Supplemental Specifications to The Standard Specifications
for Road and Bridge Construction, 2008 Edition
(Effective with the January 22, 2010 Letting)

SUBSECTION: **REVISION:**	101.02 Abbreviations. Insert the following abbreviation and text into the section: KEPSC Kentucky Erosion Prevention and Sediment Control
SUBSECTION: **REVISION:**	101.03 Definitions. Replace the definition for Specifications – *Special Provisions* with the following: Additions and revisions to the Standard and Supplemental Specifications covering conditions peculiar to and individual project.
SUBSECTION: **REVISION:**	102.07.01 General. Replace the first sentence with the following: Submit the Bid Proposal on forms furnished on the Department internet website (http://transportation.ky.gov/contract/), including the Bid Packet and disk created from the Expedite Bidding Program.
SUBSECTION: **REVISION:**	102.07.02 Computer Bidding. Replace the first paragraph with the following: Subsequent to ordering a Bid Proposal for a specific project, use the Department's Expedite Bidding Program on the internet website of the Department of Highways, Division of Construction Procurement (http://transportation.ky.gov/contract/). Download the bid file from the Department's website to prepare a Bid Proposal for submission to the Department. Include the completed Bid Packet produced by the Expedite Bidding Program and submit it along with the disk created by said program. Replace the second paragraph with the following: In case of a dispute, the printed Bid Proposal and bid item sheets created by the Expedite Bidding Program take precedence over any bid submittal.
SUBSECTION: **REVISION:**	102.08 Irregular Bid Proposals. Replace point four of the first paragraph with the following: 4) fails to submit a disk created from the Expedite Bidding Program. Replace point one of the second paragraph with the following: 1) when the Bid Proposal is on a form other than that furnished by the Department or printed from other than the Expedite Bidding Program, or when the form is altered or any part is detached; or
SUBSECTION: **REVISION:**	102.11 Withdrawal or Revision of Bid Proposals. Replace the paragraph with the following: A bidder may withdraw or revise a Bid Proposal after depositing the Bid Proposal with the Department, provided the Department receives the request for such withdrawal or revision in writing before the time set for opening Bid Proposals.
SUBSECTION: **REVISION:**	103.02 Award of Contract. Replace the first sentence of the third paragraph with the following: The Department will normally award the Contract within 10 working days after the date of receiving Bid Proposals unless the Department deems it best to hold the Bid Proposals of any or all bidders for a period not to exceed 60 calendar days for final disposition of award.

SUBSECTION:	105.12 Final Inspection and Acceptance of Work.
REVISION:	Insert the following paragraphs after the first paragraph: Notify the Engineer when all electrical items are complete. A notice of the electrical work completion shall be made in writing to the Contractor. Electrical items will be inspected when the electrical work is complete and are not subject to waiting until the project as a whole has been completed. The Engineer will notify the Division of Traffic Operations within 3 days that all electrical items are complete and ready for a final inspection. A final inspection will be completed within 90 days after the Engineer notifies the Division of Traffic Operations of the electrical work completion. Energize all electrical items prior to notifying the Engineer that all electrical items are complete. Electrical items must remain operational until the Division of Traffic Operations has inspected and accepted the electrical portion of the project. Payment for the electrical service is the responsibility of the Contractor from the time the electrical items are energized until the Division of Traffic Operations has accepted the work. Complete all corrective work within 90 calendar days of receiving the original electrical inspection report. Notify the Engineer when all corrective work is complete. The Engineer will notify the Division of Traffic Operations that the corrective work has been completed and the project is ready for a follow-up inspection. Upon re-inspection, if additional corrective work is required, complete within the same 90 calendar day allowance. The Department will not include time between completion of the corrective work and the follow up electrical inspection(s). The 90 calendar day allowance is cumulative regardless of the number of follow-up electrical inspections required. The Department will assume responsibility for the electrical service on a project once the Division of Traffic Operations gives final acceptance of the electrical items on the project. The Department will also assume routine maintenance of those items. Any damage done to accepted electrical work items by other Contractors shall be the responsibility of the Prime Contractor. The Department will not be responsible for repairing damage done by other contractors during the construction of the remaining project. Failure to complete the electrical corrective work within the 90 calendar day allowance will result in penalties assessed to the project. Penalties will be assessed at ½ the rate of liquidated damages established for the contract. Replace the following in the second sentence of the second paragraph: Replace Section 213 with Section 212. Delete the fifth paragraph from the section.
SUBSECTION:	105.13 Claim Resolution Process.
REVISION:	Replace the last sentence of the 3. Bullet with the following: If the Contractor did not submit an as-bid schedule at the Pre-Construction Meeting or a written narrative in accordance with Subsection 108.02, the Cabinet will not consider the claim for delay. Delete the last paragraph from the section.
SUBSECTION:	106.10 Field Welder Certification Requirements.
REVISION:	Insert the following sentence before the first sentence of the first paragraph: All field welding must be performed by a certified welder unless otherwise noted.

