



# Oregon

Theodore R. Kulongoski, Governor

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**DATE:** May 26, 2009

## Addenda No. 1

**TO:** PLAN HOLDERS

**PREPARED BY:**

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**APPROVED BY:**

P.E.

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**SUBJECT:** McLoughlin Promenade: 7<sup>th</sup> St – S 1<sup>st</sup> St (Oregon City) Section  
Clackamas County  
Historic Preservation Project  
(Bids to be opened and read June 16, 2009)

### The following changes are made to the Project Bid Booklet:

1. DESCRIPTION OF WORK page - The paragraph under COMPLETION TIME LIMIT is replaced with the following:

There are two Contract Times on this Project as follows:

- (1) Complete all Work to be done under the Contract, except for Work in Construction Zones "C", "D", "E" and "F", not later than October 1st, 2009.
- (2) Complete all Work to be done under the Contract not later than September 1<sup>st</sup>, 2010.

### The following changes are made to the Project Special Provisions:

1. DESCRIPTION OF WORK page - The paragraph under COMPLETION TIME LIMIT is replaced with the following:

There are two Contract Times on this Project as follows:

- (1) Complete all Work to be done under the Contract, except for Work in Construction Zones “C”, “D”, “E” and “F”, not later than October 1st, 2009.
  - (2) Complete all Work to be done under the Contract not later than September 1<sup>st</sup>, 2010.
2. Subsection 00120.09 Contractor Special Prequalification – Delete this entire subsection.
3. Subsection 00180.50(h) Contract Time – This subsection is replaced with the following subsection:  
**00180.50(h) Contract Time** - There are two Contract Times on this Project as follows:
  - (1) Complete all Work to be done under the Contract, except for Work in Construction Zones “C”, “D”, “E” and “F”, not later than October 1st, 2009.
  - (2) Complete all Work to be done under the Contract not later than September 1<sup>st</sup>, 2010.
4. Subsection 00180.85(b) Liquidated Damages – This subsection is replaced with the following:  
**00180.85(b) Liquidated Damages** – Add the following paragraphs as follows:  
  
There are two daily amounts of liquidated damages on this project as follows:  
  
Liquidated damages for failure to complete the Work on time required by 00180.50(h-1) will be \$700 per Calendar Day \*. Liquidated damages for failure to complete the Work on time required by 00180.50(h-2) will be \$700 per Calendar Day \*. If liquidated damages should become payable concurrently under the combination of 00180.50(h-1) and 00180.50(h-2), liquidated damages will be \$700 per Calendar Day \*.  
  
\* Calendar Day amounts are applicable when the Contract Time is expressed on the Calendar Day or fixed date basis
5. Subsection 00220.02 Public Safety and Mobility – Add the following paragraph before the bulleted list:  
  
Replace the bulleted item stating “Do not block driveways for more than two hours unless otherwise authorized in writing.” with the following:
  - Do not block driveways unless otherwise authorized in writing by the Engineer.

6. Subsection 00220.02 Public Safety and Mobility – Add the following bullets to the end of the bulleted list:

- Do not close any Construction Zones more than one (1) time. Do not close more than two (2) Construction Zones at the same time. Do not close Construction Zones that are not adjacent to each other at the same time, (e.g. Do not close Construction Zones “A” and “C” at the same time).
- Maintain access for services including, but not limited to, mail delivery, trash pickup, school transportation, business deliveries/pickups and any special transportation services.

7. Subsection 00220.60(a)(1) Contractor Responsibility - This subsection is added after subsection 00220.03(b) Closures:

**00220.60(a)(1) Contractor Responsibility** – Add the following items to the list of requirements before winter shutdown:

- Complete all Work within any Construction Zones that have begun, remove all sidewalk closure devices and restore the facility into safe operation.
- Restore staging areas that are located within public right of way and City real property.

