

Bracketed section numbers refer to the 2006 *Standard Specifications*.

Section 42 Groove and Grind Pavement

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4-4201 General

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Maintenance Technical Advisory Guide (MTAG), Volume II - Rigid Pavement Preservation, Second Edition, discusses groove and grind strategies for rehabilitation of existing rigid pavements, and is available at the following website:

<http://www.dot.ca.gov/hq/maint/roadway.htm>

Grooving is usually performed on:

- Existing pavements to improve drainage of water at the pavement surface.
- New and existing pavements to improve skid resistance.

Grinding is usually performed to improve the ride quality of new or existing pavements.

4-4202 Before Work Begins

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Before work begins, take the following steps:

- Review the contract plans and specifications.
- Discuss traffic handling with the contractor and review the contractor's plan for lane closures. For a discussion of traffic handling devices and lane closure procedures, see Section 4-12, "Temporary Traffic Control," and Section 2-2, "Traffic," of this manual.
- Ensure the contractor's equipment meets specified requirements.
- Before the grooving or grinding operation, inspect and locate any existing detector loops on either new or existing pavement to prevent damage to the detector loop's sealant. If detector loops are not visible, consult with the district traffic unit.
- Check local noise ordinances and review specified noise requirements.
- In areas to be grooved and ground, verify that yellow stripe and pavement markings do not contain lead. For instructions regarding this issue, see Section 4-15, "Existing Facilities," of this manual.
- Verify that the required water pollution control plan is approved and in place.
- The contract may show locations for on-site drying of concrete grooving and grinding residue before disposal. Verify that temporary storage materials for this purpose conform to WM-8, Concrete Waste Management, in the *Construction Site Best Management Practices (BMPs) Manual* or Section 13-9.02, "Materials," of the *Standard Specifications*.
- The contract or materials information handout may identify locations within the right-of-way for final disposal of concrete grinding and grooving residue. The resident engineer must verify that a Regional Water Quality Control Board

(RWQCB) permit or approval is included in the materials information handout or resident engineer file. If an RWQCB permit or approval has not been included, contact your environmental-construction liaison for assistance in obtaining these documents. Refer to the contract special provisions to obtain information about offsite disposal facilities for concrete grooving and grinding residue.

- When the contract documents do not allow final disposal of grooving and grinding residue within the right-of-way, obtain from the contractor the name and location of the disposal facility that will receive the concrete grooving and grinding residues, in accordance with Sections 42-1 [7.1.13], "General," and 5-1.20B(4), "Contractor-Property Owner Agreement," of the *Standard Specifications*. Obtain a copy of the facility's RWQCB or other applicable agency permit; the RWQCB's or other agency's written approval; or applicable local, state, or federal agency permits if located outside California. Also ensure the following:
 1. Verify that the disposal facility is permitted to accept concrete residue, by the California Environmental Protection Agency (Cal/EPA). Oral confirmation from the facility operator and documentation in the resident engineer's daily report are sufficient verification of the permit status of commercial disposal facilities on this list.
 2. When the contractor chooses to use a noncommercial offsite disposal facility, the contractor must provide a copy of the Cal/EPA permit for disposal of the liquid concrete residue.
 3. When the contractor chooses a disposal site that is located outside of California, the contractor must provide a copy of the permit issued by the state agency having jurisdiction over the site to the resident engineer. The permit must be provided before disposal.

4-4203 4-4203 During the Course of Work
During the Course of Work

4-4203A Grooving and Grinding Operations

The following apply to both grooving and grinding operations:

- Observe the operation to ensure that equipment and noise levels comply with specifications.
- Ensure that the handling of residue and dust from the operation meets specifications.
- Ensure that the grooved or ground widths meet specifications.
- Ensure that a vacuum device picks up the concrete residue and that the residue does not flow across the pavement or enter storm drain inlets.
- For projects that temporarily store concrete residue in washout facilities, ensure that the plastic liner seams are installed in accordance with manufacturer requirements. Regularly inspect the liners during installation and operations to ensure that they are free of holes, tears, or other defects that will compromise the impermeability of the liner. Inspect washout facilities to ensure that adequate holding capacity and minimum freeboard are maintained.
- When the operation is complete, and offsite disposal is specified, obtain from the contractor, final proof of delivery of the residue to the off-site disposal facility.

4-4203B Grooving

When grooving is specified:

- At the beginning of the work shift, check behind the grooving machine to ensure that all the blades are cutting grooves to the specified depth.
- Record the locations of omitted grooves. When specified, require the cutting of omitted grooves.

4-4203C Grinding

When grinding is specified:

- As work progresses, check the ground pavements with the specified straightedge.
- Determine if any abnormally depressed areas must be excluded from testing with the profilograph and the 12-foot straightedge. Measure these areas to ensure they do not exceed the specified percentage of the total ground area.
- In accordance with California Test 526, "Operation of California Profilograph and Evaluation of Profiles," measure ground concrete pavements for a profile index.
- Ensure ground areas on structures, approach slabs, and 50 feet of approach pavement meet the smoothness and cover requirements in Section 51-1.01D(4)(b) [51-1.17], "Surface Smoothness," of the *Standard Specifications*.
- In accordance with California Test 342, "Surface Skid Resistance with the California Portable Skid Tester," determine the coefficient of friction for surfaces that have been ground.

4-4204 Measurement and Payment

Measure both grooving and grinding by the area grooved or ground. As the work progresses, make transverse measurements to ensure the grooved or ground areas meet the widths specified. You may compute lengths by measuring the distance to start and stop locations from known stations and by computing the length grooved or ground from the stationing. Include curve corrections in the calculations.

Where grinding has begun on an area that is then replaced by concrete pavement, do not pay for the original grinding area. Instead, measure the area of replaced concrete pavement and pay under the item for grind existing concrete pavement. Do not pay for grinding replacement concrete pavement or for additional grinding to comply with smoothness requirements.

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