Testing Materials

General Information
The Department of Transportation has developed standard methods and procedures for testing the quality of materials furnished by the Contractor. Unless otherwise specified, all tests must be performed in accordance with the applicable test method. Reasonable care in the performance of required tests will ensure the validity of the test results and justify reliance upon them. Accordingly, all field personnel will be expected to familiarize themselves with the field test methods specified for materials used in structure construction.

Ordinarily, the only control tests which are performed by Structure field personnel are those relating to Portland cement concrete and concrete materials. Those tests are covered in detail in the Office of Structure Construction Concrete Technology Manual.

Standard test methods and procedures must be followed without deviation.

Additional requirements for testing materials are to be found in Chapter 8 of the Construction Manual.

California Test Methods
Department of Transportation tests are identified by the prefix "Calif." followed by the test number. The initial test is given a basic identification number, such as "Calif. Test 518." If the testing procedure is modified, the basic number is followed by a dash and a letter, such as "Calif. Test 520-B."

The tests which apply to a particular contract are those in effect on the day the Notice to Contractors for the project is dated. Copies of all standard test methods are available from the District Materials Engineer, and Structure field personnel will be expected to obtain and use the correct test methods for their particular contract.

Local and District Testing Facilities
Many of the field control tests required for concrete materials can be run in a field lab established at the jobsite by the District. Some of the larger districts maintain central construction laboratories and utmost use should be made of these facilities.

Certification of Testing Personnel
Certification of field personnel to perform materials testing is covered elsewhere in this section of the Bridge Construction Records and Procedures.
**Calibration of Field Testing Equipment**
Field testing equipment is periodically reconditioned and recalibrated on a regular basis. The District laboratories will perform the periodic reconditioning and recalibrating of field testing equipment. Decals will be attached to the testing equipment showing the date of last calibration, name of calibrator, and date that the next calibration is due.

Each piece of equipment should be recalibrated and reconditioned in accordance with the attached schedule. More frequent calibration may be required, depending on use of equipment, and on moving and handling practices.

<table>
<thead>
<tr>
<th>Item</th>
<th>Calibration Procedures</th>
<th>Max. Time Interval between Calibrations</th>
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</thead>
<tbody>
<tr>
<td>Unit weight measure</td>
<td>Calif. Tests 212 &amp; 518</td>
<td>One year.</td>
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<tr>
<td>PCC air meter</td>
<td>Calif. Test 504</td>
<td>One year.</td>
</tr>
<tr>
<td>Kelly ball penetrometer</td>
<td>Calif. Test 533</td>
<td>One year.</td>
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</tbody>
</table>

While the maximum interval between calibrations may be as long as a year, any piece of equipment should be calibrated at any time there is reason to believe it has been damaged or worn in any way which would affect calibration.

The Structure Representative is responsible for ascertaining that the field testing equipment which he uses has been properly calibrated,