8. Subsection 00225.02 General Requirements – Delete the second and third paragraphs.

9. Subsection 00270.40 General – Replace with the second and third paragraphs with the following:

Install temporary fencing around a construction zone in a manner that restricts public access to the zone prior to beginning Work in that zone. Maintain the temporary fencing while Work is occurring in that zone and remove it when all Work is completed in that zone.

Once construction has been completed in a particular construction zone, the same temporary fencing may be removed and set-up to establish another construction zone. The Contractor will be paid for setting up the temporary fencing at each approved construction zone, but only one time per zone.

10. Subsection 00290.42(a) Work Containment Plan - Add the following item to the list of requirements:

- The WCS shall not incorporate ODOT’s rock containment system that is located along the cliff face adjacent to the south promenade wall. The Contractor shall locate and protect ODOT’s rock containment system when working adjacent to the

system. Place lathes with red ribbon to identify cable anchors, cables, or other features that may create trip hazards.

11. Subsection 00587.10 Materials – Replace the last paragraph with the following:

Fabricator shall be designated a Precast Concrete Institute (PCI) Product Group A1 or Architectural Precast Association (APA) certified plant.

12. Subsection 00587.11(b) Pre-cast Rail Fabricator - This subsection is added after subsection 00587.11(a) Sample Rails:

**(b) Pre-cast Rail Fabricator** – Submit the pre-cast rail fabricators information and proof of certification required in Subsection 00587.10.

13. Section 00813 Stone Masonry - This Section is replaced with Section 00813 Stone Masonry. See attachment for full text.

These changes will be included in the Contract for this Project. It is understood that your Bid will be submitted accordingly.

Attachments: Replaced Special Provisions Section 00813

## SECTION 00813 - STONE MASONRY

Section 00813, which is not in the Standard Specifications, is included for this project by special provisions.

**00813.00 Scope** – This work consists of removing and resetting stone rail piers, repointing existing stone masonry, removing and replacing existing mortar wall and pier caps, resetting displaced stone wall sections and removing graffiti. All work shall be completed in accordance with the details shown on the Plans.

**00813.02 Submittals** - Submit the following in accordance with the specifications:

- Product data for stone, stonework accessory, sand, and other required materials.
- Colored pointing mortar samples showing full range of exposed color and texture to be expected in completed work.
- Proposed hot and cold weather construction procedures.
- Mason qualifications meeting the requirements outlined in Subsection 00813.30.
- Laboratory analysis report including a sieve analysis of sand and aggregate for existing mortar samples specified in Section 00813.04. For existing sand and aggregate from mortar samples, and all proposed sand and aggregate, the gradation analysis shall be sampled in accordance with AASHTO T2. Sieve analysis shall be determined by AASHTO T27 and AASHTO T11.
- Product information and MSDS for proposed chemical cleaners.
- Product information and MSDS for proposed damp proofing materials

**00813.04 Quality Assurance** - Comply with the following requirements:

**Existing Mortar Analysis** – Where directed by the Engineer, obtain up to twenty (20) samples of existing mortar at exposed stone joints and wall and pier caps. Analyze each in an approved laboratory using the acid digestion method, whereby a sample of the mortar is crushed and then mixed with a dilute acid leaving behind the sand and fine-grained material. For each sample, identify the color and texture of the sand.

**Single Source Responsibility for Mortar Materials** - Obtain mortar ingredients of uniform quality and from one manufacturer for each cementitious and admixture component and from one source for producer for each aggregate.

**Single-Source Responsibility for Other Materials** - Obtain each type of stone accessory and other materials from one manufacturer for each product.

**Test Sample** - The Contractor shall complete a sample section for each item of work including pier resetting, repointing stone masonry, mortar wall cap, mortar pier cap, and resetting an existing wall for approval by the Engineer. The sample section shall demonstrate that the various types of stonework are in compliance with the plans and specifications and match the existing stone wall in the size and shapes of the rock, width and depth of mortar joints, mortar color, edge finish and top finish. After the sample section of work is approved all remaining work shall be of the same quality and may be rejected if not meeting this minimum standard, as determined by the Engineer. All costs associated with reworking, removal and replacement of the test sample shall be incidental.