SUBSECTION: **REVISION:**	108.02 Progress Schedule. Insert the following prior to the first paragraph: Specification 108.02 applies to all Cabinet projects except the following project types: • Right of Way Mowing and/or Litter Removal • Waterborne Paint Striping • Projects that contain Special Provision 82 • Projects that contain the Special Note for CPM Scheduling Insert the following paragraph after paragraph two: Working without the submittal of a Written Narrative is violation of this specification and additionally voids the Contractor's right to delay claims. Insert the following paragraph after paragraph six: The submittal of bar chart or Critical Path Method schedule does not relieve the Contractor's requirement to submit a Written Narrative schedule. Insert the following at the beginning of the first paragraph of A) Written Narrative.: Submit the Written Narrative Schedule using form TC 63-50 available at the Division of Construction's website (http://www.transportation.ky.gov/construction/ResCenter/ResCenter.htm). Replace Part A) Written Narrative 1. And 2. with the following: 1. Provide a description that includes how the Contractor will sequence and stage the work, how the Contractor plans to maintain and control traffic being specific and detailed, and what equipment and crew sizes are planned to execute the work. 2. Provide a list of project milestones including, if applicable, winter shut-downs, holidays, or special events. The Contractor shall describe how these milestones and other dates effect the prosecution of the work. Also, include start date and completion date milestones for the contract, each project if the contract entails multiple projects, each phase of work, site of work, or segment of work as divided in the project plans, proposal, or as subdivided by the Contractor.
SUBSECTION: **REVISION:**	110.01 Mobilization. Replace paragraph three with the following: Do not bid an amount for Mobilization that exceeds 5 percent of the sum of the total amounts bid for all items in the Bid Proposal, excluding Mobilization, Demobilization, and contingent amounts established for adjustments and incentives. The Department will automatically adjust any Bid Proposals that are in excess of this amount down to 5 percent to compare Bid Proposals and award the Contract. The Department will award a Contract for the actual amount bid when the amount bid for Mobilization is less than 5 percent, or the Department will award the Contract for the adjusted bid amount of 5 percent when the amount bid for Mobilization is greater than 5 percent. If any errors in unit bid prices for other Contract items in a Contractor's Bid Proposal are discovered after bid opening and such errors reduce the total amount bid for all other items, excluding Mobilization, Demobilization, and contingent amounts established for adjustments and incentives, so that the percent bid for Mobilization is larger than 5 percent, the Department will adjust the amount bid for Mobilization to 5 percent of the sum of the corrected total bid amounts.

SUBSECTION: **REVISION:**	110.02 Demobilization. Replace the third paragraph with the following: Bid an amount for Demobilization that is a minimum of $1,000 or 1.5 percent of the sum of the total amounts bid for all other items in the Bid Proposal, excluding Mobilization, Demobilization, and contingent amounts established for adjustments and incentives. The Department will automatically adjust any Bid Proposal that is less than this amount up to $1,000 or 1.5 percent to compare Bid Proposals and award the Contract. The Department will award a Contract for the actual amount bid when the amount bid for demobilization exceeds 1.5 percent, or the Department will award the Contract for the adjusted bid amount when the amount bid for demobilization is less than the minimum of $1,000 or less than 1.5 percent of the sum of the total amounts bid for all other items in the Bid Proposal, excluding Mobilization, Demobilization, and contingent amounts established for adjustments and incentives.
SUBSECTION: **REVISION:**	110.04 Payment. Insert the following paragraph following the demobilization payment schedule (4th paragraph): The Department will withhold an amount equal to $1,000 for demobilization, regardless of the schedule listed above. The $1,000 withheld for demobilization will be paid when the final estimate is paid.
SUBSECTION: **REVISION:**	112.03.01 General Traffic Control. Replace paragraph three with the following: All flaggers shall be trained in current MUTCD flagging procedures. Proof of training must be available for review at the Department's request. Flagging credentials must be current within the last 5 years.
SUBSECTION: **PART:** **REVISION:**	112.03.11 Temporary Pavement Markings. B) Placement and Removal of Temporary Striping. Replace the 2nd sentence of the fist paragraph with the following: On interstates and parkways, and other roadways approved by the State Highway Engineer, install pavement striping that is 6 inches in width.
SUBSECTION: **REVISION:**	112.03.12 Project Traffic Coordinator (PTC). Add the following at the end of the subsection: After October 1, 2008 the Department will require the PTC to have successfully completed the applicable qualification courses. Personnel that have not successfully completed the applicable courses by that date will not be considered qualified. Prior to October 1, 2008, conform to Subsection 108.06 A) and ensure the designated PTC has sufficient skill and experience to properly perform the task.
SUBSECTION: **REVISION:**	112.03.15 Non-Compliance of Maintain and Control of Traffic. Add the following section: **112.03.15 Non-Compliance of Maintain and Control of Traffic.** It is the Contractor's responsibility to conform to the traffic control requirements in the TCP, Proposal, plan sheets, specifications, and the Manual on Uniform Traffic Control Devices. Unless specified elsewhere in the contract, a penalty will be assessed in the event of non-compliance with Maintain and Control of Traffic requirements. These penalties will be assessed when the Contractor fails to correct a situation or condition of non-compliance with the contract traffic control requirements after being notified by the Engineer. The calculation of accrued penalties for non-compliance will be based upon the date/time of notification by the Engineer. The amount of the penalty assessed for non-compliance will be determined based upon the work zone duration, as defined by the MUTCD, and will be the greatest of the different calculation methods indicated below:

	A) Long-term stationary work that occupies a location more than 3 days. Correct the non-compliant issue within 24 hours from initial notification by the Engineer. If the issue is not corrected within 24 hours from the initial notification, a penalty for non-compliance will be assessed on a daily basis beginning from the initial notification of non-compliance. The Contractor will be assessed a $1,000 daily penalty or the amount equal to the contract liquidated damages in Section 108.09, whichever of the 2 is greater. The penalty for non-compliance will escalate as follows for continued non-compliance after the initial notification. 3 Days after Notification $1,500 daily penalty or 1.5 times the contract liquidated damages daily charge rate in Section 108.09, whichever is greater. 7 Days after Notification $2,000 daily penalty or double the contract liquidated damages daily charge rate in Section 108.09, whichever is greater. B) Intermediate-term stationary work that occupies a location more than one daylight period up to 3 days, or nighttime work lasting more than 1 hour. Correct the non-compliant issue within 4 hours from initial notification by the Engineer. If the issue is not corrected within 4 hours from notification, a penalty for non-compliance will be assessed on an hourly basis beginning from the initial notification of non-compliance. The penalty for non-compliance will be assessed at $200 per hour. C) Short-term stationary is daytime work that occupies a location for more than 1 hour within a single daylight period. Correct the non-compliant issue within 1 hour from initial notification by the Engineer. If the issue is not corrected within 1 hour from notification, a penalty for non-compliance will be assessed on an hourly basis beginning from the initial notification of non-compliance. The penalty for non-compliance will be assessed at $200 per hour. If the Contractor remains in violation of the Maintain and Control of Traffic requirements, or if the Department determines it to be in the public's interest, work will be suspended in accordance with Section 108.08 until the deficiencies are corrected. The Department reserves the right to correct deficiencies by any means available and charge the Contractor for labor, equipment, and material costs incurred in emergency situations.
SUBSECTION: **REVISION:**	206.03.02 Embankment Replace the last paragraph with the following: When rock roadbed is specified, construct the upper 2 feet of the embankment according to Subsection 204.03.09 A).

SUBSECTION: **REVISION:**	213.03.03 Inspection and Maintenance. Insert the following paragraph after the second paragraph: When the Contractor is required to obtain the KPDES permit, it is their responsibility to ensure compliance with the inspection and maintenance requirements of the permit. The Engineer will perform verification inspections a minimum of once per month and within 7 days of a ½ inch or greater rainfall event. The Engineer will document these inspections using Form TC 63-61 A. The Engineer will provide copies of the inspection only when improvements to the BMP's are required. Verification inspections performed by the Engineer do not relieve the Contractor of any responsibility for compliance with the KPDES permit. Initiate corrective action within 24 hours of any noted deficiency and complete the work within 5 days.
SUBSECTION: **PART:** **REVISION:**	213.03.05 Temporary Control Measures. E) Temporary Seeding and Protection. Replace the first paragraph with the following: Apply an Annual Rye seed mix at a rate of 100 pounds per acre during the months of March through August. In addition to the Annual Rye, add 10 pounds of German Foxtail-Millet (Setaria italica), when performing temporary seeding during the months of June through August. During the months of September through February, apply Winter Wheat or Rye Grain at a rate of 100 pounds per acre. Obtain the Engineer's approval prior to the application of the seed mixture.
SUBSECTION: **PART:** **REVISION:**	213.03.05 Temporary Control Measures. F) Temporary Mulch. Replace the last sentence with the following: Place temporary mulch to an approximate 2-inch loose depth (2 tons per acre) and anchor it into the soil by mechanically crimping it into the soil surface or applying tackifier to provide a protective cover. Regardless of the anchoring method used, ensure the protective cover holds until disturbance is required or permanent controls are in installed.
SUBSECTION: **REVISION:**	303.05 Payment. Replace the second paragraph of the section with the following: The Department will make payment for Drainage Blanket-Type II (ATDB) according to the Lot Pay Adjustment Schedule for Specialty Mixtures in Section 402.
SUBSECTION: **PART:** **REVISION:**	401.02.04 Special Requirements for Dryer Drum Plants. F) Production Quality Control. Replace the first sentence with the following: Stop mixing operations immediately if, at any time, a failure of the automatic electronic weighing system of the aggregate feed, asphalt binder feed, or water injection system control occurs.

SUBSECTION: 401.02.04 Special Requirements for Dryer Drum Plants.
REVISION: Add the following:

Part G) **Water Injection System.** Provided each system has prior approval as specified in Subsection 402.01.01, the Department will allow the use of water injection systems for purposes of foaming the asphalt binder and lowering the mixture temperature for production of Warm Mix Asphalt (WMA).

Ensure the equipment for water injection meets the following requirements:

1) Injection equipment computer controls are automatically coupled to the plants controls (manual operation is not permitted);
2) Injection equipment has variable controls that introduce water ratios based on production rates of mixtures;
3) Injects water into the flow of asphalt binder prior to contacting the aggregate;
4) Provides alarms on the water injection system that operate when the flow of water is interrupted or deviates from the prescribed water rate.

SUBSECTION: 401.03.01 Preparation of Mixtures.
REVISION: Replace the last sentence of the second paragraph with the following:

Do not use asphalt binder while it is foaming in a storage tank.

SUBSECTION: 401.03.01 Preparation of Mixtures.
REVISION: Replace the third paragraph and Mixing and Laying Temperature table with the following:

Maintain the temperature of the component materials and asphalt mixture within the ranges listed in the following table:

MIXING AND LAYING TEMPERATURES (°F)

Material		Minimum	Maximum
Aggregates		240	330
Aggregates used with Recycled Asphalt Pavement (RAP)		240	—
Asphalt Binders	PG 64-22	230	330
	PG 76-22	285	350
Asphalt Mixtures at Plant (Measured in Truck)	PG 64-22 HMA	250	330
	PG 76-22 HMA	310	350
	PG 64-22 WMA	230	275
	PG 76-22 WMA	250	300
Asphalt Mixtures at Project (Measured in Truck When Discharging)	PG 64-22 HMA	230	330
	PG 76-22 HMA	300	350
	PG 64-22 WMA	210	275
	PG 76-22 WMA	240	300

SUBSECTION: 402.01 Description.
REVISION: Replace the paragraph with the following:

Provide the process control and acceptance testing of all classes and types of asphalt mixtures which may be furnished either as hot mix asphalt (HMA) or warm mix asphalt (WMA) produced with water injection systems.

