

**PROJECT SPECIAL PROVISIONS****ROADWAY****CLEARING AND GRUBBING – METHOD III:**

(4-6-06)

SP2 R02

Perform clearing on this project to the limits established by Method "III" shown on Standard No. 200.03 of the *2006 Roadway Standard Drawings*.

**FIELD OFFICE:****7-1-95**

The work covered by this provision consists of furnishing and maintaining a field office for the exclusive use of the Engineer at the construction site during construction of this project.

The field office shall meet the following minimum requirements:

**FRAME:**

The frame shall consist of twin 10" Junior-beam longitudinal members with C channel crossmembers and outriggers 48" on center, tandem axles with electric brakes, four 7 x 14.5 eight ply tires and an A-frame hitch designed to receive a 2 5/16" ball.

**FLOOR:**

The floor shall consist of a .040 simplex bottom board with 2" x 6" joints spaced 16" on center and a 5/8" plywood subfloor. A service gauge vinyl asbestos tile covering shall be used as a finished floor covering throughout the office.

**WALLS:**

The exterior walls shall consist of 0.019 gauge white prefinished aluminum siding with 2" x 4" studs 16" on center with 1" x 3" horizontal belt rails 24" on center. The interior walls shall be 5/32" prefinished plywood paneling throughout.

**ROOF:**

The roof shall be 0.030 gauge galvanized metal one-piece covering with a 3/8" plywood subroof. It shall be supported by truss type rafters placed 16" on center. The finished ceiling shall be a 3/8" white, gypsum predeck with a minimum 8-foot ceiling height.

**INSULATION:**

The walls and ceilings shall have a R-11 (3 1/2") fiberglass batt. The floor shall have a R-7 (2 1/2") fiberglass batt.

PLUMBING:

All supply lines shall be polybutylene and all drain lines shall be ABS plastic.

ELECTRICAL:

Non-metallic sheathed copper wiring (Romex) in accordance with the National Electric Code shall be used through the office. The office shall be equipped with a 220/110 volt, single phase 60 Hertz system with a 100 AMP main service center equipped with a main breaker. Duplex electrical receptacles spaced approximately 10-feet on center shall be furnished through the office.

LIGHTING:

The office shall have 8, 48" twin tube undiffused fluorescent fixtures.

HVAC:

The office shall have a 30,000 BTU end mount central air conditioner with 10 KW's at electric strip heat. The system is to be ceiling ducted with adjustable diffusers and shall be thermostatically controlled.

DOORS:

The office shall have two 36" x 80" aluminum-clad personnel entry doors with each having a lockset, safety chain and vision exterior doors. The interior doors shall be 36" x 80" hollow core wood doors and shall be located as indicated in the accompanying sketch.

WINDOWS:

The office shall be equipped with seven 46" x 27" aluminum framed operable 1 fixed window(s) equipped with screens.

EQUIPMENT:

The office shall also be equipped with the following as shown in the accompanying sketch.

- 34 Linear feet of interior partitioning
- 36 Linear feet of 30" flat table top on wood legs
- 36 Linear feet of 12" shelving above table top
- 1 Handicapped restroom consisting of flush type toilet, lavatory with mixing faucets, a six-gallon electric hot water heater, light, mirror
- 2 Sets of steps with handrails
- 1 4-Drawer metal file cabinet with lock
- 6 Desk chairs with rollers

**31**

- 8 Metal folding chairs
- 1 Meeting table, approximately 36" x 48"

The Contractor shall be responsible for providing the site for the field office, the sewer hook-up septic tank, drainfield, water hook-up and electrical hook-up in accordance with the National Electrical Code. The Contractor shall also be responsible for obtaining any permits necessary in setting up the office. The waterline shall be buried a minimum of 12 inches below the surface of the ground. In addition, the area around the office shall be graded to drain and 40 tons of aggregate base course, in accordance with Section 520 of the Standard Specifications, shall be spread over a 30' x 60' area as directed by the Engineer.

Payment at the contract lump sum price for "Field Office" will be full compensation for all work covered by this provision including but not limited to furnishing, setting up and maintaining (excluding utilities and janitorial services) the field office; removing the field office when it is no longer needed, furnishing and placing aggregate base course and any other incidentals necessary to complete this work.

**TEMPORARY DETOURS (Lump Sum):**

(8-15-00)

SP2 R31

Construct the temporary detours required on this project in accordance with the typical sections in the plans or as directed by the Engineer.

Payment for the construction of the detours will be made at the contract unit prices for the various items involved. After the detours have served their purpose, remove the portions deemed unsuitable for use as a permanent part of the project as directed by the Engineer. Salvage and stockpile the aggregate base course removed from the detours at locations within the right of way, as directed by the Engineer, for removal by State Forces. Pipe culverts removed from the detours remain the property of the Contractor. Remove pipe culverts from the project when they are no longer needed. Place pavement and earth material removed from the detour in embankments or dispose of in waste areas furnished by the Contractor. No direct payment will be made for removing the aggregate base course, earth material and pavement, as the cost of same shall be included in the lump sum price bid for *Grading*. Pipe culverts that are removed will be measured and will be paid for at the contract unit price per linear foot for *Pipe Removal*. Such prices and payments will be full compensation for the work of removing, salvaging, and stockpiling aggregate base course; removing any pipe culverts; and for placing earth material and pavement in embankments or disposing of earth material and pavement in waste areas.

**SHALLOW UNDERCUT:**

Where directed by the Engineer, perform shallow undercut excavation to maintain a depth of 1.5 feet below proposed subgrade. Undercut should extend from the existing edge of pavement to 2.0 feet beyond proposed edge of pavement. Place fabric for soil stabilization and backfill with 1.5 feet of Class III, Type 2 Select Material at locations as directed by the Engineer. Work includes performing undercut excavation, disposing of unsuitable material, furnishing and placing fabric for soil stabilization; and furnishing, placing and compacting Class III, Type 2 Select Material. Provide drainage as required to prevent entrapment of surface water in backfill material.



**FALSE SUMPS:**

(7-1-95)

SP2 R40

Construct false sumps in accordance with the details in the plans and at locations shown in the plans or at other locations as directed by the Engineer.

Payment for the work of construction of the false sumps will be made at the contract unit price per cubic yard for *Unclassified Excavation* or *Borrow Excavation* depending on the source of material, or included in *Grading-Lump Sum*.

**#57 STONE:**

7-18-06

SPI

**Description**

The Contractor shall place #57 stone in accordance with the details in the plans and the following provision.

**Materials**

<b>Item</b>	<b>Section</b>
# 57 Stone	1005

**Construction Methods**

The stone shall be placed and compacted as directed by the Engineer.

