

CERTIFICATION

I hereby certify the attached supplemental specifications effective on February 18, 2011.

/S/

Ronald J. Henke, P.E., Director
Office of Project Development

Date: 14 December
2010



This document was originally issued and sealed by Ronald Jason Henke, Registration number PE-4963 on 12/14/10 and the original is stored at the North Dakota Department of Transportation.

**NORTH DAKOTA DEPARTMENT OF TRANSPORTATION
SUPPLEMENTAL SPECIFICATIONS**

Effective Date: 02/18/2011

The following specifications are supplementary to the 2008 Edition of the *Standard Specifications for Road and Bridge Construction* as they apply to this Contract.

100 TABLE OF CONTENTS	PAGE 3	3/26/10
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Delete the title of Section 106.09 "Buy American Products" in its entirety and insert "Buy America Products".

104.06 B SUBMISSION OF THE CLAIM	PAGE 34	10/15/10
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Delete the first paragraph in Section 104.06 B.2.d.1 in its entirety and insert the following:

- (1) Owned Equipment.** Payment for the actual hours of Contractor-owned equipment will be 70 percent of the Ownership costs as determined using the procedures outlined in Section 109.04.

Delete the first paragraph in Section 104.06 B.2.d.3 in its entirety and insert the following:

Operating Costs. Equipment operating costs will be the equipment operating costs as determined using the procedures outlined in Section 109.04

104.06 B SUBMISSION OF THE CLAIM	PAGE 35	4/17/09
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In the first sentence of the first paragraph of Section 104.06 B.2.d.1 delete the word "base" in its entirety and insert the word "bare".

104.06 B SUBMISSION OF THE CLAIM	PAGE 36	4/17/09
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In Section 104.06 B.3 delete the following phrase in its entirety "that the claim for extra compensation and time, if any, made herein for work on this Contract is a true statement of the actual costs incurred and time sought and is fully documented and supported under the Contract be" and insert the following:

that the claim for extra compensation and time, if any, made herein for work on this Contract is a true statement of the actual costs incurred and time sought and is fully documented and supported under the Contract between the parties.

105.02 CONTRACTOR REQUIREMENTS	PAGE 39	2/20/09
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In Section 105.02 delete the first paragraph in its entirety and insert the following:

The Contractor shall have one set of approved Plans and Proposal Forms including Special Provisions at the work site at all times.

In Section 105.02 delete the third paragraph in its entirety and insert the following:

The Contractor shall designate in writing before starting work, a competent Superintendent who shall have the authority to represent and act for the Contractor. The Superintendent shall be a responsible employee of the Prime Contractor. When work is underway, including work by a Subcontractor, the Contractor shall ensure the Superintendent is present at the worksite unless otherwise agreed to by the Engineer.

The Superintendent shall be capable of reading and understanding the Contract Documents and fully authorized to:

- A. Conduct all business with the Subcontractors.
- B. Execute the orders and directions of the Engineer without delay.
- C. Promptly supply the materials, equipment, tools, labor, and incidentals necessary for prosecution of the work.
- D. Represent the Contractor at weekly meetings when required in the Contract Documents.

The Contractor shall notify the Engineer promptly in writing when replacing the Superintendent.

105.08 B WORK DRAWINGS SUBMITTED BY THE CONTRACTOR

Delete Section 105.08 B in its entirety and insert the following:

- B. Work Drawings Submitted by the Contractor.** Work drawings, necessary to complete the work, which are supplied by the Contractor shall be submitted to the Engineer prior to the performance of the work. The drawings shall be submitted on sheets no larger than 11 inches by 17 inches unless otherwise allowed by a work item specification.

Each sheet of the work drawings submitted shall be stamped as approved by the Contractor performing the work. At a minimum, the stamp will include the signature and title of the person approving the work drawing and the date of the approval.

The Engineer will review the work drawings as indicated in the plans, proposal, specifications, or other Contract documents. Any submittal and review of work drawings by the Engineer shall not constitute approval of nor acceptance of items represented by such drawings and shall not relieve the Contractor of any responsibility under the Contract. Such responsibility includes, but is not limited to:

1. Successful completion of the work.
2. Errors, omissions, or deviations from the Contract requirements.
3. Accuracy of dimensions and details.
4. Agreement and conformity with the Contract.
5. Proper and safe design done by the Contractor.
6. Proper and safe construction of the work.

In addition to any time requirements which may be specified for a work item, the Contractor shall allow sufficient time for the Engineer to review and comment on the submittal, and the Contractor to respond to the comments, prior to performance of the work. The Contractor shall not change any requirements as shown in the Contract documents without the Engineer's written authorization. A cover letter to be included with each work drawing submittal shall include, at a minimum:

1. The Project Number.
2. Structure Number, if applicable
3. The Prime Contractor name.
4. The Subcontractor name, if applicable.
5. Verification that the work drawings have been reviewed and approved by the Contractor performing the work.
6. The items of work covered in the work drawing. Each item shall be identified by the Specification, code, and description.
7. An itemized list of any deviations from the Contract documents.
8. Any other information as required by the Engineer.

The Contract price will include the cost of furnishing all required work drawings.

The Contractor may submit work drawings by either of the following methods:

a. Paper Submission. Submit cover letter and two copies of work drawings to the Engineer.

b. Electronic Submission. Submit cover letter and one electronic copy of work drawing to the Engineer. All submissions shall follow the requirements of NDAC Title 28. The documents shall be posted to the NDDOT File Transfer Protocol (FTP) website.

- Work drawings shall be submitted in a PDF file format.
- Work drawings shall be submitted on sheets no larger than 11 inches by 17 inches unless otherwise allowed by specification.
- Work drawings shall use the naming convention of: Project Number_Name of Work Drawing.pdf.

Contractor instructions for posting and retrieving files on the FTP Site are as follows:

Step 1: Go to the following website;

<ftp://ftp.state.nd.us/public/work%20drawings/>

Step 2: Contact the Engineer for user name and password.

Step 3: When the “Log On As” box appears, enter user name and password.

Step 4: Click the “Log On” button.

Step 5: Place the work drawing file(s) in the appropriate folder. There is a folder for each month. Work drawings shall be placed in the folder month that corresponds with the date the work drawing is submitted.

Step 6: After uploading work drawings to the FTP Site, notify the Engineer by email that work drawings are on the FTP site.

After the work drawings have been reviewed, the reviewed work drawings will be placed on the FTP Site and an email notification will be sent to the Contractor.

The Contractor shall retrieve the returned work drawings from the FTP Site within 30 days. Files will be deleted from the FTP site after 30 days.

106.02 E AGGREGATE SOURCE LIMITATIONS

PAGE 51

3/26/10

In the second sentence of the fourth paragraph in Section 106.02 E delete the webpage address in its entirety and insert the following:

“<http://www.ndhealth.gov/EHS/Erionite/InformationForContractors.htm>”

107.02 PERMITS, LICENSES, AND TAXES

PAGE 55

11/20/09

Insert the following as Section 107.02 C:

C. Storm Water Permits

- 1. Authorization to Discharge Under the North Dakota Pollutant Discharge Elimination System (NDPDES).** A Project that requires the Contractor to obtain an NDPDES Permit from the North Dakota Department of Health (NDDOH) as defined in Section 110.04. An application package detailing the steps necessary to obtain the permit, all necessary forms, and the requirements which need to be met to satisfy the permit may be acquired by contacting the NDDOH at:

North Dakota Department of Health
Division of Water Quality
918 East Divide Avenue
Bismarck, ND 58501-1947

Telephone: 701-328-5210

The general permit, forms, and requirements contained in the package are also available on the worldwide web at:

www.ndhealth.gov/WQ/Storm/StormWaterHome.htm

It is mandatory that the Contractor fulfill all requirements as directed by the NDDOH. The Contractor will furnish a copy of the completed application package and, once obtained, the notice of permit coverage to the Engineer.

If, upon written final acceptance of the Project by the Department, the Project area has not met the requirements necessary to file a Notice of Termination in accordance with Notice of Termination Section of the Permit, the Contractor will fulfill the requirements outlined in the Transfer of Ownership or Control Section of the Permit.

- 2. General Permit for Storm Water Discharges from Construction Activities (CGP).** A Project that requires the Contractor to obtain a permit from the Environmental Protection Agency (EPA), Region 8 as defined in Section 110.04. An application package detailing the steps necessary to obtain the permit, all necessary forms, and the requirements which need to be met to satisfy the permit may be acquired by contacting the EPA, Region 8 at:

Region 8 Storm Water Coordinator
U.S. Environmental Protection Agency, (80C-EISC)
1595 Wynkoop Street
Denver, CO 80202-21129

Telephone: 1-800-227-8917 ext. 6082

The forms and requirements outlined in the package are also available on the worldwide web at:

www.epa.gov/region8/water/stormwater/construction.html#applying

It is mandatory that the Contractor fulfill all requirements as directed by the EPA, Region 8. The Contractor will furnish a copy of the completed application package and, once obtained, the notice of permit coverage to the Engineer.

If, upon written final acceptance of the project by the Department, the Project area has not met the requirements necessary to file a NOT in accordance with Section V.5, "Termination of Coverage" of the Permit, the contractor will fulfill the requirements outlined in Section VI.3, "Reporting Requirements – Permit Transfers" of the Permit.

**107.04 ENVIRONMENTAL PROTECTION AND CULTURAL
RESOURCE PRESERVATION RESPONSIBILITIES**

PAGE 56

10/16/09

Delete Section 107.04 in its entirety and insert the following:

A. General

Department-Owned/Optioned Areas, or Contractor-Optioned Areas includes but is not limited to material source locations (aggregate, borrow, rip-rap), haul roads/cartways, stockpile locations, plant sites, processing and staging areas, and waste sites. Cultural and Environmental reviews will be conducted and upon satisfactory completion a Certificate of Approval (COA) will be issued and posted to the website. All conditions listed on the COA for an area must be followed.

- 1. Department-Owned or Optioned Areas.** Department-Owned or Optioned Areas are defined as any location, identified in the plans, which may be utilized by the Contractor. All COA's will be posted to the website and included in the bidder's proposal unless otherwise stated in the plans. COA's do not need to be reprinted at the time of construction for an area that is included in the plans or bidders proposal.
- 2. Contractor-Optioned Areas.** Contractor-Optioned Areas are defined as any location, not identified in the plans, which may be utilized by the Contractor. Prior to utilizing a Contractor-Optioned Area, the Contractor shall provide the Engineer with a COA for each Contractor-Optioned Area.
 - a.** COA for all approved locations can be found at <http://www.dot.nd.gov/>. A COA will state the current year of approval.
 - b.** If a site has not been previously approved the Contractor shall submit, at least 30 days prior to utilizing a site, a completed SFN 58466 and map that clearly identifies all proposed Contractor-Optioned Areas. Requests shall be submitted electronically at materialsource@nd.gov or mailed to the Department's Environmental and Transportation Services Division for review. Upon completion of the review process the Contractor will be notified of the findings from the Department. If any additional information is required, the Contractor-Optioned Areas may not be utilized until a COA has been issued by the Department. The completion of the review process may take longer than 30 days; surveys cannot be completed during adverse weather conditions or poor visibility and may require consultation with resource agencies.