After the test samples have been cured for a period of three weeks, the test samples will be inspected for color, texture, repointing appearance, and installation technique. If the Engineer finds the test samples unacceptable, the Contractor shall remove and prepare additional test samples without further compensation.

Sample sections of work shall be completed as follows:

- Repointing Stone Masonry – Complete one full section between piers on exterior wall with minimum height of 30 inches.
- Reset Stone Rail Pier – Complete two piers with new concrete rail.
- Mortar Wall Cap, Type A and B – Complete two caps of each type
- Mortar Pier Cap – Complete two caps

**00813.10 Delivery, Storage, and Handling** - Prevent damage to stone during delivery, handling and storage according to the following:

Deliver materials to Project Site in undamaged condition.

Store and handle stone and related materials to prevent their deterioration or damage due to moisture, temperature changes, contaminants, corrosion, breakage, chipping, or other causes.

Protect stored stone from weather with waterproof, non-staining covers or enclosures, but allow air to circulate around stones.

Store cementitious materials off the ground, under cover, and in a dry location.

### **Material**

**00813.20 Stone** – Sound, hard, well-shaped stone, free from starts, cracks, seams, or veins. Stone used in or adjacent to existing stonework, match existing in type, size, and appearance.

**00813.21 Mortar Materials** - Comply with the standards and requirements referenced below for each type of material required. New mortar shall be formulated to match color and aggregate of existing historic mortar.

**Portland Cement** – ASTM C150 Type 1 of natural color or white as needed to produce color to match existing mortar. The cement should not have more than 0.60 per cent alkali to help avoid efflorescence.

**Lime** - ASTM C 207, Type S.

**Lime Putty** – Stiff mixture of lime and water.

**Quicklime** – ASTM C5-79, slaked in accordance with manufacturer's recommendations.

**Sand** – ASTM C144-93. For exposed work, provide sand color and size to match existing mortar.

**Water** – Clean, non-alkaline, and potable.

**Admixtures** – Water reducing and plasticizing agent to reduce water content and drying shrinkage. Sonneborn Hydrocide Power or approved equal. Use Mfg. recommended rate of 1 lb. for each cubic foot of mortar.

**Color** – For exposed work – match existing.

**Subsection 00813.22 Mortar Mixes** - (Measured by Volume). Comply with ACI 530.1-02. Contractor shall have a copy of ACI 530.1-02 available for reference on the job site.

**Setting Mortar for Masonry In Contact With Earth** - ASTM C270, Type M.

**Setting Mortar for Masonry Above Grade** - ASTM C270, Type S.

**Pointing or Repointing Mortar Used In Construction Zone “A” and “B”** - ASTM C270, Type S. Match physical appearance and color of existing mortar by analyzing adjacent exposed, un-weathered mortar samples from existing wall near proposed repointing or stone resetting.

**Pointing or Repointing Mortar Used In Construction Zones “C”, “D”, “E”, and “F”** - ASTM C270, Type S. Match physical appearance and color of existing mortar by analyzing un-weathered samples taken from joints within existing wall adjacent to the proposed Work.

**Mortar For Wall and Pier Cap** - ASTM C270, Type M. If approved by the Engineer, use a shrinkage agent such as Eclipse to reduce the shrinkage if test samples show that the shrinkage agent does not adversely impact the color. Match physical appearance and color of existing mortar cap by analyzing samples taken from existing mortar caps adjacent to the proposed work.

**00813.23 Mixing Pointing Mortar** – Mix all materials as dry as can be handled in a mechanical mixer until thoroughly combined. Just before pointing, add only enough water to make mortar workable. Use mortar within 20 minutes after adding water.

Before adding water, mortar materials shall be mixed, either in a tight box or in an approved mortar mixing machine, until the dry mixture assumes a uniform color. Then the water shall be added as mixing continues.