**Measurement and Payment**

#57 stone will be measured and paid for in tons that are completed and accepted. The stone will be measured by being weighed in trucks on certified platform scales or other certified weighing devices. The price and payment will be full compensation for furnishing, hauling, placing, and all incidentals necessary to complete the work.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
#57 Stone	Ton

**SHOULDER AND FILL SLOPE MATERIAL (Lump Sum Grading):**

(5-21-02)

SP2 R45

**Description**

Perform the required shoulder and slope construction for this project in accordance with the applicable requirements of Section 226 of the *2006 Standard Specifications* except as follows:

Construct the top 6 inches of shoulder and fill slopes with soils capable of supporting vegetation.

Provide soil with a P.I. greater than 6 and less than 25 and with a pH ranging from 5.5 to 6.8. Remove stones and other foreign material 2 inches or larger in diameter. All soil is subject to test and acceptance or rejection by the Engineer.

Obtain material from within the project limits or approved borrow source.

### **Measurement and Payment**

No direct payment will be made for this work, as the cost of this work will be considered to be a part of the work being paid for at the contract lump sum price for *Grading*.

### **PIPE TESTING:**

4-17-07

SP3R33

Revise the *2006 Standard Specifications* as follows:

**Page 3-3, Article 300-6**, add the following as a new paragraph before (A):

The Department reserves the right to perform forensic testing on any installed pipe.

### **PIPE ALTERNATES:**

(7-18-06) (Rev 4-17-07)

SP3 R36

### **Description**

The Contractor may substitute Aluminized Corrugated Steel Pipe, Type IR or HDPE Pipe, Type S or Type D up to 48 inches in diameter in lieu of concrete pipe in accordance with the following requirements.

### **Material**

<b>Item</b>	<b>Section</b>
HDPE Pipe, Type S or D	1032-10
Aluminized Corrugated Steel Pipe, Type IR	1032-3(A)(7)

Aluminized Corrugated Steel Pipe will not be permitted in counties listed in Article 310-2 of the *2006 Standard Specifications*.

### **Construction Methods**

Aluminized Corrugated Steel Pipe Culverts and HDPE Pipe Culverts shall be installed in accordance with the requirements of Section 300 of the *2006 Standard Specifications* for Method A, except that the minimum cover shall be at least 12 inches. Aluminized Corrugated Steel Pipe Culvert and HDPE Pipe Culvert will not be permitted for use under travelways, including curb and gutter.

**Measurement and Payment**

\_\_\_\_\_ "Aluminized Corrugated Steel Pipe Culvert" to be paid for will be the actual number of linear feet installed and accepted. Measurement will be in accordance with Section 310-6 of the 2006 Standard Specifications.

\_\_\_\_\_ "HDPE Pipe Culvert" to be paid for will be the actual number of linear feet installed and accepted. Measurement will be in accordance with Section 310-6 of the 2006 Standard Specifications.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
_____ " Aluminized Corrugated Steel Pipe Culverts, _____" Thick	Linear Foot
_____ " HDPE Pipe Culverts	Linear Foot

**ASPHALT PAVEMENTS - SUPERPAVE:**

(7-18-06) (Rev 12-18-07)

SP6 R01

Revise the 2006 Standard Specifications as follows:

**Page 6-2, Article 600-9 Measurement and Payment, delete the second paragraph.**

**Page 6-12, Subarticle 609-5(C)2, Required Sampling and Testing Frequencies, first partial paragraph at the top of the page, delete last sentence and add the following:**

If the Engineer allows the mix to remain in place, payment will be made in accordance with Article 105-3.

**Page 6-12, Subarticle 609-5(C)2, QUALITY CONTROL MINIMUM SAMPLING AND TESTING SCHEDULE**

**First paragraph, delete and replace with the following.**

Sample and test the completed mixture from each mix design per plant per year at the following minimum frequency during mix production:

**Second paragraph, delete the fourth sentence, and replace with the following**

When daily production of each mix design exceeds 100 tons and a regularly scheduled full test series random sample location for that mix design does not occur during that day's production, perform at least one partial test series consisting of Items A and B in the schedule below.

**Page 6-12, Subarticle 609-5(C)2(c) Maximum Specific Gravity, add after (AASHTO T 209):**

*or ASTM D 2041*

**Page 6-13, last line and on page and Page 6-14, Subarticle 609-5(C)(2)(e) Retained Tensile Strength, add a heading before the first paragraph as follows:**

- (i) Option 1

**Insert the following immediately after the first paragraph:**

- (ii) Option 2

Mix sampled from truck at plant with one set of specimens prepared by the Contractor and then tested jointly by QA and QC at a mutually agreed upon lab site within the first 7 calendar days after beginning production of each new mix design.

**Second paragraph, delete the and replace with the following:**

Test all TSR specimens required by either option noted above on either a recording test press or a test press that maintains the peak load reading after the specimen has broken.

**Subarticle 609-5(C)(3) Control Charts, delete the second sentence of the first paragraph and replace with the following:**

For mix incorporated into the project, record full test series data from all regularly scheduled random samples or directed samples that replace regularly scheduled random samples, on control charts the same day the test results are obtained.

**Page 6-15, Subarticle 609-5(C)(3) Control Charts, first paragraph on this page, delete the last sentence and substitute the following:**

Denote the moving average control limits with a dash green line and the individual test limits with a dash red line.

**Subarticle 609-5(C)(3)(a), (b) and (c), replace (a) (b) and (c) with the following:**

- (a) A change in the binder percentage, aggregate blend, or  $G_{mm}$  is made on the JMF, or,
- (b) When the Contractor elects to stop or is required to stop production after one or two moving average values, respectively, fall outside the moving average limits as outlined in subarticle 609-5(C)6 or,
- (c) If failure to stop production after two consecutive moving averages exceed the moving average limits occurs, but production does stop at a subsequent time, re-establish a new moving average beginning at the actual production stop point.

**Subarticle 609-5(C)(4) Control Limits, replace the first paragraph and the CONTROL LIMITS Table on page 6-16 with the following.**

The following are established as control limits for mix production. Apply the individual limits to the individual test results. Control limits for the moving average limits are based on a moving average of the last 4 data points. Apply all control limits to the applicable target source.

