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2.17 REMOVAL OF MISCELLANEOUS STRUCTURES2.17.1 GENERAL2.17.1.1 **Description**

This work shall consist of removing concrete curbs, concrete curbs and gutters, concrete surfaces such as sidewalks, pavement and medians, manholes, inlets, catch basins, concrete or masonry walls and other structures; salvaging and disposing of the resulting material as directed, and backfilling the resulting trenches, holes and pits in accordance with these specifications.

2.17.2 MATERIALS2.17.2.1 **Salvage**

All materials having salvage value shall be carefully removed to avoid damage, and shall be stored outside the limits of construction at locations and in a manner satisfactory to the Consultant.

Approved salvage material shall be used in the new work when directed by the Consultant.

2.17.3 CONSTRUCTION2.17.3.1 **Breaking Down and Removing Structures**

The structures designated for removal, complete with all attached parts and connections, shall be removed in their entirety to the limits as shown on the plans or as directed by the Consultant.

In removing concrete curbs, concrete curbs and gutters, and concrete surfaces where portions of the existing structures are to be left in the surface of the finished work, the old structures shall be removed to an existing joint or cut to a true vertical face on a line established by the Consultant.

During the removal of manholes, inlets and catch basins, any live sewers connected with them shall be properly reconnected, and a satisfactory bypass shall be maintained during the construction operations.

Concrete or masonry walls, piers, foundations and similar masonry structures shall be removed entirely, or broken down to an elevation of at least 0.60 m below the finished subgrade surface when the structure falls within the area of the roadbed, and to an elevation of at least 0.30 m below the finished ground surface when the structure exists elsewhere.

When a portion of the existing structure is to be retained, care shall be taken not to damage the retained portion during the removal operations.

All operations necessary for the removal of any structures which might endanger the new construction shall be completed prior to the construction of the new work.

2.17.3.2 **Disposing of Materials**

As far as practicable, all concrete, stone and brick having no salvage value shall be broken into pieces, such

that the largest face is not greater than 0.1 m² in area, and placed in embankments in parallel layers. All voids shall be completely filled with suitable common embankment material and thoroughly compacted. No rubble material shall be placed within the top 0.30 m of the subgrade surface.

Material that cannot be used in embankment construction shall be buried in pits outside the limits of the roadway, in a manner satisfactory to the Consultant.

All poles, posts, timbers, stumps and similar debris shall be disposed of by burning.

2.17.3.3 Backfilling

All trenches, holes and pits resulting from the removal of miscellaneous structures shall be filled with approved material, placed in layers not exceeding 0.15 m in depth. Each layer shall be thoroughly compacted, by mechanical tamping or rolling, to one hundred percent proctor density on areas falling within the limits of the subgrade, and to a density of not less than the density of the undisturbed adjacent soil on areas outside the limits of the subgrade.

2.17.4 MEASUREMENT AND PAYMENT

2.17.4.1 General

If the tender does not include separate items for the removal of any of the structures listed herein, the removal of such structures shall be considered as extra work and will be paid for accordingly.

Where bid items are included for the removal of the structures, measurement will be made of the structure to be removed in its original position.

2.17.4.2 Curb Removal

Removing concrete curb, and concrete curb and gutter, will be measured by length in metres along the base of the curb face, or along the flow line of the gutter.

Concrete curb, and concrete curb and gutter, measured as provided, will be paid for at the price bid per metre, respectively, for "Removing Curb" and "Removing Curb and Gutter", which payment shall be compensation in full for excavating, breaking down, removing, hauling, salvaging or disposal of material, backfilling, and all labour, tools, and incidentals necessary to complete the work in accordance with the specifications.

2.17.4.3 Removing Concrete Surfaces

Removing concrete surfaces will be measured by area in square metres. Where removal of an integral curb and gutter is required in conjunction with the removal of concrete surfaces, these structures will be classed as removing concrete surface and will be measured by area in square metres.

Removing concrete surfaces will be paid for at the price bid per square metre for "Removing Concrete Surface", which payment shall be compensation in full for excavating, breaking down, removing, hauling, salvaging or disposing of material, backfilling, and all labour, tools, and incidentals necessary to complete the work in accordance with the specifications.

2.17.4.4 Removing Miscellaneous Structures

Removing manholes, inlets, catch basins, and similar structures will be measured as units, including all attached parts and connections.

Payment for removal of miscellaneous structures will be made at the price bid each for "Removing Manhole" and/or "Removing Inlet" and/or "Removing Catch Basin", which payment shall be compensation in full for excavating, breaking down, removing, hauling, salvaging or disposing of material, backfilling, and all labour, tools, and incidentals necessary to complete the work in accordance with the specifications.

2.17.4.5 Removing Concrete or Masonry Walls

Removing concrete or masonry walls and similar structures will be measured by volume in cubic metres, and will be paid for at the price bid per cubic metre for "Removing Concrete and Masonry", which prices and payments will be compensation in full for excavating, breaking down, removing and hauling the structures complete, salvaging or disposing of the material, backfilling the resulting trenches, holes and pits, and all labour, equipment, tools, and incidentals necessary to complete the work in accordance with the specifications.