NO. 9

NORTH DAKOTA
DEPARTMENT OF TRANSPORTATION

BIDDERS PROPOSAL FORM

STATE FEDERAL AID PROJECT NO. SHE-3-057(048)000 (PCN-18753)

0.000 Miles

SURVEILLANCE CAMERA SYSTEM, ENVIRONMENTAL SENSOR STATION, & GATE INSTALLATION

ND 57 FROM JCT US 281 TO JCT ND 20 - 6 SITES

BENSON and RAMSEY COUNTIES

DBE Race Neutral Goal - 0%

BID OPENING: The bidder's proposal form will be received via the Bid Express on-line bidding exchange at www.bidx.com until **09:30AM Central Time on October 25, 2013.**

Prior to submitting a Proposal Form, the Bidder shall complete all applicable sections and properly execute the Proposal in accordance with the specifications.

Proposal Form of:

_____
(Firm Name)

_____
(Address, City, State, Zipcode)

(For official use only)

PAGE INTENTIONALLY LEFT BLANK

Project: SHE-3-057(048)000 (PCN-18753)

The company, firm, corporation, or individual hereby acknowledges that it has designated a responsible person or persons as having the authority to obligate the company, firm, or individual, through electronic or paper submittal, to the terms and conditions described herein and in the contract documents. The designated responsible person submitting this proposal shall be hereafter known as the bidder. By submitting this proposal, the bidder fully accepts and agrees to all the provisions of the proposal. The bidder also certifies that the information given in this proposal is true and the certifications made in this proposal are correct.

The bidder acknowledges that they have thoroughly examined the plans, proposal form, specifications, supplemental specifications, special provisions and agrees that they constitute essential parts of this proposal.

The bidder acknowledges that all line items which contain a quantity shall have a unit price bid. Any line item which is bid lump sum shall contain a lump sum bid price.

The bidder acknowledges that they understand that the quantities of work required by the plans and specifications are approximate only and are subject to increases and decreases; the bidder understands that all quantities of work actually required must be performed and that payment therefore shall be at the prices stipulated herein; that the bidder proposes to timely furnish the specified materials in the quantities required and to furnish the machinery, equipment, labor and expertise necessary to competently complete the proposed work in the time specified.

NON-COLLUSION AND DEBARMENT CERTIFICATION

The bidder certifies that neither he/she, nor any official, agent or employee of the bidder has entered into any agreement, participated in any collusion, or otherwise taken any action which is in restraint of free competitive bidding in connection with this bid.

By submitting this bid, the bidder certifies to the best of his/her knowledge and belief that he/she and his/her principles:

a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal Department or agency;
b. Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or perform a public (Federal, State or Local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records; making false statements; or receiving stolen property

Project: SHE-3-057(048)000 (PCN-18753)

c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or Local) with commission of any of the offenses enumerated in paragraph b. of the certification; and
d. Have not within a three-year period preceding this proposal had one or more public transactions (Federal, State or Local) terminated for cause or default

Where the prospective bidder is unable to certify to any of the statements in this certification, the bidder shall submit an explanation in the blanks provided herein. The explanation will not necessarily result in denial of participation in a contract:

Explanation:_____
_____
_____
_____

If the prequalified bidder's status changes, he/she shall immediately submit a new fully executed non-collusion affidavit and debarment certification with an explanation of the change to the Contract Office prior to submitting the bid.

Failure to furnish a certification or an explanation will be grounds for rejection of a bid.

BID LIMITATION (Optional)

The bidder who desires to bid on more than one project on which bids are to be opened on the same date, and who also desires to avoid receiving an award of more projects than the bidder is equipped to handle, may bid on multiple projects and limit the total amount of work awarded to the bidder on selected projects by completing the "Bid Limitation".

The Bid Limitation must be filled in on each bid proposal for which the Bidder desires protection. Each such bid proposal must be covered by a proposal guarantee.

The bid limitation can be made by declaring the total dollar value of work OR total number of projects a bidder is willing to perform.

The Bidder desires to disqualify all of his/her bids on this bid opening that exceed a total dollar value of

$_____

OR

that exceed a total number of _____ projects.

The Bidder hereby authorizes the Department to determine which bids shall be disqualified.