<b>CONTROL LIMITS</b>			
Mix Control Criteria	Target Source	Moving Average Limit	Individual Limit
2.36 mm Sieve	JMF	±4.0 %	±8.0 %
0.075mm Sieve	JMF	±1.5 %	±2.5 %
Binder Content	JMF	±0.3 %	±0.7 %
VTM @ N <sub>des</sub>	JMF	±1.0 %	±2.0 %
VMA @ N <sub>des</sub>	Min. Spec. Limit	-0.5%	-1.0%
P <sub>0.075</sub> / P <sub>be</sub> Ratio	1.0	±0.4	±0.8
%G <sub>mm</sub> @ N <sub>ini</sub>	Max. Spec. Limit	N/A	+2.0%
TSR	Min. Spec. Limit	N/A	- 15%

**Page 6-16, Subarticle 609-5(C)(5) Warning Bands, delete this subarticle in its entirety.**

**Pages 6-16 through 6-19, Subarticle 609-5(C)(6), delete the word "warning" and substitute the words "moving average".**

**Page 6-16, Subarticle 609-5(C)(6) Corrective Actions, first paragraph, first sentence, delete and replace with the following:**

Immediately notify the Engineer when moving averages exceed the moving average limits.

**Page 6-17, third full paragraph, delete and replace with the following:**

Failure to stop production when required due to an individual mix test not meeting the specified requirements will subject all mix from the stop point tonnage to the point when the next individual test is back on or within the moving average limits, or to the tonnage point when production is actually stopped, whichever occurs first, to being considered unacceptable.

**Sixth full paragraph, delete the first, second, and third sentence and replace with the following:**

Immediately notify the Engineer when any moving average value exceeds the moving average limit. If two consecutive moving average values for any one of the mix control criteria fall outside the moving average limits, cease production of that mix, immediately

notify the Engineer of the stoppage, and make adjustments. The Contractor may elect to stop production after only one moving average value falls outside the moving average limits.

**Page 6-18, Subarticle 609-5(C)(6) Corrective Actions second full paragraph, delete and replace with the following:**

If the process adjustment improves the property in question such that the moving average after four additional tests is on or within the moving average limits, the Contractor may continue production with no reduction in payment

**Page 6-18, delete the third and fourth full paragraphs, including the Table for Payment for Mix Produced in the Warning Bands and substitute the following:**

If the adjustment does not improve the property in question such that the moving average after four additional individual tests is outside the moving average limits, the mix will be evaluated for acceptance in accordance with Article 105-3. Reduced payment for or removal of the mix in question will be applied starting from the plant sample tonnage at the stop point to the sample tonnage when the moving average is on or within the moving average limits. In addition, any mix that is obviously unacceptable will be rejected for use in the work.

**Page 6-19, First paragraph, delete and replace with the following:**

Failure to stop production and make adjustments when required due to two consecutive moving average values falling outside the moving average limits will subject all mix produced from the stop point tonnage to the tonnage point when the moving average is back on or within the moving average limits or to the tonnage point when production is actually stopped, whichever occurs first, to being considered unacceptable. Remove this material and replaced with materials which comply with the Specifications at no additional costs to the Department, unless otherwise approved. Payment will be made for the actual quantities of materials required to replace the removed quantities, not to exceed the original amounts.

**Page 6-20, Subarticle 609-5(D)(1) General, delete the third full paragraph, and replace with the following:**

Perform the sampling and testing at the minimum test frequencies as specified above. Should the density testing frequency fail to meet the minimum frequency as specified above, all mix without the required density test representation will be considered unsatisfactory. If the Engineer allows the mix to remain in place, payment will be made in accordance with Article 105-3.

**Page 6-23, Subarticle 609-5(D)(5) Limited Production Procedure, delete the first paragraph including (a), (b), (c) and substitute the following:**

Proceed on limited production when, for the same mix type and on the same contract, one of the following conditions occur (except as noted in the first paragraph below).

- (a) Two consecutive failing lots, except on resurfacing\*
- (b) Three consecutive failing lots on resurfacing\*
- (c) Two consecutive failing nuclear control strips.

\* Resurfacing is defined as the first new uniform layer placed on an existing pavement.

**Page 6-28, Subarticle 610-3(A) Mix Design-General, fourth paragraph, third sentence:**

Substitute 20% for 15%

**Fifth paragraph, first, second and third sentences:**

Substitute 20% for 15%

**Page 6-28, Subarticle 610-3(A) Mix Design-General, add the following as the fourth paragraph:**

Reclaimed Asphalt Pavement (RAP) or Reclaimed Asphalt Shingles (RAS) may be incorporated into asphalt plant mixes in accordance with Article 1012-1 and the following applicable requirements.

**Page 6-35, Table 610-3 delete and replace with the following:**

**TABLE 610-3  
ASPHALT PLACEMENT- MINIMUM TEMPERATURE REQUIREMENTS**

Asphalt Concrete Mix Type	Minimum Air Temperature	Minimum Surface Temperature
ACBC, Type B 25.0B, C, B 37.5C	35°F	35°F
ACIC, Type I 19.0B, C, D	35°F	35°F
ACSC, Type S 4.75A, SF 9.5A, S 9.5B	40°F	50°F *
ACSC, Type S 9.5C, S 12.5C	45°F	50°F
ACSC, Type S 9.5D, S 12.5D	50°F	50°F

\* 35°F if surface is soil or aggregate base for secondary road construction.

**Page 6-44, Article 610-8 Spreading and Finishing, third full paragraph, replace the first sentence with the following:**

Use the 30 foot minimum length mobile grade reference system or the non-contacting laser or sonar type ski *with at least four referencing stations mounted on the paver at a minimum length of 24 feet* to control the longitudinal profile when placing the initial lanes and all adjacent lanes of all layers, including resurfacing and asphalt in-lays, unless otherwise specified or approved.

**Page 6-50, Article 610-13 Density Acceptance, delete the second paragraph and replace with the following:**

As an exception, when the first layer of mix is a surface course and is being placed directly on an unprimed aggregate or soil base, the layer will be included in the "Other" construction category.

**Page 6-53, Article 620-4 Measurement and Payment, sixth paragraph, delete the last sentence.**

**Page 6-54, Article 620-4 Measurement and Payment, add the following pay item:**

<b>Pay Item</b>	<b>Pay Unit</b>
Asphalt Binder for Plant Mix, Grade PG 70-28	Ton

**Page 6-69, Table 660-1 Material Application Rates and Temperatures, add the following:**

Type of Coat	Grade of Asphalt	Asphalt Rate gal/yd <sup>2</sup>	Application Temperature °F	Aggregate Size	Aggregate Rate lb./sq. yd. Total
Sand Seal	CRS-2 or CRS-2P	0.22-0.30	150-175	Blotting Sand	12-15

**Page 6-75, Subarticle 660-9(B), add the following as sub-item (5)**

(5) Sand Seal

Place the fully required amount of asphalt material in one application and immediately cover with the seal coat aggregate. Uniformly spread the fully required amount of aggregate in one application and correct all non-uniform areas prior to rolling.

