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## **M E M O R A N D U M**

**DATE:** December 17, 2020  
**TO:** Specification Review Distribution List  
**FROM:** Daniel Strickland, P.E., State Specifications Engineer  
**SUBJECT:** Proposed Specification: **1200101 Excavation and Embankment.**

In accordance with Specification Development Procedures, we are sending you a copy of a proposed specification change.

This change was proposed by Jason Russell from the Construction Office to clearly define existing ground line and to clarify how the volume of excavation and embankment is calculated.

Please share this proposal with others within your responsibility. Review comments are due within four weeks and should be sent to Mail Station 75 or online at <http://fdotwp1.dot.state.fl.us/programmanagement/development/industryreview.aspx> . Comments received after **January 14, 2021**, may not be considered. Your input is encouraged.

DS/vc

Attachment

## EXCAVATION AND EMBANKMENT (REV 12-16-20)

SUBARTICLE 120-1.1 is deleted and the following substituted:

**120-1.1 General:** Excavate and construct embankments as required for the roadway, ditches, channel changes and borrow material. Use suitable excavated material or authorized borrow to prepare subgrades and foundations. Construct embankments in accordance with Standard Plans, Index 120-001. Compact and dress excavated areas and embankments.

Meet the requirements of Section 110 for excavation of material for clearing and grubbing and Section 125 for excavation and backfilling of structures and pipe. Material displaced by the storm sewer or drainage structure system is not included in the earthwork quantities shown in the Plans. The original ground line is defined as the contour of existing natural topography. The finished grading template is defined as the contour of the finished side slopes, unpaved shoulders, and the bottom of the roadway base and shoulder base for flexible or rigid pavement.

SUBARTICLE 120-2.2.1 is deleted and the following substituted:

**120-2.2.1 Roadway Excavation:** Roadway excavation consists of the excavation and the utilization or disposal of all materials necessary for the construction of the roadway, ditches, channel changes, etc., except for removal of existing pavement as defined in Section 110. ~~as may be specifically shown to be paid for separately and that portion of the lateral ditches within the limits of the roadway right of way as shown in the Plans.~~

SUBARTICLE 120-2.3 is deleted and the following substituted:

**120-2.3 Subsoil Excavation:** Subsoil excavation consists of the excavation and disposal of muck, clay, rock, or any other material that is unsuitable in its original position and that is excavated below the finished grading template. ~~For stabilized bases and sand bituminous road mixes, consider the finished grading template as the top of the finished base, shoulders and slopes. For all other bases and rigid pavement, consider the finished grading template as the finished shoulder and slope lines and bottom of completed base or rigid pavement.~~ For pond and ditches that identify the placement of a blanket material, consider the finished grading template as the bottom of the blanket material. Subsoil excavation also consists of the excavation of all suitable material within the above limits as necessary to excavate the unsuitable material. Consider the limits of subsoil excavation indicated in the Plans as being particularly variable, in accordance with the field conditions actually encountered.

The quantity of material required to replace the excavated material and to raise the elevation of the roadway to the bottom of the template will be paid for under embankment or borrow excavation (Truck Measure).

ARTICLE 120-4 is deleted and the following substituted:

**120-4 Removal of Unsuitable Materials and Existing Roads.**

**120-4.1 Subsoil Excavation:** Where muck, rock, clay, or other material within the limits of the roadway is unsuitable in its original position, excavate such material to the cross-sections shown in the Plans or indicated by the Engineer, and backfill with suitable material. Shape backfill material to the required cross-sections. Where the removal of plastic soils below the finished earthwork grade is required, meet a construction tolerance, from the lines shown in the Plans as the removal limits, of plus or minus 0.2 feet in depth and plus or minus 6 inches (each side) in width.

**120-4.2 Construction over Existing Old Road:** Where a new roadway is to be constructed over an old one, ~~plow or scarify the old road, and break it up full width, regardless of height of fill. If the Plans provide that paving materials may be incorporated into the fill, distribute such material in a manner so as not to create voids. Recompact the old road meeting the requirements of 120-10.2.~~ completely remove the existing pavement for the entire limits of the width and depth. Compact disturbed material in accordance with Section 120 or 160, whichever material applies. If indicated in the Plans, remove the existing base in accordance with Section 110-2.

