PROJECT SPECIAL PROVISIONS

ROADWAY

BURNING RESTRICTIONS:
(7-1-95) SP2 R05

Open burning is not permitted on any portion of the right-of-way limits established for this project. Do not burn the clearing, grubbing or demolition debris designated for disposal and generated from the project at locations within the project limits, off the project limits or at any waste or borrow sites in this county. Dispose of the clearing, grubbing and demolition debris by means other than burning, according to state or local rules and regulations.

ASPHALT PAVEMENTS - SUPERPAVE:
(7-18-06) (Rev 12-18-07) RR06 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 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 Gmm 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.

CONTROL LIMITS

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_{des}	JMF	±1.0 %	±2.0 %
VMA @ N_{des}	Min. Spec. Limit	-0.5%	-1.0%
$P_{0.075}$/ P_{be} Ratio	1.0	±0.4	±0.8
$\%G_{mm}$ @ N_{ini}	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:

Pay Item	**Pay Unit**
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/yd²**	**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 [(b)] ASTM D5821	Fine Aggregate Angularity % Minimum AASHTO T304 Method A	Sand Equivalent % Minimum AASHTO T176	Flat & Elongated 5:1 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	0-20% RAP			20^{+}-25 % RAP			25^{+} % RAP		
Sieve (mm)	Base	Inter.	Surf.	Base	Inter.	Surf.	Base	Inter.	Surf.
P_b %		± 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:

(1-1-02) R6 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.*

PRICE ADJUSTMENT - ASPHALT BINDER FOR PLANT MIX:

(11-21-00) R6 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 **$511.92** per ton.

This base price index represents an average of F.O.B. selling prices of asphalt binder at supplier's terminals on **June 1, 2008.**

RESURFACING EXISTING BRIDGES:

(7-1-95) R6 R61

The Contractor's attention is directed to the fact that he will be required to resurface the bridges on this project if directed by the Engineer.

Place the surface so as to follow a grade line set by the Engineer with the minimum thickness as shown on the sketch herein or as directed by the Engineer. State Forces will make all necessary repairs to the bridge floors prior to the time that the Contractor places the proposed surfacing. Give the Engineer at least 15 days notice prior to the expected time to begin operations so that State Forces will have sufficient time to complete their work.

At all bridges that are not to be resurfaced, taper out the proposed resurfacing layer adjacent to the bridges to insure a proper tie-in with the bridge surface.

PAVING INTERSECTIONS, DRIVEWAYS, AND MAILBOX TURNOUTS:

(7-1-95) R6 R73

Surface all unpaved intersections back from the edge of the pavement on the mainline of the project at least 50 feet, or as directed by the Engineer. The base material for all intersections to be surfaced will be prepared for surfacing by State Forces. Place pavement in the intersections of the same material and thickness as being used on the mainline.

Surface all paved intersections back to the ends of the radii, or as directed by the Engineer. In addition, the Contractor will be required to resurface all driveway and mailbox turnouts as directed by the Engineer.

NOTES TO CONTRACTOR:

On Map #1, Parking lanes will be removed from the final pavement markings. The final configuration will maintain a center turn lane between the existing left turn lanes.

The resurfacing of streets forming a part of the Urban System shall be coordinated with the appropriate Municipal Official so parking may be removed during construction.

The Contractor shall not close more than one lane of traffic without prior approval of the Engineer.

Portable "Road Construction Ahead" signs may be used in lieu of post mounted signs, as directed by the Engineer.

The Paved Shoulders shall be resurfaced at the same slope as presently exists.

The Standard Specifications, Section 610-7, "Hauling of Asphalt Mixture" is amended to include the following: "All covers shall extend down over the sides and back of the vehicle body for a distance of 12 inches and shall be securely fastened."

The Standard Specifications, Section 1660 "Holding Mulch" is amended to add: "On any section of roadway where traffic is to be maintained or allowed during construction, straw is to be first crimped, then within six feet of the edge of pavement an application of asphalt tack will also be required. Straw mulch to be of sufficient length and quality to withstand the crimping operation and provide adequate ground cover. Crimping equipment including power source shall be subject to the approval of the Engineer providing that maximum spacing of crisper blades shall not exceed eight inches. "

The Contractor will not be allowed to use compaction equipment in the vibratory mode on any Type "A" and Type "B" superpave mixes. The Contractor will be required to obtain densities in accordance with specifications. The Contractor may add additional compaction equipment at his option in order to achieve the required densities.