**00813.24 Mixing Setting Mortar** – While mixer is in operation, add three-fourths of the required water, one half of the sand, and all of the lime and cement; then the remainder of the sand. Allow batch to mix briefly; add water in small quantities until mortar is of a workable consistency. To ensure complete hydration, mix all cementitious materials and sand in mechanical batch mixer for a minimum of 10 minutes after adding all materials. If mortar begins to stiffen, retemper immediately by adding water and remix. When air temperature is 80 degrees F or higher, use mortar within 1 ½ hours; when air temperature is under 80 degrees F, use within 2 hours. Discard remaining mortar. Retempering within these time limits will be permitted only as necessary to maintain workability. Use no calcium admixtures or antifreeze chemicals.

Before adding water, mortar materials shall be mixed, either in a tight box or in an approved mortar mixing machine, until the dry mixture assumes a uniform color. Then the water shall be added as mixing continues.

**00813.25 Cleaning Materials** – Use non-ionic detergent. Acid shall be hydrofluoric acid in weak solution, 1 to 3 percent. Stronger solutions, not to exceed 5 percent, may be used if required to achieve proper cleaning.

**00813.26 Damp Proofing Materials** – Use a clear, colorless liquid containing 40% isobutyltrialkoxo silane in alcohol, CHEME-TRETE BSM 40, MACROSEAL SILANE 40, BARACADE SILANE 40, or approved equal.

**00813.27 Quality Control Testing for Mortar** – Complete compressive strength testing on mortar in accordance with ASTM C109 for every one thousand (1000) LF of joints pointed or repointed, twenty (20) piers reset, and ten (10) wall or pier caps placed. Testing shall be conducted by an accredited firm in accordance with ASTM C1093.

**00813.30 Mason Qualifications** – Stone masonry Work shall be performed by a firm experienced in stone masonry restoration. The Contractor shall submit proof of the qualifications listed below prior to the preconstruction conference. The submittals shall include a brief description of each project, copy of the contract if available, the owner's contact name and current phone number for each project listed. The submittals shall also identify the on-site masonry laborers assigned to the Project and list their work history with company contact information to verify their experience.

- The firm completing masonry Work shall have successfully completed at least three (3) separate stone masonry restoration projects, within the last ten (10) years. One project must have been completed on a structure that is included on the National Register or is considered eligible for individual listing on the National Register. Structures that are considered eligible for individual listing on the National Register will require a letter from the Oregon State Historic Preservation Office (SHPO) concurring to its eligibility. Any letter requesting a finding of eligibility to the National Register shall be accompanied with a letter of consent from the current owner.
- Masonry laborers performing the Work shall have at least five (5) years experience raking, repointing, stone wall resetting, and other stonework and be familiar with historic lime mortar formulations, curing conditions and performance characteristics.

The Engineer will respond within fourteen (14) calendar days after receipt of the submittal. Do not begin work on any stone masonry work until the qualifications have been approved. The Engineer may suspend the stone masonry work if the Contractor substitutes unapproved personnel during construction. Submit requests for substitution of either on-site supervisors or masonry laborers to the Engineer, who will have seven (7) calendar days to respond to each request. Additional costs resulting from the suspension of Work due to the changing of personnel is the Contractor's responsibility, and no adjustment in Contract Time resulting from the suspension of Work will be allowed.

## **Construction**

**00813.40 General** – Masonry work shall match adjacent stone work to remain. Examine surfaces to receive stonework, and conditions under which stonework will be installed, for compliance with requirements for installation tolerances and other conditions affecting

performance of stonework. Do not proceed with installation until unsatisfactory conditions have been corrected.

Prepare a written report, endorsed by the stonework installer, listing conditions detrimental to performance of stonework. Submit a copy to the Engineer.

**00813.41 Temperature and Weather Limitations** – Do not perform masonry Work when the structure temperature is below 40 degrees F or above 95 degrees F and will remain so for a minimum of 48 hours after completion of the Work, unless approved means are provided to protect Work from freezing or excessive evaporation. If water saturation cleaning methods are used, allow enough time for masonry to dry thoroughly before it is exposed to freezing temperatures.