Project: SHE-3-057(048)000 (PCN-18753)

PERMISSIBLE DISCOUNT (optional)

Only when invited to do so in the bidders proposal by Special Provision, Bidders are permitted to offer a discount on a specific project (discount project) if they are awarded the contract on one or more additional projects bid at the same bid opening time and date. The bidder must present the proposal so that it can be considered with or without the discount. The bid or discount offered on the "discount project" will not affect the determination of the low bid of any other project.

When discounts are offered, they must be presented as a reduction in the unit price for one or more items of work in the specified proposal (discount project).

Space for Offering Discounts:

_____

_____

_____

Item No:_____

Description:_____

Unit:_____

Proposal Quantity:_____ Unit Price Reduction: $_____ Discount: $_____

Item No:_____

Description:_____

Unit:_____

Proposal Quantity:_____ Unit Price Reduction: $_____ Discount: $_____

Item No:_____

Description:_____

Unit:_____

Proposal Quantity:_____ Unit Price Reduction: $_____ Discount: $_____

Item No:_____

Description:_____

Unit:_____

Proposal Quantity:_____ Unit Price Reduction: $_____ Discount: $_____

TOTAL DISCOUNT_____

It is understood that the discount will only apply if awarded under the conditions as listed above and signed by the bidder.

Project: SHE-3-057(048)000 (PCN-18753)

RECEIPT OF ADDENDA ACKNOWLEDGEMENT

We hereby acknowledge receipt of the following addenda:

Addendum #_____ Dated_____

Addendum #_____ Dated_____

Addendum #_____ Dated_____

Addendum #_____ Dated_____

Addendum #_____ Dated_____

Addendum #_____ Dated_____

BID GUARANTEE

A bid guarantee is required by Section 24-02-20, NDCC. The bid guarantee may be a bid bond equal to 10 percent of the full amount of the bid or a cashier's check of the bidder on a solvent bank equal to 5 percent of the bid. Bid bond shall be on the department form SFN 14196. Prior arrangements may be made with the department to file bid guarantees in advance.

*Contractors must have an annual bid bond on file with the department in order to submit bids electronically on the internet.

TYPE OF BID GUARANTEE APPLIED TO THIS PROJECT:

Check One: ___ Certified check or Cashier's check equal to 5% of the bid

___ Bid Bond equal to 10% of the bid

___ * Annual Bid Bond

DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION(RN)

North Dakota Department of Transportation, Civil Rights Division
SFN 52012 (Rev. 07-2012)

FORM A

Contractor		Phone
Job No.	Project No.	Bid Opening Date

By noon (Central time) on the next work day following the bid opening, all apparent low bidders must provide a list of the DBE firms intended for use on this project to the NDDOT Civil Rights Division. The information provided may be submitted on this Form A or on a computer-generated form, giving the same information, attached to this Form A. If the prime contractor intends to use DBE quotes received from a subcontractor, the prime contractor **must** include the subcontractor's Form A information in the prime contractor's Form A.

PRINT ALL NUMBERS CLEARLY AND LEGIBLY.

1. For each DBE firm, list the specific bid item numbers to be performed and the total dollar value of the contract:
   a. If the DBE firm will perform only a portion of a bid item (supply, haul, etc.), this **must** be so noted, in parenthesis, after the bid item number. **The bidder must state why the DBE was not used for the entire bid item.**
   b. For DBE subcontractors, suppliers (regular dealers), and manufacturers, **list only the amount of work to be completed with each DBE's own employees and equipment.**
   c. For DBE trucking firms, **list the amount of hauling to be performed by the DBE with its own trucks and employees;** or the fees or commissions earned on non-DBE leased trucks. However, if the DBE is leasing trucks from a non-DBE firm, including an owner-operator, you can count the total value of the services provided by the non-DBE, not to exceed the total value of the services provided by the DBE-owned trucks. (See page 9, number 4, of this special provision for more detailed information.)
2. DBE prime contractors **must** list the work they will perform with their **own forces** and any work subcontracted to or materials purchased from other DBEs.
3. If the information provided on Form C **differs** from the information provided on this Form A (bid item numbers, quantities, or dollar amounts), the apparent low bidder or subcontractor **must** provide, with the Form C, a written explanation for the difference.
4. The apparent low bidder or subcontractor **must** use the DBEs listed for the intended work indicated on Form C.
5. DBE bidders **must** list the work they will perform with their **own employees and equipment** and any work subcontracted to or materials purchased from other DBEs.