REMOVAL OF CONCRETE ISLAND:

DESCRIPTION

Break up, remove and satisfactorily dispose of 4' wide Monolithic Concrete Island.

PAVEMENT REMOVAL AND DISPOSAL

Break up and remove the concrete island for its entire depth. Dispose of all materials that cannot be used in the work in accordance with Section 802.

MEASUREMENT AND PAYMENT

Removal of Concrete Island will be measured and paid for in square yards of existing concrete island actually removed and disposed of properly. Removal of existing concrete island will be measured by actual surface measurements of the concrete island prior to its removal.

Once the concrete island is removed, all the work required to bring the pavement flush with existing asphalt pavement will be paid for as "Asphalt Plant Mix, Pavement Repair"

Payment will be made under:

Pay Item	Pay Unit
Removal of Concrete Island	Square Yard

PATCHING EXISTING PAVEMENT (MILL):

(1-26-07) RR 88

Description:

The Contractor's attention is directed to the fact that there are areas of existing pavement on this project that will require repair prior to resurfacing.

The Contractor shall patch the areas that, in the opinion of the Engineer, need repairing. The areas to be patched will be delineated by the Engineer prior to the Contractor performing repairs.

Construction Methods:

The patching shall consist of Asphalt Concrete Base Course, Asphalt Concrete Intermediate Course, or Asphalt Concrete Surface Course, or a combination of base, intermediate and surface course, and pavement removal, **as shown on the Summary of Quantities sheet** or as directed by the Engineer.

On all Maps, Asphalt Concrete Surface Course SF9.5A shall not be used for Mill Patching. Top layer must be either Asphalt Concrete Surface Course S9.5B or S9.5C, except on Map 2 (from 43rd Street to US 117) in which case only Asphalt Concrete Surface Course S9.5C may be used.

Patching of existing pavement shall include, but not be limited to, the cutting of the existing pavement to a neat vertical joint and uniform line; the removal and disposal of pavement, base, and subgrade material as approved or directed by the Engineer; the coating of the area to be repaired with a tack coat; and the replacement of the removed material with asphalt plant mix.

Asphalt Concrete Base Course shall be placed in lifts not exceeding 5 1/2 inches. Compaction equipment suitable for compacting patches as small as 4 feet by 6 feet shall be utilized on each lift. Compaction pattern to achieve proper compaction shall be approved by the engineer.

The Contractor shall remove existing pavement at locations directed by the Engineer in accordance with Section 607 of the *Standard Specifications*.

The Contractor may be required to make multiple passes with the milling machine to achieve additional depth of the patch at the direction of the engineer. There will be no additional payment for additional passes as all work will be compensated at the unit price for the type of mill patching to be performed. The Contractor will utilize a maximum milling head width of 4 feet unless otherwise allowed by the Engineer.

The Contractor shall schedule his operations so that all areas where pavement has been removed will be repaired on the same day of the pavement removal, and all lanes of traffic shall be restored.

Method of Measurement:

The quantity of patching existing pavement to be paid for will be the actual number of tons of asphalt plant mix, complete in place, which has been used to make completed and accepted repairs. The asphalt plant mixed material will be measured by being weighed in trucks on certified platform scales or other certified weighing devices.

Basis of Payment:

The quantity of patching existing pavement, measured as provided above, will be paid for at the contract unit price per ton for the type of mill patching to be performed.

The above price and payment will be full compensation for all work covered by this provision, including but not limited to removal and disposal of pavement; furnishing and applying tack coat; furnishing, placing, and compacting of asphalt plant mix; furnishing of asphalt binder for the asphalt plant mix; and furnishing scales.

Any provisions included in the contract in the form of project special provisions or in any other form which provides for adjustments in compensation due to variations in the price of asphalt binder will not be applicable to payment for the work covered by this provision.

