Origination Form

Specifications

Name:	Dino Jameson	**Standard Specification Section:**	160
Email:	dino.jameson@dot.state.fl.us	**Special Provision:**	
Date:	2025-05-22T14:04:40Z	**Associated Specs:**	None

Summary:

(1) The current language was updated to more accurately describe what the section covers, (2) the specification was reorganized to clarify and differentiate the requirements for materials used for stabilization and the final mixed product (stabilizer and embankment), (3) changes were made to allow existing embankment meeting the requirements of the section to be used as stabilized subgrade as long it thoroughly mixed to create a homogeneous material, and (4) clarifications were made to the resolution process for the Bearing Value.

Justification:

Clarification was needed to clearly differentiate the requirements for materials that are used for stabilizing and the final mixed product (stabilizer and embankment).

Do the changes affect other types of specifications?

Neither

List Specifications Affected:

Other Affected Documents/Offices	Contacted	Yes/No
Other Standard Plans		No
Florida Design Manual		No
Structures Manual		No
Basis of Estimates Manual		No
Approved Product List		No
Construction Office		No
Maintenance Office		No
Materials Manual		No

Traffic Engineering Manual		No

Are changes in line with promoting and making progress on improving safety, enhancing mobility, inspiring innovation, and fostering talent; explain how?

Yes, by improving the flow of the specification language, requirements are clearer which improves the quality of the materials used on Department construction projects.

What financial impact does the change have; project costs, pay item structure, or consultant fees?

The addition to allow the use of existing embankment that meets the required bearing value may provide cost savings.

What impact does the change have on production or construction schedules?

There are no impacts on production or construction schedules.

How does this change improve efficiency or quality?

The changes improve the quality of the subgrade materials by making the specification easier to comprehend and follow.

Which FDOT offices does the change impact?

Materials and Construction.

What is the impact to districts with this change?

None

Does the change shift risk and to who?

No, the change does not shift risk.

Provide summary and resolution of any outstanding comments from the districts or industry.

Comments and Responses are available on the Track the Status of Revisions hyperlink located on the Specifications landing page: https://www.fdot.gov/programmanagement/Specs.shtm

What is the communication plan?

Through the established specification revision process (e.g., Internal and Industry Review)

What is the schedule for implementation?

The Standard Specifications eBook and Workbook are effective July 1st every year.

STABILIZING
(REV 7-21-25)

ARTICLE 160-1 is deleted and the following substituted:

160-1 Description.

~~Stabilize~~ Construct designated portions of the roadbed to provide a firm and unyielding subgrade, which may require stabilizing material mixed thoroughly with embankment to increase the ~~having the required~~ bearing value specified in the Plans.

ARTICLE 160-2 is deleted and the following substituted:

160-2 Materials.

~~Use only allowable material specified herein as stabilizing material. Stabilizing material may also be known as stabilizer.~~**160-2.1 Stabilizing Material:** Material mixed thoroughly with embankment to increase the bearing value of subgrade. Use only allowable material specified herein as stabilizing material. Stabilizing material may also be known as stabilizer.

160-2.1.1 Commercial Material: Commercial material used as stabilizer must meet the requirements of 914-2.1 "Commercial Materials."

160-2.1.2 Local Material: Use ~~L~~local materials as defined in 914-2.2 "Local Material." ~~used as stabilizer must meet the requirement of Section 914.~~ Submit test results to the Engineer at least 14 days prior to the stabilization operation.

160-2.1.2.1 Reclaimed Asphalt Pavement: When Reclaimed Asphalt Pavement (RAP) is milled from the same project and milling operation is witnessed by the Engineer, ~~O~~obtain the Engineer's approval in writing for the option to use 100% RAP material. Material must be milled ~~-~~and ~~-~~stockpiled or windrowed without blending or contaminating with any other material. No source testing is required for 100% RAP unless directed by the Engineer.

When RAP is not milled from the same project and/or witnessed by the Engineer, the Engineer will visually inspect the stockpile to ensure the material does not contain excessive deleterious substances. If a visual inspection cannot determine the acceptance of the material, a source sample may be submitted to the District Materials Office for evaluation and approval. The Contractor must obtain the Engineer's approval in writing to use RAP material.

