SP00330 (Special Provisions for the 2024 Book) (Bidding on or after: 0209-01-276
Last updated: 1006-2601-26
Requires SP00236 when using Agency-furnished disposal sites.
Requires SP01040 when topsoil is required.*)*

SECTION 00330 - EARTHWORK

(Follow all instructions and make all edits with "Track Changes" turned on. If there are no instructions [purple text] above a subsection, paragraph, sentence, or bullet, then include it in the Project. Delete all purple text before preparing the final document. All other modifications to this Section will require ODOT Technical Resource and State Specifications Engineer approval.)

Comply with Section 00330 of the Standard Specifications modified as follows:

00330.00 Scope - Replace the paragraph that begins "The term "earthwork" will be…" with the following paragraph:

The term "earthwork" is used as a general term to designate the Work included within the scope of this Section.

00330.01 Lines, Grades, and Cross Sections - Replace the paragraph that begins "All earthwork…" with the following paragraph:

Conform all earthwork to the lines, grades and Cross Sections established.

Replace the paragraph that begins "Roadbed Cross Sections …" with the following paragraph:

Roadbed Cross Sections are subject to variation from the Typical Sections , if directed, to:

00330.02 Definitions - Replace the paragraph that begins "**Construction Slide** - A Slide outside …" with the following paragraph:

Construction Slide - A Slide outside the designated limits of excavations, or below the foundation within designed limits of embankments or within embankments, that occurs after excavation or embankment construction starts and before Final Acceptance of the Contract.

(Use one of the following subsection .03's as instructed below. Choose the "Embankment Basis" subsection when the embankment quantities are greater than the excavation quantities. Choose the "Excavation Basis" subsection when the excavation quantities are greater than the embankment quantities. Delete the one that does not apply. Check with the Designer for information.)

[Use this subsection .03 only for "Embankment Basis" Projects, modified (by filling in the blank) to exclude Ditch Excavation, Foundation Excavation or Toe Trench Excavation if any of these items are included in the Bid Schedule. Delete "except for _____" if it does not apply.]

00330.03 Basis of Performance - Add the following paragraph to the end of this subsection:

Perform all earthwork under this Section except for _____ on the embankment basis.

[Use this subsection .03 only for "Excavation Basis" Projects, modified (by filling in the blank) to exclude Stone Embankment and/or Extra For Selected ____ Material if either is included in the Bid Schedule. Delete "except for _____" if it does not apply.]

00330.03 Basis of Performance - Add the following paragraph to the end of this subsection:

Perform all earthwork under this Section except for _____ on the excavation basis.

00330.03(a) General - Replace this subsection, except for the subsection number and title, with the following:

Except as provided in 00330.00, perform all earthwork on either the excavation basis or the embankment basis. The basis of performance for each earthwork Pay Item is specified in the Special Provisions and the Contract Schedule of Items.

00330.04 Sources of Borrow - Replace this subsection, except for the subsection number and title, with the following:

(a) Agency-Furnished Borrow - Use Materials obtained from Agency-provided sources lying outside of, separated from and independent of planned Roadbed excavations, or other required excavations within the Project limits, only when called for by the Contract or when specifically directed. (See 00330.41(d).)

(b) Contractor-Furnished Borrow - Unless otherwise specified or directed, furnish all Borrow. Use sources that are wholly outside of and beyond the limits of Agency-Controlled Lands. Acquire at Contractor's own expense. The provisions of 00160.60 and 00160.80 apply.

00330.10 Selected Materials - Replace this subsection, except for the subsection number and title, with the following:

When the Contract contains a Pay Item "Extra for Selected ____ Material", furnish the Material from required excavations. The Specifications for the selected Materials are in the Special Provisions, if different than specified in these Specifications. If other provisions of this Section call for selecting or sorting Material for various parts of the Work, select and sort the Materials to meet the directed requirements.

00330.16(a) Requirements - Replace the paragraph that begins "If the 1" - 0 portion exceeds …" with the following paragraph:

If the 1" - 0 portion exceeds 10 percent of the total volume by the Engineer's visual examination, the 1" - 0 material will be randomly sampled for testing. The Agency will perform

the wet sieve test, according to AASHTO T 11, on the sampled material. The limit on the amount of material passing the No. 200 sieve is not to exceed 5.0 percent by weight.

00330.16(b) Control Sample - Replace this subsection, except for the subsection number and title, with the following:

Provide, at a location acceptable to the Engineer, in close proximity to the Project, at least a 5-cubic yard sample of stone embankment meeting the gradation specified. This sample is used as a frequent reference for judging the gradation of the material supplied.

00330.40(a) Quantities - Replace the paragraph that begins "The Agency makes no guarantee …" with the following paragraph:

The Agency makes no guarantee or representation by implication or otherwise, that any Material available on the Project site is suitable for incorporation into any portion of the Project. No Material is considered unsuitable on the sole basis that special or additional processing or handling is required to make it suitable for incorporation into the Project.

