

**STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION**

**SUPPLEMENTAL SPECIFICATIONS TO
2015 STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES**

JUNE 1, 2016

All items included in this Supplemental Specification will govern over the Supplemental Specifications for Errata.

MAKE THE FOLLOWING CHANGES TO THE INDICATED SECTIONS:

Section 1.5 – Page 3 – Add the following to page 7:

Inspection - The Department's act of examining the work.

Section 1.5 – Page 3 – Add the following to page 7:

Ledge Rock - A solid, continuous, homogenous rock mass found in its original state; distinguished from boulders or rocks that have been transported from their deposited or formed location.

Section 1.5 – Page 3 – Add the following to page 11:

Testing - A form of inspection based upon criteria and procedure.

Section 5.17 – Page 38 – Delete the 1st sentence and replace with the following:

If the Contractor contends additional compensation is warranted for assessments made by the Department to the contract, work or material not covered by the contract, or adjustments made pursuant to Section 5.3, the Contractor will give the Area Engineer written notice of the claim for additional compensation.

Section 8.1 – Page 57 – Delete the 5th paragraph and replace with the following:

Any item designated in the contract as a “specialty item” may be performed by subcontract, and the cost of any designated specialty item performed by subcontract will be deducted from the total amount of the original contract before computing the percentage of work performed by the Contractor’s own organization.

Section 8.8 A.1 – Page 65 – Make the following revision:

Delete “or,” from the end of this section.

Section 8.8 A.2 – Page 65 – Delete and replace with the following:

2. When the Contractor does not complete all work required for the field work completion of the project specified, or extended, but has not used all days specified by a working day count or calendar day count substantial completion requirement. In this instance, the Engineer will use the value in Table A for each day after the time specified, or extended, for the field work completion of the project until the Contractor substantially completes the work; or,
3. When the Contractor does not complete all work required for the field work completion of the project specified, or extended, in cases where substantial completion is not specified.

Section 8.10 – Page 67 – Delete the 1st paragraph on page 68 and replace with the following:

The Engineer will give written notice to the Contractor and the Contractor's Surety of such default.

Section 320.3 G – Page 133 – Delete the last sentence of the 1st paragraph and replace with the following:

The tack coat shall be allowed to break (turn from brown to black) and shall be allowed a cure period, as determined by the Engineer, prior to asphalt concrete placement.

Section 320.3 G – Page 133 – Delete the 3rd sentence of the 4th paragraph on page 136 and replace with the following:

The variation of the surface from the straightedge between any two contact points shall not exceed 1/4 inch.

Section 320.5 A – Page 138 – Delete the last sentence.

Section 320.5 E – Page 139 – Delete the last sentence.

Section 322.5 A – Page 162 – Delete the last sentence of the first paragraph.

Section 330.3 B – Page 172 – Delete the 1st sentence and replace with the following:

Emulsified asphalt for tack, fog seal, and flush seal with a specified application rate of 0.07 gallons per square yard or less may be diluted.

Section 330.3 B – Page 172 – Delete the last sentence and replace with the following:

Emulsified asphalt for tack, fog seal, and flush seal with a specified application rate exceeding 0.07 gallons per square yard shall not be diluted.

Section 330.3 E – Page 174 – Add the following sentence to the beginning of the last paragraph of this Section:

The tack coat shall be allowed to break (turn from brown to black) and shall be allowed a cure period, as determined by the Engineer, ahead of mat laydown.

Section 380.3 A – Page 193 – Delete the last 4 paragraphs of this section on page 194 and replace with the following:

The Contractor shall produce a concrete paving mix with a uniform consistency. The Contractor shall produce a concrete paving mix in accordance with the approved mix design and the following:

For the stationary side form method, the slump of the concrete shall be between 1 inch and 3 inches.

For the slip-form method, the slump of the concrete shall not be more than 2 inches.

The concrete shall contain 6.5% entrained air with an allowable tolerance of +1% to -1.5%. Air shall be entrained by an approved air-entraining admixture.

The concrete shall exhibit a minimum compressive strength of 4000 psi at 28 days.

The concrete shall have a maximum Water/Cementitious ratio "W/C Ratio" as listed on the mix design.