160-2.1.2.~~1~~ Other Local ~~Stabilizing~~ Materials: Sample and test material from each source and meet the requirements of Section 914. The Engineer will verify the Quality Control (QC) test results meet the requirements of Section 914. If the QC and Verification results do not compare, the Engineer will take one additional sample of material from the source in question and the State Materials Office (SMO) or an AASHTO accredited laboratory designated by the SMO will perform Resolution testing. If the Resolution test results satisfy the required criteria, material from that source will be verified and accepted. If the Resolution test results do not meet the required criteria, reject the material.

~~**160-2.2.2 Reclaimed Asphalt Pavement (RAP):** Obtain the Engineer's approval in writing for the option to use 100% RAP material. Material must be milled and stockpiled without blending or contaminating with any other material.~~

~~**160-2.2.3 Reclaimed Asphalt Pavement (RAP) Blended Material:** RAP blended material is defined as material meeting the requirements of 914-1 and 914-2.2 except for the limits for organic content. If the RAP blended material meets the requirements of 914-1 and 914-2, then the blended material will be classified as local stabilizing material. Provide test results to the Engineer and obtain their approval in writing before using RAP blended material. The Engineer will verify that the QC test results meet the acceptance criteria, otherwise the Engineer will perform Resolution testing procedures specified in 160-2.2.1.~~

160-2.1.3 Existing Base: Obtain the Engineer's approval in writing before using existing base from the same project. When the material from an existing base is used as all, or a portion, of the stabilizing additives, no further testing is required unless directed by the Engineer.

160-2.24 Granular Subbase Substitution: The Engineer may allow, at no additional cost to the Department, the substitution of 6 inches of granular subbase meeting the requirements of 290-2 "Materials" and 290-3 "Construction Methods," ~~only~~ when 12 inches of Type B stabilization requiring a Limerock Bearing Ratio (LBR) value of 40 is specified in accordance with Standard Plans, Index 120-001. For paved shoulders, substitute a minimum of 6 inches of granular subbase directly underneath base. For unpaved shoulders, substitute a minimum of 6 inches of granular subbase directly underneath the soil layer designated for turf establishment.

160-2.3 Existing Embankment: If the existing embankment material meets the required bearing value specified in the Plans, ensure the existing embankment material is thoroughly mixed in accordance with 160-3 and meet the acceptance program requirements of 160-4.

SUBARTICLE 160-3.1 is deleted and the following substituted:

160-3.1 General: Prior to the beginning of stabilizing operations, construct the area to be stabilized to an elevation such that, upon completion of stabilizing operations, the completed stabilized subgrade will conform to the lines and grades shown in the Plans. Prior to spreading any additive stabilizing material, bring the surface of the roadbed to a plane approximately parallel to the plane of the finished graded surface shown in the Plans.

~~Construct mainline pavement lanes, turn lanes, ramps, parking lots, concrete box culverts, retaining wall systems, shoulder-only areas, sidewalk, and shared use path areas meeting the requirements of 120-8.1, except replace "embankment" with "subgrade".~~

Construct subgrade in sections of not less than 300 feet in length or for the full length of the subgrade. A LOT is defined as a single lift of finished subgrade. Do not construct another LOT over an untested LOT without the Engineer's approval in writing.

Construct mainline traffic bearing applications such as pavement lanes, turn lanes, ramps, parking lots, concrete box culverts, emergency shoulder use, and retaining wall systems in LOTs not to exceed 500 feet.

Construct non-mainline LOTs, not to exceed 2,000 feet, for non-traffic bearing applications such as shoulder-only areas, shared use paths, sidewalks, and driveways.

When mainline and non-mainline areas are constructed in one operation, a LOT shall not exceed 500 feet.

Isolated mixing operations and isolated compaction operations will be considered as separate LOTs except when they are divided by driveways, side streets, median crossings, and intersections. Curb pads and shoulders compacted separately shall be considered separate LOTs. For multiple phase construction, a LOT shall not extend beyond the limits of the phase.

