

20230405 - April Specifications Committee Meeting

April Specifications Committee Meeting Agenda

Meeting Date

Wednesday, April 5, 2023 @ 9:00am

Meeting Location: 1334 Smith Street, Charleston, WV in Lower Level Conference

Also meeting virtually via Google Meet video conference. E-mail distribution message includes instruction.

Approved Permanent Specification changes from last Committee meeting (02/1/23)

- **219.4.2-Testing:** Update clarifies daily set of cylinders requirement.

Approved Project Specific Special Provisions (SP) from last Committee meeting (02/1/23)

- **SP 628-Ground Anchors**

Items removed from Committee Agenda

- **None**

Old Business-Provisions discussed at last Committee meeting

SECTION	TITLE	DESCRIPTION
501	501. 2-Materials, 501.3-Proportioning, 501.8-Mixing Concrete, 501.9-Placing Concrete, 501.12.5-Floating, 501.12.7-Final Finish	3rd time to Committee; discussed at December & February. Given the wide use of fibers in Portland cement concrete with several DOT's and several fiber companies showing interest in entering our approved list we have decided to pursue the inclusion of fibers into our standard specification. This fiber specification was constructed through dialogue with other DOT's, industry, academia, and peer reviewed at MCS&T. We believe that adding fibers into our Specification will help to achieve better performance of concrete as desired.
601	601.2-Materials, 601.3-Proportioning, 601.7-Mixing, 601.10.2-Chutes and Troughs, 601.10.6-Placing Concrete Containing Fibers, & 601.11.5-Texturing & Grooving Bridge Decks Containing Fibers for Portland Cement Concrete	will help to achieve better performance of concrete as desired.
679	679.2.1.6-Fibers, 679.2.2-Specialized Concrete Mix Design and Testing, 679.2.3.3-Proportioning and Mixing Equipment, 679.2.3.4-Mobile Mixer Units, 679.2.3.6-Placing	Four specification changes 1. Section 501-Portland Cement Concrete Pavements. Subsections 501.2, 501.3, 501.8,

715	<p>and Finishing Equipment, & 679.3.7.4.1-Surface Texturing Concrete Containing Fibers for Portland Cement Concrete</p> <p>715.3-Fibers for Portland Cement Concrete</p> <p>M. Perrow</p>	<p>501.9,501.12.5, & 501.12.7</p> <p>2. Section 601-Structural Concrete. Subsections 601.2, 601.3, 601.7, 601.10.2, 601.10.6, & 601.11.5</p> <p>3. Section 679-Overlaying Portland Cement Concrete Bridge Decks. Subsections 679.2.1.6, 679.2.2, 679.2.3.3, 679.2.3.4, 679.2.3.6, & 679.3.7.4.1</p> <p>4. Subsection 715.3-Fibers for Portland Cement Concrete</p> <p>The specification have been updated and are redline copy showing the revisions with latest revisions in blue font.</p> <p>Approval is expected in April.</p>
109	<p>109.20-Weight Tickets</p> <p>S. Smith</p>	<p>2nd time to Committee. Discussed in February. Specification changes to Section 109-Measurement And Payment. Updates the weight ticket requirements.</p> <p>No update to the specification; it is redline copy showing the revisions.</p> <p>Approval is expected in April.</p>
201 202	<p>201.7-Disposal</p> <p>202.4-Buildings</p> <p>J. Adkins</p>	<p>2nd time to Committee. Discussed in February. Specification changes to Section 201-Clearing and Grubbing and Section 202-Buidling Demolition, Well and Septic Tank Abandonment updating terminology from 'roadway prism' to 'construction limits'.</p> <p>Two specification changes:</p> <ul style="list-style-type: none"> • 201.7-Disposal • 202.4-Buildings <p>No update to the specifications; they are redline copy showing the revisions.</p> <p>Approval is expected in April.</p>

410	410.13.6-Bond Strength C. Farley	2nd time to Committee. Discussed in February. Specification changes to Section 410-Asphalt Base and Wearing Courses Percent With Limits (PWL). Update clarifies values used in calculation. The specification has been updated per comments at the last meeting; it is redline copy showing the revisions. Approval is expected in April.
615	615.3.3-Welded Stud Shear Connectors G. Hanna	2nd time to Committee. Discussed in February. Specification changes to Section 615-Steel Structures. Update adds MP reference. No update to the specification; it is redline copy showing the revisions. Approval is expected in April.
712	712.4-Galvanized Steel Deep Beam Guardrail, Fasteners and Anchor Bolts 712.5-Zinc-Aluminum-Magnesium Alloy Coating Guardrail, Fasteners and Anchor Bolts G. Hanna	2nd time to Committee. Discussed in February. Specification changes to Section 712-Guardrail and Fence. Update adds NTPEP testing requirements. Two specification changes: <ul style="list-style-type: none"> • 712.4-Galvanized Steel Deep Beam Guardrail, Fasteners and Anchor Bolts • 712.5-Zinc-Aluminum-Magnesium Alloy Coating Guardrail, Fasteners and Anchor Bolts No update to the specification; it is redline copy showing the revisions. Approval is expected in April.

New Business - New Provisions for Spec Committee

SECTION	TITLE	DESCRIPTION
601	SP 601-Structural Concrete M. Perrow	Updated to previously approved SP. 1st time to Committee. Project Specific Special Provision (SP) for Structural Concrete. The update eliminates the allowance of accelerators in low temperatures and adds curing requirements based on manufacturer recommendation and specified strength gain. The SP is redline copy showing the revisions.

601	<p>SP 601-Super Air Meter Testing</p> <p>S. Thapa</p>	<p>Updated to previously approved SP. 1st time to Committee.</p> <p>Project Specific Special Provision (SP) for Super Air Meter Testing. The update revises AASHTO reference and testing requirements.</p> <p>The SP is redline copy showing the revisions.</p>
107	<p>107.8.7-Flagging Services</p> <p>S. Runyan</p>	<p>1st time to Committee.</p> <p>Project Specific Special Provision for Norfolk Southern Flagging Services.</p>
107	<p>107.21.3-Basis of Payment</p> <p>D. Kirk</p>	<p>1st time to Committee.</p> <p>Specification Change to Section 107 Legal Relations and Responsibility to the Public. The change clarifies the intent of the Department to specify pay items in the contract.</p> <p>The Specification is redline copy showing the revisions.</p>
401	<p>401.9.9-Material Transfer Vehicle</p> <p>SP401-Material Transfer Vehicle</p> <p>J. Adkins</p>	<p>1st time to Committee.</p> <p>Changes to Section 401-Asphalt Base, Wearing, and Patching and Leveling Courses adding Material Transfer Vehicle (MTV) requirements to equipment subsection of specifications. A special provision (SP) for when we want to specify use of MTV</p> <p>Two items:</p> <ul style="list-style-type: none"> • Specification, Subsection 401.9.9-Material Transfer Vehicle • SP401-Material Transfer Vehicle
420	<p>420.3.1-Mix Design</p> <p>J. Adkins</p>	<p>1st time to Committee.</p> <p>Specification Change to Section 420-Micro Surfacing. The revision updates the Mixture Requirements. The change updates the AASHTO standard used in the paragraph from AASHTO PP 83 to AASHTO R 103.</p> <p>The Specification is redline copy showing the revisions.</p>
603	<p>SP603-Post Tensioning</p> <p>T. Rogers, M&M</p>	<p>1st time to Committee.</p> <p>Project Specific Special Provision for Post Tensioning.</p>
623	<p>623.3.2-Quality Personnel</p> <p>M. Perrow</p>	<p>1st time to Committee</p> <p>Specification Change to Section 623 Pneumatically Applied Mortar or Concrete (Shotcrete). The revision clarifies the role and duties of the Shotcrete Inspector during construction.</p> <p>The specification is redline copy showing the revisions.</p>

636	636.11-flagger M. Khan	1st time to Committee Specification Change to Section 636-Maintaining Traffic. The revision clarifies flagger requirements on Interstate and/or Expressways. The specification is redline copy showing the revisions.
642	SP642-High Strength Silt Fence L. Rinehart	1st time to Committee. Project Specific Special Provision for high strength silt fence.
697	SP697-Bridge Safety Inspections T. Brown	1st time to Committee. Project Specific Special Provision for bridge inspection requirements on any temporary bridge or stage construction of a new bridge, to correlate with new federal bridge inspection requirements.
707	707.12-Concrete Sealer C. Preston	1st time to Committee. Specification change to Section 707-Concrete Admixtures, Curing, and Coating Materials. The update adds NTPEP and AASHTO M224 requirements. The specification is redline copy showing the revisions.

Comments

Comments are requested on these Specifications Changes and Project Specific Special Provisions. Please share your comments by **March 31, 2023**, they help in the decision making process.

Please Send Comments to: DOHSpecifications@wv.gov

Deadline for new items & updates to these provision is **May 12, 2023**.

If you are the 'champion' of any specification changes and/or project specific special provisions currently in the Specification Committee, it is your responsibility to edit/update/modify them in a timely manner per comments and discussion in Spec Committee. *Failure to submit updates may result in removal of item and/or delays.*

Next Meeting

Wednesday, ~~June 7, 2023~~ **June 14, 2023 at 9:00 a.m.** (NOTE - meeting date change)
Meeting will be held virtually via Google Meet video conference. E-mail distribution message includes instruction.

Specification Webpage Updated

Technical Support Division now has a webpage and the specification webpage has moved. The Specification page is here:

<https://transportation.wv.gov/highways/TechnicalSupport/specifications/>

2023 Standard Specification Roads and Bridges

Electronic copy (pdf): The 2023 Standard Specifications Roads & Bridges is posted on the Publications page under Specifications.

Print Version: We are working on getting the book printed and will send an update as soon as we can.

