Florida Department of Transportation

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STEPHANIE KOPELOUSOS
INTERIM SECRETARY

February 28, 2007

Dr. Leslie McCarthy, PhD, P.E.
Program Operations Engineer
Federal Highway Administration
545 John Knox Road, Suite 200
Tallahassee, Florida 32303

Re: Office of Design, Specifications
Section 160
Proposed Specification: 1600100 Stabilizing

Dear Dr. McCarthy:

We are submitting, for your approval, two copies of a proposed Special Provision for Stabilizing.

This change was proposed by Tom Malerk of the State Materials Office to reflect new requirements for shoulder only construction, bike/shared use paths and sidewalks.

Please review and transmit your comments, if any, within two weeks. Comments should be sent via Email to SP965DB or duane.brautigam@dot.state.fl.us.

If you have any questions relating to this specification change, please call Duane F. Brautigam, State Specifications Engineer at 414-4110.

Sincerely,

Duane F. Brautigam, P.E.
State Specifications Engineer

DFB/ft
Attachment
cc: General Counsel
Florida Transportation Builders' Assoc.
State Construction Engineer

STABILIZING

(REV ~~11-1-06~~*2-15-07*)

ARTICLE 160-*1* (~~pages 188 – 196~~*of the Supplemental Specifications*) ~~are~~ *is* deleted and the following substituted:

160-1 Description.

Stabilize designated portions of the roadbed to provide a firm and unyielding subgrade, having the required bearing value specified in the plans. When specified in the plans, provide additional strengthening of the subbase by additional stabilizing of the upper portion of the previously stabilized subgrade, within the limits specified. ~~Perform work in accordance with an approved Quality Control Plan meeting the requirements of 6-8.~~

SUBARTICLE 160-5.1 (of the Supplemental Specifications) is deleted and the following substituted:

160-5.1 General: ~~A LOT is defined as a single lift of finished Subgrade, not to exceed 500 feet. Isolated mixing operations will be considered as separate LOTs. Curbpads and shoulders compacted separately shall be considered separate LOTs. Isolated compaction operations will be considered as separate LOTs. For multiple phase construction, a LOT shall not extend beyond the limits of the phase.~~ 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, grades, and cross-section 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 proposed finished surface.

The Contractor may process the subgrade to be stabilized in one course, unless the equipment and methods being used do not provide the required uniformity, particle size limitation, compaction, and other desired results, in which case, the Engineer will direct that the processing be done in more than one course.

160-5.1.1 Shoulder Only, Bike/Shared Use Paths and Sidewalk Construction: ~~***60-5.1.1.1 Traffic Areas:*** *Construct Traffic Areas associated with the placement or construction of mainline pavement lanes, turn lanes, ramps, parking lots, concrete box culverts and retaining wall systems. For Traffic Areas, meet the requirements of 120-8.1.1, except replace "Embankment" with "Subgrade".*~~*For shoulder-only* ~~*construction*~~*, bike/shared use paths*~~*,*~~ *and sidewalk* ~~*s*~~*construction,*~~*. Includes construction unattached to the roadway for bike paths, sidewalks, non-traffic applications and shoulder-only construction.*~~ ~~*For Non-Traffic ConstructionAreas, m*~~*meet the requirements of 120-8.1.2*~~*1 substituting Subgrade for embankment.*~~ *except replace "Embankment" with "Subgrade" and replace*~~*-*~~ *"AASHTO T 99, Method C" with "*~~*Substitute AASHTO*~~*FM 1 T-180, Method D"*~~ *for AASHTO T 99*~~*, and meet the acceptance criteria of 160-7.2.*

~~***160-5.1.1.2 Traffic Areas:*** *Includes construction associated with the placement and/or construction of mainline pavement lanes, turn lanes, ramps,*~~

~~*parking lots, concrete box culverts, and retaining wall systems. For Traffic ConstructionAreaseet the requirements of 120-8.1.1 substituting Subgrade for embankment*~~

160-5.1.~~1~~2 Isolated Operations: *Isolated mixing operations will be considered as separate LOTs. Curbpads and shoulders compacted separately shall be considered separate LOTs. Isolated compaction operations will be considered as separate LOTs. For multiple phase construction, a LOT shall not extend beyond the limits of the phase.*

ARTICLE 160-6 (of the Supplemental Specifications) is deleted.

