SECTION 530

ROUND TIMBER PILES

Conform to the relevant provisions of State of Maine, Department of Transportation, Standard Specifications, Highways and Bridges most recent edition and supplements thereto, SECTION 530 ROUND TIMBER PILES, with the following changes:

530.01 Description. This work shall consist of providing labor, materials, equipment and supervision necessary to complete the installation of round timber fender piles as detailed in this section and on the plans. Piles shall conform to and be installed as detailed in these specifications in conformity to the lines, grades, and locations shown on the plans or authorized by the Engineer.

530.02 Notice, Submittals and Product Handling. Notice shall be given to the Engineer at least one week in advance of all pile driving.

The following is a list of items to be submitted to the Owner and Engineer for approval:

(1) Driving plan and schedule for installation of piles.

(2) Method of installation of piles including size and type of pile hammer.

(3) Template and falsework to be used for support and layout of piles during driving.

(4) Pile point and method of attachment.

(5) Certification of timber pile species.

Piles shall be handled with care to prevent damage. Damaged piles will be rejected and replaced at no additional cost to the Owner. Piles shall be stored with a space beneath them and situated to prevent being exposed to standing water.

530.03 Materials. Materials shall meet the following requirements.

Timber fender piles shall be clean-peeled untreated, mature Native Red Oak, conforming to ASTM D25. The minimum tip circumference shall be 25 inches, with a minimum butt circumference of 39 inches, 3 feet from the butt. Fender pile heads shall be cut at 15 degrees to the horizontal. Fender pile

heads shall be capped with clear, cast-in-place fiberglass, extending 4 inches down the sides of the pile. The sides of the cap shall be nailed prior to application *of* last layer of fiberglass. Layup shall be 4 layers of 1-1/2 oz. Mat or approved equivalent.

530.04 Timber Treatment. No timber treatment shall be applied to the fender piles.

530.05 Equipment. No equipment is suggested for installation of fender piles. Engineer shall review submittals and approve or reject methods chosen by contractor.

530.06 Handling. Piles shall be inspected in the leads, and where the protective shell or wood is impaired, between cutoff and a point which will be not less than 10 feet below the ground. All piles found damaged in these areas shall be rejected. Rejected piles will be replaced at no additional cost to the Owner. Support pile laterally during driving, but not unduly restrained from rotation in the leads. Cut piles by sawing or other means approved by the Owner.

530.07 Driving Procedures and Tolerances. Fender piles shall be driven continuously into the substrate for a minimum of 15 feet.

Fender pile butts shall be within 3 inches of the location indicated. Manipulation of piles to force them into position will not be permitted. Check all piles for heave. Redrive heaved pile to the required elevation. Piles damaged, mislocated, or driven out of alignment shall be replaced or additional piles driven as directed at no additional cost to the Owner.

Obstructions encountered in pile locations shall be dealt with as follows:

(1) **All** rocks, timbers, pile stubs, or other obstructions at the ground surface (either above or under water) which interfere with driving of piles shall be removed at no additional cost the Owner.

(2) In the case of an apparent obstruction below the ground surface but above the anticipated full depth, which prevents appreciable penetration of a pile, the abnormal condition will receive further consideration by the Engineer. Depending on depth and the resistance of the obstruction, the Engineer will decide whether to consider the pile acceptable or

order the obstruction removed. The decision may be deferred until the driving of adjacent piles indicated the obstruction to be isolated or extending over the area of several piles.

All piles shall be marked at a given distance from the bottom, which will show above the waterline after driving, so that the bottom elevation of each pile and its relation with adjacent piles can be recorded.

530.08 Records. After installation of all fender piles a complete and accurate record of each pile shall be furnished by the Contractor. The record shall indicate the pile location, diameter, length, hammer (make and model), number of blows per 6 inches for the final 36 inches of penetration, and all other pertinent information.

Remove the following sections:

501.11 Method of Measurement.

501.12 Basis of Payment.

All other sections remain unchanged

SECTION 531

METAL FABRICATIONS

Conform to the relevant provisions of State of Maine, Department of Transportation, Standard Specifications, Highways and Bridges most recent edition and supplements thereto, SECTION 531 METAL FABRICATIONS, with the following changes:

531.01 Description This work shall consist of providing all labor, materials, equipment and supervision necessary for furnishing and installing fabricated and rolled steel members including: upper and lower hoist beam assemblies, hoist support miscellaneous channels, bearing plates, hoist mount angles, chain guide assemblies, and ramp hinge assembly members.

531.02 Quality Assurance and Submittals All work shall conform to the following codes and standards, except as noted:

(1) American Society for Testing and Materials (ASTM), latest edition.

(2) American Institute for Steel Construction (AISC) Specification for the Design, Fabrication and Erection of Structural Steel for Buildings, latest edition.

(3) American Welding Society (AWS).

(4) Maine State Building Code, latest edition.

The Contractor shall submit for approval all shop drawings prior to fabrication. Shop drawings shall include all information necessary for the fabrication of the component parts. Indicate size and weight of members, type and location of shop and field connections, the type, size and extent of all welds, and welding sequences. Use American Welding Society welding symbols. Approval of shop drawings will be for size and arrangement of principal and auxiliary members and strength of connections. Any errors in dimensions shown on shop drawings shall be the responsibility of the Contractor.

The Contractor shall use only certified welders for all ~~welding performed in connection with the work of this Section.~~ Each welder shall be certified for the particular work, prior to commencing the work, which must be accomplished.

Completed welds will be subject to inspection and approval of and independent testing agency. Faulty welds shall be cut out and replaced at no cost to the Owner.

Upon completion of this portion of the work, and as a condition of its acceptance, the Contractor shall deliver to the Engineer a letter signed by and an official of the miscellaneous metal fabricating firm or firms, certifying that all fabricated metal has been fabricated in complete accordance with this Section.

531.03 Materials. All materials shall be delivered, stored and handled so that they are not damaged.

All structural steel shall conform the following:

(1)	Miscellaneous channels	ASTM A36
(2)	W-Shapes	ASTM A992
(3)	Angles	ASTM A36
(4)	Plates	ASTM A36
(5)	Steel Pipe	ASTM A53 Grade 3
(6)	WT-Shapes	ASTM A992
(7)	Round Stock	ASTM A36

531.04 Fabrication. All products of this Section shall be fabricated in a fully-equipped facility capable of producing high grade of metal fabrication work. All work shall be straight and true, free from warpage and other defects. Joints, covers, copes and miters shall be accurately and neatly cut, machined, filed and fitted. All steel will be free from imperfections, dirt, loose scale, paint, oil or other foreign substances during fabrication. All material shall be fabricated to within + or – 1/8 inch of their theoretical dimensions as shown on the plans. Holes for bolts shall be located as shown on the plans and shall be drilled 1/16 inch in diameter larger than the (galvanized) bolt unless otherwise indicated on the plans.

All fabrication shall be coated with a High Solids Urethane coating as detailed in SECTION 506, PAINTING STRUCTURAL STEEL.

Fabrication shall be stored on skids, not on ground, in such a fashion as to prevent bending, twisting, or similar damage. Fabrications shall not be dumped off a truck. Any parts damaged or improperly fabricated shall be removed and replaced or corrected as directed by the Engineer and at no additional cost to the Owner.

531.05 Installation Prior to installation work shall be cleaned of weld splatter, dirt and other foreign materials. Protect installed work as required from damage by subsequent building operations.

Remove the following sections:

501.11 Method of Measurement.

501.12 Basis of Payment.

All other sections remain unchanged

SECTION 02317
SMALL DIAMETER GROUTED PILES

PART 1 GENERAL

1.01 DESCRIPTION

A. The following defines the Performance Specifications for small diameter (<11") grouted piles to be used to support the inshore portion of the Gate **4** freight ramp at the Casco Bay Islands Transit District Terminal, Portland, ME. These Performance Specifications will be used in obtaining proposals for the design, installation, and testing of 15 ton compression capacity (allowable capacity) small diameter (<11") grouted piles at locations specified in the drawings.

1.02 QUALITY ASSURANCE

A. Except as noted, work shall conform to the latest editions of the following codes, specifications, and standards

1. American Society for Testing and Materials (ASTM)

2. American Welding Society (AWS)

3. Code: Maine State Building Code, Latest Edition

4. Maine Department of Transportation Specifications, Latest Edition

Pile contractors submitting proposals must specialize in design, installation, and testing of small diameter grouted piles with not less than five (5) years experience in similar type and complexity as the indicated pile foundations.

1.03 SUBMITTALS

A. Submit for approval by the Owner:

1. Name and qualifications of the specialty pile contractor and its field engineer

2. Design of small diameter grouted piles stamped by a registered professional engineer.

3. List of equipment and procedures to be used with manufacturers technical data

4. Shop drawings:

   a. The Contractor shall submit detailed shop drawings stamped by a Maine Registered Professional Civil Engineer prior to beginning the Work, showing pile number, location and sequence of installation. Submit details of equipment and procedures for pile installation including advancing casing, drilling, and methods of dealing with obstructions; placement of reinforcing steel, tremie grouting, pressure grouting, withdrawal of temporary casing, and installation of permanent casing. Include pile diameter and materials, reinforcing material and details, centralizers, size and length of temporary steel casing and permanent steel casing and grout mixes for both test and production piles. Details of the pressure grouting system shall be provided.

