Subdivision	<input type="checkbox"/> Interpretation	<input type="checkbox"/> Approved
<input type="checkbox"/> Site Plan	<input type="checkbox"/> Approved	<input type="checkbox"/> Approved w/Conditions
Maj <input type="checkbox"/> Minor <input type="checkbox"/> MM <input type="checkbox"/>	<input type="checkbox"/> Denied	<input type="checkbox"/> Denied
late: _____	late: _____	Date: _____

**CERTIFICATION**

I hereby certify that I am the owner of record of the named property, or that the proposed work is authorized by the owner of record and that I have been authorized by the owner to make this application as his authorized agent and I agree to conform to all applicable laws of this jurisdiction. In addition, if a permit for work described in the application is issued, I certify that the code official's authorized representative shall have the authority to enter all areas covered by such permit at any reasonable hour to enforce the provision of the code(s) applicable to such permit.

SIGNATURE OF APPLICANT	ADDRESS	DATE	PHONE
RESPONSIBLE PERSON IN CHARGE OF WORK, TITLE		DATE	PHONE

**City of Portland, Maine - Building or Use Permit**

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

Permit No: 05-0434	Date Applied For: 0412012005	CBL: 422 B009001
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Location of Construction: 326 PRESUMPCOT ST	Owner Name: HARKINS JAMES	Owner Address: 31 BATES ST	Phone:
Business Name:	Contractor Name: Quality Crane Services	Contractor Address: 31 Bates St Portland	Phone (207) 874-9957
Lessee/Buyer's Name	Phone:	Permit Type: Foundation Only/Commercial	
Proposed Use: Commerical Foundation ONLY for new construction steel building		Proposed Project Description: Foundation ONLY for new construction steel building w/ two bays	

Dept: Building Status: Approved with Conditions Reviewer: Mike Nugent Approval Date: 04/20/2005

Note: Ok to Issue: 

- 1) The statement of Special Inspections must be amended to include Seismic quality assurance info. Owner and Eric Dube have been notified.

Fire and Zoning previously approved this foundation permit.

Dept: Engineering Status: Open Reviewer: Tony Approval Date:

Note: PUBLIC WORKS ENGINEERING REVIEW..3/18/03 Ok to Issue: 

I have reviewed the submittal dated February 19,2003 and offer the following comments:

1. On sheet C-4, the plan specifies a force main connection into a private force main sewer in the Presumpscot Street right of way. The applicant must show evidence of an agreement with the owner of this force main to make such a connection.
2. The plans must specify radial granite curbing along the driveway entrance, within the Public Right of way.
3. The plans must the proposed limits of excavation within the right of way, specific to utilities, entrance and granite curbing installation. These construction limits must be in conformance with the City's Street Opening Ordinance.
4. The "detail sheets" must include construction details for the proposed entrance construction; installation of granite curbing.
5. The applicant is advised to contact Carol Merritt at Public Works regarding the required fees and permits associated with excavation within the public right of way.
6. Upon receiving Planning Board and/or Planning Department approval of this proposal, the applicant will supply Jon Giles at Public Works with a CADD file of this development proposal.
7. The applicant must obtain utility capacity letters for the proposed utilities servicing the development.

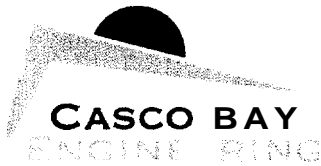
Dept: Fire Status: Approved Reviewer: Lt. McDougall Approval Date: 0212412003

Note: Ok to Issue: 

Dept: Planning Status: Approved Reviewer: Sarah Hopkins Approval Date: 0410412003

Note: Ok to Issue: **Comments:**

4/20/2005-ldobson: Foundation only cost on original Permit



CIVIL & STRUCTURAL ENGINEERING

424 Fore St., Portland, ME 04101 Phone 207.842.2800 Fax 207.842.2828

**TRANSMITTAL**

To: Mr. Michael Nugent  
City of Portland

From: Carolyn Bird  
Casco Bay Engineering

Date: 4-12-05

RE: Quality Crane Services  
Site Observations Statement

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Enclosed: Site Observations Statement

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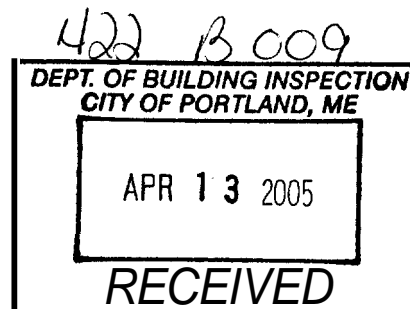
Dear Mr. Nugent:

Attached is our initial Site Observations Statement for your review.

We have shown the **125** psf live load for the storage area on drawing **SO** under the Basis of Design section for your reference. We also emailed you the drawing .pdf files for your use. Please let us know if you have any questions or comments concerning this project.

Sincerely,

Carolyn Bird  
Casco Bay Engineering



## SITE OBSERVATIONS STATEMENT

**Project:** Quality Crane Building, 326 Presumpscott Street

**Applicant:** Mr. Jim Harkins  
Quality Crane  
31 Bates Street  
Portland, ME 04103

**SER:** Casco Bay Engineering  
424 Fore Street  
Portland, ME 04101

**CONTRACTOR:** Quality Crane

in accordance with Section 1704.0 of the 2003 International Building Code, it includes a list of site observations applicable to this project, as well as the name of the Site Observer(s), and the names of other agencies intended to be retained for conducting these observations.