~~**160-6 Stabilized Subbase (Additional Strengthening of Upper Portion).**~~

~~When a stabilized subbase is to be constructed in conjunction with the stabilization operations, after the mixing of the stabilization area as specified in 160-5.3, and determination that the bearing value requirements specified in 160-7.2.1 have been met, shape the area over which the stabilized subbase is to be constructed as provided in 160-5.1, and compact it sufficiently to provide a firm surface for the operations to follow. Spread the amount of commercial stabilizing material specified in 160-3 for this operation, in accordance with 160-5.2, and mix it to the depth indicated in the plans, in accordance with 160-5.3. Allow a tolerance of 1 inch in excess of the plan depth in this mixing. The Engineer will not perform any additional tests for bearing value after the mixing of materials for the Stabilized Subbase.~~

~~Compact and finish grading, as specified in 160-5.5 and 160-5.6, and meet the provisions of 160-5.4, 160-5.7, and 160-5.8 for this work.~~

~~When commercial materials are used as the stabilizing additives for the initial subgrade stabilization, the Engineer may eliminate the work of Stabilized Subbase, either entirely or in designated sections of the overall limits for this work as may be specified in the plans.~~

ARTICLE 160-*7* (of the Supplemental Specifications) is deleted and the following substituted:

160-7 Acceptance Program.

160-7.1 General Requirements: Meet the requirements of 120-10~~.1~~, except use 160-7.2 instead of 120-10.2*, 160-7.3 instead of 120-10.3, and 160-7.4 instead of 120-10.4.*

160-7.2 Acceptance Criteria:

160-7.2.1 Bearing Value Requirements:

160-7.2.1.1 General: Within the entire limits of the width and depth of the areas to be stabilized, obtain the required minimum bearing value for each LOT. For any area where the bearing value obtained is deficient from the value indicated in the plans, in excess of the tolerances established herein, spread and mix additional stabilizing material in accordance with 160-5.3. Perform this reprocessing for the full width of the roadway being stabilized and longitudinally for a distance of 50 feet beyond the limits of the area in which the bearing value is deficient.

Determine the quantity of additional stabilizing material to be used in reprocessing.

Meet the requirements of 161 when using predesigned stabilized subgrade~~ation~~ for ~~Non-Traffic ConstructionTraffic Areas~~ shoulder only, bike/shared use path, and sidewalk construction.

160-7.2.1.2 Undertolerances in Bearing Value Requirements: Use the following undertolerances from the specified bearing value, as based on tests performed on samples obtained after completing mixing operations:

Specified Bearing Value	Tolerance
LBR 40	5.0
LBR 35	4.0
LBR 30 (and under)	2.5

The following unsoaked bearing value requirement is based on tests performed on samples obtained after completing mixing operations:

Specified Bearing Value	Unsoaked Bearing Value Required	Tolerance
LBR 40	LBR 43	0.0

160-7.2.2 Mixing Depth Requirements: Do not exceed individual *plan* depth ~~tolerance~~ *thickness by more than* ~~of~~ 2 inches or *exceed* LOT-average depth ~~tolerance~~ *thickness* ~~of~~ *by more than* 1 inch *measured to the nearest 0.25 inch. No undertolerance of mixing depth is allowed.*~~.~~

As an exception to the above mixing requirements, where the subgrade is of rock, the Engineer may waive the mixing operations (and the work of stabilizing), and the Department will not pay for stabilization for such sections of the roadway.

160-7.2.3 Density Requirements:

160-7.2.3.1 General: Within the entire limits of the width and depth of the areas to be stabilized, other than as provided in 160-7.2.3.2, obtain a minimum density at any location of 98% of the Modified Proctor maximum density as determined by FM 1-T 180, Method D.

160-7.2.3.2 Exceptions to Density Requirements: The Contractor need not obtain the minimum density specified in 160-7.2.3.1 if within the following limits:

(a) The width and depth of areas which are to be subsequently incorporated into a base course under the same contract.

(b) The upper 6 inches of areas to be grassed under the same contract. Compact these areas to a reasonably firm condition as directed by the Engineer.

160-7.2.4 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.

