

## **SECTION 32 12 16**

### **ASPHALT PAVING**

#### **1. PART 1 GENERAL**

##### **1.1 SECTION INCLUDES**

- A. Weed killer.
- B. Geotextile paving grid.
- C. Prepared base. Recycled base.
- D. Headers and stakes.
- E. Asphaltic concrete paving.
- F. Surface sealer.
- G. Pavement striping.

##### **1.2 REFERENCES**

- A. ASTM D979 - Standard Practice for Sampling Bituminous Paving Mixtures.
- B. ASTM D2041 - Standard Test Method for Theoretical Maximum Specific Gravity and Density of Bituminous Paving Mixtures.
- C. ASTM D2726- Standard Test Method for Bulk Specific Gravity and Density of Non-Absorptive Compacted Bituminous Mixtures.
- D. ASTM D2950 - Standard Test Method for Density of Bituminous Concrete In Place by Nuclear Methods.
- E. ASTM D3549 - Standard Test Method for Thickness or Height of Compacted Bituminous Paving Mixture Specimens.
- F. Southern California Chapter, American Public Works Association - Standard Specifications for Public Works Construction.
- G. Redwood Inspection Service - Standard Specifications for Grades of California Redwood Lumber.
- H. Storm Water Quality Association - Storm Water Best Management Practice Handbook (BMP Handbook) Construction Edition.
- I. TAI (The Asphalt Institute) - Manual Series No. 2 (MS-2).

##### **1.3 QUALITY ASSURANCE**

- A. Perform work in accordance with Standard Specifications for Public Works Construction.
- B. Mixing Plant: Conform to State of California standards.
- C. Obtain materials from same source throughout.

##### **1.4 REGULATORY REQUIREMENTS**

- A. Conform to applicable Los Angeles County standards for paving work on public property.

## 1.5 SUBMITTALS

- A. Submit proposed mix design of each class of mix for review prior to commencement of work under provisions of Section 01 33 00.

## 1.6 ENVIRONMENTAL REQUIREMENTS

- A. Do not place asphalt when base surface temperature is less than 40 degrees F.
- B. Perform asphalt paving waste management techniques as defined in Section 4 of the Storm Water Best Management Practice Handbook, (BMP Handbook) Construction Edition.

## 2. PART 2 PRODUCTS

### 2.1 AGGREGATES

- A. Provide aggregates consisting of crushed stone, gravel, sand, or other sound, durable mineral materials processed and blended, and naturally combined.
- B. Recycled Base Aggregate: Crushed bituminous asphalt and concrete paving and concrete and masonry complying with requirements of Section 200-2.4 for Crushed Miscellaneous Base of the Standard Specifications for Public Works. Free of any deleterious or detrimental material.
- C. Granular base aggregate: In accordance with Section 200-2.2 of Standard Specifications for Public Works Construction.
- D. Granular base aggregate maximum size:
  - 1. Base courses over 6 inch thick: 1-1/2 inches.
  - 2. Other base courses: 3/4 inches.
- E. Aggregates for asphaltic concrete paving: In accordance with Section 203.6.2.2. of Standard Specifications for Public Works Construction.

### 2.2 WEED KILLER

- A. Commercial chemical for weed control, registered by EPA. Dry, free-flowing, dust-free chemical compound, nonflammable, not creating a fire hazard when applied in accordance with the manufacturer's recommendations, soluble in water, and capable of being spread dry or in solution.
- B. Weed Killer products:
  - 1. Oust: E.I. Dupont de Nemours and Co., [www.dupont.com](http://www.dupont.com).
  - 2. Casoron 4G: Uniroyal Chemical Co., Inc., [www.cromptoncorp.com](http://www.cromptoncorp.com).
  - 3. Substitutions: Under provisions of Section 01 25 13.

### 2.3 HEADERS AND STAKES

- A. Headers: Construction heart grade redwood in compliance with the Standard Specifications for Grades of California Redwood Lumber.
- B. Stakes: Redwood of grade specified for headers.
- C. Nails: Common, galvanized, 12d minimum.

## 2.4 PAVEMENT STRIPING PAINT

- A. Vinyl emulsion type, white color, except at accessible parking spaces, provide blue color. Blue color to be equal to Color 15090 in accordance with Federal Standard 595C.
- B. Striping products:
1. W801 Vin-L-Stripe Traffic Paint, manufactured by Dunn-Edwards, [www.dunnedwards.com](http://www.dunnedwards.com).
  2. Substitutions: Under provisions of Section 01 25 13.

## 2.5 ASPHALTS

- A. Comply with provisions of Standard Specifications for Public Works Construction, Section 203-1:
1. Paving asphalt  
:PG-64
  2. Tack coat  
:SS-1h

## 2.6 ASPHALTIC PAVING MIX

- A. Provide hot plant mixed asphaltic concrete paving materials in accordance with Section 203-6 of Standard Specifications for Public Works Construction:
- |    |                            |    |
|----|----------------------------|----|
| 1. | Base Course Mix            | B  |
| 2. | Parking and Drive Area Mix | C2 |
| 3. | Hardscape Play Area Mix    | D2 |
- B. Asphalt concrete paving mix to have 5 to 7 percent asphalt cement content by weight in accordance with TAI Publication MS-2.

## 2.7 SEAL COAT

- A. Hardscape Play Areas: Guardtop ultra high performance, coolseal, sealcoat, [www.guardtop.com](http://www.guardtop.com). As specified in Section 32 12 33.
- B. Substitutions: Under provisions of Section 01 25 13.

### 3. PART 3 EXECUTION

### 3.1 INSPECTION

- A. Verify compacted subgrade is dry and ready to support paving and imposed loads.
- B. Verify gradients and elevations of base are correct.
- C. Beginning of installation means acceptance of substrate.