00330.40(c) Avoidance and Correction of Detrimental Operations - Replace the paragraph that begins "Perform all operations involved …" with the following paragraph:

Perform all operations involved in excavating, hauling and placing of earthwork Materials so no damage or detriment to the completed or partially completed Work results. At all times provide sufficient drainage of completed or partially completed earthwork to prevent damage or loss due to rainfall, surface water or any other cause. In all cases, take proper precautions to ensure that embankment construction and filling do not move, endanger or cause undue strain or stress to any Structure or adjacent ground. Do not construct temporary and final embankment slopes within any Cross Section steeper than the Slope staked for that Cross Section.

00330.41(a)(3) Unsuitable Materials - Replace this subsection, except for the subsection number and title, with the following:

Unsuitable Materials encountered in required excavations are classed as waste material and disposed of according to 00330.41(a)(5).

(Use the following subsection .41(a)(4) when excess materials are to be used on the Project only when there are sufficient R/W limits. Check with Project Leader and the Geotechnical designer.)

00330.41(a)(4) Excess Materials - Replace this subsection, except for the subsection number and title, with the following:

If the quantities of excavated materials are greater than required to construct embankments and to do all filling and backfilling, the Contractor may use the remaining materials to uniformly widen embankments or to flatten slopes in a manner satisfactory to the Engineer.

(Use only one of the following two .41(a)(5) subsection options as instructed below.)

[Option 1 - Use this subsection .41(a)(5) only when subsection .41(a)(4) above is used.]

00330.41(a)(5) Waste Materials - Replace this subsection, except for the subsection number and title, with the following:

Unless otherwise specifically allowed and subject to the requirements of Section 00280, dispose of materials, classed as waste materials in 00330.41(a)(3), outside and beyond the limits of the Project and Agency controlled property according to 00290.20. Do not dispose of materials on Wetlands, either public or private, or within 300 feet of rivers or streams.

[Option 2 - Use this subsection .41(a)(5) only for Agency-furnished disposal sites. Include SP00236 when using this subsection.]

00330.41(a)(5) Waste Materials - Replace this subsection, except for the subsection number and title, with the following:

Dispose of waste materials according to Section 00236.

(Use the following subsection .41(a)(9) on excavation Projects which include Section 00331 - Subgrade Stabilization.)

00330.41(a)(9) Excavation Below Grade - Delete subsection 00330.41(a)(9)(c).

00330.41(a)(12) Outside Earthwork Limits - Replace this subsection, except for the subsection number and title, with the following:

Outside earthwork limits but within the Clear Zone, (see 00320.02(c)), remove partially buried natural objects, such as Boulders, that the Engineer determines would be dangerous to an errant vehicle. Place them within embankments as specified or dispose of them as directed.

00330.41(b) Foundation Excavation - Replace this subsection, except for the subsection number and title, with the following:

Excavate Unsuitable Materials in embankment foundations and elsewhere as designated. This Work is classed as "Foundation Excavation". Dispose of these materials according to 00330.41(a)(5) and replace with selected general backfill, selected granular backfill or other suitable Materials as directed.

00330.41(d) Borrow Excavation - Replace this subsection, except for the subsection number and title, with the following:

Whenever the Specifications or Contract Plans call for an Agency-provided Borrow source for earthwork materials, the Material excavated from such source and used in the Work as earthwork materials are classed as "Borrow Excavation". Excavate and use these materials according to the Contract provisions, or as directed.

00330.42(a) Embankment Foundation Preparation - Replace the paragraph that begins "In addition to the excavation …" with the following paragraph:

In addition to the excavation and replacement of Unsuitable Materials as provided in 00330.41(b), and before constructing embankments, prepare the areas where embankments are to be constructed as follows:

00330.42(a)(1) Unstable Areas - Replace this subsection, except for the subsection number and title, with the following:

Where the embankment foundation will not support hauling or compaction Equipment and only if directed, place an initial layer of selected Materials. Place the initial layer by dumping successive loads in a uniformly distributed layer of a thickness not greater than necessary to support the Equipment and not greater than 3 feet, unless otherwise authorized. Do not place the initial layer higher than 3 feet below Subgrade. Commence consolidation of the initial layer by routing construction Equipment uniformly over the entire layer. Meet the compaction requirements of 00330.43 for the initial layer, except for layer thickness. Meet all requirements of 00330.43 for subsequent layers.

00330.42(a)(3) Drainage - Replace this subsection, except for the subsection number and title, with the following:

Provide drainage and drainage Structures as shown or directed.

