Supplemental Specifications to The Standard Specifications for Road and Bridge Construction, 2000 Edition (Effective with the July 25, 2003 Letting)

SECTION:	Complete Standard Specifications
REVISION:	Replace all references to "PCC Pavement" with "JPC Pavement"
SUBSECTION:	102.07.01 General.
REVISION:	Replace the first sentence with the following: Submit the Bid Proposal on the forms furnished by the Department including the Highway Bid Program bid item sheets and disk created from the Department's internet web site.
SUBSECTION:	102.07.02 Computer Bidding.
REVISION:	Replace the subsection with the following: Subsequent to ordering a Bid Proposal for a specific project, use the Department's Highway Bid Program on the internet web site of the Department of Highways, Division of Contract Procurement. Download the bid item quantities from the Department's web site to prepare a Bid Proposal for submission to the Department. Insert the completed bid item sheets printed from the Highway Bid Program into the Proposal and submit along with the disk created by said program. In case of a dispute, the Bid Proposal and bid item sheets created by the Highway Bid Program take precedence over any bid submittal. Furthermore the Department takes no responsibility for loss, damage of disks or the compatibility with the bidder's computer equipment or software.
SUBSECTION:	102.08 IRREGULAR BID PROPOSALS.
REVISION:	Add the following to the first set of items: 4) Fails to submit a disk created from the Highway Bid Program
SUBSECTION:	102.08 IRREGULAR BID PROPOSALS.
REVISION:	Replace 1) of the second set of items 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 Highway Bid Program , or when the form is altered or any part is detached.
SUBSECTION:	103.05 REQUIREMENT OF CONTRACT BOND.
REVISION:	Replace the first sentence of the first paragraph with the following: To be acceptable to the Department, the surety must have a minimum A. M. Best rating of an "A-", be listed on the U.S. Treasury Listing of approved sureties for an amount equal to or greater than the amount of the bond and be an admitted carrier in the Commonwealth of Kentucky. Replace the last sentence of the first paragraph with the following: If at any time during the performance of the Contract the surety company falls below the minimum acceptable requirements, the Contractor shall file a new bond in an amount established by the Commissioner, or his designee, within 14 calendar days of such failure to meet the minimum requirements. Add the following to the end of the subsection: The Department reserves the right to copy the surety on all of its communications with the Contractor concerning the Contractor's performance, or performance deficiencies, on the project and further reserves the right to communicate directly with the surety to inform them of the Contractor's performance, or performance deficiencies, on the bonded project.
SUBSECTION:	108.02 PRECONSTRUCTION CONFERENCE.
REVISION:	Add the following to the first paragraph: Include a plan for updating the schedule. As a minimum, the schedule must be updated whenever a situation arises or event occurs that significantly affects the progress of the work or when the Engineer directs.

SUBSECTION: 109.04.02 Cost-Plus Work.
PART: C) Equipment and Tools.
REVISION: Replace with the second, third, and fourth paragraphs with the following:

For any machinery or special equipment that the Engineer has authorized for use and the Contractor has used, the Department will pay the rental rate stated on the rental company invoice for the actual agreed time and rate that such equipment is required on the work and will add an amount equal to 15 percent of the rental sum as full compensation for fuel, lubricants, and filters.

The Department will pay for equipment that the Contractor is already using on the project, and which is not obtained specifically for the cost-plus work based on an hourly rate. The Department will determine the hourly rate by taking the Blue Book monthly rental rate, adjusted for age and geographic region, dividing it by 176 and adding the Blue Book estimated operational cost. The Department will pay rental rates for equipment required to be on standby at one half the normal rate, excluding operational cost, and pay for standby time for a maximum of 8 hours per day and 40 hours per week.

SUBSECTION: 109.04.02 Cost-Plus Work.
PART: F) Overhead.
REVISION: Add the following new part:

F) Overhead. The Department will pay for overhead cost associated with administering the work, not to exceed 5 percent, when the work is done by a Subcontractor.

SUBSECTION: 112.02 MATERIALS AND EQUIPMENT.
REVISION: Add the following:

Provide certification that all Work Zone Category I and II Devices are compliant with NCHRP 350.

SUBSECTION: 112.02.05 Temporary Pavement Markings.
PART: C) Temporary Striping.
NUMBER: 2) Paint.
REVISION: Replace with the following:

2) Paint. Conform to Section 842

SUBSECTION: 112.02.05 Temporary Pavement Markings.
PART: C) Temporary Striping.
NUMBER: 3) Drop on Beads.
REVISION: Replace with the following:

3) Drop on Beads. Conform to Section 839

SUBSECTION: 112.02.11 Truck Mounted Attenuator (TMA).
REVISION: Replace with the following:

112.02.11 Truck Mounted Attenuator (TMA). Use only NCHRP 350 TL-3 compliant devices.

SUBSECTION: 112.03.01 General Traffic Control.
PART: G) Signs.
REVISION: Replace the first sentence with the following:

Completely cover all lettering and symbols on existing, permanent, and temporary signs which do not properly apply to the current traffic phasing, and maintain the covering until the signs are applicable or are removed.

SUBSECTION: 112.03.01 General Traffic Control.
PART: J) TMAs.
REVISION: Replace the first sentence with the following:

Mount the attenuator on a support vehicle that is in close conformity to the one it was tested with for NCHRP compliance.

SUBSECTION: 112.04.02 Signs.
REVISION: Replace the subsection with the following:

112.04.02 Signs. The Department will measure the quantity in square feet. The Department will measure each individual sign the first time it is installed and each additional time that it is installed through post mounting. The Department will not measure sign maintenance or subsequent relocation of original signs by methods other than post mounting and will consider them incidental to this item of work. The Department will measure signs for payment when they are required by the MUTCD, Standard Drawings, TCP, the Contract, or the Engineer. Additional signs will be considered incidental to this item of work. The Department will measure replacement units for payment, only when the Engineer determines replacement is required resulting from normal deterioration of the signs due to environmental conditions.

SUBSECTION: 112.03.01 General Traffic Control.
PART: I) Temporary Traffic Signals.
REVISION: Replace the MUTCD reference "Section 4B" with "Chapter 4D"

SECTION: 201 STAKING.
Delete the section and replace with the following:

201.01 DESCRIPTION. When listed as a bid item, furnish all personnel, equipment, stakes, and hubs necessary to construct the roadway and appurtenant structures to the grade and alignment specified in the Contract. When no bid item is listed, the Department will perform staking.

201.02 MATERIALS AND EQUIPMENT. Reserved.

201.03 CONSTRUCTION

201.03.01 Contractor Staking. Perform all necessary surveying under the general supervision of a Professional Engineer or licensed Land Surveyor.

The Department's Engineer will perform the following:

1) Provide adequate referencing of control points to allow prompt re-establishment of the survey centerline, right of way, ramps, crossroads, and frontage roads during construction.
2) Set permanent or temporary bench marks as required.
3) Take any cross sections to verify the accuracy of the original ground information.
4) Take "check sections" to verify that construction is to grade and alignment as specified in the Contract.