Immediately after the aggregate has been uniformly spread, perform rolling.

When directed, broom excess aggregate material from the surface of the seal coat.

When the sand seal is to be constructed for temporary sealing purposes only and will not be used by traffic, other grades of asphalt material meeting the requirements of Articles 1020-6 and 1020-7 may be used in lieu of the grade of asphalt required by Table 660-1 when approved.

**Page 6-76, Article 661-1 Description, add the following as the 2nd paragraph:**

Provide and conduct the quality control and required testing for acceptance of the UBWC in accordance with "Quality Management System for Asphalt Pavements (OGAFC, PADL, and Ultra-Thin HMA Version)", included in the contract.

**Page 6-80, Subarticle 661-3(A) Equipment, add the following as the first paragraph:**

Use asphalt mixing plants in accordance with Article 610-5.

**Page 10-41, Table 1012-1, delete the last row of entries for OGAFC and add the following:**

Mix Type	Course Aggregate Angularity <sup>(b)</sup> ASTM D5821	Fine Aggregate	Sand	Flat & Elongated 5:1
		Angularity % Minimum AASHTO T304 Method A	Equivalent % Minimum AASHTO T176	Ratio % Maximum ASTM D4791 Section 8.4
S 9.5 D	100/100	45	50	10
OGAFC	100/100	N/A	N/A	10
UBWC	100/85	40	45	10

**Delete Note (c) under the Table 1012-1 and replace with the following:**

(c) Does not apply to Mix Types SF 9.5A and S 9.5B.

**Page 10-43 through 10-45, Subarticle 1012-1(G), delete this in its entirety and replace with the following:**

**(G) Reclaimed Asphalt Pavement (RAP)**

**(1) Mix Design RAP**

Incorporate RAP from stockpiles or other sources that have been tested for uniformity of gradation and binder content prior to use in an asphalt mix design. Use reclaimed asphalt pavement that meets all requirements specified for *one* of the following *two* classifications.

**(a) Millings**

Existing reclaimed asphalt pavement (RAP) that is removed from its original location by a milling process as specified in Section 607. Millings should be such that it has a uniform gradation and binder

content and all materials will pass a 2" sieve prior to introduction into the plant mixer unit.

**(b) Processed RAP**

RAP that is processed in some manner (possibly by crushing and/or use of a blending method) to produce a uniform gradation and binder content in the RAP prior to use in a recycled mix. Process RAP so that all materials have a uniform gradation and binder content and will pass a 2" sieve prior to introduction into the plant mixer unit.

**(2) Mix Production RAP**

During mix production use RAP that meets the criteria for one of the following categories:

**(a) Mix Design RAP**

RAP contained in the mix design stockpiles as described above may be used in all applicable JMFs. These stockpiles have been pretested; however, they are subject to required QC/QA testing in accordance with Subarticle 609-5(C)(2).

**(b) New Source RAP**

New Source RAP is defined as any acceptable material which was not included in the stockpile or other source when samples were taken for mix design purposes. Process new source RAP so that all materials have a uniform gradation and binder content and will pass a 2" sieve prior to introduction into the plant mixer unit.

After a stockpile of processed RAP or millings has been sampled and mix designs made from these samples, do not add new source RAP to the original stockpile without prior field testing to insure gradation and binder uniformity. Sample and test new source RAP before blending with the existing stockpile.

Store new source RAP in a separate stockpile until the material can be sampled and tested for comparison with the original recycled mix design data. New source RAP may also be placed against the existing stockpile in a linear manner provided it is sampled for mix design conformity prior to its use in the recycled mix.

Unprocessed RAP is asphalt material that was not milled and/or has not been processed to obtain a uniform gradation and binder content and is not representative of the RAP used during the applicable mix design. Unprocessed RAP shall not be incorporated into any JMFs prior to processing. Different sources of unprocessed RAP may be stockpiled together provided it is generally free of contamination and will be processed prior to use in a recycled mix. RAP contamination in the form of excessive dirt, debris, clean stone, concrete, etc. will not be allowed. Incidental amounts of dirt, concrete, and clean stone may be acceptable. Unprocessed RAP may be processed and then classified as a new source RAP as described above.

Field approval of new source RAP will be based on Table 1012-2 below and volumetric mix properties on the mix with the new source RAP included. Provided the Table 1012-2 tolerances are met, volumetric properties of the new mix will then be performed. If all volumetric mix properties meet the mix design criteria for that mix type, the new source RAP may continue to be used.

If the gradation, binder content, or any of the volumetric mix properties are not within the allowable tolerances of Table 1012-2, do not use the new source RAP unless approved by the Engineer. The Contractor may elect to either not use the stockpile, to request an adjustment to the JMF, or to redesign the mix.

**TABLE 1012-2**  
**NEW SOURCE RAP GRADATION and BINDER TOLERANCES**  
(Apply Tolerances to Mix Design Data)

Mix Type Sieve (mm)	0-20% RAP			20 <sup>+</sup> -25 % RAP			25 <sup>+</sup> % RAP		
	Base	Inter.	Surf.	Base	Inter.	Surf.	Base	Inter.	Surf.
P <sub>b</sub> %		± 0.7%			± 0.4%			± 0.3%	
25.0	±10	-	-	±7	-	-	±5	-	-
19.0	±10	±10	-	±7	±7	-	±5	±5	-
12.5	-	±10	±6	-	±7	±3	-	±5	±2
9.5	-	-	±8	-	-	±5	-	-	±4
4.75	±10	-	±10	±7	-	±7	±5	-	±5
2.36	±8	±8	±8	±5	±5	±5	±4	±4	±4
1.18	±8	±8	±8	±5	±5	±5	±4	±4	±4
0.300	±8	±8	±8	±5	±5	±5	±4	±4	±4
0.150	-	-	±8	-	-	±5	-	-	±4
0.075	±4	±4	±4	±2	±2	±2	±1.5	±1.5	±1.5

**ASPHALT BINDER CONTENT OF ASPHALT PLANT MIXES:**

(11-21-00)

SP6 R15

The approximate asphalt binder content of the asphalt concrete plant mixtures used on this project will be as follows:

Asphalt Concrete Base Course	Type B 25.0__	4.3%
Asphalt Concrete Intermediate Course	Type I 19.0__	4.7%
Asphalt Concrete Surface Course	Type S 4.75A	7.0%
Asphalt Concrete Surface Course	Type SF 9.5A	6.5%
Asphalt Concrete Surface Course	Type S 9.5__	6.0%
Asphalt Concrete Surface Course	Type S 12.5__	5.5%

The actual asphalt binder content will be established during construction by the Engineer within the limits established in the *2006 Standard Specifications*.