Non-Traffic ~~Construction~~Areas		
Test Name	Quality Control	Verification
Modified Proctor Maximum Density	One per two ~~days~~*LOTs*	One per four ~~days~~*LOTs*
Density – Rolling Pattern Test Section	Five per 500 feet	Two per 500 feet
Stabilizing Mixing Depth	Three per 500 feet	Witness
Rolling Pattern	One per ~~section~~ *LOT* per ~~day~~*soil type*	N.A.
Proof *R*~~r~~oll	One per ~~section per day~~*LOT*	*Witness*
Limerock Bearing Ratio	One per two ~~days~~*LOTs*	One per four ~~days~~*LOTs*
Density ~~& Moisture~~ – Production	N.A.	One per two ~~days~~*LOTs*

160-7.3 Additional Requirements:

160-7.3.1 Quality Control Testing:

160-7.3.1.1 Bearing Values: ~~Ensure compliance with 160-7.2.1 by sampling and testing~~*Test* the Stabilized Subgrade *sample collected in 160-7.3.1.3.* ~~for d~~*D*etermin*e*~~ing~~ the Limerock Bearing Ratio (LBR) in accordance with FM 5-515 and 160-7.2.4.~~ Determine test locations including Stations and Offsets, using the Random Number generator provided by the Department, based on the two LOTs under consideration.~~

160-7.3.1.2 Mixing Depth ~~Requirements~~s: Meet required plan mixing-depths by measuring from the proposed Final Grade Line.~~ Ensure compliance with 160-7.2.2.~~ *Determine test locations, including Stations and Offsets, using the Random Number generator approved~~provided~~ by the Department.* ~~-~~*Notify the E~~e~~ngineer a minimum of 24 hours before checking mixing depths.* ~~Determine test locations including Stations and Offsets, using the Random Number generator provided by the Department.~~ Record results on forms supplied by the Department.

160-7.3.1.3 Modified Proctor Maximum Density Requirement: Collect enough material to split and create three separate samples. ~~Retain a Verification sample and Resolution sample for the Engineer until the Engineer accepts the eight LOTs represented by the samples.~~*Determine test locations, including Stations and Offsets, using the Random Number generator ~~provide~~approved by the Department~~, based on~~ for the* two LOTs under *consideration.~~Traffic ConstructionTraffic Areasday's productionDay's ProductionNon-Traffic ConstructionTraffic Areas~~* Retain *the* Verification and Resolution sample*s* for the *Department* until the Engineer accepts the ~~eight LOTs~~*for Traffic Construction or four ~~day's production~~LOTs for Non-~~Traffic Construction~~Traffic Areas* represented by the samples.

160-7.3.2 Department Verification Tests:

160-7.3.2.1 Bearing Value: The Engineer will ~~sample and~~ test the Stabilized Subgrade for determination of the LBR in accordance with FM 5-515. ~~The~~

~~Engineer will select test locations, including Stations and Offsets, using a Random Number generator, based on the eight LOTs under consideration.~~

160-7.3.2.2 Mixing Depth ~~Requirements~~: The Engineer will ~~measure the mixing depth from the proposed Final Grade Line~~*witness the contractor's mixing depth checks of each* ~~LOT *for Traffic Areas* or~~ *500 feet of a day's production of shoulder only, bike/shared use path, and sidewalk construction* ~~*Non-Traffic ConstructionTraffic Areas*~~ *to ensure compliance with 160-7.2.2* ~~. The Engineer will select test locations, including Stations and Offsets, using a Random Number generator.~~

160-7.3.2.3 Modified Proctor Maximum Density: The Engineer will randomly select one of the *retained* ~~*two*~~ *split samples* ~~*for Non-Traffic Construction*~~ ~~*Traffic Areas or one of the*~~ ~~four split samples *for Traffic ConstructionTraffic Areas*~~ and test in accordance with FM 1-T 180, Method~~s~~ D.

160-7.4 Verification Comparison Criteria and Resolution Procedures:

160-7.4.1 Bearing Value: If the Department's Verification test meets the requirements of 160-7.2.1, then the Engineer will accept the ~~eight LOTs~~*for Traffic* ~~*Construction*~~ *four* ~~*day's production*~~*LOTs for shoulder only, bike/shared use path, and sidewalk construction* ~~*Non-Traffic ConstructionTraffic Areas*~~. Otherwise, the Engineer will *collect the Resolution split sample corresponding to the Verification sample tested.* ~~obtain one additional sample of material taken from a randomly selected location within the eight LOTs in question~~. The State Materials Office or an AASHTO accredited laboratory designated by the State Materials Office will perform Resolution testing. The material will be sampled and tested in accordance with FM 5-515.

