The CAS Bureau is proposing revisions to 11 Standard Specifications. These proposed revisions will be out for comment during the month of August, 2014.

1. 103.10 Proposed Aggregate Source
2. 105.03.3 Quality Incentive Allowance
3. 108.08 Table 108-2 Liquidated Damages
4. 109.06 Partial Payments
5. 551.03.3H Mixing & Acceptance
6. 606.03.2 Installing posts
7. 609.03.6 Bituminous Curb
8. 623.02 Metal Mailboxes
9. 705.01.2 Wood Posts and Blockouts
10. 708.05 PVC Pipe
11. 713.12 Rolled Erosion Control

## 103.10 PROPOSED AGGREGATE SOURCE

No later than 7 calendar days after the date of bid-opening (the date of bid opening to count as the first full day), the apparent low bidder must submit to Contract Plans Bureau, during its regular work hours, a fully completed Form PAS-1 for each aggregate source the bidder used to prepare its bid, or a subcontractor used to prepare its quote, if used by the bidder for its bid. (If the 7th day is a holiday, turn the documentation in earlier.)

The Bidder's Proposed Aggregate Source form is available at the following web page:
http://www.mdt.mt.gov/publications/forms.shtml#contract

The bid proposal may be considered non-responsive and rejected if the above form(s) are not submitted within the required time frame.

## 105.03.3 Quality Incentive Allowance

Incentive or disincentive for surface smoothness will be calculated based on the ride category and the entire project length in each travel lane or measured section using the following equation. The calculated value will be applied as a line item adjustment to the plant mix item on the estimate. Calculate the pay adjustment as follows:

Pay adjustment = (Pay Factor -1) x L x Unit Cost
Pay Factor = Calculate using appropriate project category formulas
L = Measured lane length
Unit Cost = Use appropriate value from Table 105-4

**TABLE 105-4**
**UNIT COST**

| Category | Description | Unit Cost/lft. |
|---|---|---|
| I or III | Typical section with 0.3 ft. or greater plant mix surfacing | $6.425 |
| I, II, or III | Typical section with 0.2 to 0.29 ft. plant mix surfacing | $4.283 |
| I, II, or III | Typical section with 0.19 ft. or less plant mix surfacing | $3.213 |

Note: Isolation lifts are not considered part of the surfacing section when determining appropriate overlay depth.

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TABLE 108-1

SCHEDULE OF LIQUIDATED DAMAGES

| ORIGINAL CONTRACT AMOUNT | | DAILY CHARGE |
|---|---|---|
| **From More Than** | **To and Including** | **Working Day or Calendar Day** |
| $ 0 | $ 100,000 | $ 827 |
| $100,000 | $ 500,000 | $ 1,251 |
| $ 500,000 | $ 1,000,000 | $ 1,532 |
| $ 1,000,000 | $ 2,000,000 | $ 1,993 |
| $ 2,000,000 | $ 5,000,000 | $ 2,756 |
| $ 5,000,000 | $ 10,000,000 | $ 4,242 |
| $ 10,000,000 | — | $ 5,428 |

**NEW**

TABLE 108-1

SCHEDULE OF LIQUIDATED DAMAGES

| ORIGINAL CONTRACT AMOUNT | | DAILY CHARGE |
|---|---|---|
| **From More Than** | **To and Including** | **Working Day or Calendar Day** |
| $ 0 | $ 150,000 | $ 993 |
| $ 150,000 | $ 350,000 | $ 1,167 |
| $ 350,000 | $ 700,000 | $ 1,396 |
| $ 700,000 | $ 1,000,000 | $ 1,553 |
| $ 1,000,000 | $ 2,000,000 | $ 2,084 |
| $ 2,000,000 | $ 4,000,000 | $ 2,380 |
| $ 4,000,000 | $ 7,000,000 | $ 2,969 |
| $ 7,000,000 | $ 12,000,000 | $ 3,604 |
| $ 12,000,000 | — | $ 4,338 |

**109.06 PARTIAL PAYMENTS**

Partial payments will be made once each month following the effective date on the Notice to Proceed, based on estimates of the value of the work performed and materials complete in place under the contract, including materials delivered under Subsection 109.07. No payments will be made for work performed or materials produced without the required permits and authorizations in place as required under Subsection 107.02.

