No overhaul allowance will be made for any kind of borrow.

150.81 Basis of Payment.

Payment for the formation of embankments as specified will be included in the items of excavation or borrow. Excavated material used with the permission of the Engineer for other than the formation of embankments will be paid for as specified in Subsection 120.81 and such payment shall include full compensation for the formation of the required embankments. The contact unit prices for the aforesaid items shall constitute full compensation for the satisfactory performance and completion of the entire work.

Borrow will be paid for at the contract unit price per cubic meter, complete in place, which shall include such test pits and borings necessary to procure samples to establish the suitability of the materials and all required stripping operations.

Crushed stone will be paid for at the contract unit price per metric ton, complete in place.

150.82 Payment Items.

150.	Ordinary Borrow	Cubic Meter
150.1	Special Borrow	Cubic Meter
151.	Gravel Borrow	Cubic Meter
151.01	Gravel Borrow - Type c	Cubic Meter
151.1	Gravel Borrow for Bridge Foundation	Cubic Meter
151.2	Gravel Borrow for Backfilling Structures and Pipes	Cubic Meter
154.	Sand Borrow	Cubic Meter
156.	Crushed Stone for Drainage, Revetment, and/or Water Works Foundations	Metric Ton
156.1	Crushed Stone for Bridge Foundations	Metric Ton

SECTION 170

GRADING

DESCRIPTION

170.20 General.

The shaping, trimming, compacting and finishing of the surface of the subgrade, the grading and finishing of all unpaved shoulders and slopes, and the preparation of all areas for topsoil, loam, riprap or slope paving as shown on the plans or as directed, shall be constructed in accordance with these specifications and in close conforming with the lines, grades and typical cross sections shown on the plans or established by the Engineer.

CONSTRUCTION METHODS

170.60 General.

All soft or spongy material below the subgrade shall be removed to a depth to be determined by the Engineer and backfilled with satisfactory material.

All material within a depth of 600 millimeters below the subgrade in embankment areas shall conform to the requirements of Subsection M1.02.0 for Special Borrow Material except that it shall contain no stone larger than 150 millimeters in its greatest dimension and shall be placed and compacted in layers not exceeding 200 millimeters in depth, compacted measurement.

In cut sections (excluding rock excavation) where existing soil within a depth of 600 millimeters below the subgrade, after testing, is found to comply with the requirements of Subsection M1.02.0 for Special Borrow Material, it shall not be excavated.

In cut sections (excluding rock excavation) where the existing soil within a depth of 600 millimeters below the subgrade, after testing for gradation requirements, is found to have greater than 14% material passing the 75 micrometer sieve, the material shall be excavated.

The replacing material shall conform to the requirements of Subsection M1.02.0 for Special Borrow Material, except that it shall contain no stone larger than 150 millimeters in its greatest dimension and shall be placed in layers not exceeding 200 millimeters in depth, compacted measurement.

In the areas described above where Special Borrow is to be used, the plane of the base upon which the material is to be placed shall be compacted and graded until the surface is smooth, without additional compensation. A tolerance of 25 millimeters above or below the proposed grade will be allowed, provided that this 25 millimeters above or below grade is not maintained for a distance longer than 15 meters and that the required crown is maintained.

170.61 Fine Grading and Compacting.

Before surfacing or sub-base is spread, the subgrade shall be shaped to a true surface conforming to the proposed cross section of the highway and compacted in accordance with the provisions of Subsections 150.60 and 150.62. All depressions and high spots shall be filled with suitable material or removed and such areas again compacted until the surface is smooth and satisfactorily compacted. A tolerance of 15 millimeters above or below the finished subgrade will be allowed provided that this 15 millimeters above or below grade is not maintained for a distance longer than 15 meters and that the required crown is maintained in the subgrade. Any portion of the subgrade which is not accessible to a roller shall be thoroughly compacted with the mechanical tampers or by other adequate methods approved as satisfactory by the Engineer.

