



SECTION 209

SUBGRADE PREPARATION

209.1 Description. This work shall consist of preparing the subgrade upon which a base course is to be constructed or a surfacing placed. After a base course has been constructed, the top of the completed base course will be considered the subgrade for the next operation. In surfacing contracts involving only incidental grading, the contractor shall complete Subgrade Compaction in accordance with [Sec 210](#) before proceeding with this work.

209.2 Equipment. A self-propelled steel wheel roller weighing not less than 10 tons (9 Mg) shall be used in preparing any subgrade for flexible type surfacing and weighing not less than 5 tons (4.5 Mg) in preparing any subgrade for portland cement concrete base course or pavement.

209.3 Construction Requirements. The subgrade shall be substantially uniform in density throughout its entire width. It shall conform to the lines, grades and typical cross sections shown on the plans, or as established by the engineer. The subgrade shall be constructed to drain surface water to the side ditches and all ditches shall be kept open by the contractor. Where hauling results in ruts or other objectionable irregularities, the contractor shall reshape and reroll the subgrade before the base or surfacing is placed. If an old traveled roadway comprises any part of the roadbed, the contractor shall loosen the compacted portions to a depth of at least 6 inches (150 mm) and shall reshape the roadbed.

209.3.1 All subgrades, except those for aggregate type surfacing, shall be rolled. The subgrades shall be checked after rolling and, if not at the proper elevation at all points, sufficient material shall be removed or added and compacted to bring all portions of the subgrade to the required elevation and density. The moisture content of the top 6 inches (150 mm) of the finished subgrade at the time the base is placed, or at the time the pavement is placed if no base is provided under the pavement, shall be not less than the minimum specified for compacting in [Sec 203](#). If the moisture content has not been maintained, the subgrade shall be scarified, wet to the required moisture content and compacted. A roughly compensating maximum deviation of 1/2 inch (13 mm), plus or minus, from the required elevation will be permitted on the surface of the finished subgrade.

209.3.2 Prior to laying base or setting paving forms, the subgrade shall conform to the moisture and density requirements for compaction. Soft spots and unsuitable material shall be removed to a depth not to exceed 24 inches (600 mm) and backfilled with approved stable material.

209.3.3 The subgrade for portland cement concrete pavement shall be compacted, and brought to true shape by an approved subgrade machine. Any material added shall be satisfactorily incorporated and compacted. Before the concrete is placed, a true subgrade shall be shaped by an approved subgrade planer rolling on the forms and any resulting loose material on the subgrade behind the planer shall be recompacted with the 5-ton (4.5 Mg) steel wheel roller. The planer shall be adjustable to produce a subgrade of the exact elevation and cross section. After all grading or planing operations have been completed, and immediately before the concrete is placed, the subgrade shall be checked with an approved heavy metal template which shall be rolled on the forms. Scratch templates with spikes or teeth will not be

permitted. A taut line across the top of side forms and a ruler may be used in lieu of a template for checking the subgrade on irregular areas or variable widths. Extreme care shall be taken in forming the crown and shaping the subgrade to ensure that the specified thickness of concrete will be attained in the finished pavement.

209.3.3.1 The finished subgrade at the time of paving shall be moist, but sufficiently firm to resist rutting or deforming under construction traffic.

209.3.4 No direct payment will be made for subgrade preparation.