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**NOTICE OF ADDENDUM**

**ADDENDUM NO. 1**

**CONTRACT NO. 6859**

**HUDSON PARK IMPROVEMENTS**

Revise and amend the contract document(s) for the above project as stated in this addendum, otherwise, the original document shall remain in effect.

**SPECIAL PROVISIONS:**

**DELETE BID ITEM 90001 – RETAINING WALL STONE IMPORT AND PLACEMENT**

**ADD BID ITEM 90001 – RETAINING WALL STONE IMPORT AND PLACEMENT as described below.**

**BID ITEM 90001 – RETAINING WALL STONE IMPORT AND PLACEMENT**

**DESCRIPTION**

Work under this item shall include all work, materials, labor and incidentals necessary for the Contractor to provide and install the retaining walls in accordance with the Specification that follows, and as shown on the drawings. Excavation, Clear Stone DOT Size No. 1, Topsoil, Riprap Filter Fabric (Type HR), Terrace Seeding and/or sodding shall be paid separately under BID ITEMS # 20101, 90014, 20221, 20233, 20701 and 20801 respectively.

**PART ONE,- GENERAL**

**1.01 SUMMARY**

A. Section Includes: Retaining wall stone along shore and as shown in the drawings.

**1.02 REFERENCE**

A. Wisconsin Department of Transportation Standard Specifications for Road and Bridge Construction, latest edition, as referred to herein as WisDOT.

B. United States Army Corps of Engineering as referenced to herein as USACE.

### 1.03 SUBMITTALS

- A. At the initial preconstruction meeting, submit intended retaining wall construction procedures and quality control plan. These shall contain the following information as a minimum:
  - 1. Placement equipment and method.
  - 2. Anticipated placement and delivery rates for each stone classification.
  - 3. Survey control being requested from the City Surveyor, and check survey procedures.
  - 4. Stone quality control procedures.
- B. Immediately after the start of stone production and at two week intervals thereafter, submit stone quality control results of all visual inspections, stone dimension verification, check surveys and a written summary report for stone blocks.
- C. Submit daily placement summaries described in this bid item under "PLACEMENT".

### 1.04 QUALITY CONTROL

#### A. Stone Quality and Gradation

- 1. The Contractor is responsible for, and shall establish and maintain, quality control for all work performed at the quarry and at the job site to ensure compliance with the specifications. A written quality control plan shall be submitted to the Engineer for approval prior to material production.
- 2. The Contractor shall provide a quarry inspector for all stepped stone. The inspector's responsibilities shall include, but not be limited to:
  - a. A visual test shall be made at the quarry for elongation, cracks, deterioration and other defects visible to the naked eye on at least two-thirds of the surface area of the stone. Ten percent of the stone checked for cracks shall be wetted and re-inspected for minute cracks to determine if they would be detrimental to the stone quality and if additional inspections are necessary on all stone. Stones with cracks that are detrimental to a long-lasting product shall not be shipped to the project site.
  - b. Quarry representative shall pick stones of similar height dimensions for each layer. Stones shall have face and sides perpendicular to each other or angles that will match adjacent stone to achieve a tight fit. Stones intended for each layer shall be marked on the back to identify exact location in the finished

work.

3. The Engineer reserves the right to inspect the quarry operations at any time to check for compliance to the specifications.
4. All retaining wall stone shall be produced from the same quarry.

## B. Test Section

### 1. General

- a. The initial retaining wall section will be considered as a test section. The purpose of the test sections will be to establish an in-the-field standard, built in accordance with the requirements of the contract documents, to which the remainder of the stepped stone revetment shall be constructed. The Contractor will make whatever modifications are necessary to placement procedures such that this standard will be achieved consistently during construction of the remainder of the retaining walls.

### 2. Execution

- a. The Contractor shall lay out the work, provide any survey control as needed for control of the work beyond the initial stakeout by City.
- b. The Contractor shall make every effort to place the stone to the lines, grades and course thicknesses shown on the drawings. The Contractor is required to notify and obtain approval from the Engineer of each wall prior to backfilling.
- c. The Contractor's equipment and methods for handling each classification of stone shall be such that all placement requirements of this section are satisfied.

### 3. Approval

- a. The Contractor will be required to rework deficient portions of the test section to meet these requirements. If during construction of the test section, it becomes evident that the Contractor cannot achieve the required neat lines and course thicknesses due to the type of stone being used, modifications to the section will be made. Upon approval, the test section can be incorporated into the remaining work such that removal will not be necessary.

### 4. Modifications

- a. The Contractor will make any necessary modifications to

placement equipment and procedures to achieve the specified in-place requirements.

C. Survey

1. General

- a. Contractor shall maintain records of all quality control tests, surveys, inspections and corrective actions, and submit copies to the Engineer.

