

Item 528

Colored Textured Concrete and Landscape Pavers



1. DESCRIPTION

- 1.1. **Colored Textured Concrete.** Furnish and place colored textured concrete.
- 1.2. **Landscape Pavers.** Furnish and install landscape pavers.
- 1.3. **Landscape Pavers (Furnished).** Landscape pavers will be furnished by the Department. Load and transport from the location shown on the plans to the project, and install.
- 1.4. **Remove, Store, and Relay Landscape Pavers.** Remove, store, and relay landscape pavers as shown on the plans or as directed. Furnish and lay replacement pavers.

2. MATERIALS

- 2.1. **Colored Textured Concrete.** Furnish materials in accordance with the following:

- Item 420, "Concrete Substructures"
- Item 421, "Hydraulic Cement Concrete"
- Item 440, "Reinforcement for Concrete"

Use Class A concrete unless otherwise shown on the plans.

When approved, use fibers listed on the Department's MPL or fibers meeting the requirements of [DMS-4550](#), "Fibers for Concrete," to replace reinforcing steel in Class A concrete.

Use approved dry-shake color hardener or integral concrete colorant shown on the plans. Provide colored wax as a curing membrane meeting the requirements of ASTM C309 or as shown on the plans.

- 2.2. **Landscape Pavers.** Furnish materials in accordance with the details shown on the plans and the following:

- Item 132, "Embankment"
- Item 247, "Flexible Base"
- Item 275, "Cement Treatment (Road-Mixed)"
- Item 401, "Flowable Backfill"
- Item 421, "Hydraulic Cement Concrete"

- 2.2.1. **Pavers.** Furnish pavers meeting the requirements of ASTM C936; made using normal-weight aggregates conforming to ASTM C33; and conforming to the shape, color, laying pattern, and dimensions shown on the plans. Furnish certification from the manufacturer stating that the interlocking paving units have been tested and meet all the requirements of ASTM C936. Furnish additional paving units when required for testing by the Department.

- 2.2.2. **Bedding Sand.** Furnish fine aggregate as specified in Item 421, "Hydraulic Cement Concrete," with the gradation given in Table 1.

Table 1
Bedding Sand Gradation

Sieve Size	Percent Passing
3/8"	100
#4	85-100
#100	10-30

Spread the sand at a uniform moisture content of 3% to 7%. Protect the sand against rain if it is stockpiled on-site before spreading.

- 2.2.3. **Joint-Filling Sand.** Meet the requirements for bedding sand, except with the gradation given in Table 2.

Table 2
Joint-Filling Sand Gradation

Sieve Size	Percent Passing
#4	100
#8	90–100
#16	60–100
#30	25–70
#50	10–30
#100	2–15
#200	Less than 10

3. CONSTRUCTION

- 3.1. **Colored Textured Concrete.** Prepare for approval a 9-sq. ft., 3-in. thick specimen for each color, pattern, and texture required before beginning work.

Prepare the subgrade, base, or both in accordance with the plans and pertinent Items. Place and screed concrete to the proper grade and wood-float to a uniform surface, in accordance with Item 420, "Concrete Substructures."

Apply colorant in accordance with the manufacturer's recommendations. Apply dry-shake color hardener, if used, evenly to the plastic surface, following the manufacturer's directions. Use at least 65 lb. per 12 square yard. Apply in 2 separate applications and wood-float after each application. Trowel only after the final floating.

Place dies with a repetitive pattern on the concrete surface and hand-tamp to create the required texture or imprint shown on the plans. Use a brick pattern if no texture is specified. Apply colored curing and finishing compound in accordance with the manufacturer's directions.

- 3.2. **Landscape Pavers.**

- 3.2.1. **Removing and Relaying Existing Pavers.** Exercise care when removing existing pavers, making an effort to remove the pavers with minimal damage. Removal by mechanical means is allowed unless otherwise shown on the plans. Ensure that any removed pavers remain in good, reusable condition. Dispose of stained or damaged pavers. Palletize reusable pavers and completely wrap the pavers and pallets with plastic to protect during storage. Safeguard the pavers from theft and/or vandalism while the Contract is in progress. Deliver salvageable excess pavers to a stockpile location on the project unless otherwise shown on the plans. Dispose of unsalvageable pavers in accordance with federal, state, and local regulations. Replace any pavers deemed unusable with new materials as necessary and as directed. Remove paver units damaged during compaction and replace with pavers of equivalent size, shape, and color.

- 3.2.2. **Base Installation.** Perform excavation and embankment work for the subgrade. Replace unsuitable material encountered in the subgrade and compact to a uniform grade. Stabilize subgrade if specified. Place and compact the base to ordinary compaction requirements in accordance with the pertinent Item, and to the depth specified on the plans. Grade the base surface so that the finished grade of the pavers meets the requirements shown on the plans.

- 3.2.3. **Bedding Sand Installation.** Screed a layer of uncompacted sand to a depth of 1 to 1-1/2 in. over the compacted base. Do not use bedding sand for leveling.