**Comment [JMac1]:** Has been repealed

**Deleted:** The Department reserves the right to withhold all or part of any partial payments earned under the contract until all special fuel users tax payments due or owing to the State of Montana under Section 15-70-302 MCA or other statutory taxes are paid in full.¶

**551.03.3 Batching, Mixing, Handling and Sampling**

**H. Job-Site Additions.** On-site addition of air entraining or high range water reducing admixtures is permitted up to two times. Do not re-dose with other admixtures without the approval of the Project Manager. On-site dosing of water or admixture in no way relieves the contractor of producing passing plastic and hardened concrete test results.

**Deleted:** Do not make any additions to the plastic concrete without the approval of the Project Manager.

**551.03.8 Testing and Acceptance of Concrete**

**B. Acceptance of Concrete**

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

**b. Air Content.** Concrete air content will be determined in accordance with MT-102 on the same sample used to make the compression test cylinders for acceptance and on samples taken according to MT 601. A separate air content pay factor will be computed for each test result and the lot air content pay factor will be the average of the individual test result pay factors. The Pay Factor for each air content result is determined from Table 551-6.

**Deleted:** Concrete air content will be determined in accordance with MT 102 or ASTM C457. The lot acceptance air content is the average of all the test results for the lot. In cases where the measured air content within a lot varies by more than 2.5 percentage points, a separate air content pay factor will be computed for each test result and the lot air content pay factor will be the average of the individual test result pay factors. The pay factor for each lot based on air content is determined from the following table

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**606.03.2 Installing Posts**

Drive posts unless conditions require excavation and backfilling. Install posts in accordance with the manufacturer's recommendations. If the posthole is excavated, compact the posthole bottom, insert the post, and backfill and compact around the post in 6-inch (150 mm) loose layers ensuring the material is at optimum moisture before placing and compacting the next layer. Maintain the post line and grade.

Complete guardrail widening prior to new rail installation.

When driving wood posts, pilot holes approximately 6 inches (150 mm) in diameter may be used when necessary.

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**609.03.6 Reserved**

**Deleted: Bituminous Curbs**

**Deleted:** Clean surfaces receiving bituminous curb and prime with SS-1 emulsified asphalt diluted 1:1 with water. Apply approximately 0.2 gallons per square yard (0.91 L/m$^2$).¶
Use the project surfacing bitumen mixed with water in a mixer of at least 3 cubic feet (0.08 m$^3$) capacity that meets Section 401 requirements.¶
The asphalt quantity in the bituminous curb mixture will be established by the Project Manager and will be at least 1% more than that used in the surfacing mixture.¶
Feed the bituminous mixture to the extrusion or curb machine at a temperature that prevents sloughing or tearing of the material or surface. Pressurize the mixture through an orifice or plate. The machine must heat and compact the curb as it is produced.¶
Compact all material not placed and compacted by the curb machine using mechanical tampers.¶
If other than 60-70 penetration asphalt cement is used, apply a fog coat of SS-1 emulsified asphalt diluted 1:1 with water to the finished curb at approximately 0.2 gallons per square yard (0.91 L/m$^2$).¶

**623.02 MATERIALS**

Use metal mailboxes listed on the QPL for Mailbox and Mailbox - Large. The mailbox carrier service door must be embossed with the following two statements: “U.S. MAIL” in a minimum of ½-inch (13 mm) high letters and “Approved By The Postmaster General” in a minimum of $^{3}/_{16}$-inch (4.8 mm) high letters.

### 705.01.2 Wood Posts and Blockouts

Furnish wood posts and blockouts made from Douglas fir, Hemlock, Ponderosa Pine, Spruce, Larch, Southern Yellow Pine, or Lodgepole pine. Furnish straight, sound posts, free from defect and meeting specified contract dimensions.

Meet the Western Wood Products Association requirements or equivalent grading rules for No. 2 grading or better in accordance with ASTM D245.

Ensure post surfaces do not vary more than 1-inch (25 mm) from a straight line connecting the ends. Saw wood posts before treating. Ensure that wood posts and blockouts are seasoned to accept specified treatment in accordance with Subsection 705.03.1.

Other acceptable blockouts may be manufactured from recycled plastic or recycled plastic with wood fibers, provided the requirements of Subsection 606.03.1 are met.

Use only one blockout type per each (continuous?) run of guardrail.

### 705.01.3 Round Wood Guardrail Posts

Furnish round wood posts with concave blockouts meeting Subsection 705.01.2, Detailed Drawings and the following requirements:

**A.** Machine peeled with outer bark removed. Ensure no remaining strip of inner bark is wider than 0.5 inch (13 mm), or longer than 1.5 inches (38 mm).