SUBSECTION REVISION:
402.01.01 Warm Mix Asphalt (WMA) Evaluation and Approval.
Add the following subsection:

402.01.01 Warm Mix Asphalt (WMA) Evaluation and Approval.
The Department will evaluate trial production of WMA by use of a water injection system provided the system is installed according to the manufacturer's requirements and satisfies the requirements of Section 401. Evaluation will include production and placement of WMA to demonstrate adequate mixture quality including volumetric properties and density by Option A as specified in Subsection 402.03.02 D). Do not place WMA for evaluation on Department projects. Provided production and placement operations satisfy the applicable quality levels, the Department will approve WMA production on Department projects using the water injection system as installed on the specific asphalt mixing plant evaluated.

SUBSECTION:
REVISION:
402.05.02 Asphalt Mixtures and Mixtures With RAP.
Replace Subsection Title as below:

402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP.

SUBSECTION:
REVISION:
402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP.
Replace the paragraph with the following:

The Department will pay for the mixture at the Contract unit bid price and apply a Lot Pay Adjustment for each lot placed based on the degree of compliance with the specified tolerances. Using the appropriate Lot Pay Adjustment Schedule, the Department will assign a pay value for the applicable properties within each sublot and average the sublot pay values to determine the pay value for a given property for each lot. The Department will apply the Lot Pay Adjustment for each lot to a defined unit price of $50.00 per ton. The Department will calculate the Lot Pay Adjustment using all possible incentives and disincentives but will not allow the overall pay value for a lot to exceed 1.00.

SUBSECTION:
PART:
REVISION:
402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP.
C) Conventional and RAP Mixtures Placed on Shoulders.
Replace title with the following:

HMA, WMA, and RAP Mixtures Placed on Shoulders.

SUBSECTION:
PART:
REVISION:
402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP.
D) Conventional and RAP Mixtures Placed Monolithically as Asphalt Pavement Wedge.
Replace the title with the following:

HMA, WMA, and RAP Mixtures Placed Monolithically as Asphalt Pavement Wedge.

SUBSECTION:
PART:
TABLES:
REVISION:
402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP.
Lot Pay Adjustment Schedule, Compaction Option A, Base and Binder Mixtures
VMA
Replace the VMA table with the following:

VMA

Pay Value	Deviation From Minimum
1.00	• min. VMA
0.95	0.1-0.5 below min.
0.90	0.6-1.0 below min.
(1)	> 1.0 below min.

SUBSECTION: 402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP.
PART: Lot Pay Adjustment Schedule, Compaction Option A, Surface Mixtures
TABLES: VMA
REVISION: Replace the VMA table with the following:

VMA	
Pay Value	Deviation From Minimum
1.00	• min. VMA
0.95	0.1-0.5 below min.
0.90	0.6-1.0 below min.
(1)	> 1.0 below min.

SUBSECTION: 402.05.02 Asphalt Mixtures, HMA and WMA, Including Mixtures With RAP.
PART: Lot Pay Adjustment Schedule, Compaction Option B Mixtures
TABLE: VMA
REVISION: Replace the VMA table with the following:

VMA	
Pay Value	Deviation From Minimum
1.00	• min. VMA
0.95	0.1-0.5 below min.
0.90	0.6-1.0 below min.
(2)	> 1.0 below min.

SUBSECTION: 403.03.03 Preparation of Mixture.
PART: C) Mix Design Criteria.
NUMBER: 1) Preliminary Mix Design.
REVISION: Replace the last two sentences of the paragraph and table with the following:

Complete the volumetric mix design at the appropriate number of gyrations as given in the table below for the number of 20-year ESAL's. The Department will define the relationship between ESAL classes, as given in the bid items for Superpave mixtures, and 20-year ESAL ranges as follows:

		Number of Gyrations		
Class	**ESAL's (millions)**	$N_{initial}$	N_{design}	N_{max}
2	< 3.0	6	50	75
3	3.0 to < 30.0	7	75	115
4	≥ 30.0	8	100	160

SUBSECTION: 403.03.09 Leveling and Wedging, and Scratch Course.
PART: A) Leveling and Wedging.
REVISION: Replace the first sentence of the first paragraph with the following:

Conform to the gradation requirements (control points) of AASHTO M 323 for base, binder, or surface as the Engineer directs.

SUBSECTION: 403.03.09 Leveling and Wedging, and Scratch Course.
PART: B) Scratch Course.
REVISION: Replace the second sentence of the first paragraph with the following:

Conform to the gradation requirements (control points) of AASHTO M 323 for base, binder, or surface as the Engineer directs.