The Contractor will perform the following:

1) Re-establish the centerline and set such additional points as may be necessary for construction of the project. Verify the accuracy of the horizontal and vertical control as established by the Department's Engineer before beginning construction.
2) Establish clearing lines so that the project may be cleared without violating the limits of the right of way.
3) Set slope stakes right and left of the survey centerline at 50-foot to 100-foot intervals to guide the contractor in constructing the cuts and fills. These stakes are generally set to shoulder grade for fills and ditch grade for cuts. The cut or fill information, slope, and distance from centerline should be on the front face of the stake; the station number should be on the back of the stake. This stake should be guarded with a lath that has the station number written on the side facing the centerline.
4) Grade Stakes (Bluetops). Fine grade control will be set to aid the Contractor in establishing the typical sub-grade section. When using conventional transit and chain methods this fine grade control will be established by setting hubs(referred to as blue tops) every 50 feet to the sub-grade section. These blue tops are set to the hundredth of a foot in elevation and are located left and right of pavement centerline, usually at the edge of metal. Bluetops will be set for the top of sub-grade and the top of aggregate base and/or drainage blanket material. Refer to Section 204.03.10 and Section 302.03.06 for construction tolerances of sub-grade and aggregate base or drainage blanket.

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5) Stake all structures (bridges, culverts, pipe, and other appurtenances) so that they can be built to the proper line and grade as shown on the plans and to perform the function for which they were designed.

201.03.02 Department Staking. The Department's Engineer will set all stakes necessary for the construction of the roadway and appurtenant structures to the proper grade and alignment in accordance with the contract.

201.03.03 Electronic Surveying. The Department encourages the use of new and advanced technology in the construction of its roads and structures. However, the following restrictions apply:

1) Tolerances are unchanged. Refer to Section 204.03.10 and Section 302.03.06.
2) Sub-grade check sections are to be done every 500 feet in tangent sections and every 100 feet in curves using conventional survey methods to establish bluetops and to verify the correct operation of the electronic equipment.
3) The Contractor will submit his electronic data files to the Department's Engineer at the beginning of the project so that the Engineer can reference the data for verification of the field work.

201.04 MEASUREMENT.

201.04.01 Contractor Staking. When listed as a bid item, the Department will measure staking as lump sum. The Department will not measure surveying required to correct any errors or inaccuracies resulting from construction operations for payment.

201.04.02 Department Staking. The Department will not measure quantities for payment. When any stakes are disturbed due to unwarranted negligence of the Contractor, the Department will measure the work required to reset the stakes and deduct the cost from monies due the Contractor.

201.05 PAYMENT. The Department will make payment for the completed and accepted quantities under the following:

Code	Pay Item	Pay Unit
2726	Staking	Lump Sum

The Department will consider payment as full compensation for all work required under this section.

SUBSECTION: 204.03.08 Disposal of Wasted Materials.
REVISION: Add the following to the end of the second paragraph:

The Department will pay for the geotechnical investigation and analysis of the proposed waste area when one is requested by the Engineer. Ensure all work is performed by a pre-qualified geotechnical consultant and according to the Department's Geotechnical Manual.

SUBSECTION: 206.03.02 Embankment.
PART: C) Embankment of Rock/Shale/Soil Combination.
REVISION: Replace the first sentence with the following:

Construct in lifts not exceeding one foot in thickness; however, when the thickness of the rock exceeds one foot, the Department may allow the thickness of the embankment lifts to increase, as necessary, due to the nature of the material, up to 2 feet. Apply a sufficient amount of water to induce slaking when mixtures contain 50 percent or more non-durable shale.

SUBSECTION:	206.03.02 Embankment.
PART:	D) Embankments Principally of Non-Durable Shale (SDI less than 95 according to KM 64-513).
REVISION:	Replace the fourth and fifth sentences with following: Uniformly incorporate the water throughout the lift using a multiple gang disk with a minimum disk diameter of 2 feet or other suitable equipment the Engineer approves. Compact with 30-ton static tamping foot rollers in conjunction with vibratory tamping foot rollers that produce a minimum compactive effort of 27 tons and direct hauling equipment over the full width of the lift to aid in compaction. When questions arise regarding the durability of shale, use KM 64-514 to estimate the durability of the material in the field.
SUBSECTION:	206.04.01 Embankment-in-Place.
REVISION:	Add the following: The Department may make adjustments to embankment-in-place projects when there is actually unanticipated waste on the project. Waste generated by the project phasing will not be considered for adjustment. The Department will make an adjustment for the actual costs incurred by the Contractor.
SUBSECTION:	208.03.03 Application of Chemical.
PART:	B) Lime.
NUMBER:	3)
REVISION:	Replace the second sentence with the following: Use only when saturated soil conditions exist and the slurry method would worsen the situation or when weather conditions prohibit the use of slurry.
SUBSECTION:	208.03.06 Curing and Protection.
REVISION:	Replace the first sentence of the fourth paragraph with the following: Do not allow any traffic or equipment on the finished surface until 7 days above 40 °F curing is completed or the roadbed cores achieve a minimum strength requirement of 75 psi.
SUBSECTION:	208.04.02 Lime.
REVISION:	Add the following to the end of the second paragraph: When hydrate or quicklime is furnished for dry application, the Department will measure the actual quantity applied to the roadbed.
SUBSECTION:	212.03.03 Permanent Seeding and Protection.
PART:	A) Seed Mixtures for Permanent Seeding.
REVISION:	Replace with the following: A) Seed Mixture for Permanent Seeding. Use seed Mixture No. I, No. III, or as the Contract specifies. Mixture No. I: 75% Kentucky 31 Fescue (Festuca arundinacea) 10% Red Top (Agrostis alba) 5% White Dutch Clover (Trifolium repens) 10% Rygrass, perennial (Lolium perenne) Mixture No. III: 30% Kentucky 31 Fescue (Festuca arundinacea) 15% Red Top (Agrostis alba) 15% Partridge Pea (Cassia fasciculata) 20% Sericea Lespedeza 10% Sweet Clover – Yellow (Melitotus officinalis) 10% Rygrass, perennial (Lolium perenne)

SUBSECTION:	212.03.03 Permanent Seeding and Protection.
PART:	B) Procedures for Permanent Seeding.
REVISION:	Add the following after the third sentence: Remove all rock and dirt clods over 4 inches in diameter from the surface of the seedbed.
SUBSECTION:	212.03.03 Permanent Seeding and Protection.
PART:	C) Crown Vetch.
REVISION:	Replace the first sentence with the following: Sow crown vetch seed on all areas having a slope 3:1 or steeper and consisting of soil or mixtures of broken rock and soil.
SUBSECTION:	212.03.03 Permanent Seeding and Protection.
PART:	E) Erosion Control Blanket.
REVISION:	Replace the first sentence with the following: Install erosion control blankets in ditches, except those to be paved or rock lined, to a flow depth of 1.5 feet.
SUBSECTION:	213.03.02 Progress Requirements.
REVISION:	Replace the word “may” with “will” in the second sentence of the third paragraph.
SUBSECTION:	213.03.02 Progress Requirements.
REVISION:	Replace the third sentence of the third paragraph with the following: Additionally, the Department will apply a penalty equal to the liquidated damages when all aspects of the work are not coordinated in an acceptable manner within 5 days after written notification.
SUBSECTION:	213.03.03 Inspection and Maintenance.
REVISION:	Replace the first sentence of the first paragraph with the following: Investigate all erosion control devices weekly and after each 0.1-inch rainfall event. Replace the first sentence of the second paragraph with the following: The Engineer will monitor the in-place erosion control for the project once every 7 calendar days and within 24 hours following a 0.1-inch or greater rainfall.
SUBSECTION:	214.04 MEASUREMENT.
REVISION:	Replace the second sentence with the following: The Department will not measure fabric when the Contract indicates the fabric is incidental to the work or when the specification for another item requires incidental installation of geotextile fabric.
SUBSECTION:	302.02 MATERIALS.
REVISION:	Add the following: 302.02.03 Mixer. Equip the mixer with a water flow system with a positive cut-off control that will stop the flow of water simultaneously with any stoppage in the flow of aggregate and with valves or other devices that can be easily reset when a change in the rate of flow is desired.
SUBSECTION:	401.02.01 All Asphalt Mixing Plants.
PART:	A)
REVISION:	Replace the first sentence of the second paragraph with the following: Provide a laboratory inspected and qualified according to the Department’s Quality Assurance Program for Materials Testing and Acceptance and conforming to the following minimum requirements:

SUBSECTION: 401.02.01 All Asphalt Mixing Plants.
PART: A)
REVISION: Replace the fourth paragraph with the following:

In addition to the equipment required to perform testing according to the AASHTO standards and Kentucky Methods (KM), equip each laboratory with the following minimum furnishings and equipment, conforming to the applicable specifications, as required for the type of construction specified in the Contract:

1) one workbench, at least 2.5 feet wide by 6 feet long;
2) one desk or table and 2 chairs;
3) a fire extinguisher located near the door; and
4) a first aid kit.

SUBSECTION: 401.02.01 All Asphalt Mixing Plants.
PART: Between Items "H" and "I"
REVISION: Insert the following new item:

Recordation. Provide an automatic graphic or digital record of the production quantities according to AASHTO M156.

SUBSECTION: 401.02.01 All Asphalt Mixing Plants.
PART: I) Thermometers.
REVISION: Delete the third paragraph.

SUBSECTION: 401.02.04 Special Requirements for Continuous Plants.
PART: B) Weight Calibration of Asphalt Binder and Aggregate Feed.
REVISION: Add the following new paragraph:

When equipped with aggregate weighing devices (belt scales), calibrate each cold feeder, along with the aggregate weighing devices, according to Subsection 401.02.05 A) and B).

SUBSECTION: 402.03.01 Responsibilities.
PART: B) Setup.
REVISION: Replace (MSG) with (G_{mm})

SUBSECTION: 402.03.01 Responsibilities.
REVISION: Add the following:

C) Process Control. After the setup period, perform the process control operations of KM 64-426.

SUBSECTION: 402.03.02 Acceptance.
PART: A) General.
REVISION: Add the following:

Document and report all acceptance tests on the Asphalt Mixtures Acceptance Workbook (AMAW). Submit the completed AMAW for each lot to the Department within 5 working days after the completion of the lot.

SUBSECTION: 402.03.02 Acceptance.
PART: C) Setup.
REVISION: Add the following after the second sentence:

For mixtures with a total-project quantity between 500 and 1,000 tons, perform a minimum of one process control test for AC, AV, and VMA, and report the results to the Engineer.

Add the following after the seventh sentence:

Ensure the adjusted AC remains above the minimums specified in Subsection 403.03.03 C) 2).

SUBSECTION: 402.03.03 Verification.
REVISION: Replace the first two sentences with the following:

For volumetric properties, the Department will perform a minimum of one verification test for AC, AV, and VMA for each lot according to the corresponding procedures as given in Subsection 402.03.02. For specialty mixtures, the Department will perform one AC and one gradation determination per lot according to the corresponding procedures as given in Subsection 402.03.02. However, Department personnel will not perform AC determinations according to KM 64-405.

SUBSECTION: 402.05.02 Asphalt Mixtures and Mixtures with RAP.
PART: D) Conventional and RAP Mixtures Placed Monolithically as Asphalt Pavement Wedge.
REVISION: Replace with the following:

The Department will pay as mainline mixture but use a 1.00 pay value for all properties.

SUBSECTION: 402.05.01 Specialty Mixtures.
REVISION: Add "asphalt mixtures for temporary applications" to the list of defined specialty mixtures.

SUBSECTION: 403.02.05 Release Agent.
REVISION: Replace with the following:

Provide materials conforming to KM 64-422.

SUBSECTION: 403.02.06 Transport Equipment.
REVISION: Add the following after the first sentence:

Do not load trucks that are contaminated with an unapproved release agent. When such contamination is identified after loading, reject the load. In either case, remove the truck and respective driver from the project for the duration of the project.

SUBSECTION: 403.02.09 Small Tools and Portable Equipment.
REVISION: Add the following at the end of the first paragraph:

Do not use an unapproved release agent on any small tools or equipment incidental to the paving operation.

SUBSECTION: 403.03.01 Seasonal and Weather Limitations.
REVISION: Replace "November 15" with "November 30" throughout the Subsection.

SUBSECTION: 403.03.02 Preparation of Base.
REVISION: Replace the first sentence of the eighth paragraph with the following:

Remove existing Type V markers. Fill the recess and any additional damaged area with compacted asphalt mixture within 24 hours of removal.

SUBSECTION: 403.03.03 Preparation of Mixture.
PART: A) Mixture Composition.
REVISION: Replace Part A) with the following:

A) Mixture Composition. Provide the appropriate mixture composition for the specified asphalt mixture, or substitute a higher aggregate type. When substituting a mixture of a higher ESAL class, provide a mixture of no more than one ESAL class higher than the specified asphalt mixture. Conform to the gradation requirements (control points) of AASHTO MP2 for the Superpave mixture. Unless the Engineer authorizes otherwise in writing, use the same type and source of ingredient aggregates and asphalt binder throughout the entire project for each type of mixture. For asphalt surface courses containing 100 percent polish-resistant coarse aggregate, limit the portion of non-polish-resistant fine aggregate retained on a No. 4 sieve to 5 percent of the total combined aggregates.

When using a porous aggregate, increase the asphalt binder content (AC) as needed for asphalt binder absorption by the aggregate.

The following aggregate requirements are listed in order of the highest, Type A, to the lowest, Type D:

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1) Type A. Provide 100 percent of the coarse aggregate Class A sources. Ensure that 20 percent of the total combined aggregate is Class A polish-resistant fine aggregate.
2) Type B. Select either of the 2 following options:

   a) Provide 100 percent of the coarse aggregate from Class B sources.
   b) Provide a combined aggregate, retained on the No. 4 sieve, that is a minimum of 50 percent from any Class A polish-resistant aggregate source except those identified as "Not Permitted as the polish-resistant portion of Class B blends." Submit all Class B blends to the Department for review.

   For Option a) or b) above, ensure one of the following:

   - 20 percent or more of the total combined aggregate is Class A polish resistant fine aggregate.
   - 30 percent or more of the total combined aggregate is Class B polish resistant fine aggregate.
   - 30 percent or more of the total combined aggregate is a combination of Class A and Class B polish resistant fine aggregate.

3) Type C. Ensure that 40 percent or more of the total combined aggregate is polish-resistant; Class A coarse, fine, or combination.
4) Type D. No restriction on aggregate type.

SUBSECTION: 403.03.03 Preparation of Mixture.
PART: B) Moisture Content of Mix
REVISION: Replace the third sentence with the following:

When moisture contents are 0.10 percent or greater, adjust the AC determination made on plant-produced mixture to reflect the actual AC as KM 64-434 directs.

SUBSECTION: 403.03.03 Preparation of Mixture.
PART: C) Mix Design Criteria.
REVISION: Replace the first sentence with the following:

Conform to the gradation requirements (control points) of AASHTO MP2 for the Superpave mixture type the Contract specifies.