2023 Specifications Committee

The Specification Committee typically meet every other month; on the first Wednesday. 2023 meetings will be held in February (2/1), April (4/5), June (6/14), August (8/2), October (10/4), and December (12/6).

Calendar subject to change, updates will be given, as needed.

Specifications Committee Website

A copy of the meeting agenda can be found on the Specifications Committee Website <https://transportation.wv.gov/highways/TechnicalSupport/specifications/SPECCOMIT/Pages/default.aspx>

Materials Procedures

Material Procedures (MPs) referenced in provisions are available upon request.

For questions regarding the Standard Specifications Road and Bridges, Supplemental Specifications, Project Specific Provisions, or the Specifications Committee please email DOHSpecifications@wv.gov

File Format Structure and Progression of items thru Specifications Committee

The purpose of the below protocol is to provide guidance on the file structure of Proposed Specifications & Project Specific Provisions as they progress thru Specifications Committee. This procedure would facilitate a means of tracking changes from meeting to meeting; as the agenda & provisions are posted publicly online on the Spec Committee website.

TYPES OF PROVISIONS:

There are three standard types of provisions typically discussed in committee:

1. Specification Changes – These are permanent changes to the WV DOT Standard Specifications.
 - Unless inserted into a project proposal, these changes typically go into effect in January (of subsequent year) with the Supplemental Specifications
2. Project Specific Special Provisions (SP) – Are applied to specifically designated projects.
3. Updates to previously approved SP – Changes/edits/updated to SP that have been approved by spec committee.

NEW BUSINESS ITEMS:

New items should be setup & submitted in the following format:

1. Specification Changes – Show as red-line copy (see note)
2. Project Specific Special Provisions (SP) – Will be shown in all black.
3. Updates to approved SP – Shown as red-line copy.

Each item should also include a description with:

- Brief overview of item
- Background info and/or reason for change

NOTE: Red-line copy is a form of editing which indicates removal or addition of text. You can

redline a Microsoft Word document by using the built-in “Track Changes” feature or you can manually reline document with font color changes & strike-through.

OLD BUSINESS ITEMS:

Updated provisions that were discussed at the last committee meeting should be setup in the following format:

- Redline copy from prior meeting would not be shown
- Redline copy of new changes/updates (from previous meeting)

PROGRESSION OF ITEMS THRU COMMITTEE AND APPROVAL:

Depending on how important the project and/or comments/discussion of item at previous meeting, then several things can happen in no particular order.

- Few comments/discussion/minor changes...will recommend approval of item at next meeting
- A lot of comments/discussion...will not recommend approval at next meeting; item will be updated and reviewed again at the next meeting.
- SP’s in committee may be used in advertised project. Hope to work to address comments & finish approving at subsequent meeting.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SUPPLEMENTAL SPECIFICATION

FOR

SECTION 501

PORTLAND CEMENT CONCRETE PAVEMENT

501.2-MATERIALS:

ADD THE FOLLOWING TO THE TABLE:

MATERIAL	SUBSECTION
<u>Fibers</u>	<u>715.3</u>

501.3-PROPORTIONING:

ADD THE FOLLOWING AFTER THE FIRST PARAGRAPH:

The addition of fibers in concrete pavement or concrete overlay shall be allowed. The dosage rate in lbs./cy of fibers for any application shall be the manufacturer's recommendation to meet the requirements of 715.3. The dosage rate shall not be less than the submitted rate used for product approval which can be found in the approved products list. The dosage rate shall not exceed 5.0 lbs./cy, unless the manufacturer can demonstrate, through a field demonstration, that the concrete mixture will be workable and fiber balling is not a problem.

501.8-MIXING CONCRETE:

ADD THE FOLLOWING TO THE END OF THE SUBSECTION:

Mix fibers as recommended by the manufacturer such that the addition of the fibers does not create balling. Notify the Engineer in writing of the dedicated personnel for this task, the procedure for distributing fibers into the concrete mixture, and the mixing method. Any of the following fiber addition methods are acceptable on all jobs:

- Open bag and distribute fibers on aggregate belt at ready-mix concrete plant.
- Open bag, break apart any fiber clumps, and introduce fibers into ready-mix concrete truck in a well-distributed manner (i.e., "chicken feed").

A minimum of 70 revolutions at mixing speed after all the fibers are added is required for proper mixing and dispersion of fibers in trucks. Allowing bags of fiber to dissolve in the ready-mix concrete trucks or mixers will not be allowed. Fibers shall never be the first material added in any mixing process.

501.9-PLACING CONCRETE:

ADD THE FOLLOWING TO THE END OF THE SUBSECTION:

When placing concrete containing fibers, in order to provide consolidation and bury surface fibers, open slab surfaces should be struck off with a vibrating screed or laser screed. Magnesium floats in the form of a bullfloat, channel radius float, or highway straightedge should be used to establish a surface and close tears or open areas. The use of wood floats is not permitted. Any fiber balls should be removed immediately with a hoe or rake. The contractor should adjust the batching and mixing procedure to avoid the further creation of fiber balls as soon as they are noticed on a project.

501.12-FINAL STRIKE-OFF, CONSOLIDATION AND FINISHING:

501.12.5- Floating:

ADD THE FOLLOWING PARAGRAPH TO THE END OF THE SUBSECTION:

When placing concrete containing fibers, in order to provide consolidation and bury surface fibers, open slab surfaces should be struck off with a vibrating screed or laser screed. Magnesium floats in the form of a bullfloat, channel radius float, or highway straightedge should be used to establish a surface and close tears or open areas. The use of wood floats is not permitted. Care should be taken to avoid tilting the blades of any float at too great of an angle which could expose the fibers to the surface.

501.12.7-Final Finish:

ADD THE FOLLOWING SUBSECTION:

501.12.7.1-Final Finish Containing Fibers for Portland Cement Concrete: The final finish selected for concrete pavement or overlay containing fibers shall be an artificial grass carpet drag followed by tining. The tining tool selected must meet the groove and all other requirements of section 501.12.7. Caution must be used to avoid significant disturbance and removal of fibers from the surface. The tining rakes should be held at a small angle to the horizontal surface to prevent lifting or exposing the fibers. Texturing should also be done only in one direction and should never pull against the established pattern. The artificial grass carpet shall meet the following requirements:

- 1) Mounted on a Work Bridge or Paver
- 2) Width equal to the concrete placed

DRAFT

- 3) Artificial grass type
- 4) Molded polyethylene pile face
- 5) Blade length of from 5/8 inch to 1 inch
- 6) Total weight of at least 70 ounces per square yard

The roadway will be textured as accepted by the Engineer. The use of burlap sack for texturing shall not be permitted. All texturing should be accomplished with a single pass of the tool.

DRAFT

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SUPPLEMENTAL SPECIFICATION

FOR

**SECTION 601
STRUCTURAL CONCRETE**

601.2-MATERIALS:

ADD THE FOLLOWING TO THE TABLE:

MATERIAL	SECTION OR SUBSECTION
<u>Fibers</u>	<u>715.3</u>

601.3-PROPORTIONING:

DELETE THE FOLLOWING SECTION AND REPLACE WITH FOLLOWING:

The proportions for any concrete designated as modified shall be submitted by the Contractor to the Engineer for approval. The Design 28 Day Compressive Strength shall be as shown in the plans. The contractor’s mix design shall utilize Table 601.3.1, except the Target Cement Factor may be revised to obtain the modified strength.

~~Class H concrete shall consist of a homogeneous mixture of cement, fine aggregate, coarse aggregate, silica fume admixture, fly ash or slag cement, chemical admixtures, and water.~~

Establishment of mixture proportions shall be coordinated with the manufacturer of the silica fume admixture.

Design mixture testing for Class H concrete shall be in accordance with MP 711.03.23 and shall include air content, slump, compressive strength, and rapid chloride permeability tests. For establishment of mixture proportions, rapid chloride permeability tests shall be made on representative samples prepared and tested in accordance with AASHTO T 277. The rapid chloride permeability test specimens shall be tested at an age of 90 days (or at any time prior to 90 days), and the results of this test shall not exceed 750 coulombs. Specimens shall be moist cured for 56 days prior to the start of specimen preparation unless specimens are to be tested prior to 56 days, in which case the specimens shall be moist cured until the time of test. The 28-day compressive strength of the test mix that satisfies the 750 coulomb threshold shall be used as the basis for acceptance of Class H concrete per Section 601.4.5. The cost of all test mix requirements shall be considered incidental to the cost of Class H concrete.

For establishment of mixture proportions, as an alternative to the curing methods for rapid chloride permeability testing outlined in the previous paragraph, specimens may be moist cured for 7 days in accordance with ASTM C192, then cured for 21 days in lime-saturated water at 100.0 ± 3.5 °F, then tested at an age of 28 days. This method of curing shall be noted as the accelerated RCPT curing method.

The dosage rate in lbs./cy of fibers for any application shall be the manufacturer's recommendation to meet the requirements of 715.3. The dosage rate shall not be less than the submitted rate used for product approval which can be found in the approved products list. The dosage rate shall not exceed 5.0 lbs./cy, unless the manufacturer can demonstrate, through a field demonstration, that the concrete mixture will be workable and fiber balling is not a problem.

601.7-MIXING:

ADD THE FOLLOWING TO THE END OF THE SUBSECTION:

601.7.1 Mixing of Fibers into Concrete: Mix fibers as recommended by the manufacturer such that the addition of the fibers does not create balling. Notify the Engineer in writing of the dedicated personnel for this task, the procedure for distributing fibers into the concrete mixture, and the mixing method. Any of the following fiber addition methods are acceptable on all jobs:

- Open bag and distribute fibers on aggregate belt at ready-mix concrete plant.
- Open bag, break apart any fiber clumps, and introduce fibers into ready-mix concrete truck in a well-distributed manner (i.e., "chicken feed").

