

Proposed Specification Revisions February/March 2016

The CAS Bureau is proposing revisions to 11 Standard Specifications. These proposed revisions will be out for comment during the months of February/March 2016.

- | | | | |
|-----|----------------|-------------------------|------------------------------|
| 1. | 106.09 | Domestic Materials | |
| 2. | 401.03.1 | Mix Design | Hamburg, Materials |
| 3. | 401.03.21 | Compaction | Core locations |
| 4. | 402.03.5 | Acceptance | Deductions |
| 5. | 409.03.10 | Sweeping and Brooming | Guardrail Sections |
| 6. | 551.02.1 | Cement | Allow Blended Cement |
| 7. | 551.03.2 | Composition of Concrete | Aggregate Testing |
| 8. | 551.03.8 | Testing and Acceptance | Pre-Cast items |
| 9. | 551.03.8(C)(1) | Acceptance of Concrete | Which items to include in QA |
| 10. | 602.04.2 | Relay Pipe Culverts | |
| 11. | Table 701-15 | Grade S Mix | VFA |

106.09 DOMESTIC MATERIALS

Furnish domestic steel or iron materials for permanent incorporation in the work. Domestic material is material produced by manufacturing processes, including coating of steel or iron, that have occurred entirely in the United States. Pig iron, and processed, pelletized and reduced iron ore may be manufactured outside the United States. In accordance with MT 601, furnish the appropriate manufacturer's documentation of the manufacturing processes, including coatings of covered materials, as performed in the United States. Submit a completed Form 406 for all Category 1 or Category 2 items.

Do not incorporate steel or iron materials into the project until all required documentation is submitted to the Department. Ensure that suppliers understand the Buy America and contract requirements to supply the required documentation. Submit documentation to the Department in a clear, organized, legible manner or it will be returned. Clarify which material certifications are for which items. The Department will review the submitted documentation one time at no cost to the contractor. If the Department determines that the submitted documentation is inadequate or fails to meet the contract requirements, the submitted documentation will be returned for clarification or correction. The cost for the Department's re-review of the same submittal is the contractor's responsibility, and may be deducted from contractor payments.

The Department will not accept items installed until all supporting documentation has been reviewed and is found to be in accordance with the contract requirements. Insufficient or unavailable documentation or documentation showing products to contain steel of foreign origin are grounds for removal and replacement at the contractor's expense.

Material inspection of pre-cast products, prefabricated steel products, or prefabrication plants will take place at the point of manufacture. The District Materials Lab, Helena Materials Bureau, or Department representative will inspect the manufacturing of these items and verify that the fabricator is maintaining supporting documentation. All precast products containing steel and prefabricated steel products delivered to the project must be accompanied by signed documentation from the end product manufacturer (precast plant or prefabrication plant) which states that all steel used in the product has been melted/recycled and manufactured entirely in the United States and they have maintained supporting documentation. Original mill test reports from steel fabricators or suppliers are not required to be submitted to the Project Manager for precast and prefabricated steel products. Submit a Form 406 with signed documentation by the end product manufacturer or prefabrication plant that all steel incorporated has been melted/recycled and manufactured entirely in the United States. All supporting documentation (original mill test reports) must be maintained by the fabricator and made available to the Department as requested.

A minimal quantity of foreign manufactured steel and iron material may be used if the cost of the material, including delivery costs to the project, does not exceed one-tenth of 1% of the total contract amount or \$2,500.00, whichever is greater. Submit a request to use a minimal quantity of foreign manufactured steel and iron a minimum of 5 business days before incorporation into the work. Include in the request the dollar amount of the steel for this request, and the cumulative dollar amount requested to date. Provide documentation, typically in the form of invoices, showing product and delivery cost. Failure to do so will require removal and replacement of all foreign steel and iron with domestic steel and iron. If the foreign steel and iron cannot be positively distinguished from any domestic material used, then all of the material must be removed and replaced with domestic steel and iron at the contractor's expense.

Deleted: Furnish domestic steel or iron materials for applicable products as defined in MT 601.

Deleted: Notify the Project Manager and obtain clarification for any materials containing steel or iron components prior to their incorporation if not clearly defined in MT 601.

Deleted: As required, furnish certification from the original steel producing mill documenting the manufacturing processes, including coatings of covered materials, as performed in the United States.