Patching Existing Pavement will be considered a minor item. In the event that the item of Patching Existing Pavement overruns the original bid quantity by more than 100 percent, the provisions of Article 104-5 of the *Standard Specifications* pertaining to revised contract unit price for overrunning minor items will not apply to this item.

Payment will be made under:

Pay Item	**Pay Unit**
Patching Existing Pavement (Mill)	Ton

PATCHING EXISTING PAVEMENT (FULL DEPTH):
(1-26-07) RR 88

Description:

The Contractor's attention is directed to the fact that there are areas of existing pavement on this project that will require repair prior to resurfacing.

The Contractor shall patch the areas that, in the opinion of the Engineer, need repairing. The areas to be patched will be delineated by the Engineer prior to the Contractor performing repairs.

Construction Methods:

The patching shall consist of Asphalt Concrete Base Course, Asphalt Concrete Intermediate Course, or Asphalt Concrete Surface Course, or a combination of base, intermediate and surface course, and pavement removal, **as shown on the Summary of Quantities sheet** or as directed by the Engineer.

On all Maps, Asphalt Concrete Surface Course SF9.5A shall not be used for Patching. Top layer must be either Asphalt Concrete Surface Course S9.5B or S9.5C, except on Map 2 (from 43rd Street to US 117) in which case only Asphalt Concrete Surface Course S9.5C may be used.

Patching of existing pavement shall include, but not be limited to, the cutting of the existing pavement to a neat vertical joint and uniform line; the removal and disposal of pavement, base, and subgrade material as approved or directed by the Engineer; the coating of the area to be repaired with a tack coat; and the replacement of the removed material with asphalt plant mix.

Asphalt Concrete Base Course shall be placed in lifts not exceeding 5 1/2 inches. Compaction equipment suitable for compacting patches as small as 4 feet by 6 feet shall be utilized on each lift. Compaction pattern to achieve proper compaction shall be approved by the engineer.

The Contractor shall remove existing pavement at locations directed by the Engineer in accordance with Section 607 of the *Standard Specifications*.

The Contractor may be required to make multiple passes with the milling machine to achieve additional depth of the patch at the direction of the engineer. There will be no additional payment for additional passes as all work will be compensated at the unit price for the type of full depth patching to be performed. The Contractor will utilize a maximum milling head width of 4 feet unless otherwise allowed by the Engineer.

The Contractor shall schedule his operations so that all areas where pavement has been removed will be repaired on the same day of the pavement removal, and all lanes of traffic shall be restored.

Method of Measurement:

The quantity of patching existing pavement to be paid for will be the actual number of tons of asphalt plant mix, complete in place, which has been used to make completed and accepted repairs. The asphalt plant mixed material will be measured by being weighed in trucks on certified platform scales or other certified weighing devices.

Basis of Payment:

The quantity of patching existing pavement, measured as provided above, will be paid for at the contract unit price per ton for the type of full depth patching to be performed.

The above price and payment will be full compensation for all work covered by this provision, including but not limited to removal and disposal of pavement; furnishing and applying tack coat; furnishing, placing, and compacting of asphalt plant mix; furnishing of asphalt binder for the asphalt plant mix; and furnishing scales.

Any provisions included in the contract in the form of project special provisions or in any other form which provides for adjustments in compensation due to variations in the price of asphalt binder will not be applicable to payment for the work covered by this provision.

Patching Existing Pavement will be considered a minor item. In the event that the item of Patching Existing Pavement overruns the original bid quantity by more than 100 percent, the provisions of Article 104-5 of the *Standard Specifications* pertaining to revised contract unit price for overrunning minor items will not apply to this item.