Do not perform masonry Work in direct precipitation, wind or sunlight unless approved means are provided to protect the Work.

Failure to follow approved procedures will result in a stop work order.

#### **00813.42 Cleaning Existing Exterior Masonry**

The Contractor shall pressure wash all stone walls, rail piers, and all wall and rail pier mortar caps. Use scrub brush as required to remove vegetation and dirt. Remove grime, vegetation, and other foreign matter from walls, columns, and other items that are to be removed and reinstalled, fully revealing masonry materials.

Protect vegetation and surfaces not to be cleaned.

Using approved methods, begin at top of wall and work down.

**Scrubbing Wet area to be cleaned** - Scrub with a nonmetallic soft-bristle brush, using water that may have small amount of detergent added. Rinse thoroughly.

**Water Spraying** - Spray with fine mist. Use filter on hose to obtain preferred degree of misting.

**Pressure Washing** - Spray with 120-degree F water, beginning with low pressure and increasing as necessary, not exceeding 640 psi. Scrub while surface is saturated, then flood with clean water.

**00813.43 Masonry Replacement and Rebuilding Work** – Masonry work falls generally under the following two bid items as well as the Reinforced Concrete Rail Replacement & Pier Removal/Reinstallation pay item described in Section 00587.42.

**Reset Existing Wall** – This work requires removal and rebuilding the existing stone at locations shown on the Plans.

**Pier Resetting** – This work requires removal and rebuilding of existing stone piers at locations shown on the Plans.

**00813.44 Resetting Stone Masonry** – Masonry work shall be completed according to the following requirements:

(a) Photo document all stonework to be reset and provide an electronic copy to the Engineer. Mark and record existing location and orientation of all stones that will be reset. Replace stones to their original location and orientation.

(b) Protect removed stones from damage. Replace any stones damaged during construction at Contractor's expense.

(c) Set each stone flat on its natural bed, level, and true to line, in a full bed of mortar; tap to a full, even bearing. Fill joints with mortar leaving no voids. Keep faces of stone clean and match existing stone appearance.

(d) Build straight and plumb on both faces.

(e) Lay even-colored, sound quarry seam faces to weather when making face.

(f) Knock off all weak portions and roughly shape with a hammer to approximate fit.

(g) Knob corners and returns square.

(h) Where fresh masonry joins masonry that is totally set, clean the exposed surface of the set masonry and wet lightly to obtain the best possible bond with the new work.

(i) Provide adequate curing for masonry in accordance with approved hot and cold weather construction procedures. Protect new construction from direct sunlight and wind. Wet exposed mortar joints with a fine water spray daily for four days or cover masonry with polyethylene.

**00813.45 Pointing** - Point and fill holes and cracks in exposed joints with fresh mortar. Crown the mortar in the joints on top surfaces slightly at the center of the masonry to provide drainage. If mortar has hardened, chisel out defects, wet joint, refill solidly with fresh mortar, and tool as specified in 00813.46.

#### **00813.46 Repointing**

(a) Remove mortar, tar, and other foreign material from face of stonework. Remove loose and damaged masonry and masonry units from which foreign material cannot be removed.

(b) Except where directed by the Engineer, remove all existing mortar to a minimum depth of 2 and ½ times the width of the joint, or ¾-inch for joints whose width is less than 5/16-inch. Any loose or disintegrated mortar beyond this minimum depth also shall be removed to sound substrate. Use a small mason's chisel, small pneumatic-power chisel, or other raking tool approved by the Engineer. Do not use power saws or grinders. Demonstrate proficiency if power equipment is used before removing mortar from the structure. Do not widen the existing mortar joints. Do not spall or chip the surrounding masonry edges in the process of mortar removal. Damage to surrounding stone resulting from rotary blade over running shall not be permitted. Mortar shall be removed cleanly from the masonry units, leaving square corners at the back of the cut. Following removal of existing mortar, flush raked out joints and other wall voids with clean water to remove all loose particles and dust.

