

ITEM 07203.0192 M - WETLAND RESTORATION

DESCRIPTION:

The work consists of the removal and stockpiling of existing wetland soils from designated wetlands including their temporary protection and seeding. The work also consists of the scarification of the soils to be left in place, the placement of stockpiled wetland soils, and the seeding of the restored wetland areas.

The removal of any existing road metal and berm, causeway, and bridge abutments to the proposed grades shall be paid for under separate items.

All work is to be accomplished in accordance with the specifications, plans, and as ordered by the Regional Landscape Architect or Project Engineer.

MATERIALS:

Excavated wetland soils shall be the top 300 mm of soil.

Fertilizer shall conform to the requirements of Section 713-03 of the Standard Specifications.

Mulch shall conform to the requirements of Section 713-19 of the Standard Specifications.

Mulch Anchorage shall conform to the requirements of Section 713-12 of the Standard Specifications.

See Section A of this Specification for the seed mixture for all temporary seeding, to include the wetland soil stockpile(s). See Section B of this Specification for the seed mixture for the final restoration of wetland areas. Other seeding shall conform to section 610.0203 M of the Standard Specifications.

Wetland plant materials shall conform to the requirements of Section 713-06 of the Standard Specifications.

CONSTRUCTION DETAILS:

A. Site Layout:

The contractor shall submit to the Regional Landscape Architect a description of the methodology and equipment to be utilized to complete the work.

Before the start of any field operations, the limits of all work areas (including the access routes), shall be staked out by the Contractor under the direction of the Regional Landscape Architect. The wetland soils source area(s), see plan sheets, are located within the proposed highway corridor. Access to the stockpile area from these source area(s) shall be, to the maximum extent possible, limited to the proposed construction corridor and existing highway system.

Upon review and acceptance of the Contractor's proposed work plan, the Regional Landscape Architect will notify the Project Engineer that the Contractor may begin work within the designated wetland areas.

B. Removal, Stockpiling, Protection and Seeding of Wetland Soils:

Soil removal shall be to a nominal depth of 300 mm, or as conditions permit. All excavation from the existing wetland site shall be performed between April 1 and September 30 in order to ensure the successful seeding of stockpiled and exposed wetland areas.

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Exposed wetland areas shall be seeded with Seed Mix A within 5 days of exposure, unless construction operations will commence within these areas within 14 days. If construction operations are suspended, exposed areas shall be temporarily seeded with Seed Mix A within 5 working days. Restored and reclaimed wetland areas shall be seeded and mulched with the specified Seed Mix B within 7 days of final grading.

The wetland soils shall be stockpiled in areas as shown on the Plans or as designated by the Regional Landscape Architect. Stockpiled soil is to be placed in as low a mound as possible, (not to exceed 3.0 m in height), then seeded with Seed Mix A and protected around the perimeter by the specified erosion control devices.

DETAIL SPECIFICATIONS FOR SEEDS

SEED MIX A

A - Min. Germination B - Min % Germination & Hard Seed
C - Grams Pure Live Seed/m²

<u>Name</u>	<u>Variety</u>	<u>A</u>	<u>B</u>	<u>C</u>
Annual Ryegrass (Lolium multiflorum)	Commercial	85		5.6
Annual Bluegrass (Poa annua)	Commercial	85		2.2

Total Grams Pure Live Seed Per Square Meter = 7.8

DETAIL SPECIFICATIONS FOR SEEDS

SEED MIX B

A - Min. Germination B - Min % Germination & Hard Seed
C - Grams Pure Live Seed/m²

<u>Name</u>	<u>Variety</u>	<u>A</u>	<u>B</u>	<u>C</u>
Annual Ryegrass (Lolium multiflorum)	Commercial	90		1.7
Perennial Ryegrass (Poa annua)	Commercial	90		5.6
Redtop (Agrostis gigantea roth)	Commercial	85		3.9

Total Grams Pure Live Seed Per Square Meter = 11.2

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Fertilizer: 713-03 Type No. 1 (1-2-1)

Mulch: 713-19 Straw or Approved Alternate

Mulch Anchorage: 713-12 Chemical Mulch Binders as Approved
Rates --

Fertilizer: 9 grams of available Nitrogen per Square Meter

Seed: Seed Mix A 7.8 g of pure live seed per Square Meter
Seed Mix B 11.2 g of pure live seed per Square Meter

Mulch: Straw - 0.5 to 0.7 kg/m² to completely cover the ground A.O.B.E. Straw shall be chopped at central location and placed by hand. Approved alternate shall be placed according to manufacturer's directions

Mulch Anchorage: Manufacturer's recommended rate.

C. Reestablishment:

The reestablishment area, see plan sheets, shall be excavated to a depth 300 mm below finished grade, rough graded, and scarified to a minimum depth of 150 mm prior to the placement of wetland soils. This does not apply to the hydric soil bench created at the base of the new bridge approach slopes as depicted on the Typical Section, entitled Reconstruction with Guide Rail and Wetlands Slope Treatment.

All newly established areas shall be covered with 300 mm of soil from the existing wetland soils stockpile.

The new areas created within the existing roadway corridor shall be graded to conform to adjacent land elevations and drainage patterns in conformance with the Grading Plan. The finished grade need not be smoother than necessary for planting and seeding operations as directed by the Regional Landscape Architect.

The area(s) used for soil storage shall be regraded to remove any ruts caused by the Contractor's equipment or procedures and seeded with the specified seed mix under Item 610.0203 M.

METHOD OF MEASUREMENT:

This work will be measured as the number of cubic meters of wetland soil placed.

BASIS OF PAYMENT:

The price bid per cubic meter shall include the cost of furnishing all labor, materials, and equipment necessary to complete the work as specified, including removal, stockpiling, temporary seeding, protection and placement of stockpiled wetland soils.

Removal of the bridge abutments, existing and abandoned roadways, including pavement and embankment, shall be paid for under Item 203.02 M, Unclassified Excavation and Disposal.

Final seeding for wetland soil storage areas, shall be paid for under Item 610.0203 M, Establishing Turf.

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Fifty (50%) percent of the price bid per cubic meter will be paid following the removal, stockpiling, and temporary seeding of the wetland soils.

All perimeter erosion control materials for stockpiled wetland soils shall be paid for under Item 07209.20 M, Temporary Sediment Control Fence and Item 08615.0402 M Tree/Vegetation Protection Barrier.

Woody wetland Plant Materials shall be paid for under Item 611 M, Planting.