2. Survey Control

- a. The Contractor shall maintain any temporary vertical and horizontal control monuments and staff gauges needed to perform the work, beyond the initial stakeout by the City, in the immediate vicinity of the work being performed.

3. Check Surveys

- a. The Contractor shall perform check surveys as the work progress to verify that lines, grades and thicknesses for the completed work are within the specified tolerances.
- b. The Contractor shall notify the Engineer prior to backfilling each wall to verify survey grades.
- c. The Contractor shall provide all personnel and equipment necessary to adequately and safely perform check surveys.
- d. Check surveys for stone block shall consist of recording elevation readings at each stone block. The check surveys shall be conducted in the presence of the Engineer, unless otherwise waived.
- e. Check surveys shall be determined by the use of a leveling instrument and an elevation rod.

1.05 DELIVERY, STORAGE AND HANDLING

- A. The Contractor shall exercise care in the transportation of all stone materials to prevent cracking, splitting, spalling, etc., that would otherwise lead to rejection at the job site.
- B. The Contractor shall handle and store bedding stone material to ensure that stockpiles are not contaminated with other soils and materials, and to limit the segregation of material sizes.

PART TWO – PRODUCTS

2.01 GENERAL

- A. Materials which have been delivered to the project site and are rejected, whether in stockpile or in place in the structure, shall be removed from the project site at the Contractor's expense. Any damages to approved stone prior to substantial completion, due to Contractor or subcontractor operations, wave activity, or otherwise, shall be repaired by the Contractor at no additional cost to the Owner. All retaining wall materials to be furnished as part of this bid item shall meet all requirements specified in this section. The Engineer, at any time during the contract, will reject materials at the source or at the job site for failure to meet the specified requirements. Inspection of materials at the quarry or at the job site shall be as specified in Quality Control. Inspection and testing of materials shall be as specified in Material Quality. Materials which have been delivered to the project site and are rejected, whether in stockpile or in place in the structure, shall be removed from the projects site at the Contractor's expense.

2.02 SOURCES

A. Sources for Stone Blocks

1. The following listed sources have supplied materials that meet the quality requirements specified. All stone shall be produced from the sources listed below and meet the requirements of Article 2.06 and other requirements of these specifications:

Michels Materials, Valders, WI, 920-478-2084

Halquist Stone, Sussex, WI, 800-255-8811

Valders Stone and Marble, Inc., Valders, WI, 800-569-2156

2.03 MATERIAL QUALITY

A. Previously Approved

1. All stone shall be highly resistant to weathering and disintegration under freezing and thawing and wetting and drying conditions, and shall be of a quality to ensure permanence of the structure in the climate in which it is to be used. The stone shall be durable, sound, and free from detrimental cracks, seams and other defects which tend to increase deterioration from natural causes or cause breakage in handling and/or placing. A high argillaceous or shale content is often indicative of poorer quality rock being more susceptible to weathering, abrasion, thin bedding, close fracturing and other undesirable rock properties. To the extent possible, the Contractor shall select stone that is tan in color.

B. Other Sources

1. If the Contractor elects to use stone from a source not indicated as previously approved by the USACE, the material must be approved by

the USACE and the Engineer, prior to its production, for use on this project. This approval process may include any or all of the following, as directed by the Engineer.

2. Test samples of the proposed stone shall be obtained by the Contractor at its own expense. Samples selected for testing shall be representative of material formations in the quarry to be used or being used on the project. The representative must be present and agree on the selection of all test samples prior to shipment. The Engineer may personally select all samples if he so elects.
3. The samples shall be shipped or delivered by the Contractor, at its expense, to the Local Division Laboratory, U.S. Army Corps of Engineers.
4. Tests to which the material may be subject to include one or more of the following: petrographic examination; specific gravity; abrasion; absorption; wetting and drying; freezing and thawing; soundness; compressive strength; expansion; tensile strength; pulse velocity; gradation; water content; dry unit weight and total porosity; elastic moduli; direct shear; and any other tests determined necessary to ensure that the stone is suitable for its intended use.
5. The Contractor is responsible for allowing sufficient time for the testing to be completed such that there are no delays in construction.
6. If the Contractor elects to use material from a source not previously approved, all costs incurred as a result of testing to verify material acceptability shall be the responsibility of the Contractor.

### PART THREE – EXECUTION

#### 3.01 QUARRY OPERATIONS

- A. Quarry operations shall be conducted by the Contractor/supplier in a manner that will produce stone conforming to the requirements specified, and may involve selective quarrying, handling and loading as necessary. Blasting and handling of rock shall be controlled by the Contractor/supplier to produce stone of the size ranges and quality specified. Techniques such as the use of proper hole diameter, hole depth, hole angle, burden and spacing distances, types and distribution of explosives, delay interval and sequence, removal of muck piles between each shot and special handling techniques will be required as necessary to produce the specified materials. All specifications of blasting operations shall be specifically designed so that the end product is not damaged from the blasting technique and that the stone is suitable for the intended purpose.
- B. All sedimentary quarry stone from any source shall be stockpiled at the quarry a minimum of 48 hours prior to shipment to the project site. No stone production shall be allowed prior to 1 April or after 1 November; unless quarry history is available to ensure that durable stone can be quarried in freezing temperatures.