Payment will be made under:

Pay Item	**Pay Unit**
Patching Existing Pavement (Full Depth)	Ton

REMOVE & REPLACE WHEELCHAIR RAMPS:

DESCRIPTION

The Contractor shall Remove and Replace Wheelchair Ramps as directed by the Engineer. All work for this item shall be in accordance with Section 848. Section 848 is amended as follows, Removal and disposal of existing wheelchair ramps shall be incidental to the item **Remove & Replace Wheelchair Ramps.**

MEASUREMENT AND PAYMENT

Remove & Replace Wheelchair Ramps will be measured and paid for in units of each.
Such price includes, but is not limited to excavating and backfilling, sawing the existing sidewalk or driveway, furnishing and placing concrete, constructing and sealing joints, and

furnishing and installing truncated domes. **Removal and disposal of existing damaged wheelchair ramp will be incidental.**

Payment will be made under:

Pay Item	**Pay Unit**
Remove & Replace Wheelchair Ramps	EA

CURB & GUTTER, REMOVE AND REPLACE:

DDC-846
06-27-07

DESCRIPTION

The Contractor shall Remove and Replace existing curb & gutter as directed by the Engineer. All work for this item shall be in accordance with Section 846. Section 846 is amended as follows: Removal and disposal of existing curb & gutter shall be incidental to the item **Curb & Gutter, Remove and Replace.**

MEASUREMENT AND PAYMENT

Curb & Gutter, Remove and Replace will be measured and paid for in units of liner feet for the actual number of liner feet that have been completed and accepted. Such price and payment includes but is not limited to providing all materials, removal and disposal of existing curb & gutter, placing all concrete, excavating and backfilling, forming, finishing, constructing and sealing joints, and all incidentals necessary to complete the work.

Payment will be made under:

Pay Item	**Pay Unit**
Curb & Gutter, Remove and Replace	Liner Feet

CONCRETE ISLAND CHANNEL POST

04-18-07

All concrete or paved channelization islands shall have a 12 inch diameter round or square smooth wall hole drilled, cored, formed or air hammered to the sub-grade and back-filled with soil placed a minimum of 10 feet from the nose of each end of the island (see Rdy Std Dwg 904.50), or as directed by the Engineer. All sign supports that are to be erected in either existing or proposed concrete or paved channelization islands shall meet the same requirements.

ADJUSTMENT OF CENTERLINE MONUMENT FRAMES AND COVERS:

Adjust centerline monument frames and covers in accordance with the plans and as directed by the Engineer.

Adjustment of Centerline Monument Frames and Covers will be measured and paid for in units of each for centerline monument frames and covers that have been satisfactorily adjusted.

INDUCTIVE DETECTION LOOPS FOR TRAFFIC SIGNALS:

I. DESCRIPTION.

A) General:

These Provisions consist of the requirements for traffic signal inductive detection loop work and are generally written in the imperative mood. In sentences using the imperative mood, the subject, "the Contractor," is implied. Also implied in such language is "shall," "shall be," or similar wording and phrases. In material specifications, the subject may also be the supplier, fabricator, or manufacturer supplying the material, products, or equipment for use on the project.

B) Scope of Work:

Furnish and install inductive detection loops and loop sealant for signalized intersections. Furnish, store, deliver, and install all equipment, material, tools, and incidental hardware necessary to complete the required inductive detection loop work.

Applicable Specifications and Publications:

Conform to these Project Special Provisions, the traffic signal plans, the North Carolina Department of Transportation (NCDOT) Traffic Signal Specifications (including all addenda and supplements), the NCDOT Roadway Standard Drawings, and the NCDOT Standard Specifications for Roads and Structures. The current edition of these specifications and publications in effect on the date of advertisement shall apply.

II. MATERIALS.

Contractor-Furnished Materials:

Furnish new material meeting the requirements of the Traffic Signal Specifications, the Standard Specifications for Roads and Structures, and these Project Special Provisions. Furnish loop wire, traffic loop sealant, various sizes of metal conduit, associated couplings, connectors, and hardware.

Qualified Products List:

The Department has a Qualified Products List (QPL) available for use by the Contractor. Products on the QPL may not meet all requirements of individual projects.

The QPL web site is: HTTP//www.doh.dot.nc.us/preconstruction/traffic/TMSSU/SMU/QPL/

C) Submittals and Approval:

Furnish the Engineer with three copies of a materials list of the proposed materials for use on the project. Include three copies of the catalog cuts for all Contractor-furnished materials with the

materials list. Identify by a reproducible means on the catalog cuts the proposed materials. Materials lists shall contain the material description, brand name, manufacture's address and phone number, stock number, size, identifying trademark or symbol, and other appropriate ratings to sufficiently identify the material.