The Site Observer shall keep records of all observations listed herein, and shall furnish observation reports to the Registered Design Professional of Record. All discrepancies shall be brought to the immediate attention of the Contractor for correction. If the discrepancies are not corrected, the discrepancies shall be brought to the attention of the Registered Design Professional of Record. Interim reports shall be submitted to the Registered Design Professional of Record monthly, unless more frequent submissions are requested.

Job site safety is solely the responsibility of the Contractor. Materials and activities to be observed are not to include the Contractor's equipment and methods used to erect or install the materials listed.

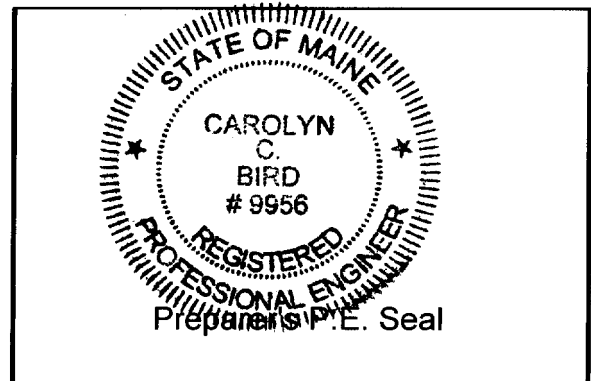
Prepared By:

Carolyn Bird, PE

 4/12/05

Applicant's Authorization:

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## LIST OF AGENTS

**PROJECT:** Quality Crane Building, 326 Presumpscott Street

**STRUCTURAL ENGINEER OF RECORD:** Casco Bay Engineering  
424 Fore Street  
Portland, ME 04101

**ARCHITECT OF RECORD:** Mark Mueller Architects  
100 Commercial Street  
Suite 207  
Portland, ME 04101

Following is the List of Agents selected for performance of Site Observations for this project.

### FIRM NAME

- |     |                     |   |
|-----|---------------------|---|
| 1a. | Site Observer(s):   | Casco Bay Engineering<br>424 Fore Street<br>Portland, ME 04101    |
| 1b. |                     | S.W. Cole Engineering<br>286 Portland Road<br>Gray, ME 04039-9586 |
| 1c. |                     | Star Building Systems   |
| 2.  | Testing Laboratory: | S.W. Cole Engineering   |
| 3.  | Engineer of Record: | Casco Bay Engineering   |

**TABLE 1 – STATEMENT OF SITE OBSERVATIONS**

MATERIAL/ACTIVITY	EXTENT of OBSERVATION (Continuous, Periodic, Other, Exempt, None)	COMMENTS	AGENT #	DATE COMPLETED	REV #
<b>1704.3 STEEL CONSTRUCTION</b>					
1. Material Verification of high strength bolts, nuts, and washers.	a. Identification markings to conform to ASTM standards specified in the approved construction documents. b. Manufacturers Certificate of Compliance required.	Periodic	1o		
2. Observation of High – Strength Bolting	a. Bearing type connections b. Slip – critical connections	Periodic None	1c 1a		
3. Material Verification of structural steel	a. Identification marking to conform to ASTM standards specified in the contract documents. b. Manufacturers certified mill test Reports.	All Exempt	1o 1c		
4. Material Verification of weld filler materials:	a. Identification marking to conform to ASTM standards specified in the contract documents. b. Manufacturers Certificate of Compliance required.	All Exempt	1c 1c		
5. Observation of Welding – Structural Steel	a. Single Pass fillet welds < 5/16" b. Floor and deck welds	NA NA			
6. Observation of Steel Frame Joint details for compliance with approved construction documents.	a. Bracing connections b. Member locations c. Application of joint details at each connection.	Periodic Periodic Periodic	1a 1a 1a		

**TABLE 1 – STATEMENT OF SITE OBSERVATIONS, cont.**

MATERIAL/ACTIVITY	EXTENT of OBSERVATION (Continuous, Periodic, Other, None)	COMMENTS	AGENT #	DATE COMPLETED	REV #
<b>1704.4 CONCRETE CONSTRUCTION</b>					
1. Observation of reinforcing steel, including placement.	Periodic		1a		
2. Observation of reinforcing steel welding	NA				
3. Observe bolts embedded into concrete prior to and after placement of concrete.	Periodic	Verify Embedment	1a		
4. Verify use of required concrete mix design(s)	Periodic	SER review and approve mix design prior to installation. SI verify delivery ticket matches approved mix design.	1a		
5. Sample fresh concrete for strength tests, perform slump and air content tests, and determine temperature of concrete.	Continuous		1b		
6. Observation of concrete placement for proper techniques.	Continuous		1b		
7. Observation for maintenance of specified curing temperature and techniques.	Periodic		1b		
<b>1704.5 MASONRY CONSTRUCTION - Level 1 Site Observation for non-essential facility – 1704.5.2</b>					
1. As Masonry Construction begins, the following shall be verified to ensure conformance	NA				
a. Proportions of site-prepared mortar	NA				
b. Construction of mortar joints	NA				
c. Location of reinforcement	NA				
d. Pre-stressing technique	NA				
e. Grade and size of pre-stressing tendons.	NA				
2. The Observation program shall verify the following:	NA				
a. Size and location of structural elements.	NA				
b. Type, size, and location of	NA				