DBE Firm			
List Specific Bid Item Numbers or Products to be Supplied			Total Contract Dollar Value $
Percent DBE will do with own equipment/forces Percent Non-DBE will do (trucking only)	= =	% %	If Regular Dealer, X 60% = $

DBE Firm			
List Specific Bid Item Numbers or Products to be Supplied			Total Contract Dollar Value $
Percent DBE will do with own equipment/forces Percent Non-DBE will do (trucking only)	= =	% %	If Regular Dealer, X 60% = $

DBE Firm			
List Specific Bid Item Numbers or Products to be Supplied			Total Contract Dollar Value $
Percent DBE will do with own equipment/forces Percent Non-DBE will do (trucking only)	= =	% %	If Regular Dealer, X 60% = $

FORM A (continued)

DBE Firm			
List Specific Bid Item Numbers or Products to be Supplied			Total Contract Dollar Value $
Percent DBE will do with own equipment/forces = % Percent Non-DBE will do (trucking only) = %		If Regular Dealer, X 60% =	$

DBE Firm			
List Specific Bid Item Numbers or Products to be Supplied			Total Contract Dollar Value $
Percent DBE will do with own equipment/forces = % Percent Non-DBE will do (trucking only) = %		If Regular Dealer, X 60% =	$

DBE Firm			
List Specific Bid Item Numbers or Products to be Supplied			Total Contract Dollar Value $
Percent DBE will do with own equipment/forces = % Percent Non-DBE will do (trucking only) = %		If Regular Dealer, X 60% =	$

DBE Firm			
List Specific Bid Item Numbers or Products to be Supplied			Total Contract Dollar Value $
Percent DBE will do with own equipment/forces = % Percent Non-DBE will do (trucking only) = %		If Regular Dealer, X 60% =	$

DBE Firm			
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List Specific Bid Item Numbers or Products to be Supplied			Total Contract Dollar Value $
Percent DBE will do with own equipment/forces = % Percent Non-DBE will do (trucking only) = %		If Regular Dealer, X 60% =	$

DBE Firm			
List Specific Bid Item Numbers or Products to be Supplied			Total Contract Dollar Value $
Percent DBE will do with own equipment/forces = % Percent Non-DBE will do (trucking only) = %		If Regular Dealer, X 60% =	$

Use additional pages, following the same format, if necessary.

The NDDOT DBE Liaison Officer can be contacted at:

CIVIL RIGHTS DIVISION
ND DEPARTMENT OF TRANSPORTATION
608 E BOULEVARD AVE
BISMARCK ND 58505-0700

dlaub@nd.gov
phone (701) 328-2576
fax (701) 328-1965, (701) 328-0343

BID ITEMS

Project: SHE-3-057(048)000 (PCN-18753)

Bidder must type or neatly print unit prices in numerals, make extensions for each item, and total. Do not carry unit prices further than three (3) decimal places.

Item No.	Spec No.	Code No.	Description	Unit	Approx. Quantity	Unit Price $$$$$	Unit Price 000	Amount $$$$$	Amount 00
001	103	0100	CONTRACT BOND	L SUM	1.				
002	702	0100	MOBILIZATION	L SUM	1.				
003	704	0100	FLAGGING	MHR	50.				
004	704	1000	TRAFFIC CONTROL SIGNS	UNIT	1,332.				
005	704	1067	TUBULAR MARKERS	EA	60.				
006	708	1430	FIBER ROLLS 12IN	LF	220.				
007	772	2110	FLASHING BEACON-POST MOUNTED	EA	1.				
008	772	9150	INSTALL ESS STATION/RWIS	L SUM	1.				
009	772	9235	COMMUNICATION SYSTEM	L SUM	1.				
010	772	9300	SURVEILLANCE CAMERA SYSTEM	EA	2.				
011	980	0812	ROAD CLOSURE GATE-33 FT	EA	1.				
			TOTAL SUM BID						

Project: SHE-3-057(048)000 (PCN-18753)

Type of Work: SURVEILLANCE CAMERA SYSTEM, ENVIRONMENTAL SENSOR STATION, & GATE INSTALLATION

Counties: BENSON and RAMSEY

Length: 0.0000 Miles

TIME FOR COMPLETION:

The undersigned Bidder agrees, if awarded the contract, to prosecute the work with sufficient forces and equipment to complete the contract work within the allowable time specified as follows:

WORKING DAY CONTRACT: **NA** working days, counted as provided in Standard Specification No. 108.04. Working Days will be counted from **NA** or from the actual date on which on-site work is started, whichever is earlier.