SUBSECTION: **REVISION:**	407.01 DESCRIPTION. Replace the first sentence of the paragraph with the following: Construct a pavement wedge composed of a hot-mixed or warm-mixed asphalt mixture.
SUBSECTION: **REVISION:**	409.01 DESCRIPTION. Replace the first sentence of the paragraph with the following: Use reclaimed asphalt pavement (RAP) from Department projects or other approved sources in hot mix asphalt (HMA) or warm mix asphalt (WMA) provided mixture requirements are satisfied.
SUBSECTION: **REVISION:**	410.01 DESCRIPTION. Delete the second sentence of the paragraph.
SUBSECTION: **REVISION:**	410.03.01 Corrective Work. Replace the last sentence of the paragraph with the following: Provide a final surface comparable to the adjacent pavement that does not require corrective work in respect to texture, appearance, and skid resistance.
SUBSECTION: **PART:** **NUMBER:** **REVISION:**	410.03.02 Ride Quality. B) Requirements. 1) Category A. Replace the last sentence of the first paragraph with the following: At the Department's discretion, a pay deduction of $1200 per 0.1-lane-mile section may be applied in lieu of corrective work.
SUBSECTION: **PART:** **NUMBER:** **REVISION:**	410.03.02 Ride Quality. B) Requirements. 2) Category B. Replace the second and third sentence of the first paragraph with the following: When the IRI is greater than 90 for a 0.1-mile section, perform corrective work, or remove and replace the pavement to achieve the specified IRI. At the Department's discretion, a pay deduction of $750 per 0.1-lane-mile section may be applied in lieu of corrective work.
SUBSECTION: **REVISION:**	410.05 PAYMENT. Add the following sentence to the end of the first paragraph: The sum of the pay value adjustments for ride quality shall not exceed $0 for the project as a whole.
SUBSECTION: **REVISION:**	413.05.02 CL3 SMA BASE 1.00D PG76-22. Insert the following sentence between the first and second sentence of the first paragraph: The Department will calculate the Lot Pay Adjustment using all possible incentives and disincentives but will not allow the overall pay value for a lot to exceed 1.00.

SUBSECTION: 413.05.02 CL3 SMA BASE 1.00D PG 76-22.
TABLE: JOINT DENSITY TABLE
REVISION: Replace the joint density table with the following:

LANE DENSITY	
Pay Value	Test Result (%)
1.05	95.0-96.5
1.00	93.0-94.9
0.95	92.0-92.9 or 96.6-97.0
0.90	91.0-91.9 or 97.1-97.5
(1)	< 91.0 or > 97.5

SUBSECTION: 413.05.03 CL3 SMA SURF 0.50A PG76-22 and CL3 SMA SURF 0.38A PG76-22.
REVISION: Insert the following sentence between the first and second sentence of the first paragraph:

The Department will calculate the Lot Pay Adjustment using all possible incentives and disincentives but will not allow the overall pay value for a lot to exceed 1.00.

SUBSECTION: 413.05.03 CL3 SMA SURF 0.50A PG76-22 and CL3 SMA SURF 0.38A PG76-22.
TABLE: JOINT DENSITY TABLE
REVISION: Replace the joint density table with the following:

DENSITY		
Pay Value	Lane Density Test Result (%)	Joint Density Test Result (%)
1.05	95.0-96.5	92.0-96.0
1.00	93.0-94.9	90.0-91.9
0.95	92.0-92.9 or 96.6-97.0	89.0-89.9 or 96.1-96.5
0.90	91.0-91.9 or 97.1-97.5	88.0-88.9 or 96.6-97.0
0.75	----	< 88.0 or > 97.0
(1)	< 91.0 or > 97.5	----

SUBSECTION: 501.05.02 Ride Quality.
REVISION: Add the following sentence to the end of the first paragraph:

The sum of the pay value adjustments for the ride quality shall not exceed $0 for the project as a whole.

SUBSECTION: 505.03.04 Detectable Warnings.
REVISION: Replace the first sentence with the following:

Install detectable warning pavers at all sidewalk ramps and on all commercial entrances according to the Standard Drawings.

SUBSECTION: **REVISION:**	505.04.04 Detectable Warnings. Replace the paragraph with the following: The Department will measure the quantity in square feet. All retrofit applications for maintenance projects will require the removal of existing sidewalks to meet the requirements of the standard drawings applicable to the project. The cost associated with the removal of the existing sidewalk will be incidental to the detectable warnings bid item or incidental to the bid item for the construction of the concrete sidewalk unless otherwise noted.
SUBSECTION: **REVISION:**	505.05 PAYMENT. Add the following to the bid item table: Code — Pay Item — Pay Unit 23158ES505 — Detectable Warnings — Square Foot
SUBSECTION: **REVISION:**	509.01 DESCRIPTION. Replace the second paragraph with the following: The Department may allow the use of similar units that conform to the National Cooperative Highway Research Program (NCHRP) 350 Test Level 3 (TL-3) requirements and the typical features depicted by the Standard Drawings. Obtain the Engineers approval prior to use. Ensure the barrier wall shape, length, material, drain slot dimensions and locations typical features are met and the reported maximum deflection is 3 feet or less from the NCHRP 350 TL-3 for Test 3 – 11 (pickup truck impacting at 60 mph at a 25-degree angle.)
SUBSECTION: **REVISION:**	601.03.02 Concrete Producer Responsibilities. Add the following to the first paragraph: If a concrete plant becomes unqualified during a project and there are no other qualified plants in the region, the Department will provide qualified personnel to witness and ensure the producer follows the required specifications. The Department will assess the Contractor a $100 per hour charge for this service.
SUBSECTION: **REVISION:**	606.02.11 Coarse Aggregate. Replace with the following: Conform to Section 805, size No. 8 or 9-M.
SUBSECTION: **REVISION:**	609.04.06 Joint Sealing. Replace Subsection 601.04 with the following: Subsection 606.04.08.
SUBSECTION: **REVISION:**	609.05 Payment. Replace the Pay Unit for Joint Sealing with the following: See Subsection 606.05.
SUBSECTION: **REVISION:**	701.03.06 Initial Backfill. Replace the first sentence of the last paragraph with the following: When the Contract specifies, perform quality control testing to verify compaction according to KM 64-512.