**TABLE 1 – STATEMENT OF SITE OBSERVATIONS, cont.**

MATERIAL/ACTIVITY	EXTENT of OBSERVATION (Continuous, Periodic, Other, None)	COMMENTS	AGENT #	DATE COMPLETED	REV #
embedded anchors.					
c. Size, grade, and type of reinforcing	NA				
<b>1704.5 MASONRY CONSTRUCTION -</b> Level 1 Site Observation for non-essential facility – 1704.5.2					
2. The Observation program shall verify the following, cont:	NA				
d. welding of reinforcing bars					
e. Protection of Masonry during cold weather (temp. below 40 deg F.)	NA				
f. Application and measurement of pre-stressing reinforcement	NA				
a. Grout space is clean	NA				
b. Placement of reinforcement	NA				
c. Proportions of site-prepared grout	NA				
d. Construction of mortar joints	NA				
4. Grout placement shall be verified to ensure compliance with code and construction document provisions.	NA				
5. Preparation of any grout specimens, mortar specimens and/or prisms shall be observed	NA				
6. Compliance with required observation provisions of the construction documents and the approved submittals shall be verified.	NA				
<b>1704.6 WOOD CONSTRUCTION</b>					
1. Vertical Shearwalls	NA				
a. Observe sheathing size, grade, and thickness for conformance with construction documents.	NA				
b. Observe sheathing fastener size and pattern for conformance with construction documents.	NA				
c. Verify attachment to supporting elements is per contract documents.	NA				

## SCHEDULE OF SITE OBSERVATION SERVICES

MATERIAL / ACTIVITY	SERVICE	APPLICABLE TO THIS PROJECT		
		Y/N	EXTENT	AGENT* COMPLETED
<b>1704.2 Observation of Fabricators</b>				
Verify fabrication/quality control procedures.	In-plant review	Y		
<b>1704.3 Steel Construction</b>				
High-strength bolts, nuts, and washers.	Review material markings and certificates of compliance	Y		1c
Observation of high-strength bolting.	Field observation	Y		1a
Structural steel	Review certified test reports	Y		1c
Weld filler materials.	Review certificate of compliance and field verification	Y		1b/1c
Structural steel welding.	Shop and field observation	Y		1b/1c
Reinforcing steel welding.	Shop and field observation	N		
Observation of steel frame joint details for compliance with approved construction documents.	Field observation	Y		1a
<b>1707.2 Structural Steel</b>				
Continuous observation of structural welding in accordance with AISC Seismic Provisions	Shop and field observation	Y		1c
<b>1708.4 Structural Steel</b>				
Ultrasonically test for discontinuities behind and adjacent to welds with base metal thicker than 1.5 inches where subject to through-thickness weld shrinkage strains.	Shop and field testing			1c
<b>1704.4 Concrete Construction</b>				
Observation of reinforcing steel installation.	Field observation	Y		1a
Observation of prestressing steel installation.	In-plant or field observation	N		
Prestressed concrete force application.	In-plant or field review	N		
Observation of cast-in-place bolts.	Field observation	Y		1a
Verification of required design mix.	Review submittals	Y		1a
Fresh concrete sampling.	Field testing	Y		1b

SCHEDULE OF SITE OBSERVATION SERVICES				
MATERIAL / ACTIVITY	SERVICE	APPLICABLE TO THIS PROJECT		
		Y/N	EXTENT	AGENT* COMPLETED
Concrete placement.	Field review	Y		1b
Concrete curing operations.	Field review	Y		1c
Erection of precast concrete members.	Field review	N		
Evaluation of concrete strength.	Field testing and review laboratory reports	Y		1c
Verification of in-situ concrete strength, prior to stressing of tendons in posttensioned concrete and prior to removal of shores and forms from beams and structural slabs.	Review field testing and laboratory reports	N		
<b>1708.3 Reinforcing and Prestressing Steel</b>				
Review certified mill test reports	Field review	N		
Verify reinforcing steel weldability	Review testing reports	N		
<b>1704.5 Masonry Construction</b>				
Verify proportions of site prepared mortar and grout.	Review submittals	N		
Verify construction of mortar joints.	Field observation	N		
Verify location of reinforcement and connectors.	Field observation	N		
Verify size and location of structural masonry elements.	Field and submittal review	N		
Verify type, size, and location of anchors, including details of anchorage of masonry to structural members, frames, or other construction.	Field observation	N		
Verify size, grade, and type of reinforcement.	Field observation	N		
Verify welding of reinforcing bars.	Field observation	N		
Verify protection of masonry during hot/cold weather.	Field observation	N		
Verify grout space is clean prior to grouting.	Field observation	N		
Verify grout placement complies with code and construction document provisions.	Field observation	N		