CALENDAR DAY CONTRACT: **NA** calendar days. Calendar Days will be counted from **NA** or from the actual date on which on-site work is started, whichever is earlier.

COMPLETION DATE CONTRACT: **08/30/2014** provided however, that a minimum of **NA** working days, counted as provided by Standard Specification No. 108.04, are guaranteed for the performance of the work. Working days will be counted from **NA** or from the actual date on which onsite work is started, whichever is earlier.

Project: SHE-3-057(048)000 (PCN-18753)

Type of Work: SURVEILLANCE CAMERA SYSTEM, ENVIRONMENTAL SENSOR STATION, & GATE INSTALLATION

Counties: BENSON and RAMSEY

Length: 0.0000 Miles

CONTRACT EXECUTION:

The undersigned Bidder agrees, if awarded the contract, to execute the contract form and furnish a contract bond within ten days, as determined by NDCC Section 1-02-15, after date of notice of tentative award, in accordance with the provisions of Sections 103.05 and 103.06 of the Standard Specifications.

AFFIDAVIT:

STATE OF _____)
) ss.
COUNTY OF _____)

The undersigned bidder, being duly sworn, does depose and say that they are an authorized representative of _____
CONTRACTOR NAME

of _____ , a
MAILING ADDRESS

☐ Individual ☐ Partnership ☐ Joint Venture ☐ Corporation

and that they have read, understand, acknowledge, and accept the entire proposal form; and that all statements made by said bidder are true and correct.

_____ , TITLE _____
BIDDER MUST SIGN ON THIS LINE

_____
TYPE OR PRINT SIGNATURE ON THIS LINE

Subscribed and sworn to before me this day.

_____
COUNTY

(Seal)

_____ _____
STATE DATE

_____
NOTARY PUBLIC

My commission expires _____

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

Job #9, Project No. SHE-3-057(048)000

Surveillance Camera System, Environmental Sensor Station,
and Gate Installation

INDEX OF PROVISIONS

Road Restriction Permits

Hot Line Notice

North Dakota Department of Transportation Supplemental Specifications

Price Schedule for Miscellaneous Items dated March 1, 2013 (PS-1)

SP DBE Program - Race Neutral dated November 9, 2012

E.E.O. Affirmative Action Requirements dated June 27, 2002

Appendix A of the Title VI Assurances dated June 27, 2011

Required Contract Provisions Federal Aid Construction Contracts
(Form FHWA 1273 Rev. May 1, 2012)

Labor Rates from U.S. Department of Labor dated January 4, 2013, revised
March 8, 2013 (Mod. No. 1)

On-The-Job Training Program dated January 15, 2013

SP 686(08) Tribal Employment Rights Ordinance (TERO) Requirements

SP 1011(08) Highway 57 Intelligent Transportation Systems Improvements

SP Fuel Cost Adjustment Clause dated September 8, 2006

NOTICE

TO: All prospective bidders on all North Dakota Department of Transportation Highway Construction Projects.

Contractors moving construction equipment to NDDOT highway construction projects are subject to the Road Restriction Policy with the following modifications:

A. The contractor may purchase up to 10 single trip permits for each NDDOT highway construction project at a cost ranging from $20 to $70 each. These permits must be purchased from the Motor Carrier Division of the Highway Patrol at the central office of the NDDOT in Bismarck, North Dakota.

B. The $1 per mile fee will not be charged for Gross Vehicle Weights (GVW) exceeding 105,500 pounds, 105,500 pounds, and 105,000 pounds for highways Restricted by Legal Weights, 8 Ton, and 7 Ton highways respectively.

C. The $5 per ton per mile fee will be charged only for loads exceeding a GVW of 130,000 pounds, 120,000 pounds, 110,000 pounds and 80,000 pounds for highways Restricted by Legal Weights, 8 Ton, 7 Ton, and 6 Ton highways respectively.

D. The maximum weights per axle for each of the class restrictions still apply. If it is shown that more axles cannot be added, movement may be authorized; however, a $1 per ton per mile fee will be charged for all weight in excess of the restricted axle limits.