A minimum of 70 revolutions at mixing speed after all the fibers are added is required for proper mixing and dispersion of fibers in trucks. Allowing bags of fiber to dissolve in the ready-mix concrete trucks or mixers will not be allowed. Fibers shall never be the first material added in any mixing process.

601.10-PLACING CONCRETE:

601.10.2-Chutes and Troughs:

ADD THE FOLLOWING PARAGRAPH TO THE END OF THE SUBSECTION:

When discharging the concrete containing fibers into a hopper assembly on a pump truck, the chute shall be raised 12 to 18 in. above the grate (if grate is present) on the pump to allow the fibers to pass through the grate.

ADD THE FOLLOWING SUBSECTION TO THE END OF THE SECTION:

601.10.6-Placing Concrete Containing Fibers: To provide consolidation and bury surface fibers, open slab surfaces should be struck off with a vibrating screed or laser screed. Magnesium floats in the form of a bullfloat, channel radius float, or highway straightedge

should be used to establish a surface and close tears or open areas. The use of wood floats is not permitted.

601.11- FINISHING CONCRETE SURFACES:

ADD THE FOLLOWING SUBSECTION:

601.11.5-Texturing & Grooving Bridge Decks Containing Fibers for Portland Cement Concrete: Where a texture finish is required, an artificial grass carpet drag longitudinally, or broom finish transversally shall be selected. The use of burlap sack for texturing shall not be permitted. The artificial grass carpet shall meet the following requirements:

- 1) Mounted on a Work Bridge
- 2) Width equal to the concrete placed
- 3) Artificial grass type
- 4) Molded polyethylene pile face
- 5) Blade length of from 5/8 inch to 1 inch
- 6) Total weight of at least 70 ounces per square yard

All texturing equipment should be pulled in one direction only and never against the established pattern. The Contractor shall texture in a transverse or longitudinal direction. Once begun, the direction of texturing shall not change. All texturing shall be performed prior to the beginning of curing operations. Only one pass of the texturing equipment over the finished area will be permitted. Texturing shall be in strict accordance with the time requirements of 601.12.4 for applying wet burlap.

If texturing is done in the transverse direction, the Contractor shall texture using a broom finish as soon as practicable after finishing machine passage, without any additional finishing operations between the machine passage and texturing operations.

If texturing is done in the longitudinal direction, the artificial grass carpet shall be attached to the work bridge such that the surface of the concrete is textured as soon as practicable after finishing machine passage, without any additional finishing operations between the machine passage and texturing operations. Small areas, inaccessible to the attached drag, may be textured by hand methods.

The finishing movement and resulting progress of the texturing equipment shall be done in a manner to prevent ridges or gouges from forming in the concrete surface. The artificial grass carpet shall may be weighted, and the contact area changed as required necessary to produce a texture acceptable to the Engineer. The drag shall be cleaned as required; to remove all hardened concrete particles and shall be replaced after each day's operation.

Texture resulting from the drag shall stop within one foot of curbs or parapets. Any hand finishing operations shall be kept to a minimum for Class H bridge decks. Grooving bridge deck containing fibers for Portland cement concrete shall follow the requirements of section 601.11.4.4.

DRAFT

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
SUPPLEMENTAL SPECIFICATION
FOR
SECTION 679
OVERLAYING OF PORTLAND CEMENT CONCRETE BRIDGE DECKS

679.2-MATERIALS:

679.2.1-General:

ADD THE FOLLOWING SECTION:

679.2.1.69-Fibers: Fibers shall meet the requirements of section of 715.3.

679.2.2- Specialized Concrete Mix Design and Testing:

DELETE THE FIRST AND SECOND PARAGRAPHS OF THE SUBSECTION AND ADD THE FOLLOWING:

Specialized concrete shall consist of a homogeneous mixture of cement, fine aggregate, coarse aggregate, latex or silica fume admixture, chemical admixtures, and water. The use of fibers in the specialized concrete shall be allowed.

The Contractor shall determine mixture proportions in general accordance with ACI 211.1, "Standard Practice for Selecting Proportions for Normal, Heavyweight and Mass Concrete." Establishment of mixture proportions shall be coordinated with the manufacturer of the latex or silica fume admixture. The dosage rate in lbs./cy of fibers for any application shall be the manufacturer's recommendation to meet the requirements of 715.3. The dosage rate shall not be less than the submitted rate used for product approval which can be found in the approved products list. The dosage rate shall not exceed 5.0 lbs./cy, unless the manufacturer can demonstrate, through a field demonstration, that the concrete mixture will be workable and fiber balling is not a problem.

679.2.3-Equipment:

679.2.3.3-Propportioning and Mixing Equipment:

DELETE THE SUBSECTION AND REPLACE WITH THE FOLLOWING:

Unless fibers are used handling, measuring, and batching of materials shall conform to the requirements specified in 501.7. Mix fibers as recommended by the manufacturer such that the addition of the fibers does not create balling. Notify the Engineer in writing of the dedicated personnel for this task, the procedure for distributing fibers into the concrete mixture, and the mixing method. Any of the following fiber addition methods are acceptable on all jobs except for mobile mixers:

- Open bag and distribute fibers on aggregate belt at ready-mix concrete plant.
- Open bag, break apart any fiber clumps, and introduce fibers into ready-mix concrete truck in a well-distributed manner (i.e., "chicken feed").

A minimum of 70 revolutions at mixing speed after all the fibers are added is required for proper mixing and dispersion of fibers in trucks. Allowing bags of fiber to dissolve in the ready-mix concrete trucks will not be allowed. Fibers shall never be the first material added in any mixing process. When using a mobile mixer unit, fibers should be mixed as recommended by the mobile mixer manufacturer and fiber manufacturer such that the addition of the fibers does not create balling and distributes the proper dosage of fibers into the concrete matrix. Notify the Engineer in writing of the dedicated personnel for this task, the procedure for distributing fibers into the concrete mixture, and the mixing method. The Engineer may require a trial batch to be placed by the mobile mixer unit before any concrete placement can occur.

Proportioning and Mixing Equipment shall consist of the following:

679.2.3.4-Mobile Mixer Units:

DELETE THE TABLE AND REPLACE WITH THE FOLLOWING:

Coarse Aggregate	±2%
Fine Aggregate	±2%
Cement + fly ash	0% to +4%
Water	±1%
Cement + microsilica powder	1%
<u>Fibers</u>	<u>1%</u>
Latex Admixture	1%
Other Admixtures	3%

679.2.3.6-Placing and Finishing Equipment:

ADD THE FOLLOWING PARAGRAPH TO THE END OF THE SUBSECTION:

When using fibers for Portland cement concrete, in order to provide consolidation and bury surface fibers, open slab surfaces should be struck off with a vibrating screed or laser screed. Magnesium floats in the form of a bullfloat, channel radius float, or highway straightedge should be used to establish a surface and close tears or open areas. The use of wood floats is not permitted.

679.3-CONSTRUCTION METHODS:

679.3.7-Placing and Finishing Specialized Concrete Overlay

679.3.7.4-Surface Texturing:

ADD THE FOLLOWING SUBSECTION:

679.3.7.4.1-Surface Texturing Concrete Containing Fibers for Portland Cement Concrete: Where a texture finish is required, an artificial grass carpet drag longitudinally, or broom finish transversally shall be selected. The use of burlap ~~sack~~ for texturing shall not be permitted. The artificial grass carpet shall meet the following requirements:

1. Mounted on a Work Bridge
2. Width equal to the concrete placed
3. Artificial grass type
4. Molded polyethylene pile face
5. Blade length of from 5/8 inch to 1 inch
6. Total weight of at least 70 ounces per square yard

All texturing equipment should be pulled in one direction only and never against the established pattern. The Contractor shall texture in a transverse or longitudinal direction. Once begun, the direction of texturing shall not change. All texturing shall be performed prior to the beginning of curing operations. Only one pass of the texturing equipment over the finished area will be permitted. Texturing shall be in strict accordance with the time requirements of 679.3.7.5 for applying wet burlap.

If texturing is done in the transverse direction, the Contractor shall texture using a broom finish as soon as practicable after finishing machine passage, without any additional finishing operations between the machine passage and texturing operations.

If texturing is done in the longitudinal direction, the artificial grass carpet shall be attached to the work bridge such that the surface of the concrete is textured as soon as practicable after finishing machine passage, without any additional finishing operations between the machine passage and texturing operations. Small areas, inaccessible to the attached drag, may be textured by hand methods.

The finishing movement and resulting progress of the texturing equipment shall be done in a manner to prevent ridges or gouges from forming in the concrete surface. The artificial grass carpet ~~shall~~ may be weighted, and the contact area changed as ~~required~~ necessary to produce a texture acceptable to the Engineer. The drag shall be cleaned as required; to remove all hardened concrete particles and shall be replaced after each day's operation.

Texture resulting from the drag shall stop within one foot of curbs or parapets. Any hand finishing operations shall be kept to a minimum. Grooving bridge deck containing fibers for Portland cement concrete shall follow the requirements of section 679.5.2.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SUPPLEMENTAL SPECIFICATION

FOR

SECTION 715
MISCELLANEOUS MATERIALS

715.3-BLANK

DELETE SUBSECTION 715.3 AND REPLACE WITH THE FOLLOWING:

715.3-FIBERS FOR PORTLAND CEMENT CONCRETE:

Fibers for Portland cement concrete shall include be pre-approved fibers from the WVDOH approved list of fibers for Portland cement concrete. The requirements for shotcrete fibers are separate and are addressed in Section 623.2. Product submittals shall include: a completed Form HL-468 (available on the WVDOH Materials Division Web Page), a copy of the technical data sheet, the current Material Safety Data Sheet (MSDS), and the independent AAHSTO accredited laboratory testing data meeting the requirements of 715.3.3. Any incomplete submittals will not be evaluated for inclusion on WVDOH approved list of fibers for Portland cement concrete.