**SCHEDULE OF SITE OBSERVATION SERVICES**

MATERIAL / ACTIVITY	SERVICE	APPLICABLE TO THIS PROJECT		
		Y/N	EXTENT	AGENT* COMPLETED
Observe preparation of grout specimens, mortar specimens, and/or prisms.	Field review	N		
<b>1708.1 Masonry</b>				
Certificates of compliance used in masonry construction	Review submittals	N		
Verification of <i>f'm</i> prior to construction	Review submittals and field testing	N		
Verification of <i>f'm</i> every 5000 SF during construction	Review submittals and field testing	N		
Verification of proportions of materials in mortar and grout as delivered to the site	Field review	N		
<b>1704.7 Soils</b>				
Verify site preparation complies with approved soils report.	Field observation	Y		1c
Verify placement and compaction of fill materials complies with approved soils report.	Field observation	Y		1c
Verify dry-density of compacted fill complies with approved soils report.	Review field testing	Y		1c
<b>1704.8 Pile Foundations</b>				
Observe installation of pile foundations.	Field observation	N		
Observe pile foundation load tests.	Review field testing	N		
<b>1704.9 Pier Foundations</b>				
Observe installation of pier foundations.	Field observation	Y		1a
<b>1707.3 Structural Wood</b>				
Continuous observation of field gluing operations of elements of the seismic-force resisting system.	Field observation	N		
Periodic observation of nailing, bolting, anchoring and other fastening of components with the seismic-force-resisting system.	Shop and field observation	N		
<b>1707.4 Cold-formed Steel Framing</b>				

**SCHEDULE OF SITE OBSERVATION SERVICES**

MATERIAL / ACTIVITY	SERVICE	APPLICABLE TO THIS PROJECT		
		Y/N	EXTENT	AGENT* COMPLETED
Periodic observation during welding operations of elements of the seismic-force-resisting system.	Shop and field observation	N		
Periodic observations for screw attachment, bolting, anchoring and other fastening of components within the seismic-force-resisting system.	Shop and field observation	N		
<b>1704.10 Wall Panels/Veneers</b>				
Observe installation of exterior and interior architectural wall panels.	Field observation	N		
Observe anchoring of veneers to the building structure.	Field observation	N		
<b>1704.11 Sprayed Fire-resistant Materials</b>				
Verify surface condition preparation of structural members.	Field observation	N		
Verify application of sprayed fire-resistant materials.	Field observation	N		
Verify average thickness of sprayed fire-resistant materials applied to structural members.	Field observation	N		
Verify density of the sprayed fire-resistant material complies with approved fire-resistant design.	Field observation and submittal review	N		
Verify the cohesive/adhesive bond strength of the cured sprayed fire-resistant material.	Field observation and submittal review	N		
<b>1704.12 Exterior Insulation and Finish Systems (EIFS)</b>				
Observe EIFS applications.	Field observation	N		
<b>1704.14 Smoke Control Systems</b>				
Test smoke control systems.	Field testing	N		

## SCHEDULE OF SITE OBSERVATION SERVICES

MATERIAL / ACTIVITY	SERVICE	PPH-CBEL TO THIS PROJECT		
		Y/N	EXTENT	AGENT* COMPLETED
<b>1704.13 Special Cases</b> (work unusual in nature, including but not limited to alternative construction materials, unusual design applications, systems or materials with special manufacturer requirements. Attach 8 1/2x11 if needed).		N		
<b>1707.5 Storage Racks and Access Floors</b>				
Periodic observation during the anchorage of access floors and storage racks 8 feet or greater in height.	Field observation	N		
<b>1707.6 Architectural Components</b>				
Periodic observation during the erection and fastening of exterior cladding	Field observation	N		
Periodic observation during the erection and fastening of nonload bearing walls.	Field observation	N		
<b>1707.7 Mechanical and Electrical Components</b>				
Periodic observation during the anchorage of electrical equipment for emergency or standby power systems	Field observation	N		
Periodic observation during the anchorage of other electrical equipment	Field observation	N		
Periodic observation during installation of piping systems intended to carry flammable, combustible, or highly toxic contents and their associated mechanical units.	Field observation	N		
Periodic observation during the installation of HVAC ductwork that will contain hazardous materials	Field observation	N		
<b>1708.5 Mechanical and Electrical Equipment</b>				

**SCHEDULE OF SITE OBSERVATION SERVICES**

MATERIAL / ACTIVITY	SERVICE	APPLICABLE TO THIS PROJECT		
		Y/N	EXTENT	AGENT* COMPLETED
Submit certificate of compliance for designated seismic system components	Submittal review	N		
<b>1707.8 Seismic Isolation System</b>				
Periodic observation during the fabrication and installation of isolator units and energy dissipation devices used as part of the seismic isolation system.	Shop and field observation	N		

**\* Observation AGENTS**

**FIRM**

- 1a. Casco Bay Engineering
- 1b. S.W. Cole Engineering
- 1c. Star Building Systems
- 4.
- 5.
- 6.

**ADDRESS**

- 424 Fore St., Portland, ME
- 286 Portland Rd, Gray, ME

**TELEPHONE NO.**

- 842-2800
- 657-2866

*Note: The observation and testing agent(s) shall be engaged by the Owner or the Owner's Agent, and not by the Contractor or Subcontractor whose work is to be observed or tested. Any conflict of interest must be disclosed to the Building Official prior to commencing work. The qualifications of the observation Agent(s) may be subject to the approval of the Building Official.*

Is the Schedule of Special observation Services part of a Quality Assurance Plan as defined in Sections 1705 or 1706 of the Building Code?    Yes    No

DATE:



STAR BUILDING SYSTEMS

P. O. Box 94910  
Oklahoma City, OK 73143-49  
405-636-2010  
FAX 405-636-2419

November 23, 2004

BROWNCONSTRUCTION INC  
PO BOX 1217  
PORTLAND, ME 04104-1217

Subject **JAMES HARKINS**  
**PORTLAND, ME**  
(A) **SSB 60'-0" x 75'-0" x 20'-0" Is**  
**3@25'-0", Bay Spacings**  
**Star Job Number 11-B-12162**