5. The cement grout mix design proposed for use.

6. Reports: Submit a daily report of piles partially and/or completely installed each day which summarizes length, size and elevation of temporary casing, permanent casing, and the pile tip.

7. General Contractor will establish pile locations and supply benchmarks and baseline for as-built submittals.

8. As-Built Data

   a. Actual pile location data shall be submitted within two (2) working days after a pile is installed. The Contractor shall provide the Owner with written tabulation indicating the following information:

   b. Latitude and longitude for each pile installed

   c. Pile number

   d. Elevation of top of each pile (measured to the nearest 0.5 in.)

e. Horizontal and vertical deviation from design plan location (measured to the nearest 0.5 in.)

f. Elevation of the top and bottom of permanent steel casing

g. Deviation from vertical

h. Pile tip (bottom) elevation

i. Volume of grout installed

j. Injection pressures for every 25 foot zone

k. Reinforcing steel and permanent steel casing data

1.04 SITE CONDITIONS

A. Subsurface Conditions

1. The log of test boring B102 conducted at the project location is located on the drawings. This log is provided for information only and is not guaranteed to represent all conditions that will be encountered. The Contractor is advised to make his own investigations of the conditions which exist and which may affect the work.

2. The subsurface information is considered to represent the conditions at the locations of the test boring at the time the test boring was made. Variations from the conditions disclosed by the boring, including potential obstructions should be anticipated by the Contractor in planning and estimating the work.

3. The Contractor shall protect adjacent property, public utilities and structures, and completed work from damage due to the pile installation operations. Damage due to pile installations shall be repaired by the Contractor at no cost to the Owner.

4. Should uncharted or incorrectly charted piping and other utilities be encountered during pile installation, contact the Owner immediately for directions.

1.05 MINIMUM PILE INSTALLATION CRITERIA

A. Test and production pile installation shall be conducted in accordance with the following

1. **All** piles shall be formed with steel reinforcing and grout encasement to transfer all loads.

2. For compression loads the allowable stress in the steel reinforcing, including permanent steel casing, shall be 40% of the minimum specified yield strength, but shall not exceed 24,000 pounds per square inch (psi). The allowable stress on the cement grout shall be 33% of the 28 day unconfined compressive strength, but not exceeding 1,600 psi.

3. The steel reinforcing shall be designed to carry not less than 40% of the design compression load.

4. Minimum thickness of grout cover over steel reinforcing shall be 1.5 inches.

5. The steel reinforcing shall be centered in the pile and shall extend through the grout to the bottom of the pile. Centralizers shall be provided at 10-0" intervals.

6. The mating ends of the steel reinforcing shall be spliced so as to safely withstand the stresses to which they are to be subjected. Each steel section and splice shall be assembled to develop the full compressive and tensile strength of the section. Splices shall be mechanical or welded. Lap splicing shall not be allowed.

1.06 CONDUCT OF THE WORK

A. The Contractor shall provide provisions to control the flow of water, the waste grout and disposal of same, and shall keep the premises clean and free of water and debris from the drilling and pile installation work. Contractor shall take all necessary measures to keep any waste grout and/or run-off water from washing out into adjacent waterway. These measures must comply with all current local, state and federal regulations.

B. The Contractor will be responsible for job safety and security.

PART 2 PRODUCTS

2.01 MATERIALS

A. General: Test and/or inspect all materials at their place of manufacture. All material shall bear manufacturer's labels identifying material.

B. Steel Reinforcement: Provide steel reinforcement for all drilled piles in compliance with ASTM A615, Grade 60 or Grade 75.

C. Cement Grout

1. Cement grout for piles shall conform to the requirements of the Maine State Building Code and American Society for Testing and Materials (ASTM) Specifications C94 for ready mixed concrete, third edition.

2. Provide neat cement grout with a minimum 28-day compressive strength of 5,000 psi.

D. Casing shall consist of steel casing and shall conform to one of the following ASTM Designations: A53, A500, A501, or A618.

2.02 EQUIPMENT

A. General: Provide equipment of type specified below, operated at manufacturer's specified rate, as approved by the Owner.

1. Provide a fully-equipped drilling rig in full time operation at the site to meet the project schedule.

2. Provide grout equipment including mixer and agitator capable of mechanical mixing and agitating that produces uniform and thoroughly mixed grout, free of lumps and undispersed cement and maintains it so. Provide grout equipment capable of continuously grouting each drilled pile in a timely manner. Provide grout pumping equipment capable of pressure grouting each pile.

3. Provide all other equipment, accessories and materials including tremie grout pipe for pile installation.

PART 3 EXECUTION

3.01 Piles shall be installed to the line and grades specified in the drawings.

3.02 The pile installation procedure shall not cause settling of existing ground or movement of any existing piles or structures. Pile casing shall be installed by drilling methods preferably by the duplex method for intimate contact with the soil.

3.03 The Contractor shall protect adjacent property, public utilities, structures and other completed work during pile installation. Damage caused by or attributed to pile installation shall be repaired by the contractor at no additional cost to the Owner.

3.04 If subsidence or movement of existing facilities or surrounding ground surface adjacent to pile is observed to be occurring while drilling, immediately terminate installation and modify installation techniques to prevent further subsidence and submit revised procedures for approval.

3.05 If any indication of pile collapse occurs, repeat installation at no additional cost to the Owner. Submit proposed procedures for approval of the reinstallation.

3.06 Pump cement grout under pressure with a tremie pipe and pump grout from the bottom of the pile upward in one continuous operation through the design bond zone. The cement grout shall not be allowed to fall freely through slurry or water. Cold joints are not allowed. Grout in accordance with approved shop drawings to obtain specified capacity.

3.07 Piles which cannot be completed because of obstructions encountered shall be abandoned at the direction of the Owner and the hole filled with grout at no cost to the Owner. **A** new location shall then be determined by the Owner's representative.

3.08 TOLERANCES

A. The tip of the pile shall not deviate more than 2% of the length of the pile from the installed alignment. Measurements shall be taken prior to grouting and casing extraction.

B. The actual center of each pile at the cut-off elevation shall be within 2" of the design location indicated. The actual cut-off elevation shall be within **1"** of the elevation shown on the Drawings.

C. If any single pile exceeds the limits specified above, the pile will be redesigned by the Owner. If pile capacity is less than the specified load

capacity, corrections shall be made as directed by the Owner at no additional cost to the Owner. Any required redesign of pile cap or adjacent structure due to piles exceeding the tolerances specified above will be made by the Owner and incorporated by the Contractor at no additional cost to the Owner.

D. Damaged and Rejected Piles:

1. Where piles are installed incorrectly or are damaged, the Owner will reject the pile. Corrective work, including excavation, backfilling, installation of additional piles and additional grout and steel shall be at no additional cost to the Owner.

2. Abandon and fill the rejected piles with grout at no cost to the Owner. Fill to a level no higher than one foot below the bottom of the pile cap. Install replacement piles at locations as directed by the Owner.

3.10 DISPOSAL OF EXCAVATED MATERIAL

A. All excavated material, slurry and contaminated materials shall be removed and legally disposed of off-site by the contractor. Prior to drill water discharge, the excess water shall pass through a sedimentation basin to remove soil fines.

END OF SECTION

SECTION 534

MISCELLANEOUS METALS

Conform to the relevant provisions of State of Maine, Department of Transportation, Standard Specifications, Highways and Bridges most recent edition and supplements thereto, SECTION 534 MISCELLANEOUS METALS, with the following changes:

534.01 Description. This work shall include all labor, materials, equipment and supervision necessary to complete the work specified herein.

The work includes furnishing the following for the Gate 4 installation:

(1) Machine bolts and washers

(2) Chains

(3) Anchor bolts

(4) Shackles

(5) Chain connecting links

The work also includes furnishing all other hardware not specified elsewhere.

534.02 Quality Assurance and Submittals. All work shall conform to the following codes and standards, except as noted elsewhere:

(1) American Society for Testing and Materials (ASTM)

(2) American Welding Society (AWS)

(3) American Institute of Steel Construction (AISC)

The Contractor shall submit for approval to the Engineer:

(1) all shop drawings for all shop fabricated items before beginning fabrication.

(2) all materials delivered to the fabricator or site shall have an accompanying certificate of compliance

with applicable ASTM specifications for all galvanized items.

(3) Manufacturer's literature and specifications on wire rope, chains, shackles, and chain connecting links.

(4) List of all other hardware with quantities and material specifications.

534.03 Material. All parts provided under this specification shall be delivered, stored and handled so that they are not lost or damaged before installation in the work.

All machine and eye bolts shall conform to ASTM A 307 for Mild Steel Bolts unless otherwise noted. All chains, cable, shackles and connecting links shall be the size and capacity shown on the plans and in these specifications. All steel items under this Section shall be galvanized. Galvanizing shall be by the hot dip method according to ASTM A **123** and A 153. Welding rods shall conform to AWS E70XX grade. Sizes shall be as indicated on the plans.