**B.** No check wider than 0.5 inch (13 mm) or deeper than 1.5 inches (38 mm) over the post length, and no wider than 0.25 inch (7 mm) or deeper than 2.0 inches (50 mm) through the bolt holes.

**C.** No more than a single 1.0 inch (25 mm) maximum diameter knot per six feet (1.83 m) of post length.

**D.** No more than a 180 degree twist in grain over the full post length.

**E.** Taper producing less than 1.0 inch (25 mm) difference in diameter over the post length.

Ensure the post surface above ground is without scarring longer than 6.0 inches (150 mm), or wider than 2.0 inches (50 mm).

### 705.01.5 Steel Posts

Furnish steel posts for cable guardrail in accordance with the contract. Spot paint bruised, broken, scaled, or damaged coating on steel posts with two coats of cold galvanizing compound in accordance with the manufacturer's recommendations.

Furnish minimum 6-foot (1830 mm) long steel guardrail posts for steel beam guardrail.

Ensure that steel guardrail posts and associated hardware meets the AASHTO *Guide to Standardized Highway Barrier Hardware* (Task Force 13 Report).

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**Deleted:** Furnish precast concrete posts in accordance with the contract. Use Class General concrete or concrete of equal strength in accordance with Section 551. Manufacture, transport, and handle guardrail posts in accordance with Section 554. Use reinforcing steel in accordance with Section 711.
**Deleted: 705.01.4 Lightweight Concrete Guardrail Posts**¶
Lightweight aggregates may be used in manufacturing guardrail posts.¶
Produce both fine and course aggregates for lightweight concrete by expanding, calcining, or sintering blast furnace slag, clay, diatomite, shale, or slate.¶
Meet AASHTO M 195 aggregate requirements. Use separate fine and course aggregate. Use fine aggregate in the No. 4 (4.75 mm) to 0 siz ...
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## 708.05 PVC GRAVITY PIPE

Furnish PVC pipe in accordance with ASTM D1784. Furnish perforated pipe in accordance with ASTM D2729.

Ensure each pipe length is marked with nominal size, PVC cell classification, ASTM designation and SDR, if applicable.

### 708.05.1 Schedule 40 or 80 PVC Pipe.

For non-electrical conduit or encasement, furnish schedule 40 or 80 PVC pipe.

### 708.05.2 PSM PVC Pipe

Furnish PSM PVC pipe 4-inch through 15-inch nominal diameter gravity pipe in accordance with ASTM D3034.

### 708.05.3 Large diameter PVC Pipe

Furnish large diameter PVC pipe 18-inch through 36-inch accordance with ASTM F679

### 708.05.4 Profile Wall PVC

Furnish corrugated exterior with smooth wall interior profile wall PVC gravity pipe 12-inch through 36-inch (100 - 900 mm) nominal diameter in accordance with ASTM F949.

## 708.06 PVC PRESSURE PIPE

### 708.06.1 Pipe

Furnish pressure PVC water pipe 4-inch through 12-inch (100 mm - 300 mm) nominal diameter in accordance with AWWA Specification C-900.

Furnish pressure PVC pipe 14-inch through 48-inch (350 mm-1200 mm) nominal diameter in accordance with AWWA Specification C-905.

Use DR 25 Class 165 pipe. Pipe sections must be marked with diameter, code designation, DR, pressure class, and AWWA specification.

**Deleted: 708.05 PVC GRAVITY SEWER AND DRAIN PIPE¶**
**708.05.1 Pipe¶**
Furnish gravity pipe 4-inch through 12-inch (100 - 300 mm) nominal diameter produced by continuous extrusion and having self-extinguishing characteristics. The PVC plastic must have a cell classification of 12454-B, 12454-C, or 13364-B [minimum tensile modulus of 500,000 psi (34.5 MPa) as specified in ASTM D1784]. Meet ASTM D3034 requirements for pipe and fittings. Meet a minimum Standard Dimension Ratio (SDR) of 35.¶
Furnish perforated pipe in accordance with ASTM D2729.¶
Furnish pipe with nominal laying lengths of 12.5 feet (3.8 m), except for connections to manholes, inlets, and other appurtenances.¶
Ensure each pipe length is marked with nominal size, PVC cell classification, SDR, and ASTM designation.¶
**708.05.2 Pipe Joints¶**
Each pipe length must have a bell end. The bell must have an elastomeric rubber gasket in a retaining groove to provide a watertight joint when the pipe is joined. The rubber gasket must maintain a watertight joint under all service conditions including expansion, contraction, settlement, and pipe deformation movements. Make the joint connections following the pipe manufacturer's recommendations.¶
**708.05.3 Appurtenance Joints¶**
Make all connections to manholes, inlets, or other appurtenances watertight using rubber gaskets, waterstops, or non-shrink portland cement grout for grouted joints.¶
**708.06 PVC PRESSURE WATER PIPE¶**
**708.06.1 Pipe¶**
Furnish pressure PVC water pipe 4-inch through 12-inch (100 mm - 300 mm) nominal diameter in either Class 150 with a dimension ratio (DR) of 18 or Class 200 with a DR of 14 in accordance with AWWA Specification C-900. Pipe sections must be marked with diameter, code designation, DR, pressure class, and AWWA specification.¶
**708.06.2 Pipe Joints¶**
Each manufactured length of pipe must have an integral bell with an elastomeric gasket in a retaining groove that provides a watertight joint when joined.¶