00330.42(a)(4) Backfilling Inside Roadbed Limits - Replace this subsection, except for the subsection number and title, with the following:

Break up concrete or asphalt floors, slabs, or walls, as specified in 00310.41(d), before backfilling or placing embankment. Backfill basements, trenches and holes within embankment limits with selected stone backfill Material. Backfill Material placed in basements may include pieces of broken concrete and masonry not exceeding 15 inches in any dimension provided they are placed and compacted according to 00330.42(c). Protruding reinforcement is not allowed in the broken concrete and masonry used as backfill.

00330.42(a)(7) Foundation Benching - Replace the paragraph that begins "Make the bottom bench …" with the following paragraph:

Make the bottom bench at least 10 feet wide. Penetrate each succeeding bench into the slope at least 3 feet horizontally beyond the vertical side of the previous bench. Ensure the bench is wide enough to operate placing and compaction Equipment. Bring each bench and embankment layer surface to a Slope flatter than 1V:10H. Perform the benching, placing and compaction operation simultaneously from the bottom up.

00330.42(c)(1) General - Replace the paragraph that begins "Except as provided in …" with the following paragraph:

Except as provided in 00330.42(a)(1), do not construct embankments or fillings when the embankment Material, the foundation or the embankment where it would be placed is frozen, not stable or not compacted, unless otherwise directed.

00330.42(c)(2)(c) Oversize Durable Rock Fragments - Replace the paragraph that begins "Placing isolated individual …" with the following paragraph:

Placing isolated individual Durable Rock fragments having dimensions greater than the specified layer thickness is allowed if:

00330.42(c)(2)(d) Durable Rock - Replace the paragraph that begins "If the visible quantity of Silt …" with the following paragraph:

If the visible quantity of Silt and Clay Materials passing the No. 200 screen is less than 20 percent by volume, as determined by the Engineer, the maximum Rock fragment size and layer thickness may be increased to 36 inches, but do not exceed the layer thickness of the average maximum size of the Rock fragments.

00330.42(c)(2)(e) Nondurable Rock - Replace the bullet that begins "The moisture content of …" with the following bullet:

- Compact the Material when the moisture content is within the requirements of 00330.43.

Replace the bullet that begins "Compact the Material to density …" with the following bullet:

- Compact the Material to density/deflection requirements specified in 00330.43 with a tamping-foot roller that meets the requirements of 00330.20. Perform a minimum of three Coverages on each embankment layer with the tamping-foot roller. Operate the roller at a uniform speed not exceeding 3 mph. No additional compensation will be made for additional roller Coverages to meet the requirements of 00330.43.

00330.42(c)(3) Embankment Slope Protection - Replace the paragraph that begins "Construct outer portions of …" with the following paragraph:

Construct outer portions of embankments exposed to erosion by stream flow or other erosive action with Rock fragments, or other desirable Materials, if directed, and such are available in the excavations. Also, if directed, place similar Material as a protective layer on the outside of the regular embankment slopes as embankment widening, closely following construction of the embankment. Compaction is not required for protective Materials placed as embankment widening. Place protective Materials with a reasonably smooth surface, resistant to washout or slippage.

(Use the following paragraphs on Projects when directed by the Erosion Control Designer.)

Add the following paragraph to the end of this subsection:

Construct the outer 12 inches of embankments with suitable materials to establish slope stabilization through permanent seeding. If suitable material is not available, furnish suitable materials from a Contractor-provided source that conforms to the requirements of 00330.11 or 00330.13 and provides favorable conditions for germination of seed and growth of grass.

00330.42(c)(5) Embankment Construction Around Minor Structures - Replace this subsection, except for the subsection number and title, with the following:

Backfill prior excavations in the vicinity of curbs, walks, driveways, inlets, manholes and other such minor Structures with selected general backfill, or selected granular backfill as directed

with no particles larger than 1 inch and that is compatible with the adjacent material, unless otherwise specified. Place backfill in layers according to 00330.42(c)(1), compact according to 00330.43, and with a moisture content according to 00330.43.

00330.42(c)(7) Embankment Construction at Bridge Ends - Replace this subsection, except for the subsection number and title, with the following:

At the ends of Bridges and for a distance of at least 100 feet from the Bridge, place and compact the embankments before beginning Bridge construction, unless otherwise directed. Unless the embankment is constructed according to 00330.42(c)(8), furnish and place selected stone backfill Material, meeting the requirements of 00330.15 when such is available from excavations, in all embankments within 100 feet of Bridges, or as directed.

00330.42(c)(8) Engineered Fills - Replace the paragraph that begins "Place the granular structure …" with the following paragraph:

Place the granular structure backfill, meeting the requirements of 00510.13, in maximum 6-inch Lifts and compact to 100 percent maximum density from the top of the selected stone backfill to the footing elevation shown. Place these Materials at the thickness and extent according to the details shown, or as directed.