SUBSECTION: 403.03.03 Preparation of Mixture.
PART: C) Mix Design Criteria.
NUMBER: 1)
REVISION: Replace the first sentence with the following:

Submit a preliminary mix design, completed using a Superpave gyratory compactor (SGC) conforming to AASHTO PP 35.

Add the following after the second sentence:

The Department will require a dust-to-binder range of 0.8 to 1.6.

SUBSECTION: 403.03.03 Preparation of Mixture.
PART: C) Mix Design Criteria.
NUMBER: 2) Selection of Optimum AC.
REVISION: Add the following:

Ensure the optimum AC is a minimum of 5.0 percent by weight of the total mixture for all 0.5-inch nominal surface mixtures and 5.3 percent by weight of the total mixture for all 0.38-inch nominal surface mixtures.

SUBSECTION: 403.03.06 Thickness Tolerance.
TABLE: Nominal Maximum Size of Mixture vs. Thickness Range
REVISION: Delete

SUBSECTION: 403.03.08 Rumble Strips.
REVISION: Replace with the following:

A) Interstates and Parkways. Construct sawed rumble strips on all mainline and ramp shoulders to the dimensions shown below.

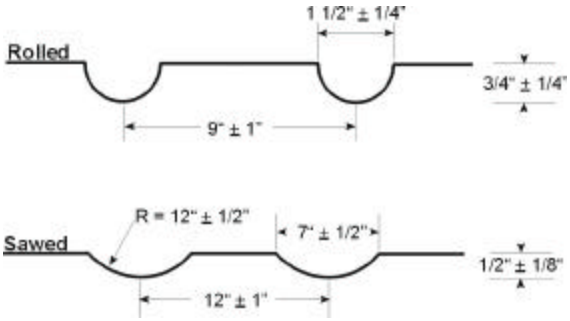
B) Other Roads. When using a surface mixture instead of Asphalt Mixture for Pavement Wedge, or when the Engineer deems it appropriate to pave the driving lanes and the adjacent shoulder monolithically, provide rolled rumble strips. Construct strips on all main line shoulders to the dimensions shown below. When furnishing Asphalt Mixture for Pavement Wedge, binder, or a base mixture for shoulders, the Department will not require rumble strips.

Time the rolling operation so indentations are at the specified size and depth without causing unacceptable displacement of the asphalt mat. Correct unacceptable rolled-in rumble strips by sawing.

On shoulders less than 3 feet, shorten the length and distance of the strips as the Engineer directs.

If preferred, construct the rumble strips by sawing as specified for Interstates and Parkways.

RUMBLE STRIP DIMENSIONS



Distance from the edge of the mainline pavement to the end of the strip: 1 foot
Length of strips: Rolled 2 feet, Sawed 16 inches

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

Conform to the gradation requirements (control points) for base, binder, or surface as applicable.

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

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

SUBSECTION: 403.04.03 Asphalt Mixtures.
REVISION: Add the following:

The Department will not measure rumble strips for payment and will consider them incidental to this bid item.

SECTION: 404 OPEN-GRADED FRICTION COURSE
TABLE: LOT PAY ADJUSTMENT SCHEDULE FOR SPECIALTY MIXTURES
REVISION: Replace the table with the following table:

LOT PAY ADJUSTMENT SCHEDULE FOR SPECIALTY MIXTURES (TEST DEVIATION FROM JMF)

	Pay Value	Deviation From JMF (%)
Asphalt Binder Content	1.00	0.0-0.5
	0.98	0.6
	0.95	----
	0.90	0.7
	0.85	0.8
	0.75	≥ 0.9
1 1/2 inch Sieve	1.00	0-13
	0.98	14
	0.95	15-16
	0.90	17-20
	0.85	21-23
	0.75	≥ 24
1 inch, 3/4 inch, and 1/2 inch Sieves	1.00	0-9
	0.98	10
	0.95	11-12
	0.90	13-14
	0.85	15-16
	0.75	≥ 17
3/8 inch, No. 4, No. 8, No. 16, and No. 30 Sieves	1.00	0-8
	0.98	9
	0.95	10
	0.90	11-12
	0.85	13-14
	0.75	≥ 15
No. 50 Sieve	1.00	0-6
	0.98	7
	0.95	8
	0.90	9
	0.85	10
	0.75	≥ 11
No. 100 Sieve	1.00	0-3
	0.98	----
	0.95	4
	0.90	5
	0.85	----
	0.75	≥ 6
No. 200 Sieve	1.00	0.0-2.0
	0.98	2.5
	0.95	3.0
	0.90	----
	0.85	3.5
	0.75	≥ 4.0
Fineness Modulus	1.00	0.0-0.30
	0.98	0.31-0.34
	0.95	0.35-0.39
	0.90	0.40-0.46
	0.85	0.47-0.55
	0.75	≥ 0.56

SUBSECTION: 406.02.01 Tack Coat.
REVISION: Replace with the following:

Furnish any of the following asphalt materials conforming to 806: SS-1, SS-1h, or RS-1.

SUBSECTION: 406.02.03 Curing Seal.
REVISION: Replace with the following:

Furnish any of the following asphalt materials conforming to 806: RS-1, RS-2, SS-1, SS-1h, or Primer L.

SUBSECTION: 406.03.03 Application.
REVISION: Replace the temperature table with the following:

Primer L	60-120 °F
SS-1, SS-1h	70-160 °F
RS-1, RS-2	70-140 °F

SUBSECTION: 406.03.03 Application.
PART: B) Asphalt Tack Coat.
REVISION: Replace the second paragraph with the following:

When furnishing RS-1 for tack, apply it undiluted.

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

When furnishing SS-1 or SS-1h for tack, the Department will allow diluted or undiluted application provided uniform and complete coverage is achieved.

SUBSECTION: 407.02.02 Aggregate.
REVISION: Change Sieve Size No. 30 to read Sieve Size No. 50.

SUBSECTION: 408.04.02 Mobilization for Asphalt Pavement Milling and Texturing.
REVISION: Add the following:

For group contracts, the Department will measure the quantity for each project (subsection) that has a bid item for Mobilization for Asphalt Pavement Milling and Texturing.

SUBSECTION: 409.02 MATERIALS AND EQUIPMENT.
REVISION: Replace "KM 64-427" with the following:

the guidelines in Subsection 409.03.02

SUBSECTION: 409.03.01 Restrictions.
REVISION: Add the following sentence:

When the mixture's bid item specifies PG 76-22, limit RAP content to 20 percent or less.

SUBSECTION: 409.03.02 Preparation of Mixture.
PART: A) Mix Requirements.
REVISION: Void the Revision and replace with the following:

Conform to the Contract requirements for each mixture produced using RAP. If mixtures produced using RAP do not conform to the requirements for that mixture, complete the project using all virgin materials at no additional expense to the Department. Conform to the following table to select the appropriate grade of virgin asphalt binder to blend with the RAP:

Mixture's Bid Item	Appropriate Virgin Asphalt Binder		
	0-20% RAP	21-30% RAP	>30% RAP
PG 76-22	PG 76-22	-	-
PG 70-22	PG 70-22	PG 64-22	*
PG 64-22	PG 64-22	PG 64-22	*

* Select according to KM 64-427

SUBSECTION: 410.05 PAYMENT.
REVISION: Replace the RIDE QUALITY ADJUSTMENT SCHEDULE with the following 2 schedules:

RIDE QUALITY ADJUSTMENT SCHEDULE FOR ROADS POSTED GREATER THAN 45 MPH

IRI	Pay Value[1]
36 or lower	+0.15
37 to 46	= 0.015 x (47 – IRI)
47 to 66	0.00
67 to 76	= 0.015 x (67 – IRI)
77 or higher	Corrective work or replacement required

RIDE QUALITY ADJUSTMENT SCHEDULE FOR ROADS POSTED 45 MPH OR LESS

Rideability Index	Pay Value[1]
36 or lower	+0.15
37 to 46	= 0.015 x (47 – IRI)
47 to 85	0.00
86 or higher	Corrective work or replacement required

[1] *The Department will not apply a positive pay value for corrective work other than removal and replacement to achieve the IRI.*

SUBSECTION: 501.03.13 Finishing.
PART: H) Texturing.
REVISION: Replace the third paragraph with the following:

Form transverse grooves in the concrete with a width between 0.09 inch and 0.13 inch and a depth between 0.12 inch and 0.19 inch. Space the grooves at random intervals between 0.4 inch to 1.5 inches with no more than 50 percent of the spacing being one inch or greater.