E. These construction equipment single trip permits apply to State and US Highways only.

F. The District Engineers and Highway Patrol will select the route of travel.

G. Contractors moving equipment to other than NDDOT highway construction projects are subject to all fees as shown in the Road Restriction Permit Policy.

H. Contractors must call the Highway Patrol prior to movement of all overweight loads on all State and US Highways.

NDDOT ROAD AND VEHICLE RESTRICTIONS Date Revised 05-22-10

ROAD RESTRICTION PERMITS

Permits shall be issued for the movement of non-divisible vehicles and loads on state highways which exceed the weight limits during spring road restrictions. The issuance of permits may be stopped or posted weights changed at any time based on the varying conditions of the roadways. Permits can be obtained from the Highway Patrol.

RESTRUCTION CLASSIFICATIONS WITH ALLOWABLE AXLE WEIGHTS AND GROSS VEHICLE WEIGHTS	PERMIT AND TON/MILE FEES
Highways Restricted by Legal Weight Single Axle -- 20,000 lbs. Tandem Axle -- 34,000 lbs. Triple Axle -- 48,000 lbs. 4 Axles or more -- 15,000 lbs. per axle Gross Vehicle Weight -- 105,500 lbs. Note: The above weights apply to state highways restricted by legal weights, other than interstate highways, in areas where road restrictions are in force. When the gross weight of an axle grouping exceeds 48,000 pounds, the $1 per ton per mile shall apply to all weight in excess of 15,000 pounds per axle.	Permit Fee: $20-$70 per trip Ton Mile Fee: 105,501 lbs. to 130,000 lbs. GVW -- $1 per mile Over 130,000 lbs. GVW – $1 per mile **plus** $5 per ton per mile for that weight exceeding 130,000 lbs. GVW Exceeding axle limits -- $1 per ton per mile
8-Ton: Single Axle -- 16,000 lbs. Tandem Axle -- 32,000 lbs. 3 Axles or more -- 14,000 lbs. per axle Gross Vehicle Weight -- 105,500 lbs.	Permit Fee: $20-$70 per trip Ton Mile Fee: 105,501 lbs. to 120,000 lbs. GVW -- $1 per mile Over 120,000 lbs. GVW – $1 per mile **plus** $5 per ton per mile for that weight exceeding 120,000 lbs. GVW Exceeding restricted axle limits -- $1 per ton per mile
7-Ton: Single Axle -- 14,000 lbs. Tandem Axle -- 28,000 lbs. 3 Axles or more -- 12,000 lbs. per axle Gross Vehicle Weight -- 105,500 lbs.	Permit Fee: $20-$70 per trip Ton Mile Fee: 105,500 lbs. to 110,000 lbs. GVW -- $1 per mile Over 110,000 lbs. GVW – $1 per mile **plus** $5 per ton per mile for that weight exceedi ng 110,000 lbs. GVW Exceeding restricted axle limits -- $1 per ton per mile
6-Ton: Single Axle -- 12,000 lbs. Tandem Axle -- 24,000 lbs. 3 Axles or more -- 10,000 lbs. per axle Gross Vehicle Weight -- 80,000 lbs.	Permit Fee: $20-$70 per trip Ton Mile Fee: $5 per ton per mile for all weight exceeding 80,000 lbs. GVW Exceeding restricted axle limits -- $1 per ton per mile
5-Ton: Single Axle -- 10,000 lbs. Tandem Axle -- 20,000 lbs. 3 Axles or more -- 10,000 lbs. per axle Gross Vehicle Weight -- 80,000 lbs.	No overweight movement allowed

SINGLE UNIT FIXED LOAD VEHICLES SUCH AS TRUCK CRANES AND WORKOVER RIGS

A. Permit Fee and Ton Mile Fee for Self-Propelled Fixed Load Vehicles.

1. Permit Fee: $25 per trip

2. $1 per ton per mile for all weight in excess of restricted axle limits or in excess of legal limits on state highways in areas where road restrictions are in force. When the gross weight of an axle grouping exceeds 48,000 pounds, the $1 per ton per mile shall apply to all weight in excess of 15,000 pounds per axle (see weight classification chart in section C.)