**Gentlemen:**

**This is to certify that materials for the subject structure have been designed in accordance with the order documents, specifically as shown per the attached Engineering Design Criteria Sheet.**

**Aspects of code compliance as related to use or occupancy, such as sprinkler requirements, are not addressed by these documents.**

**The materials for this building have been designed in general accordance with the 9th edition, AISC Steel Construction Manual and 1996 AISI Cold Formed Steel Design Manual with 1999 addendum.**

**Star Building Systems is certified by AISC in Category MB. These structural components have been designed at the Oklahoma City, OK, facility and will be fabricated at one or more of the following AISC certified locations: Monticello, IA; Lockeford, CA; Elizabethton, TN; Columbus, MS; or Rocky Mount, NC.**

**These materials, when properly erected on an adequate foundation in accordance with the erection drawings as supplied and using the components as furnished, will meet the attached loading requirements without exceeding the allowable working stress.**

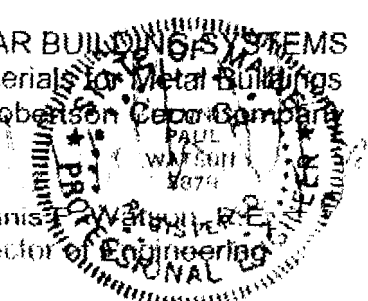
**This certification does not cover field modifications or the design of materials not furnished by Star Building Systems.**

**The attached calculations are to remain with and form part of this Letter of Certification. The undersigned is not the engineer of record for the overall project.**

Cordially,

STAR BUILDING SYSTEMS  
Materials for Metal Buildings  
a Robertson Corp. Company

PAUL W. SOUTHWELL  
1974  
Dennis W. Soutwell, P.E.  
Director of Engineering







• Geotechnical Engineering • Field & Lab Testing • Scientific & Environmental Consulting

04-1183

November 23, 2004

Quality Crane  
Attn: Jim Harkins  
31 Bates Street  
Portland, Maine 04103

Subject: Bearing Capacity Assessment  
Proposed Quality Crane Garage  
326 Presumpscot Street  
Portland, Maine

Dear Mr. Harkins:

In accordance with our Agreement dated October 28, 2004, we have observed test pit explorations and made a bearing capacity assessment of the subsurface soils for foundation support of the proposed building at the above referenced site. This report summarizes our findings and recommendations and its contents are subject to the limitations set forth in Attachment A.

**PROP CONSTRUCTION**

Based on information provided by DeLuca-Hoffman Associates (project civil) and yourself (project owner), we understand that development plans call for construction of a two-story, high-bay, pre-engineered metal building occupying a plan area of about 60 by 75 feet. Eased on the grading and drainage plans prepared by DeLuca-Hoffman Associates the building is proposed at a finish floor elevation of 45.5 feet. Existing grades across the proposed building pad area range from elevation 42 to 46 feet, thus cuts approaching 1-foot and fills approaching 3 feet are needed to prepare the building pad. Based on discussions with you, we understand site grading to prepare the building pad has been completed with the building pad presently at about elevation 45 feet. We understand the site has been used as a construction materials storage yard over the years.

Quality Crane Services, Inc. 1000 Main Street, Portland, ME 04103  
Tel: 603-875-1111 Fax: 603-875-1112 www.qualitycraneservices.com



04-1183  
November 23, 2004

### **EXPLORATION WORK**

Two *test pit* explorations were made at the site on November 16, 2004 by **Quality Crane** of **Portland, Maine**. The *test pit* locations were selected by **S.W.COLE ENGINEERING, INC.** based on a site plan prepared by **DeLuca-Hoffman Associates**. The *test pits* were established in the field based on taped measurements from staked building corners established by **Quality Crane**. The approximate *test pit* locations are *shown* on the '**Exploration Location Plan**' attached as **Sheet 1**. Logs of the *test pits* are attached as **Sheet 2**. A **key** to the notes and symbols used on the logs is attached as **Sheet 3**.

### **SUBSURFACE CONDITIONS**

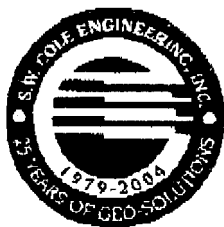
The *test pits* generally encountered a soil profile consisting of 4 to 7 feet of uncontrolled fill overlying very stiff native brown silty clay. The uncontrolled fills consisted of a heterogeneous mixture of silt, sand and gravel with metal, wood, concrete, brick and plastic debris. The uncontrolled fills were observed to moderately compact. The *test pits* were terminated in the very stiff native brown clay at depths of 8 to 10.8 feet below the ground surface.

Free groundwater was not observed in the *test pits* at the time of exploration. Groundwater should be expected to fluctuate seasonally and during periods of heavy precipitation or snow melt.

Refer to the attached logs for more detailed descriptions of the subsurface findings at the *test pit* locations.

### **AND RECOMMEND**

Based on the subsurface findings, the proposed construction appears feasible from a geotechnical standpoint. However, the uncontrolled fill underlying the proposed foundations must be overexcavated to expose stable native non-organic brown clay and backfilled with compacted granular borrow. The width of overexcavation must extend one foot outward from the edge of footings for each foot of overexcavation depth. Based on the subsurface findings, it should be anticipated that it will be necessary to overexcavate below footings to depths of 0 to 3 feet. The overexcavated area should be backfilled with granular borrow compacted in 1-foot lifts to at least 95 percent of its



04 1183  
November 23, 2004

maximum dry density as determined by ASTM D-1557. The existing fill soils may be suitable for reuse as compacted fill provided organics, wood and plastic debris are screened out before reuse.