**ASPHALT PLANT MIXTURES:**

(7-1-95)

SP6 R20

Place asphalt concrete base course material in trench sections with asphalt pavement spreaders made for the purpose or with other equipment approved by the Engineer.

**NON-WOVEN FIBERGLASS/POLYESTER INTERLAYER PAVING MAT:**

(3-1-07)

SPI

**Description**

Furnish and install a fiberglass/polyester interlayer paving mat at locations shown on the plans.

**Materials**

The paving mat shall be constructed of a wet-formed non-woven material consisting of at least 60 percent fiberglass / 40 percent polyester. The material shall be resistant to chemicals, mildew and rot, and shall not have any tears or holes that will adversely affect the in-situ performance and physical properties of the installed material.

Furnish with each shipment a Type 3 Certification in accordance with Article 106-3 certifying that the paving mat is a fiberglass / polyester material meeting the requirements shown:

**Physical Properties of  
NON-WOVEN FIBERGLASS/POLYESTER INTERLAYER MAT**

<b>Property</b>	<b>Test Method</b>	<b>Units</b>	<b>Minimum Value</b>
Mass per unit area	ASTM D5261	g/m <sup>2</sup> (oz/yd <sup>2</sup> )	125 (3.69)
Tensile strength, MD	ASTM D5035	N/50 mm (lb/2 in)	200 (45)
Elongation at max. load, MD	ASTM D5035	percent	< 5
Tensile Strength, CD	ASTM D5035	N/50 mm (lb/2 in)	200 (45)
Elongation at max load, CD	ASTM D5035	percent	< 5
Melting Point	ASTM D276	°C (°F)	>230 (>450)
Asphalt Absorption	ASTM D6140	Gal/yd <sup>2</sup>	0.21
Shrinkage	Tex-616-J	Percent	0

Note: Conditions for tensile strength measurements

Sample width: 50 mm

Sample length: 250 mm

Gage length: 175 mm

Crosshead speed: 50 mm/min

### General Requirements

**Paving Mat Installation:** A trained and experienced installer, certified by the manufacturer, should be present on-site during the installation of the paving mat until the crew has a comfort level working with this material.

The surface to be overlaid with the paving mat shall be cleaned, dry and free of all dirt and debris. Fill all surface cracks over 1/4 in. with sealant until flush with the existing pavement surface. At the direction of the Engineer, perform leveling or wedging of asphalt to reduce any irregular surface conditions. Any and all pavement repairs to be made shall be made at the direction of the Engineer prior to the installation of the tack coat.

**Tack Coat Application:**

Apply tack coat in accordance with the requirements of Section 605 and the following:

- A. Use Asphalt Binder, Grade PG 64-22 tack coat material or as approved.
- B. Uniformly apply the tack coat material at a rate of application 0.25 gal. per square yard. The application rate may be increased for heavily aged and/or deteriorated pavements. The Engineer will establish the exact rate for the application.
- C. The use of emulsions, cutbacks, or materials containing solvents shall not be permitted for use as tack coat.

The tack coat application temperatures shall be sufficiently hot so as to ensure proper coverage and proper adhesion of the paving mat to the pavement surface. The use of hand sprayers, squeegee and or brush-applied tack coat may be used in locations where the distributor truck cannot reach. Every effort shall be made to minimize the application of tack coat by hand-applied means.

The application width of tack coat shall be sufficiently wide to cover the entire width of the paving mat, plus any additional width required for overlapping joints. The tack coat shall be applied only as far in advance of the mat installation to ensure a tacky surface at the time of the mat installation. Traffic **shall not be** permitted to drive on the tack coat at any time.

Clean any excess tack coat from the pavement. In the event that installation operations must be curtailed, prevent vehicular traffic from driving on the affected area where the tack coat and mat have been installed.

Install the paving mat over the hot asphalt tack coat. Use mechanically powered installation equipment to install the paving mat to the surface. The mechanical equipment shall be capable of installing full width rolls of up to 12.5 feet in width. Where mechanical installation methods can not be accomplished, due to situations that require specially cut sections, install the paving mat by hand. Use brooms or squeegees to remove any air bubbles and ensure the paving mat is completely in contact with the tack-coated surface. Folds or wrinkles that are encountered during lay down operations shall be cut or smoothed and additional tack material shall be applied as needed to achieve a complete bond to the surface.

Overlap longitudinal joints a minimum of 2 inches and transverse joints a minimum of 4 inches to bond seams. Overlaps on the transverse roll ends shall be in the direction of the paving operation to avoid the paving train from picking-up the mat during asphalt laydown operations. All overlapping of paving mat shall be tack coated to ensure proper adhesion.

Blotting the sealant, spreading sand or broadcasting hot mix asphalt over the paving mat shall be utilized to minimize and prevent construction and or paving tires/tracks from adhering to the tack coat and pulling up the fabric. In the event that the paving mat has been displaced from the surface, additional rolling and or hand-brushing will be required to restore the bond between the surface and paving mat. An additional application of tack may be required to ensure adhesion. Additional tack coat or labor shall be considered incidental to the installation of the paving mat.

### **Measurement and Payment**

*Fiberglass/polyester interlayer paving mat* will be measured and paid for at the contract unit price per square yard. Measurement will be made along the length and width of the surface of the fabric. No double measurement will be made of overlapping fabric.

Payment at the contract unit price per square yard for "Non-Woven Fiberglass / Polyester Interlayer Paving Mat" will be considered full compensation for furnishing and placing the tack coat, fiberglass fabric, and for furnishing all labor, materials, tools, equipment and incidentals necessary to perform the work as required herein.

**PRICE ADJUSTMENT - ASPHALT BINDER FOR PLANT MIX:**

(11-21-00)

SP6 R25

Price adjustments for asphalt binder for plant mix will be made in accordance with Section 620 of the *2006 Standard Specifications*.

The base price index for asphalt binder for plant mix is **\$318.93** per ton.

This base price index represents an average of F.O.B. selling prices of asphalt binder at supplier's terminals on **November 1, 2007**.

**FINAL SURFACE TESTING - ASPHALT PAVEMENTS (Rideability):**

(5-18-04) (Rev.7-18-06)

SP6 R45

On portions of this project where the typical section requires two or more layers of new pavement, perform acceptance testing of the longitudinal profile of the finished pavement surface in accordance with these provisions using a North Carolina Hearne Straightedge (Model No. 1). Furnish and operate the straightedge to determine and record the longitudinal profile of the pavement on a continuous graph. Final surface testing is an integral part of the paving operation and is subject to observation and inspection by the Engineer as deemed necessary.