715.3.1-Definitions:

Micro Fibers: Fibers with diameters less than 0.012 inch.

Macro Fibers: Fibers with diameters equal to or greater than 0.012 inch.

Equivalent Diameter: Diameter of a circle having an area equal to the average cross-sectional area of a fiber.

Balling: A 1-inch diameter or greater conglomerate of fibers at the point of placement.

Aspect Ratio: Length/Equivalent Diameter, Ratio.

Hybrid Fibers: The combination of macro and micro fibers in a mix design containing fibers for Portland cement concrete.

715.3.2-Materials: Fibers shall be synthetic †Type III in accordance with ASTM C1116 and ASTM D7508. Hybrid fibers shall be required for use in bridge decks.

715.3.3 Fibers for Post Crack Tensile and Flexural Capacity, and Plastic Shrinkage Cracking Control: Fibers shall meet the requirements of Table 715.3.3 unless solely intended for plastic shrinkage cracking control which shall only be required to meet the requirements of the crack reduction ratio of Table 715.3.3.

TABLE 715.3.3

<u>Required Hardened Fiber-Reinforced Concrete Properties</u>	<u>Specification</u>	<u>Requirement</u>
<u>Equivalent Flexural Strength $f_{e 150}^{150}$, min. ^a</u>	<u>ASTM C1609 ^b</u>	<u>150 psi.</u>
<u>Equivalent Flexural Strength Ratio $R_{T,150}^{150}$, min. ^a</u>	<u>ASTM C1609 ^b</u>	<u>25%</u>
<u>Crack Reduction Ratio, (CRR), min. reduction</u>	<u>ASTM C1579</u>	<u>$\geq 85\%$</u>

^a The specimens shall be tested when the concrete ultimate flexural strength at peak stress (f_p) is a minimum of 650 psi. For 6 inch by 6 inch by 20 inch beam containing fibers the maximum allowable net deflection value of L/150 of the 18 inch span length is 0.12 inches.

^b ASTM C1609 will use roller supports that meet the requirements of ASTM C1812.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SUPPLEMENTAL SPECIFICATION

FOR

SECTION 109

MEASUREMENT AND PAYMENT

109.20-WEIGH TICKETS:

DELETE THE CONTENTS OF PARAGRAPH THREE (3) AND FOUR (4) OF 109.20 AND REPLACE WITH THE FOLLOWING:

A weigh ticket shall be required with each load of material from a commercial source which would normally have truck scales. This includes, but is not limited to, all asphalt paving materials and all aggregates regardless of the contract pay unit. The weigh ticket shall include gross, tare, and net weights, time and date of loading, Item Number or Description of Materials, Contract Number or Project Number, ~~number of axles on haul unit~~, license number of haul unit, and signature of the weigher certifying that all information on the ticket is correct. If the weigher's name is printed by the computer on the ticket, then it only needs to be initialed by the weigher.

For material from a commercial source or a batch plant, which would not normally have truck scales, a weigh ticket documenting the tare weight, ~~number of axles on the haul unit~~, license number of haul unit, date weighed, location of scales, and signature of the weigher certifying that all information on the ticket is correct, may be supplied for each haul unit as an alternate to the ticket required in the previous paragraph. The tare weight ticket shall be supplied for each contract on a yearly basis and when modifications are made to the vehicle or combination of vehicles. The weight of the material delivered shall be calculated and furnished by the vendor/supplier shipping the material to the project site or DOH facility. This includes, but is not limited to, concrete, structural steel, piling, reinforcing steel and all prepackaged material of known weight, such as cement, grout, fertilizer, lime, abrasives, etc.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SUPPLEMENTAL SPECIFICATION

FOR

SECTION 201
CLEARING AND GRUBBING

201.7-DISPOSAL:

DELETE THE CONTENTS OF THE EIGHTH PARAGRAPH IN SUBSECTION 201.7 AND REPLACE WITH THE FOLLOWING:

The in ground trench is to be placed outside the ~~roadway prism construction limits~~, unless otherwise approved by the Engineer. If the trenches are not to be eliminated in the subsequent excavation operation, they shall be backfilled. All backfill within ~~the roadway prism construction limits~~ shall be accomplished in accordance with the requirements of Section 207. Compaction of backfill outside ~~the roadway prism construction limits~~ shall be performed so as to obtain a minimum density equal to that of the surrounding ground.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
SUPPLEMENTAL SPECIFICATION
FOR
SECTION 202
BUILDING DEMOLITION, WELL AND SEPTIC TANK ABANDONMENT

202.4-BUILDINGS:

DELETE THE CONTENTS OF THE FIRST PARAGRAPH IN SUBSECTION 202.4
AND REPLACE WITH THE FOLLOWING:-

Buildings and appurtenances shall be removed to the existing ground level, which operation shall include removal of concrete slabs or any other type of floor resting upon the ground. Basements shall be cleared of all debris, appliances, wood or metal partition walls, wood floors, etc., so that only the foundation walls and basement floor remain. The basement floors shall be shattered. If pits, trenches, holes, or basements are not to be eliminated in subsequent excavation operation, they shall be backfilled. All backfill within the ~~roadway prism construction limits~~ shall be accomplished in accordance with the requirements of Section 207. Compaction of backfill outside the ~~roadway prism construction limits~~ shall be performed so as to obtain a minimum density equal to that of the surrounding ground.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SUPPLEMENTAL SPECIFICATION

FOR

SECTION 410
ASPHALT BASE AND WEARING COURSES,
PERCENT WITH LIMITS (PWL)

410.13-BASIS OF PAYMENT

410.13.6-Bond Strength Adjustment:

DELETE THE CONTENTS OF THE FIRST PARAGRAPH IN SUBSECTION 410.13.6 AND REPLACE WITH THE FOLLOWING.

For Interstates and divided NHS Routes, bond Strength PWL calculations shall be in accordance with MP 401.13.50, Guide to Statistical Analysis of Material Using Quality Level Analysis-Percent within Limits. However, for the purpose of relieving large standard deviations due to abnormally strong samples, lot calculations for the lower Quality Index (Q_L) as described in MP 401.13.50 shall be handled as such: the arithmetic mean (Average) in Q_L shall use the actual strengths recorded during testing; the standard deviation (SD) in Q_L shall use the actual strengths recorded, substituting any values greater than or equal to 151 psi with 150 psi-any sample with a strength exceeding 150 psi will be evaluated as 150 psi instead of the actual strength. The actual strength of a given sample shall ~~still~~ always be recorded as such on the reporting form.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SUPPLEMENTAL SPECIFICATION

FOR

**SECTION 615
STEEL STRUCTURES**

615.3-MATERIALS:

615.3.3-Welded Stud Shear Connectors:

DELETE THE FIRST PARAGRAPH OF SECTION 615.3.3 AND REPLACE WITH THE FOLLOWING.

When design requires the use of welded stud shear connectors, they shall meet the requirements of Section 7 of the ANSI/AASHTO/AWS D1.5, Bridge Welding Code and be sampled and tested in accordance with MP 615.20.01.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SUPPLEMENTAL SPECIFICATION

FOR

**SECTION 712
GUARDRAIL AND FENCE**

712.4-GALVANIZED STEEL DEEP BEAM GUARDRAIL, FASTENERS AND ANCHOR BOLTS:

DELETE THE CONTENTS OF THE SECTION AND REPLACE WITH THE FOLLOWING:

Galvanized steel deep beam guardrail, fasteners and anchor bolts shall ~~conform to be~~ evaluated by NTPEP (National Transportation Product Evaluation Program). The NTPEP testing results shall meet the requirements of AASHTO M 180.; ~~The rail shall be~~ Type II, Class A.

712.5-ZINC-ALUMINUM-MAGNESIUM ALLOY COATING GUARDRAIL, FASTENERS AND ANCHOR BOLTS:

DELETE THE CONTENTS OF THE SECTION AND REPLACE WITH THE FOLLOWING:

Zinc-aluminum-magnesium alloy-coating deep beam guardrail shall ~~conform to be~~ evaluated by NTPEP (National Transportation Product Evaluation Program). The NTPEP testing results shall meet the requirements of AASHTO M 180, Type V or VI, Class A.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SPECIAL PROVISION

FOR

STATE PROJECT NUMBER: _____

FEDERAL PROJECT NUMBER: _____

**SECTION 601
STRUCTURAL CONCRETE**

601.1-DESCRIPTION:

ADD THE FOLLOWING SECTION:

601.1.1 Rapid Set Cementitious or Polymer Concrete Patching: The work shall consist of removing the existing concrete, sandblasting the exposed steel reinforcing bars, cleaning the bonding surfaces of the existing concrete to remain, replacing any damaged or severed reinforcing, and furnishing and placing Rapid Set Cementitious or Polymer Concrete Patching Material at the locations indicated on the plans and any other location designated by the engineer. The construction shall be in accordance with this Specification and in reasonably close conformity with the Plans or as established by the Engineer.

601.2-MATERIALS:

ADD THE FOLLOWING SECTIONS:

601.2.1-Rapid Set Cementitious or Polymer Concrete Patching Material:

601.2.1.1: Rapid Set Cementitious or Polymer Concrete Patching Material shall be a high early strength structural repair material capable of patching deep holes, shallow feathering, able to be poured in forms, or being troweled vertically or overhead. Material shall not shrink on cure, and be capable of providing a strong bond to concrete and steel reinforcing bars. It shall be a non-toxic product and clean up with water.

