

**STATE OF SOUTH DAKOTA  
DEPARTMENT OF TRANSPORTATION**

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

**OCTOBER 20, 2004**

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All items included in this supplemental specification will govern over the Errata.

**MAKE THE INDICATED CHANGES TO THE FOLLOWING SPECIFIED SECTIONS:**

**Section 260.3.A – Page 94 - Delete the last paragraph and replace with the following:**

Recycled Portland cement concrete pavement used as a granular base material shall not be used for Base Course, Salvaged Base Course, or in areas where drainage fabric, edge drains, or other similar drainage systems are present.

**Section 270.4 - Page 97 – Add the following after the first paragraph:**

When less than 5000 tons (4500 metric tons) of salvaged material is required on a project, the material may be measured in a stockpile and converted to tons (metric tons) using a factor of 1.5 tons per Cu. Yd. (1.78 metric tons per cubic meter), in lieu of weighing the material. Alternate measurement techniques may be allowed if agreed upon by the Contractor and Engineer prior to salvaging operations commencing.

**Section 380.3 M.2 – Page 151 – Delete the first sentence of the last paragraph and replace with the following:**

The Contractor shall load test five percent of the first 500 tie bars that are drilled and epoxied in place.

**Section 430.2 B – Page 223 – Delete this section and replace with the following:**

**B. Granular Bridge End Backfill:** The granular bridge end backfill material shall conform to Section 882.

**Section 430.3 C – Page 225 – Delete the second and third paragraphs and replace with the following:**

Granular bridge end backfill shall not be placed until at least 24 hours after completion of the deck pour. In addition, granular bridge end backfill shall not be placed until the abutments and sills, including wingwalls, have attained full design strength.

Granular bridge end backfill shall be placed in loose lifts not to exceed eight inches (200 mm) and compacted to 97% of maximum dry density. The moisture at the time of compaction shall be within  $\pm 4\%$  of optimum moisture. Maximum dry density and optimum moisture will be determined in accordance with SD 104.

**Section 430.3 C.1 through 6 – Page 225 and 226 – Delete and replace with the following:**

1. Each layer of granular bridge end backfill shall be placed in loose lifts not to exceed eight inches (200 mm). The placement and compaction of each layer must be inspected and approved by the Engineer prior to placement of the next layer.
2. Any equipment used to install the bridge end backfill over the geotextile fabric shall be operated in such a manner that the geotextile fabric is not damaged. To avoid damage to the geotextile fabric, the equipment used to place, spread, and compact the granular bridge end backfill over the geotextile fabric shall not be operated on less than six inches (150 mm) of material.
3. The geotextile fabric may be oriented in any direction. To minimize the horizontal deflection of the mechanically stabilized vertical face, it is extremely important to make sure that the geotextile fabric is taut and free of wrinkles during placement of the granular bridge end backfill.

4. Any geotextile fabric that is torn or punctured shall be repaired or replaced by the Contractor at no additional cost to the Department. The repair shall consist of a patch of the same type of geotextile fabric being placed over the ruptured area such that it overlaps the damaged area a minimum of 3 ft. (1 m) from any damaged edge. A sewn patch meeting the same requirements for seam strength as that of the fabric being repaired is allowed.
5. Seams that are perpendicular to face of the mechanically stabilized backfill may be constructed by overlapping the fabric a minimum of two feet (0.6 m). All other seams, as well as those in which the two foot (0.6 m) minimum overlap cannot be accomplished, shall be sewn. All seams shall be inspected by the Engineer and any deficient seams repaired by the Contractor prior to placement of the next layer of granular bridge end backfill. Geotextile fabric that is joined by sewn seams shall have strength properties at the seam equal to the specified strength requirements of the geotextile fabric. High strength polyester, polypropylene, or kevlar thread shall be used for sewn seams. Nylon threads shall not be used. The edges of the fabric shall be even and shall be completely penetrated by the stitch.
6. During periods of shipment and storage, the geotextile fabric shall be enclosed in a heavy duty opaque wrapping such that the fabric is protected from direct sunlight, ultraviolet rays, dirt or debris. The fabric shall not be subjected to temperatures greater than 140°F (60°C).

**Section 430.5 B – Page 227 – Delete the second sentence and replace with the following:**

Payment will be full compensation for all labor, equipment, materials, water, and all other items incidental to scarifying, reshaping and recompacting the area to be backfilled, furnishing and installing the polyethylene sheeting, drainage fabric, geotextile fabric, and furnishing, placing, and compacting the porous backfill and granular bridge end backfill to the limits shown on the plans.

**Section 550.3 A.2 – Page 303 – Delete the second sentence of the last paragraph and replace with the following:**

When backfilling extra depth holes in accordance with 550.3 C.1.f.2, a grout admixture shall be added to the grout mixture in accordance with the manufacturer’s recommendations.