The Engineer will be responsible for the sampling, preparing, curing, and testing of all concrete cylinders for concrete compressive strength in accordance with the Department's Materials Manual.

The 28 day compressive strength acceptance shall be in accordance with Section 460.3 B.

Section 380.3 C.1 – Page 199 – Delete the last sentence of the 1st paragraph on page 200 and replace with the following:

The drilled holes shall be blown out with compressed air using a device that will reach to the back of the hole to ensure that all debris and loose material has been removed prior to epoxy injection. The drilled holes shall be dry when the epoxy material is injected.

Section 380.3 C.1 – Page 199 – Delete the 2nd paragraph on page 200 and replace with the following:

The Contractor shall mix the epoxy resin as recommended by the manufacturer and apply by an injection method approved by the Engineer. If an epoxy pump is utilized, the pump shall mix the components at the manufacturer's designated rate.

Section 380.3 I – Page 203 – Add the following to the 2nd paragraph on page 204:

Tie bars shall be tied to at least one stake or supporting device.

Section 380.3 L.2 – Page 210 – Delete the 2nd, 3rd, and 4th paragraphs and replace with the following:

When adjacent lanes of pavement are constructed separately, epoxy-coated deformed steel tie bars of specified length, size, spacing, and material shall be placed across the longitudinal construction joint to tie the lanes together. The epoxy-coated tie bars installed in drilled holes along the vertical edge of the first lane placed, shall be installed in accordance with Section

380.3 C.1 with an epoxy resin adhesive conforming to Section 380.2 L and shall meet or exceed the minimum pull strength requirement of 8,200 pounds.

Section 380.3 L.5 – Page 212 – Delete the 2nd and 3rd paragraphs and replace with the following:

If the Contractor constructs the transverse construction joint in the plastic concrete, the Contractor shall construct the joint either at the contraction joint or a minimum of 5 feet from the nearest contraction joint in accordance with the details in the plans. With this method, the Contractor shall have supplemental hand vibrators immediately available to provide satisfactory consolidation at joints. Paving in the area of a transverse construction joint will not be permitted for 12 hours after installation.

If the Contractor constructs the transverse construction joint in hardened concrete, the Contractor must construct the joint as a contraction joint in accordance with the details in the plans. With this method, the Contractor shall install epoxy-coated steel bars in drilled holes as detailed in the plans and in accordance with Section 380.3 C.1 utilizing an epoxy resin adhesive conforming to Section 380.2 L.

Section 380.3 P – Page 217 – Delete the 6th paragraph and replace with the following:

Joints to be sealed shall be thoroughly clean and dry. All materials such as old sealant, oil, asphalt, curing compound, paint, rust, and other foreign materials shall be completely removed. Cleaning shall be accomplished by abrasive blasting and other tools as necessary. Joints to be sealed with silicone sealant shall be abrasive blasted utilizing a mechanical device that holds the abrasive blaster at the appropriate angle and distance from the joint to ensure proper cleaning. The device shall have a mechanism attached that will correctly guide the device in the joint.

Section 410.2 B – Page 249 – Delete the 1st sentence and replace with the following:

Bolts shall conform to Section 972.

Section 410.3 G.5.a – Page 255 – Delete the 1st sentence and replace with the following:

Unless otherwise specified, high-strength bolts shall be new ASTM F3125 Grade A325.

Section 410.3 G.6.a – Page 256 – Delete the 4th sentence.

Section 410.3 G.6.d – Page 257 – Delete the 2nd sentence of the 1st paragraph and replace with the following:

For installations utilizing Grade A490 bolts where the steel work comprising the grip has a specified yield strength less than 40 ksi, special requirements for hardened washers will be noted in the plans.

Section 410.3 G.6.e – Page 258 – Delete the 2nd sentence of the 5th paragraph and replace with the following:

Grade A490 bolts shall be tightened with an electric or hydraulic wrench.