SUBARTICLE 160-3.2 is deleted and the following substituted:

160-3.2 Application and Acceptance of Stabilizing Material: After completing the roadbed grading operations, determine the type and quantity (if any) of stabilizing material necessary for compliance with the bearing value requirements. Before using any Fossil Fuel Combustion Products (FFCPs), submit documentation~~, at the preconstruction meeting or no later than 30 days prior to delivery of FFCP's to the project~~that is~~,~~ signed and sealed by the Specialty Engineer that these materials meet the requirements of 403.7047 F.S. at the preconstruction meeting or no later than 30 days prior to delivery of FFCP's to the project. Notify the Engineer of the approximate quantity to be added before spreading. When additive stabilizing materials are required, spread the material uniformly over the area to be stabilized.

The Engineer may perform Independent Verification (IV) sampling and testing if variability in the stabilizing material is observed during inspection after spreading on the roadway. If the IV test results do not meet the requirements of Section 914, then remove and replace the failing LOTs with acceptable material. The Engineer reserves the right to reject stabilizing material that contains excessive deleterious substances.

SUBARTICLE 160-3.4.4 is deleted and the following substituted:

160-3.4.4 Condition of Completed Subgrade: After completing the stabilizing and compacting operations, ensure that the subgrade is firm and substantially unyielding to the extent that it will support construction equipment and will have the bearing value required by the Plans.

Remove all soft and yielding material and any other portions of the subgrade which will not compact readily~~,~~ and replace it with suitable material so that the whole subgrade is brought to line and grade, with proper allowance for subsequent compaction.

SUBARTICLE 160-4.1.1 is deleted and the following substituted:

160-4.1.1 Equipment Comparison: Meet the requirements of 120-10.1.1 "Equipment Comparison."

SUBARTICLE 160-4.1.2 is deleted and the following substituted:

160-4.1.2 Density over 105%: Meet the requirements of 120-10.1.2 "Density over 105%" except replace standard Proctor FM 1-T099 with Modified Proctor FM 1-T180.

SUBARTICLE 160-4.2.1 is deleted and the following substituted:

160-4.2.1 Modified Proctor Maximum Density Determination: Collect enough material to split and create three separate samples. Determine test locations, including stations and offsets, using the Random Number generator approved by the Department. Retain the

Verification and Resolution samples for the Department until the Engineer accepts the LOTs represented by the samples. Submit Verification and Resolution samples to the Engineer for retention upon request. Determine modified Proctor maximum density and optimum moisture content by sampling and testing the material in accordance FM 1-T 180.

The following Administrative change has been made to Subarticle 160-4.2.3.1

160-4.2.3.1 Under-tolerances in Bearing Value Requirements: The under-tolerances are allowed for the following specified Bearing Values:

Table 160-1	
Specified Bearing Value	Under-tolerance
LBR 40	5.0
LBR 35	4.0
LBR 30 (and under)	2.5

SUBARTICLE 160-4.2.4 is deleted and the following substituted:

160-4.2.4 Soil Classification and Organic Content Testing: Perform soil classification tests on the sample collected in 160-4.2.1~~.2~~, in accordance with AASHTO T88, AASHTO T89, AASHTO T90, and FM 1-T 267. The Engineer may waive the soil classification and organic content testing requirements for existing base or granular subbase materials. Classify soils in accordance with AASHTO M145 to determine compliance with soil utilization requirements as specified in Standard Plans, Index 120-001. If the stabilizing material used is ~~100%~~ RAP ~~or RAP blended~~ blended material, then replace FM 1-T 267 with FM 5-563 (excluding gradation analysis). The following testing requirements must be met.

Table 160-3	
Test Method	Criteria
AASHTO M145	Soil Symbol = S
FM 1-T 267	Average of 3 Organic Content ≤ 2.5%
	Individual Organic Content Result ≤ 4.0%
AASHTO T89	Liquid Limit ≤ 30
AASHTO T90	Plastic Index ≤ 8
FM 5-563*	Asphalt Content ≤ 4.0%
* Replace FM 1-T 267 with FM 5-563 (excluding gradation analysis) ~~for 100% RAP or~~when RAP ~~blended~~is used as stabilizing material	

SUBARTICLE 160-4.3 is deleted and the following substituted:

160-4.3 Department Verification: Meet the requirements of 120-10.3 "Department Verification" except the Engineer will conduct the Verification tests in order to accept all materials and work associated with 160-4.2.