**Section 550.3 C.1.f.2 – Page 306 – Delete the first sentence and replace with the following:**

**Backfill of Extra Depth Holes:** When Type 1D removal is necessary, or when holes deeper than 4” (100mm) below the top of the scarified surface are encountered, they shall be backfilled as follows:

**Section 560.2 A – Page 317 – Add the following:**

6. **Cement:** Section 750.

**Section 600.2 A.17 – Page 333 – Add the following sentence at the end of the paragraph:**

The concrete pad must be securely mounted and solidly supported under the laboratory to minimize vibration while operating the Marshall compactor.

**Section 605.3 C – Page 339 – Delete the third sentence of the first paragraph and replace with the following:**

If fly ash is used, the minimum amount of cement to be replaced is 15 percent and the maximum amount is 20 percent at a 1:1 ratio by weight.

**Section 633.3 D – Page 368 – In the grooving tolerance tables, replace “Depth of Groove” with the following:**

	<b>(English)</b>	
Depth of Groove	80 mils	+ 10 mils
	<b>(Metric)</b>	
Depth of Groove	2.032 mm	+ 0.25 mm

**Section 730.2 C – Page 407 – Delete the fourth sentence and replace with the following:**

If the seed is not planted within the 9 month period, the Contractor shall have the seed retested for germination, as described above, and a new certified test report shall be furnished prior to starting seeding operations.

**Section 800.2 D – Page 436 – Add the following sentence to the end of the fourth paragraph:**

Fine aggregate with a 14 day expansion value of 0.400 or greater shall not be used.

**Section 800.2 D – Page 436 – Add the following sentence to the end of the last paragraph:**

The expansion value of the blended sources will be used to determine the type of cement required.

**Section 880.2 A - Table 1, under Class E, Type 1 – Page 455 – No. 4 (4.75 mm) Sieve – Delete the “45-70” requirement and replace with “45-75”.**

**Section 882.2 – Page 459 – Delete Table 1 and replace with the following:**

Table 1

REQUIREMENT	Subbase	Gravel Cushion	Granular Bridge End Backfill	Aggregate Base Course	Limestone Ledge Rock		Gravel Surfacing
					Base Course	Gravel Cushion	
SIEVE	PERCENT PASSING						
2" (50 mm)	100						
1" (25.0 mm)	70-100		100	100	100		
3/4" (19.0 mm)		100	80-100	80-100	80-100	100	100
1/2" (12.5 mm)			68-91	68-91	68-90		
No. 4 (4.75 mm)	30-70	50-75	42-70	46-70	42-70	46-70	50-78
No. 8 (2.36 mm)	22-62	38-64	29-58	34-58	29-53	29-53	37-67
No. 40 (425 µm)	10-35	15-35	10-35	13-35	10-28	10-28	13-35
No. 200 (75 µm)	0.0-15.0	3.0-12.0	0.0-5.0	3.0-12.0	3.0-12.0	3.0-12.0	4.0-15.0
Liquid Limit Max		25	25	25	25	25	
Plasticity Index	0-6	0-6	0-6	0-6	0-3	0-3	4-12
L.A. Abra. Loss, max.	50	40	40	40	40	40	40
Foot Notes		2	1,2	1,2			
Processing Required	crushed	crushed	crushed	crushed	crushed	crushed	crushed

**Section 890.2 G – Page 465 – In the table, under TESTS ON RESIDUE FROM DISTILLATION TESTS, add the following after Elastic Recovery @ 50°F (10°C):**

(see Note 4)

**Section 890.2 G – Page 465 – Add the following after Note 3:**

Note 4: The Elastic Recovery test shall be in accordance with AASHTO T301, except that the residue will be obtained by distillation, not oven evaporation. The distillation temperature shall be as recommended by the emulsion manufacturer.

**Section 972.2 B – Page 479 – Delete the second paragraph and replace with the following:**

For bolts that are 1” (M24) (incl.) in diameter and less, the maximum hardness for AASHTO M164 (ASTM A325) bolts shall be 33 Rc.

**Section 985.1 G.4 – Page 508 – Delete the first sentence and replace with the following:**

Conductor insulation shall be colored in accordance with ICEA S-95-658, Method 1, Table K-2.

**Section 985.1 G.5 – Page 508 – Delete the first sentence and replace with the following:**

Jackets shall be polyvinyl chloride meeting UL requirements for Class 12 jackets and ICEA S-95-658, Section 4.

**Section 1010.1 A – Page 519 – Add the following to the end of the first sentence:**

Bar reinforcement shall be deformed, unless otherwise noted.

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