Section 450.3 A – Page 303 – Delete the 5th sentence of the 1st paragraph and replace with the following:

Except where flexible watertight gaskets are specified, each joint shall be effectively protected against infiltration of backfill soil by using a flexible watertight gasket conforming to Section 990, by filling the joint space with a sealant conforming to ASTM C990, or by providing a circumferential wrap on the exposed portion of the pipe joint above the cradle with a 1 foot wide strip of drainage fabric around the perimeter of the pipe.

Section 450.3 A – Page 303 – Delete the 3rd paragraph and replace with the following:

When flexible watertight gaskets are used, the Contractor shall install the flexible watertight gaskets in accordance with the manufacturer's instructions.

Section 460.3 A – Page 307 – Delete footnote *4 below Table 1 on page 308 and replace with the following:

*4 Well graded concrete mixes are those mixes conforming to the aggregate gradation shown in Chart A for size #15 coarse aggregate or Chart B for size #20 coarse aggregate. Size #20 coarse aggregate will only be allowed when specified in the plans.

Section 460.3 B.5 – Page 312 – Delete the 1st and 2nd sentence of the 4th paragraph and replace with the following:

The average compressive strength of the 3 cores will be used for the determination of the concrete compressive strength. If the average core compressive strength is greater than or equal to the specified 28 day compressive strength, then no single core compressive strength may be more than 15% below the specified strength.

Section 460.3 M.2.b – Page 326 – Delete and replace with the following:

- b.** Approach slabs and sleeper slab top surfaces poured with the approach slab shall be cured as follows:

As soon as the concrete surface has received the final surface finish, linseed oil base emulsion curing compound shall be uniformly applied at the specified rate. This application is not a substitute for curing with curing blankets and polyethylene sheeting but is required for moisture retention until the curing blankets and polyethylene curing materials can be placed. The curing blankets and polyethylene sheeting curing materials shall be in place not later than 4 hours after completion of concrete surface finishing. The concrete surfaces which are to have superimposed concrete placed upon or against them shall be protected from the curing compound and shall be cured with curing blankets and white polyethylene sheeting. All reinforcing steel shall be protected from the compound application

Section 462.3 B – Page 334 – Delete and replace with the following:

- B. Equipment:** Equipment shall conform to the following:

- 1. Batching Equipment:** A concrete batch ticket shall accompany each load of concrete to the project site and shall be presented to the Engineer prior to discharging the load at the project site unless the Engineer approves an alternate procedure.

The concrete batch ticket must contain the following minimum information:

Date and time batched
Total volume of the load, in cubic yards
Actual weigh (mass) or volume of each component of the mix:
 Coarse Aggregate
 Fine Aggregate
 Cement
 Fly Ash
 Water (batch water)
 Admixtures

Computerized batching equipment shall conform to Section 460.3 C.2.

2. **Mixing and Hauling Equipment:** Mixers shall be capable of combining the concrete ingredients into a thoroughly mixed and uniform mass and shall uniformly discharge the concrete.
3. **Forms:** Wood and metal forms shall conform to Section 460.3 C.4.

Section 470.2 B – Page 353 – Delete and replace with the following:

B. Bolts: Bolts, anchor bolts, and anchor rods shall be as specified in the plans and shall conform to Section 972.

Section 600.2 A.6 – Page 406 – Delete the first sentence and replace with the following:

One storage closet, a minimum of 24 inches deep and a minimum of 7 feet high, with a minimum door width of 24 inches.

Section 600.2 A.16 – Page 407 – Delete the first sentence and replace with the following:

On projects requiring concrete test specimens, a metal or polyethylene tank a minimum of 6 feet long, a minimum of 29 inches wide, and a minimum of 2 feet deep shall be installed beneath the worktable.

Section 632.2 D – Page 431 – Delete and replace with the following:

D. Bolts: High-strength bolts shall conform to Section 972. Bolts for mounting sign panels to posts and backing hardware shall conform to Section 982.

Section 634.4 F – Page 453 – Delete the 1st sentence and replace with the following:

Traffic control signs will be measured to the nearest 0.1 foot and the area computed to the nearest 0.1 square foot of the sign face. Deduction will not be made for rounded corners.

Section 634.4 J – Page 454 – Delete the 1st and 2nd paragraphs and replace with the following:

Measurement for tape, paint, tabs, and raised pavement markers will be made either by the foot or by the mile depending on the unit designated by the contract quantity.