SUBSECTION: 701.03.08 Testing of Pipe.
REVISION: Replace and rename the subsection with the following:

701.03.08 Inspection of Pipe. The engineer will visually inspect all pipe. The Department will require camera/video inspection on a minimum of 50 percent of the linear feet of all installed pipe structures. Conduct camera/video inspection according to KM 64-114. The pipe to be installed under pavement will be selected first. If the total linear feet of pipe under pavement is less than 50 percent of the linear feet of all pipe installed, the Engineer will randomly select installations from the remaining pipe structures on the project to provide for the minimum inspection requirement. The pipe will be selected in complete runs (junction-junction or headwall-headwall) until the total linear feet of pipe to be inspected is at least 50 percent of the total linear feet of all installed pipe on the project.

Unless the Engineer directs otherwise, schedule the inspections no sooner than 30 days after completing the installation and completion of earthwork to within 1 foot of the finished subgrade. When final surfacing conflicts with the 30-day minimum, conduct the inspections prior to placement of the final surface. The contractor must ensure that all pipe are free and clear of any debris so that a complete inspection is possible.

Notify the Engineer immediately if distresses or locations of improper installation are discovered. When camera testing shows distresses or improper installation in the installed pipe, the Engineer may require additional sections to be tested. Provide the video and report to the Engineer when testing is complete in accordance with KM 64-114.

Pipes that exhibit distress or signs of improper installation may necessitate repair or removal as the Engineer directs. These signs include, but are not limited to: deflection, cracking, joint separation, sagging or other interior damage. If corrugated metal or thermoplastic pipes exceed the deflection and installation thresholds indicated in the table below, provide the Department with an evaluation of each location conducted by a Professional Engineer addressing the severity of the deflection, structural integrity, environmental conditions, design service life, and an evaluation of the factor of safety using Section 12, "Buried Structures and Tunnel Liners," of the AASHTO LRFD Bridge Design Specifications. Based on the evaluation, the Department may allow the pipe to remain in place at a reduced unit price as shown in the table below. Provide 5 business days for the Department to review the evaluation. When the pipe shows deflection of 10 percent or greater, remove and replace the pipe. When the camera/video or laser inspection results are called into question, the Department may require direct measurements or mandrel testing.

The Cabinet may elect to conduct Quality Assurance verifications of any pipe inspections.

SUBSECTION: 701.04.07 Testing.
REVISION: Replace and rename the subsection with the following:

701.04.07 Pipeline Video Inspection. The Department will measure the quantity in linear feet along the pipe invert of the structure inspected. When inspection above the specified 50 percent is performed due to a disagreement or suspicion of additional distresses and the Department is found in error, the Department will measure the quantity as Extra Work according to Subsection 104.03. However, if additional distresses or non-conformance is found, the Department will not measure the additional inspection for payment.

SUBSECTION: 701.05 PAYMENT.
REVISION: Add the following pay item to the list of pay items:

Code	Pay Item	Pay Unit
23131ER701	Pipeline Video Inspection	Linear Foot

SUBSECTION: 701.05 PAYMENT
TABLE: PIPE DEFLECTION DETERMINED BY CAMERA TESTING
REVISION: Replace this table with the following table and note:

PIPE DEFLECTION	
Amount of Deflection (%)	Payment
0.0 to 5.0	100% of the Unit Bid Price
5.1 to 9.9	50% of the Unit Bid Price (1)
10 or greater	Remove and Replace

(1) *Provide Structural Analysis as indicated above. Based on the structural analysis, pipe may be allowed to remain in place at the reduced unit price.*

SUBSECTION: 701.05 PAYMENT
TABLE: PIPE DEFLECTION DETERMINED BY MANDREL TESTING
REVISION: Delete this table.

SUBSECTION: 713.02.01 Paint.
REVISION: Replace with the following:

Conform to Section 842 and Section 846.

SUBSECTION: 713.03 CONSTRUCTION.
REVISION: Replace the first sentence of the second paragraph with the following:

On interstates and parkways, and other routes approved by the State Highway Engineer, install pavement striping that is 6 inches in width.

SUBSECTION: 713.03.03 Paint Application.
REVISION: Replace the second paragraph with the following table:

Material	**Paint Application Rate**	**Glass Beads Application Rate**
4 inch waterborne paint	Min. of 16.5 gallons/mile	Min. of 6 pounds/gallon
6 inch waterborne paint	Min. of 24.8 gallons/mile	Min. of 6 pounds/gallon
6 inch durable waterborne paint	Min. of 36 gallons/mile	Min. of 6 pounds/gallon

SUBSECTION: 713.03.04 Marking Removal.
REVISION: Replace the last sentence of the paragraph wit the following:

Vacuum all marking material and removal debris concurrently with the marking removal operation.

SUBSECTION: 713.05 PAYMENT.
REVISION: Insert the following codes and pay items below the Pavement Striping – Permanent Paint:

Code	Pay Item	Pay Unit
23159EN	Durable Waterborne Marking – 6 IN W	Linear Foot
23160EN	Durable Waterborne Marking – 6 IN Y	Linear Foot

SUBSECTION: 714.03 CONSTRUCTION.
REVISION: Insert the following paragraph at the end of the third paragraph:

Use Type I Tape for markings on bridge decks, JPC pavement and JPC intersections. Thermoplastic should only be used for markings on asphalt pavement.