601.2.1.2: All Rapid Set Cementitious or Polymer Concrete Patching Materials shall be shipped in strong substantial containers sealed in a manner acceptable to the Engineer. Each container shall be plainly marked with the following:

DRAFT

- 1) Product name
- 2) Component part
- 3) Batch number
- 4) Date of manufacture
- 5) Date of expiration of acceptance
- 6) Name & address of the manufacturer
- 7) Material safety data sheet

601.2.1.3: The product selected shall be from the WVDOH approved list of concrete repair materials and shall conform to all criteria of section 715.4.1 or 715.4.2.

601.2.1.4: Clean, dry aggregates may be allowed in order to increase yield on deep placements per the Manufacturer's recommendations.

~~**601.2.1.5:** An Accelerator may be allowed in Low Temperature environments to improve workability per the Manufacturer's recommendations~~

601.2.1.65: A Retarder may be allowed in High Temperature environments to improve workability per the Manufacturer's recommendations.

601.3-PROPORTIONING:

ADD THE FOLLOWING SUBSECTION:

601.3.3-Preparation of Bonding Surface: The contractor shall remove all loose, soft, honeycombed, and disintegrated concrete, plus an additional three (3) inches of sound concrete around the perimeter of the repair areas by means of sawcutting or other approved method that will not damage the sound concrete adjacent to the repair area. The surface of the existing concrete to remain is free of all loose or foreign matter, dirt, grime, oil, grease, or any other materials that would diminish the bonding surface. Sandblasting, grinding, jack hammering, or the use of wire brushes may be needed to acquire the necessary bonding surface.

The existing exposed reinforcing steel bars shall be cleaned by sandblasting to a SSPC-SP-6 finish. After sandblasting, a rust inhibitor approved by the Manufacturer of the Rapid Set Cementitious or Polymer Concrete Material for compatibility shall be applied to all exposed reinforcing steel bars.

Any exposed reinforcing bar that is, per the Engineer's judgment, severed, missing, or damaged shall be replaced with a bar of the same diameter and coupled to the sound reinforcing that will remain with a Division approved mechanical splice. Reinforcing bar material shall be intermediate grade billet steel in accordance with AASHTO M31, Grade 60. This work shall be included under the pay item(s) included herein.

The bonding surface shall be dry and free of moisture and a representative of the Manufacturer shall be on site to approve of all bonding surfaces immediately prior to and during application of the Rapid Set Cementitious or Polymer Concrete Material.

The Contractor shall protect from damage all materials, which are to remain in place. Materials damaged due to the Contractor's operations, as determined by the Engineer, shall be repaired or replaced at no additional cost to the Department and to the satisfaction of the Engineer.

601.10 PLACING CONCRETE

ADD THE FOLLOWING SUBSECTION:

601.10.6-Rapid Set Cementitious or Polymer Concrete Patching Installation: An experienced technical representative of the Manufacturer of the Rapid Set Cementitious or Polymer Concrete Material shall be present during all phases of substrate preparation and material installation. All placements shall be under the direction of the Manufacturer's representative.

The Manufacturer's representative shall advise both the Engineer and the Contractor regarding proper installation procedures to assure the Rapid Set Cementitious or Polymer Concrete Material is installed correctly. The material shall be installed in accordance with the recommendations of the Manufacturer's representative. In the event of a conflict, the Engineer's final decision will be binding.

Prior to placing the Rapid Set Cementitious or Polymer Concrete Material, all areas shall be coated with the Manufacturer's recommended bonding compound if applicable.

After installation is completed, the Manufacturer's representative shall certify to the Engineer, in writing, that the Rapid Set Cementitious or Polymer Concrete Material was installed in accordance with the Manufacturer's requirements.

601.10.6.1-Rapid Set Cementitious or Polymer Concrete Patching Acceptance Criteria: The Engineer shall not accept the Contractor's work if, in his judgment, the following criteria are not met:

- a. The Contractor stores, handles, mixes, and installs the materials according to the Manufacturer's recommendations and as specified herein.
- b. Representative of the Manufacturer is on site during mixing and placing of Rapid Set Cementitious or Polymer Concrete Patching Material.
- c. No degradation of material properties under field conditions is detected. The Contractor shall replace any material showing degradation.
- d. All loose, soft, honeycombed, and disintegrated concrete, plus an additional three (3) inches of sound surface concrete around the perimeter of the repair areas is removed with no damage to adjacent sound concrete.
- e. The surface of the existing concrete to remain is free of loose or foreign matter, dirt, grime, oil, grease, or any other materials that would diminish the bonding surface.
- f. Existing exposed reinforcing steel bars are free of dirt, grime, oil, grease, corrosion, or any other foreign matter that would prevent a good bonding surface or allow future corrosion of the reinforcing steel bars.
- g. No reinforcing bars to remain in place are damaged or severed.
- h. All work done as a result of the acceptance criteria shall be done at no additional cost to the Division.

601.12-CURING AND PROTECTING

DRAFT

ADD THE FOLLOWING SUBSECTION:

601.12.6- Rapid Set Cementitious or Polymer Concrete Patching: The material selected must be cured as recommended by the manufacturer. The manufacturer shall advise both the Engineer and the Contractor, in writing, of the curing recommendations in accordance with the manufacturer’s requirements. The curing method selected must be implemented until the concrete patch has reached the specified strength.

601.14-METHOD OF MEASUREMENT:

ADD THE FOLLOWING SUBSECTION:

601.14.1-Rapid Set Cementitious or Polymer Concrete Patching: Cementitious Patching or Polymer Concrete Material will be measured in place complete and accepted as determined by the dimensions on the Plans or contract documents, and will be per the method established by the pay items in the Proposal, per cubic foot or square foot, subject to adjustment as provided for in 104.2 and 109.2.

601.15-BASIS OF PAYMENT

ADD THE FOLLOWING SUBSECTION:

601.15.1.1-Rapid Set Cementitious or Polymer Concrete Patching: The removal of existing concrete, to the limits shown in the plans or as directed by the Engineer, the cleaning of existing concrete to remain, the cleaning of exposed reinforcing bars, and the placement of specified materials to make the necessary repairs shall be included in the payment for the items below. The quantities, determined above, will be paid for at the contract unit price bid for the items below, which price and payment shall be full compensation for furnishing all materials and doing all the work herein prescribed, including all the Manufacturer's cost, labor, tools, equipment, supplies and incidentals necessary to complete the work.

601.16-PAY ITEM:

ADD THE FOLLOWING TO THE TABLE:

ITEM	DESCRIPTION	UNIT
601030-000	Patching Concrete Structures	Square Foot
601030-004	Patching Concrete Structures	Cubic Foot

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SPECIAL PROVISION

FOR

STATE PROJECT NUMBER: _____

FEDERAL PROJECT NUMBER: _____

**SECTION 601
STRUCTURAL CONCRETE**

601.3–PROPORTIONING:

ADD THE FOLLOWING PARAGRAPH AT THE END OF THE SUBSECTION:

Design mixture testing for ~~all classes of~~ Class H concrete shall be in accordance with MP 711.03.23 and shall include air content, slump, compressive strength, and super air meter (SAM) tests. For establishment of mixture proportions, SAM testing shall be performed in accordance with AASHTO ~~TP 118~~ T 395. The SAM test results (SAM Number), shall be for information purposes only, but ideally the SAM number should be less than or equal to 0.20 for mix design qualification. The cost of all test mix requirements for new mix designs shall be considered incidental to the cost of the concrete.

For existing mix designs, which have already been approved by the Division, SAM meter testing shall be performed on a laboratory trial batch at a Division Approved Concrete Mix Design Laboratory. The cost of conducting this SAM test shall be paid as a separate Pay Item.

ADD THE FOLLOWING SUBSECTION AND PARAGRAPH:

601.3.2.2.1-Sequential Pressure Method-Super Air Meter (SAM): ~~During the progress of the work, SAM testing shall be performed at the same frequency as the normal air content tests~~ The SAM testing shall be performed daily on the first batch, and then every fifth batch thereafter. The results of this SAM testing will be for informational purposes only. The target value of the SAM number at the point of placement should ideally be as shown in Table 601.3.2.2.1. However, SAM numbers obtained from this field testing are not required to meet the requirements of Table 601.3.2.2.1. Ideally, if the SAM number does not conform to the target values of Table 601.3.2.2.1, the Contractor would take immediate steps to adjust the concrete mix, so that the SAM Number of succeeding loads

DRAFT

is within the acceptable limits shown in Table 601.3.2.2.1. The entrained air content shall still be maintained within the tolerances specified in Section 601.3.2.2.

For each SAM test performed, the SAM Number shall be recorded by the Contractor on the same T600 form on which the corresponding normal air content test result is recorded. An electronic copy of that T600 form and an electronic copy of the Concrete Batch Ticket for that concrete shall be sent to the following e-mail address within 72 hours of the completion of the test: DOHConcreteMixDesign@wv.gov.

TABLE 601.3.2.2.1

SAM Number	Required Action
Less than 0.25	Accept Concrete
0.25 to 0.30	Accept with Corrective Action Needed
Greater than 0.30	Reduced payment for concrete

601.4-TESTING:

601.4.1–Sampling and Testing Methods:

ADD THE FOLLOWING TO THE TABLE IN SUBSECTION 601.4.1:

Sequential Pressure Method - Super Air Meter (SAM)	AASHTO TP-118 <u>T 395</u>
--	---------------------------------------

601.4.2-Contractor’s Quality Control:

ADD THE FOLLOWING AFTER THE FIRST PARAGRAPH IN THE SUBSECTION:

Prior to any testing with the SAM by Contractor QC Personnel, those Contractor QC Personnel must be certified by MCS&T Division Personnel for testing with the SAM. This certification will validate their ability to test with the SAM following the guidelines of AASHTO ~~TP-118~~ T 395. MCS&T Division will maintain a database of all personnel who have been certified to perform the SAM test. Only the SAM results from these certified individuals will be accepted, and the name(s) of these individuals shall be included in the contractor’s field quality control plan.

