



City of Estevan

Construction Specifications

SECTION 2110
SUBGRADE PREPARATION

1.0 GENERAL

This section governs the requirements for preparing subgrade, after the completion of earthworks, for the construction of roads, lanes and concrete curbs, gutters, sidewalks and crossings.

2.0 MATERIALS

- 2.1 Earthworks within 75mm of the rough grading line shall conform to Section 1030 - Earthworks.
- 2.2 Imported, compacted granular fill shall conform to Section 1090 - Granular Materials and Aggregates.

3.0 EXECUTION

- 3.1 Verify that the area of the work has been rough graded to within 75mm of the rough grading line prior to commencing work and report discrepancies to the Engineering Services Division.
- 3.2 Excavate and fill to final subgrade design elevations, removing excess material to designated locations for disposal. Place and compact approved native fill to 98% of Standard Proctor Density.
- 3.3 Place imported granular fill or native fill from off-site borrow areas, if the site of the work is deficient in suitable native material. Compact to 98% Standard Proctor Density.
- 3.4 Remove excessively soft, spongy, yielding, organic, wet or plastic native material as excess to designated locations for disposal, replace with imported granular fill and compact to 98% Standard Proctor Density.
- 3.5 Level and shape subgrade to conform to design cross sections and grades free from undulations.
- 3.6 Scarify and bring subgrade moisture content to within $\pm 3\%$ of the Optimum Moisture Content. If required, add water or aerate to dry. Blade and trim to elevation and cross section. Compact subgrade to 98% Standard Proctor Density.
- 3.7 Over-excavate transverse underground service trenches where these are found to be unconsolidated or excessively soft, spongy, yielding or wet and backfill with imported granular fill and compact to 98% Standard Proctor Density. Remove over excavated material to designated locations for disposal.
- 3.8 Shape and trim $\pm 15\text{mm}$ from design elevations until the final subgrade has a tight and smooth surface, true to grade and cross section and free from irregularities, deformities, breaks or ruts.
- 3.9 Proof roll and repair any soft, spongy or yielding areas by over excavation and replacement with granular fill compacted to 98% Standard Proctor Density, leveled, shaped and trimmed to design cross section and grade. Remove over excavated material to designated locations for disposal.
- 3.10 Protect the surface of the prepared subgrade from traffic and repair any damage arising there from.

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4.0 MEASUREMENT AND PAYMENT

- 4.1 The following work items in this section shall be paid in accordance with the Contract Unit Prices, which shall be deemed full compensation for all labour, materials, equipment, supplies, superintendence, overhead and profit for all work incidental to the supply, installation, completion and maintenance during warranty period of the respective items:
- (1) Subgrade preparation for roads and lanes shall be paid on the basis of square meters of prepared subgrade.
 - (2) Subgrade preparation for curbs, gutters, sidewalks and crossings shall be deemed incidental to the construction of curbs, gutters, sidewalks and crossings.
 - (3) Over excavation and replacement of excessively unconsolidated, soft, yielding, plastic or wet material below the subgrade shall be paid on the basis of the quantity in tonnes of replacement imported granular fill noted on delivery tickets submitted to the Engineering Services Division for endorsement within 6 hours of delivery to site and so endorsed.

Contract Unit Prices shall be deemed to include the work of all items in this section, including earthworks within the ± 75 mm rough grading zone and all work incidental to a complete installation.

- 4.2 All other work items in this section shall be deemed incidental to a complete installation.