COMPENSATION

170.80 Method of Measurement.

The grading and compaction of the subgrade will be measured by the horizontal square meter at the plane at the bottom of subgrade in all areas where a subgrade was placed.

Grading and finishing for the entire project will include all grading work not included under the item of Fine Grading and Compacting - Subgrade Area.

170.81 Basis of Payment.

Payment for the shaping and compacting of the subgrade as specified herein shall be included in the item for Fine Grading and Compacting - Subgrade Area. The removal and disposal of material below subgrade will be paid for at the contract unit price per cubic meter for the appropriate Excavation Items in Section 120.

Grading and finishing other than subgrade areas will be included in the price of the other respective items of work involved.

In areas where Special Borrow material is required as stipulated in Subsection 170.60, the material shall be paid for as Special Borrow. The provisions of Subsection 120.81 shall apply when the Special Borrow is obtained from excavated materials.

170.82 Payment Items.

150.1	Special Borrow	Cubic Meter
170.	Fine Grading and Compacting - Subgrade Areas	Square Meter

SECTION 190

BORINGS

DESCRIPTION

190.20 General.

This work shall consist of making soil-test borings, obtaining and preserving acceptable samples, preparing a report of the results obtained and delivery of the report and samples.

The Engineer will establish the location and provide the ground surface elevation for each boring. No change in boring locations shall be made unless prior consent of the Engineer is obtained. The Contractor shall complete the borings to the specified highest bottom elevations or as directed. The actual location at which each boring is made shall be shown on the plans and the actual starting grade shown on the boring log.

The Contractor shall confine his/her operation as closely as possible to each location where work is to be performed. The Contractor shall take precautions necessary to prevent damage to existing structures and conduits both above and below ground, and to lawns, walks and pavements.

When the work at each borehole is completed, the hole shall be adequately blocked and solidly filled to a depth of at least 1.5 meters in a manner to preclude any possibility of injury to man or animal, or damage to property. Special Provisions for backfilling boreholes on railroad property may also be employed in accordance with railroad requirements.

Boreholes within the limits of travel ways, shoulders, sidewalks and paved areas shall be backfilled and compacted with granular materials and brought to the grade of the adjacent surface with a minimum of 150 millimeters of bituminous concrete or cement concrete, whichever is applicable.

The Department reserves the right, at any time during the life of the Contract, to determine the order in which remaining borings are to be taken and reserves the right to eliminate borings from, or to add borings to those shown on the plans and the right to increase or decrease the depth of any and/or all borings.

The Contractor shall be responsible for any claims resulting from damage to underground pipes, conduits, and structures. It is suggested that possible damage to such utilities can be minimized or eliminated by hand augering the first several meter of each borehole. The Contractor's attention is called to Subsection 7.13 of the Standard Specifications regarding Protection and Restoration of Property.

190.21 Boring Samples and Reports.

All Borings including Trial Borings, Auger Borings, Wellpoints and Test Pits shall require boring logs and/or records. Four copies of the typewritten boring report shall be submitted to the Research and Materials Engineer within ten (10) calendar days after completion of the work at each site. One (1) copy shall be on transparent paper (onion skin, vellum, etc.) from which satisfactory prints can be made. Abbreviations shall not be used on the final typewritten log.

Boring samples, packaged, packed and labeled as required and described hereinafter under each type of boring and sample, shall be delivered at the time the boring report is submitted, transportation prepaid, to the Research and Materials Engineer, Massachusetts Highway Department, 400 D Street, South Boston, Massachusetts 02210-1953.

In advance of shipment of boring samples, a letter of transmittal shall be sent to the Research and Materials Engineer, with a copy of the boring report and one copy of the Boring Record Cards as required in Subsection 190.61. A supply of Boring Record Cards for Department projects may be obtained upon request from the Research and Materials Engineer.

Where Control Borings are specified on the plans or in the Special Provisions, a legible copy of the driller's field