534.06 Fabrication and Installation. All fabrication shall conform to AISC Manual of Steel Construction. Workmanship shall be equal to standard commercial practice. All materials shall be clean and straight. Each assembly shall be accurately fabricated to the lines and dimensions called for and shall be free from undue twists, bends, warping, distortion and other irregularities. **All** assemblies shall be fabricated to within + or – 1/16 inch of their theoretical dimensions.

All bolting and welding shall be carried out in accordance with latest approved methods, with due consideration for strength and appearance of finished product. All welding shall be done by certified welders. All welds shall be made watertight.

All parts provided under this specification shall be delivered, stored and handled so that they are not lost or damaged before installation in the work.

The installation of work specified hey-ein shall conform to AISC Manual of Steel Construction. Parts covered by this specification shall be installed in the work as shown on the .**Pl**ans. No cutting or burning of steel shall be aone to install fasteners without approval of the Engineer.

All work that is found to be damaged, improperly installed, without proper coating, or otherwise not according to the plans and specifications, shall be considered for rejection and replaced at no additional cost to the Owner.

Remove the following Sections:

534.07 Method of Measurement.

534.08 Basis of Payment.

All other sections remain unchanged.

SECTION 535

PRECAST, PRESTRESSED CONCRETE SUPERSTRUCTURE

Conform to the relevant provisions of State of Maine, Department of Transportation, Standard Specifications, Highways and Bridges latest edition and supplements thereto, SECTION 535, PRECAST, PRESTRESSED CONCRETE SUPERSTRUCTURE, with the following changes:

535.02 Materials The second paragraph shall read: Portland cement shall conform to the requirements of AASHTO M85 (ASTM C150), Type 2.

535.20 Finishing Concrete and Repairing Defects The following additional text shall be added: "The finished top surface of the gate planks shall be roughened to a depth of ¼".

535.26 Lateral Post-Tensioning The first paragraph shall be replaced with the following text: If two 5′ planks are used, post-tensioning shall be necessary. The contractor shall select a post-tensioning system which shall be approved by the engineer prior to installation. Any conduit and/or notches that need to be placed in the planks shall be accounted for in the design of the planks. This system shall ensure that differential movement between the planks is less than or equal to .02 inches.

535.27 Erection of Precast Deck Planks The following text shall be added: Prior to placing the gate planks the Contractor shall inspect the plank to pile cap or hoist beam bearing area of both the pile cap or hoist beam and the gate planks. The bearing areas shall be sound, smooth and level. *Any* imperfections or projections shall be repaired or removed prior to placing of the gate planks by grinding the steel surfaces or grouting the planks.

Remove the following sections:

535.28 Method of Measurement

535.29 Basis of Payment

All other subsections remain unchanged.

SPECIAL PROVISION

SECTION 655
ELECTRICAL WORK

655.01 Definitions: "Provide" shall mean that the Contractor is to furnish and install equipment with associated electrical work. "Furnish" shall mean that the Contractor is to purchase equipment and deliver it to the site but not install equipment. "Install" shall mean that the Contractor is to install equipment but not to purchase the equipment. "Electrical work" shall mean and is intended to include the providing of all labor, material, and equipment to satisfactorily accomplish the installation and tests described or referenced in Division 16.

655.02 Scope: Unless otherwise noted on the drawings or in the electrical specification, all electrical work shall be in accordance with the latest revision of the National Electrical Code, NFPA-72, the National Electrical Safety Code, and all the codes and standards referenced therein. All electrical equipment, material, and hardware shall be UL listed for the application herein intended. In addition, all electrical work shall be in accordance with local, state and utility requirements and the codes and standards referenced in those requirements.

The Contractor agrees to indemnify, defend, and hold harmless the Owner and the Electrical Engineer from and against all loss or expense (including costs and Attorney's fees) by reason of liability imposed by law upon the Owner and the Electrical Engineer for damages because of bodily injury, including death at anytime arising there from, sustained by any person or persons or on account of damage to property, including loss of use thereof, arising out of or in consequence of the performance of the contract, provided such injury to persons or damage to property is due to or claimed to be due to negligence of the Contractor, his employees or agents.

Persons qualified, authorized, and licensed in the State of Maine shall provide all electrical work.

The Contractor shall provide to the Owner a complete package of as-built electrical drawings of all electrical work.

The cost of all building permits, electrical permits, inspection fees, costs associated with assisting utility companies in their work, and all associated fees charged by utilities to serve this projects shall be included in the Contractor's quote/bid for the electrical work.

The electrical system, together with the component units, shall be guaranteed for a period of one year from the date of final acceptance thereof against defective materials and workmanship. Upon receipt of notice of failure of any part of the

guaranteed system or component units during the guaranty period, the affected part of parts shall be replaced promptly with new parts by and at the expense of the contractor.

655.03 Test and Inspection Requirements: the shore power grounding system shall be tested with an earth test megger as described in the National Electrical Code Handbook. The resistance of the installed system shall not exceed 10 Ohms.

The contractor shall conduct, at his own expense and at such time as the Electrical Engineer designates, tests to demonstrate that the electrical work is provided and operates in accordance with the requirements of the project specifications.

All electrical work shall be inspected and approved by the authority having jurisdiction.

Electrical work that does not meet the requirements of Division 655 shall be modified at no expense to the Owner to bring it into conformance with these requirements.

Written test reports shall be provided to the Owner and the Electrical Engineer for approval.

655.04 Submittals: The following electrical material and equipment shall be provided to the Owner for review and approval: Conductors, Conduits, Transformer, Disconnecting Devices, Circuit Breakers, Photocell Switch, Lights, Poles, and Junction Boxes.

All proposed deviations from the electrical drawings and specifications shall be detailed in writing as a shop drawing submittal provided for review and approval by the Electrical Engineer prior to execution.

655.05 Conduit and Wirewavs: **All** conduit, couplings, conduit bodies, fittings, and conduit connectors shall be threaded, rigid metal with a charcoal gray 40 mil thick PVC coating. These conduits shall also have a 3 Mil thick urethane coating on all inside surfaces.

All metal conduits shall be grounded but shall not be used as an equipment grounding conductor.

655.06 Conductors: **All** individual conductors shall be copper with XHHW-2 color-coded insulation.

Color-code all phase and ground insulation as follows: 120/240 Volt System (A-Black, B-Red, Neutral-White, Ground-Green).

All individual conductors shall be in a PVC coated, threaded, rigid metal conduit system specified elsewhere.

Flexible cables between junction boxes shall be UL listed for the service herein intended. This cable shall be capable of immersion in salt water although the junction boxes are to be located so that these cables will not be immersed in salt water.

655.07 Electrical Boxes and Enclosures: All pull boxes and junction boxes shall be cast metal with threaded openings and gasketed cover seals. All boxes shall be galvanized and have Neoprene gaskets.

655.08 Shore Power Receptacle: Provide a Russell-Stoll shore power receptacle, DBRS-1404100, and support structure shown on the Civil Engineering drawings.

655.09 Mounting and Support: All electrical equipment and material shall be supported by means that have the capacity to carry 5 times the expected load.

Conduits shall be supported by two-hole brackets at not greater than 3 feet on center.

655.10 Shore Power Transformer: Provide a shore power transformer as shown on the electrical drawings.

The shore power transformer is to be wired as a separately derived source.

The primary connection for the shore power transformer is to be located in the shed to the Northwest of Gate **4.** This shed will be moved due to the installation of Gate 4. Contractor shall ensure that shed is in its final location prior to beginning the work in this section. Mount the shore power transformer main disconnecting circuit breaker in the existing shed panel box. Penetrations of this shed shall be made watertight.

655.11 Grounding: Provide an extension of the existing grounding electrode conductor to the shore power transformer. Provide additional grounding electrodes if needed to meet the minimum code requirements.

655.12 Dry Type Transformers: Provide shore power dry type transformers.

655.13 Circuit Breakers: Provide new circuit breakers in the existing shed panel board for the new light equipment.

Provide circuit breakers with the same connection type and AIC rating to match existin

Provide new circuit breakers in dedicated enclosures.

655.14 Lighting Equipment: Provide Phoenix MS HD Series, Heavy Duty Flood Light, manufactured by Phoenix Products Company, Inc. of Milwaukee, WI or approved equivalent. Lamps shall be 70 watt high pressure sodium as specified by the luminaire manufacturer.

Provide luminaire with marine rated finish. Repair all damaged finishes in the field.

All anchor bolts, nuts, washers, and lock-washers to mount the poles shall be galvanized per ASTM 123 or ASTM 153 as applicable.

655.15 Electric Hoist: The Gate **4** Freight Ramp hoist shall be a Yale EEW25X35BM9S4 or approved equal with the following specifications:

1. 25 ton capacity
2. Lift operating range of 35 feet
3. Upper and lower limit switches
4. Lift speed of **9** feet per minute
5. 230 V, 3-phase
6. Rated for use in a marine environment
7. The hoist shall have weatherproof controls mounted permanently as shown on the drawings.
8. **All** control wiring shall be of sufficient length to eliminate intermediate junction boxes.

The hoist shall be mounted as indicated on the drawings and with the hoist wire plumb when the ramp is level. The hoist shall operate in a manner such that the hoist wire shall not undergo undue wear from rubbing or chaffing.

Prior to installation the hoist shall be tested to the satisfaction of the Owner.

