

DIVISION 32 – EXTERIOR IMPROVEMENTS

BASES, BALLASTS, AND PAVING	32 10 00
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Roadway and parking pavement sections are to be designed by a licensed Geotechnical Engineer pursuant to the Traffic Index associated to the roadway or parking lot, in accordance with Caltrans Highway Design Manual, latest edition, for a 20-year life. Materials and installation shall conform to the Caltrans Standard Specifications and Plans, latest edition, unless otherwise required by the University's Representative. Traffic signs and pavement markings shall conform to California's September 26, 2006 adoption of the Federal Highway Administration (FHWA) Manual on Uniform Traffic Control Devices (MUTCD).

CONCRETE PAVING	32 13 13
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When the scope of the work is limited to relatively small areas, the guidelines specified in the University's Standard Specification Section 01 73 29 Cutting and Patching shall take precedence.

Refer to Drawings section of Campus Design Guide for typical sidewalk details.

There are two types of standard finishes for sidewalks and flatworks: exposed aggregate with smooth perimeter and broom swept. Consult the University's Representative for the appropriate locations.

A. EXPOSED AGGREGATE SIDEWALKS AND FLATWORK

1. General Requirements: Application of the following exposed aggregate concrete specification is primarily intended to be used in conjunction with new building construction or extensive hardscape developments where an accepted uniform concrete finish and overall appearance for exterior concrete hardscape is desired. This specification, therefore, applies to the new sidewalks, pathways, courtyards and plaza areas of and surrounding new campus buildings. Additionally, when existing campus facilities are undergoing renovation and replacement of sidewalks, pathways, courtyards and similar areas, evaluation of utilizing this specification is required.
2. Scope of Work: Exterior concrete sidewalks, pathways, courtyards and plazas shall conform to the following design criteria:
 - a. Consist of concrete panels with 12-inch wide smooth banded perimeter sections surrounding interior sections of exposed aggregate.
 - b. Width, length and spacing of individual concrete panel sections to be a function of the surrounding physical requirements and constraints and shall attempt to incorporate the desired architectural theme of the campus improvement.
3. Materials:
 - a. Course aggregate: Cache Creek 3/8 inch x number 8 pea gravel, (1,650 lbs., 9.94 cubic feet, +/- 5 percent by volume).

- b. Stone color: Red, black, brown and a minor amount of white evenly distributed. NOTE: Contractor to coordinate with the University's Representative regarding mix and finish. This may require, at the discretion of the University's Representative that a sample panel be provided by the Contractor for evaluation and approval by the University's Representative.
- c. Reference mix design: Mix Number X8W6041A (Teichert Cache Creek Plant), or equal. Note to Design Professional: A reference site to serve as a control sample for finished appearance of this mix design is present in sidewalks located on the south and west sides of Hunt Hall on the UC Davis Campus.

B. BROOM SWEEPED, SMOOTH FINISH SIDEWALKS AND FLATWORK

- 1. General Requirements: Application of the following smooth finish concrete specification is primarily intended to be used at minor walkways. Verify locations with the University's Representative.
- 2. Finish: Medium broom finish swept perpendicular to direction of path.

AGGREGATE SURFACING	32 15 00
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Refer to the University's Standard Specification Section 32 90 00 Planting.

TACTILE WARNING SURFACING	32 17 26
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Truncated Domes:

- 1. Materials: Tek-Way concrete dome tiles with integral color and spacing at 2.35 inches on center, or equal (no known equal).
- 2. Color:
 - a. At new locations where all connecting crosswalks are to be new installations, the charcoal/black color shall be selected.
 - b. At locations connecting to existing truncated dome installations to remain, the color shall be selected from the manufacturer's standard colors to match existing.

AUTOMATED VEHICLE GATES	32 31 13
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- A. General requirements:
 - 1. Automated vehicular gates shall comply with the following:
 - a. UL325 Safety Standards
 - i. Per UL 325, vehicular gate operators are not authorized for use by pedestrians, thus an alternate entry point must be provided if pedestrians are to gain access to a secured area.
 - b. ASTM F2200 Gate and Fence Standards.
- B. Design requirements:
 - 1. Vehicular gates shall utilize a ground mounted V-track roller system the entire gate travel length. Pipe track roller systems are not acceptable.
 - 2. Gate operator shall be HySecurity Model - 222 1 HP, hydraulic, sized appropriately for the gate design, with 6061-T6 aluminum, 3/16 inch thick drive rail, or equal.

- a. All components of the manual override shall be securely enclosed and locked in a 10 gauge steel enclosure.
- b. Chain drive gate operator systems are not acceptable.
- 3. V - Grove wheels shall be 6 inch hardened, solid steel, with 2 inch hub, utilizing two sealed bearings.
- 4. Wire loops shall be Service Wire Company 12AWG USE-2, RHH, RHW-2, or equal.
- 5. Access on the exterior side of the gate shall be provided by both, UCDFD Standard Knox switch and Schlage Locknetics 653-0505-WP or equal key switch mounted in an 8 inch x 8 inch square housing, (Pedestal CEO model # MC-CS-8-E or equal) on a goose neck pedestal.
 - a. Pedestal shall be protected on both sides parallel to the flow of traffic by 4 inch or 6 inch concrete filled steel bollards.
 - b. If system is configured with credentialed exiting (Key/Card), interior pedestal shall be configured as described above.
 - c. For specific requirements for gate controls, consult the University's Representative.

PLANTING IRRIGATION	32 84 00
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The Campus has developed a Standard Specification, Section 32 84 00 Planting Irrigation. The specification shall be modified by the Design Professional to meet project requirements. An electronic copy (Word document) is available, contact the University's Representative.

PLANTING	32 90 00
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The Campus has developed a Standard Specification , Section 32 90 00 Planting. The specification shall be modified by the Design Professional to meet project requirements. An electronic copy (Word document) is available, contact the University's Representative for additional information.