- B. Material Source Approval Process.** The Contractor is responsible for all costs associated with Section 106 (NHPA) compliance, including Class III cultural resource inventory, testing, and data recovery for Contractor Optioned Areas. The Contractor will not receive payments or compensation for delays resulting from the Department review. Discoveries will be handled in accordance to Section 107.04.D.

If cultural resource work is recommended for a proposed Department-Owned/Optioned and/or Contractor-Optioned Area that is located on Indian Trust (allotted) lands, an Archaeological Resources Protection Act (ARPA) permit must be obtained from the Bureau of Indian Affairs (BIA) prior to this work beginning. The Contractor shall obtain written permission from the property owners and the tribe before the BIA will issue the ARPA permit. The Department will not be responsible for, nor participate in, costs that are incurred or claimed by the Contractor resulting from delays or other inconvenience encountered in obtaining the permit.

The Department's review and subsequent independent completion of the Section 106 (NHPA) process will not relieve the Contractor of the responsibility of complying with all Federal and State laws and regulations which govern the discovery of human remains and the salvage and preservation of cultural resources that are discovered during material source operations.

- C. Out of State Sources.** If the Contractor-Optioned Area is located out of state, the Contractor must provide the Department documentation showing the Contractor-Optioned Area is available for use according to each state's review process when submitting the Contractor-Optioned Area for approval. The Contractor-Optioned Area may not be utilized until a COA has been issued by the Department.

- D. Discoveries.** When the Contractor is operating within the Right of Way, easement areas, or within Department-Owned/Optioned and/or Contractor-Optioned Area and encounters a threatened or endangered species at the project site, work at that location shall be temporarily discontinued. The Contractor shall report the sighting immediately to the Engineer and shall not resume work until the Department obtains clearance from the U.S. Fish and Wildlife Service and approval to proceed is provided in writing from the Department.

If the Contractor encounters prehistoric dwelling sites, human remains, or concentrated historic or prehistoric artifacts, work at that location shall be temporarily discontinued. The Contractor shall inform the Engineer immediately of the discovery and shall protect the discovery area from further disturbance until directed otherwise by the Engineer. The Contractor shall not resume work in the vicinity of the discovery until approval to proceed is provided in writing from the Department.

If cultural resources are discovered, procedures identified in 36 CFR 800.13 will be followed. If the discovery includes human remains, the procedures in North Dakota Administrative Rule 40-02 in accordance with State Law 23-06-27, or 43 CFR Part 10 in accordance with Public Law 101601 will be followed, as applicable and defined in each.

In both instances, should the contractor fail to notify the Engineer within 24 hours of the sighting or discovery, the Contractor shall be liable for all standby costs, all damage incurred, and all costs associated with the preservation and protection of the species pursuant to the resource and regulatory agencies guidance or with salvage and preservation activities that may result from the discovery. In addition, the Contractor is liable to the Department for any violation penalties because of the failure to comply with Federal and State laws.

- E. Reporting.** The Contractor is responsible for complying with all reporting requirements contained in the regulatory permit(s). Documentation of all reporting pursuant to the conditions of the permit(s) shall be submitted to the Engineer.

In last sentence of the third paragraph in Section 107.05 B.1 delete the first repeated word "the" in its entirety.

107 LEGAL RELATIONS AND RESPONSIBILITIES**PAGE 69****2/20/09**

Insert the following Section after Section 107.10:

107.11 HIGH VISIBILITY CLOTHING

When not enclosed in a truck or equipment cab all workers within the Right of Way must wear retro reflective clothing that meets the most current ANSI/ISEA 107 Performance Class 2 or Class 3 requirements.

Retro reflective clothing shall be the outermost garment worn, in a clean condition, and closed in both front and rear. Open vests will not be allowed. Retro reflective clothing shall be replaced as necessary to maintain visibility and reflectivity.

108.01 C CRITICAL PATH METHOD (CPM) SCHEDULE**PAGE 70****10/16/09****2/19/10****3/26/10**

Delete Section 108.01 C in its entirety and insert the following:

C. Critical Path Method (CPM) Schedule. When specified, and within the required time frames, a Critical Path Method (CPM) schedule in the specified form shall be submitted. The schedule will be used for coordination, monitoring, and payment of all work under the Contract including all activity of Subcontractors, vendors, and suppliers.

1. The construction of this Project will be planned and recorded with a conventional (CPM) schedule in the form of an activity on arrow diagram or an activity on node diagram. The Contractor shall use *Primavera Project Planner (P3) version 6.1* for Windows to develop and maintain the CPM schedule. This schedule shall be prepared by the Contractor to develop a sequential order of work activities and to determine how rapidly these activities should be prosecuted in order for the Contractor to complete the Project on time. The owner's review and acceptance of the Contractor's Project Schedule is for conformance to the requirements of the Contract documents only. Review and acceptance by the owner of the Contractor's Project Schedule does not relieve the Contractor of any of its responsibility whatsoever for the accuracy or feasibility of the Project Schedule, or of the Contractor's ability to meet the interim project milestone dates and the Contract completion date, nor does such review and acceptance expressly or impliedly warrant, acknowledge or admit the reasonableness of the logic, durations, manpower, or equipment loading of the Contractor's schedule.
2. Within 15 calendar days after start of work, the Contractor shall submit a CPM schedule for the entire project that meets all requirements set forth in paragraph 3 below. The construction time for the entire Project or any milestone, shall not exceed the specified Contract time.

Milestone date or Contract completion date shall not be exceeded in the initial CPM schedule, logic, and/or time estimates.

If a CPM schedule is required to be resubmitted, the Contractor shall resubmit the CPM schedule within 5 calendar days.

3. **CPM Schedule Requirements:** The CPM schedule shall be in the form of an activity on arrow diagram, an activity on node diagram, or approved equal. All diagrams shall include; activity nodes, activity descriptions, activity durations, activity start and finish dates, and float. The diagram shall show the sequence and interdependence of all activities required for complete performance of all items of work under this Contract, including work drawing submittal and approvals and fabrication and delivery activities. All relationships shall be finish to start, finish to finish, start to finish, or start to start. All network “dummies” are to be shown on the diagram. Only one critical path shall be shown on the diagram.

No activity duration shall be longer than 15 working days without the Engineer’s approval. The Engineer reserves the right to limit the number of activities on the CPM schedule.

The activities are to be described so that the work is readily identifiable and the progress of each activity can be readily measured. For each activity, the Contractor shall identify the entity performing the work, the duration of the activity in working days, the manpower involved, the equipment involved, and the location of the work.

Any diagram submitted by the Contractor shall be electronically created. The network must be legible and self explanatory. Network diagrams will be on appropriate sized sheets of paper clearly showing all diagram details.

The initial CPM schedule, resubmittals, and all updates, the Contractor shall provide the following:

- a. Sorts by:
 - (1) I-J (Beginning & Ending node no.) or Activity ID
 - (2) Total Float
 - (3) Early Start
- b. A narrative including the following:
 - (1) The progress to date on the Project.
 - (2) A description of each active critical path activity which includes the following:
 - (a) Time expired of the activity duration.
 - (b) An estimate of percent complete.
 - (c) The method by which an activity that is behind schedule will be returned to the original schedule. The method shall be in terms of construction method, equipment, manpower, or hours.
 - (3) A description of the work required up to the next update.
 - (4) Any inputs that differ from the original CPM schedule such as: the work days per week, holidays, number of shifts per day, number of hours per shift, and major equipment used.
 - (5) Detail explanation of all changes to the CPM schedule.
- c. Three copies of each of the above.

- d. An electronic copy of the schedule file on a standard compact disc.
4. **Schedule Updates:** An updated CPM schedule shall be submitted every 14 calendar days from the date the initial CPM is due or from the date any work activity begins on the project, whichever is later. Job site progress meetings will be held every week by the Contractor and the Engineer for the purpose of reviewing the CPM schedule. Progress will be reviewed to verify the dates activities were completed, remaining duration of uncompleted activities, and any proposed logic and/or time estimate revisions.

The Contractor shall revise CPM diagrams for any one of the following:

- a. Delay in completion of any critical activity.
- b. Actual prosecution of the work which is different than that represented on the schedule.
- c. The addition, deletion, or revision of activities.

The CPM revision shall be due within two weeks of any of the above such occurrences.

A Contract modification or delay may result in absorbing a part of the available total float that may exist within an activity chain on the network, thereby not causing any effect on any interim milestone date or the Contract Completion Time.

It is understood by the Engineer and the Contractor that float is a shared commodity. Total float is defined as the amount of time between the early start date and the late start date, or the early finish date and the late finish date, for each and every activity in the schedule. Float is not for the exclusive use or benefit of either the owner or the Contractor. Extensions of time to interim milestone dates or the Contract Completion Time under the Contract will be granted only to the extent that the equitable time adjustments to the activity or activities affected by the Contract modification or delay exceeds the total float of the affected activity or subsequent paths and extends any interim milestone date of the Contract Completion Time.

Activity delays shall not automatically mean that an extension of the Contract Completion Time is warranted or due the Contractor. A Contract modification or delay may not affect existing critical activities or cause non-critical activities to become critical.

The principles involved and terms used in this Section are as set forth in the Associated General Contractors of America publications, "The Use of CPM in Construction, A Manual for General Contractors and the Construction Industry," latest edition, and "Construction Planning and Scheduling," latest edition.

- 5. **Method of Measurement:** The unit of measure for the CPM schedule, including all required revisions, shall be "Lump Sum."
- 6. **Basis of Payment:** Payment will be made at the Contract Unit Price for the following:

Pay Item	Pay Unit
Critical Path Method Schedule	Lump Sum

The Contractor will receive 20 percent of the Lump Sum price bid when the initial CPM schedule is accepted as meeting the requirements of this specification, and will receive prorated payments for the remainder of the bid price, based on the number of bimonthly payments anticipated during the Contract. The prorated payments may be adjusted to compensate for any approved adjustments to the completion date.

Failure to submit a CPM schedule that meets the Contract requirements within 60 days after the Contract execution will result in withholding all or any part of the Contract payments until the CPM schedule is finalized.

Failure to submit a CPM schedule update to the Engineer within two calendar days of its due date, will result in a Contract Unit Price Adjustment. The adjustment will be a 10 percent deduct of the CPM Schedule bid item for each update that is late. Failure to submit a revised CPM schedule as specified may also result in withholding all future Contract payments until the revised schedule is submitted. The revisions shall include all activities.

Payment will be full compensation for the CPM schedule, diagrams, updates, and progress meetings as necessary to complete the work.

108.04 G REQUEST FOR ADDITIONAL TIME

PAGE 75

7/17/09

In Section 108.04 G in the fifth sentence delete the duplicate word “the” in its entirety.

