

SECTION THREE

EARTHWORKS

3.01 GENERAL

This Section specifies the construction of earthworks consisting of stripping, excavation and filling by the Contractor necessary to complete the works to the correct alignment, design levels, type cross sections and details shown on the drawings.

3.02 STANDARDS

The following Australian Standard will form part of this Specification:

AS 1289 - Method of Testing Soils for Engineering Purposes.

3.03 STRIPPING AND STOCKPILING TOPSOIL

Before construction work is commenced all areas which are to support pavement soil filling under such work, areas which are to be excavated or filled and areas on which fill may be temporarily stored, are to be stripped clear of all grass, root growth, wet or spongy natural soil, decayed vegetable matter and any other deleterious substance such that a natural solid undisturbed surface is exposed to provide a solid base for the works to be constructed.

Stripped topsoil is to be stockpiled in a clear area where directed by the Superintendent and used for topsoiling batters and nature strips.

Should construction methods and/or weather conditions prevent the winning of topsoil or there is insufficient suitable topsoil to be obtained from the stripping operation, the Contractor must have allowed in his tender submission for:

- (a) importing approved topsoil for nature strips; and
- (b) winning topsoil for batters from areas as directed by the Superintendent.

3.04 FORMATION

The Contractor is to carry out all earthworks and trimming necessary to bring the formation true to lines, levels, cross-sections and gradients, as shown on the accompanying drawings.

The sub-grade for the pavement and paving must be accurately trimmed to template and level.

Batters are to be neatly trimmed to the design shapes and slopes.

3.05 FILLING ON ROAD RESERVES

Areas on which fills are to be placed must be stripped in accordance with Clause 3.03 and compacted to a dry density of not less than 95% Standard Maximum dry density for the top 150mm.

Filling must be approved materials from the excavations spread in successive layers not exceeding 150mm and compacted throughout to a dry density of not less than 95% Standard Maximum dry density except that under road pavements the top 450mm of such fill is to be compacted to a dry density of not less than 100% Standard Maximum dry density.

3.06 FORMING ALLOTMENTS AND BATTERS

Allotment areas and batters must be formed by cutting and filling as required to bring them to the levels and/or grades shown on the drawings.

Where filling on allotments is less than 300mm it is to consist of approved topsoil from the stockpiled topsoil.

Where filling on allotments exceeds 300mm, the area on which the fill is to be placed must be stripped in accordance with Clause 3.03 and compacted to a dry density of not less than 95% Standard Maximum dry density for the top 150mm. Filling must be approved material from the excavations.

In all cases filling to allotments and batters is to be spread in successive layers not exceeding 150mm and compacted throughout to a dry density of not less than 95% Standard Maximum dry density.

3.07 REMOVAL OF SOFT AREAS

Where directed and authorised in writing by the Superintendent, soft, wet, or unstable areas below the design levels of the sub-grade which exist or develop during earthworks are to be excavated and replaced with approved stable materials in layers not exceeding 150mm loose thickness, compacted to a dry density not less than 95% Standard Maximum dry density, except that the top 450mm replaced sub-grade material must compacted to a dry density not less than 100% Standard Maximum dry density.

Soft, wet or unstable areas of the sub-grade which, in the opinion of the Superintendent, have been caused by the Contractors' negligence or improper methods, must be drained and compacted or excavated and replaced with approved stable material spread and compacted as above by the Contractor at his own expense.

3.08 SUB-GRADE PREPARATION AND TEST ROLLING

The sub-grade below all pavements is to be compacted to a dry density of 100% Standard Maximum dry density throughout to the depths below sub-grade level as follows:

- i. In areas of cut to a depth of 150mm;
- ii. In areas of fill to a depth of 450mm.

Following compaction of the sub-grade as specified above, the sub-grade is to be proof rolled in the presence of the Superintendent with a smooth wheel roller weighing at least 12 tonne mass with an intensity of contact pressure on the rear wheels of not less than 6 tonne per metre without visible deformation.

The sub-grade will not be tested if it is in a wet condition.

3.09 DISPOSAL OF SURPLUS MATERIALS

The disposal of all materials surplus to the needs of the works will be the responsibility of the Contractor.

In disposing of any materials the Contractor must have regard to restrictions imposed on such practices by various Acts, Regulations, Guidelines and Codes of Practice.

Any doubt in this matter should be referred to the Superintendent for advice.

3.10 TOPSOIL SURFACING TO NATURE STRIPS, BATTERS AND ALLOTMENTS

The surface of excavations and fillings to nature strips, batters and allotments will be finished parallel to the finished surface level to allow for the depth of topsoil surfacing specified hereunder.

Topsoil surfacing to nature strips is to be the best available material from the stockpiled topsoil spread to a minimum depth of 75mm raked level and tilled sufficiently to plant lawn seed.

Topsoil surfacing to batters and excavated and filled areas on allotments must be 150mm minimum depth shaped to the profile and levels as detailed on drawings.

3.11 DRAINAGE OF THE EARTHWORKS

Earthworks are to be kept clear of water at all times. The work is to be arranged so that all water will flow to one or more points, from which it will be drained away by gravity or removed by pumping.

Existing drains are to be diverted during the construction of the new work if they cause interference and connected to the new work later as directed.