END OF SECTION 655

2006-03

BOARD OF HARBOR COMMISSIONERS
PORT OF PORTLAND
PERMIT-A

TO BE POSTED IN A CONSPICUOUS PLACE AT THE CONSTRUCTION SITE

To.....Casco Bay Island Transit District, PO Box 4656, Portland. ME 04112-4656.....

The undersigned. Board of Harbor Commissioners for the Harbor of Portland, has carefully considered your application. Dated the 1st day of January 2006, for a permit authorizing ..... the demolition of 11' x 26' section of existing concrete pier (and associated pile supports) east of Gate 3, and construct new Gate 4 – mechanically operated, pile supported, pre-cast concrete vehicle/passenger ramp in its place. This shall also include site improvements to provide vehicle and passenger safety associated with the new Gate.. .....

Having given public notice of this pending application, as required by law. and therein designated the 23rd day Of February 2006, at 5:00 o'clock in the afternoon prevailing time as the time when they would meet At the Portland City Council Chambers to examine this issue and here all interested parties, and having met at the time and place mentioned and examined the location of this proposed construction project .....

And having heard all interested parties, the Board of Harbor Commissioners for the Port of Portland hereby issues this permit which authorizes you to proceed under all applicable local and federal regulations hereinafter stated, and to maintain within the limits mentioned in the permit application. .....

In addition, the construction project described above must be surrounded by a containment boom unless the Board of Harbor Commissioners for the Port of Portland has waived this requirement in writing. either as part of the above-listed conditions. or in a separate statement.

This permit is limited authorization, which contains a stated set of conditions with which the permit holder must comply. If a contractor performs the work for you, both you and the contractor are responsible for assuring that the work is done in conformance with the conditions and limitations of this authorization. Please be sure that the person who will be performing the work has read and understands these conditions.

Performing any work not specifically authorized by this permit. or that fails to comply with its conditions, may subject your to the enforcement provisions of Harbor Commission regulations. If any change in plans or construction methods is found necessary, please contact the Harbor Commission immediately to discuss modifications to your authorization. Any change must be approved by the Harbor Commission before it is undertaken.

Nothing in this permit shall be construed to justify or authorize any invasion to the private rights of others. Moreover, nothing in this permit shall limit or modify the authority of the Board of Harbor Commissioners for the Harbor of Portland with its applicable statute. Attested copies will he submitted to the U. S. Army Corps of Engineers, the Department of Environmental protection. the City of Portland, and the City of South Portland.

In Witness Whereof, the members of the Board of Harbor Commissioners for the Harbor of Portland hereunto set their hands and affix their corporate seal on this 23rd day of February 2006.

The work authorized to this permit must be completed on or before the 23rd day of February 2007.

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Board of Harbor Commissioners for the Port of Portland

Special Inspection Plan – Addendum #1
Ocean Gateway
Portland, **ME**

Purpose: The following serves as an Addendum to the Ocean Gateway Special inspections Plan, submitted and accepted by the City of Portland Inspections Office (submittal date of October 13, 2005), to include Special Inspections of the construction of a new Gate 4 at the Casco Bay Island Transit District (CBITD) on The Maine State Pier. This Addendum serves to outline the Special Inspection Requirements for the construction of Gate **4** and identify the Registered Design Professional for the CBITD Gate 4 components of **work.** All other components of the Ocean Gateway Special Inspections Plan shall remain as submitted.

Part **2** – Inspection Pian:

The extent of Special Inspections for the construction of CBITD Gate **4** shall include the following items, each of which has been previously identified within the original Ocean Gateway Special inspection Plan:

2.1.1 STEEL PILE FOUNDATIONS
2.6 STRUCTURAL STEEL
2.7 PRESTRESSED CONCRETE
2.11 GENERAL

Part **3** – Approvals

The Registered Design Professional (RDP) for Gate **4** was not identified in the original Ocean Gateway Special Inspections plan. PART 3 APPROVALS of the Ocean Gateway Special Inspections Plan shall be amended to include the following RDP for CBITD Gate 4.

Registered Design Professional (Marine Engineer)	**David** Livingston Porter, PE **Childs** Engineering	**Box 333** Medfield, MA **02052** Phone: (508) 359-8945

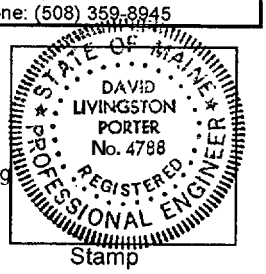
Registered Design Professional (CBITD **Gate 4)**

Signature

David L. Porter
Name (Printed)

05/30/2006
Date

Childs Engineering Corporation
Company



Stamp

FROM DESIGNER: Childs Engineering Corporation

DATE: 05/30/2006

Job Name: CBITD Improvements Gate No. 4

Address of Construction: Ferry Terminal 56 Commercial Street

2003 International Building Code

Constructionproject **was** designed accordingto the building codecriteria listed **below:**

Building Code and Year IBC 2003 Use Group Classification(s) U

Type **of Construction** Concrete & Steel

Will the Structurehave a **Fire** suppression system in Accordance with Section 903.3.1 of the 2003 IRC No

Is the Structuremixed use? No if yes, separated or non separated (see Section302.3)

Supervisoryalarm system? No Geotechnical/Soils report required?(See Section 1802.2)

STRUCTURAL DESWNCALCULATIONS

n/a Submitted for all structuralmembers *(106.7, 106. ■1)*

DESIGN LOADS ON CONSTRUCTIONDOCUMENTS **(1603)**

Uniformly distributed floor live loads *(7603.11, 1607)*

Floor Area Use	Loads Shown
Loading/Unloading	200 psf or
Ferry Vessel Freight	2-1/2 ton
	forklift

Wind loads *(1603.1.4,* 1608)

1609.1 Design option utilized (1609.1. *1,* 1609.6)

100 mph **Basic** wind speed *(1809.3)*

I Eulldlng categotyandwlnd importance **factor, I_w (Table** *1604.5,* 1609.5)

C Wind exposure category *(1609.4)*

n/a Internal pressure **coefficient** *(ASCE 7)*

n/a Component and cladding pressures *(1609.1.1, 1809.8.2.2)*

n/a Main force wind pressures (7603.1. *1, 1609.6.2.1)*

Earthquake design data *(1603.1.5,* 1614- *1623)*

1616.6.1 Design option utilized *(1614.1)*

Group 1 Seismic use group ("Category") *(Table* 1604.5; *1616.2)*

S_{D1}=.16g S_{DS}=.37g Spectral response coefficients, *SDs* & *SD1 (1615.1)*

D Site class*(1615.1.5)*

n/a Live load reduction *(1603.1.1, 1607.9,* 1607.10)

n/a Roof *live* loads *(1603.1.2,* 1607.11)

Roof snow loads *(7603.7.3,1608)*

50 Groundsnowload, P_g (1608.2)

n/a If P_g > 10 psf, flat-roof snow load, P_f *(1608.3)*

1.0 If P_g > 10 psf, snow exposure factor, C_e *(Table 1606.3.1)*

0.8 If P_g > 10 psf, snow loadImportance *factor, Is (Table 1804.5)*

n/a **Roof thermal** factor, C_t *(Table 1608.3.2)*

n/a Sloped roof snowload, P_s *(1608.4)*

C **Seismic** design category *(1615.3)*

8 **Basic seismic-force-resisting** system *(Table 1617.6.2)*

R_1=3 C_D=3 Response modification coefficient, R_I, and deflection amplification factor, C_d *(Table 1617.6.2)*

Simplified Analysis procedure (1766, 1617.5)

1617.5

1741 lbs Design base shear (1617.4, *1617.5.1)*

Flood loads *(1603.1.6, 1612)*

A2, +14.6'MLLW Floodhazard area (1612.3)

+16.7'MLW Elevation of structure

Other **loads**

2-1/2ton forklift Concentrated loads (1607.4)

n/a **Partition loads** (1607.5)

n/a Impact loads*(1607.8)*

n/a Misc. **loads** *(Table 1607.8, 1607.6.1, 1607.7, 1607.12,1607.13, 1610, 1611, 2404)*

CITY OF PORTLAND
BUILDING CODE CERTFICATE
389 Congress St., Room 315
Portland, Maine 04 101

TO: Inspector of Buildings City of Portland, Maine
Department **of** Planning & Urban Development
Division of Housing & Community Service

FROM: _____

RE: Certificate of Design

DATE: 05/30/2006

These plans and / or specifications covering construction work on:

CBITD Improvements, Gate No. 4

Ferry Terminal 56 Commercial Street

Have been designed and drawn up by the undersigned, a Maine registered Architect / Engineer according to the ***2003 International Building Code*** and local amendments.

STATE OF MAINE
DAVID LIVINGSTON ROSS
No. 4788
REGISTERED PROFESSIONAL ENGINEER
SEALS

As per Maine State Law:

$50,000.00 or more in new construction, repair expansion, addition, or modification for Building or *Structures,* shall be prepared by a registered design Professional.