Push the straightedge manually over the pavement at a speed not exceeding 2 miles per hour. For all lanes, take profiles in the right wheel path approximately 3 ft from the right edge of pavement in the same direction as the paving operation, unless otherwise approved due to traffic control or safety considerations. Make one pass of the straightedge in each full width travel lane. The full lane width should be comparable in ride quality to the area evaluated with the Hearne Straightedge. If deviations exist at other locations across the lane width, utilize a 10 foot non-mobile straightedge or the Hearne Straightedge to evaluate which areas may require corrective action. Take profiles as soon as practical after the pavement has been rolled and compacted but in no event later than 24 hours following placement of the pavement, unless otherwise authorized by the Engineer. Take profiles over the entire length of final surface travel lane pavement exclusive of -Y- line travel lanes less than or equal to 300 feet in length, turn lanes less than or equal to 300 feet in length, structures, approach slabs, paved shoulders, loops, and tapers or other irregular shaped areas of pavement, unless otherwise approved by the Engineer. Test in accordance with this provision all mainline travel lanes, full width acceleration or deceleration lanes, -Y- line travel lanes greater than 300 feet in length, ramps, full width turn lanes greater than 300 feet in length, and collector lanes.

At the beginning and end of each day's testing operations, and at such other times as determined necessary by the Engineer, operate the straightedge over a calibration strip so that the Engineer can verify correct operation of the straightedge. The calibration strip shall be a 100 ft section of pavement that is reasonably level and smooth. Submit each day's calibration graphs with that

day's test section graphs to the Engineer. Calibrate the straightedge in accordance with the current NCDOT procedure titled *North Carolina Hearne Straightedge - Calibration and Determination of Cumulative Straightedge Index*. Copies of this procedure may be obtained from the Department's Pavement Construction Section.

Plot the straightedge graph at a horizontal scale of approximately 25 ft per inch with the vertical scale plotted at a true scale. Record station numbers and references (bridges, approach slabs, culverts, etc.) on the graphs, and distances between references/stations must not exceed 100 ft. Have the operator record the Date, Project No., Lane Location, Wheel Path Location, Type Mix, and Operator's Name on the graph.

Upon completion of each day's testing, evaluate the graph, calculate the Cumulative Straightedge Index (CSI), and determine which lots, if any, require corrective action. Document the evaluation of each lot on a QA/QC-7 form. Submit the graphs along with the completed QA/QC-7 forms to the Engineer, within 24 hours after profiles are completed, for verification of the results. The Engineer will furnish results of their acceptance evaluation to the Contractor within 48 hours of receiving the graphs. In the event of discrepancies, the Engineer's evaluation of the graphs will prevail for acceptance purposes. The Engineer will retain all graphs and forms.

Use blanking bands of 0.2 inches, 0.3 inches, and 0.4 inches to evaluate the graph for acceptance. The 0.2 inch and 0.3 inch blanking bands are used to determine the Straightedge Index (SEI), which is a number that indicates the deviations that exceed each of the 0.2 inch and 0.3 inch bands within a 100 ft test section. The Cumulative Straightedge Index (CSI) is a number representing the total of the SEIs for one lot, which consist of not more than 25 consecutive test sections. In addition, the 0.4 inch blanking band is used to further evaluate deviations on an individual basis. The Cumulative Straightedge Index (CSI) will be determined by the Engineer in accordance with the current procedure titled "North Carolina Hearne Straightedge - Calibration and Determination of Cumulative Straightedge Index".

The pavement will be accepted for surface smoothness on a lot by lot basis. A test section represents pavement one travel lane wide not more than 100 ft in length. A lot will consist of 25 consecutive test sections, except that separate lots will be established for each travel lane, unless otherwise approved by the Engineer. In addition, full width acceleration or deceleration lanes, ramps, turn lanes, and collector lanes, will be evaluated as separate lots. For any lot that is less than 2500 feet in length, the applicable pay adjustment incentive will be prorated on the basis of the actual lot length. For any lot which is less than 2500 feet in length, the applicable pay adjustment disincentive will be the full amount for a lot, regardless of the lot length.

If during the evaluation of the graphs, 5 lots (mainline travel lanes and full width -Y- line travel lanes greater than 300 feet in length only require corrective action, then proceed on limited production for unsatisfactory laydown in accordance with Article 610-12 of the *2006 Standard Specifications*. Proceeding on limited production is based upon the Contractor's initial evaluation of the straightedge test results and must begin immediately upon obtaining those results. Additionally, the Engineer may direct the Contractor to proceed on limited production in accordance with Article 610-12 due to unsatisfactory laydown or workmanship.

Limited production for unsatisfactory laydown is defined as being restricted to the production, placement, compaction, and final surface testing of a sufficient quantity of mix necessary to construct only 2500 feet of pavement at the laydown width. Once this lot is complete, the final surface testing graphs will be evaluated jointly by the Contractor and the Engineer. Remain on limited production until such time as acceptable laydown results are obtained or until three consecutive 2500 foot sections have been attempted without achieving acceptable laydown results. The Engineer will determine if normal production may resume based upon the CSI for the limited production lot and any adjustments to the equipment, placement methods, and/or personnel performing the work. Once on limited production, the Engineer may require the Contractor to evaluate the smoothness of the previous asphalt layer and take appropriate action to reduce and/or eliminate corrective measures on the final surface course. Additionally, the Contractor may be required to demonstrate acceptable laydown techniques off the project limits prior to proceeding on the project.

If the Contractor fails to achieve satisfactory laydown results after three consecutive 2500 foot sections have been attempted, cease production of that mix type until such time as the cause of the unsatisfactory laydown results can be determined.

As an exception, the Engineer may grant approval to produce a different mix design of the same mix type if the cause is related to mix problem(s) rather than laydown procedures. If production of a new mix design is allowed, proceed under the limited production procedures detailed above.

After initially proceeding under limited production, the Contractor shall immediately notify the Engineer if any additional lot on the project requires corrective action. The Engineer will determine if limited production procedures are warranted for continued production.

If the Contractor does not operate by the limited production procedures as specified above, the 5 lots, which require corrective action, will be considered unacceptable and may be subject to removal and replacement. Mix placed under the limited production procedures for unsatisfactory laydown will be evaluated for acceptance in accordance with Article 105-3.