We recommend that excavation to subgrade be completed with a smooth-edged bucket to preclude disturbance of the native brown clays anticipated at footing grade and at the base of overexcavated footing areas. S.W.COLE ENGINEERING, INC. must observe overexcavated areas prior to backfilling and footing subgrades prior to the placement of foundation concrete.

For spread footings founded on properly prepared subgrades, we recommend an allowable soils bearing pressure of 2.0 ksf with a base friction factor of 0.35 for foundation design. Foundations exposed to freezing temperatures must be placed at least 4.5 feet below exterior finish grades in order to provide frost protection. We recommend that a perimeter underdrain be installed at footing grade. The underdrain must have a gravity outlet.


As discussed, S.W.COLE ENGINEERING, INC. is available to provide geotechnical observations and testing of soil, concrete, asphalt and structural steel construction materials during construction if necessary.

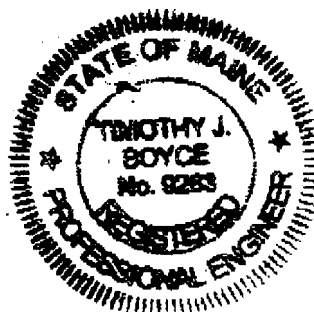
**CLOSURE**

If you have any questions or require additional assistance, please do not hesitate to contact us.

Sincerely,

S.W.COLE ENGINEERING, INC.

  
 Timothy J. Boyce, P.E.  
 Senior Geotechnical Engineer





**S.W. COLE**  
ENGINEERING, INC

• Geotechnical Engineering • Field & Lab Testing • Scientific & Environmental Consulting

## KEY TO THE NOTES & SYMBOLS

### Test Boring and Test Pit Explorations

*All stratification lines represent the approximate boundary between soil types and the transition may be gradual.*

#### Key to Symbols Used:

W	-	water content, percent [dry weight basis]
Q <sub>u</sub>	-	unconfined compressive strength, kips/sq. ft - based on laboratory unconfined compressive test
S <sub>v</sub>	-	field vane shear strength, kips/sq. ft.
L <sub>v</sub>	-	lab vane shear strength, kips/sq. ft.
Q <sub>p</sub>	-	unconfined compressive strength, kips/sq. ft. based on pocket penetrometer test
O	-	organic content, percent (dry weight basis)
W <sub>L</sub>	-	liquid limit - Atterberg test
W <sub>P</sub>	-	plastic limit - Atterberg test
WOH	-	advance by weight of hammer
WOM	-	advance by weight of man
WOR	-	advance by weight of rods
HYD	-	advance by force of hydraulic piston on drill
RQD	-	Rock Quality Designator - an index of the quality of a rock mass. RQD is computed from recovered core samples.
γ <sub>T</sub>	-	total soil weight
γ <sub>B</sub>	-	buoyant soil weight
HSA	-	Hollow Stem Auger
HW	-	4" Casing
NW	-	3" Casing
SS	-	split-spoon sampler

#### Description of Proportions:

0 to 5% TRACE  
5 to 12% SOME  
12 to 35% "Y"  
35+% AND

**REFUSAL; Test Boring Explorations** - Refusal depth indicates that depth at which, in the drill foreman's opinion, sufficient resistance to the advance of the casing, auger, probe rod or sampler was encountered to render further advance impossible or impracticable by the procedures and equipment being used.

**REFUSAL: Test Pit Explorations** - Refusal depth indicates that depth at which sufficient resistance to the advance of the backhoe bucket was encountered to render further advance impossible or impracticable by the procedures and equipment being used.

Although refusal may indicate the encountering of the bedrock surface, it may indicate the striking of large cobbles, boulders, very dense or cemented soil, or other buried natural or man-made objects or it may indicate the encountering of a harder zone after penetrating a considerable depth through a weathered or disintegrated zone of the bedrock.



TEST PIT LOGS

PROJECT/CLIENT: QUALITY CRANE / JIM HARKINS

PROJECT NO. 04-1183

LOCATION: 325 FREEJUMPSCOT STREET, PORTLAND, MAINE

SAMPLE		DEPTH (FT)	STRATUM DESCRIPTION	TEST RESULTS
<b>TEST PIT TP-1</b>				
DATE: 11/16/04		SURFACE ELEVATION: 45' +/-		LOCATION: SEE SHEET 1
NO.	DEPTH			
	1.5'	BROWN GRAVELLY SILTY SAND (FILL)		
	4.0'	BROWN TO BLACK SILTY SAND SOME GRAVEL TRACE CLAY WITH SOME COBBLES AND MISCELLANEOUS DEBRIS INCLUDING WOOD, METAL, PLASTIC ETC. (FILL)		
	8.0'	BROWN SILTY CLAY DESICCATED $q_u = 6 - 8 \text{ ksf}$		
S-1	7'-8"	8.0'		
		BOTTOM OF EXPLORATION AT 8.0'		
COMPLETION DEPTH: 8.0'			DEPTH TO WATER: NO SEEPAGE, NO CAVING OBSERVED	