Maintain the spread sand in a loose condition and protect against precompaction before and after screeding. Protect screeded sand against accidental precompaction, including compaction by rain or dew. Loosen precompacted sand or screeded sand in advance of the laying face only to an extent to which paving will be

completed that day. Lightly screed the sand in a loose condition to the predetermined depth slightly ahead of laying the paving units.

- 3.2.4. **Paver Installation.** Place paving units on an uncompacted, screeded sand bed to the required laying pattern shown on the plans. Align all joints and provide nominal 1/8-in. gaps between adjacent units.

Place the first row to abut an edge restraint with a gap of 1/8 in. Place at a suitable angle to the edge restraint to achieve the required visual orientation of paving units in the completed pavement. Lay full-size units in each row first, followed by closure units consisting of at least 25% of a full unit. Cut units using a power saw. To fill smaller edge spaces, use a grout mix matching the color of the pavers that consists of 1 part hydraulic cement to 2 parts concrete sand. Use cement and sand that meet Item 421, "Hydraulic Cement Concrete."

Do not allow construction traffic on pavers during installation and compaction.

- 3.2.5. **Paver Compaction.** Provide a high-frequency, low-amplitude mechanical flat plate vibrator compactor with a plate area large enough to cover at least 12 paving units and that can deliver a 3,500- to 5,000-lb. centrifugal compaction force. Compact paving units immediately after placement to achieve consolidation of the sand bedding before any traffic is allowed. Bring to design levels and profiles by at least 2 passes of the plate compactor.

Do not compact within 3 ft. of the laying face. Continue compaction until lipping has been eliminated between the adjoining units. Compact all work to within 3 ft. of the laying face at the completion of each work day.

Spread joint-filling sand as soon as practical after compaction but in all cases before the termination of each work day, before acceptance of the day's work, and before permitting construction traffic. Allow joint-filling sand to dry, and then sweep to fill the joints. Compact the pavers and joint-filling sand with a single pass of the compactor.

4. MEASUREMENT

This Item will be measured by the square yard. Removed pavers to be relayed, salvaged, or disposed of will be measured by the square yard in their original position. Replacement pavers will be measured by the square yard in the final position of replacement pavers.

5. PAYMENT

Excavation and embankment will not be paid for directly but will be subsidiary to this Item unless otherwise shown on the plans.

- 5.1. **Colored Textured Concrete.** The work performed and measured as provided under "Measurement" will be paid for at the unit price bid for "Colored Textured Concrete" of the thickness specified. This price is full compensation for surface preparation of subgrade and base; furnishing, placing, finishing, and curing colored, textured concrete; and equipment, labor, materials, tools, and incidentals.

Preparation of approval specimens will not be paid for directly but will be considered subsidiary to this Item. Base under colored textured concrete will be paid for under pertinent Items unless otherwise shown on the plans.

- 5.2. **Landscape Pavers.** The work performed and measured as provided under "Measurement" will be paid for at the unit price bid for "Landscape Pavers." This price is full compensation for furnishing, placing, and compacting pavers; bedding and joint-filling sand; and equipment, labor, materials, tools, and incidentals. Paver units damaged during compaction will be replaced at the Contractor's expense. Base required for landscape pavers will not be paid for directly but will be subsidiary to this Item.

- 5.3. **Landscape Pavers (Furnished).** The work performed and measured as provided under “Measurement” will be paid for at the unit price bid for “Landscape Pavers (Furnished).” This price is full compensation for loading and transporting, placing, and compacting pavers; bedding and joint-filling sand; and equipment, labor, materials, tools, and incidentals. Paver units damaged during loading, transport, or compaction will be replaced at the Contractor’s expense. Base required for landscape pavers will not be paid for directly but will be subsidiary to this Item.
- 5.4. **Removing and Relaying Existing Pavers.** The work performed and measured as provided under “Measurement” will be paid for at the unit price bid for in accordance with “Remove and Relay Pavers” and “Replacement Pavers.” Base required for landscape pavers will not be paid for directly but will be subsidiary to this Item. Paver units damaged during removal, loading, transport, or compaction will be replaced at the Contractor’s expense.
- 5.4.1. **Remove and Relay Pavers.** Removing and relaying pavers will be paid for at the unit price for “Remove and Relay Landscape Pavers.” This price is full compensation for removing and storing pavers; placing and compacting salvaged pavers; preparing bedding; bedding and joint-filling sand; stockpiling salvaged pavers; disposing of pavers; and equipment, labor, materials, tools, and incidentals.
- 5.4.2. **Replacement Pavers.** Furnishing and placement of replacement pavers will be paid for at the unit price bid for “Replacement Pavers.” This price is full compensation for furnishing replacement pavers; placing and compacting pavers; preparing bedding; bedding and joint-filling sand; and equipment, labor, materials, tools, and incidentals.