Do not fabricate or order material until receipt of the Engineer's approval of the catalog cuts.

Warranties and Observation Period:

Warrant all equipment and materials as required by the Traffic Signal Specifications.

Warrant all workmanship for a 30 day observation period under the payment and performance bond.

Provide the Engineer with a written request for final inspection and testing by DOT of the inductive detection loop work. Begin the 30 day observation period after final inspection of the work and written notification of approval by the Engineer. Replace all Contractor-furnished material that fails to meet all the requirements of this contract during the observation period at no expense to the Department.

The observation period for the inductive detection loop work is not part of the work to be completed by the completion date for this contract.

E) Loop Sealant:

Furnish one brand of traffic loop sealant that is on the qualified product list (QPL) or an approved equal.

Approved equals shall meet the requirements of the Traffic Signal Specifications. Tack-free time will be determined by testing with a cotton ball until no sealant adheres to the cotton ball and no cotton adheres to the sealant, should the sealant be subject to tracking out of the saw slot.

Provide traffic loop sealant in containers with the manufacturer's list of all safety precautions and application instructions clearly printed on the container. Acquire and have readily available the Material Safety Data Sheet, the manufacturer's test data, and the certification that the material meets these specifications. Demonstrate the integrity of the material by trial applications upon request of the Engineer.

III. CONTRUCTION METHODS.

A) General:

Determine the exact location of the existing conduit, cable runs, inductive detector loops, lead-in, pull boxes, and detection equipment before installing or using equipment that may damage or interfere with such facilities.

Once work has begun at an intersection, maintain all inductive detection loops until completion of the 30 day observation period and written notification of final acceptance of the project has bee received from the Engineer.

Return of the traffic pattern to the existing alignment during periods of construction inactivity.

At the end of each workday, clean and clear the work site of excess excavation, waste packing material, wire, and all other debris that result from traffic signal work. Haul and dispose of all waste as required by Section 802 of the Standard Specifications for Roads and Structures.

B) Electrical License, Codes, and Inspections:

Comply with Article 4, Chapter 87 of the North Carolina General Statutes (Licensing of Electrical Contractors).

Furnish materials and workmanship conforming to the latest requirements of the National Electric Code, the National Electrical Safety Code, the Traffic Signal Specifications, and all local ordinances and regulations. Obtain all permits and licenses required by state and local government agencies having jurisdiction over the same.

When required by ordinances and government agencies, have all systems inspected and approved in writing by the authorized government electrical inspector for the area upon completion of the work. Furnish written certification of the authorized inspector's approval to the Engineer. Inspection by the authorized government electrical inspector shall neither eliminate or replace inspections by the Engineer. Upon the Engineer's receipt of required written certification and the Contractor's written request for a final inspection of the inductive detection loop work, the Engineer will perform a final inspection.

C) Maintenance and Repair of Materials:

Furnish the Engineer with the name, office telephone number, cellular (mobile) telephone number, and pager number of the supervisory employee who will be responsible for repair calls during all hours.

Maintain and repair all inductive detection loops at the signalized intersections within the limits of the project. Begin to make necessary repairs for all failures, malfunctions, or damages within four hours of notification and complete the necessary repairs within eight hours of notification. Remove all material that fails and install replacement material. Replace failed Contractor-furnished material with new material at no additional cost to the Department.

Maintain traffic flow according to Section 150 of the Standard Specifications for Roads and Structures during maintenance and repair operations.

Should the Contractor fail to make necessary repairs to the inductive detection loops within the specified time, the Department or its agent may make the repairs and deduct the cost from any money due the Contractor. The inability to contact the supervisory employee or prearranged alternate shall not extend the response time requirements.

D) Installation of Inductive Detection Loops:

Perform work as required by the Traffic Signal Specifications. Install inductive detection loops and splice to existing lead-in cable.

Premark all inductive detection loop locations and receive approval from the Engineer before sawcutting the pavement for the installation of the inductive loop. Install the inductive detection loops before placing the final layer of surface course when resurfacing. Do not allow traffic on unsealed sawcut slots.

Embed on brand of traffic loop sealant at inductive loop locations on the project as required by the manufacturer's installation recommendations and the Traffic Signal Specifications. Install the material in an environmentally safe manner including the disposal of waste sealant.