Signature: _____

Title: Principal

Firm: Childs Engineering Corporation

Address: Box 333 Medfield, MA 02052

WOODARD & CURRAN
Engineering • Science • Operations

41 Hutchins Drive • Portland, ME 04102
(207)774-2112 • 1-800-426-4262
Fax: (207)774-6635

CORPORATE OFFICES: Maine, Massachusetk
New Hampshire, Connecticut, New York, New York, Florida
Operational offices *throughout the U.S.*

TRANSMITTAL

O: Mike Nugent, Manager
Inspection Services Program
City Hall – Room 315
Portland, ME 04103

DATE: October 13,2005
PROJECT NAME: Ocean Gateway
PROJECT NUMBER: 203438.11

RE: Special Inspection Plan – Ocean Gateway

WE ARE SENDING:

- ☐ Quotation
- ☐ Brochure
- ☐ Changeorder
- ☐ Drawings
- ☐ Schedule
- ☐ Manuals
- ☐ Bid Package
- ☐ Installation Package
- ☒ Other (specify): Inspection Plan
- ☐ Floppy Disk / CD
- ☐ Sample

Qty	Doc. No.	Rev. No.	Dated	Description
1			10/11/2005	**Special Inspection Plan for Ocean Gateway**

[redacted]

- ☐ USE
- ☒ APPROVAL
- ☐ REVIEWICOMMENTS
- ☐ INFORMATION
- ☐ OTHER

- ☐ REGULARMAIL
- ☐ FEDERAL EXPRESS
- ☐ UPS
- ☐ COURIER

OTHER – Dropped off by W&C at City Hall

Mike:

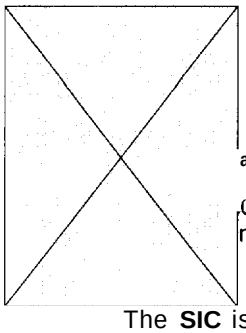
Enclosed is the Special Inspection Plan drafted by the design team and signed by the Special Inspections Coordinator, the City of Portland (Owner) and the two design firms (Architect's Structural Engineer and Marine Structural Engineer) that developed the inspection plan and the design drawings. Please let me know if you have any questions.

Thanks,
Dave ~~Senus~~ DAS

CC: Dustin Littlefield, Reed & Reed

BY: DAS


SPECIAL INSPECTION PLAN



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ns to the drawings and responses to field generated problems as the need

The **SIC** is to prepare a Field Report after each inspection leaving always a copy with the Contractor at the job site. The **SIC** must also maintain in a readily available location, preferably near the Official Documents, a Log of Inspections, summarizing the areas inspected and whether approved or not, which will be turned submitted the **RDP** and **BO** along with the Final Certificate of Compliance.

Each Field Report should clearly indicate all areas inspected and whether approved or not. If approval is denied, then the deficiencies and an indication on whether a re-inspection is required should be clearly noted. In addition, applicable Testing Laboratory **(TL)** Reports (compaction, pile monitoring, mill reports, etc.) should be made available to the **SIC** as soon as possible, for inclusion with the Field Report. The **TL** and **SI** shall duly make the **SIC** immediately aware of any changes, modifications done in the field, deviations from the Official Documents, poor workmanship (exposed reinforcement, excessive slumps, columns out of plumb, honeycombs, eccentricities, cracks, etc.) and areas poured or covered up without inspection.

Each Field Report should also indicate the date, time, weather conditions and the name and signature of the **SI** and/or **TL.**

The **SIC** must, as soon as possible, bring to the attention of the **RDP** changes generated in the field, deviations from the Approved Documents and areas of poor or faulty workmanship which require resolution through directives issued by the **RDP.** Any observed changes, deviations or areas of poor or faulty workmanship shall be recorded in the Field Report. The resolution to these issues must also be recorded in the Field Report.

1.2 RESPONSIBILITY

The presence of an **SI** or **TL** on site does not relieve the **BO** or the **RDP** of their respective responsibilities; additionally, the Contractor's contractual or statutory obligations are not in any way relieved or forgone. The Contractor has the sole responsibility for any deviations from the approved Official Documents, for quality control, for job site safety and compliance with OSHA and Labor Laws.

It is the responsibility of the **SI** to observe and ensure the placement and installation of structural components is in conformance with the Official Documents and to work with

observed discrepancies or deviations from the Official Documents and to issue a Final Certificate of Compliance at the end of the structural work to the **BO** and **RDP.**

The **SI, TL** and **SIC** are to provide services only with regard to the components identified within this Inspection Plan.

1.3 SUBMITTALS

Once a week, or as required by the **BO,** the **SI** shall submit copies of the Field Reports to the **BO,** the **RDP,** and any other party designated by the Architect to receive them. The reports are to be submitted with a signed and sealed cover letter which identifies the period and the reports being submitted.

1.4 FINAL CERTIFICATION

Upon completion of the job, a signed and sealed Certificate of Compliance for each structure requiring inspection shall be issued by the **SIC** to the **BO** with copies to the **RDP,** the Owner, and any other designated person. The Final Certificates of Compliance shall state substantially: "To the best of my knowledge, ability and belief, the above referenced structure's load bearing components have been constructed in compliance with the Approved Official Documents and any clarifications or corrections issued by the Engineer of Record. In addition, the shoring and re-shoring of this structure conforms with the approved shoring and re-shoring plans submitted to the Building Official and made available to us."

1.5 CONCLUSION

These Guidelines together with the Inspection Plan that follows are intended to be an outline of the minimum requirements for the performance of the **SIC**'s work. Additional requirements may be deemed necessary during the course of construction due to the progress of and the manner in which the job is conducted by the General Contractor.

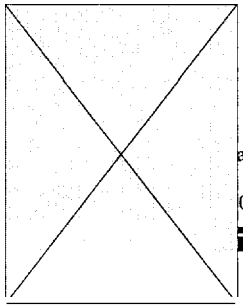
The Owner must make available to the **SIC** all pertinent documents relating to the construction of this project - Approved Shop Drawings, Concrete Cylinder and Soil Compaction Test results, Pile Driving Logs, Stressing Records, Mill Records, etc.

Part 2 INSPECTION PLAN

2.1 FOUNDATIONS

2.1.1 STEEL PILE FOUNDATIONS

TL: Confirm pipe steel grade; verify qualifications of welding personnel; verify adequacy of welding electrodes used; verify weld procedure specifications; verify and certify



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SI: Verify reinforcing steel placement, grade, size, quantity, cover, splices; verify size and location of supporting chairs.

2.6 STRUCTURAL STEEL

TL: Verify and certify adequacy of welds and bolt torque (33% at random minimum) in connections; verify qualifications of welding personnel; verify adequacy of welding electrodes used; verify bolt type; confirm steel grade.

SI: Verify adequacy of installation; verify end anchorage, inserts (if any) and member to member connections; verify required bridging: look for bent, warped, or damaged members and secure required corrections from **RDP;** secure from **RDP** verification of any special or unusual conditions. Use digital photography as part of formal record-keeping and send **RDP** photos of end anchorage, inserts and member-to-member connections.

2.7 PRESTRESSED CONCRETE

SI: Verify top surface finish of panels; inspect panels for damage; verify location of panels; verify grade, placement, and cover of overlay reinforcement; secure from **RDP** verification of any special or unusual conditions; verify shear key grout; verify high-pressure cleaning of shear keys: confirm placement of shear key grout. Verify the following from the precast supplier: Concrete mix verification; verify air content, unit weight, slump, w/c ratio, and concrete cylinder tests; verify reinforcing steel placement, grade size, quantity, cover, and splices; verify stressing and protection of prestressed tendons.

2.8 LIGHT GAUGE METAL FRAMING

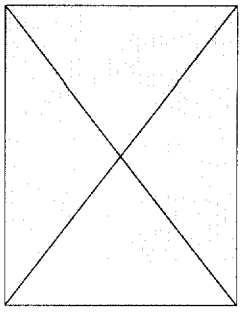
TL: Verify member gauge.

SI: Verify adequacy of installation; verify end anchorage, inserts (if any) and member to member connections; verify required bridging: look for bent, warped or damaged members and secure required corrections from **RDP;** secure from **RDP** verification of any special or unusual conditions.

2.9 SHORING AND RESHORING

TL: Verify lumber stress grade.

Si: Relay formwork designer's signed and sealed shoring drawings and calculations to the **BO, RDP** by way of the **SIC;** verify adequacy of field installation and certify same prior to any slab pour. Shoring drawings to indicate all required vertical members, spacing, bracing: all horizontal members, spacing, bracing; shoring and re-shoring



Owner's Authorization (City of Portland)

Signature — Date: 10-13-05

Special Inspection Coordinator

Signature — Date: 10-12-05

KENNETH A. PAGE — Name (Printed)

RESIDENT INSPECTOR M.D.O.T. — Title

Registered Design Professional (Terminal Bldg/Receiving Stn./Walkway/VIS)

W.S. Xue — Signature — Date: 10-11-05

W. SHIRLEY XUE — Name (Printed)

BEA International — Company

Registered Design Professional (Pier A/Ro-Ro Ramp)

Signature — Date: 10/12/05

DAVID M PIERCE — Name (Printed)

PMD Inc. — Company

Stamp: STATE OF MAINE WEIXING S. XUE N 10709 REGISTERED PROFESSIONAL ENGINEER; STATE OF MAINE DAVID M. PIERCE NO. 9437 REGISTERED PROFESSIONAL ENGINEER

Building Official

Signature — Date

Name (Printed)

CITY OF **PORTLAND**
BUILDING **CODE** CERTFICATE
389 Congress St., Room **315**
Portland, Maine 04 101

TO: Inspector of Buildings City of Portland, Maine
Department of Planning & Urban Development
Division of Housing & Community Service

FROM: _____

RE: Certificate of Design

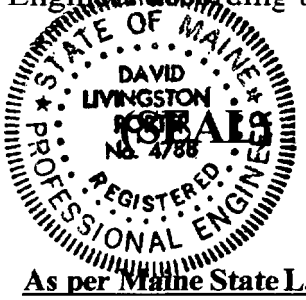
DATE: 05/30/2006

These plans and / or specifications covering construction work on:

CBITD Improvements, Gate No. 4

Ferry Terminal 56 Commercial Street

Have been designed and drawn up by the undersigned, a Maine registered Architect / Engineer according to the ***2003 International Building Code*** and **local** amendments.