When measurement of temporary pavement marking is made by the mile, a single measurement will be made longitudinally along the centerline of the roadway to the nearest 0.1 mile. The resulting single measured distance will be the quantity used for payment for all temporary pavement markings including, but not limited to, temporary dashed centerline, lane lines, edge lines, gore lines, no passing zone lines, and Do Not Pass and Pass With Care signing (if utilized). Separate measurement and determination of quantity for each individual temporary pavement marking line measured by the mile will not be made.

When measurement of temporary pavement marking is made by the foot, all temporary lane line, centerline, and edge line markings will be measured separately to the nearest foot.

All temporary gore lines, stop bars, and crosswalks will be measured separately as a 4 inch equivalent marking.

All temporary area markings, arrows, and word messages will not be measured and the accepted quantity will be the 4 inch equivalent marking quantity listed in the plans unless additional work is ordered by the Engineer.

Each surface course or surface treatment receiving temporary pavement marking will be measured to the nearest 0.1 mile increment for payment. If a single set of temporary flexible vertical markers is utilized on multiple surface courses or surface treatments, payment will be made as though each surface course or surface treatment was marked separately.

Section 671.2 D – Page 481 – Delete and replace with the following:

D. Precast Units: Precast manhole units shall conform to AASHTO M 199 and Section 990.1 A.2 except that Section 990.1 A.2.h shall not apply.

Section 671.3 D – Page 482 – Delete the first paragraph and replace with the following:

The fabrication of precast manholes shall conform to Section 560.

Section 820.1 B – Page 530 – Add the following to this section:

Size #20 will only be allowed when specified in the plans.

Section 820.2 E – Page 531 – Delete the 1st sentence and replace with the following:

The maximum amount of flat and elongated particles in the coarse aggregate of concrete pavement utilizing Size #15 or Size #20 shall not exceed 10%.

Section 830.1 A – Page 535 – Delete the 3rd sentence and replace with the following:

If field stone is utilized for Class B or larger, the stone shall have a minimum of 2 crushed faces as defined under SD 211.

Section 884.2 A – Page 549 – Delete the last sentence of this section.

Section 884.2 C – Page 549 – Add the following to this section:

Prior to incorporation, RAP shall be processed over a 1½ inch screen to remove large chunks. Material screened off shall be crushed and reincorporated into the process. Scalping of the cold milled asphalt concrete stockpile to generate material meeting the RAP requirements will not be allowed.

Section 884.2 D – Page 549 – Add the following to this section:

Prior to incorporation, salvaged material shall be processed over a 1½ inch screen to remove large chunks. Material screened off shall be crushed and reincorporated into the process. Scalping of the salvaged material stockpile will not be allowed.

Section 972.2 B – Page 564 – Delete the 1st paragraph and replace with the following:

Bolts shall conform to ASTM F3125 Grade A325. The high-strength bolts shall be Type 1 for painted steel structures and Type 3 for weathering steel bridges.

Section 972.2 B – Page 564 – Delete the 2nd paragraph on page 565 and replace with the following:

High-strength bolts for structural steel joints shall conform to ASTM F3125 Grade A325. When Grade A325 Type 3 bolts are specified, the bolts along with nuts and washers shall have an atmospheric corrosion resistance approximately two times that of carbon steel with copper.

Section 972.2 B – Page 564 – Delete the 2nd paragraph on page 566.

Section 972.2 C – Page 566 – Delete the 1st sentence of the last paragraph of this section on page 567 and replace with the following:

Anchor bolts, anchor rods, nuts, and washers shall be hot dipped galvanized in accordance with ASTM F2329 or mechanically galvanized in accordance with ASTM B695 Class 55.

Section 972.2 D – Page 567 – Delete the 1st sentence of the 2nd paragraph and replace with the following:

When bolts, anchor bolts, or anchor rods conforming to ASTM F3125, A449, A307, or F1554 are designated for use in the plans or shop plans, a Certified Mill Test Report for each type designated shall be submitted for approval to the Certification Engineer a minimum of 14 days prior to incorporating these bolts into the work.