Deleted: Buy America requirements apply to all manufactured products composed predominantly of steel or iron materials. A product is considered to be manufactured predominantly of steel or iron if the product consists of at least 90% steel or iron content, as determined by the Department, when it is delivered to the job site for permanent incorporation. For purposes of addressing precast or pre-stressed items, the job site encompasses locations where the precast operations occur. Buy America requirements do not apply to miscellaneous steel or iron components, subcomponents, or hardware; such as cabinets, covers, shelves, clamps, fittings, sleeves, washers, bolts (excluding high strength and anchor bolts), nuts, screws, tie wire, spacers, chairs, lifting hooks, faucets, or door hinges that are commonly available as off-the-shelf products or minor items that are necessary to encase, assemble and construct project materials.¶

Deleted: a completed Form 406 with

Deleted: pay for

Deleted: the submitted Form 406 and

401.03.1 Mix Design

Furnish samples of aggregate from each stockpile, representative of the mix design. Provide at least 800 pounds of aggregate, which can be appropriately proportioned to match the mix design. A total weight of 600 pounds is allowed if the mix design includes Hamburg testing results. Furnish 5 gallons (19 L) of the specified asphalt binder or indicate consent to use binder of the same source and grade provided from the Department's supply. Furnish 5 pounds of hydrated lime or indicate consent to use lime of the same source provided from the Department's supply.

Deleted: to produce an 800-pound (363 kg) sample, when combined at the mix design blend ratio

Deleted: and

Deleted: cement

The Department has 30 calendar days from receipt of the mix design materials and signed mix design documents to review verify the mix design. Mix design verification consists of:

Deleted: The m

- Ensuring passing Hamburg test results;
- A review of the submitted mix design documents to ensure all applicable design and aggregate requirements have been met; and,
- Testing of the submitted aggregate for conformance with Subsection 701.03. Hamburg test results may be submitted with the mix design. Ensure Hamburg testing is done in accordance with MT 334. The Department reserves the right to verify any Hamburg results.

Deleted:

Tensile strength ratio test results do not have to be submitted with the signed mix design documents but must be received and reviewed before a mix design will be considered verified. Contract time will be extended for the actual contract time the Contractor's paving start date was delayed, as verified by their most recent submitted schedule, and only for contract time assessed after the 30 day verification time frame. No additional compensation is allowed for these Department-caused delays. Contract time will not be extended if the delay occurs between November 1st and April 15th.

Deleted: passing Hamburg test results and a review of the submitted mix design documents to ensure all applicable design and aggregate requirements have been met.

401.03.21 Compaction, Compaction Control Testing, and Density Acceptance Testing

Provide core samples of the compacted plant mix from the roadway. Core locations will be randomly selected based on the tons (MT) of mix placed. Core the locations selected after all rolling is complete and before the roadway is opened to traffic. The center of the core location will not be within 12 inches (305 mm) of unconfined longitudinal paving joints, 12 inches (305 mm) of a shoulder hinge point, or where the planned nominal thickness is less than 0.10-foot (30 mm). The center of the core locations for confined longitudinal joints may be placed within 5 inches (125 mm) of the joint. The pavement density is determined from cores taken at randomly selected locations after all rolling is complete and before the roadway is open to traffic.

Provide two 4-inch (100 mm) cores the full depth of the plant mix surfacing, extracted from within a 5-inch (125 mm) radius of each designated location. Mark the core as directed.

Deleted: Take cores after all rolling is complete.

402.03.5 Acceptance

B. Failures. If a shipment of bituminous material fails to meet any one of the specifications, with test results within the allowable variation in table 402-1, the price reduction will be 10%.
If a shipment fails to meet any one of the specifications with test results in excess of the allowable variation in table 402-1 but less than twice the allowable variation, the price reduction will be 15%.

Deleted: the material will be accepted at a 10% price reduction of the bituminous material cost if the test results are within the tolerances shown in Table 402-1

If a shipment fails to meet any one of the specifications with test results in excess of twice the allowable variation in table 402-1 but less than three times the allowable variation, the price reduction will be 25%.

Deleted: after twice the allowable tolerances have been applied

If a shipment fails to meet any one of the specifications with test results in excess of three times the allowable variation in table 402-1, the Project Manager may reject the material and require its removal from the work, or the Project Manager may accept the material at a 50% price reduction.

Deleted: of the unit price bid for bituminous material when it is paid as a separate item or the invoice price when it is part of a bid item

Deleted: after triple the allowable tolerances have been applied

Deleted: of the cost of the bituminous material

The cost of the bituminous material for calculating price reductions is the material's contract unit price. The price reduction percentage will be based on the unit price bid for bituminous material when it is paid as a separate item or the invoice price when it is part of a bid item.

If a shipment fails more than one of the specifications, the failure causing the largest percentage price reduction is assessed.

**TABLE 402-1
SCHEDULE OF TOLERANCES**

Test	Variation		Remarks
	From Min. Specification Requirement	From Max. Specification Requirement	

Deleted: Allowable

409.03.10 Sweeping and Brooming

Provide a roadway free of loose cover material. In curb and gutter sections, remove and dispose of all loose cover material from the roadway and sidewalks. Do not allow material to enter any storm drain system or aquatic resource. In guardrail sections, do not allow loose cover material to accumulate beneath the rail.

