

Effective March 1, the 2016 *Standard Specifications for Road and Bridge Construction* is available. Below you will find the highlights of the revisions, the Item numbers affected, and a list of all of the Supplemental Specifications that have been incorporated. If you have any questions and/or comments, please ask Ted Kitsis of Construction, or Lysa Bennet Crouch and Colby Powelson of Specifications.

The 2016 *Standard Specifications for Road and Bridge Construction* is available on-line ([www.nh.gov/dot/org/projectdevelopment/highwaydesign/specifications/index.htm](http://www.nh.gov/dot/org/projectdevelopment/highwaydesign/specifications/index.htm)) and in hard cover from NHDOT Records Section.

### **Summary of Updates for the 2016 Specification Book**

- Removed Metric references.
- AASHTO and ASTM references were updated.
- Flowable fill will need to be pumped when filling pipes greater than 25 feet. The costs will be subsidiary to Item 202.31 – Fill Abandoned Pipe.
- Item 202.6's description changed from *Curb Removal for Storage* to *Curb Removal for Salvage*.
- Section 203 has been re-worked, particularly language pertaining to the blasting spec.
- Offset Platforms are now the standard for EAGRT unit installations.
- EAGRT units are now references as *TL3* and *TL2* instead of 50' and 25', respectively.
- The Contractor shall provide the Engineer with copies of manufacturer's product details for terminal sections.
- Item 304.32 – Crushed Gravel for Shoulder Leveling had its gradations changed.
- Tack Coat is now paid under Item 410.22 – Asphalt Emulsion for Tack Coat.
- Item 403.1109 – Hot Bituminous Pavement, Machine Method, High Strength item number changed to 403.119.
- Items 403.911 – Hot Bituminous Bridge Pavement, 1" Base Course and 403.9115 – Hot Bituminous Bridge Pavement, 1" Base Course, Aggregate are no longer Final Pay Items.
- Section 583 - Rip Rap has been re-written and the items themselves have changed. Higher costs are anticipated with the newly specified Rip Rap items.
- Section 603 and its item numbers have been revised.
- Underdrain 12" and above that is also utilized as part of a drainage run shall be video inspected (Item 603.0001).
- Section 624 has been revised to change the way railroad flaggers are paid. A Force Account agreement between the Department and the Railroad is Now required. Please see Josh Prescott of Design Services for more information.
- Sawed pavement for installation of catch basins, drop inlets, manholes, conduit, culverts and storm drains are subsidiary.
- The colors of delineators are no longer specified by item number (Section 628).
- Bridge Design made the following edits to Division 500 to better conform to AASHTO and standard NHDOT practices:
  - 550.2.3 add default reference to NEPCOAT QPL for paint materials
  - 550.2.4.2 add DTI clarification
  - 550.2.5.5 and 3.15.5.6 add requirements for tightening anchor rods
  - 550.2.6.2 clarify requirements for Teflon fabric pads
  - 550.2.7 add thickness requirement for stainless steel plates
  - 550.3.2.4 update AISC designations for fabricator clarification
  - 550.3.5.11 clarify requirements for bending structural steel plates to conform with AASHTO
  - 556.2.3 add default reference to NEPCOAT QPL for paint materials
  - 563.3.2.1 clarify bridge rail splice and bend criteria
  - 708.3.3 appendix A delete outgassing
  - 708 add new appendix C for duplex coatings - metallizing and sealer/paint.