If the Resolution Testing results meet the requirements of 160-7.2.1 then the Engineer will accept the ~~eight LOTs~~*for Traffic Construction or* ~~*four day's productio*~~*LOTs* ~~*n*~~ *for the shoulder only, bike/shared use path, and sidewalk construction* ~~*Non-Traffic ConstructionTraffic Areas*~~ in question~~,~~. *O* ~~o~~therwise reprocess ~~all eight LOTs *for Traffic Construction or*~~*the four* ~~*day's production*~~*LOTs* ~~*for Non-Traffic Construction*~~in accordance with 160-5 and retest in accordance with 160-7.3.1.1.

160-7.4.2 Mixing Depth Thickness: ~~If the Department's Verification test meets the requirements of 160-7.2.2, then the Engineer will accept that LOT, otherwise retest the LOT at a site within a 5 feet radius of the Verification test location and observe the following:~~

~~1. If the Quality Control retest meets the requirements of 160-7.2.2, then the Engineer will accept that LOT.~~

~~2. If the QC Re-test confirms shallow depth, re-mix the LOT to an appropriate Depth and re-measure in accordance with 160-7.3.1.2. The Engineer may re-verify in accordance with 160-7.3.2.2.~~

~~3. If the QC re-test confirms extra deep mixing, conduct an additional QC density test after compaction for the bottom 12 inches of the subgrade for that LOT in addition to the QC Density testing for top 12 inches. The additional Density test must meet the requirements of 160-7.2.3.~~

The ~~*Department*~~*Engineer will witness the mixing depth checks.*

1. If the depth checks meet the requirements of 160-7.2.2 the Engineer will accept that ~~LOT~~*for Traffic Areas day's productionDay's Production*~~*500 feet of a Day's production* ~~*for Non-Traffic Areas*~~*.*

2. If the depth checks confirm~~s~~ shallow depth, re-mix the ~~LOT~~*production section to an appropriate depth and re-~~-~~measure in accordance with 160-7.3.1.2. The Engineer will repeat the witness process.*

3. If the depth checks confirm extra deep mixing, conduct a QC density test after compaction for the bottom 12 inches of the subgrade for that ~~LOT or~~ *production section in addition to a QC density test for the top 12 inches. The density tests must meet the requirements of 160-7.2.3.*

160-7.4.3 Modified Proctor Maximum Density Determination: The Engineer will verify the Quality Control results of the ~~eight consecutive LOTs~~ *~~f6rfor Traffic Construction or~~ four ~~day's production~~LOTs for shoulder only, bike/shared use path, and sidewalk construction*~~Non-Traffic ConstructionTraffic Areas~~, if the Verification test result compares within 4.5 lb/ft^3 of the *corresponding* QC result *.*~~for the corresponding LOTs~~. Otherwise, the Engineer will collect the Resolution split sample corresponding to the Verification sample tested. The State Materials Office or an AASHTO accredited laboratory designated by the State Materials Office will perform Resolution testing. The material will be sampled and tested in accordance with FM 1-T 180, Method D.

The Engineer will compare the Resolution Test results with the Quality Control test results. If the Resolution Test result is within 4.5 lb/ft^3 of the corresponding Quality Control test result, the Engineer will use the Quality Control test results for material acceptance purposes for each corresponding pair of LOTs ~~*for Traffic ConstructionTraffic Areas or two Day's Production for Non-Traffic ConstructionTraffic Areas*~~. If the Resolution test result is not within 4.5 lb/ft^3 of the corresponding Quality Control test, the Engineer will collect the remaining Verification split samples for testing. Verification Test results will be used for material acceptance purposes for the ~~eight LOTs *for Traffic Construction or*~~ *four* ~~*day's production*~~*LOTs* ~~*Non-Traffic Construction*~~in question**.**

STABILIZING
(REV 2-15-07)

ARTICLE 160-1 (of the Supplemental Specifications) is deleted and the following substituted:

160-1 Description.

