

**REQUEST FOR PROPOSAL – US6 BRIDGES DESIGN BUILD PROJECT**  
**BR 0061-083, SUB ACCOUNT 18838 (CN)**  
**BOOK 2 – TECHNICAL REQUIREMENTS**  
**SECTION 17 –LANDSCAPING (APPENDIX A – BARNUM PARK EAST)**

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SECTION 02519

TURFSTONE PAVERS

PART 1 - GENERAL

- 1.1 RELATED DOCUMENTS: The Book 1 Contract requirements apply to Work of this Section.
- 1.2 DESCRIPTION
- The Work specified in this Section consists of installing turfstone pavers including:
- A. Concrete Interlocking Pavers
  - B. Bedding Sand
  - C. Bedding Material
- 1.3 RELATED SECTIONS
- A. Section 02200 Earthwork
- 1.4 QUALITY ASSURANCE
- A. Manufacturer: Company specializing in the manufacture of concrete interlocking pavers for a minimum of three (3) years.
  - B. Installation shall be by a contractor and crew with at least one (1) year of experience in placing interlocking concrete pavers on projects of similar nature.
  - C. Installation Contractor shall conform to all local, state licensing and bonding requirements.
- 1.5 SUBMITTALS
- A. Submit product drawings and data.
  - B. Submit full size sample sets of concrete paving units to indicate color and shape selections.
  - C. Submit sieve analysis for grading of bedding sand.
- 1.6 DELIVERY, STORAGE, AND HANDLING
- A. Deliver concrete pavers to the site such a manner that no damage occurs during shipping, handling, or storage. Unload pavers at job site in such a manner that no damage occurs to the product.
  - B. Sand shall be covered with waterproof covering to prevent exposure to rainfall or removal by wind. The covering shall be secured in place.

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1.7 ENVIRONMENTAL CONDITIONS

- A. Do not install sand or pavers during heavy rain or snowfall.
- B. Do not install sand and pavers over frozen base materials.
- C. Do not install frozen sand.

PART 2 – PRODUCTS

2.1 CONCRETE INTERLOCKING PAVERS

- A. Pavers shall meet the following requirements:
  - a. Average compressive strength of 4,000 psi with no individual unit under 3,000 psi per ASTM C-140.
  - b. 4" thickness.
  - c. Average absorption of 7% with no unit greater than 10% when tested in accordance with ASTM C-140.
  - d. Resistance to 50 freeze-thaw cycles when tested in accordance with ASTM C 67.
  - e. Portland Cement shall conform to ASTM Specification C-150.
  - f. Aggregates shall conform to ASTM Specification C-33 for Normal Weight Concrete Aggregate no expanded shale or lightweight aggregates), except that grading requirements shall not necessarily apply.
  - g. Coloring pigments, air entraining agents, integral water repellants, finely ground silica, etc., shall conform to ASTM standards where applicable, or shall be previously established as suitable for use in concrete.

2.2 VISUAL INSPECTION

- A. All units shall be sound and free of defects that would interfere with the proper placing of unit or impair the strength or permanence of the construction.
- B. Minor cracks incidental to the usual methods of manufacture, or chipping resulting from customary methods of handling in shipment and delivery, shall not be deemed grounds for rejection.

2.3 BEDDING SAND

- A. Bedding sand shall be clean, non-plastic, well-graded, free from deleterious or foreign matter. The sand shall be natural or manufactured from crushed rock. Limestone screenings or stone dust shall not be used. When concrete pavers are subject to vehicular traffic, the sands shall be as hard as practically available.
- B. Grading of sand samples for the bedding course shall be done according to ASTM C 136. The bedding sand shall conform to the grading requirements of ASTM C 33 as shown in Table 1.

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Table 1  
 Grading Requirements for Bedding Sand

ASTM C 33	
Sieve Size	Percent Passing
3/8 in. (9.5 mm)	100
No. 4 (4.75 mm)	95 to 100
No. 8 (2.36 mm)	85 to 100
No. 16 (1.18 mm)	50 to 85
No. 30 (600 µm)	25 to 60
No. 50 (300 µm)	10 to 30
No. 100 (150 µm)	2 to 10

2.4 BEDDING MATERIALS

- A. Bedding material shall be clean, well-graded, and free from deleterious or foreign matter.
- B. Grading of bedding material shall conform to the grading requirements of Table 2.

Table 2  
 Grading Requirements for Bedding Material

Class 6 Aggregate	
Sieve Size	Percent Passing
3/4 in. (19 mm)	100
No. 4 (4.75 mm)	30 to 65
No. 8 (2.36 mm)	25 to 55
No. 200 (150 µm)	3 to 12

2.5 EDGING MATERIAL

See plans for acceptable edging material.

PART 3 - EXECUTION

3.1 PREPARATION

- A. A suitable base shall be prepared as specified in related sections of this specification.
- B. The base course shall be shaped to grade and cross section with an allowable tolerance of 1/4" (5mm).
- C. The prepared base shall be 4" below final grade for the 4" (10cm) turfstone.

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3.2 SAND LAYING COURSE

- A. Denver Parks Representative shall inspect and approve the finished base course prior to placement of the sand laying course.
- B. Spread the sand evenly over the area to be paved.
- C. Screed the sand to a level that will produce a 1/2" thickness when the pavers have been placed .
- D. Do not disturb this sand laying course once screeding and leveling to the desired elevation is achieved.

3.3 PLACEMENT

- A. The pavers shall be placed in a Herringbone pattern.
- B. The pavers shall be placed in such a manner that the desired pattern is maintained and the joints between the pavers are as tight as possible.
- C. Use string lines to hold all patterns true.
- D. The gaps at the edge of the turfstone surface shall be filled with standard pavers cut to fit.
- E. The cutting of stones, using a doubleheaded breaker or a masonry saw shall leave a clean edge.
- F. Apertures of the pavers shall be filled with the amended soil to within 1/2" of top, seeded and maintained as per specifications.
- G. Upon completion of work covered in this section, the Contractor shall clean up all work areas by removing all debris, surplus material and equipment from the site.

3.4 FIELD QUALITY CONTROL

- A. Check final elevations for conformance to the drawings.

3.5 WARRANTY

- A. The contractor shall provide a one-year warranty against any settlement in excess of ¼ inch.

*END OF SECTION*

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