SUBSECTION: **REVISION:**	714.03.07 Marking Removal. Replace the third sentence of the paragraph with the following: Vacuum all marking material and removal debris concurrently with the marking removal operation.
SUBSECTION: **REVISION:**	716.01 DESCRIPTION. Insert the following after the first sentence: Energize lighting as soon as it is fully functional and ready for inspection. Ensure that lighting remains operational until the Division of Traffic Operations has provided written acceptance of the electrical work.
SUBSECTION: **REVISION:**	716.02.01 Roadway Lighting Materials. Replace the third sentence of the paragraph with the following: Submit for material approval an electronic file of descriptive literature, drawings, and any requested design data.
SECTION: **REVISION:**	717 – THERMOPLASTIC INTERSECTION MARKINGS. Replace the section name with the following: INTERSECTION MARKINGS.
SUBSECTION: **REVISION:**	717.01 DESCRIPTION: Replace the paragraph with the following: Furnish and install thermoplastic or Type I tape intersection markings (Stop Bars, Crosswalks, Turn Arrows, etc.) Thermoplastic markings may be installed by either a machine applied, screed extrusion process or by applying preformed thermoplastic intersection marking material.
SUBSECTION: **REVISION:**	717.02 MATERIALS AND EQUIPMENT. Insert the following subsection: 717.02.06 Type I Tape. Conform to Section 836.
SUBSECTION: **REVISION:**	717.03.03 Application. Insert the following part to the subsection: B) Type I Tape Intersection Markings. Apply according to the manufacturer's recommendations. Cut all tape at pavement joints when applied to concrete surfaces.
SUBSECTION: **PART:** **REVISION:**	717.03.05 Proving Period. A) Requirements. Insert the following to this section: 2) Type I Tape. During the proving period, ensure that the pavement marking material shows no signs of failure due to blistering, excessive cracking, bleeding, staining, discoloration, oil content of the pavement materials, drippings, chipping, spalling, poor adhesion to the pavement, loss of retroreflectivity, vehicular damage, and normal wear. Type I Tape is manufactured off site and warranted by the manufacturer to meet certain retroreflective requirements. As long as the material is adequately bonded to the surface and shows no signs of failure due to the other items listed in Subsection 714.03.06 A) 1), retroreflectivity readings will not be required. In the absence of readings, the Department will accept tape based on a nighttime visual observation.

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SUBSECTION: 717.03.06 Marking Removal.
REVISION: Replace the third sentence of the paragraph with the following:

Vacuum all marking material and removal debris concurrently with the marking removal operation.

SUBSECTION: 717.05 PAYMENT.
REVISION: Insert the following bid item codes:

Code	Pay Unit	Pay Item
06563	Pave Marking – R/R X Bucks 16 IN	Linear Foot
20782NS714	Pave Marking Thermo – Bike	Each
23251ES717, 23264ES717	Pave Mark TY I Tape X-Walk, Size	Linear Foot
23252ES717, 23265ES717	Pave Mark TY I Tape Stop Bar, Size	Linear Foot
23253ES717	Pave Mark TY I Tape Cross Hatch	Square Foot
23254ES717	Pave Mark TY I Tape Dotted Lane Extension	Linear Foot
23255ES717	Pave Mark TY I Tape Arrow, Type	Each
23268ES717-23270ES717		
23256ES717	Pave Mark TY I Tape- ONLY	Each
23257ES717	Pave Mark TY I Tape- SCHOOL	Each
23266ES717	Pave Mark TY 1 Tape R/R X Bucks-16 IN	Linear Foot
23267ES717	Pave Mark TY 1 Tape-Bike	Each

SUBSECTION: 805.01 GENERAL.
REVISION: Replace the second paragraph with the following:

The Department's List of Approved Materials includes the Aggregate Source List, the list of Class A and Class B Polish-Resistant Aggregate Sources, and the Concrete Restriction List.

SUBSECTION: 805.04 CONCRETE.
REVISION: Replace the "AASHTO T 160" reference in first sentence of the third paragraph with "KM 64-629"

SUBSECTION: 805.15 GRADATION ACCEPTANCE OF NON-SPECIFICATION COARSE AGGREGATE.
TABLE: AGGREGATE SIZE USE
PART: Cement Concrete Structures and Incidental Construction
REVISION: Replace "9-M for Waterproofing Overlays" with "8 or 9-M for Waterproofing Overlays"

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SUBSECTION: 805.15 GRADATION ACCEPTANCE OF NON-SPECIFICATION COARSE AGGREGATE.
REVISION: Replace the "SIZES OF COARSE AGGREGATES" table in with the following:

SIZES OF COARSE AGGREGATES

	Sieve	AMOUNTS FINER THAN EACH LABORATORY SIEVE (SQUARE OPENINGS) PERCENTAGE BY WEIGHT															
Aggregate Size	Nominal [3] Maximum Aggregate Size	4 inch	3 1/2 inch	3 inch	2 1/2 inch	2 inch	1 1/2 inch	1 inch	3/4 inch	1/2 inch	3/8 inch	No. 4	No. 8	No. 16	No. 30	No. 100	No. 200
1	3 ½ inch	100	90-100		25-60		0-15		0-5								
2	2 ½ inch			100	90-100	35-70	0-15		0-5								
23	2 inch			100		40-90		0-15		0-5							
3	2 inch				100	90-100	35-70	0-15		0-5							
357	2 inch				100	95-100		35-70		10-30		0-5					
4	1 ½ inch					100	90-100	20-55	0-15		0-5						
467	1 ½ inch					100	95-100		35-70		10-30	0-5					
5	1 inch						100	90-100	20-55	0-10	0-5						
57	1 inch						100	95-100		25-60		0-10	0-5				
610	1 inch						100	85-100		40-75		15-40					
67	3/4 inch							100	90-100		20-55	0-10	0-5				
68	3/4 inch							100	90-100		30-65	5-25	0-10	0-5			
710	3/4 inch							100	80-100		30-75	0-30					
78	1/2 inch								100	90-100	40-75	5-25	0-10	0-5			
8	3/8 inch									100	85-100	10-30	0-10	0-5			
9-M	3/8 inch									100	75-100	0-25	0-5				
10[2]	No. 4										100	85-100				10-30	
11[2]	No. 4										100	40-90	10-40			0-5	
DENSE GRADED AGGREGATE [1]	3/4 inch							100	70-100		50-80	30-65			10-40		4-13
CRUSHED STONE BASE [1]	1 ½ inch				100		90-100		60-95		30-70	15-55			5-20		0-8