Section 972.2 D – Page 567 – Delete the column heading for A325 in the table on page 568 and replace with the following:

F3125

Section 972.2 D – Page 567 – Delete footnote ^{*3} under the table on page 568 and replace with the following:

^{*3} Rotational Capacity Test required for Zinc Coated (Galvanized) Grade A325 bolts only. This test shall be conducted using the actual assemblies used on the project.

Section 972.2 D – Page 567 – Delete the 2nd sentence of the first paragraph on page 568 and replace with the following:

Wedge testing of full size bolts and anchor rods is required in accordance with ASTM F3125.

Section 982.2 C.4 – Page 576 – Delete and replace with the following:

4. High-strength bolts for structural steel joints, including nuts and washers, shall conform to Section 972.

Section 982.2 F.2 – Page 578 – Delete and replace with the following:

2. **Anchor Bolts and Anchor Rods:** Anchor bolts and anchor rods shall conform to Section 972.

Section 982.2 G.2 – Page 578 – Delete the 1st sentence and replace with the following:

Bolts, hex nuts, and washers used in conjunction with base plates or friction fuse plates shall conform to ASTM F3125 Grade A325, except 1/2 inch and 5/8 inch bolts conforming to ASTM A449 are permissible instead of Grade A325.

Section 982.2 H.1 – Page 578 – Delete and replace with the following:

1. **Grade:** The reflective sheeting shall be of the Type conforming to ASTM D4956 specified in the plans.

Section 982.2 J.2 – Page 582 – Delete the first sentence and replace with the following:

The reflective sheeting shall be Type XI conforming to ASTM D4956.

Section 982.2 K.2 – Page 583 – Delete the first sentence and replace with the following:

The reflective sheeting shall be Type XI conforming to ASTM D4956.

Section 984.1 – Page 587 – Delete the 1st paragraph and replace with the following:

For all projects let prior to September 1, 2018 the following shall apply:

Temporary traffic control devices, including signs, drums, cones, tubular markers, barricades, vertical panels, and direction indicator barricades shall be reflectorized with sheeting applied to a satisfactory backing. For all temporary traffic control warning signs, the reflective sheeting shall meet the standards of Type VII, Type VIII, Type IX, or Type XI as defined by ASTM D4956. For all other temporary traffic control signs, the reflective sheeting shall meet the standards of Type IV, Type V, Type VII, Type VIII, Type IX, or Type XI as defined by ASTM D4956. For barricades, vertical panels, and direction indicator barricades; the

reflective sheeting shall meet or exceed the standards of Type III as defined by ASTM D4956. Round surfaced temporary traffic control devices including, but not limited to; drums, cones, and tubular markers shall be reflectorized with reflectorized sheeting meeting or exceeding the standards of Type IV as defined by ASTM D4956. All orange colored material shall be fluorescent.

For all projects let September 1, 2018 and after the following shall apply:

Temporary traffic control devices, including signs, drums, cones, tubular markers, barricades, vertical panels, and direction indicator barricades shall be reflectorized with sheeting applied to a satisfactory backing. For all temporary traffic control signs, the reflective sheeting shall be of the Type conforming to ASTM D4956 specified in the plans. For barricades, vertical panels, and direction indicator barricades; the reflective sheeting shall meet or exceed the standards of Type IV as defined by ASTM D4956. Round surfaced temporary traffic control devices including, but not limited to; drums, cones, and tubular markers shall be reflectorized with reflectorized sheeting meeting or exceeding the standards of Type IV as defined by ASTM D4956. All orange colored material shall be fluorescent.

Section 985.1 B.2 – Page 590 – Delete the last sentence and replace with the following:

The Contractor shall use schedule 80 nonmetallic conduit under all roadways and other locations as shown in the plans.

Section 990.1 A.2.h – Page 606 – Delete and replace with the following:

h. Flexible watertight gaskets shall conform to ASTM C1619 or ASTM C1628.

Section 1010.1 B – Page 608 – Delete and replace with the following:

B. Welded Wire Reinforcement: Welded wire reinforcement shall conform to ASTM A1064. The optional yield strength measurement will only be required for welded wire reinforcement utilized in box culverts and prestressed concrete.