### 3.2 PREPARATION

- A. Apply weed killer to entire area to be paved. Follow the manufacturer's application directions.
- B. Install headers and stakes to achieve arrangement of paving for proper drainage.

### 3.3 PLACEMENT OF GRANULAR BASE COURSE

- A. Spread granular base material to compacted thickness as indicated on project scope & description. Compact according to Section 31 20 00 to 95 percent.

- B. Thickness tolerance: Minus 0.0 inch to plus 0.5 inch.
- C. Smoothness tolerance: 3/8 inch in 10 feet.
  - 1. Deviations: Correct by removing materials, replacing with new materials, and reworking and recompacting as required.
- D. Moisture content: Only the amount needed to achieve the specified compaction.

#### 3.4 PLACEMENT OF ASPHALTIC CONCRETE FINISHED PAVING

- A. Remove all loose materials from compacted base.
- B. Adjust frames and covers, if so required, to meet final grades.
- C. Tack Coat:
  - 1. Apply tack coat at the rate of 0.05 to 0.10 gallon per square yard to all existing pavement, curbs, gutters, manholes, and the like immediately before asphalt concrete is placed.
  - 2. Avoid smearing adjacent surfaces. Remove spillage and clean affected areas.
- D. Spreading Asphaltic Concrete Materials:
  - 1. Spread material in a manner which requires the least handling.
  - 2. Spread asphalt concrete to compacted thickness shown on drawings.
  - 3. Where thickness of asphalt concrete paving will be 3 inches or less, spread in one layer.
  - 4. Where thickness of asphalt concrete paving will be more than 3 inches, spread in two layers. Surface course shall be a minimum of 1 inch thick.
  - 5. Prime asphalt surface between layers.
  - 6. Offset layers of paving a minimum of 6 inches.
- E. Rolling:
  - 1. After material has been spread to proper depth, roll until the surface is hard, smooth, unyielding, and true to the thickness and elevations indicated..
  - 2. Roll in at least two directions until no roller marks are visible.
- F. Compacting:
  - 1. Average density according to ASTM D2041 to be 92 percent but not less than 90 percent and not more than 96 percent.

#### 3.5 TOLERANCES

- A. Free from birdbaths.
- B. Flatness, Parking Lot, and Drive Areas: Maximum variation of 1/8 inch in 6 feet.
- C. Flatness, Hardscape Play Areas: 1/8 inch in 10 feet.
- D. Compacted Thickness: Within 1/4 inch.
- E. Variation from True Elevation: Within 1/2 inch.

### 3.6 REPAVING

- A. Where existing pavement is cut, removed, or disturbed, existing pavement shall be saw cut.
- B. Where excavations are 12 inches or less in width, existing pavement to be cut 12 inches greater in length and width of excavation.
- C. Where excavations are greater than 12 inches in width, existing pavement to be cut 24 inches greater in length and width of excavation.
- D. Where existing pavement being cut is to be overlaid, pavement cutting outside limits of excavation is not required.
- E. Backfill shall conform to requirements of Section 31 20 00.
- F. Repaving shall match existing paving, but shall not be less than 4 inches of asphalt concrete placed upon 4 inches of crushed aggregate base in compliance with Section 200-2.2 of the Standard Specifications for Public Works Construction.

### 3.7 SEAL COAT

- A. Apply seal coat to hardscape play areas in accordance with manufacturer's instructions in two separate coats. Do not apply seal coat until 30 days after initial placement of asphaltic concrete paving.

### 3.8 PAVEMENT STRIPING

- A. Layout line markings and other painting in accordance with District's direction. Lines shall be 4 inches wide.
- B. Clean surfaces to be painted. Apply paint in accordance with manufacturer's directions only when weather conditions permit proper application. Machine apply paint in as many coats as are required to provide opaque markings.

### 3.9 WHEEL STOPS

- A. Place wheel stops at all parking stalls as directed.
- B. Anchor permanently in place with two steel rods.

### 3.10 FIELD QUALITY CONTROL

- A. Field inspection and testing of granular base and of asphalt concrete paving mix will be performed under provisions of Section 01 45 29.
- B. Testing firm to take samples and perform tests in accordance with TAI MS-2 and as specified.
- C. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
- D. Thickness: In-place compacted thickness of hot-mix asphalt courses will be determined according to **ASTM D3549**.
- E. Surface Smoothness: Finished surface of each hot-mix asphalt course will be tested for compliance with smoothness tolerances.
- F. In-Place Density: Testing agency will take samples of uncompacted paving mixtures and compacted pavement according to ASTM D979.
- G. Reference maximum theoretical density will be determined by averaging results from four samples of hot-mix asphalt-paving mixture delivered daily to site, prepared according to ASTM D2041, and compacted as specified.

- H. In-place density of compacted pavement will be determined by testing core samples according to ASTM D2726.
  - 1. One core sample will be taken for every 1000 sq. yd. or less of installed pavement, with no fewer than 3 cores taken.
  - 2. Field density of in-place compacted pavement may also be determined by nuclear method according to ASTM D2950 and correlated with ASTM D2726.
- I. Remove and replace or install additional hot-mix asphalt where test results or measurements indicate that it does not comply with specified requirements.

### 3.11 PROTECTION

- A. Immediately after placement, protect pavement under provisions of Section 01 61 00 from mechanical injury for 2 days.
- B. Protect all new placed pavement from landscape irrigation overspray and planter area soil erosion.

### 3.12 FLOOD TEST

- A. Perform flood test of finished paving by use of water tank truck.
- B. Where water ponds to a depth of more than 1/8 inch, fill or otherwise correct to provide proper drainage.
- C. Feather and smooth edge of fill so that joint between fill and original surface is invisible.

END OF SECTION