### 3.02 PLACEMENT

#### A. General

1. Placement of all stone materials shall not deviate from the neat lines as shown on the drawings by more than the tolerances described in this section, unless directed by the Engineer.
2. The retaining walls shall be constructed as shown in the attached plans. A suitable foundation, as approved by the Engineer shall be provided to preclude settlement. Filter Fabric shall be installed under the bed, as shown on the drawings. Clear stone and filter fabric shall be installed according to the Standard Specifications. Each stone shall be firmly set with no rocking or tipping, providing a firm foundation for subsequent layers. Cut stone blocks shall be field cut as required to fit tightly to abutting structures.
3. Approval of placement and/or check surveys for any stone set, or portion thereof, does not constitute final acceptance. The stone work will be considered substantially complete when the Engineer has approved placement and check surveys for all stone comprising the total length of the retaining wall work for the project. Any damages to approved stone prior to substantial completion, due to Contractor or subcontractor operations, wave activity, or otherwise, shall be repaired by the Contractor at no additional cost to the Owner.

#### B. Tolerances and Finished Surfaces

1. The retaining walls shall be placed by equipment on the surfaces and to the depths specified on the drawings.
2. Stone shall be placed tightly together such that at least 60% of all joined faces are in direct contact and no more than 1.5-inch gap exists at any point along the joint. Vertical seams shall be staggered. Chiseling or cutting of the stone may be needed. Any costs for working the stone shall be included in the prices bid.
3. The finished surface aesthetic is critical. The stone layers shall follow the requirements noted on the plan. The tread width shall be consistent along each elevation and the stones shall fit snugly together and have no gaps larger than 1.5-inch. Working of stone faces may be required to achieve desired tolerances.
4. The intention of the above tolerances is that the work will be generally built to the required elevation, slopes and grades, and that the outer surfaces shall present a neat and aesthetic appearance. Placed material not meeting these

intentions shall be removed and/or reworked to the satisfaction of the Engineer. *The Contractor is encouraged to look at a similar application of stone steps along the shoreline of Lake Mendota in front of the boathouse at James Madison Park and along the shoreline at BB Clarke Park.*

5. The tread width shall be consistent along each elevation and the stones shall fit snugly together and have no gaps larger than 1-inch. Working of stone faces may be required to achieve desired tolerances.
6. Stone shall meet the depths shown on the plan +/- six (6) inches on the upper courses. Depths on below grade courses can be +/- 12".
7. Stone random lengths shall be between 30"-48" on the upper course.
8. Steps shall have a consistent tread width by level.
9. Stone shall have natural top & bottom, snapped front and back, and sawn ends.
10. The Contractor shall supply a shop drawing showing the proposed dimensions and layout, the material supplier is responsible for furnishing all material exactly as per the details on the "final approved shop drawing".

The intension of the above tolerances is that the work will be generally built to the required elevation, slopes and grades, and that the outer surfaces shall represent a neat and aesthetic appearance. Placed material not meeting these intentions shall be removed and/or reworked to the satisfaction of the Engineer.

#### METHOD OF MEASUREMENT

Retaining Wall Stone Import and Placement shall be measured by the lump sum of steps acceptably completed. Only accepted work will be measured for payment. For each wall (this project includes 5 walls), the City reserves the right to modify the length of the wall by 5% with no change in bid price. Any adjustments that change quantities of BID ITEM 20101 - EXCAVATION, BID ITEM 90014 - CLEAR STONE D.O.T. SIZE NO. 1, BID ITEM 20221 TOPSOIL, BID ITEN 20233 - RIPRAP FILTER FABRIC (TYPE HR), BID ITEM 20701 - TERRACE SEEDING AND/OR BID ITEM - 20801-SODDING will be revised in each respective bid item.

#### BASIS OF PAYMENT

Retaining Wall Stone Import and Placement shall be measured as described above and shall be paid for at the contract unit price which shall be full compensation for all work, materials, tools, equipment, labor, hauling, placement, disposal and incidentals required to complete the work as set forth in the description, including preparation of the bed and stone steps as defined herein. Unless there is a significant change, no payment shall be given for changes in quantities listed in proposal.

Please acknowledge this addendum on page E1 of the contract documents.

Electronic version of these documents can be found on the City of Madison web site at:



<http://www.cityofmadison.com/business/PW/contracts/openforBid.cfm>

If you are unable to download plan revisions associated with the addendum, please contact the Engineering office at 608-266-4751 receive the material by another route.



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Kevin Briski, Parks Superintendent