The pay adjustment schedule for the Cumulative Straightedge Index (CSI) test results per lot is as follows:

<b>Pay Adjustment Schedule for Cumulative Straightedge Index (CSI) (Obtained by adding SE Index of up to 25 consecutive 100 ft. sections)</b>				
*CSI	ACCEPTANCE CATEGORY	CORRECTIVE ACTION	PAY ADJUSTMENT	
			Before Corrective Action	After Corrective Action
0-0	Acceptable	None	\$300 incentive	None
1-0 or 2-0	Acceptable	None	\$100 incentive	None
3-0 or 4-0	Acceptable	None	No Adjustment	No Adjustment
1-1, 2-1, 5-0 or 6-0	Acceptable	Allowed	\$300 disincentive	\$300 disincentive
3-1, 4-1, 5-1 or 6-1	Acceptable	Allowed	\$600 disincentive	\$600 disincentive
Any other Number	Unacceptable	Required	Per CSI after Correction(s) (not to exceed 100% Pay)	

**\*Either Before or After Corrective Actions**

Correct any deviation that exceeds a 0.4 inch blanking band such that the deviation is reduced to 0.3 inches or less.

Corrective actions shall be performed at the Contractor's expense and shall be presented for evaluation and approval by the Engineer prior to proceeding. Any corrective action performed shall not reduce the integrity or durability of the pavement that is to remain in place. Corrective action for deviation repair may consist of overlaying, removing and replacing, indirect heating and rerolling. Scraping of the pavement with any blade type device will not be allowed as a corrective action. Provide overlays of the same type mix, full roadway width, and to the length and depth established by the Engineer. Tapering of the longitudinal edges of the overlay will not be allowed.

Corrective actions will not be allowed for lots having a CSI of 40 or better. If the CSI indicates *Allowed* corrective action, the Contractor may elect to take necessary measures to reduce the CSI in lieu of accepting the disincentive. Take corrective actions as specified if the CSI indicates *Required* corrective action. The CSI after corrective action should meet or exceed *Acceptable* requirements.

Where corrective action is allowed or required, the test section(s) requiring corrective action will be retested, unless the Engineer directs the retesting of the of the entire lot. No disincentive will apply after corrective action if the CSI is 40 or better. If the retested lot after corrective action has a CSI indicating a disincentive, the appropriate disincentive will be applied.

Test sections and/or lots that are initially tested by the Contractor that indicate excessive deviations such that either a disincentive or corrective action is necessary, may be re-rolled with asphalt rollers while the mix is still warm and in a workable condition, to possibly correct the problem. In this instance, reevaluation of the test section(s) shall be completed within 24 hours of pavement placement and these test results will serve as the initial test results.

Incentive pay adjustments will be based only on the initially measured CSI, as determined by the Engineer, prior to any corrective work. Where corrective actions have been taken, payment will be based on the CSI determined after correction, not to exceed 100 percent payment.

Areas excluded from testing by the N.C. Hearne Straightedge will be tested by using a non-mobile 10-foot straightedge. Assure that the variation of the surface from the testing edge of the straightedge between any two contact points with the surface is not more than 1/8 inch. Correct deviations exceeding the allowable tolerance in accordance with the corrective actions specified above, unless the Engineer permits other corrective actions.

Furnish the North Carolina Hearne Straightedge(s) necessary to perform this work. Maintain responsibility for all costs relating to the procurement, handling, and maintenance of these devices. The Department has entered into a license agreement with a manufacturer to fabricate, sell, and distribute the N.C. Hearne Straightedge. The Department's Pavement Construction Section may be contacted for the name of the current manufacturer and the approximate price of the straightedge.

No direct payment will be made for the work covered by this section. Payment at the contract unit prices for the various items covered by those sections of the specifications directly applicable to the work constructed will be full compensation for all work covered by this section including, but not limited to, performing testing in accordance with this specification, any corrective work required as a result of this testing and any additional traffic control as may be necessary.

**SHPO DOCUMENTATION FOR BORROW/WASTE SITES:**

(12-18-07)

RR8R02

Revise the *2006 Standard Specifications* as follows:

**Division 2 Earthwork**

**Page 2-17, Article 230-4(B) Contractor Furnished Sources, first paragraph, first sentence replace with the following:**

Prior to the approval of any borrow sources developed for use on any project, obtain certification from the State Historic Preservation Officer of the State Department of Cultural Resources certifying that the removal of the borrow material from the borrow sources(s) will have no effect on any known district, site building, structure, or object, architectural and/or archaeological that is included or eligible for inclusion in the National Register of Historic Places.

### Division 8 Incidentals

**Page 8-9, Article 802-2 General Requirements, add the following as the 1st paragraph:**

Prior to the removal of any waste from any project, obtain certification from the State Historic Preservation Officer of the State Department of Cultural Resources certifying that the deposition of the waste material to the proposed waste area will have no effect on any known district, site building, structure, or object, architectural and/or archaeological that is included or eligible for inclusion in the National Register of Historic Places. Furnish a copy of this certification to the Engineer prior to performing any work in the proposed waste site.

**Page 8-10, Article 802-2, General Requirements, 4th paragraph, add the following as the 2nd sentence:**

The Department's borrow and waste site reclamation procedures for contracted projects is available on the NCDOT website and shall be used for all borrow and waste sites on this project.

**GUARDRAIL ANCHOR UNITS, TYPE 350:**

(4-20-04)

SP8 R65

**Description**

Furnish and install guardrail anchor units in accordance with the details in the plans, the applicable requirements of Section 862 of the *2006 Standard Specifications*, and at locations shown in the plans.

**Materials**

The Contractor may at his option, furnish any one of the guardrail anchor units.

Guardrail anchor unit (ET-2000) as manufactured by:

Trinity Industries, Inc.  
2525 N. Stemmons Freeway  
Dallas, Texas 75207  
Telephone: 800-644-7976

The guardrail anchor unit (SKT 350) as manufactured by:

Road Systems, Inc.  
3616 Old Howard County Airport  
Big Spring, Texas 79720  
Telephone: 915-263-2435

Prior to installation the Contractor shall submit to the Engineer:

(A) FHWA acceptance letter for each guardrail anchor unit certifying it meets the requirements of NCHRP Report 350, Test Level 3, in accordance with Section 106-2 of the *2006 Standard Specifications*.

(B) Certified working drawings and assembling instructions from the manufacturer for each guardrail anchor unit in accordance with Section 105-2 of the *2006 Standard Specifications*.

No modifications shall be made to the guardrail anchor unit without the express written permission from the manufacturer. Perform installation in accordance with the details in the plans, and details and assembling instructions furnished by the manufacturer.