Signature: _____

Title: Principal

Firm: Childs Engineering Corporation

Address: Box 333 Medfield, MA 02052

As per Maine State Law:

$50,000.00 or more in new construction, repair expansion, addition, or modification for Building or Structures, shall be prepared by ***a*** registered design Professional.

FROM DESIGNER: Childs Engineering Corporation

DATE: 05/30/2006

Job Name: CBITD Improvements Gate No. 4

Address of Construction: Ferry Terminal 56 Commercial Street

2003 *International Building Code*

Construction project **was designed** according to the building code criteria **listed below:**

Building **Code and** Year IBC 2003 **Use** Group Classification(s) U

Type of Construction Concrete & Steel

Will the Structure have a Fire suppression system in Accordance **with** Section 903.3.1 of the 2003 IRC No

Is **the** Structure mixed use? No if yes, separated or non separated (see Section 302.3) _____

Supervisory alarm system? No Geotechnical/Soils report required?(See Section 1802.2) _____

STRUCTURAL DESWN CALCULATIONS

n/a Submitted for all structural members *(106.1, 106.1.1)*

DESIGN LOADS ON CONSTRUCTION DOCUMENTS **(1603)**

Uniformly distributed floor **live** loads *(7603.11, 1607)*

Floor Area Use	Loads Shown
Loading/Unloading	200 psf or
Ferry Vessel Freight	2-1/2 ton
	forklift

Wind loads *(1603.1.4, 1609)*

1609.1 Design option utilized (1609.1. *f*, 1609.6)

100 mph **Basic wind speed** *(1809.3)*

I **Building** category and **wind** Importance factor, I_w (Table *1604.5*, 1609.5)

C Wind exposure category *(1609.4)*

n/a Internal pressure **coefficient** *(ASCE 7)*

n/a Component and cladding pressures *(1609.1.1, 1609.6.2.2)*

n/a Main force wind pressures (7603.1. *1, 1609.6.2.1)*

Earthquake design data *(1603.1.5,* 1614- *1623)*

1616.6.1 Design option **utilized** *(1614.1)*

Group 1 **Seismic** use group ("Category") *(Table* 1604.5; *1616.2)*

S_{D1}=.16g S_{DS}=.37g spectral response coefficients, S_{DS} & S_{D1} *(1675.1)*

D Site dass *(1615.1.6)*

n/a Live load reduction *(1603.1.1, 1607.9, 1607.10)*

n/a Roof Live loads *(1603.1.2,* 1607.11)

Roof snow loads *(7603.7.3, 1608)*

50 Ground snow load, P_g (1608.2)

n/a If P_g > 10 psf, flat-roof snow load, P_f *(1608.3)*

1.0 If P_g > 10 psf, **snow** exposure factor, C_e *(Table 1608.3.1)*

0.8 If P_g > 10 psf, **snow load** Importance factor, I_s *(Table 1604.5)*

n/a Roof **thermal** factor, C_t *(Table 1608.3.2)*

n/a Sloped roof snow load, P_s *(1608.4)*

C **Seismic** design category *(1616.3)*

8 **Basic seismic-force-resisting system** *(Table 1617.6.2)*

R_1=3 C_D=3 Response modification coefficient, R_I and **deflection** amplification factor, C_d *(Table 1617.6.2)*

Simplified Analysis procedure *(1616.6,* 1617.5)

1617.5

1741 lbs Design base shear (1617.4, *1617.5.1)*

Flood loads *(1603.1.6, 1612)*

A2, +14.6'MLLW Flood hazard area (1612.3)

+16.7'MLW **Elevation** of structure

Other **loads**

2-1/2ton forklift Concentrated loads (1607.4)

n/a **Partition loads** (1607.5)

n/a Impact loads *(1607.8)*

n/a **Misc. loads** *(Table 1607.6, 1607.6.1, 1607.7, 1607.12, 1607.13, 1610, 1611, 2404)*

Special Inspection Plan – Addendum #1
Ocean Gateway
Portland, ME

Purpose: The following serves as an Addendum to the Ocean Gateway Special Inspections Plan, submitted and accepted by the City of Portland Inspections Office (submittal date of October 13, 2005), to include Special Inspections of the construction of a new Gate **4** at the Casco Bay Island Transit District (CBITD) on The Maine State Pier. This Addendum serves to outline the Special Inspection Requirements for the construction of Gate **4** and identify the Registered Design Professional for the CBITD Gate **4** components of work. All other components **of** the Ocean Gateway Special Inspections Plan shall remain as submitted.

Part 2 – Inspection Plan:

The extent of Special Inspections for the construction of CBITD Gate **4** shall include the following items, each of which has been previously identified within the original Ocean Gateway Special Inspection Plan:

2.1.1 **STEEL** PILE FOUNDATIONS
2.6 STRUCTURAL STEEL
2.7 PRESTRESSED CONCRETE
2.11 GENERAL

Part 3 – Approvals

The Registered Design Professional (RDP) for Gate **4** was not identified in the original Ocean Gateway Special Inspections plan. PART 3 APPROVALS of the Ocean Gateway Special Inspections Plan shall be amended to include the following RDP for CBITD Gate **4.**

Title	Individual / Firm	Address, Phone #
Registered Design Professional (Marine Engineer)	David Livingston Porter, PE Childs Engineering	Box 333 Medfield, MA 02052 Phone: (508) 359-8945

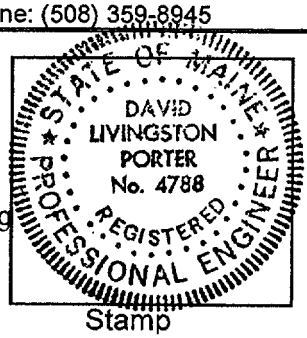
Registered Design Professional (CBITD Gate 4)

Signature

05/30/2006
Date

David L. Porter
Name (Printed)

Childs Engineering Corporation
Company



Stamp

WOODARD & CURRAN
Engineering • Science • Operations

41 Hutchins Drive • Portland, ME 04102
(207) 774-2112 • 1-800-426-4262
Fax: (207) 774-6635

CORPORATE OFFICES: Maine, Massachusetts, New Hampshire, Connecticut, New York, New York, Florida
Operational offices throughout the U.S.

TRANSMITTAL

TO: Mike Nugent, Manager
Inspection Services Program
City Hall – Room 315
Portland, ME 04103

DATE: October 13, 2005
PROJECT NAME: Ocean Gateway
PROJECT NUMBER: 203438.11

RE: Special Inspection Plan – Ocean Gateway

WE ARE SENDING:

- ☐ Quotation
- ☐ Brochure
- ☐ Changeorder
- ☐ Drawings
- ☐ Schedule
- ☐ Manuals
- ☐ Bid Package
- ☐ Installation Package
- ☐ Other (specify): Inspection Plan
- ☐ Floppy Disk / CD
- ☐ Sample

Qty	Doc. No.	Rev. No.	Dated	Description
1			10/11/2005	**Special Inspection Plan for Ocean Gateway**

- ☐ USE
- ☒ APPROVAL
- ☐ REVIEW/COMMENTS
- ☐ INFORMATION
- ☐ OTHER

- ☐ REGULAR MAIL
- ☐ FEDERAL EXPRESS
- ☐ UPS
- ☐ COURIER
- ☒ OTHER – Dropped off by W&C at City Hall

Mike:

Enclosed is the Special Inspection Plan drafted by the design team and signed by the Special Inspections Coordinator, the City of Portland (Owner) and the two design firms (Architect's Structural Engineer and Marine Structural Engineer) that developed the inspection plan and the design drawings. Please let me know if you have any questions.

Thanks,
Dave Senus DAS

CC: Dustin Littlefield, Reed & Reed

BY: **DAS**

SPECIAL INSPECTION PLAN
Ocean Gateway, Phase I
Portland, ME

Part 1 GUIDELINE

Abbreviations:

RDP – Registered Design Professional
SIC – Special Inspections Coordinator
SI – Special Inspector
TL – Testing Laboratory
BO – Building Official

The Registered Design Professional **(RDP)** that developed, stamped and signed the Official (permitted) Documents has prepared this plan, outlining the required testing and inspection program.