Replace the paragraph that begins "The foundation compaction …" with the following paragraph:

The foundation compaction requirements in 00330.43 are subject to the higher requirements of this subsection. Compact according to the percentages required above.

00330.42(d) Stone Embankment - Replace the paragraph that begins "If the Contract Plans or …" with the following paragraph:

If the Contract Plans or Specifications require embankments, or parts of embankments, to be constructed of stone embankment Material, furnish and place the stone embankment Material according to this provision and as directed. Furnish Materials from Contractor-provided sources according to the requirements of 00330.16, unless otherwise specified.

Replace the bullet that begins "Material placed in the …" with the following bullet:

- Material placed in the upper 1-foot of embankments or within 1-foot of a culvert or other Structure, are not more than 3 inches in size.

00330.43(b)(2) Replace the paragraph that begins "In place Materials shall …" with the following paragraph:

Meet the following moisture content, density, and deflection requirements for in-place Materials:

00330.43(b)(2)(a) Moisture Content - Replace this subsection, except for the subsection number and title, with the following:

At the time of compaction, compact the Materials at a moisture content to within minus 4 percent to plus 2 percent of optimum moisture content. Add water to Material that does not contain sufficient moisture to obtain proper compaction and thoroughly mix as directed. Dry Material containing an excess of moisture by manipulation, aeration, drainage or other means before being compacted.

00330.43(b)(2)(b) Density - Replace the paragraph that begins "After compaction of each …" with the following paragraph:

After compaction of each layer provide a density of at least:

00330.43(d) Small, Irregular Fill Areas - Replace the paragraph that begins “The density requirements of 00330.43 do not apply…” with the following paragraph:

The density requirements of 00330.43 do not apply to irregular fill areas outside of the travel lanes that have a total volume of no more than 150 cubic yards at each location. Construct these areas according to the following:

00330.44(a) Preparation - Replace this subsection, except for the subsection number and title, with the following:

Do not start excavation for each segment until a stockpile of stone embankment Material is immediately available at or near the site. Locate the stockpile at a site approved by the Engineer. Provide a stockpile size sufficient to fill one excavated segment.

00330.44(b) Sequence of Construction - Replace this subsection, except for the subsection number and title, with the following:

Excavate the area according to 00330.40 and 00330.41 to provide a backslope to the lines, Slopes and details shown, or as directed. Excavate and backfill in segments to minimize aggravating stability conditions. For each segment do not exceed 75 feet in length as measured across the top of each open excavation segment, unless otherwise specified or directed.

00330.47 Specified Selected Courses or Layers of Materials - Replace the paragraph that begins “Place and construct selected …” with the following paragraph:

Place and construct selected Courses or layers according to the requirements of 00330.42 and 00330.43, unless otherwise specified.

00330.90 Payment - Replace the paragraph that begins "Payment will be payment …" with the following paragraph:

Payment will be payment in full for furnishing and placing all Materials, and for providing all Equipment, labor, and Incidentals necessary to complete the Work as specified.

Replace the paragraph that begins "No separate or additional …" with the following paragraph:

No separate or additional payment will be made for blasting done according to 00330.41(e) unless a blasting item is listed in the Contract Schedule of Items.

00330.91(c) Toe Trench Excavation - Replace the bullet that begins "At the toe of riprap slopes …" with the following bullet:

- At the toe of riprap slopes as shown and elsewhere as directed to provide a suitable foundation toe trench where to place riprap geotextile or filter blanket, and riprap Material.

(Use the following subsection .91(d) on excavation Projects that include Section 00331 - Subgrade Stabilization.)

00330.91(d) General Excavation - Delete the bullet that begins "Includes Unsuitable Material…".

(Use the following subsection .92 when either of the bullets under 00330.92 are applicable to the Project. Delete "(s)" or parentheses as applicable.)

00330.92 Kinds of Incidental Earthwork - Add the following bullet*(*s*)* to the end of the bullet list:

(Use the following bullet when subsection 00330.41(a)(4) has been included in the Project Special Provisions and excess materials are to be used on the Project.)

- Excess material used to widen embankments or flatten slopes according to 00330.41(a)(4).

(Use the following bullet on Projects with light grading, especially on urban Projects, and when requested by the Project Leader, to eliminate separate measurement and payment for earthwork for driveways and road approaches. Do NOT use on projects involving driveways or road approaches with significant earthwork quantities.)

- Earthwork required for driveways and road approaches. Earthwork for driveways and road approaches is outside the Neat Line limits shown on the typical sections.

(Use the following subsection .94 on embankment Projects that include Section 00331 - Subgrade Stabilization.)

00330.94 Embankment Basis Payment - Replace the paragraph that begins "In item (c), the …" with the following paragraph:

In item (c), the type of Material is inserted in the blank.

Delete the paragraph that begins "Excavation of unstable…".