108.04 J FAILURE TO COMPLETE ON TIME

PAGE 76

10/16/09

In Section 108.04 J delete the Schedule of Liquidated Damages Table following the first paragraph in its entirety and insert the following:

Original Contract Over - To & Including	Amount Liquidated Damages	
	Calendar Day	Working Day
\$0 - \$50,000	\$250	\$300
\$50,000 - \$100,000	\$400	\$500
\$100,000 - \$250,000	\$700	\$800
\$250,000 - \$500,000	\$900	\$1,100
\$500,000 - \$1,000,000	\$1,100	\$1,400
\$1,000,000 - \$2,000,000	\$1,300	\$1,700
\$2,000,000 - \$3,000,000	\$1,600	\$2,000
\$3,000,000 - \$5,000,000	\$1,900	\$2,300
\$5,000,000 - \$8,000,000	\$2,200	\$2,800
\$8,000,000 - Up	\$2,500	\$3,300

109.01 MEASUREMENT OF QUANTITIES

PAGE 79

10/15/10

Delete Section 109.01 M in its entirety and insert the following:

M. Payment for equipment rental will be made according to rates and instructions listed in Section 109.04.

109.04 C EQUIPMENT

PAGE 83

10/15/10

Delete Section 109.04 C in its entirety and insert the following:

C. **Equipment.** Payment for use of authorized equipment and additional traffic control devices required by the Force Account work will be based on rental rates determined according to the "Rental Rate Blue Book" published by the Equipment Watch section of Penton Media, Inc. Rates will be determined using this method for both rented equipment and owner operated equipment. Rates determined shall be agreed to in writing on the standard agreement form furnished by the Department. No percentage will be added to these rates. The equipment rental rates will be calculated as follows:

$$\text{Hourly Equipment Rental Rate} = \frac{\text{Monthly Ownership Costs} \times \text{Regional Adjustment Factors}}{176} + \text{Operating Costs}$$

1. Attachments and Accessories. Except as otherwise noted in the "Rental Rate Blue Book", no additional payment (over the rate established for the basic machine) will be allowed for power control units, accessories required to comply with OSHA regulations, and other attachments or accessories required for normal operation of the equipment.
2. Equipment may be ordered to stand-by for the convenience of the State. Payment for approved stand-by time will be made at the rate of 50 percent of the ownership costs, not to exceed 8 hours per day nor 40 hours per week.
3. When equipment is required for Force Account work is not available at the site, "move-in" and "move-out" charges will be allowed for the cost of delivering the equipment to the site if the work and returning it to its original location, subject to the following provisions:
 - a. The original location of the equipment shall be agreed to by the Engineer in advance of "move-in". If the Contractor elects to keep the equipment on the project for use other than the Force Account work, no "move-out" charges will be allowed. If the Contractor elects to return the equipment to a site other than the original location, actual "move-out" charges are allowed, but not to exceed "move-in" costs.
 - b. Transportation charges for equipment hauled by the Contractor will generally be based on the established hourly rates for the transporting equipment and labor, but not to exceed the cost for which the equipment can be transported by established haulers. If an established hauler is used to mobilize equipment, payment will be made on invoice. During transport, a rental rate not exceeding 50 percent of the Ownership costs as determined from the Blue Book, will be allowed on the equipment being transported. Transportation charges will include loading and unloading.
 - c. If the operator of the equipment is moved onto the project with the equipment and is on the project only for the duration of the Force Account work, the operator's salary for mobilization will be included in the Force Account payment upon proof of payment by the Contractor.

In Section 109.05 A delete the third paragraph in its entirety and insert the following:

109.05 A PARTIAL PAYMENT.

From the total amounts payable, 2 percent of the whole will be deducted and retained by the Department. The balance of 98 percent, less all previous payments, will be certified for payment. Once 2 percent of the total Contract price is retained, the balance of total amounts payable less all previous payments and retainage will be certified for payment.

Delete Section 110.04 in its entirety and insert the following:

Any project with a contiguous area of disturbance of one acre or more requires a NDPDES construction permit or a CGP on Tribal Land. Projects that have multiple individual sites of activity will require a permit, if the sum of the combined individual sites has an area of disturbance of one acre or more.

The Contractor of each new project, meeting the criteria above, shall be required to obtain the appropriate stormwater general permit coverage from either the NDDOH, EPA, or both by completing the permit coverage application process. The NDDOH and the Department have developed a Memorandum of Agreement outlining procedures for NDPDES construction permits as they relate to Department projects. A copy of the MOA can be found at

<http://www.ndhealth.gov/WQ/Storm/Construction/ConstructionHome.htm>.

All procedures outlined in the EPA's CGP must be followed as defined by the EPA CGP.

Delete Section 151.07 F.2 in its entirety and insert the following:

- 2. Comparison Test.** At the beginning of the first day of production, the Contractor shall perform a comparison test by one of the following methods:
 - a. A loaded truck weighed on a certified platform scale. The Contractor shall weigh three or more loads from sequential hauling units. The full and tare weights must be taken from a certified platform scale to determine the net weight for comparison with the loader bucket scale weight. The weight obtained from the loader bucket scale shall be within plus or minus 1.0 percent of the certified platform scale.
 - b. A certified weighted object. The weighted object shall weigh at least 60 percent of the maximum weight of the material contained in the loader bucket. The Contractor shall have the weighted object certified by a certified scale service. The weighted object shall have a plate showing the certified weight welded to it. The weighted object shall be clean of mud and dirt. Recertification will be required when any changes are made that will affect the certified weight or at the Engineers request. The weight obtained from the loader bucket scale shall be within plus or minus 1.0 percent of the certified weighted object.

In Section 151.07 F.3 delete the first paragraph in its entirety and insert the following:

- 3. Randomly Checked Weighing.** The Engineer will randomly select a minimum of one loaded truck for each day's production to validate the weight. The weight check must be done by one of the following methods:
 - a. A loaded truck weighed on a certified platform scale.
 - b. A certified weighted object as described in Section 151.07.F.2.

After the last sentence of fourth paragraph in Section 202.02 E insert the following sentence, "When no bid items are included, the removal of manholes and inlets shall not be paid for separately but shall be included in the price bid for installation of manholes and inlets."

203.02 CONSTRUCTION REQUIREMENTS

PAGE 137

2/19/10

Insert the following Sections following Section 203.02 I:

J. Guardrail Embankment, Type C. Topsoil for excavation and embankment areas shall be in accordance to Section 203.02 B. Embankment material shall be in accordance with Section 203.02 I. Seed mixture shall be Class II and Class VI. Seeding and mulching shall be in accordance with Section 708.02. Existing drainage shall be maintained.

K. Slope Reconstruction. Topsoil for excavation and embankment areas shall be in accordance to Section 203.02 B. Embankment material shall be in accordance with Section 203.02 I. Seed mixture shall be Class II and Class VI. Seeding and mulching shall be in accordance with Section 708.02.

1. **Approach Inslope Reconstruction.** Approach inslope reconstruction with a slope steeper than 6:1 shall be flattened to an 8:1 slope.
2. **Ditch Block Slopes.** Ditch Block slopes with a slope steeper than 8:1 shall be flattened to an 10:1 slope.

Delete the title of the following Section 203.02 J in its entirety and insert the following:

L. Haul.

Delete the title of the following Section 203.02 K in its entirety and insert the following:

M. Finishing.

Delete the title of the following Section 203.02 L in its entirety and insert the following:

N. Provision for Traffic Maintenance.

203.02 C SUBCUT

PAGE 138

2/18/11

In the second paragraph in Section 203.02 C after the first sentence insert the following sentence, "The bottom of the subcut shall not be scarified".

203.02 G CONSTRUCTION OF EMBANKMENT AND TREATMENT OF CUT AREAS WITH COMPACTION CONTROL, TYPE A.

PAGE 142

**10/17/08
2/20/09**

In Section 203.02 G delete the second paragraph in its entirety and insert the following:

AASHTO T 180 shall be used for all density testing, unless specified in the plans.

In the first sentence of the third paragraph, after the phrase "determined using AASHTO T 99," insert the following "as specified on the plans,"

203.03 METHOD OF MEASUREMENT

PAGE 144

2/19/10

Insert the following Section:

J. Slope Reconstruction. Approach inslopes and ditch block slopes will be measured as a unit for each inslope that is flattened.

Delete the title of the following Section 203.03 J in its entirety and insert the following:

K. Urban Project Provision.

Delete the title of the following Section 203.03 K in its entirety and insert the following:

L. Seeding.

203.02 L PROVISION FOR TRAFFIC MAINTENANCE **PAGE 144** **10/15/10**

In Section 203.02 L insert the paragraph "The Contractor shall salvage and reuse traffic service gravel." after the first paragraph.

203.03 I GUARDRAIL EMBANKMENT, TYPE C. **PAGE 146** **3/26/10**

Delete Section 203.03 I in its entirety and insert the following:

- I. **Guardrail Embankment, Type C.** Guardrail Embankment, Type C will be measured as a unit at each location, complete and in place. The cost for benching the embankment, and stripping, stockpiling, replacing, and seeding the topsoil shall be included in the price bid for "Guardrail embankment - Type C."

203.04 BASIS OF PAYMENT **PAGE 147** **2/19/10**

Insert the following after "Guardrail Embankment, Type C" in the Payment table:

Pay Item	Pay Unit
Approach Inslope Reconstruction	Each
Ditch Block Slopes	Each

203.04 BASIS OF PAYMENT **PAGE 147** **10/17/08**

Delete the phrase "(1,000 Gallons)" after M Gal in the "Pay Unit" Column

216.05 METHOD OF MEASUREMENT **PAGE 151** **10/17/08**

In the first sentence delete the phrase "(1,000 Gallons)" after M Gal.

234.06 BASIS OF PAYMENT **PAGE 158** **10/17/08**

Delete the phrase M Gallons in the "Pay Unit" Column and insert M Gal.

302.02 B ACCEPTANCE **PAGE 163** **10/16/09**

In Section 302.02 B.1 delete the title in its entirety and insert the following title "Aggregate Base and Salvage Base".

302.06 BASIS OF PAYMENT **PAGE 165** **10/17/08**

Delete the parenthesis around M Gal.

304.06 BASIS OF PAYMENT **PAGE 169** **2/20/09**

In Section 304.06 delete the phrase under Pay Unit "Ton or Cubic Yard" and insert "Square Yard".

306.06 BASIS OF PAYMENT **PAGE 173** **10/17/08**

Delete the parenthesis around M Gal.

407.04 J MIX TEMPERATURES **PAGE 196** **10/17/08**

In Section 407.04 J insert the following phrase ", or manufacturers' recommendation" in three locations after the following temperatures: 230°F., 250°F., and 300°F.

407.04 M.2 ORDINARY COMPACTION **PAGE 197** **10/17/08**
6/19/09

In the first sentence of the third paragraph delete the following in its entirety "Sections 151.02 B, 151.02 C.2, or 151.02 D." and insert the following" Sections 151.02 B, 151.02 C.2, 151.02 D, or 151.02 E."