3. $5 **per ton per mile** for all movements exceeding the following gross vehicle weight limits:

   a. 105,500 lbs. GVW on unrestricted state highways, other than interstate highways, in areas where road restrictions are in force.
   b. 105,500 lbs. GVW on 8-ton highways.
   c. 105,500 lbs. GVW on 7-ton highways.
   d. 80,000 lbs. GVW on 6-ton highways.
   e. No overweight movement allowed on 5-ton highways

B. Permit Fees for Work-Over Rigs and Special Mobile Equipment Exceeding 650 but not 670 Pounds Per Inch Width of Tire.

1. Permit Fee:
   a. $50 per trip on work-over rigs up to 650 pounds per inch width.
   b. $75 per trip on work-over rigs that exceed 650 but not 670 pounds per inch width of tire.
2. The work-over rig shall be stripped to the most minimum weights.
3. A minimal number of state highway miles shall be used.
4. District engineer approval shall be obtained prior to movement when vehicle exceeds restricted axle weights by more than 5,000 pounds.
5. A validation number ending in TM must be obtained from the Highway Patrol prior to using a self-issue single trip movement approval form.
6. The ton mile shall be waived.

NOTICE

U.S. DEPARTMENT OF TRANSPORTATION

"HOT LINE"

As part of its continuing investigation into Highway Construction Contract Bid Rigging and abuses in the Disadvantaged Business Enterprise Program, the Inspector General for the Department of Transportation (DOT) has established a "HOT LINE" to receive information from contractors, suppliers, or anyone with knowledge of such activities.

The toll-free "HOT LINE' telephone number is 1-800-424-9071 and will be manned during normal working hours (8 a.m. to 5 p.m. EST). This operation is under the direction of DOT's Inspector General. All information will be treated confidentially and anonymity will be respected.

CALL
Inspector General's 'HOT LINE'
Toll Free 1-800-424-9071
Washington, DC Area:
202-366-1461
Fax: 202-366-7749

WRITE
Inspector General
Post Office Box 23178
Washington, DC 20026-0178

Email: hotline@oig.dot.gov

The field office address and telephone number for NORTH DAKOTA is:

CHICAGO REGIONAL OFFICE

Special Agent-in-Charge
Commercial: 312-353-0106
111 N. Canal St., Suite 677
Chicago, Illinois 60606

CERTIFICATION

I hereby certify the attached supplemental specifications effective on October 1, 2013.

.

/S/ *18 July 2013*

Bob Fode, P.E., Director
Office of Project Development

Date:

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION
SUPPLEMENTAL SPECIFICATIONS

Effective Date: 10/01/2013

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

CERTIFICATION **PAGE I, VOL 1** **5/20/11**

Delete page I in its entirety and insert the following page:

COPIES OF THIS BOOK MAY BE OBTAINED FROM:
North Dakota Department of Transportation
Environmental and Transportation Services
608 East Boulevard Avenue
Bismarck, ND 58505-0700
Phone: (701) 328-2590
Fax: (701) 328-0310
Email: dotspecbook@nd.gov
www.dot.nd.gov

All orders must be prepaid by Check, Money Order, Discover, VISA, or MasterCard. Orders may be requested via fax, phone, or internet.

The electronic versions of:

Standard Specifications for Road and Bridge Construction, Volume I
Standard Specifications for Road and Bridge Construction, Volume II
Current Supplemental Specifications

are available at: www.dot.nd.gov

I hereby certify that this Standard Specifications Book was prepared under the Office of Project Development, compiled from specifications prepared, examined, adopted and implemented by the North Dakota Department of Transportation in accordance with established procedures, and as approved by the Federal Highway Administration.

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

2/9/11
Date

These North Dakota Department of Transportation Standard Specifications for Road and Bridge Construction, 2008, are hereby approved for application on highway and related constructions contracts as referenced in the contract plans or specifications, and they shall apply as noted and amended by those documents.

Approved,

Grant Levi
Grant Levi, P.E.
Deputy Director for Engineering

2/9/11
Date

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Delete the title of Section 106.09 “Buy American Products” in its entirety and insert “Buy America Products”.

102.00 BIDDING REQUIREMENTS AND CONDITIONS **PAGE 18** **7/1/12**

Delete Section 102 in its entirety and insert the following:

SECTION 102
BIDDING REQUIREMENTS AND CONDITIONS

102.01 PREQUALIFICATION OF BIDDERS.

Only prequalified Bidders will be allowed to bid on any Project. Evidence consists of detailed information regarding the Bidder’s finances, organization, equipment, and previous experience, provided on standard forms furnished by the Department. The prequalification forms shall be submitted not less than 7 days before the bid opening in which the Bidder desires to bid, and at such additional times as the Director may request or the Bidder elect. The prequalification shall be in force for the time period specified in the Department’s written authorization.