**The following Items have been added or revised:**

203.55542	Guardrail EAGRT Offset Platform Alternate, TL-3	Unit
203.55543	Guardrail EAGRT Offset Platform, TL-3	Unit
203.55552	Guardrail EAGRT Offset Platform Alternate, TL-2	Unit
203.55553	Guardrail EAGRT Offset Platform, TL-2	Unit
203.55261	Installation and Removal of SWZ – Portable Queue Trailer Platform	Unit
203.55262	Installation and Removal of SWZ – Portable Changeable Message Sign Platform	Unit
203.55264	Installation and Removal of SWZ – Mobile Video Trailer Platform	Unit
304.32	Crushed Gravel for Shoulder Leveling	Ton
304.33	Crushed Aggregate for Shoulders	Cubic Yard
403.119	Hot Bituminous Pavement, Machine Method, High Strength	Ton
403.61	Pavement Joint Adhesive (Bridge Base)	Linear Foot
403.65	Echelon Paving	Linear Foot
403.911	Hot Bituminous Bridge Pavement, 1” Base Course	Ton
403.9115	Hot Bituminous Bridge Pavement, 1” Base Course, Aggregate 50 Percent Wear	Ton
410.22	Asphalt Emulsion for Tack Coat	Gallon
411.51	Plant Mix Surface Treatment, Paver Spot Drag Shim	Ton
520.0302X	Concrete Class AA Approach Slabs (QC/QA) (F)	Cubic Yard
559.4	Asphaltic Plug Expansion Joint (F)	Linear Foot
559.41	Asphaltic Plug for Crack Control (F)	Linear Foot
559.412	Repair Asphaltic Plug Expansion Joint (F)	Linear Foot
560.10XX	Prefabricated Compression Seal Expansion Joint (F)	Linear Foot
560.12XX	Prefabricated Compression Seal Expansion Joint w/Plow Plates (F)	Linear Foot
560.13XX	Prefabricated Compression Seal Expansion Joint – Rehabilitation (F)	Linear Foot
561.10XX	Prefabricated Strip Seal Expansion Joint (F)	Linear Foot
561.12XX	Prefabricated Strip Seal Expansion Joint w/ Plow Plates (F)	Linear Foot
561.13XX	Prefabricated Strip Seal Expansion Joint Rehabilitation (F)	Linear Foot
561.20XX	Prefabricated Modular Bridge Joint System (F)	Linear Foot
561.23XX	Prefabricated Modular Bridge Joint System - Rehabilitation (F)	Linear Foot
561.30XX	Prefabricated Finger Expansion Joint (F)	Linear Foot
561.33XX	Prefabricated Finger Expansion Joint - Rehabilitation (F)	Linear Foot
Sections 563 & 565	Removed all Final Pay Designations	
Section 566	Deleted Section	
583.1	Riprap, Class I	Cubic Yard
583.3	Riprap, Class III	Cubic Yard
583.5	Riprap, Class V	Cubic Yard
583.7	Riprap, Class VII	Cubic Yard
583.9	Riprap, Class IX	Cubic Yard
Section 586	Deleted Section	
Section 587	Deleted Section	
Section 603	Section Revised	
608.54	Detectable Warning Devices, Cast Iron	Square Yard
614.0XXX	Various sizes in Multi Duct	Linear Foot
624.2X	Railroad Protection – Devices and Installation	Unit
632.911	Obliterate Pavement Marking 12” wide & Under	Linear Foot
632.912	Obliterate Pavement Marking Over 12” Wide	Linear Foot