In the first sentence of the seventh paragraph, starting with "When compacting leveling courses..." insert the following phrase "or combination rollers" after the following "pneumatic-tired rollers"

In the second sentence of the seventh paragraph, with the paragraph starting: "When compacting leveling courses..." insert the following phrase "or combination rollers" after the following "pneumatic-tired rollers"

In the second sentence of the seventh paragraph, with the paragraph starting: "When compacting leveling courses..." insert the following phrase "or 151.02 E" after the following "Section 151.02 B"

407.07 BASIS OF PAYMENT **PAGE 202** **4/17/09**

Delete Section 407.07 B.2 in its entirety and insert the following:

2. When the patching requires excavation, the method and site of disposal of the waste materials shall be subject to the approval of the Engineer, and:
 - a. The excavated material shall be loaded and hauled to a disposal area not adjacent to the work site; payment for the bituminous mixture used in the repair will be made per Ton according to the "Price Schedule PS-1." Payment will include disposal of excavated material, and the furnishing, placing, and compacting of the aggregate.

- b. If aggregate is required to replace excavated material in the existing base or subgrade, payment for the class of aggregate used will be made under Section 104.03. Payment will include disposal of excavated material, and the furnishing, placing, and compacting of the aggregate.
- c. Payment for prime, tack, and the bitumen in the mix used in the repair will be made at the Contract Unit Prices for those items.

408.04 F MIX TEMPERATURES

PAGE 207

10/17/08

In Section 408.04 F insert the following phrase “, or manufacturers’ recommendation” in three locations after the following temperatures: 300°F., 230°F., and 250°F.

408.04 I.2 ORDINARY COMPACTION

PAGE 209

10/17/08

In the fifth paragraph delete the following in its entirety “Sections 151.02 B, 151.02 C.2, or 151.02 D.” and insert the following” Sections 151.02 B, 151.02 C.2, 151.02 D, or 151.02 E.”

In the first sentence of the sixth paragraph insert the following phrase “or 151.02 E” after the following “Section 151.02 B”

In the third sentence of the sixth paragraph insert the following phrase “or combination rollers” after the following “pneumatic-tired rollers”

In the first sentence of the ninth paragraph insert the following phrase “or combination rollers” after the following “pneumatic-tired rollers”

In the second sentence of the ninth paragraph insert the following phrase “or combination rollers” after the following “pneumatic-tired rollers”

In the second sentence of the ninth paragraph insert the following phrase “or 151.02 E” after the following “Section 151.02 B”

408.05 A AGGREGATE

PAGE 211

10/16/09

In Section 408.05 A.1 in the table titled “Aggregate Tolerances” delete the first row “5/8 sieve¹ +2%” in its entirety and insert “5/8 sieve¹ -2%”

408.05 A.1 GRADATION

PAGE 211

**10/17/08
2/20/09**

In the Section 408.05 A.1 in the first paragraph delete the first two sentences in their entirety and insert the following:

Aggregate samples will be tested for each 1,500 ton of mix produced with a minimum of one sample per day.

In the third paragraph delete the first sentence in its entirety and insert the following:

If any two or more consecutive tests result in the variance of any one or more sieves from the JMF gradation target value by more than the tolerances listed below, a deduction will be applied on the tonnage represented by the failing tests.

408.05 C.2 CONTRACTOR CORING

PAGE 215

10/17/08

In the first sentence of the second paragraph starting with "The Contractor shall" delete the phrase "with one location in each lane," in its entirety.

408.05 C.3 COMPACTION PAYMENT SCHEDULE

PAGE 215

**2/20/09
3/26/10**

Delete Section 408.05 C.3 in its entirety and insert the following:

3. Compaction Payment Schedule.

Acceptance of mainline pavement placed on any production day will be based on the average density of the pavement compared to the daily average maximum theoretical density (MTD) determined for each lot of pavement placed. The average density of the field cores shall be at least 91.0% or 92.0% of the daily average MTD depending on the class of mix. If the average density of the field cores is less than specified for the daily average MTD, the unit price of the hot bituminous pavement will be adjusted according to the following tables:

PAVEMENT DENSITY ADJUSTMENT OF UNIT BID PRICE PER LOT

Table 1:

Superpave FAA 40-43 Class 27, 29	
Percent Payment	Avg. Pavement Density
1.00	≥ 91.0%
0.98	90.0% - 90.9%
0.95	89.5% - 89.9%
0.91	89.0% - 89.4%
0.85	88.5% - 88.9%
0.70	88.0% - 88.4%
**	< 88.0%

Table 2:

Superpave FAA 44-45 Class 31, 33	
Percent Payment	Avg. Pavement Density
1.00	≥ 92.0%***
0.98	91.0% - 91.9%
0.95	90.5% - 90.9%
0.91	90.0% - 90.4%
0.85	89.5% - 89.9%
0.70	89.0% - 89.4%
**	< 89.0%

**The Engineer will determine whether the material may remain in place. The Pay Factor for the material allowed to remain in place shall be 0.70.

The density of the field cores will be determined according to the Department's Field Sampling and Testing Manual.

***The minimum required density will be reduced by 1% for the bottom lift constructed on aggregate base and reclaimed or cold in place (CIP) recycled base courses. If the average density of the field cores is less than 91% of the daily average MTD the unit price of the hot bituminous pavement will be adjusted according to Table 1.

408.07 BASIS OF PAYMENT

PAGE 218

4/17/09

Delete Section 408.07 C.2 in its entirety and insert the following:

2. When the patching requires excavation, the method and site of disposal of the waste materials shall be subject to the approval of the Engineer, and:
 - a. The excavated material shall be loaded and hauled to a disposal area not adjacent to the work site; payment for the bituminous mixture used in the repair will be made per Ton according to the "Price Schedule PS-1." Payment will include disposal of excavated material, and the furnishing, placing, and compacting of the aggregate.
 - b. If aggregate is required to replace excavated material in the existing base or subgrade, payment for the class of aggregate used will be made under Section 104.03. Payment will include disposal of excavated material, and the furnishing, placing, and compacting of the aggregate.
 - c. Payment for prime, tack, and the bitumen in the mix used in the repair will be made at the Contract Unit Prices for those items.

409.04 B.2 CONTRACTOR DEVELOPED MIX DESIGN **PAGE 223** **10/17/08**

In the fourth paragraph, starting with "If the Department" in the second sentence delete the phrase "± 0.30" and insert the following "± 0.030".

409.05 C.2 CONTRACTOR CORING **PAGE 231** **2/20/09**

In Section 409.05 C.2 in the first sentence of the first paragraph delete the word "one" and insert the word "two".

409.05 C.3 COMPACTION PAYMENT SCHEDULE **PAGE 232** **2/20/09**
3/26/10

Delete Section 409.05 C.3 in its entirety and insert the following:

3. Compaction Payment Schedule.

Acceptance of mainline pavement placed on any production day will be based on the average density of the pavement compared to the daily average maximum theoretical density (MTD) determined for each lot of pavement placed. The average density of the field cores shall be at least 91.0% or 92.0% of the daily average MTD depending on the class of mix. If the average density of the field cores is less than specified for the daily average MTD, the unit price of the hot bituminous pavement will be adjusted according to the following tables:

PAVEMENT DENSITY ADJUSTMENT OF UNIT BID PRICE PER LOT

Table 1:		Table 2:	
Superpave FAA 40-43 Class 27, 29		Superpave FAA 44-45 Class 31, 33	
Percent Payment	Avg. Pavement Density	Percent Payment	Avg. Pavement Density
1.00	≥ 91.0%	1.00	≥ 92.0%***
0.98	90.0% - 90.9%	0.98	91.0% - 91.9%
0.95	89.5% - 89.9%	0.95	90.5% - 90.9%
0.91	89.0% - 89.4%	0.91	90.0% - 90.4%

0.85	88.5% - 88.9%	0.85	89.5% - 89.9%
0.70	88.0% - 88.4%	0.70	89.0% - 89.4%
**	< 88.0%	**	< 89.0%

**The Engineer will determine whether the material may remain in place. The Pay Factor for the material allowed to remain in place shall be 0.70.

The density of the field cores will be determined according to the Department's Field Sampling and Testing Manual.

***The minimum required density will be reduced by 1% for the bottom lift constructed on aggregate base and reclaimed or cold in place (CIP) recycled base courses. If the average density of the field cores is less than 91% of the daily average MTD the unit price of the hot bituminous pavement will be adjusted according to Table 1.

410.04 QUALITY CONTROL PLAN

PAGE 237

10/17/08

In Section 410.04 delete the phrase "Special Provision" in its entirety and insert the following "specification".

410.04 A PIT OPERATIONS AND STOCKPILING OF AGGREGATE

PAGE 238

2/20/09

In Section 410.04 A delete the third paragraph starting with "The mix design will not" in its entirety and insert the following:

- The mix design will not be approved and mix production will not begin.

410.05 C.2 CONTRACTOR CORING

PAGE 250

**2/20/09
10/15/10**

In Section 410.05 C.2 in the first sentence of the first paragraph delete the phrase "one core" and insert the phrase "two cores".

410.05 C.3 COMPACTION PAYMENT SCHEDULE

PAGE 251

**2/20/09
3/26/10**

Delete Section 410.05 C.3 in its entirety and insert the following:

3. Compaction Payment Schedule.

Acceptance of mainline pavement placed on any production day will be based on the average density of the pavement compared to the daily average maximum theoretical density (MTD) determined for each lot of pavement placed. The average density of the field cores shall be at least 91.0% or 92.0% of the daily average MTD depending on the class of mix. If the average density of the field cores is less than specified for the daily average MTD, the unit price of the hot bituminous pavement will be adjusted according to the following tables:

PAVEMENT DENSITY ADJUSTMENT OF UNIT BID PRICE PER LOT

Table 1:

Table 2:

Superpave FAA 40-43 Class 27, 29		Superpave FAA 44-45 Class 31, 33	
Percent Payment	Avg. Pavement Density	Percent Payment	Avg. Pavement Density
1.00	≥ 91.0%	1.00	≥ 92.0%***
0.98	90.0% - 90.9%	0.98	91.0% - 91.9%
0.95	89.5% - 89.9%	0.95	90.5% - 90.9%
0.91	89.0% - 89.4%	0.91	90.0% - 90.4%
0.85	88.5% - 88.9%	0.85	89.5% - 89.9%
0.70	88.0% - 88.4%	0.70	89.0% - 89.4%
**	< 88.0%	**	< 89.0%

**The Engineer will determine whether the material may remain in place. The Pay Factor for the material allowed to remain in place shall be 0.70.

The density of the field cores will be determined according to the Department's Field Sampling and Testing Manual.

***The minimum required density will be reduced by 1% for the bottom lift constructed on aggregate base and reclaimed or cold in place (CIP) recycled base courses. If the average density of the field cores is less than 91% of the daily average MTD the unit price of the hot bituminous pavement will be adjusted according to Table 1.