The Special Inspection Coordinator **(SIC)** identified in this plan shall keep records of all inspection and shall furnish Field Reports to the Building Official **(BO)** and the **RDP.**

The Special Inspector (**SI**) shall observe that the portions of the work identified in this plan are performed in substantial compliance with the Official (permitted) Documents and any subsequent written revisions or clarifications issued by the **RDP.** The Official Documents comprise the plans approved by the **BO,** issued amendments, specifications with associated amendments and the approved Special Inspection Plan.

The **SI** shall not make any design decisions, direct the Contractor's work, be responsible for construction means and methods, be responsible for job site safety nor for enforcing or monitoring compliance with any **OSHA** or Labor Regulation whatsoever.

The **SI** shall hold a current and valid certificate of authorization, or license which allows the **SI** to perform this kind of work, and must posses at least 10 years of verifiable experience and be knowledgeable of the structural system being used in this project.

1.1 DUTIES

The **SIC** shall maintain a record (Field Report) of the progress, working conditions, comments and observations given to the Contractor and any deviation from the Approved Documents. The **SIC** and **SI** must be thoroughly familiar with Project Specifications and the applicable Building Codes and are also responsible for the exercise of good judgment.

The **SIC** must bring to the attention of the **RDP** any deficiency, deviation from Official Documents or suspected deficiencies or deviations. In addition, the **SIC** must secure

clarifications to the drawings and responses to field generated problems as the need arises.

The **SIC** is to prepare a Field Report after each inspection leaving always a copy with the Contractor at the job site. The **SIC** must also maintain in a readily available location, preferably near the Official Documents, a Log of Inspections, summarizing the areas inspected and whether approved or not, which will be turned submitted the **RDP** and **BO** along with the Final Certificate of Compliance.

Each Field Report should clearly indicate all areas inspected and whether approved or not. If approval is denied, then the deficiencies and an indication on whether a re-inspection is required should be clearly noted. In addition, applicable Testing Laboratory **(TL)** Reports (compaction, pile monitoring, mill reports, etc.) should be made available to the **SIC** as soon as possible, for inclusion with the Field Report. The **TL** and **SI** shall duly make the SIC immediately aware of any changes, modifications done in the field, deviations from the Official Documents, poor workmanship (exposed reinforcement, excessive slumps, columns out of plumb, honeycombs, eccentricities, cracks, etc.) and areas poured or covered up without inspection.

Each Field Report should also indicate the date, time, weather conditions and the name and signature of the **SI** and/or **TL.**

The **SIC** must, as soon as possible, bring to the attention of the **RDP** changes generated in the field, deviations from the Approved Documents and areas of poor or faulty workmanship which require resolution through directives issued by the **RDP.** Any observed changes, deviations or areas of poor or faulty workmanship shall be recorded in the Field Report. The resolution to these issues must also be recorded in the Field Report.

1.2 RESPONSIBILITY

The presence of an **SI** or **TL** on site does not relieve the **BO** or the **RDP** of their respective responsibilities; additionally, the Contractor's contractual or statutory obligations are not in any way relieved or forgone. The Contractor has the sole responsibility for any deviations from the approved Official Documents, for quality control, for job site safety and compliance with OSHA and Labor Laws.

It **is** the responsibility of the **SI** to observe and ensure the placement and installation of structural components is in conformance with the Official Documents and to work with the **SIC** in preparing a Field Report as described above.

It is the responsibility of the **SIC** to ensure that inspections and testing occur in conformance with this plan, to generate Field Reports as described above, to create a Log of Inspections as described above, to bring to the attention of the **RDP** any

observed discrepancies or deviations from the Official Documents and to issue a Final Certificate of Compliance at the end of the structural work to the **BO** and **RDP.**

The **SI, TL** and **SIC** are to provide services only with regard to the components identified within this Inspection Plan.

1.3 SUBMITTALS

Once a week, or as required by the **BO,** the **SI** shall submit copies of the Field Reports to the **BO,** the **RDP,** and any other party designated by the Architect to receive them. The reports are to be submitted with a signed and sealed cover letter which identifies the period and the reports being submitted.

1.4 FINAL CERTIFICATION

Upon completion of the job, a signed and sealed Certificate of Compliance for each structure requiring inspection shall be issued by the **SIC** to the **BO** with copies to the **RDP,** the Owner, and any other designated person. The Final Certificates of Compliance shall state substantially: "To the best of my knowledge, ability and belief, the above referenced structure's load bearing components have been constructed in compliance with the Approved Official Documents and any clarifications or corrections issued by the Engineer of Record. In addition, the shoring and re-shoring of this structure conforms with the approved shoring and re-shoring plans submitted to the Building Official and made available to us."

1.5 CONCLUSION

These Guidelines together with the Inspection Plan that follows are intended to be an outline of the minimum requirements for the performance of the **SIC's** work. Additional requirements may be deemed necessary during the course of construction due to the progress of and the manner in which the job is conducted by the General Contractor.

The Owner must make available to the **SIC** all pertinent documents relating to the construction of this project - Approved Shop Drawings, Concrete Cylinder and Soil Compaction Test results, Pile Driving Logs, Stressing Records, Mill Records, etc.

Part 2 INSPECTION PLAN

2.1 FOUNDATIONS

2.1.1 STEEL PILE FOUNDATIONS

TL: Confirm pipe steel grade; verify qualifications of welding personnel; verify adequacy of welding electrodes used; verify weld procedure specifications; verify and certify

adequacy of pipe splice fit-up and welds; concrete-fill mix verification,

SI: Verify pile size, length, and pile tip; inspect pile coating for defects and damage; confirm pile straightness; inspect and log pile driving operations recording pile driving resistance, tip elevation; verify compliance with driving criteria; verify pile location; inspect piles for damage from driving and plumbness; inspect and verify placement of concrete-fill.

2.1.2 CONCRETE SPREAD FOOTINGS

TL: Verify grade of reinforcing steel; concrete mix verification; slump and concrete cylinder tests; bottom of excavation compaction monitoring and testing.

SI: Verify reinforcing steel placement, grade, size, quantity, cover, splices; verify quantity and size of column dowels. Secure column redesign, if required, from **RDP.**

2.2 SLAB ON GRADE

TL: Verify grade of reinforcing steel; concrete mix verification; slump and concrete cylinder tests; compaction monitoring and testing.

SI: Verify reinforcing steel placement, grade, size, quantity, cover, splices.

2.3 COLUMNS

TL: Verify grade of reinforcing steel; concrete mix verification; slump and concrete cylinder tests.

SI: Verify reinforcing steel placement, grade, size, quantity, cover, splices. Monitoring and approving all data.

2.4 REINFORCED MASONRY

TL: Verify masonry unit compressive strength; confirm grout mix; verify through Prism Tests.

SI: Verifying reinforcing steel placement, grade, size, quantity, cover, splices; verify full cell grouting; visually check wall alignment and plumbness.

2.5 CONCRETE SLABS

TL: Verify grade of reinforcing steel; concrete mix verification; slump and concrete cylinder tests.

SI: Verify reinforcing steel placement, grade, size, quantity, cover, splices; verify size and location of supporting chairs.

2.6 STRUCTURAL STEEL

TL: Verify and certify adequacy of welds and bolt torque (33% at random minimum) in connections; verify qualifications of welding personnel; verify adequacy of welding electrodes used; verify bolt type; confirm steel grade.

SI: Verify adequacy of installation; verify end anchorage, inserts (if any) and member to member connections; verify required bridging; look for bent, warped, or damaged members and secure required corrections from **RDP;** secure from **RDP** verification of any special or unusual conditions. Use digital photography as part of formal record-keeping and send **RDP** photos of end anchorage, inserts and member-to-member connections.

2.7 PRESTRESSED CONCRETE

SI: Verify top surface finish of panels; inspect panels for damage; verify location of panels; verify grade, placement, and cover of overlay reinforcement; secure from **RDP** verification of any special or unusual conditions; verify shear key grout; verify high-pressure cleaning of shear keys; confirm placement of shear key grout. Verify the following from the precast supplier: Concrete mix verification; verify air content, unit weight, slump, w/c ratio, and concrete cylinder tests; verify reinforcing steel placement, grade size, quantity, cover, and splices; verify stressing and protection of prestressed tendons.

2.8 LIGHT GAUGE METAL FRAMING

TL: Verify member gauge.

SI: Verify adequacy of installation; verify end anchorage, inserts (if any) and member to member connections; verify required bridging: look for bent, warped or damaged members and secure required corrections from **RDP;** secure from **RDP** verification of any special or unusual conditions.

2.9 SHORING AND RESHORING

TL: Verify lumber stress grade.

SI: Relay formwork designer's signed and sealed shoring drawings and calculations to the **BO, RDP** by way of the **SIC;** verify adequacy of field installation and certify same prior to any slab pour. Shoring drawings to indicate all required vertical members, spacing, bracing; all horizontal members, spacing, bracing; shoring and re-shoring

sequence and requirements. Verify that the Formwork Designer has certified the shoring and reshoring prior to any slab pour.

2.10 SEISMIC JOINT

TL: Verify conformance with specification

SI: Verify adequacy of installation

2.11 GENERAL

SI: Verify column plumbness; finished concrete surfaces; check for honeycombing, cracks, poor workmanship; report any problems or conflicts immediately and secure from RDP any required corrections or re-designs.