### **Construction Methods**

Guardrail end delineation is required on all approach and trailing end sections for both temporary and permanent installations. Guardrail end delineation consists of yellow reflective sheeting applied to the entire end section of the guardrail in accordance with Section 1088-3 of the *2006 Standard Specifications* and is incidental to the cost of the guardrail anchor unit.

### **Measurement and Payment**

Measurement and payment will be made in accordance with Articles 862-6 of the *2006 Standard Specifications*.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Guardrail Anchor Units, Type 350	Each

### **FENCE:**

(3-6-06)

SP8 R86

Revise the *2006 Standard Specifications* as follows:

**Page 8-54, Subarticle 866-3(A)**, second sentence,

Add *existing fencing* after stumps

### **AGGREGATE PRODUCTION:**

(11-20-01)

SP10 R05

Provide aggregate from a producer who uses the current Aggregate Quality Control/Quality Assurance Program that is in effect at the time of shipment.

No price adjustment is allowed to contractors or producers who use the program. Participation in the program does not relieve the producer of the responsibility of complying with all requirements of the *2006 Standard Specifications*. Copies of this procedure are available upon request from the Materials and Test Unit.

**CONCRETE BRICK AND BLOCK PRODUCTION:**

(11-20-01)

SP10 R10

Provide concrete brick and block from a producer who uses the current Solid Concrete Masonry Brick/Unit Quality Control/Quality Assurance Program that is in effect on the date that material is received on the project.

No price adjustment is allowed to contractors or producers who use the program. Participation in the program does not relieve the producer of the responsibility of complying with all requirements of the *2006 Standard Specifications*. Copies of this procedure are available upon request from the Materials and Test Unit.

**PORTLAND CEMENT CONCRETE (Alkali-Silica Reaction):**

2-20-07

SP10 R16

Revise the *2006 Standard Specifications* as follows:

**Article 1024-1(A)**, replace the 2nd paragraph with the following:

Certain combinations of cement and aggregate exhibit an adverse alkali-silica reaction. The alkalinity of any cement, expressed as sodium-oxide equivalent, shall not exceed 1.0 percent. For mix designs that contain non-reactive aggregates and cement with an alkali content less than 0.6%, straight cement or a combination of cement and fly ash, cement and ground granulated blast furnace slag or cement and microsilica may be used. The pozzolan quantity shall not exceed the amount shown in Table 1024-1. For mixes that contain cement with an alkali content between 0.6% and 1.0%, and for mixes that contain a reactive aggregate documented by the Department, regardless of the alkali content of the cement, use a pozzolan in the amount shown in Table 1024-1.

Obtain the list of reactive aggregates documented by the Department at:<http://www.ncdot.org/doh/operations/materials/pdf/quarryasrprob.pdf>

<b>Table 1024-1</b>	
<b>Pozzolans for Use in Portland Cement Concrete</b>	
<i>Pozzolan</i>	<i>Rate</i>
Class F Fly Ash	20% by weight of required cement content, with 1.2 lbs Class F fly ash per lb of cement replaced
Ground Granulated Blast Furnace Slag	35%-50% by weight of required cement content with 1 lb slag per lb of cement replaced
Microsilica	4%-8% by weight of required cement content, with 1 lb microsilica per lb of cement replaced

**GLASS BEADS:**

(7-18-06)

SP10 R35

Revise the *2006 Standard Specifications* as follows:

**Page 10-223, 1087-4(C) Gradation & Roundness**

Replace the second sentence of the first paragraph with the following:

*All Drop-On and Intermixed Glass Beads shall be tested in accordance with ASTM D1155.*

Delete the last paragraph.

**ENGINEERING FABRICS TABLE 1056-1:**

(7-18-06)

SP10 R40

Revise the *2006 Standard Specifications* as follows:

**Page 10-100, Table 1056-1**, replace the values for Trapezoidal Tear Strength with the following:

Physical Property	ASTM Test Method	Type 1	Type 2	Type 3		Type 4
				Class A	Class B	
Typical Applications		Shoulder Drain	Under Riprap	Temporary Silt Fence		Soil Stabilization
Trapezoidal Tear Strength	D4533	45 lb	75 lb	--	--	75 lb

**PORTABLE CONCRETE BARRIER**

(2-20-07)

SP10 R50

The *2006 Standard Specifications* is revised as follows:

**Page 10-245, Article 1090-1(A) General**, add the following after the first sentence:

The requirement for approved galvanized connectors will be waived if the barrier remains the property of the Contractor.

**CHANGEABLE MESSAGE SIGNS**

(11-21-06)

SP11 R11

Revise the *2006 Standard Specifications* as follows:

**Page 11-9, Article 1120-3**, Replace the 3rd sentence with the following:

Sign operator will adjust flash rate so that no more than two messages will be displayed and be legible to a driver when approaching the sign at the posted speed.

**PAVEMENT MARKING LINES:**

(11-21-06) (Rev. 9-18-07)

SP 12 R01

Revise the *2006 Standard Specifications* as follows:

**Page 12-2, 1205-3(D) Time Limitations for Replacement**, add the following at the beginning of the chart:

Facility Type	Marking Type	Replacement Deadline
Full-control-of-access multi-lane roadway (4 or more total lanes) and ramps, including Interstates	All markings including symbols	By the end of each workday's operation if the lane is opened to traffic

**Page 12-14, Subarticle 1205-10, Measurement and Payment**, delete the first sentence of the first paragraph and replace with the following:

*Pavement Marking Lines* will be measured and paid for as the actual number of linear feet of pavement marking lines per application that has been satisfactorily placed and accepted by the Engineer.

**PERMANENT SEEDING AND MULCHING:**

(7-1-95)

SP16 R01

The Department desires that permanent seeding and mulching be established on this project as soon as practical after slopes or portions of slopes have been graded. As an incentive to obtain an early stand of vegetation on this project, the Contractor's attention is called to the following:

For all permanent seeding and mulching that is satisfactorily completed in accordance with the requirements of Section 1660, Seeding and Mulching, and within the following percentages of elapsed contract times, an additional payment will be made to the Contractor as an incentive additive. The incentive additive will be determined by multiplying the number of acres of seeding and mulching satisfactorily completed times the contract unit bid price per acre for Seeding and Mulching times the appropriate percentage additive.

Percentage of Elapsed Contract Time	Percentage Additive
0% - 30%	30%
30.01% - 50%	15%

Percentage of elapsed contract time is defined as the number of calendar days from the date of availability of the contract to the date the permanent seeding and mulching is acceptably completed divided by the total original contract time.