(c) Before filling the joint, dampen adjacent stone. At the time of joint filling, the joints shall be damp, but with no standing water present. Where existing mortar has been removed to a depth that varies along the length of the joint, the deeper areas should be filled first, compacting the

new mortar in several layers to create a uniform depth. The back of the entire joint shall be filled successfully by applying approximately 1/4-inch layer of mortar, compacting it well into the back corners. When each layer of mortar is thumbprint hard, another 1/4 inch layer of mortar, approximately the same thickness as the previous layer, may be applied. When final layer is thumbprint hard, tool mortar to match existing joints. Make joints the same width as adjacent joints and tool to match. If the stones have worn rounded edges, recess the mortar from the face of the masonry taking care to match existing appearance. Both new and repair work shall resemble existing stone work that remains as closely as possible.

**(d)** Clean excess mortar and stain from stone using a bristle brush after the mortar has dried but before the initial set. Periodically wet curing mortar areas after the mortar joints are thumb-print hard and have been finish tooled by misting with a hand sprayer with a fine nozzle for a minimum of 48 hours after placement. Local conditions will dictate the frequency of wetting, but initially it may be as often as every hour and gradually reduced to every three or four hours. Structures shall be covered with burlap for the first three days after repointing. Plastic may be used, but shall be tented out and not placed directly against the structure. The structures shall also be protected from direct sunlight.

#### **00813.47 Constructing Wall and Pier Mortar Cap**

(a) Replace existing wall and pier mortar caps where shown in the Plans or where directed by the Engineer. In all cases, mortar cap replacement shall match existing mortar caps on adjacent walls or piers.

(b) Remove existing mortar caps to the tops of underlying stone. Remove mortar between joints down to firm mortar, but in all cases no less than 3/4-inch depth below top of mortar joint between stones. In removing mortar, do not damage existing stone surfacing.

(c) Thoroughly clean top of curb or pier prior to replacing mortar cap. Flush surfacing with clean water prior to placing new mortar.

(d) Apply mortar only to damp stone, but not to any areas with standing water.

(e) Thoroughly work mortar cap material into existing joints and voids in stone. Fill joints and crevices in layers not to exceed 1/2 inch, compacting mortar to fill voids. Once a uniform joint and crevice depth is achieved, apply the final lift of mortar to the dimensions shown and noted on the plans, and to match the replacement unit. The final layer of mortar shall be finished with an approved finishing tool. Feather edges shall be avoided.

(f) After the mortar has dried, but before it is initially set (1 to 2 hours), excess mortar shall be removed from the edge of the cap by brushing with a natural or nylon brush.

(g) Mortared cap shall be kept moist by water- misting at least three times a day, or as directed by the Engineer. Mortar cap placement shall comply with the temperature and weather limitations specified in Section 00813.41.

#### **00813.50 Final Cleaning for Finished Masonry**

**(a)** Before cleaning finished masonry, apply the approved cleaning agents to an approximate 16 square foot area as approved by the Engineer. After seven days review results with Engineer.

If mortar joints and masonry units are not adversely affected, use the same cleaning materials and methods on remaining wall areas.

**(b)** Protect work not to be cleaned. Clean exposed masonry from top down, scrubbing with nonmetallic soft bristle brushes and water to remove stains and mortar, cleaning only a small area at a time. Rinse surfaces thoroughly with clean water immediately after cleaning to avoid etching or staining masonry. If cleaning solutions are necessary, wet walls before applying solutions. Approved solutions of soap powder or mild detergents may be applied no sooner than 30 days after the placement of mortar. Acid solutions may be applied only with approval from the Engineer no sooner than 30 days after the placement of mortar.