**Following is a listing of the Supplementals to the 2010 Edition that have been incorporated:**

<b>Section</b>	<b>Description</b>	<b>Revision</b>
101	Definitions and Terms	Incorporates Electronic Bidding Terms
102	Bidding Requirements and Conditions	Incorporates Electronic Bidding
104.04	Scope of Work	Clarifies what materials may be re-used or mined
104.07	Railway-Highway Provisions	Specifies Department will reimburse Railroad for flagging services through Force Account Agreement
107.01	Laws to be Observed	Bulletin Board Requirements
107.01 (7 <sup>th</sup> ¶)	Legal Relations and Responsibility to Public	Revises wording pertaining to discharge and spillage into water
108.06	Methods and Equipment	Highlights Contractor's responsibility to prevent runoff of polluting materials
108.09	Failure to Complete on Time	Liquidated Damages Chart
109.04	Differing Site Conditions, Changes and Extra Work	Regional Adjustment Factor
109.04	Equipment and Plant	Rental Equipment Mark-up
109.09	Payments to Subcontractors	Prompt Payment
109.11	Measurement and Payment	Final Pay Quantity
202	Filling Abandoned Pipes	3.7.1.1 & 5.9 – Requires pumping of flowable fill
203	Blasting	3.1 & 3.2 reorganized; best management practices incorporated
211	Vibration Monitoring	References to Section 203 are updated; survey requirements are revised
214	Fine Grading	3.1 – Amends tolerance for specific slopes prior to paving to 0.2%
304	Shoulder Leveling	2.6 – Specifies material used for shoulder leveling product
304	Aggregate Base Course	3.1.4 – Specifies what recycled materials can be used as an aggregate base course
306	Reclaimed Stabilized Base	3.2 – Specifies requirements for when stone is included or ordered 2.1.2 – Refers to Table 1E in 703 4.2 – Additional pass with reclaimer not measured 5.2 – Additional pass with reclaimer subsidiary
401	Recycled Asphalt Shingles; TRB	Amends 1.2 & 2.10 – Disallows use of Recycled Asphalt Shingles in Asphalt Amends 2.4.3 – Amends use of Total Reclaimed Binder (TRB)
401	Recycled Oil in Asphalt	Amends 2.2.1 – Disallows use of used oil in Asphalt Adds 2.2.3.1 – Disallows use of used oil in Asphalt
401	Binder Failure Penalty	Adds 2.2.1.1 – Assesses a penalty for non-compliant asphalt cement.
401	Job Mix-General	2.5.1 - Revises ESAL/Minimum Binder Content Criteria; adds more sizes into Table 1 2.5.1.1 – Specifies that all 25mm base course mixes be designed using 50 gyration.
401	MSCR Test	Amends 2.11 – Removes the use of AASHTO M 332 (MSCR), and improves general clarity of section.
401	Warm Mix Asphalt	2.11.2 – Allows use of WMA 3.4.11, 3.6.3.1 & 3.10.7.2 – Amends min delivery temperature to 260° F
401	Joints	2.12.1 - Adds Pavement Joint Adhesive Properties 3.13.4 - Assures full head of Material for Permanent Transverse Joints 3.13.5 - Removes Requirement for Hot Air Lance, Adds Requirements for Melting Kettle, and Allows Echelon Paving In Lieu of Pavement Joint Adhesive, Defines Joint Adhesive for Bridge Base 3.13.8 – Defines Echelon paving; Adds Items for Pavement Joint Adhesive for Bridge Base and Echelon Paving
401	Placing	Adds 3.10.4 - Sets limit of maximum compaction at 5 inches. 3.10.7.2 – Adds reference to WMA Supplemental 3.10.7.4 – Requires the use of WMA during colder months
401	Pavers	Removes 3.11.3 – Performance Requirements to 3.11.1.1 for both QC/QA and Method Work Renames 3.11.1.1.1 – MTV Requirements to 3.11.3 and Assures Ability to Re-mix and Movable Discharge Conveyors for MTVs 3.11.1.2 – Specifies use of MTVs for 600 tons of asphalt
401	Roller Train/Density Cores/Density Penalty	3.12.1 – Clarifies the equipment needed for a roller train 3.12.2.4 (formerly 3.12.1.4) - Requires Informational Density Cores for Shoulder Overlays and Lessens Density Penalty for Overlays Not Previously Leveled; Specifies 91% as Minimum Compaction Requirement 3.12.2.4.1 – Requires less cores on small quantity jobs
401	QC/QA Lot Size	3.17.2.2 – Amends QC/QA Lot Sizes
401	Acceptance Testing - Air Voids	3.17.3.2 - Revises AASHTO reference to ASTM reference, Requires Information Shoulder Cores, Eliminates Upper Limit of Core Thickness, changes Lower Limit to 2.5% Instead of Previous 3.0%
401	Disputed Cores	3.17.3.2.2 – Amends number of cores required in a dispute to be three
401	Pavement Thickness	3.17.3.3 – Clarifies what should and should not be measured for thickness