SAMPLE		DEPTH (FT)	STRATUM DESCRIPTION	TEST RESULTS
<b>TEST PIT TP-2</b>				
DATE: 11/16/04		SURFACE ELEVATION: 45' +/-		LOCATION: SEE SHEET 1
NO.	DEPTH			
	1.5'	BROWN GRAVELLY SILTY SAND WITH OCCASIONAL COBBLES (FILL)		
	7.3'	BROWN SILTY SAND SOME GRAVEL TRACE CLAY WITH MISCELLANEOUS DEBRIS INCLUDING BRICK AND CONCRETE (FILL)		
	10.8'	BROWN SILTY CLAY WITH OCCASIONAL ROOT HAIRS $q_u = 6 - 7 \text{ ksf}$		
S-1	9'-10"	10.8'		
		BOTTOM OF EXPLORATION AT 10.8'		
COMPLETION DEPTH: 10.8'			DEPTH TO WATER: NO SEEPAGE, NO CAVING OBSERVED	

Attachment A  
Limitations

This report has been prepared for the exclusive use of Quality Crane for specific application to the Proposed Quality Crane Garage at 326 Presumpscot Street in Portland, Maine as described herein. Quality Crane limited our services to an assessment of soil bearing capacity only and a deeper soils investigation to evaluate settlement and other geotechnical considerations was specifically excluded by Quality Crane. Quality Crane has agreed to protect and hold harmless S.W.COLE ENGINEERING, INC. from any and all claims, including third-party claims, for damages or consequential damages due to underlying soil conditions including but not limited to post-construction settlement. S.W.COLE ENGINEERING, INC. has endeavored to conduct the work in accordance with generally accepted soil and foundation engineering practices. No other warranty, expressed or implied, is made.

The soil profiles described in the report are intended to convey general trends in subsurface conditions. The boundaries between strata are approximate and are based upon interpretation of exploration data and samples. Observations have been made during exploration work to assess site groundwater levels. Fluctuations in water levels will occur due to variations in rainfall, temperature, and other factors.

The analyses performed during this investigation and recommendations presented in this report are based in part upon the data obtained from subsurface explorations made at the site. Variations in subsurface conditions may occur between explorations and may not become evident until construction. If variations in subsurface conditions become evident after submission of this report, it will be necessary to evaluate their nature and to review the recommendations of this report.

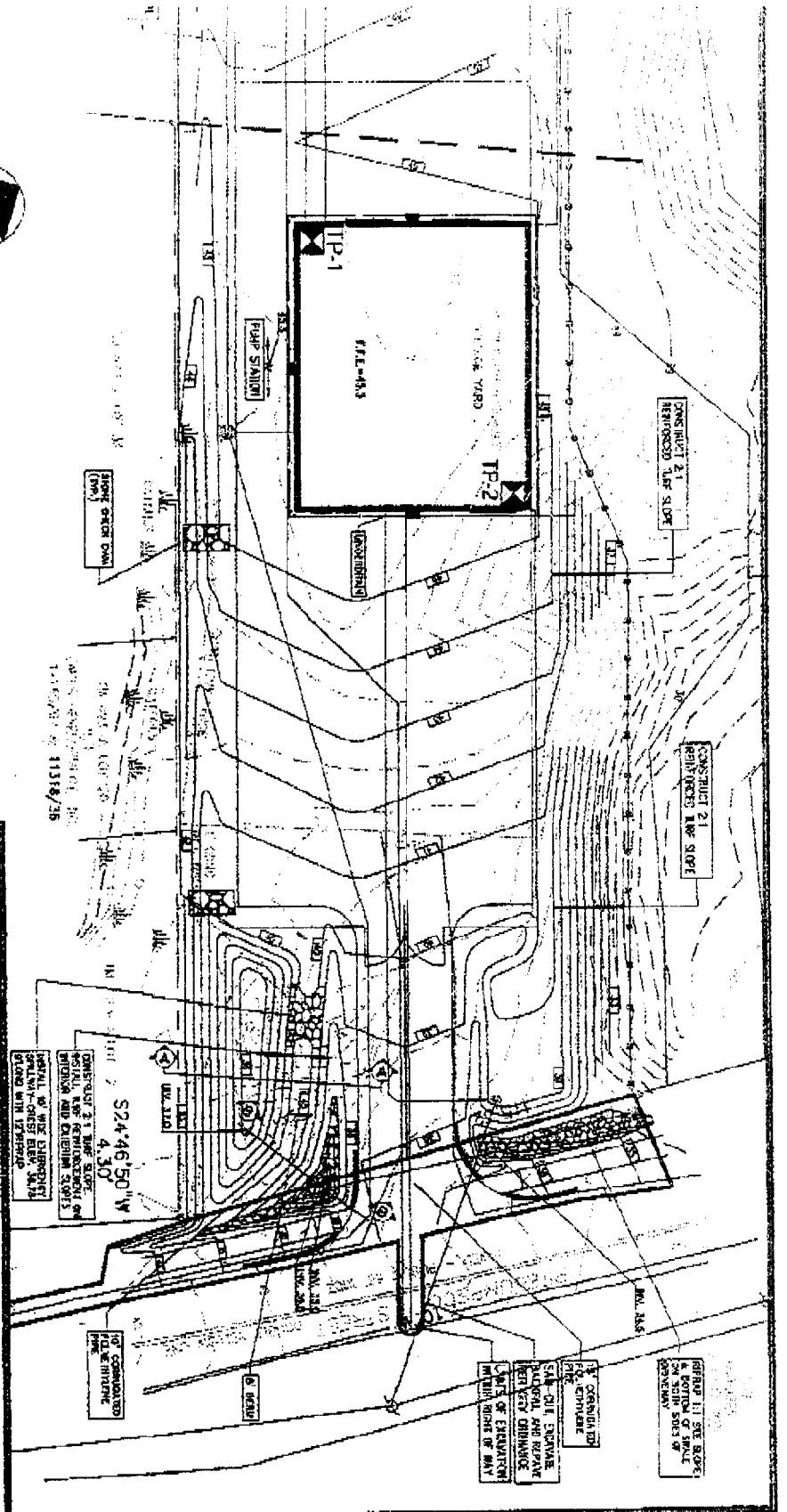
S.W.COLE ENGINEERING, INC.'s scope of work has not included the investigation, detection, or prevention of any Biological Pollutants at the project site or in any existing or proposed structure at the site. The term "Biological Pollutants" includes, but is not limited to, molds, fungi, spores, bacteria, and viruses, and the byproducts of any such biological organisms.