SUBSECTION: 502.03 CONSTRUCTION.
PART: D) Strength Testing and Opening to Traffic.
NUMBER: 1) Cylinders.
REVISION: Replace the first sentence with the following:

The Department will cast, cure, and test 3 sets from each 150 cubic yards of concrete.

SUBSECTION: 503.03.09 Ride Quality.
REVISION: Replace item 4) with the following:

Achieve an IRI of 63 or less for each traffic lane with no individual one-mile section having an IRI of greater than 76.

SUBSECTION: 506.03.01 Header Curb, Valley Gutter, and Curb and Gutter (Combination).
REVISION: In the second sentence of the third paragraph replace the Subsection reference 601.03.12 with 501.02.10.
In the second sentence of the sixth paragraph replace the Subsection reference 601.03.16 with 501.03.17 D).

SUBSECTION: 508.03.03 Precast Construction.
REVISION: Replace "Subsection 605.03" in the first sentence with Section 605.

SUBSECTION: 509.03 CONSTRUCTION.
REVISION: Replace "Subsection 605.03" in the first sentence with Section 605.

SUBSECTION: 601.02.13 Forms.
PART: F) Stay-In-Place Metal Forms.
NUMBER: 1) Forms and Supports.
REVISION: Replace ASTM A 446 with ASTM A 653.
Replace ASTM A 525 with ASTM A 924.

SUBSECTION: 601.03.03 Proportioning and Requirements.
PART: A) Concrete.
TABLE: INGREDIENT PROPORTIONS AND REQUIREMENTS FOR VARIOUS CLASSES OF CONCRETE
REVISION: Add the following foot note to AA Slump:

The Department may allow the slump of AA concrete to be increased up to a 6 inch maximum, provided the w/c ratio does not exceed 0.40 and a high range water reducer (Type F or G) is used. Trial Batches will be required if producer has not previously supplied.

SUBSECTION: 601.03.03 Proportioning and Requirements.
PART: A) Concrete.
TABLE: INGREDIENT PROPORTIONS AND REQUIREMENTS FOR VARIOUS CLASSES OF CONCRETE
REVISION: Replace note 11 with the following:

Compressive Strength Testing, Opening to Traffic and Acceptance Requirements for Class M1 and Class M2. Test one set of cylinders at 24 ± 0.5 hours from the time of molding, and allow the resulting average strength to dictate one of the following actions:

(a) If the average compressive strength is 3,500 psi or above, open to traffic, and test the remaining set of cylinders at an age of 7 days or 28 days.
(b) If the average compressive strength is between 3,000 and 3,500 psi, open to traffic, and test the remaining set of cylinders at 48 ± one hour.
(c) If the average compressive strength is less than 3,000 psi, protect the item as directed or approved. Test the remaining set of cylinders at 48 ± one hour.

If the average strength of the cylinders tested at 48 ± one hour is 3,500 psi or above, the Engineer will consider the concrete acceptable. If the average strength is below 3,500 psi, take 2 cores from the concrete and test at an age of 7 days. If the average strength of the cores tested at 7 days is 4,000 psi, the Engineer will consider the concrete acceptable.

When 2 consecutive first sets of cylinders or when 2 first sets out of any 4 first sets of cylinders do not reach 3,500 psi, compressive strength, the Engineer will suspend the work. Resume work when the Engineer approves the adjusted mix design.

Cast 2 sets of cylinders from the concrete used for each placement.

Cast the cylinders after tests verify that the concrete conforms to slump and air content requirements. Make and cure the cylinders according to the procedures outlined in KM 64-305. Department personnel will test the mixture and cast cylinders.

SUBSECTION: 601.03.03 Proportioning and Requirements.
PART: C) Mixtures Using Type IP, IS and I(SM) Cement or Mineral Admixtures.
NUMBER: 2) Mineral Admixtures.
REVISION: Add the following after the first sentence:

Reduction of the total cement content by a combination of any mineral admixtures will be allowed, up to a maximum of 30 percent.

SUBSECTION: 601.03.03 Proportioning and Requirements.
PART: C) Mixtures Using Type IP Cement or Mineral Admixtures.
NUMBER: 2) Mineral Admixtures.
LETTER: b) Ground Granulated Blast Furnace Slag (GGBF Slag).
REVISION: Replace the first sentence with the following:

When added as a separate ingredient, use Grade 120 GGBF or 100 GGBF slag to reduce the quantity of cement, except do not use GGBF slag to reduce the quantity of Type IS or I(SM) cement.

SUBSECTION: 601.03.04 Classes and Primary Uses.
PART: P) Non-Shrink Grout.
REVISION: Replace with the following:

Bonding and sealing for post-tensioning, tie-back rods and bolts, and box beams.

SUBSECTION:	601.03.09 Placing Concrete.
PART:	A) General.
REVISION:	Add the following to the fifth paragraph: When pumping, equip the delivery pipe with a nozzle, having a minimum of 2 right angles, at the discharge end.
SUBSECTION:	601.03.09 Placing Concrete.
PART:	D) Weather Limitations.
REVISION:	Replace the first sentence of the second paragraph with the following: Maintain the temperature of the mixture at or below 90 °F during placement. Unless the Engineer determines that safety concerns or other considerations prohibit a shutdown, cease concrete production when the mixture exceeds 90 °F until adequate methods are in place to reduce or maintain the mixture temperature.
SUBSECTION:	601.03.15 Opening to Traffic.
TABLE:	Required Time in Calendar Days Before Applying Significant Loads on Concrete Structures
REVISION:	Change the title of the seventh item to the following: Caps on Concrete Pile Bents, Open Column Abutments, and Piers
SUBSECTION:	606.02.09 Structural Steel.
REVISION:	Replace the subsection reference of “811” with “812”
SUBSECTION:	606.02 MATERIALS AND EQUIPMENT.
REVISION:	Add the following subsection: 606.02.11 Coarse Aggregate. Conform to Section 805, size 9-M.
SUBSECTION:	607.03.05 Bolted Connections Using High-Strength Steel Bolts.
PART:	B) Direct Tension Indicators.
REVISION:	Replace the first two sentences of the third paragraph with the following: Under normal conditions, install the tension indicator under the non-turned element of the fastening system. Obtain the Engineer’s permission before installing tension indicators under the turned element. If the Engineer determines that it is necessary to install the tension indicator under the turned element, install additional hardened washers according to the manufacturer’s instructions. Add the following to the end of the fourth paragraph: The fastener assembly may also need to be replaced.
SUBSECTION:	607.03.08 Planing and Finishing.
PART:	B) Flame Cutting.
REVISION:	Replace the first sentence of the second paragraph with the following: Remove roughness exceeding these values and occasional notches or gouges no more than 3/16 inch deep, on otherwise satisfactory surfaces, by machining or grinding.