SUBARTICLE 160-4.4 is deleted and the following substituted:

160-4.4 Reduced Testing Frequency: Meet the requirements of 120-10.4 "Reduced Testing Frequency."

SUBARTICLE 160-4.5 is deleted and the following substituted:

160-4.5 Payment for Resolution Tests: Meet the requirements of 120-10.5 "Payment for Resolution Tests."

SUBARTICLE 160-4.7 is deleted and the following substituted:

160-4.7 Frequency: Conduct QC sampling and testing at a minimum frequency listed in the table below. The Engineer will perform Verification ~~sampling and~~ tests at a minimum frequency listed in the table below.

<table>
<tr><td colspan="4">Table 160-4</td></tr>
<tr><td>Test Name</td><td>Quality Control</td><td>Verification</td><td>Verification for Shoulder-Only, Shared Use Path and Sidewalk Construction</td></tr>
<tr><td>Modified Proctor Maximum Density</td><td rowspan="5">One per two consecutive LOTs</td><td rowspan="5">One per eight consecutive LOTs</td><td rowspan="5">One per four LOTs</td></tr>
<tr><td>LBR</td></tr>
<tr><td>Gradation, LL/PI, and Soil Classification</td></tr>
<tr><td>Organic Content</td></tr>
<tr><td>Asphalt Content*</td></tr>
<tr><td>Density</td><td>One per LOT</td><td>One per four LOTs</td><td>One per two LOTs</td></tr>
<tr><td>Stabilizing Mixing Depth</td><td>Three per 500 feet</td><td>Witness QC</td><td>Witness QC</td></tr>
<tr><td colspan="4">*Replace organic content with asphalt content ~~for 100% RAP or~~ when RAP ~~blended~~is used as stabilizing material ~~only~~.</td></tr>
</table>

SUBARTICLE 160-4.8.1.2 is deleted and the following substituted:

160-4.8.1.2 Resolution Procedure: If the Department's Verification test meets the requirements of 160-4.2.3, the Engineer will accept the corresponding LOTs. Otherwise, the Engineer will collect the Resolution split sample corresponding to the Verification sample tested. SMO or an AASHTO accredited laboratory designated by SMO will

perform Resolution testing on the additional sample. The material will be sampled and tested in accordance with FM 5-515.

If the resolution testing results meet the requirements of 160-4.2.3, then the Engineer will accept the LOTs in question. Otherwise, the Engineer will collect and test the remaining Verification split sample for the LOTs in question. Verification test results will be used for material acceptance purposes for the remaining LOTs in question. ~~r~~Reprocess the ~~corresponding LOTs~~ LOT(s) with the failing Verification test results in accordance with 160-3 and retest in accordance with 160-4.2.3.

SUBARTICLE 160-4.8.3 is deleted and the following substituted:

160-4.8.3 Density Testing: Meet the requirement of 120-10.6.2 "Density Testing."

SUBARTICLE 160-4.8.4 is deleted and the following substituted:

160-4.8.4 Soil Classification: Meet the requirements of 120-10.6.3 "Soil Classification" with the exception that the limits will be in accordance with 160-4.2.4.

SUBARTICLE 160-4.8.5 is deleted and the following substituted:

160-4.8.5 Organic Content: Meet the requirements of 120-10.6.4 "Organic Content" with the exception that the limits will be in accordance with 160-4.2.4.

SUBARTICLE 160-4.8.6 is deleted and the following substituted:

160-4.8.6 Asphalt Content: If the stabilizing material used for subgrade contains ~~100%~~ RAP ~~or RAP blended material~~, meet the requirement of 120-10.6.4 "Organic Content", except replace FM 1-T 267 with FM 5-563 (exclude gradation analysis) and meet the limits of 160-4.2.4.

SUBARTICLE 160-4.9 is deleted and the following substituted:

160-4.9 Disposition of Defective Materials: Meet the requirements of 120-10.7 "Disposition of Defective Materials."