401	Cross Slope Tolerance	3.17.1.5.1 – Specifies Cross Slope Measurements exceeding .5 (in percent) from specified Cross Slope shall require an adjustment; two or more exceedances consecutively measured will stop paving operations. 3.17.3.5.1 – Clarifies how Cross Slope Measurement will take place 3.17.3.5.2 – Amends cross slope tolerance to be 0.4% 3.17.3.6.3 – Requires Remeasuring and Retesting Requests to be in writing to the Engineer
401/403	Bridge Base Pavement	Deletes 401.4.3 & 403.5.3 Removes Final Pay from Bridge Base Pavement
410	Bituminous Surface Treatment	2.1 - Identifies Asphalt Emulsion Grades & Changes last line in table to °C, as well as changes the CRS-1 and CRS-1h temperature values 3.4.1.1 – Updated to require a span of application rates of tack coat 5.3 – Updated reference due to 401.3.10 revision Method of Measurement, Basis of Payment, and Pay Items and Units were revised to include pay item for Asphalt Emulsion for tack Coat (Item 410.22) 06/16/15 revision moved Asphalt Emulsion for Tack Coat table to Section 702
411	Surface Treatment	2.1.1 – Asphalt binder PG grade will be called for via Special Provision 2.1.2 – Removes Type G mix from use 3.4.4 – Amends minimum delivery temperature to 260° F (except for specified circumstances) 3.4.8 – Specifies 8’ paver for Spot Drag Shim
417	Cold Planing Bituminous Surfaces	3.1.1 & 3.1.3 – Specifies acceptable equipment for planing bituminous surfaces 3.1.3.2.1(k) – Performance Requirements (QC/QA) – Requires Ceramic or Porcelain Dishes
520	Portland Cement Concrete	Replaces 2.8 - Identifies bearing strip material and bonding agent Adds 3.6.3.3 – Specs bearing strip Amends 2.3.3.2 – Updates corrosion inhibitors
520	Excess Cover and Grout	2.9 – Removes Concrete Bonding Agent 2.9.1 – Removes bridge deck overlays 5.9.5.2 – Addresses negative pay adjustment for excess cover over Rail Support Slabs
520	Portland Cement Concrete	Specifies the Surface Resistivity Test as a replacement for Rapid Chloride Penetration Test
520	Portland Cement Concrete	3.11.2 – Revises Concrete Loading Requirements while Curing.
528	Prestressed Concrete Members	Specifies the Surface Resistivity Test as a replacement for the Rapid Chloride Penetration Test
538	Barrier Membrane	3.1.1 & 3.3.1.4 – Adds Requirement of Digital Ambient Temperature, Dew Point, and Infrared Surface Temperature Instruments 3.3.5 – Specifies Laydown Temperature of Pavement Overlays
559	Asphaltic Plug Expansion Joints, Asphaltic Plug Crack Control	New Section
560	Prefabricated Compression Seal Expansion Joint	Replaces Section 560 – Prefabricated Compression Seal Expansion Joint
561	Prefabricated Expansion Joint	Replaces Section 561 – Prefabricated Expansion Joint
563	Bridge Railing	Removes Final Pay (F) Designation from Items
566	Elastomeric Joint Seal	Deletes Section 566
582	Slope Paving	Removes Bed of Sand Requirement
583	Riprap	Updates Riprap Spec; creates new classes, more in line with HEC No. 23.
585	Stone Fill	Amends 1.1 – expands on the intended use of the new stone fill items.
586	Placing Excavated Rock	Deletes Section 586
587	Keyed Stone Fill	Deletes Section 587
591	Structural Plate Pipes, Pipe-Arches, and Arches	3.1.2 – Expands LRFD Bridge Construction Specifications to include assembly and installation of structural plate structures.
593	Geotextile	Amends paragraphs 2.1 and replaces 2.3.2 to present NTPEP audit program and update test methods
603	Culverts and Storm Drains	Revises 1.1 and 5.1 - Stipulates sawed pavement required for this work shall be subsidiary Adds 3.1.10 – Conformance to 628.3.4 Amends 2.9.1 – PVC Manufacturers' Participation in NTPEP Revises structure of Materials section and adds new requirements for pipe manufacturers. Requires the Engineer to be made aware of any pipe deformation quickly
604	Catch Basins, Drop Inlets and Manholes	Revises 1.1 and 5.1 - Stipulates sawed pavement required for this work shall be subsidiary Adds 3.1.3 – Conformance to 628.3.4
605	Underdrain	605.2.3 – PVC Manufactures' Participation in NTPEP
606	Guardrail	Updates Retroreflective Sheeting to current AASHTO standards
606	Guardrail	Amends 3.3 to require Contractors to provide detail sheets and installation plans to the Engineer.
608	Detectable Warning Devices	Revises Description, Equipment, and Construction Requirements sections

614	Electrical Conduit	Revises 1.1 and 5.1 - Stipulates sawed pavement required for work shall be subsidiary Adds 3.1.3 – Conformance to 628.3.4
618	Training Requirements for Uniformed Officers and Flaggers	Deletes and Adds revised Description, Equipment, and Construction Requirements sections 2.1 – Specifies blue lights of officers’ vehicles having 360° visibility
619	Trailer Mounted Speed Signs	2.1.3 & 2.1.3.1 – Updates Retroreflective Sheeting to current AASHTO standards 3.2.3.1 –The Contractor needs approval two weeks in advance of proposed use
621/622	621 - Delineators 622 - Markers and Bounds	621 – AASHTO Update & Required Documentation; specifies posts; updates colors 622 – Updates Required Documentation
624	Railroad Protection	Removes Railroad Protection as a Pay Item and updates reference to 104.07
628	Sawed Pavement	Replaces 5.2 and Adds 4.2 - Stipulates sawed pavements requirements Adds 5.3 – Specifies when payment is to be made under 628.3
632	Retroreflective Pavement Markings	Adds 2.2.1 – Levels of Arsenic and Lead in Glass Beads Deletes 632.3.2.8.1 & 632.3.2.8.2
644	Grass Seed – Slope Seed (WF) Type 45 Mix	Amends 2.3
645	Erosion Control	3.2.1.2 – Clarifies ambiguous CESSWI language 3.1.7 – Amends Requirement for Permanent Stabilization from 14 Days to 3 Days Amends 4.6.1, 4.6.1.1, and 5.6 regarding SWPPP and SWPPP monitoring measurement and payment
645	Erosion Control	Clarifies language in the spec to be more in line with NPDES
698*	Field Facilities (Field Office Equipment)	Updates Field Offices and Required Equipment by Replacing Section 698
702	Bituminous Materials	Combines the Anionic tables to include both English and Metric units, adds a Cationic Asphalt Emulsion table which incorporates the information from 410.2.1 – Asphalt Emulsion for Tack Coat
718	Retroreflective Sheeting	Updates for current ASTM Specifications and Removal of Certain Film Requirements