

## ITEM 120

### EXCAVATION FOR CHANNELS AND OTHER DRAINAGE FACILITIES

120.1 Description. This specification shall consist of required excavation for all channels, and other drainage facilities, channel changes and ditches as shown on the plans and to the lines and grades established by the Engineer and satisfactorily disposing of all materials taken therefrom. Excavation for roadways and roadside ditches are specifically excluded. Ditches shall include inlet and outlet ditches to structures, and all ditches outside the confines of the roadway slopes. The method of constructing embankment for channels and ditches shall be as outlined under the Item 132, "Embankment".

120.2 Construction Methods. All suitable materials removed from the excavation shall be used, insofar as practicable in the formation of embankments as required by the Item 132, "Embankment". Excavated material shall neither be permanently nor temporarily placed on the channel top-of-bank, nor will temporary shelves be cut into the channel side slopes, without the approval of the Engineer. All channel excavation utilized as embankment shall be placed in accordance with Item 132, "Embankment".

Unsuitable excavation shall become the property of the Contractor and shall be disposed of by the Contractor outside of the limits of the right of way. The Contractor shall be responsible for disposal of all excavated material not used for backfill or grading berm areas. The disposal site shall not be an environmentally sensitive area, "Water of the United States", wetland or floodway. It is the responsibility of the contractor to contact the proper authorities to determine land use classification and to obtain any necessary permits. Refer to Section 120.3 regarding Disposal Permits. If the disposal site is defined in the plans, then the City shall be responsible for ensuring that the appropriate Department of the Army permit has been obtained for the activity.

Cut-off channel meanders shall not be backfilled unless so indicated on the plans.

Any temporary construction access that crosses a channel will be constructed so as to allow a continuous flow at all times. The channel flow line will not be blocked or raised at any temporary construction access. Temporary construction access across a channel shall require a permit. If a permit is not included in the contract, the Contractor is not entitled to construct such access without securing a required permit.

When the plans indicate the fill of a channel side slope, the earth fill material shall be placed in layers not to exceed eight (8) inches and shall be benched or notched into existing slopes and compacted by suitable rolling equipment to ninety (90) percent of Standard Proctor Density (ASTM Test Method D698, "Laboratory Compaction Characteristics of Soil Using Standard Effort

(12,400 ft-lbf/ft<sup>3</sup> ), (600 kN-m/m<sup>3</sup>) at a moisture content of between optimum and plus 3 percent optimum.

Any earthen fill material, whether from onsite sources or imported, shall be free from roots, trash, silt and objectionable debris. Soils classified by ASTM Method D2487, "Classification of Soils for Engineering Purposes" as clayey sands (CS), sand clay mixtures, or inorganic clays (CL) with a plasticity index of from 15 to 40 are approved as fill materials. Each layer shall be compacted to 90% of standard proctor density (ASTM Method D698), at a moisture content of optimum to plus 3 percent of optimum. Soils shall not be compacted at less than the optimum moisture content. The channel side slopes, in fill areas, shall be cut to the finished dimensions after completion of the fill process. The Contractor shall notify City of Deer Park of the borrow site location so that the City shall have the option of making any soil test on borrow material being transported to the project site.

At the location of pipeline crossings, the Contractor shall suspend machine excavation to within 5 feet of any pipeline right of way, until a company representative is present to identify pipe location and to further direct excavation operations. The notification to the pipeline company of the Contractor's operations and the request for their representative's attendance shall be the responsibility of the Contractor. The Contractor shall not be reimbursed directly for any work or expenditure as a result of intersecting any pipeline operation. Any contingent costs therefore shall be anticipated in the preparation of the bid and included as distributed items of cost in the price for channel excavation.

At locations where lateral ditches or swales enter the channel, the Contractor shall perform grading as may be required to maintain the lateral ditches or swales within the easement area; as approved by the Engineer. The cost of all grading shall be considered incidental to the unit price bid and no extra payment will be made.

Prior to final inspection by the Engineer, the Contractor shall remove all sediment from the bottom of the channel and dispose of this material off site. The cost of sediment removal and grading shall be incidental to the unit price bid, and no extra payment will be made.

120.3 Disposal Permits. The Contractor shall provide copies of the disposal permits to the City and post all disposal location permits on the jobsite.

120.4 Measurement & Payment. The quantity of excavation for channels and other drainage facilities shall be paid for by the number of **cubic yards** of material computed by theoretical cross-sections, obtained from the drawings and natural ground lines using the method of average end areas. Field cross-sections will not be performed after construction has begun. Excavation in

SWQ basins and created wetlands may be paid for per **cubic yard** or **per acre** as stipulated in the bid proposal and/or drawings.

After bidding, if the successful contractor feels there is an error in the estimated quantities for excavation, as shown on the bid sheet, he shall provide at no expense to City, sufficient documentation in the form of recoverable cross-sections and supporting computations. This documentation shall be provided prior to proceeding with any excavation work. No adjustments to the excavation quantities will be allowed once excavation work has begun.

If the documentation provided by the contractor is deemed by the City of Deer Park to be insufficient, additional supporting information may be required, at no expense to the City.

If the documentation, provided by the contractor, is deemed by the City to be correct and is representative of actual field conditions, then the derived quantities shall be the basis of payment for excavation.

The Contractor must submit all required documentation within fourteen (14) calendar days of the project start date, or within fourteen (14) calendar days of horizontal and vertical control information being provided, whichever occurs last. Requests to evaluate the excavation quantities will not be considered after this time. All work performed as required by this Item and measured as provided above, will be paid for at the unit price bid for excavation for channels and other drainage facilities which price shall be full compensation for preparation, trimming of slopes, storage and hauling of excavated material for other uses, disposal of surplus materials (wastage), any necessary hauling and the furnishing of all labor, tools, equipment and incidentals necessary to complete the work, as shown on the drawings.

END OF ITEM 120