SUBSECTION: 607.03.23 Cleaning and Painting.
PART: D) Preparation for Field Coatings.
REVISION: Replace the second and third paragraphs with the following:

After erection, including all bolting and remedial work, prepare the shop applied zinc coating for field applied intermediate coating as follows. Remove all grease, oil or other lubricants from all surfaces to be painted including lubricant or residuals from the surfaces of all galvanized nuts, bolts and washers by solvent cleaning according to SSPC SP 1. When dry overspray from the shop applied zinc coating exists, remove by sanding. High pressure water wash all structural steel at 4,500 to 5,000 psi. using clean potable water. As needed, use a non-sudsing, bio-degrable detergent to remove all surface contaminants not removed by high pressure water washing. Rinse all areas where a detergent and/or solvent was applied by pressure washing with clean potable water. Blast clean all surfaces sustaining damage to the shop applied zinc coating to the pictorial standards described in subsection B. Apply a field coat of approved zinc rich coating to all areas not possessing an acceptable shop applied zinc coating. Completely remove all rust, scale and other foreign material before applying the intermediate coating.

When application of the finish coat exceeds the recoat window of the intermediate coat, abrade the surface of the intermediate coat according to the coating manufacturer's recommendations before applying the finish coat.

SUBSECTION: 607.03.23 Cleaning and Painting.
PART: E) Application of Field Coatings.
REVISION: Replace the second paragraph with the following:

Apply paint only to clean and dry surfaces when the ambient air temperature is 40 °F or greater, the surface temperature of the steel members to be painted is at least 5 °F above the dew point, and the relative humidity is less than 90 percent. Do not apply paint to damp or frosted surfaces, nor during any period of rainfall.

Replace the fifth paragraph with the following:

Paint from the top of the structure toward the bottom, and proceed by sections, bays, or parts of the work, unless the Contract or Engineer directs otherwise.

SUBSECTION: 611.02.01 Concrete.
REVISION: Replace the first sentence with the following:

Conform to ASTM C 1433.

SUBSECTION: 611.03.01 Transportation and Handling.
REVISION: Replace the first sentence with the following:

Handle and store the precast units so that flexural stresses are not induced until the concrete age is 7 days or attains a compressive strength of 3,000 psi.

SUBSECTION: 611.03.02 Precast Unit Construction.
REVISION: Add the following:

4) Contrary to ASTM C 1433 Section 10.3, assure the compressive strength of the cores tested are equal to or greater than the design strength.

SUBSECTION: 611.03.07 Joints.
PART: A) Rubber Gaskets.
REVISION: Replace the title with the following:

A) Butyl Rubber Sealant.

SUBSECTION: 611.03.07 Joints.
PART: B) Flexible Plastic Gaskets.
REVISION: Replace the title with the following:

B) Rubber Gaskets.

SUBSECTION:	613.05 PAYMENT.
REVISION:	Replace 8160 Structure Excavation with the following: 2203 Structure Excavation Unclassified
SUBSECTION:	614.02.01 Paint.
REVISION:	Add the following: Furnish a paint system in which all coats are produced by the same manufacturer and use the same system throughout the entire project.
SUBSECTION:	614.03.06 Paint Application.
REVISION:	Replace the first sentence of the fourth paragraph with the following: Paint from the top of the structure toward the bottom, and proceed by sections, bays, or parts of the work, unless the Contract or Engineer directs otherwise.
SUBSECTION:	701.02.03 Joint Materials.
PART:	D) Flexible Plastic Gaskets.
REVISION:	Replace with the following: D) Butyl Rubber Sealants. Conform to Section 807.
SUBSECTION:	701.02.04 Bedding Materials.
REVISION:	Replace the first sentence with the following: Use No. 8 aggregate, No. 9 aggregate, or a fine aggregate conforming to Subsection 804.08 for bedding material.
SUBSECTION:	701.02.04 Bedding Materials.
TABLE:	A1, A2, and A3 Characteristics
REVISION:	Under A3, replace “51 max” with “51 min”
SUBSECTION:	702.03.05 Joints.
PART:	A) Reinforced Concrete Pipe.
NUMBER:	2) Rubber Gaskets.
REVISION:	Replace with the following: In addition to the requirements of Subsection 701.02, use a pipe section conforming to AASHTO M 315. Use the gasket manufacturer’s recommended cement and lubricant. Snugly fit the rubber gasket in the beveled surface of the tongue and groove ends of the sections to form a flexible seal under all conditions of service.
SUBSECTION:	701.03.05 Joints.
PART:	B) Corrugated Metal Pipe.
REVISION:	Void the Revision and replace with the following: Construct joints using a band with annular corrugations and a bolt, bar and strap connection. Use a minimum nominal band width of 12 inches for all pipe diameters 54 inches and smaller. Use a two-piece band with a minimum nominal width of 20 inches for all pipe diameters greater than 54 inches. Manufacture the band from the same base materials as the pipe. The pipe bands may be up to two gauges lighter than the pipe it is joining, with a minimum gauge thickness of 16. The Department may allow dimple band connections for field cut pipe. Install the connecting bands according to the manufacturer's written recommendations.
SUBSECTION:	703.02.09 Geotextile Fabric.
REVISION:	Replace Section reference 845 with 843.
SUBSECTION:	703.04.08 Geotextile Fabric.
REVISION:	Add the subsection: 703.04.08 Geotextile Fabric. The Department will measure the quantity according to Subsection 214.04.
SUBSECTION:	710.02 MATERIALS.
REVISION:	Add the following Subsection: 710.02.15 High Density Polyethylene (HDPE) Adjusting Rings. Conform to Section 846.

SUBSECTION: 710.03.01 Newly Constructed Small Drainage Structures.
PART: A) General.
REVISION: Replace the last sentence of the sixth paragraph with the following:

Use precast concrete, precast concrete pipe sections, cast-in-place, brick, or HDPE adjusting rings for adjustment of existing manholes according to the Standard Specifications.

SUBSECTION: 710.03.01 Newly Constructed Small Drainage Structures.
PART: B) Precast Structures Except Manholes.
REVISION: Replace the first two sentences with the following:

Only furnish products manufactured by a precast producer listed in the Department's List of Approved Materials. If the producer does not have an approved drawing for the product, submit 5 copies of shop drawings to the Engineer for review and approval.

SUBSECTION: 710.03.03 Adjusted Small Drainage Structures.
REVISION: Add the following sentence to the end of the first paragraph:

For HDPE adjusting rings, install and seal according to the manufacturer's recommendations.

SUBSECTION: 712.03.02 Type V Markers.
REVISION: Replace the first sentence of the first paragraph with the following:

Install Type V Markers in slots cut into the pavement according to the manufacturer's recommendations.

Delete the last paragraph.

SUBSECTION: 713.02.02 Drop on Glass Beads.
REVISION: Replace with the following:

Use beads that will ensure the pavement marking material will meet retroreflectivity requirements. The Department will evaluate the beads as part of the marking system through retroreflectivity readings.