2.12 RO-RO RAMP MECHANICAL

SI: Observe Testing as described in Section 14900 RO-RO Ramp, Section 6.0 Testing.

Part 3 APPROVALS

Title	Individual / Firm	Address, Phone #
Special Inspection Coordinator	Ken Page Maine Department of Transportation	Job Trailer at Ocean Gateway 36 Commercial St, Portland (207) 772-2579
Special Inspector	Ken Page Maine Department of Transportation	Job Trailer at Ocean Gateway 36 Commercial St, Portland (207) 772-2579
Special Inspector	Bruce Brown Maine Department of Transportation	Job Trailer at Ocean Gateway 36 Commercial St, Portland ((207) 772-2579
Registered Design Professional (Architect's Structural Engineer)	Shirley Xue, PE BEA International	4111 Le Jeune Road Coral Gables, FL 33146-1311 Phone: (305) 461-2053
Registered Design Professional (Marine Engineer)	David Pierce, PE PN&D Inc.	811 First Avenue, Suite 570 Seattle, WA 98104 Phone: (206) 624-1387
Testing Laboratory	S.W. Cole Engineering	286 Portland Road Gray, ME 04039-9586 Phone: (207) 657-2866
Testing Laboratory	Maine Department of Transportation	16 State House Station Augusta, ME 04333
Building Official	Mike Nugent City of Portland	City Hall, 3rd Floor 389 Congress Street Portland, ME 04101 Phone: 207-874-8700

Owner's Authorization (City of Portland)

Signature — Date: 10-3-05

Special Inspection Coordinator

Signature — Date: 10-12-05

KENNETH A. PAGE — Name (Printed)

RESIDENT INSPECTOR M.D.O.T. — Title

Registered Design Professional (Terminal Bldg/Receiving Stn./Walkway/VIS)

W.S. Xue — Signature — Date: 10-11-05

W. SHIRLEY XUE — Name (Printed)

BEA International — Company

STATE OF MAINE WEIXING S. XUE N 10709 REGISTERED PROFESSIONAL ENGINEER

Registered Design Professional (Pier A/Ro-Ro Ramp)

Signature — Date: 10/12/05

DAVID M PIERCE — Name (Printed)

PND Inc. — Company

STATE OF MAINE DAVID M. PIERCE NO. 9437 REGISTERED PROFESSIONAL ENGINEER

Building Official

Signature — Date

Name (Printed)

BOARD OF HARBOR COMMISSIONERS
PORT OF PORTLAND
PERMIT-A

TO BE POSTED IN A CONSPICUOUS PLACE AT THE CONSTRUCTION SITE

To .....Casco Bay Island Transit District, PO Box 4656, Portland, ME 041 12-4656.....
.....

The undersigned, Board of Harbor Commissioners for the Harbor of Portland, has carefully considered your application, Dated the 1st day of January 2006, for a permit authorizing
..... the demolition of 11' x 26' section of existing concrete pier (and associated pile supports) east of Gate 3, and construct new Gate 4 – mechanically operated, pile supported, pre-cast concrete vehicle/passenger ramp in its place. This shall also include site improvements to provide vehicle and passenger safety associated with the new Gate.. .....
Having given public notice of this pending application, as required by law, and therein designated the 23rd day Of February 2006, at 5:00 o'clock in the afternoon prevailing time as the time when they would meet At the Portland City Council Chambers to examine this issue and here all interested parties, and having met at the time and place mentioned and examined the location of this proposed construction project .....
And having heard all interested parties, the Board of Harbor Commissioners for the Port of Portland hereby issues this permit which authorizes you to proceed under all applicable local and federal regulations hereinafter slated, and to maintain within the limits mentioned in the permit application. .....

In addition, the construction project described abovc must be surrounded by a containment boom unless the Board of Harbor Commissioners for the Port of Portland has waived this requirement in writing, either as part of the above-listed conditions, or in a separate statement.

This permit is limited authorization, which contains a stated set of conditions with which the permit holder must comply. If a contractor performs the work for you, both you and the contractor are responsible for assuring that the work is done in conformance with the conditions and limitations of this authorization. Please be sure that the person who will be performing the work has read and understands these conditions.

Performing any work not specifically authorized by this permit, or that fails to comply with its conditions, may subject your to the enforcement provisions of Harbor Commission regulations. If any change in plans or construction methods is found necessary, please contact the Harbor Commission immediately to discuss modifications to your authorization. Any change must be approved by the Harbor Commission before it is undertaken.

Nothing in this permit shall be construed to justify or authorize any invasion to the private rights of others. Moreover, nothing in this permit shall limit or modify the authority of the Board of Harbor Commissioners for the Harbor of Portland with its applicable statute. Attested copies will be submitted to the U. S. Army Corps of Engineers, the Department of Environmental protection, the City of Portland, and the City of South Portland.

In Witness Whereof, the members of the Board of Harbor Commissioners for the Harbor of Portland hereunto set their hands and affix their corporate seal on this 23rd day of February 2006.

The work authorized to this permit must be completed on or before the 23rd day of February **2007.**

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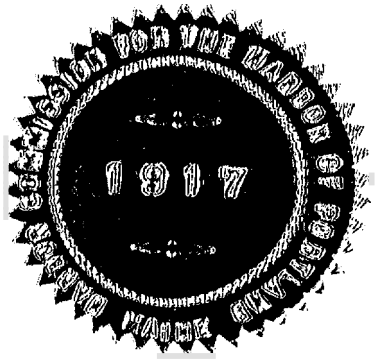
.....

Board of Harbor Commissioners for the Port of Portland



Cingular WIRELESS

Fax Cover Sheet

To:	From:
MIKE NUGENT	DAVE GALE
Company:	**Phone Number:**
PORTLAND BUILDING/PLANNING DEPT	978-790-0250
Fax Number:	**Return Fax Number:** 781-690-7474
207-874-8716	
Date:	**Pages (including cover)**
6/31/06	2

RE: 19 EMERY - PORTLAND HOUSING AUTHORITY - HARBOR TERRACE
CINGULAR WIRELESS

Comments:

MIKE,

I APOLOGIZE. I WAS TOLD THAT THIS WAS ALREADY SENT TO YOU.

-DAVE

PLEASE CALL ME IF THERE IS A PROBLEM

Structural Integrity
Consulting Engineers, Inc.

May 16, 2006

Mr. James R. Seymour, P.E.
Sebago Technics
One Chabot Street
P.O. Box 1339
Westbrook, Maine 04098

Reference:
Harbor Terrace Load Capacity Evaluation
284 Danforth Street
Portland, Maine
Structural Integrity Job Number: 06-0004

Mr. Seymour,

This letter is to confirm that the revised equipment layout and new platform as shown on record drawings dated April 5, 2006 can be added to the structure without any modifications or reinforcing of the existing framing. The new platform and equipment does not increase the stress in any existing building member or element by more than the five percent allowed by 2003 International Building Code.

Sincerely,

Aaron C. Jones, P.E.
President

STATE OF MAINE
AARON C. JONES
NO. 10968
REGISTERED PROFESSIONAL ENGINEER
5/16/2006

WOODARD & CURRAN
Engineering • Science • Operations

41 Hutchins Drive • Portland, ME 04102
(207) 774-2112 • 1-800-426-4262
Fax: (207) 774-6635

CORPORATE OFFICES: Maine, Massachusetts,
New Hampshire, Connecticut, New York, New York, Florida
Operational offices *throughout the U.S.*

TRANSMITTAL

TO: Mike Nugent, Manager
Inspection Services Program
City Hall – Room 315
Portland, ME 04103

DATE: May 31,2006
PROJECT NAME: Ocean Gateway
PROJECT NUMBER: 203819.02

RE: Bldg Permit Documents – Cert. of Design, Special Inspection, Harbor Commissioners Permit

WE ARE SENDING:

- ☐ Quotation
- ☐ Brochure
- ☐ Change Order
- ☐ Drawings
- ☐ Schedule
- ☐ Manuals
- ☐ Bid Package
- ☐ Installation Package
- ☒ Other (specify) - Bldg Permit Docs
- ☐ Floppy Disk / CD
- ☐ Sample

	Rev. No.	Dated	Description
1		05/30/2006	Certificate of Design Forms (2)
1		05/30/2006	Addendum to Special Inspections Plan
1		10113/2005	Previously Submitted OG Special Inspections Plan
1		02/23/2006	Board of Harbor Commissioners Permit

For Your:

- ☐ USE
- ☒ APPROVAL
- ☐ REVIEWICOMMENTS
- ☐ INFORMATION
- ☐ OTHER

Sent By:

- ☒ REGULARMAIL
- ☐ FEDERAL EXPRESS
- ☐ UPS
- ☐ COURIER
- ☐ Other

Mike:

Enclosed are the forms requested for processing the CBITD Gate 4 Building Permit Application. Gate 4 is being constructed and overseen as part of the Ocean Gateway project, therefore Special Inspections shall be conducted *as* an extension of the Ocean Gateway Plan. Please let me know if you need any additional information for processing the permit.

Thanks,
Dave Senus

c c :

BY: DAS