The Director reserves the right to check any or all statements submitted by the Bidder, and to obtain additional pertinent information from other sources. The Department reserves the right to disqualify a prospective Bidder for any reasons stated in Section 102.13.

102.02 CONTRACTOR’S LICENSE.

A Bidder is not required to have a Contractor’s license from the State of North Dakota to bid on a Project, however, a Contract will not be executed until the Contractor obtains an appropriate North Dakota Contractor’s license.

102.03 CONTENTS OF PROPOSAL FORMS.

The Proposal Form will show the location and description of the contemplated construction, the estimate of the various quantities, the types of work to be performed or materials to be furnished, and the schedule of items for which Unit Bid Prices are invited. The Proposal Form will state the time in which the work must be completed; and the date, time, and place for opening of Proposals. The Proposal form will also include any Special Provisions or requirements which vary from or are not contained in the Standard Specifications.

The Plans, Specifications, other documents designated in the Proposal Form will be considered a part of the Proposal whether attached or not.

102.04 ISSUANCE OF PROPOSAL FORMS.

Proposal Forms will be issued in accordance with the Advertisement for Bids.

102.05 INTERPRETATION OF QUANTITIES IN BID SCHEDULE.

The quantities appearing in the bid schedule are estimates prepared for comparison of bids. Payment will be made for actual quantities of work performed and accepted or materials furnished according to the Contract. The estimated quantities of work and materials may be increased, decreased, or pay items may be eliminated in their entirety.

102.06 EXAMINATION OF PLANS, SPECIFICATIONS, SPECIAL PROVISIONS, AND SITE OF WORK.

The Bidder is to examine the site of the proposed work, the Proposal, Plans, Specifications, Supplemental Specifications, Special Provisions, and all other Contract forms before submitting a Proposal. The Bidder is responsible for all site conditions that should have been discovered with a Bidder

site investigation. The submission of a proposal will be considered conclusive evidence that the Bidder is satisfied with the conditions to be encountered in performing the work and as to the requirements of the proposed Contract.

Boring logs and other records of subsurface investigations are available for inspection by Bidders. It is made available so all Bidders have access to identical subsurface information available to the Department, and is not intended as a substitute for personal investigation, interpretations, and judgment of the Bidders. This availability shall not relieve the Bidder of the responsibility stated in the preceding paragraph. The Department will not be bound by any statement or representation concerning conditions made by any of its employees or agents before the execution of the Contract, unless included in the Proposal Form, Plans, Specifications, Supplemental Specifications, Special Provisions, or related Contract forms.

Any explanation desired by a Bidder regarding the meaning or interpretation of the Proposal Form, Plans, Specifications, etc., must be requested from the Central Construction Office in adequate time to allow a reply to reach all Bidders before submission of their Bids. Interpretations will be made by addendum. Oral explanations or instructions given before the bid opening will not be binding.

102.07 PREPARATION OF PROPOSALS.

A. **General.** The Bidder shall prepare the Proposal Form furnished by the Department utilizing the Expedite Files, unless the Department indicates that paper bids will be accepted.

The Department will provide bidding information, Plans, proposal forms, addenda and other documents on the Department's Web site. Bidders shall check the Department's Web site for addenda prior to submitting a bidder's proposal. The Department will post all addenda no later than 4:00 p.m. Central Time two days before the bid opening. An exception to this timeframe is the withdrawal of a project from the bid opening. Bidders shall acknowledge the receipt of all addendums as designated in the proposal form. Electronic bid files (Expedite files) are provided through the Bid Express on-line bidding exchange at www.bidx.com/ and the Department's Web site at www.dot.nd.gov/ . Bidders shall ensure they have downloaded any addenda files prior to submitting their final bid. Bidders shall check either the Bid Express Web site or the Department's Web site after 5:00 p.m. Central Time two days before the bid opening, to ensure that all addenda files for the Expedite files have been downloaded before submitting the final bid.