SECTION: 713 PERMANENT PAVEMENT STRIPING.
REVISION: Add the following subsection:

713.03.06 Acceptance of Non-Specification Markings. If weather conditions allow, perform corrective work to bring striping retroreflectivity into conformance. If corrective work has been performed and the work meets all requirements except for minimum retroreflectivity, the Department may accept the work according to Subsection 105.04. When the Engineer determines that the markings may be left in place, the Department will accept them at a reduction in the Contract unit bid price according to the Acceptance Pay Schedule. Additionally, the Engineer may remove the striping crew for the remainder of the project according to Subsection 108.06 Part A).

The Engineer may also apply this section when corrective work cannot be performed due to weather.

Acceptance Pay Schedule – White
156 to 174 mcd/lux/square meter – 50% pay
138 to 155 mcd/lux/square meter – 25% pay
120 to 137 mcd/lux/square meter – 0% pay
< 120 mcd/lux/square meter – unacceptable

Acceptance Pay Schedule – Yellow
126 to 149 mcd/lux/square meter – 50% pay
103 to 125 mcd/lux/square meter – 25% pay
80 to 102 mcd/lux/square meter – 0% pay
< 80 mcd/lux/square meter – unacceptable

SUBSECTION:	713.03 CONSTRUCTION.
REVISION:	Replace the MUTCD references to "Part III" with "Part 3"
SUBSECTION:	714.02.03 Binder.
REVISION:	Replace the last sentence with the following: Submit the material and method of application to the Engineer and obtain written approval from the Engineer and the manufacturer of the pavement marking material before applying.
SUBSECTION:	714.02.04 Drop on Glass Beads.
REVISION:	Replace with the following: Use beads that will ensure the pavement marking material will meet retroreflectivity requirements. The Department will evaluate the beads as part of the marking system through retroreflectivity readings.
SUBSECTION:	714.03 CONSTRUCTION.
REVISION:	Replace the MUTCD references to "Part III" with "Part 3" and figure references to "3-11 and 3-12" with "3B-8 and 3B-9"
SUBSECTION:	714.03.01 Layout.
REVISION:	Replace the MUTCD reference to "Part III" with "Part 3"
SUBSECTION:	714.03.03 Application.
PART:	A) Type I Tape.
REVISION:	Add the following: When applied to concrete, cut the tape at all joints.
SUBSECTION:	714.03.04 Restrictions.
REVISION:	Replace the first paragraph with the following: Do not apply the pavement marking material when air and pavement temperatures are below 50 °F. Delete the third paragraph.
SUBSECTION:	714.03.06 Proving Period for Durable Markings.
PART:	A) Requirements.
NUMBER:	1) Type I Tape.
REVISION:	Add the following: 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 sign 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.
SUBSECTION:	714.03.06 Proving Period for Durable Markings.
PART:	A) Requirements.
NUMBER:	2) Thermoplastic.
REVISION:	Replace the first sentence of the second paragraph with the following: The minimum retroreflectivity requirements at the end of the proving period, as measured with a LTL 2000, LTL 2000Y, or Department approved 30M geometry mobile instrument are as follows: Replace the first sentence of the third paragraph with the following: The Department will take these measurements between 150 and 210 days after the start of the proving period, basing acceptance on KM 202 for LTL 2000 readings and KM 203 for mobile readings.
SUBSECTION:	714.05 PAYMENT.
REVISION:	Replace with the following: The Department will make payment upon completion of the work. If after the proving period the markings do not meet minimum retroreflectivity requirements, the Department will adjust the payment or require corrective work according to the following:

SUBSECTION:	717.02.04 Drop on Glass Beads.
REVISION:	Replace with the following: Use beads that will ensure the pavement marking material will meet retroreflectivity requirements. The Department will evaluate the beads as part of the marking system through retroreflectivity readings.
SECTION:	804.03 Concrete.
REVISION:	Replace the last sentence with the following: The Department will waive the requirements for gradation, sand equivalent, and uncompacted voids for concrete pipe.
SUBSECTION:	804.04.04 Requirements for Combined Aggregates.
PART:	B) Sand Equivalent.
REVISION:	Replace the third paragraph with the following: The Department may waive the sand equivalent requirement provided the portion of the combined aggregate passing the No. 40 sieve is non-plastic according to AASHTO T 90.
SUBSECTION:	804.04.04 Requirements for Combined Aggregates KM.
TABLE:	Superpave Fine Aggregate Consensus Property Requirements.
REVISION:	For ESAL Class 1, Replace both dashes with 40.
SUBSECTION:	805.03.01 Soundness and Shale.
PART:	AGGREGATE USE/Portland Cement Concrete Mixtures.
REVISION:	Replace the title use "Class AA, Class S and Bridge Deck Overlays" with "Aggregate for Bridge Decks, Bridge Deck Overlays, and Bridge Barrier Walls"
SECTION:	805 COARSE AGGREGATES.
TABLE:	Sizes of Coarse Aggregates.
REVISION:	Replace KM 64-420 in footnote (1) with KM 64-620.
SECTION:	805 COARSE AGGREGATES.
TABLE:	Aggregates Size Use.
REVISION:	For Cement Concrete Structures and Incidental Construction add 9-M for Overlays to the sizes to be used column.
SUBSECTION:	805.03.03 Gradation.
REVISION:	Replace the last sentence with the following: The Department will allow blending of same source/same type aggregate to achieve designated sizes when precise procedures are used such as cold feeds, belts, weigh hoppers, or equivalent.
SUBSECTION:	805.03.04 Erodible or Unstable Material.
REVISION:	Add the subsection: 805.03.04 Erodible or Unstable Material. Treat as applicable. The Department considers Size No. 57 or larger aggregate, except crushed or uncrushed gravel, non-erodible. The Department considers the following materials to be erodible or unstable: 1) Friable sandstone. The Engineer determines when sandstone is friable or non-friable. 2) Crushed or uncrushed gravel, any size. 3) Crushed coarse aggregate smaller than Size No. 57. 4) Any material with 50 percent or more passing the No. 4 sieve.
SUBSECTION:	805.04 CONCRETE.
REVISION:	Replace the second paragraph with the following: The Department will waive the requirements for gradation and finer than No. 200 for concrete pipe.
SUBSECTION:	805.10 GRANULAR EMBANKMENT.
REVISION:	Replace "2 ½-inch" with "12-inch".
SUBSECTION:	805.10 GRANULAR EMBANKMENT.
PART:	1)
REVISION:	Replace with the following: 1) Engineer approved shot limestone or sandstone from roadway excavation, borrow excavation, or another approved source.

SUBSECTION: 805.11 STRUCTURE GRANULAR BACKFILL.
REVISION: Replace with the following:

Provide crushed or uncrushed aggregate meeting the quality requirements of this section. When the material includes a significant amount of individual fragments greater than 1 ½ inches, the Engineer may visually accept the minus No. 200 portion. Conform to the following gradation:

Sieve Size	Percent Passing
4 inch	100
No. 4	0-10
No. 200	0-5

SUBSECTION: 805.13.03 Channel Lining, Class IA.
REVISION: Replace the first sentence with the following:

Provide crushed stone meeting the general requirements of this section.

SUBSECTION: 805.13.04 Channel Lining, Class II.
REVISION: Replace the first sentence with the following:

Provide crushed stone meeting the general requirements of this section.

SUBSECTION: 805.15 GRADATION ACCEPTANCE OF NON-SPECIFICATION COARSE AGGREGATE.
TABLE: GRADATION – COARSE AGGREGATES FOR UNDERDRAINS
REVISION: Replace "No. 200" sieve with "No. 100".