**(c)** Remove efflorescence in accordance with unit masonry product manufacturer's recommendation.

**00813.51 Water Repellant** – Stir water repellant before use. Apply directly from container using low pressure non-atomizing sprayer. Use uniform horizontal stroke followed by uniform overlapping vertical stroke. Apply liberally using only as much as substrate absorbs. Avoid run downs, pick off run downs with brush or dry roller.

**00813.52 Graffiti Removal** – Remove graffiti where directed by the Engineer by poulticing using an absorbent material or powder-inert clays such as kaolin or sepiolite, diatomaceous earth (fuller's earth); or cellulose products such as fluffpulp cellulose or shredded paper mixed with a cleaning solution (a liquid reagent such as water, organic solvent, paint stripper or bleach) to form a paste or slurry. Care shall be taken not to stain the existing stone or mortar.

**00813.53 Protection** - Provide protection of final, completed work and maintain in a manner acceptable to the Engineer, ensuring that stonework is without damage or deterioration when accepted.

## Measurement

**00813.80 Measurement** – The quantities of stone masonry work constructed under this section will be measured according to the following:

- **Area Basis** - Measurement limits for area basis bid items are listed below:
  - Reset Stone Walls – measurement will be limited to the actual area measured in a vertical plane.
  - Damp Proof Wall and Pier Caps – measurement will be limited to actual area of the top and sides of wall and pier caps.
  - Remove Graffiti - The quantities for graffiti removal will be measured along the outer limits of all letterings or markings.
- **Length Basis** – Measurement will be along the center of the mortared wall cap or along the face of each repointed joint as appropriate.
- **Unit Basis** – Measurement for pier resetting will be per each by actual count.

## Payment

**00813.90 General** - Accepted quantities of stone masonry work performed under this Section will be paid for at the Contract unit price, per unit of measurement, for the following items:

Pay Item	Unit of Measurement
(a) Reset Stone Rail Pier	Each
(b) Reset Stone Wall	Square Foot
(c) Repoint Stone Masonry	Foot
(d) Replace Mortar Wall Cap, Type _____	Each
(e) Replace Mortar Rail Pier Cap	Each
(f) Damp Proof Wall and Pier Caps	Square Foot
(g) Remove Graffiti	Square Foot
(h) Clean Existing Masonry	Lump Sum

Item (a) includes marking stones to be removed for identification, cleaning, removal and protection of existing stones rebuilding stone pier, pointing, and final cleaning at all locations for resetting piers shown on Plans. Where reset rail piers have a mortar wall cap, the wall cap will be paid for separately.

Item (b) includes cleaning, marking stones to be removed for identification, removal and protection of existing stone work within limits shown on plans, protection of existing earthwork behind portion of wall that is to be removed, replacing broken or otherwise rejected stone with new stone to match existing, rebuilding stone wall, pointing, and final cleaning. Minor earthwork and reseeding will also be required behind wall following acceptance by Engineer and is included in this pay item. Measurement for payment will be the actual area of wall that is reset. Mortar wall cap located above reset wall sections will be paid for separately.

Item (c) includes analysis of existing mortar, removal of existing mortar and other foreign material, quality control testing, preparation of joints, and repointing of joints where shown on the plan or directed by the Engineer.

Items (d) and (e) include removal of existing mortared cap, cleaning, formwork, applying epoxy bonding agent, and construction of a new mortar cap per details shown on Plans. New mortared wall and pier caps shall match existing mortared wall and pier caps in both shape and color. The cap type will be inserted into the blank. Payment for this Work also includes quality control testing.

Item (f) includes cleaning all wall and pier caps and applying a damp-proofing coating in accordance with the manufacturer's recommendations.

Item (g) includes all work to remove the existing graffiti.

Item (h) includes all Work to complete a final cleaning of all existing masonry and concrete within all Construction Zones and along the promenade in between Construction Zones "B" and "C".

Payment for all stone masonry related work will be payment in full for all materials, equipment, tools, labor and incidentals necessary to construct the work as specified and as shown on the plans.