601.16-PAY ITEMS:

ADD THE FOLLOWING PAY ITEM:

ITEM	DESCRIPTION	UNIT
601100-005	SAM Testing of Existing Class H Concrete Mix Design	Each

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SPECIAL PROVISION

FOR

STATE PROJECT NUMBER: _____

FEDERAL PROJECT NUMBER: _____

SECTION 107

LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

107.8-RAILWAY-HIGHWAY PROVISIONS:

107.8.7-Flagging Services:

DELETE THE CONTENTS OF SUBSECTION 107.8.7 AND REPLACE THE FOLLOWING:

As of the date of this advertisement, the following companies have been pre-approved by Norfolk Southern Railway Company to provide railroad protective services (Railroad Flagger):

Railpros Direct Hire
Gary Killion
682-219-9196
Gary.Killion@railpros.com

Railroad Consultants Direct Hire
Steve Lloyd
615-542-8901
slloyd@railroad-consultants.com

The Contractor shall adhere to the latest edition of *Norfolk Southern's Special Provisions for Protection of Railway Interest*, Section 8 – Contractor Protective Services, which is located within the bid documents.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SUPPLEMENTAL SPECIFICATION

FOR

SECTION 107

LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

107.21-PROTECTION OF RIVERS, STREAMS, AND IMPOUNDMENTS:

107.21.3-Basis of Payment:

DELETE THE ENTIRE CONTENTS OF SUBSECTION 107.21.3 AND REPLACE WITH THE FOLLOWING:

~~Except when pay items are specifically described and furnished as pay items in 642, Temporary Pollution Control, the water pollution and erosion and siltation control requirements set forth shall be at the expense of the Contractor.~~

The Department will specify pay items in the contract to protect rivers, streams and impoundments. These include but are not limited to sections 641, 642, 651, 652, 653, 654, 655, and 656. Cost and quantities for items deemed necessary or beneficial by the Engineer or Environmental Monitor that are not specifically described and furnished as pay items in the contract shall be negotiated by the Engineer and Contractor to be included in the Contract.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SUPPLEMENTAL SPECIFICATION

FOR

SECTION 401

**ASPHALT BASE, WEARING, AND
PATCHING AND LEVELING COURSES**

401.9-EQUIPMENT:

DELETE SUBSECTION 401.9.10-COMPACTION EQUIPMENT AND RENUMBER AS 401.9.11. AND ADD THE FOLLOWING TO SUBSECTION 401.9.10:

401.9.10-Materials Transfer Vehicle: A Materials Transfer Vehicle (MTV) shall be designed to independently transfer and continuously mix asphalt concrete to mitigate thermal and particle size segregation when transferring from the haul equipment to the paving equipment.

An MTV shall have a high-capacity truck unloading system, capable of receiving 600 tons per hour from the hauling equipment, and have a minimum combined capacity of 15 tons of asphalt concrete, including the MTV storage bin and hopper. An MTV shall include a system contained within an integrated storage bin which continuously mixes the asphalt concrete prior to discharge to the paving equipment. Additionally, the MTV should have a discharge conveyor with the ability to swivel to allow for the deliver the mixture to the paver while the MTV operates from an adjacent lane.

The MTV shall be maintained at all times and in satisfactory working conditions.

401.9.10.11-Compaction Equipment: Compaction shall be performed by self-propelled steel-wheeled or pneumatic-tired rollers. The use of either vibratory or oscillatory type rollers is acceptable. Pneumatic rollers shall be equipped with skirting around the wheel area to prevent heat loss to the tires and tire pads. Hand-held rollers or vibrating plates may be used in small inaccessible areas as approved by the Engineer. Prior to use on any project, the roller shall be inspected to see that it is in good mechanical condition. The total weight, weight per inch of width (steel-wheeled), and average ground contact pressure (pneumatic-tired) shall be documented in the contractors QCP in accordance with MP 401.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SPECIAL PROVISION

FOR

STATE PROJECT NUMBER: _____

FEDERAL PROJECT NUMBER: _____

**SECTION 401
ASPHALT BASE, WEARING, AND
PATCHING AND LEVELING COURSES**

401.1-DESCRIPTION:

ADD THE FOLLOWING:

401.1.1-Materials Transfer Vehicle: This work shall consist of the use of a Materials Transfer Vehicle (MTV) for transferring asphalt concrete from hauling equipment to the paver during construction. An MTV, as defined in Section 401.9.10, contributes to an efficient non-stop paving operation by reducing thermal and particle size segregation in the material, both of which adversely affect the smoothness and durability of the final pavements. The work shall be constructed in accordance with these specifications and the applicable requirements of Section 401, 402, or 410 of the Specifications.

NOTE: Asphalt paving applications suitable for MTV shall include a minimum of one (1) mile of continuous pavement. MTV usage is only to be specified for projects with approval of the Asphalt and Pavement Groups at MCS&T.

401.13-BASIS OF PAYMENT:

ADD THE FOLLOWING:

No additional measurement is necessary nor will additional compensation be allowed for use of an MTV on the project.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SUPPLEMENTAL SPECIFICATION

FOR

SECTION 420

SINGLE / MULTIPLE COURSE MICRO SURFACING

420.3-MIXTURE REQUIREMENTS:

420.3.1-Mix Design:

DELETE THE CONTENTS AND REPLACE WITH THE FOLLOWING.

Submit to the Engineer, at least fourteen calendar days before the start of production, a complete mix design prepared and certified by an experienced laboratory. The source for all materials must be shown. Provide a job mix formula (JMF) to the Engineer at the pre-paving meeting showing individual proportions of each material, that when combined, shall meet the requirements of AASHTO ~~PP-83~~ R 103, with the exception that the Saturated Abrasion Loss by ISSA TB-144 shall be 2.0 grams max. A new mix design is required for any change in aggregate or asphalt emulsion source.

DRAFT

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SPECIAL PROVISION

FOR

STATE PROJECT NUMBER: _____

FEDERAL PROJECT NUMBER: _____

**SECTION 603
PRESTRESSED CONCRETE MEMBERS**

ADD THE FOLLOWING TO SUBSECTION:

603.19-POST-TENSIONING:

The work under this section shall consist of furnishing, storing, handling, installing, stressing, and grouting of post-tensioning systems in cast-in-place and precast concrete structural members in accordance with the details shown on the Plans, Section 603 of the Specifications, and this Special Provision.

603.19.1-Materials: Furnish materials that meet requirements of the most current versions of the following documents unless indicated otherwise: Post-Tensioning Institute’s *Specification for Multistrand and Grouted Post-Tensioning (PTI/ASBI M50.3)* and Post-Tensioning Institute’s *Specification for Grouting of Post-Tensioned Structures (PTI M55.1)*.

603.19.1.1-Post-Tensioning System: Furnish a post-tensioning system following the minimum requirements for Protection Level 2 (PL-2) in accordance with PTI/ASBI M50.3. PT supplier shall submit certified test reports to the Engineer for all post-tensioning systems to be used on the project tendons demonstrating compliance with the requirements of PTI/ASBI M50.30 Section 4.4 “System Approval Testing.” All components of the post-tensioning system, with the exception of prestressing strand, shall be furnished by a single supplier.

Where required in the contract drawings, provide unbonded single strand tendons in accordance with the most current version of the following document: Post-Tensioning Institute’s *Specification for Unbonded Single Strand Tendons (PTI M10.2)*.

603.19.1.2-Prestressing Steel: Furnish prestressing steel conforming to one of the following types:

- Uncoated, low-relaxation, Grade 270, seven-wire steel strand meeting the requirements of AASHTO M203 (ASTM A416).

- Grade 150, high strength, coarse thread steel bars meeting the requirements of the most current version of AASHTO M275 (ASTM A722).

603.19.1.3-Grout: Provide pre-packaged grout in accordance with PTI M55.1 meeting the requirements of Class C grout. Do not use grout that exceeds the manufacturer's recommended shelf life or 6 months, whichever is less.

Potable water shall be used for mixing grout. If potable water is not available, the proposed water shall meet the requirements of PTI M55.1 and Section 715.7 of the Standard Specification.

603.19.2-Equipment: Furnish equipment that meet requirements of the most current versions of the following documents unless indicated otherwise: PTI/ASBI M50.3 and PTI M55.1.

603.19.2.1-Stressing Equipment: Provide hydraulic jacks, pressure gauges, and other stressing equipment that meets PTI/ASBI M50.3.

603.19.2.2-Grouting Equipment: Provide grout mixing, testing, and pumping equipment that meets PTI M55.1.

603.19.3-Required Submittals: Submittals required in this section for post-tensioned elements are in addition to the requirements of Section 601 "Structural Concrete" and Section 603 "Prestressed Concrete Members" of the Standard Specification. Prepare shop drawings to address the requirements stated in Section 105.2 of the Standard Specification.

603.19.3.1-Grouting Plan: Prior to the start of post-tensioning material installation, submit written grouting procedures for review and approval by the Engineer. The grouting plan shall include all items required by PT M55.1. Include air-pressure test procedures for identifying potential grout leaks prior to grouting. Include names of crew members responsible for post-tensioning material installation, post-tension stressing operations, and grouting operations along with proof of personnel certification outlined in Section 603.19.4.1 of this Special Provision. Grouting Plan shall be submitted sufficiently in advance of the start of the work to allow time for review and distribution by the Engineer and corrections by the contractor/supplier without delaying the work.

603.19.3.2-Post-Tensioning Drawings Details: Prior to the start of post-tensioning material installation, submit Post-Tensioning System Drawings and Tendon Installation Drawings for review and approval by the Engineer. Post-Tensioning System Drawings and Tendon Installation Drawings shall meet the requirements of PTI/ASBI M50.3. All drawings shall be submitted sufficiently in advance of the start of the work to allow time for review and distribution by the Engineer and corrections by the contractor/supplier without delaying the work.