Deleted: and guardrail

Deleted: get into

Deleted: the

Deleted: any

551.02.1 Cement

- B.** Furnish low-alkali hydraulic blended cement in accordance with AASHTO M 240, Type ~~II, IP, IS,~~
or II. When fly ash or ground granulated blast furnace slag (GGBFS) is used in blended cement,
limit the replacement amount to the maximums specified in Subsection 551.03.2(A)(5).

Deleted: or

551.03.2 Composition of Concrete

Furnish the names of proposed suppliers and locations of proposed aggregate sources upon notice of award. New sources must be sampled, tested, and approved.

~~Sources~~

~~annually~~

551.03.8 Testing and Acceptance of Concrete

Construct any products that are not cast-in-place, and not produced at a certified precast plant, in accordance with Subsection 605.03. These products will be evaluated on a lot-by-lot basis in accordance with 551.03.8(C) for the class of concrete specified.

554.03 CONSTRUCTION REQUIREMENTS

Construct any products that are not cast-in-place, and not produced at a certified precast plant, in accordance with Subsection 605.03. These products will be evaluated on a lot-by-lot basis in accordance with 551.03.8(C) for the class of concrete specified.

551.03.8 Testing and Acceptance of Concrete

C. Acceptance of Concrete.

1. Classes General, Deck, Pave, Structure, Overlay and Drilled Shaft Concrete.

The overall lot pay factor (OLPF) will be calculated for bid items as shown in Table 551-10 and will be applied as a line item adjustment on the estimate.

Deleted: each

Deleted: that has concrete as a component poured on the project

TABLE 551-10

<u>Class</u>	<u>Items</u>
<u>Deck</u>	<u>Include all items except metal bridge rail and bridge deck repair</u>
<u>Drilled Shaft</u>	<u>Include all items</u>
<u>Overlay-Sf</u>	<u>Include all items</u>
<u>Pave</u>	<u>Include all items</u>
<u>Structure</u>	<u>Include concrete class bid items</u>
<u>General</u>	<u>Include concrete class bid items</u> <u>Include items in Subsection 608</u> <u>Include items in Subsection 609</u> <u>Include items measured by the volume</u> <u>Exclude all other items</u>

Formatted: Font: Bold

Formatted: Font: Bold

Note 1: The OLPF may be evaluated on other contract items that have significant equivalent concrete quantities.

Pay factors will not be calculated for items measured and paid for by the Lump Sum or precast items accepted in accordance with Section 554. Except for concrete barrier rail, pay factors will not be calculated for items measured and paid for by the each. Concrete barrier rail will be tested and accepted the same as cast in place items.

Deleted: precast

602.04.1 Remove Pipe Culverts

Pipe culvert removal is measured by the foot (m) of pipe removed.

Excavation required to remove pipe culverts is not measured for payment.

602.04.2 Relay Pipe Culverts

Relay pipe culvert is measured by the foot (meter) along the flowline of the re-laid lengths.

Excavation required to remove pipe culverts is not measured for payment.

Deleted: Pipe culvert removal is measured by the foot (m) of pipe removed.¶

**TABLE 701-15
GRADE S MIXTURE DESIGN AND PRODUCTION REQUIREMENTS**

20 Year Design ESALS ¹		Number of Compactive Gyration		% of Rice		Coarse Agg Angularity		VMA %		VFA %	VTM % (Air Voids)	DP (Dust to effective binder ratio) ²
Total (million)	Daily	Initial (N _{ini})	Design (N _{des})	Max (N _{max})	Max @ (N _{ini})	Max @ (N _{des})	Max @ (N _{max})	Min @ (N _{des}) (%')	Min @ (N _{des}) (%')	Range @ (N _{des})	Range @ (N _{des})	Range
≤ 0.3	≤ 41				91.5					70 to 80 ³		
0.3 to <10	41 to <1370	7	75	115	90.5	96 to 96.6	98	≥ 13.0	≥ 14.5	≥ 15.0 ³		
					89					65 to 80	3.4 to 4.0	0.6 to 1.4
≥ 10	≥ 1370											

Notes:

1. If ESAL's are not specified in the contract, use the 0.3 to 10 million ESAL design requirements in Table 701-15 to develop the mix design, unless otherwise directed by the Project Manager.
2. In addition to meeting the DP requirement at mix design, report the D/A for the mix design target asphalt content.
3. Mix Design value only. Meet the requirements of Table 701-18 during job mix production.

Deleted: 5

Deleted: 78