[1] *Gradation performed by wet sieve KM 64-620 or AASHTO T 11/T 27.*

[2] *Sizes shown for convenience and are not to be considered as coarse aggregates.*

[3] *Nominal Maximum Size is the largest sieve on the gradation table for an aggregate size on which any material may be retained.*

Note: The Department will allow blending of same source/same type aggregate when precise procedures are used such as cold feed, belt, or equivalent and combining of sizes or types of aggregate using the weigh hopper at concrete plants or controlled feed belts at the pugmill to obtain designated sizes.

SUBSECTION: 805.16 SAMPLING AND TESTING.
REVISION: Replace the "AASHTO T 160" method with the "KM 64-629" method for the Concrete Beam Expansion Test.

Replace the "ASTM D 3042" method with the "KM 64-625" method for Insoluble Residue.

SUBSECTION: 810.04.01 Coating Requirements.
REVISION: Replace the "Subsection 806.07" references with "Subsection 806.06"

SUBSECTION: 810.06.01 Polyvinyl Chloride (PVC) Pipe.
PART: B) Culvert and Entrance Pipe.
REVISION: Replace the title with the following:

B) Culvert Pipe, Storm Sewer, and Entrance Pipe.

SUBSECTION: 837.03 APPROVAL.
REVISION: Replace the last sentence with the following:

The Department will sample and evaluate for approval each lot of thermoplastic material delivered for use per contract prior to installation of the thermoplastic material. Do not allow the installation of thermoplastic material until it has been approved by the Division of Materials. Allow the Department a minimum of 10 working days to evaluate and approve thermoplastic material.

SUBSECTION: 837.03.01 Composition.
REVISION: COMPOSITION Table:

Replace

Lead Chromate	0.0 max.	4.0 min.

with

Heavy Metals Content	Comply with 40 CFR 261

SECTION: DIVISION 800 MATERIAL DETAILS

REVISION: Add the following section in Division 800

SECTION 846 – DURABLE WATERBORNE PAINT

846.01 DESCRIPTION. This section covers quick-drying durable waterborne pavement striping paint for permanent applications. The paint shall be ready-mixed, one-component, 100% acrylic waterborne striping paint suitable for application on such traffic-bearing surfaces as Portland cement concrete, bituminous cement concrete, asphalt, tar, and previously painted areas of these surfaces.

846.02 Approval. Select materials that conform to the composition requirements below. Provide independent analysis data and certification for each formulation stating the total concentration of each heavy metal present, the test method used for each determination, and compliance to 40 CFR 261 for leachable heavy metals content. Submit initial samples for approval before beginning striping operations. The initial sample may be sent from the manufacture of the paint. The Department will randomly sample and evaluate the paint each week that the striping operations are in progress.

The non-volatile portion of the vehicle shall be composed of a 100% acrylic polymer as determined by infrared spectral analysis. The acrylic resin used shall be a 100% cross-linking acrylic as evidenced by infrared peaks at wavelengths 1568, 1624, and 1672 cm-1 with intensities equal to those produced by an acrylic resin known to be 100% cross-linking.

PAINT COMPOSITION		
Property and Test Method	Yellow	White
Daytime Color (CIELAB) Spectrophotometer using illuminant D65 at 45º illumination and 0º viewing with a 2º observer	L* 81.76 a* 19.79 b* 89.89 Maximum allowable variation 2.0• E*	L* 93.51 a* -1.01 b* 0.70 Maximum allowable variation 2.0• E*
Nighttime Color (CIELAB) Spectrophotometer using illuminant A at 45º illumination and 0º viewing with a 2º observer	L* 86.90 a* 24.80 b* 95.45 Maximum allowable variation 2.0• E*	L* 93.45 a* -0.79 b* 0.43 Maximum allowable variation 2.0• E*
Heavy Metals Content	Comply with 40 CFR 261	Comply with 40 CFR 261
Titanium Dioxide ASTM D 4764	NA	10% by weight of pigment min.
VOC ASTM D 2369 and D 4017	1.25 lb/gal max.	1.25 lb/gal max.
Contrast Ratio (at 15 mils wft)	0.97	0.99

846.02.01 Manufacturers Certification. Provide a certification of analysis for each lot of traffic paint produced stating conformance to the requirements of this section. Report the formulation identification, traffic paint trade name, color, date of manufacturer, total quantity of lot produced, actual quantity of traffic paint represented, sampling method utilized to obtain the samples, and data for each sample tested to represent each lot produced.

846.03 ACCEPTANCE PROCEDURES FOR NON-SPECIFICATION DURABLE WATERBORNE PAVEMENT STRIPING PAINT. When non-specification paint is inadvertently incorporated into the work the Department will accept the material with a reduction in pay. The percentage deduction is cumulative based on its compositional properties, but will not exceed 60 percent. The Department will calculate the payment reduction on the unit bid price for the routes where the non-specification paint was used.

DURABLE WATERBORNE PAVEMENT STRIPING PAINT REDUCTION SCHEDULE						
Non-conforming Property	Resin	Color	Contrast	TiO_2	VOC	Heavy Metals Content
Reduction Rate	60%	10%	10%	10%	60%	60%