Perform the splicing of all cables and wires necessary for complete and operation inductive detection loops. Solder and waterproof connections. Place signal in full operation.

E) Pavement Markings:

Replace all pavement markings obliterated due to construction activities as required by the Engineer.

IV. METHOD OF MEASUREMENT.

Actual linear feet of sawcut required for installation of inductive detection loops furnished, installed and accepted.

No payment will be made for furnishing and installing loop wire, loop sealant, and one inch metallic conduit from edge of pavement to pull box.

V. BASIS OF PAYMENT:

Payment will be made under: Inductive Loop Sawcut, Linear Feet

NOTE TO CONTRACTOR:
(2-20-07) RG 14 G

1. **Time Restrictions of installation of inductive loops on all maps:**

The Contractor shall complete the work required of **installing each new inductive loop after the removal of each existing loop by the milling, patching or resurfacing operations** and shall place and maintain traffic on same.

The time of availability for each inductive loop installation will be **the time when the Contractor elects to disturb the existing inductive loop.**

The completion time for this inductive loop installation will be **the time which is forty-eight (48) consecutive hours after the time of availability.**

ADJUSTMENT TO MANHOLES:
(7-1-95) R8 R96

The Contractor's attention is directed to Section 858-3 of the *2006 Standard Specifications*.

Make adjustments to manholes on this project by using rings or rapid set (grout, mortar, or concrete) as approved by the Engineer.

ADJUSTMENT OF MANHOLES, METER BOXES, AND VALVE BOXES:
(7-1-95) R8 R97

The Contractor's attention is directed to Article 858-3 of the *2006 Standard Specifications*. Cast iron or steel fittings will not be permitted for the adjustment of manholes, meter boxes, and valve boxes on this project.

RETROFITTING WHEELCHAIR RAMPS WITH DETECTABLE WARNINGS (Raised Truncated Domes):
(10-21-03) (Rev.7-18-06) R8 R125

Description

This work shall consist of retrofitting existing concrete wheelchair ramps with detectable warnings in accordance with the details, *2006 Standard Specifications* and these provisions.

Materials

Detectable warnings and truncated domes shall be in accordance with Article 848-2 of the *2006 Standard Specifications* for paving blocks or stamped concrete.

Construction Methods

Place detectable warnings and truncated domes in accordance with Section 848-3 of the *2006 Standard Specifications*. Sawcut to the full depth of the concrete and adjust the existing

subgrade to the proper grade prior to placing concrete to be stamped or installing paving blocks. The detectable warnings shall have the same or nearly the same contrast as the existing ramp.

Measurement and Payment

Retrofit Existing Wheelchair Ramps will be measured and paid for as the actual number of retrofitted wheelchair ramps, which have been completed and accepted. Such price and payment will be full compensation for excavation and backfilling; sawing, repairing and/or replacing the existing sidewalk or curbs within the pay limits for retrofit shown on the detail; pavement repairs; furnishing and placing detectable warnings, construction joints and removal and disposal of existing sidewalk and curb and gutter when required and for all materials labor, equipment, tools and incidentals necessary to complete the work.

Payment will be made under:

Pay Item	Pay Unit
Retrofit Existing Wheelchair Ramp	Each

HIGH STRENGTH CONCRETE FOR DRIVEWAYS:
(11-21-00) (7-18-06) R10 R01

Use high early strength concrete for all driveways shown in the plans and as directed by the Engineer. Provide high early strength concrete that meets the requirements of Article 1000-6 of the *2006 Standard Specifications*.

Measurement and payment will be in accordance with Section 848 of the *2006 Standard Specifications*.

AGGREGATE PRODUCTION:
(11-20-01) (Rev. 11-21-06) R10 R05

Provide aggregate from a producer who uses the current Aggregate Quality Control/Quality Assurance Program which 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) (Rev. 11-21-06) R10 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 R10 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

Table 1024-1

Pozzolans for Use in Portland Cement Concrete

Pozzolan	*Rate*
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) R10 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.

CHANGEABLE MESSAGE SIGNS

(11-21-06) R11 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) R12 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.