Stabilize designated portions of the roadbed to provide a firm and unyielding subgrade, having the required bearing value specified in the plans. When specified in the plans, provide additional strengthening of the subbase by additional stabilizing of the upper portion of the previously stabilized subgrade, within the limits specified.

SUBARTICLE 160-5.1 (of the Supplemental Specifications) is deleted and the following substituted:

160-5.1 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, grades, and cross-section 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 proposed finished surface.

The Contractor may process the subgrade to be stabilized in one course, unless the equipment and methods being used do not provide the required uniformity, particle size limitation, compaction, and other desired results, in which case, the Engineer will direct that the processing be done in more than one course.

160-5.1.1 Shoulder Only, Bike/Shared Use Paths and Sidewalk Construction: For shoulder-only, bike/shared use paths and sidewalk construction, meet the requirements of 120-8.1.1 except replace “Embankment” with “Subgrade” and replace “AASHTO T 99, Method C” with “FM 1 T-180, Method D”, and meet the acceptance criteria of 160-7.2.

160-5.1.2 Isolated Operations: Isolated mixing operations will be considered as separate LOTs. Curbpads and shoulders compacted separately shall be considered separate LOTs. Isolated compaction operations will be considered as separate LOTs. For multiple phase construction, a LOT shall not extend beyond the limits of the phase.

ARTICLE 160-6 (of the Supplemental Specifications) is deleted.

ARTICLE 160-7 (of the Supplemental Specifications) is deleted and the following substituted:

160-7 Acceptance Program.

160-7.1 General Requirements: Meet the requirements of 120-10, except use 160-7.2 instead of 120-10.2, 160-7.3 instead of 120-10.3, and 160-7.4 instead of 120-10.4.

160-7.2 Acceptance Criteria:

160-7.2.1 Bearing Value Requirements:

160-7.2.1.1 General: Within the entire limits of the width and depth of the areas to be stabilized, obtain the required minimum bearing value for each LOT. For any area where the bearing value obtained is deficient from the value indicated in the plans, in excess of the tolerances established herein, spread and mix additional stabilizing material in accordance with 160-5.3. Perform this reprocessing for the full width of the roadway being stabilized and longitudinally for a distance of 50 feet beyond the limits of the area in which the bearing value is deficient.

Determine the quantity of additional stabilizing material to be used in reprocessing.

Meet the requirements of 161 when using predesigned stabilized subgrade for shoulder only, bike/shared use path, and sidewalk construction.

160-7.2.1.2 Undertolerances in Bearing Value Requirements: Use the following undertolerances from the specified bearing value, as based on tests performed on samples obtained after completing mixing operations:

Specified Bearing Value	Tolerance
LBR 40	5.0
LBR 35	4.0
LBR 30 (and under)	2.5

The following unsoaked bearing value requirement is based on tests performed on samples obtained after completing mixing operations:

Specified Bearing Value	Unsoaked Bearing Value Required	Tolerance
LBR 40	LBR 43	0.0

160-7.2.2 Mixing Depth Requirements: Do not exceed individual plan depth thickness by more than 2 inches or exceed LOT-average depth thickness by more than 1 inch measured to the nearest 0.25 inch. No undertolerance of mixing depth is allowed.

As an exception to the above mixing requirements, where the subgrade is of rock, the Engineer may waive the mixing operations (and the work of stabilizing), and the Department will not pay for stabilization for such sections of the roadway.

160-7.2.3 Density Requirements:

160-7.2.3.1 General: Within the entire limits of the width and depth of the areas to be stabilized, other than as provided in 160-7.2.3.2, obtain a minimum density at any location of 98% of the Modified Proctor maximum density as determined by FM 1-T 180, Method D.

160-7.2.3.2 Exceptions to Density Requirements: The Contractor need not obtain the minimum density specified in 160-7.2.3.1 if within the following limits:

(a) The width and depth of areas which are to be subsequently incorporated into a base course under the same contract.

(b) The upper 6 inches of areas to be grassed under the same contract. Compact these areas to a reasonably firm condition as directed by the Engineer.

160-7.2.4 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.