411.03 A MILLING PAVEMENT SURFACE

PAGE 254

2/20/09

In Section 411.03 A after the eighth paragraph add the following paragraph:

When the milled material is used in Recycled Asphalt Pavement (RAP), a maximum of 500 feet per area may be milled for the mix design. The Contractor shall place the pavement overlay within twenty one calendar days after the mix design is approved.

420.04 E PROTECTION OF TRAFFIC AND PRESERVATION OF THE SEAL COAT

PAGE 258

4/17/09

5/15/09

In the last sentence of the second paragraph in Section 420.04 E delete the word "bud" in its entirety and insert the following: "bid".

In Section 420.04 E after the fourth paragraph add the following paragraph:

When pavement marking according to section 762.04 is not specified; before sealing operations the Contractor shall install and remove spotting tabs according to section 762.04 D.1.e. The cost of the spotting tabs and their installation and removal shall be included in the price bid for other items.

550.04 I.2 TRANSVERSABLE CONTRACTION JOINTS

PAGE 273

10/17/08

Add the word "or" after "lithium grease," in the first sentence of the last paragraph starting with "A uniform coat".

550.04 I.5 TIE BARS AND LONGITUDINAL JOINT

PAGE 275

2/18/11

In the first sentence of the first paragraph in Section 550.04 I.5 delete the word “baskes” in its entirety and insert the following word “baskets”.

550.04 J.3.c BRIDGE APPROACH SLABS

PAGE 276

10/17/08

After the last paragraph insert the following paragraph: “Metal Tine Finish shall be in accordance with Section 602.03 B.2.”

570.04 A.6 REPAIR SIZE AND LONGITUDINAL JOINT TREATMENT

PAGE 294

7/17/09

In Section 570.04 A.6.b delete the first sentence in its entirety and insert the following:

b. Treat centerline and shoulder joint steel on repairs exceeding 15 feet in length as follows:

570.05 METHOD OF MEASUREMENT

PAGE 301

2/19/10

Delete Sections 570.05 M and 570.05 L in their entirety.

Delete the title of the following Section 570.05 N in its entirety and insert the following:

L. Full-Depth Repair -- End Preparation.

Delete the title of the following Section 570.05 O in its entirety and insert the following:

M. Full-Depth Repair -- End Prep-Mech Splice.

Delete the title of the following Section 570.05 P in its entirety and insert the following:

N. Full-Depth Continuous Concrete Repair.

Insert the following as Section 570.05 O:

O. Random PCC Crack Cleaning & Sealing. Include all costs for material and labor for cleaning and sealing random joints in the unit price bid for “Random PCC Crack Cleaning & Sealing.”

602.03 F CURING CONCRETE

PAGE 322

2/20/09

PAGE 323

4/17/09

In Section 602.03 F.1 delete the second sentence in the first paragraph in its entirety and insert the following:

The curing period shall be ten days when pozzolans in excess of 10 percent, by weight, of the Portland cement are used in the mix.

In Section 602.03 F.2.b delete the phrase “ten-day” and insert the following phrase “seven-day”.

Delete Section 602.03 F.3.b in its entirety.

604.04 A CONSTRUCTION REQUIREMENTS

PAGE 331

2/20/09

In Section 604.04 A delete the fifth paragraph in its entirety and insert the following:

Shop drawings shall show all beam dimensions; the size and location of all reinforcing and prestressing steel; the details of end anchorages if used, and any necessary revisions to bridge seats. Shop drawings shall be submitted in accordance with Section 105.08. If shop drawings are returned for revision, revisions shall be made and resubmitted to the Engineer. The time required for the review of each submittal will not exceed 14 days after the shop drawings are received by the Engineer. Two paper copies or one electronic version of the reviewed and final drawings shall be furnished to the Engineer before fabrication.

606.04 CONSTRUCTION REQUIREMENTS

PAGE 335

2/20/09

In Section 606.04 delete the first sentence in the first paragraph in its entirety and insert the following:

The Contractor shall submit shop drawings in accordance with Section 105.08. If shop drawings are returned for revision, revisions shall be made and resubmitted to the Engineer. The time required for the review of each submittal will not exceed 14 days after the shop drawings are received by the Engineer. Two paper copies or one electronic version of the reviewed and final drawings shall be furnished to the Engineer before the manufacture of the RCB sections.

606.04 CONSTRUCTION REQUIREMENTS

PAGE 335

3/26/10

In third paragraph in Section 606.04 starting with "The installation of the" delete the second sentence in its entirety and insert the following:

The backfill shall be compacted to 90 percent standard density per AASHTO T 180. Maximum thickness of any one lift shall not exceed 6 inches.

616.03 A SHOP DETAIL DRAWINGS

PAGE 339

**2/20/09
3/26/10**

In Section 616.03 A in the third sentence in the third paragraph delete the phrase "the fabricator's contract number," in its entirety.

In Section 616.03 A delete the fourth paragraph in its entirety and insert the following:

The Contractor shall submit shop drawings in accordance with Section 105.08. If shop drawings are returned for revision, revisions shall be made and resubmitted to the Engineer. The time required for the review of each submittal will not exceed 14 days after the shop drawings are received by the Engineer. Two paper copies or one electronic version of the reviewed and final drawings shall be furnished to the Engineer before fabrication. Additional time required to make adjustments to shop drawings due to the Contractor's errors or omissions is the responsibility of the Contractor. Additional work or file copies of final drawings shall be provided as requested.

In Section 616.03 A in the second sentence in the fifth paragraph delete the phrase "approved" and insert the word "reviewed".

In Section 616.03 A in the first sentence in the sixth paragraph delete the phrase "and approval".

638.03 D BACKFILL

PAGE 374

2/20/09

Delete Section 638.03 D in its entirety and insert the following:

- D. **Backfill.** After assembling the pipe, the backfill shall be placed uniformly and equally on each side of the pipe in layers not to exceed six inches before compaction. Compaction requirements for all materials associated with the trench installation shall be installed as specified in Section 203.02 G. Adequate earth cover shall be placed over the structure before heavy construction equipment is driven over it.

650.04 REMOVAL AND OVERLAY WITH THE USE OF MECHANICAL EQUIPMENT.

PAGE 376

10/16/09

Delete Section 650.04 in its entirety and insert the following:

A. Classification of Removals and Overlays.

1. **Class 1 Removal.** Class 1 removal consists of removing deck concrete to a depth of 1/2 inch below the existing finished surface, except at drains and elsewhere as specified; disposing of the removed concrete. Concrete removed below a depth of 1/2 inch below the existing finished surface coincidental with Class 1 removal is part of the Class 1 removal area.
2. **Class 2 Removal.** Class 2 removal areas will be determined by the Engineer after Class 1 removal has been accomplished. Class 2 removal consists of removal, disposal, and replacement of concrete below the bottom of the Class 1 removal. The lower limit of the Class 2 removal shall be the top of the bars in the top layer of reinforcing steel. Concrete removed below the top of the top bar coincidental with Class 2 removal is part of the Class 2 removal area. The removed volume shall be replaced with concrete to a level bounding the Class 1 removal.
3. **Class 2-A Removal.** Class 2-A removal areas will be determined by the Engineer after Class 1 and Class 2 removal have been accomplished. Class 2-A removal consists of removal, disposal, and replacement of concrete around the periphery of reinforcing bars in the top mat. Class 2-A removal will be ordered when an isolated bar has lost bond on more than 1/2 of its circumference. The removed volume shall be replaced with concrete bounding the Class 2 removal. Class 3 removal may be ordered in lieu of Class 2-A removal if damage to sound concrete between bars is suspected.
4. **Class 3 Removal.** Class 3 removal areas will be determined by the Engineer after Class 1 and Class 2 removal have been accomplished. Class 3 removal consists of removal, disposal, and replacement of concrete below the bottom of the Class 2 removal to sound concrete or to a maximum depth bound by the top of the top bar of the bottom mat of reinforcing steel. The removed volume shall be replaced with concrete to a level bounding the Class 2 removal.
5. **Class 4 Removal.** Class 4 removal will be determined by the Engineer after Class 1, Class 2, and Class 3 removal have been accomplished. Class 4 removal consists of removal and disposal of concrete below the level described for Class 3 removal and for the full remaining depth of the deck and replacement of the removed volume with AAE-3 Portland Cement Concrete or low slump concrete to a level bounding the Class 1 removal. Edges of the full depth hole in the deck shall be nearly vertical or tapered inward from top to bottom. A reverse taper will not be permitted. The underside of the completed deck replacement shall have a neat, smooth appearance.
6. **Overlays.** Thickness of the concrete overlay shall be measured from a level 1/2 inch below the original surface to the final raised surface as specified for Class 1 removal. Thickness of concrete overlay shall be measured as specified for Class 2, 2-A, 3, and 4 removals.

B. Construction Requirements.

1. General.

All concrete aggregate shall be available for sampling and testing, for a minimum of five days before lane closure. The Department is not responsible for delays or additional costs caused by failing aggregate.

Asphalt overlays shall be removed before any concrete removal. Asphalt removal equipment shall not damage the surface of the concrete deck.

To ensure proper overlay thickness, measurements shall be made from the finisher screed to the prepared deck surface.

The deck surface shall be sandblasted and cleaned with compressed air after grinding and concrete removal operations are completed. Wet sandblasting shall not be used.

All exposed reinforcing steel shall be thoroughly sandblast cleaned of all deleterious material and concrete. Reinforcing bars which have lost 1/4 or more of their original dimensions shall be removed and replaced with a new lap-spliced bar. Reinforcing bars damaged due to removal operations shall be replaced at the Contractor's expense.

2. Removal Requirements.

- a. **Class 1 Removal.** The existing concrete deck area shall be uniformly ground to a depth of 1/2 inch. Removal to a greater depth shall be required at drains and other noted locations.
- b. **Class 2 Removal.** Concrete shall be removed by chipping or by a combination of grinding and chipping. Removal shall be considered to start 1/2 inch below the existing surface.
- c. **Class 2-A Removal.** Concrete shall be removed from around the periphery of the reinforcing steel using power hammers and hand tools without cutting, stretching, or damaging any exposed reinforcing steel. A minimum clearance of 3/4 inch around the bar shall be attained.
- d. **Class 3 Removal.** Concrete shall be removed by chipping with power hammers and hand tools without cutting, stretching, or damaging any exposed reinforcing steel.
- e. **Class 4 Removal.** This work consists of complete removal of that portion of the bridge deck which the Engineer designated for full depth removal. Forms shall be provided to enable placement of new concrete.

3. Mixing of Materials.

- a. **Class AAE-3 Concrete.** Concrete shall be mixed according to Section 802.
- b. **Low-Slump Concrete.** Concrete shall be mixed at the site. The mixing rate shall allow finishing operations to proceed at a steady rate.

4. Placing, Finishing, and Curing.

a. General.

At longitudinal construction joints, the surface course previously placed shall be sawn to a straight and vertical edge before the adjacent course is placed.

After the machine finishing has been completed, hand finishing with a wood float may be required to produce a tight, uniform surface.

Immediately after finishing, all vertical joints with adjacent concrete shall be sealed by painting with a thinned grout before the curing operation begins.