Recommendations contained in this report are based substantially upon information provided by others regarding the proposed project. In the event that any changes are made in the design, nature, or location of the proposed project, S.W.COLE ENGINEERING, INC. should review such changes as they relate to analyses associated with this report. Recommendations contained in this report shall not be considered valid unless the changes are reviewed by S.W.COLE ENGINEERING, INC.



**LEGEND**

☒ Approximate Test Pit Location



  
**S.W. COLE**  
 ENGINEERING, INC.

QUALITY CRANE

**EXPLORATION LOCATION PLAN**

Proposed Quality Crane Garage  
 328 Presumpscot Street  
 Portland, Maine

Job No. 04-1183S  
 Date: 11/23/04

Scale 1" = 40'  
 Sheet 1

REFER TO SEE SLOPE  
 & BOTTOM OF TIE  
 ON WEST SIDE OF  
 DRIVEWAY

CONSTRUCT 2.1  
 REINFORCED TIE SLOPE

CONSTRUCT 3.1 TIE SLOPE  
 SHALL BE REINFORCED ON  
 INSIDE AND OUTSIDE SLOPES  
 WITH 1" DIA. BARS @ 18" ON  
 CENTER WITH 18" DIA.  
 BARS @ 18" ON CENTER  
 WITH 18" DIA. BARS @ 18" ON  
 CENTER WITH 18" DIA.  
 BARS @ 18" ON CENTER

S24°46'50"W  
 4.30'

6" BENCH

OF CONSTRUCTED  
 FILL MATERIAL

**City of Portland, Maine - Building or Use Permit**

389 Congress Street, 04101 Tel: (207) 874-8703, Fax: (207) 874-8716

<b>Permit No:</b> 05-0434	<b>Date Applied For:</b> 04/20/2005	<b>CBL:</b> 422 B009001
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<b>Location of Construction:</b> 326 PRESUMPCOT ST	<b>Owner Name:</b> HARKINS JAMES	<b>Owner Address:</b> 31 BATES ST	<b>Phone:</b>
<b>Business Name:</b>	<b>Contractor Name:</b> Quality Crane Services	<b>Contractor Address:</b> 31 Bates St Portland	<b>Phone</b> (207) 874-9957
<b>Lessee/Buyer's Name</b>	<b>Phone:</b>	<b>Permit Type:</b> Foundation Only/Commercial	

<b>Proposed Use:</b> Commerical Foundation ONLY for new construction steel building w/ two bays	<b>Proposed Project Description:</b> Foundation ONLY for new construction steel building w/ two bays
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Fire and Zoning previously approved this foundation permit.

**Dept:** Engineering      **Status:** Open      **Reviewer:** Tony      **Approval Date:**  
**Note:** PUBLIC WORKS ENGINEERING REVIEW...3/18/03      **Ok to Issue:**

I have reviewed the submittal dated February 19,2003 and offer the following comments:

1. On sheet C-4, the plan specifies a force main connection into a private force main sewer in the Presumpscot Street right of way. The applicant must show evidence of an agreement with the owner of this force main to make such a connection.
2. The plans must specify radial granite curbing along the driveway entrance/exit, within the Public Right of way.
3. The plans must the proposed limits of excavation within the right of way, specific to utilities, entrance/exit and granite curbing installation. These construction limits must be in conformance with the City's Street Opening Ordinance.
4. The "detail sheets" must include construction details for the proposed entrance/exit construction; installation of granite curbing.
5. The applicant is advised to contact Carol Merritt at Public Works regarding the required fees and permits associated with exacavation within the public right of way.
6. Upon receiving Planning Board and/or Planning Department approval of this proposal, the applicant will supply Jon Giles at Public Works with a CADD file of this development proposal.
7. The applicant must obtain utility capacity letters for the proposed utilities servicing the development.

**Dept:** Fire      **Status:** Approved      **Reviewer:** Lt. McDougall      **Approval Date:** 02/24/2003  
**Note:**      **Ok to Issue:**

**Dept:** Planning      **Status:** Approved      **Reviewer:** Sarah Hopkins      **Approval Date:** 04/04/2003  
**Note:**      **Ok to Issue:**

**Comments:**

4/20/2005-ldobson: Foundation only cost on original Permit