603.19.3.3-Field Mockup Test Plan: Prior to the start of post-tensioning material installation, submit a Field Mockup Test Plan for review and approval by the Engineer. The Field Mockup Test Plan shall meet the requirements of PTI M55.1. The plan shall be

submitted sufficiently in advance of the start of the work to allow time for review and distribution by the Engineer and corrections by the contractor/supplier without delaying the work.

603.19.3.4-Post-Tensioning Calculations: Prior to the start of post-tension stressing operations, submit stressing calculations for all tendons for review and approval by the Engineer. Stressing calculations shall meet the requirements of PTI/ASBI M50.3. Calculations shall be sealed by a Professional Engineer licensed in the State of West Virginia. Prestressing Calculations shall be submitted sufficiently in advance of the start of the work to allow time for review and distribution by the Engineer and corrections by the contractor/supplier without delaying the work.

603.19.4-Construction: Cast-in-place concrete construction shall meet the requirements of this section and Section 601 “Structural Concrete” of the Standard Specifications. Precast concrete construction shall meet the requirements of this section and Section 603 “Prestressed Concrete Members” of the Standard Specification.

603.19.4.1-Qualifications of Personnel: For Post-Tensioning System installation and post-tensioning operations the work crews shall meet the personnel qualification requirements of PTI/ASBI M50.3. For Grouting operations, the work crews shall meet the personnel qualification requirements of PTI M55.1.

603.19.4.2-Packaging, Handling, and Storage of Post-Tensioning Components: Package, store, and handle grout, ducts, anchors, and other post-tensioning accessories per the requirements of PTI/ASBI M50.3 and PTI M55.1 unless noted otherwise. Protect, handle, and store prestressing strand per the requirements of PTI/ASBI M50.3 and Section 603.7 of the Standard Specification.

Install grout caps and ensure vents are closed at all times so that water and other contaminants cannot enter the duct before strand installation. Flushing of ducts is not permitted.

603.19.4.3-Post-tensioning Material Installation and Stressing: Follow PTI/ASBI M50.3 for duct and prestressing steel installation procedures and requirements unless otherwise specified. Verify that concrete strength requirements on the plans are met for stressing and staged loading of post-tensioned structural elements.

Stress the tendons as quickly as is practicable after installation, but no longer than seven days after installation. Protect tendon tails and anchor plates from water intrusion between installation and grouting/capping of tendons. Follow the tensioning procedure noted in the approved Post-Tensioning Drawing Details.

603.19.4.4-Concrete Placement: Cast-in-place concrete placement shall meet the requirements of Section 601 “Structural Concrete” of the Standard Specifications. Precast concrete placement shall meet the requirements of this section and Section 603 “Prestressed Concrete Members” of the Standard Specification. Both cast-in-place and precast elements shall meet the requirements PTI/ASBI M50.3 for concrete placement in post-tensioned elements.

If a duct blockage is discovered during proving of post-tensioning ducts, the Contractor/PT Supplier shall submit a procedure to clear and repair the duct to the Engineer for approval.

603.19.4.5-Grouting: Grout tendons in accordance with PTI M55.1. Follow grouting procedures noted in the approved Grouting Plan. Prior to grouting, perform a duct air-pressure test meeting the requirements of PTI M55.1 and repair any detected leaks. The time between tendon installation and grouting shall not exceed the permissible interval requirements of PTI M55.1.

Prior to the start of production grouting, perform field trial tests and field mockup tests meeting the requirements of the approved Field Mockup Test Plan. The Field Mockup Test shall be witnessed by the Engineer. Results of the Field Mockup Test shall be submitted to the Engineer for approval prior to initiation of production grouting.

Perform field testing of the production grout and post-grout inspections in accordance with PTI M55.1.

603.19.5-Method of Measurement: The quantity of post-tensioning tendons to be paid for under this Section shall be the computed weight, in pounds, of permanent post-tensioning steel tendons entered into the completed structure and accepted. Measurement shall be the theoretical plan length measured from anchor plate bearing face to anchor plate bearing face with no allowance made for waste or extension past the anchor plate faces. No measurement will be made for temporary post-tensioning, which shall be considered incidental to the item "Post Tensioning Strands" and the item "Post Tensioning Bars".

For quantity determination the following unit weights shall be used:

Prestressing System	Weight per Unit Length
0.50 inch diameter seven wire strand	0.521 plf
0.60 inch diameter seven wire strand	0.740 plf
1 inch high strength deformed bar	3.010 plf
1-1/4 inch high strength deformed bar	4.395 plf
1-3/8 inch high strength deformed bar	5.564 plf

603.19.6-Basis of Payment: Post-tensioning tendons will be paid for at the contract unit price per pound of steel strand and per pound of steel bar, complete and in place. Payment shall be full compensation for furnishing, installing, stressing, grouting all post-tensioning tendons, and probing and inspecting grouted anchorages. Payment shall also include anchorage assemblies and post-tensioning system hardware which is not embedded in concrete, grout and grouting, all testing, anchorage protection systems, and all labor, materials, tools, equipment, and incidentals necessary for completing the work in accordance with these Special Provisions and the plans. This payment shall also include lubricant in the tendon ducts for friction control. No separate measurement and payment will be made for anchorage components, including anchorages and diabolos for future tendons and spare ducts, local anchorage zone reinforcement supplied as an integral part of a proprietary anchorage system, nor ducts for similar post-tensioning system hardware. Anchorage components, ducts, and similar items of post-tensioning system hardware, which are embedded within the cast-in-place concrete, shall be deemed to be included in the cost of the cast-in-place concrete.

In the event that the Contractor constructs the structure with an accepted alternative not detailed on the Plans, the payment shall be based on the unit price bid extended by either the quantities shown on the Plans or the actual quantities used and accepted, whichever is less.

603.19.7-Pay Items:

ITEM	DESCRIPTION	UNIT
603003-001	Post Tensioning Strands	Pound
603004-001	Post Tensioning Bars	Pound

DRAFT

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
SUPPLEMENTAL SPECIFICATION
FOR
SECTION 623
PNEUMATICALLY APPLIED MORTAR OR CONCRETE (SHOTCRETE)

623.3-QUALIFICATIONS:

623.3.2-Quality Control Personnel:

DELETE THE SUBSECTION AND REPLACE WITH THE FOLLOWING:

Shotcrete Inspector: For ~~Every~~ project in which shotcrete is included, ~~the Contractor~~ is required to have an ~~independent~~ Shotcrete Inspector with a current ACI Shotcrete Inspector Certification. The Shotcrete Inspector must have verifiable work experience in one of the following areas: 1. Testing, inspection, and quality control of shotcrete. 2. Supervision of shotcrete construction work. 3. Design of shotcrete structures. The Shotcrete Inspector is required to be at the place of shotcrete placement while shotcrete placement is occurring. ~~The Shotcrete Inspector shall also submit a daily written report to the Engineer detailing where the shotcrete placement occurred and that the shotcrete placement was performed correctly according to the Specification and in reasonably close conformity with the Plans or as established by the Engineer. The Shotcrete Inspector shall stop shotcrete placement immediately if the shotcrete placement does not satisfy the requirements of the Specification or if it is not in reasonably close conformity with the Plans or as established by the Engineer. The reason for stopping shall be documented and included in the daily written report. The work shall resume after all issues are resolved satisfactorily.~~

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SUPPLEMENTAL SPECIFICATION

FOR

**SECTION 636
MAINTAINING TRAFFIC**

636.11-FLAGGER OR TRAFFIC DIRECTOR:

636.11.1-Flagger:

DELETE THE CONTENTS OF SUBSECTION 636.11.1 AND REPLACE WITH THE FOLLOWING:

All flaggers shall be furnished by the Contractor, and it shall be the Contractor's responsibility to provide flaggers at ~~any~~ locations necessary to assure the safety of the travelling public. No flaggers are allowed on Interstate and/or Expressways mainline; however, they may be allowed on ramps, when approved by the Traffic Engineering Division. Hand signaling devices and high visibility apparel meeting the requirements of the WVDOH Traffic Control Manual shall be used by the Contractor's personnel assigned to traffic control responsibilities. Approved headgear, if worn, and vests worn by the Contractor's personnel shall not bear the Division symbol. Wireless two-way communication shall be provided to the flaggers when they are out of sight of each other.

Flaggers must be certified by passing an American Traffic Safety Service Association (ATSSA) training. The Contractor may use noncertified flaggers for their benefit, ease of operations, or other activities not receiving payment.

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SPECIAL PROVISION

FOR

STATE PROJECT NUMBER: _____

FEDERAL PROJECT NUMBER: _____

**SECTION 642
TEMPORARY POLLUTION CONTROL**

642.6-TEMPORARY PIPE, CONTOUR DITCHES, BERMS, SLOPE DRAINS, ROCK CHECK DAM, SILT FENCE, AND SUPER SILT FENCE:

ADD THE FOLLOWING SUBSECTION:

642.6.7-High Strength Silt Fence: 42” high Reinforced High Strength Silt Fence is a heavy-duty, high-tensile/ high-modulus, woven geotextile sediment fence. Designed using a value engineering approach, it is equivalent in strength and stiffness to that of wire or chain-link backed silt fence.