A drag shall be pulled over the surface in a longitudinal direction while the concrete is plastic. It shall be immediately followed with a transverse metal tine finish as specified in Section 602.03 B.2.a. The tining shall be stopped 18 inches from the face of the curb. The tining device shall be drawn transversely across the full width of the pavement without overlapping passes. The tining shall be neat and uniform, and shall produce grooves without tearing the surface or bringing course aggregate to the surface. The finished surface shall be free from rough or porous areas and irregularities resulting from improper handling of the device. Concrete surfaces which do not meet the above requirements shall be corrected at the Contractor's expense by cutting transverse grooves in the hardened concrete with diamond bladed equipment.

The surface tolerance of the finished concrete overlay shall be less than or equal to 3/16 inch in 10 feet. Measurements for smoothness will be taken on approximately 2-foot spacing over the entire deck. Any portion of the deck not meeting the tolerance shall be corrected by grinding or reoverlying the deck. The tined surface texture shall be restored with diamond bit cutting equipment. Grinding or grooving that decreases the cover to less than 1-1/2 inches over the top of the reinforcing steel shall not be used.

b. Special Requirements for Low-Slump Concrete.

Concrete for Class 1, 2, 2-A, and 3 removal areas may be placed in one operation.

Where full depth concrete is required, Class AAE-3 or low-slump concrete may be used. Concrete for the Class 4 removal areas shall be struck off at the bottom level of Class 1 unless the Class 4 falls entirely with a Class 2 or 3 removal area. In that case, the concrete shall match the prepared surface of either the Class 2 or 3 removal area. The concrete shall receive the wet cure meeting Section 602.03 F.3 for at least 72 hours, and shall be sandblasted and cleaned before overlaying.

The prepared deck surface shall be dry to permit absorption of the bonding grout. All vertical and horizontal surfaces shall receive a thorough, even coating of bonding grout at a controlled rate so that grout does not dry before covering with new concrete.

The concrete shall be screeded to final grade and consolidated to 98 percent of the unit weight using AASHTO T 121. The surface shall receive a wet cure meeting Section 602.03 F.3 except that the curing period shall be five days. Concrete that is not wet cured within 30 minutes after placement shall be removed to the original prepared surface and replaced at the Contractor's expense.

5. Limitations of Operations.

No preparation work will be allowed until the lane or strip is closed for traffic. This lane shall remain closed until the overlay has been completed.

No loads other than equipment needed to remove and replace concrete shall be allowed on the deck that has undergone preparation before placement and curing of concrete. Mixers shall not

be operated on the structure. Equipment used for transporting concrete shall not damage the prepared deck surface and shall be designed for transporting concrete. Equipment shall not leak oil, hydraulic fluid, or any other contaminant onto the prepared deck surface. Equipment used to transport mortar or concrete shall be of sufficient size and adequate design to handle the volume of material without spilling or dripping.

No vehicular traffic shall be permitted on the new overlay until the specified curing period is completed. If daily mean temperatures fall below 55°F. during the five days following concrete placement, additional curing days will be required. When temperatures are above 80°F. placement shall be made at night or early morning hours by installing and operating necessary lighting. Rescheduling an overlay placement may be required if weather conditions adversely effect the quality of the overlay.

Overlays shall not be placed unless the temperature is 45°F. and rising.

Bridge deck overlays shall not be placed after September 15 unless authorized by the Engineer.

C. Method of Measurement.

1. **Class 1, 2, 3, and 4 Removal.** The quantities of Class 1, 2, 3, and 4 Removal will be measured by the square yard.
2. **Class 2-A Removal.** The quantity of Class 2-A Removal will be measured in linear feet. Class 2-A Removal shall not be paid for in areas which require Class 3 Removal.
3. **Overlay Concrete.** The quantity of Overlay Concrete will be in cubic yards as determined by the mobile mixer counter and the yield box. One yield box test will be required at the start of each pour. This will determine if the mobile mixer is still in proper calibration as per the requirements of the manufacture.

Each yield test will follow these general guidelines.

- a. Use a pre determined volume yield box, ¼ Cu Yd typical
- b. Set cement meter to Zero
- c. Discharge Concrete until the yield box is full, but not over flowing
- d. Determine the cement meter count for ¼ Cu Yd

The determined meter count should be ± 1% of the calibrated meter count as determined earlier. If it is within the tolerance, then it becomes the new calibrated meter count. If the tolerance is not met, then the calibration process must be redone as per the manufactures requirements.

The cubic yards placed on the bridge deck will be determined by taking the counter readings before and after each placement times the meter count as determined by the yield test.

The amount of waste will be determined and agreed upon by the Contractor and the Engineer at the end of each day. The material used in the yield tests shall be considered waste and shall not be used in the deck.

D. Basis of Payment.

1. Quantities measured will be paid for at the Contract Unit Price for the pay items shown. Payment will be full compensation for all labor, equipment, and materials necessary to complete the work.

When there is no bid item for Class 4 removal, payment will be made in accordance with Section 104.03. Class 1, 2, 2-A, or 3 removal authorized prior to Class 4 removal shall be paid at the bid price.

No adjustment to bid prices will be made for Class 1, 2, 2-A, or 3 removal.

2. If it becomes necessary to increase the average thickness of the Class 1 removal over that provided on the Plans, the following procedure will be used to determine compensation for the additional concrete required:

Step 1: Before scarification, the existing deck elevations will be determined by longitudinal profiles taken along lines corresponding to the edges and mid-width of each overlay pour. The elevations along each profile will be measured to the nearest 0.01 foot at intervals not exceeding 10 feet.

Step 2: The Engineer will establish and record the final grades for the surface of the Class 1 removal. The difference between Plan grade and actual grade will be compared to determine the average increase in thickness of the overlay. This increase will be used to determine the volume of additional concrete.

Step 3: For the additional concrete, measured as provided in Step 2, payment will be made at the rate specified in the Price Schedule (PS-1) in the Proposal Form.

650.04 B.4 PLACING, FINISHING, AND CURING OVERLAY

PAGE 378

5/15/09

In Section 650.04 B.4.a delete the second sentence of the fourth paragraph in its entirety and insert the following:

It shall be immediately followed with a transverse metal tine finish as specified in Section 602.03 B.2.a.

650.05 B.4 PLACING, FINISHING, AND CURING OVERLAY

PAGE 383

5/15/09

Delete Section 650.05 B.4.a in its entirety and insert the following:

a. General

Placing, Finishing, and Curing Overlay shall be as specified in Section 650.04 B.4.a.

650.05 D BASIS OF PAYMENT

PAGE 384

10/16/09

Delete Section 650.05 D in its entirety and insert the following:

D. Basis of Payment.

1. Quantities measured will be paid for at the Contract Unit Price for the pay items shown. Payment will be full compensation for all labor, equipment, and materials necessary to complete the work.

When there is no bid item for Class 3-H removal, payment will be made in accordance with Section 104.03. Class 1-H or 2-H removal authorized prior to Class 3-H removal shall be paid at the bid price.

No adjustment to bid prices will be made for Class 1-H or 2-H removal.

2. If it becomes necessary to increase the average thickness of the Class 1-H removal over that provided on the Plans, the following procedure will be used to determine compensation for the additional concrete required:

Step 1: Before scarification, the existing deck elevations will be determined by longitudinal profiles taken along lines corresponding to the edges and mid-width of each overlay pour. The elevations along each profile will be measured to the nearest 0.01 foot at intervals not exceeding 10 feet.

Step 2: The Engineer will establish and record the final grades for the surface of the Class 1-H removal. The difference between Plan grade and actual grade will be compared to determine the average increase in thickness of the overlay. This increase will be used to determine the volume of additional concrete.

Step 3: For the additional concrete, measured as provided in Step 2, payment will be made at the rate specified in the Price Schedule (PS-1) in the Proposal Form.

704.03 X FLAGGING

PAGE 412

2/20/09

In Section 704.03 X delete the first paragraph in its entirety, and replace with the following:

Flaggers shall be clean, neat, and fully dressed at all times while on duty either day or night. All flagger's vests shall meet Section 107.11.

704.05 BASIS OF PAYMENT

PAGE 413

10/15/10

Delete the fourth paragraph in Section 704.05 A in its entirety and insert the following:

If the Contractor is required to furnish special non-standard signs not shown on the Plans, a unit value agreeable to the Contractor and the Department will be established for such signs, and payment will be made according to the Contract Bid Price per sign unit. If a unit value cannot be agreed upon, payment will be made at invoice price plus 15 percent, and the sign will become the Department's property after it has been removed from service. Payment for sign supports and installation of special signs will be made according to Section 104.03.

Delete the second paragraph in Section 704.05 B in its entirety and insert the following:

When additional traffic control devices requested by the Engineer qualify for payment according to Section 704.04 B, payment for furnishing and installing such devices will be made according to Section 104.03.

Delete the fifth paragraph in Section 704.05 B in its entirety and insert the following:

If the Contractor is required to furnish special non-standard signs not shown on the Plans, payment will be made at invoice price plus 15 percent, and the sign will become the Department's property after it has been removed from service. Payment for sign supports and installation of special signs will be made according Section 104.03.

706.02 B.3 TYPE B, FIELD LABORATORY

PAGE 418

10/17/08

Delete 706.02 B.3 in its entirety and insert the following phrase:

3. Capable of an exact setting of 900 Watts of cooking power.

708.02 C.4 GRASS, HAY OR STRAW MULCH **PAGE 429** **5/15/09**

In Section 708.02 C.4.a delete the second paragraph in its entirety and insert the following:

Mulching operations shall not be performed when the wind velocity exceeds 25 miles per hour

708.03 D METHOD OF MEASUREMENT. **PAGE 432** **2/20/09**

In Section 708.03 D in the first sentence delete the first repeated word "actual".

708.03 E BASIS OF PAYMENT **PAGE 433** **10/17/08**

In the "Pay Item" Column delete the second "ECB Type 3" Pay Item and insert "ECB Type 4".

708.07 E BASIS OF PAYMENT **PAGE 440** **4/17/09**

In Section 708.07 E after the third paragraph add the following paragraph:

Removal of silt fence shall be paid at the price listed in the "Price Schedule PS-1" if there is no separate bid item for silt fence.

708.08 E BASIS OF PAYMENT **PAGE 442** **4/17/09**

In Section 708.08 E after the third paragraph add the following paragraph:

Removal of fiber roll shall be paid at the price listed in the "Price Schedule PS-1" if there is no separate bid item for fiber roll.

708.10 B MATERIALS **PAGE 444** **4/17/09**

Delete Section 708.10 B.1 in its entirety and insert the following:

1. **Aggregate.** Aggregate material for the Stabilized Construction Access will meet the following requirements:

Sieve Size	Percent Passing
4 inch	100
2 inch	0

The aggregate shall have 90 percent fractured faces.

709.03 E GEOTEXTILE REINFORCEMENT FABRIC **PAGE 447** **4/17/09**
6/19/09

In the third paragraph in Section 709.03 E delete the phrase "12" in its entirety and insert the following: "6".