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## 713.12 Rolled Erosion Control Products

Furnish rolled erosion control products listed on the Department's QPL, as specified in the contract and meeting the requirements of this Subsection. If required, furnish natural fiber netting consisting of woven 100% biodegradable natural fibers such as coir, jute or sisal. Furnish blankets designed to stabilize and hold previously applied mulch or compost on slopes as well as newly constructed stream banks and slopes.

Natural fiber netting is available in various fiber types, strengths, weights and mesh-opening sizes.

**A. Erosion Control Blankets.** Furnish double netted products for all types.

1. **Short Term Blanket.** An erosion control blanket composed of 100% straw or 100% excelsior.
2. **Long Term Blanket.** An erosion control blanket composed of 70% straw and 30% coconut or 100% excelsior.
3. **High Performance Blanket.** An erosion control blanket composed of 100% coconut or 100% excelsior.

**B. Permanent Turf Reinforcement Mat.**

1. **Synthetic Fiber Matrix.** Furnish a web of mechanically bonded synthetic fibers that are entangled to form a strong and dimensionally stable mat. Place fibers between 2 or 3 high-strength, biaxially oriented nets mechanically bound together by stitching with polyolefin thread. The netting material must be resistant to biological, chemical, and ultra-violet degradation.
2. **Natural Fiber Matrix.** Furnish a natural fiber matrix constructed of two or three nets of heavy-duty polypropylene, polyethylene or nylon. The internal matrix fiber is composed of a natural fiber such as curled wood, straw or coconut.

**Comment [JMac2]:** Has been repealed

**Deleted:** The Department reserves the right to withhold all or part of any partial payments earned under the contract until all special fuel users tax payments due or owing to the State of Montana under Section 15-70-302 MCA or other statutory taxes are paid in full.¶

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**Deleted:** An erosion control blanket composed of processed natural fibers mechanically bound together with 100% biodegradable threading and natural fiber nettings to form a continuous matrix. The fiber matrix can be composed of straw, coir, cotton, wool, curled wood or other approved product. Thread and netting material must be non-synthetic, generally of plied coir, jute or cotton. Meet the requirements for Type II blankets as specified in Table 713-4.

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**Deleted:** composed of one of the following materials:¶
<#>Processed slow degrading natural or polymer fibers mechanically-bound together between two slow degrading synthetic or natural fiber nettings to form a continuous matrix.¶
An open weave textile composed of processed slow degrading natural or polymer yarns or twines woven into a continuous matrix. Meet the requirements for Type III-B blanket as specified in Table 713-4.

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**TEMPORARY ROLLED EROSION CONTROL¶**
**Property** ...

**TABLE 713-4**
**ROLLED EROSION CONTROL**

| Type | Mass[1] (lbs/Yd) | Tensile Strength – MD[2] (lbs/ft) | Min. Shear Strength (lbs/ft$^2$) |
|---|---|---|---|
| Short term | 0.5 | 190 | 1.70 [3] |
| Long term | 0.5 | 190 | 2.0 [3] |
| High performance | 0.6 | 190 | 2.25 [3] |
| TRM – natural fiber matrix | 0.8 | 500 | 10.0 [4] |
| TRM – synthetic fiber matrix | 0.5 | 300 | 12.0 [4] |

Notes:

1. Combined fiber matrix and netting
2. Machine direct
3. Minimum shear stress the rolled erosion control product (un-vegetated) can sustain without physical damage or excess erosion (>1⁄2-inch soil loss) during a 30-minute flow event per ASTM D6460.
4. Minimum shear stress the TRM (fully vegetated) can sustain without physical damage or excess erosion (>1⁄2-inch soil loss) during a 30-minute flow event per ASTM D6460.

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