642.7-METHOD OF MEASUREMENT:

ADD THE FOLLOWING SUBSECTION:

642.7.2-High Strength Silt Fence: Excavate trench a maximum of 4” wide and 6” deep. The trench shall be hand-cleaned following excavation to remove bulky debris such as rocks, sticks, and soil clods. out on the ground along the proposed fence line and next to the anchor trench. For the initial post, place the end of Reinforced High Strength Silt Fence along the post height and rotate the post 360 degrees, maintaining tension on the fabric. Secure the fence to the post at all four (4) orange-colored band locations with steel wire (metal T-posts using 16-gage 304 SS wire with mitered ends, securing with safety pliers) or nylon ties (puncture two 0.25” openings, spaced at a width apart that is roughly equivalent to the post width, and secure the fence to the post using 8” nylon heavy-duty cable ties/zip-ties that are UV resistant and have a minimum 120-lb tensile strength). Drive the initial post (72” metal t-post) with the attached fence to a depth of 36” below surface. Using spacing no greater than 6’ on center, drive interior posts to 36” depth below surface and attach the fencing as you go To attach

fencing, position 42” high Reinforced High Strength Silt Fence in front of the adjacent t-post, pulling the fencing tight and fasten it to the post at all four (4) orange-colored band locations. After the interior posts have been fastened, secure the fence to the final post by pulling the final section of fencing taut, and then rotating the post 360 degrees while maintaining tension on the fence system. Secure the fence to the post at all four (4) orange-colored band locations with the steel wire or nylon ties. Drive the final post into the ground to a 36” depth below the surface. The woven geotextile fence shall be specifically designed and fabricated to withstand high tensile stresses and to prevent excessive material elongation and strain. It shall resist fence deflection and ultimate failure due to ripping, sagging or overturning from forces associated with excessive backwater depths, debris flows and overtopping. Ensure bottom 8” of fabric has been placed in trench. Backfill trench (overfill) with soil placed around fabric. Compact soil backfill manually or via mechanical equipment such as the front wheel of a tractor, skid steer, roller, or other device (ASTM D 6462 Standard Practice for Silt Fence Installation).

Wide width tensile strength ASTM D 4595 (>5000 lbs/ft MD, >3500lbs/ft TD).

Wide Width Test Elongation ASTM D 4595 (< 10% MD, <9% TD).

Grab Tensile Strength ASTM D 4632 (>500 lbs. MD, >280 TD).

CBP Puncture ASTM D 6241 (> 1800 lbs.).

Trapezoidal Tear ASTM D 5433 (>195 lbs. MD, >170lbs. TD).

Mullen Burst ASTM E 3786 (>750 psi).

Apparent Opening Size ASTM D 4751 (Sieve #70).

Water Flux ASTM D 4491 (>18 gpm/sf). UV Stability ASTM D 4355 (>90% strength retained Machine Direction).

(MD=Machine Direction, TD=Traverse Direction)

Once sedimentation has reached a third of the Reinforced High Strength Silt Fence height, all accumulated sediment shall be removed and disposed of as directed by the Engineer. The Contractor shall inspect all silt fences after each rainfall event of at least 0.5 inches or greater. Any deficiencies or damage shall be repaired by the Contractor. If the Reinforced High Strength Silt Fence height is damaged or inadvertently moved during the sedimentation removal process, the contractor shall immediately replace and/or repair any Reinforced High Strength Silt Fence after the damage occurs. The Contractor shall be responsible for all details, devices, accessories, and special construction necessary to properly furnish, install, adjust and place in continuous satisfactory service and complete the work in an acceptable manner.

642.8-BASIS OF PAYMENT

ADD THE FOLLOWING SUBSECTION:

642.8.1-High Strength Silt Fence: Reinforced High Strength Silt Fence shall be measured by the linear foot complete and in place. Reinforced High Strength Silt Fence shall be paid per Linear Foot or Units as shown in the plans and/or other Erosion and Sediment Control Specifications as referenced in the plans.

DRAFT

642.9-PAY ITEMS:

ADD THE FOLLOWING TO THE TABLE:

ITEM	DESCRIPTION	UNIT
642015-005	High Strength Silt Fence	Linear Foot

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS

SPECIAL PROVISION

FOR

STATE PROJECT NUMBER: _____

FEDERAL PROJECT NUMBER: _____

SECTION 697

**SAFETY INSPECTION OF IN-SERVICE BRIDGES
DURING CONSTRUCTION**

697.1-DESCRIPTION:

The work shall consist of performing all bridge safety inspection requirements of the Federal Highway Administration’s current National Bridge Inspection Standards (NBIS) for temporary structures and for any structure or portion thereof that utilizes staged construction until the construction project is fully complete. The inspection team leader shall meet the minimum requirements of a team leader as specified by the NBIS, shall be approved by WVDOH Operations Division, and shall be on site during the duration of all inspection activities. Operations Division shall be notified of the times and dates that any field inspection activities will be occurring.

697.1.1-Inspection Requirements for Temporary Structures: An initial inspection shall be performed immediately prior to opening any temporary structure or portion thereof to public traffic. The initial inspection shall be in accordance with current NBIS requirements and in accordance with the department’s requirements for an Inventory Inspection as described in the current edition of the WVDOH Bridge Inspection Manual. An Inventory Inspection Report shall be compiled and submitted to the District Bridge Engineer within sixty (60) days of completing the inspection utilizing the Department’s inspection data software. The inspection and the finalized inspection report must meet the approval of WVDOH Operations Division. The District Construction Engineer shall be notified in writing once the inspection report has been finalized and approved by Operations Division.

A Bridge Rating Submission in accordance with Design Directive 202, meeting the requirements for Rating by District Bridge Engineer, shall be attached to the Inventory Inspection Report for the temporary structure. It will not be necessary to include a title sheet with a proposed sheet index. However, all other required items listed for the submission shall be supplied. Load rating of the temporary structure will be performed by WVDOH evaluation personnel once the Inventory Inspection Report has been submitted.

DRAFT

If a temporary structure or portion thereof is open to traffic twenty-four (24) months after the inspection date of the initial inspection, a routine inspection shall be performed in accordance with current NBIS requirements and in accordance with the department’s requirements for an In-Depth Routine Inspection as described in the current edition of the WVDOH Bridge Inspection Manual. An In-Depth Routine Inspection Report shall be compiled and submitted to the District Bridge Engineer within sixty (60) days of completing the inspection utilizing the Department’s inspection data software. The inspection and the finalized inspection report must meet the approval of WVDOH Operations Division. The District Construction Engineer shall be notified in writing once the inspection report has been finalized and approved by Operations Division.

697.1.2–Inspection Requirements for Structures Utilizing Staged Construction: An initial inspection shall be performed on each individual construction stage immediately prior to opening each stage or portion thereof to public traffic. A revised initial inspection will be required for each additional phase prior to opening each phase to public traffic. The initial inspection shall be in accordance with current NBIS requirements and in accordance with the department’s requirements for an Inventory Inspection as described in the current edition of the WVDOH Bridge Inspection Manual. An Inventory Inspection Report shall be compiled and submitted to the District Bridge Engineer within sixty (60) calendar days of completing the inspection utilizing the Department’s inspection data software. The inspection and the finalized inspection report must meet the approval of WVDOH Operations Division. The District Construction Engineer shall be notified in writing once the inspection report has been finalized and approved by Operations Division.

If a construction stage, subsequent construction stages, or portions thereof are open to traffic twenty-four (24) months after the inspection date of the first performed initial inspection, a routine inspection shall be performed in accordance with current NBIS requirements and in accordance with the department’s requirements for an In-Depth Routine Inspection as described in the current edition of the WVDOH Bridge Inspection Manual. An In-Depth Routine Inspection Report shall be compiled and submitted to the District Bridge Engineer within sixty (60) calendar days of completing the inspection utilizing the Department’s inspection data software. The inspection and the finalized inspection report must meet the approval of WVDOH Operations Division. The District Construction Engineer shall be notified in writing once the inspection report has been finalized and approved by Operations Division.

697.2–BASIS OF PAYMENT:

Payment for the above described work, including all materials, equipment, labor, and any other incidental work necessary to complete this item, will be considered completely covered by the contract unit price for the item below.

697.3 – PAY ITEM:

ITEM	DESCRIPTION	UNIT
697001-*	NBIS Bridge Safety Inspection, “designation”, “type”	Lump Sum

- * Sequence number
- “designation” Bridge, temporary bridge, or stage name designation
- “type” Inspection type, typically Inventory Inspection or In-Depth Routine Inspection

DRAFT

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
SUPPLEMENTAL SPECIFICATION
FOR
SECTION 707
CONCRETE ADMIXTURES, CURING AND COATING MATERIALS

707.12-CONCRETE SEALER:

DELETE THE CONTENTS OF SUBSECTION 707.12 AND REPLACE WITH THE FOLLOWING:

707.12.1-General: The material shall be a one component, water repellent penetrating sealer, meeting the criteria listed in section 707.12.2. The material shall be capable of meeting the criteria with a single coat and shall not alter the color of the treated surfaces.

707.12.2-Acceptance: Concrete sealers shall be evaluated by AASHTO National Transportation Product Evaluation Program (NTPEP) and shall meet the requirements of AASHTO M 224.

~~The Contractor shall furnish certified laboratory test data showing the material meets the following performance requirements:~~

- ~~1. Absorption ASTM C642 (non air entrained concrete). Concrete should be proportioned and mixed in accordance with ASTM C672. Sealed concrete, under total immersion, will not exceed 1.0% absorption after 48 hours or 2.0% absorption after 50 days.~~
- ~~2. Sealing Resistance ASTM C72. A rating of "No Sealing" after 100 cycles on the sealed concrete (non air entrained concrete) as compared to "Server Sealing" on untreated concrete.~~
- ~~3. NCHRP 244, Series II Cube Test~~
 - ~~3.1 Weight Gain not to exceed 25% of untreated cube.~~
 - ~~3.2 Absorbed Chloride not to exceed 25% of untreated cube.~~
- ~~4. NCHRP 244, Series IV Southern Exposure~~
 - ~~4.1 Absorbed Chloride not to exceed 10% of untreated concrete.~~