714.02 A CULVERTS AND STORM DRAINS **PAGE 450** **2/20/09**

In Section 714.02 A delete the fourth paragraph starting with "When show as conduit" in its entirety.

714.03 A.1 EXCAVATION **PAGE 451** **2/20/09**

In Section 714.03 A.1 in the fifth paragraph delete the phrase "off the Right of Way," in its entirety.

714.03 A.2 BEDDING **PAGE 451** **2/20/09**

In Section 714.03 A.2 delete the second and third paragraphs in its entirety and insert the following:

Bedding for approach pipe shall meet the conduit manufacturers' recommendations.

714.03 A.7 BACKFILLING FOR PIPE INSTALLED IN EMBANKMENTS **PAGE 452** **2/20/09**

Delete Section 714.03 A.7 in its entirety and insert the following:

7. **Deflection Testing.** All metal and thermoplastic pipe used for mainline and paved intersecting roadways shall be deflection tested a minimum of thirty days after the pipe is installed. The Contractor shall pass a nine point mandrel or other approved object through the pipe to check for deformation. The deformation test shall take place under the observation of the Engineer. The mandrel diameter shall not be less than 95% of the inside diameter of the pipe. If the pipe has deformed more than 5%, it shall be replaced. All cost associated with replacing the pipe shall be at the Contractor's expense. Another thirty day waiting period will commence upon installation of the replacement pipe prior to retesting.

Metal and thermoplastic pipe used for approaches shall be visually inspected, and at the Engineer's discretion, may require deflection testing.

714.03 A.8 BACKFILLING FOR PIPE INSTALLED IN TRENCHES **PAGE 452** **2/20/09**

Delete Section 714.03 A.8 in its entirety.

714.03 A.9 CORRUGATED POLYETHYLENE PIPE **PAGE 452** **2/20/09**

Delete Section 714.03 A.9 in its entirety.

714.03 A.10 CONNECTION TO MANHOLES, INLETS, AND PIPES **PAGE 453** **2/20/09**

Delete the title of Section 714.03 A.10 in its entirety and insert the following.

8. CONNECTION TO MANHOLES, INLETS, AND PIPES

714.03 D BRIDGE APPROACH DRAINS

PAGE 454

2/20/09

Delete the first paragraph in its entirety starting with "Construction of bridge".

714.03 E EDGE DRAINS

PAGE 454

2/18/11

In the first paragraph of Section 714.03 E after the second sentence insert the following sentence, "Double drains shall be outletted at approximate intervals of 500 feet and at low points in the flow line of the edge drain."

714.04 A CULVERTS AND STORM DRAINS

PAGE 455

2/20/09

Delete Section 714.04 A in its entirety and insert the following:

- A. Culverts and Storm Drains.** Where new pipe is specified, it will be measured by the Linear Foot along the top of the pipe. Flared end sections will not be measured separately but will be considered as part of the conduit. Each conduit will be measured to the nearest foot.

Pipe extensions of different types and sizes will be measured by the Linear Foot in place. End sections will be measured by the number of units installed.

Relaid pipe of different types and sizes will be measured by the Linear Foot in place. Relaid end sections will be measured by the number of units installed.

Branch connections and elbows will be included in the length measured for pipe.

Excavation, disposal of excess excavation, bedding and backfill for pipe will not be measured for payment.

Grates will be measured by the number of units installed.

714.05 BASIS OF PAYMENT

PAGE 456

2/20/09

In Section 714.05 delete the first two Pay Items and Pay Units:

PAY ITEM	PAY UNIT
Pipe (Type and Size)	Linear Foot
End Section (Type and Size)	Each

in its entirety and insert the following:

PAY ITEM	PAY UNIT
Pipe Conduit__inch	Linear Foot
Pipe Conduit__inch Storm Drain	Linear Foot
Pipe Conduit__inch Approach	Linear Foot

722.03 J BACKFILL

PAGE 459

**3/26/10
10/15/10**

Delete Section 722.03 J in its entirety and insert the following:

- J. Backfill.** Backfill shall be deposited and compacted in horizontal layers not to exceed 6 inches until the elevation of the finished grade is reached. The backfill shall be compacted to a density equal to at least 90 percent of AASHTO T 180.

724.03 B EXCAVATION AND TRENCHING

PAGE 462

3/26/10

In Section 724.03 B.3 delete the last sentence in its entirety and insert the following:

This material shall be placed in a maximum of 6-inch layers and each layer compacted to a density of not less than 90 percent maximum dry density at optimum moisture according AASHTO T 180, or as specified.

748.03 A.5 USE OF WATER

PAGE 470

2/18/11

In Section 748.03 A.5 delete the first sentence in its entirety and insert the following:

When weather conditions cause rapid drying of the pavement surface, a fine mist or fog surface shall be applied to the concrete surface for interim curing.

750.03 F USE OF WATER

PAGE 473

2/18/11

In Section 750.03 F delete the first sentence in its entirety and insert the following:

When weather conditions cause rapid drying of the pavement surface, a fine mist or fog surface shall be applied to the concrete surface for interim curing.

752.03 B INSTALLING LINE POSTS

PAGE 475

10/15/10

In Section 752.03 B delete the sixth paragraph in its entirety and insert the following:

When fence line posts are driven, the post top shall be protected against damage. Posts damaged during handling or driving shall be removed and replaced at the Contractor's expense.

752.05 BASIS OF PAYMENT

PAGE 477

10/15/10

In Section 752.05 insert the paragraph "Each fence terminal will be counted and paid for as a double brace assembly." after the first paragraph.

754.04 METHOD OF MEASUREMENT

PAGE 487

2/18/11

In Section 754.04 insert the following:

- O. Mile Posts.** Mile posts will be measured by the number of mile posts as shown in plans, completed in place, and accepted by the Engineer.

- P. **Reference Markers.** Reference markers will be measured by the number of reference markers as shown in plans, completed in place, and accepted by the Engineer.

754.05 BASIS OF PAYMENT

PAGE 489

2/18/11

In Section 754.05 delete the first pay item and pay unit and insert the following:

Flat Sheet for Signs, Type II, III A, III B, or IX Reflective Sheeting Square Foot

In Section 754.05 delete the second pay item and pay unit and insert the following:

Panel for Signs - Type II, III A, III B, or IX Reflective Sheeting Square Foot

In Section 754.05 insert the following pay item and pay unit following "Overlay Panel" pay item and pay unit:

Overlay Panel, Type IX Reflective Sheeting Square Foot

In Section 754.05 insert the following as the last two pay items and pay units:

Interstate Mile Posts – Type___ Each
Reference Markers – Type___ Each

762.04 D PAVEMENT MARKING APPLICATION

PAGE 494

3/26/10

In Section 762.04 D.1.c delete the first sentence in its entirety and insert the following:

One gallon of paint shall cover a 4-inch wide stripe for a length of 260 to 300 feet, depending upon pavement surface texture.

762.04 D.2 PLASTIC PAVEMENT MARKING FILM

PAGE 496

2/20/09

In Section 762.04 D.2.a delete the first sentence in its entirety.

In Section 762.04 D.2.a delete the second sentence in its entirety and insert the following:

The permanent marking film shall be installed in accordance to the manufacturers' temperature recommendations. The permanent marking film shall not be placed over painted markings.

In Section 762.04 D.2.c delete the fourth sentence in its entirety.

In Section 762.04 D.2.d delete the third sentence in its entirety and insert the following:

Short Term Type R and Short Term Type R-WR shall be installed in accordance to the manufacturers' temperature recommendations.

In Section 762.04 D.2.d delete the fourth sentence in its entirety and insert the following:

If the temperature falls below the manufacturers' temperature recommendations, short-term paint shall be substituted and paid for as "Short Term IN Line -- Type NR."

In Section 762.04 D.2.d delete the sixth sentence in its entirety and insert the following:

The short-term paint substitution shall cease and installation of "Short Term IN Line -- Type NR" shall proceed as soon as the temperature reaches the manufacturers' temperature recommendations.

762.04 D.3 PREFORMED PATTERNED PAVEMENT MARKING FILM

PAGE 497

2/20/09

In Section 762.04 D.3.a delete the first sentence in its entirety.

In Section 762.04 D.3.a delete the second sentence in its entirety and insert the following:

The permanent marking film shall be installed in accordance to the manufacturers' temperature recommendations. The permanent marking film shall not be placed over painted markings.

In Section 762.04 D.3.c delete the fifth sentence in its entirety.

762.04 D.6 EPOXY PAINT AND GLASS BEADS

PAGE 498

5/15/09

After the first paragraph of 762.04 D.6.c add the following paragraph in its entirety:

Before placement of epoxy material, the final lift of hot bituminous pavement shall be in place for a minimum of 14 days.

764.03 CONSTRUCTION REQUIREMENTS

PAGE 507

3/26/10

Delete the first five paragraphs in Section 764.03 A in its entirety and insert the following:

A. General. The guardrail shall be installed to produce a smooth continuous line with uniform height.

Guardrail posts shall be installed where staked and to the depth specified. Posts shall be set plumb with the front faces uniformly aligned.

All backfill shall be an approved material placed and compacted in 8-inch layers, using a mechanical tamper with an appropriate sized tamping head.

When guardrail posts are removed and not replaced in the same hole, the hole shall be backfilled with approved material. When the existing surround surface is bituminous, a maximum of 2 inches of cold mix or hot mix bituminous material shall be placed at the top of the hole to match existing surrounding surface as approved by the Engineer.

Hot bituminous pavement with a maximum thickness of 2 inches shall be placed prior to guardrail post installation, where applicable. All post holes for the new or reset guardrail shall be drilled through the hot bituminous pavement. The post may then be installed in the remaining material by augured holes or driving.

When posts are installed in augured holes, the holes shall be backfilled with approved material without displacing the post alignment. The surplus excavated material shall be disposed of at locations acceptable to the Engineer.

When posts are driven the diameter of the drilled hole in the hot bituminous pavement shall be sufficient so when the soil around a post heaves up while the post is driven, the remaining asphalt

will not move. A suitable head shall be used to prevent damage to the post while being driven. Damaged posts shall be replaced at the Contractor's expense. The post being replaced shall be installed by drilling. A post cap must be used when minor vertical adjustments are made using a sledgehammer or maul.

When the posts are in place the contractor shall then place a 2 inch maximum thickness of cold mix or hot mix bituminous material around each post, in the area where the asphalt was drilled through, to match the surrounding surface as approved by the Engineer.

764.03 I ATTENUATING CRASH CUSHIONS

PAGE 511

2/20/09

In Section 764.03 I in the sixth sentence in the third paragraph delete the phrase "eight sets of".

802.01 F TESTS ON CONCRETE

PAGE 532

10/15/10

In Section 802.01 F.6 insert the following sentence "A correction factor of 0.92 for compressive strength shall be applied to 4x8 inch concrete cylinders." following the second sentence in the first paragraph.