~~**120-4.3 Obliterating Old Road:** Where the Plans call for obliteration of portions of an old road outside of the proposed new roadway, obliterate such sections of the old road by grading to fill ditches and to restore approximately the original contour of the ground or a contour which produces a pleasing appearance.~~

SUBARTICLE 120-8.2.3 is deleted and the following substituted:

**120-8.2.3 Placing on Steep Slopes:** When constructing an embankment on a hillside sloping more than 20 degrees from the horizontal, before starting the fill, deeply plow or cut steps into the surface of the ~~original ground~~ existing slope on which the embankment is to be placed.

SUBARTICLE 120-13.1 is deleted and the following substituted:

**120-13.1 General:** When payment for excavation is on a volumetric basis, the quantity to be paid for will be the volume, in cubic yards, ~~calculated by the method of average end areas, unless the Engineer determines that another method of calculation will provide a more accurate result.~~ The material will be measured in its original position by field survey or by photogrammetric means as designated by the Engineer, unless otherwise specified under the provisions for individual items.

Where subsoil excavation extends outside the lines shown in the Plans or authorized by the Engineer including allowable tolerances, and the space is backfilled with material obtained in additional authorized roadway or borrow excavation, the net fill, plus

shrinkage allowance, will be deducted from the quantity of roadway excavation or borrow excavation to be paid for, as applicable.

The quantity of all material washed, blown, or placed beyond the authorized roadway cross-section will be determined by the Engineer and will be deducted from the quantity of roadway excavation or borrow excavation to be paid for, as applicable.

Subsoil excavation that extends outside the lines shown in the Plans or authorized by the Engineer including allowable tolerances will be deducted from the quantity to be paid for as subsoil excavation.

SUBARTICLE 120-13.2 is deleted and the following substituted:

**120-13.2 Roadway Excavation:** The measurement will include only the net volume of material excavated between the original ground surface line or finished grading template of an existing roadbed, as applicable, and the finished grading template of new pavement surface of the completed earthwork, except that the measurement will also include all unavoidable slides which may occur in connection with excavation classified as roadway excavation.

The pay quantity will be the plan quantity provided that the excavation was accomplished in substantial compliance with the plan dimensions and subject to the provisions of 9-3.2 and 9-3.4. On designated 3-R Projects, regular excavation will be paid for at the Contract lump sum price provided that the excavation was accomplished in substantial compliance with the plan dimension.

SUBARTICLE 120-13.7 is deleted and the following substituted:

**120-13.7 Embankment:** The quantity will be at the plan quantity. Where payment for embankment is not to be included in the payment for the excavation, and is to be paid for on a cubic yard basis for the item of embankment, ~~the plan quantities to be paid for will be calculated by the method of average end areas unless the Engineer determines that another method of calculation will provide a more accurate result.~~ The measurement will include only material actually placed above the original ground line or the finished grading template of an existing roadbed, as applicable, within the lines and grades indicated in the Plans or directed by the Engineer. ~~The length used in the computations will be the station to station length actually constructed. The original ground line used in the computations will be as determined prior to placing of embankment subject to the provisions of 9-3.2, and no allowance will be made for subsidence of material below the surface of the original ground.~~ Where embankment is constructed over an existing road, the measurement will include only the material actually placed above the existing base unless the Plans require the complete removal of the base. If both the asphalt and base is removed, the embankment measurement will include only the material actually placed above the finish grading template of the existing roadbed

If there are authorized changes in plan dimensions or if errors in plan quantities are detected, plan quantity will be adjusted as provided in 9-3.2.

~~Where the work includes excavation of unsuitable material below the finished grading template or original ground line, whichever is lower as defined in 1203.3, the original~~

~~ground line is defined as the surface prior to beginning excavation, except that this surface is not outside the permissible tolerance of lines and grades for subsoil excavation as indicated in the Plans or as directed by the Engineer.~~ Any overrun or underrun of plan quantity for subsoil excavation which results in a corresponding increase or decrease in embankment will be considered as an authorized plan change for adjustment purposes as defined in 9-3.2.2.

No payment will be made for embankment material used to replace unsuitable material excavated beyond the lines and grades shown in the Plans or ordered by the Engineer.

In no case will payment be made for material allowed to run out of the embankment on a flatter slope than indicated on the cross-section. The Contractor shall make his own estimate on the volume of material actually required to obtain the pay section.