Non-Traffic Areas		
Test Name	Quality Control	Verification
Modified Proctor Maximum Density	One per two LOTs	One per four LOTs
Density – Rolling Pattern Test Section	Five per 500 feet	Two per 500 feet
Stabilizing Mixing Depth	Three per 500 feet	Witness
Rolling Pattern	One per LOT per soil type	N.A.
Proof Roll	One per LOT	Witness
Limerock Bearing Ratio	One per two LOTs	One per four LOTs
Density – Production	N.A.	One per two LOTs

160-7.3 Additional Requirements:

160-7.3.1 Quality Control Testing:

160-7.3.1.1 Bearing Values: Test the Stabilized Subgrade sample collected in 160-7.3.1.3. Determine the Limerock Bearing Ratio (LBR) in accordance with FM 5-515 and 160-7.2.4.

160-7.3.1.2 Mixing Depths: Meet required plan mixing-depths by measuring from the proposed Final Grade Line. Determine test locations, including Stations and Offsets, using the Random Number generator approved by the Department. Notify the Engineer a minimum of 24 hours before checking mixing depths. Record results on forms supplied by the Department.

160-7.3.1.3 Modified Proctor Maximum Density Requirement: 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 for the two LOTs under consideration. Retain the Verification and Resolution samples for the Department until the Engineer accepts the four LOTs for Non-Traffic Areas represented by the samples.

160-7.3.2 Department Verification Tests:

160-7.3.2.1 Bearing Value: The Engineer will test the Stabilized Subgrade for determination of the LBR in accordance with FM 5-515.

160-7.3.2.2 Mixing Depth: The Engineer will witness the contractor's mixing depth checks of each 500 feet of a day's production of shoulder only, bike/shared use path, and sidewalk construction to ensure compliance with 160-7.2.2

160-7.3.2.3 Modified Proctor Maximum Density: The Engineer will randomly select one of the retained split samples and test in accordance with FM 1-T 180, Method D.

160-7.4 Verification Comparison Criteria and Resolution Procedures:

160-7.4.1 Bearing Value: If the Department's Verification test meets the requirements of 160-7.2.1, then the Engineer will accept the four LOTs for shoulder only, bike/shared use path, and sidewalk construction. Otherwise, the Engineer will collect the Resolution split sample corresponding to the Verification sample tested.. The State Materials Office or an AASHTO accredited laboratory designated by the State Materials Office will perform Resolution testing. The material will be sampled and tested in accordance with FM 5-515.

If the Resolution Testing results meet the requirements of 160-7.2.1 then the Engineer will accept the four LOTs for the shoulder only, bike/shared use path, and sidewalk construction in question. Otherwise reprocess the four LOTs in accordance with 160-5 and retest in accordance with 160-7.3.1.1.

160-7.4.2 Mixing Depth Thickness: The Engineer will witness the mixing depth checks.

1. If the depth checks meet the requirements of 160-7.2.2 the Engineer will accept that 500 feet of a Day's production.

2. If the depth checks confirm shallow depth, re-mix the production section to an appropriate depth and re-measure in accordance with 160-7.3.1.2. The Engineer will repeat the witness process.

3. If the depth checks confirm extra deep mixing, conduct a QC density test after compaction for the bottom 12 inches of the subgrade for that production section in addition to a QC density test for the top 12 inches. The density tests must meet the requirements of 160-7.2.3.

160-7.4.3 Modified Proctor Maximum Density Determination: The Engineer will verify the Quality Control results of the four LOTs for shoulder only, bike/shared use path, and sidewalk construction, if the Verification test result compares within 4.5 lb/ft^3 of the corresponding QC result .. Otherwise, the Engineer will collect the Resolution split sample corresponding to the Verification sample tested. The State Materials Office or an AASHTO accredited laboratory designated by the State Materials Office will perform Resolution testing. The material will be sampled and tested in accordance with FM 1-T 180, Method D.

The Engineer will compare the Resolution Test results with the Quality Control test results. If the Resolution Test result is within 4.5 lb/ft^3 of the corresponding Quality Control test result, the Engineer will use the Quality Control test results for material acceptance purposes for each corresponding pair of LOTs. If the Resolution test result is not within 4.5 lb/ft^3 of the corresponding Quality Control test, the Engineer will collect the remaining Verification split samples for testing. Verification Test results will be used for material acceptance purposes for the four LOTs in question**.**