816.03 B SPECIFIC REQUIREMENTS

PAGE 543

**2/19/10
10/15/10**

In Table II: Aggregates for Asphalt Mixes, Blotter, and Seal Coats in Section 816.03 B insert the following column between Class 41 and Class 42:

Sieve Size Percent Passing	Chip Seal
	41M
3"	
1-1/2"	
1-1/4"	
1"	
3/4"	
5/8"	
1/2"	
3/8"	100
No. 4	20-70
No. 8	0-17
No. 16	
No. 30	
No. 50	
No. 200	0-1.5
Shale ¹	8.0%
L. A. Abrasion ¹	40%
Plasticity Index ²	
Fractured Faces ³	50%
Crushed Fines ⁴	

817.02 D PROCESSED VIRGIN AGGREGATE IN LIEU OF SALVAGED BASE

PAGE 547

5/15/09

In Section 817.02 D after the first sentence insert the following sentence:

The Contractor shall not substitute Class 5 Aggregate Base in lieu of Salvage Base without approval from the Engineer.

817.02 F BITUMINOUS COMBINED MATERIAL

PAGE 547

2/18/11

In Section 817.02 F.2 delete the first sentence in its entirety and insert the following:

The Contractor may, at his option, combine stockpiled material containing bitumen with aggregate or salvaged concrete. Stockpiled material containing bitumen shall be incorporated at a rate of 30 percent minimum to 50 percent maximum by total weight with aggregate or recycled concrete, without the required extraction sampling and testing (either initial or routine as specified in Section 302.02 B). Total weight is the combined weight of the stockpiled material containing bitumen and aggregate or salvaged concrete.

In Section 817.02 F.3 delete the first sentence in its entirety and insert the following:

If existing bituminous material from the project is incorporated into the Salvaged Base, the bituminous material shall be incorporated at a rate of 30 percent minimum to 50 percent maximum by total weight, with aggregate or recycled concrete. Total weight is the combined weight of the bituminous material and aggregate or salvaged concrete.

818.02 E ANIONIC EMULSIFIED ASPHALT

PAGE 549

2/20/09

In Section 818.02 E in the second table with the first column heading "Property" delete the fourth column labeled "HFRS 2P" in its entirety.

822.02 TESTING

PAGE 555

2/19/10

Delete Section 822.02 C in its entirety.

Delete Section 822.02 D in its entirety.

830.02 D SMOOTH WALL STEEL PIPE CULVERT

PAGE 560

2/18/11

Delete Section 830.02 B in its entirety and insert the following:

Smooth Wall Steel Pipe Culvert. Smooth wall steel pipe culvert shall be welded steel pipe of new material, meeting ASTM Specifications A 139, Grade B with a minimum yield strength of 35,000 psi. No hydrostatic testing will be performed. The following minimum wall thickness shall be used:

Diameter of Pipe	Minimum Wall Thickness Through Roadway
------------------	--

	Embankment
24 inches	0.312 inch
30 inches	0.406 inch
36 inches	0.469 inch
42 inches	0.500 inch
48 inches	0.563 inch
54 inches	0.656 inch
60 inches	0.719 inch
66 inches	0.813 inch
72 inches	0.875 inch

856.01 EROSION CONTROL FABRIC

PAGE 573

2/20/09

In Section 856.01 in second sentence in the paragraph after Table 856-1 Erosion Control blanket delete the word "with" and insert the following word "within".

860.01 CHAIN LINK FENCE

PAGE 576

10/15/10

Delete Section 860.01 in its entirety and insert the following:

- A. Chain link fence shall meet AASHTO M 181.
- B. Chain link fabric shall be 9 gauge wire 2" mesh. Knuckled finished top and bottom. Wire shall have a minimum tensile strength of 80,000 P.S.I.
- C. Top and bottom tensioning wires shall be 7 gauge steel wire with a minimum tensile strength of 80,000 P.S.I.
- D. Roll-formed sections shall be in accordance with ASTM F 1043.

860.02 A BARBED WIRE

PAGE 576

2/19/10

In Section 860.02 A insert the following after the second sentence:

Barbed wire shall be 12-½ gauge wire with two point barbs.

860.03 STEEL POSTS

PAGE 576

2/19/10

In Section 860.03 A delete the second paragraph in its entirety and insert the following:

Posts shall meet ASTM A 702, Type B Steel

Posts shall be galvanized in accordance with AASHTO M 111, or painted in accordance with Section 852.

In Section 860.03 B insert the following after the first paragraph:

Angle-type end, corner, pull posts, and braces shall be galvanized in accordance with AASHTO M 111, or painted in accordance with Section 852.

880.01 C SPECIFIC REQUIREMENTS FOR WATER-BASED TRAFFIC MARKING PAINT

PAGE 584

2/19/10

Delete Section 880.01 C.16 in its entirety and insert the following:

16. Acceptance.

- a. Pavement marking paint shall be preapproved. The Contractor shall obtain two, 1-pint samples of paint from each lot after the paint has been shipped to some point acceptable to the Engineer. Epoxy lined cans shall be used for sampling water based paint. Department personnel are to be notified and shall be present when each sample is obtained. The Department personnel will submit the samples to the Department's Materials and Research Division. The samples shall be submitted 30 days before the scheduled use of the marking paint. If the paint sample meets Specifications, the lot being represented by the sample will be accepted. If a paint sample fails to meet Specifications, the lot being represented by the sample will be rejected and replaced with paint that meets Specifications. All costs incurred in replacing nonspecification paint shall be at the Contractor's expense.
- b. No paint shall be used that is more than 15 months old.
- c. In addition to the requirements of this section, the certification supplied by the manufacturer shall include reference to the specific NTPEP test deck to which the paint formulation was applied, including NTPEP identification numbers and report numbers.

880.09 D SAMPLING RATE AND PROCEDURES

PAGE 596

2/19/10

In the first sentence in Section 880.09 D delete the number "15" in its entirety and insert "30".

894.01 B SHOP SURFACE PREPARATION AND PROCESSING

PAGE 597

10/16/09

In Section 894.01 B.3 delete the last sentence in its entirety and insert the following:

The coating shall meet ASTM B 921 or ASTM B 449, Class 2, 10-35 milligrams/square foot with a median of 25 milligrams/square foot as an optimum coating weight.

894.02 RETROREFLECTIVE SHEETING MATERIALS

PAGE 598

2/18/11

In Section 894.02 insert the following:

- H. Type IX Retroreflective Sheeting.** Type IX Retroreflective Sheeting shall meet or exceed ASTM D 4956, Type IX.

894.05 B.5 ACCESSORIES

PAGE 611

7/17/09

Delete Section 894.05 B.5.a in its entirety and insert the following:

- a. **Anchor Plates.** The anchor plates shall conform to ASTM A 36, 10 gauge with ASTM G-90 galvanized coating.

894.08 B.2 ROUND-TAPERED OR OCTAGONAL-TAPERED TUBES

PAGE 616

2/20/09

In Section 894.08 B.2 delete the sixth sentence in the first paragraph in its entirety and insert the following:

Shop drawings shall be submitted in accordance with Section 105.08 after the above design has been submitted and reviewed.

894.09 DETECTABLE WARNING PANELS

PAGE 618

7/17/09

In the first sentence of Section 894.09 A delete the phrase "1 foot by 2 feet" in its entirety and insert the following: 1 foot by 1 foot.

770.02 B SHOP DRAWINGS

PAGE 7, VOL. 2

2/20/09

In Section 770.02 B in the first sentence in the third paragraph delete the phrase "The Contractor shall submit eight sets of shop drawings on the following listed items for approval:" in its entirety and insert the following:

"The Contractor shall submit shop drawings in accordance with Section 105.08 for the following listed items for review:"

770.03 D.1 RIGID CONDUIT

PAGE 10, VOL. 2

2/20/09

In Section 770.03 D.1 delete the fourth paragraph in its entirety, starting with "Conduit shall be laid on".

772.02 B SHOP DRAWINGS

PAGE 18, VOL. 2

2/20/09

In Section 772.02 B in the third sentence in the second paragraph delete the phrase "The Contractor shall submit eight sets of shop drawings on the following listed items for approval:" in its entirety and insert the following:

"The Contractor shall submit shop drawings in accordance with Section 105.08 for the following listed items for review:"

772.03 T TESTS AND ACCEPTANCE

PAGE 30, VOL. 2

10/15/10

Delete Section 772.03 T in its entirety and insert the following:

- T. **Tests and Acceptance.** The Engineer will provide an inspection checklist at the preconstruction conference. When the installation is complete and at the time designated by the Engineer, an operating test shall be conducted for approval. The Contractor shall furnish instruments and personnel required for all tests, record all test results, and be present during all tests and inspections. Nighttime tests and inspections will be held when directed by the Engineer.
 - 1. **Initial Inspection.** An initial functional inspection shall be made approximately 15 days after a written statement from the Contractor certifying that all signals or flashing beacons under the Contract are operational and the inspection checklist work is completed. When snow or ice conditions are present preventing observation of installed equipment, or

when extreme cold conditions prevent proper observation of equipment operations and adjustments, the initial inspection will be delayed. The Engineer will determine when conditions have improved so the inspection can be scheduled. During the time of delayed inspection, all signals or flashing beacons in operation shall be maintained by the Contractor.

2. **Final Inspection.** A final functional inspection will be made between 30 and 60 days after the initial inspection. The Contractor will request the Engineer to schedule the final inspection. The Engineer shall notify the Traffic Operations Engineer to coordinate a time for the final inspection. The final inspection shall not be made until all items noted on the initial inspection have been corrected. Minor finish work items, such as dirt leveling, will not prevent the final inspection. The traffic signals or flashing beacons shall be in operation during this time. When snow, ice or extreme cold conditions are present preventing the proper observation of the installed equipment, the final inspection will be delayed. The Engineer will determine when the conditions have improved so the inspection can be scheduled. The Contractor shall maintain the signals or flashing beacons during the period between the initial inspection and final functional inspection.

Final Acceptance. Final acceptance will not be made until the system has been operating for 14 consecutive days after the final inspection without interruption due to malfunctions attributable to defective equipment or improper workmanship. The Contractor shall be responsible for the electrical and communications costs for the system until the traffic signals and/or flashing beacons are accepted by the Department.

895.11 E SYMMETRICAL LUMINAIRES

PAGE 50, VOL.2

2/19/10

Delete the first sentence in Section 895.11 E in its entirety and insert the following:

The symmetrical luminaires shall be Holophane Symmetrical Luminaire, Catalog No. HMAO C10HP 24R9; General Electric Asymmetrical Type X209 High Mast, Catalog No. X209Cl. OL360; Quality Symmetrical Luminaire, Catalog No. VA25V-1H or equal.

896.07 A TRAFFIC SIGNAL STANDARDS

PAGE 64, VOL. 2

6/19/09

In Section 896.07 A delete the sixth sentence in the first paragraph in its entirety and insert the following:

Fatigue Category III shall be used for Traffic Signal Standards less than a mast arm length of 40 feet, Fatigue Category II shall be used for Traffic Signal Standards equal to or greater than a mast arm length of 40 feet.