SUBSECTION: 810.03.04 Extra Protection
REVISION: Replace "mm" in the second sentence of the second paragraph with "inches".

SECTION: 810.03 REINFORCED CONCRETE PIPE.
REVISION: Add new subsection:

810.03.07 Concrete. Submit Concrete Mix Design to the Central Office Materials.

SECTION: 812.01.01 Structural Steel, All Types.
REVISION: Replace second sentence with the following:

When the supplementary requirement of this specification are specified, they exceed the requirements of ASTM A 36, A 514, A 572, A 588, and ASTM A 852.

SUBSECTION: 812.01.01 Structural Steel, All Types.
PART: A) Structural Steel.
REVISION: Delete AASHTO M 183.

SUBSECTION: 812.01.01 Structural Steel, All Types.
PART: B) High-Strength Low-Alloy Columbium-Vandium Steels of Structural Quality.
REVISION: Delete AASHTO M 223.

SUBSECTION: 812.01.01 Structural Steel, All Types.
PART: C) High-Strength Low-Alloy Structural Steel with 345 Mpa Minimum Yield Point to 4 Inches Thick.
REVISION: Delete AASHTO M 222.

SUBSECTION: 812.01.01 Structural Steel, All Types.
PART: E) High-Yield-Strength, Quenched and Tempered Alloy Steel Plate, Suitable for Welding.
REVISION: Delete AASHTO M 244.

SECTION: 813.08.05 Aluminum Alloy Rolled or Extruded Shapes.
REVISION: Replace "T-4 AND T6" with "T6".

SUBSECTION: 813.09.02 High-Strength Steel Bolts, Nuts, and Washers.
PART: A) Bolts.
REVISION:

HARDNESS NUMBER				
Bolt Size	Brinell		Rockwell C	
(in)	Min	Max	Min	Max
½ - 1	253	319	25	34

SUBSECTION: 813.13 MATTRESSES AND GABIONS.
REVISION: Replace the first sentence of the first paragraph with the following:

Conform to ASTM A 975, Style 1 or ASTM A 974, Style 1 or 2.

SUBSECTION: 814.04.01 Steel Guardrail Posts.
REVISION: Replace AASHTO M 183 in the first sentence with ASTM A 36.

SUBSECTION: 814.05.02 Composite Plastic.
REVISION: Add the following sentence to the first paragraph:

Rubber is an acceptable alternate to plastic in their composition.

SUBSECTION: 814.06 MATERIALS FOR END TREATMENTS.
PART: D) Steel Sheet (for rail plates and mounting brackets).
REVISION: Replace 570, Grade D with the 1011, Type SS, Grade 36.

SUBSECTION: 816.02 GENERAL.
REVISION: Replace ASTM D 2521 with ASTM A 239.

SUBSECTION: 816.02.02 Aluminum-Coated Steel.
REVISION: Replace 0.01 with 0.099.

SUBSECTION: 819.01.01 Steel Plates.
REVISION: Replace "Paragraph 14" in the second sentence of the second paragraph with "Table 6".

SUBSECTION: 821.03 SAMPLING AND TESTING.
REVISION: In the third sentence of the first paragraph, replace calendar days with working days.

SUBSECTION: 827.04 PERMANENT SEED.
REVISION: Replace with the following:

Conform to the requirements outlined in the "Kentucky Seed Law and Provisions for Seed Certification in Kentucky" and the "Regulations under the Kentucky Seed Law", with following exceptions:

1. Obtain seed only through registered dealers that are permitted for labeling of seed.
2. Ensure all deliveries/shipments of premixed seed are accompanied with a master blend sheet.
3. The Department may sample the seed at the job site at any time.
4. Ensure all bags and containers have an acceptable seed tag attached.

Do not use seed (grasses, native grasses and legumes) if the weed seed is over 2%, total germination (including hard seed) is less than 60%, if the seed test date is over 9 months old exclusive of the month tested, or if the limits of noxious weed seed is exceeded.

Ensure that noxious weed seeds contained in any seed or seed mixture does not exceed the maximum permitted rate of occurrence per pound.

Name of Kind	Max. No. Seeds (per pound)*
Balloon Vine (Cardiospermum Halicacabum)	0
Purple Moonflower (Ipomoea turbinata)	0
Canada Thistle (Cirsium Arvense)	0
Johnsongrass (Sorghum Halepense and Sorghum Almum and perennial rhizomatous derivatives of these species)	0
Quackgrass (Elytrigia Repens)	0
Annual Bluegrass (Poa Annua)	256
Buckhorn Plantain (Plantago Ianceolata)	304
Corncockle (Agrostemma Githago)	192
Dodder (Cuscuta spp.)	192
Giant Foxtail (Setaria Faberii)	192
Oxeye Daisy (Chrysanthemum Ieucanthemum)	256
Sorrel (Rumex Acetosella)	256
Wild Onion and Wild Garlic (Allium spp.)	96

* Seed or seed mixtures that contain in excess of 480 total noxious seeds per pound is prohibited

Wildflower seed shall not be planted until approved by the MCL.

SUBSECTION: 832.02 TYPE I POSTS.
REVISION: Replace ASTM A 570 with ASTM A 1011.

SECTION: 840 RAISED PAVEMENT MARKERS
REVISION: Replace the section with the following:

840.01 TYPE IV MARKERS. Provide markers from the Department's List of Approved Materials. Type IV markers are replacement lenses for use in Type V marker castings.

840.02 TYPE V MARKERS. Provide markers from the Department's List of Approved Materials. Type V markers consist of an iron casting with a Type IV marker (mono or bi-directional) attached.

840.03 TYPE IVA MARKERS. Provide markers from the Department's List of Approved Materials. Type IVA markers are surface mounted lenses for temporary use in work zones.

840.04 SAMPLING. Obtain a manufacturer's certification for each shipment. Include with each shipment of adhesive a written statement from the manufacturer certifying that it conforms to the recommendations of the marker manufacturer, and stating the minimum temperature the adhesive can be satisfactorily mixed and applied.

840.05 PACKAGING. Suitably and substantially package all materials with the name and address of the manufacturer and vendor, contract or purchase number, kind of material, trade name, and net contents plainly marked on each package.

SUBSECTION: 843.01.01 Geotextile Fabric.
REVISION: Add the following sentence to the first paragraph:

Use circular-knit geotextile conforming to ASTM D 6707 for perforated pipe socks.

Add the following sentence to the third paragraph:

The manufacturer must participate in the National Transportation Product Evaluation Program (NTEP) for Geotextiles and Geosynthetics.

SUBSECTION: 843.01.01 Geotextile Fabric.
PART: C) Acceptance.
REVISION: Delete the burst strength requirement from each table.

SUBSECTION: 845.02.03 Wrapping.
REVISION: Replace Section 845 with Section 843, Type II.

SECTION: 846 HIGH DENSITY POLYETHYLENE (HDPE) ADJUSTING RINGS
REVISION: Add New Section:

846.01 RESIN. Use a recycled polyethylene plastic or virgin resin producing a molded part meeting the following requirements:

Melt Flow Index (ASTM D 1238)	4.0-10.0 g/10min
Density (ASTM D 792)	0.941-0.965 g/cm^3
Tensile (ASTM D 638)	2000-5000 lb/in^2
ESCR (ASTM D 1693)	Condition C

846.02 LOADING. Ensure the adjustment rings meet or exceed the loading requirements of AASHTO'S Standard Specification for HS-25 wheel loading for Highway Bridges.