Interested parties can subscribe to the Bid Express on-line bidding exchange by following the instructions provided at the www.bidx.com Web site or by contacting:

Info Tech Inc.
5700 SW 34th Street, Suite 1235
Gainesville, FL 32608-5371
email: mailto:customer.support@bidx.com

When an item on the Bid Schedule allows a choice of alternates, the Bidder shall indicate the choice for that particular item.

Proposals submitted by (1) an individual must be signed by that individual, (2) a partnership, must be signed by a partner, or (3) a corporation must be signed by an officer of the corporation with the officer's title. Proposals submitted by a joint venture must be signed by a legally qualified representative of each of the parties to the joint venture. A Proposal may be executed for an individual, a legal entity, or a joint venture by anyone having a power of attorney, provided a copy of the power of attorney is attached to the proposal or is previously filed with the Department.

A Bidder may submit bids on more Projects than they desire to accept. Each such bid proposal must be covered by a Proposal Guaranty. The Bidder may indicate the total work desired and the Director will determine which of the low bids will be accepted within the Bidder's indicated bid limitations. This limitation will apply only to Projects on which the Bid Limitation Section in the Proposal Form has been completed by the Bidder.

B. **Combination (Tied) Proposals.** Proposal Forms may be issued for Projects in combination or separately, so bids may be submitted either on the combination or on separate units of the combination. The Department reserves the right to make awards on combination bids or separate

bids to the advantage of the Department. Combination bids, other than those specified, will not be considered. Separate Contracts will be written for each Project included in the combination.

C. **Electronic Bidding**. Prior to submitting bids via Bid Express, the Bidder shall obtain a bidder identification number from the Department. The Bidder shall create a digital ID by following the directions on the Bid Express website. The digital ID shall be on file and enabled with Bid Express. Using this digital ID shall constitute the Bidder's signature for proper execution of the Proposal. The Department will not be responsible if Bidder cannot submit bid to Bid Express. Claims will not be accepted based on such failure.

1. Download the EBS files, DBE bin files and any addendums from the Bid Express or Department's Web site.

2. Use Expedite software to generate and prepare the Bidder's Proposal. Provide a unit price for each bid item, except as not required in the case of alternate bid items. Follow the software instructions and review the help screens provided on the Bid Express Web site to assure that the schedule of items is prepared properly.

3. Submit the bid according to the requirements of the Expedite software and the Bid Express Web site.

The Department will consider bids submitted over the Internet as accepted, at the time and date specified in the Notice to Bidders and not before such time and date.

E. **Paper Bids.** Paper bids under this section will only be accepted when the Department indicates that this method is allowed for a specific project. Proposals submitted on paper shall be signed and notarized in ink in the spaces provided on the Proposal Form.

The Bidder shall enter a unit price in numerals on the Bid Schedule for each bid item, except as not required in the case of alternate bid items. The Bidder shall enter the product of each unit price and respective quantity. The sum of the products (Total Sum Bid) shall be entered where indicated.

The paper bid schedule can be a printout generated by the current version of Expedite, used by the Department.

102.08 PROPOSAL GUARANTY.

An annual bid bond, single project bid bond, or certified or cashier's check shall accompany all proposals. Arrangements may be made with the Department to file Proposal Guaranties in advance of the bid opening.

A. Annual Bid Bond. The Bidder shall have a properly executed annual bid bond on file with the Department. An annual bid bond is filed on the Department's form titled Annual Bid Bond (SFN 50231) and applies to all proposals submitted by a Bidder in a calendar year.

Bid Bonds must be a sum equal to 10 percent of the full amount of the bid and must be executed on the Department's form titled Annual Bid Bond (SFN 50231).

B. Single Project Bid Bond. The Department may, upon request, allow for single project bid bond to be filed in advance of the bid opening.

Bid bonds under this section shall be a sum equal to 10 percent of the full amount of the bid executed by the Bidder as principal and by Surety company authorized to do business in North Dakota using the Department's form titled Bid Bond – Single Project (SFN 14196).

C. Certified Check or Cashier's Check. The Department may, upon request, allow a Bidder to file a certified check or cashier's check in advance of the bid opening on a solvent bank in a sum equal to 5 percent of the full amount of the bid.

If the successful bidder fails to sign a Contract with the Department within 10 days after the notice of an award, the Bidder's bid bond or the certified or cashier's check will be forfeited to the Department.

102.09 DELIVERY OF PROPOSALS.

The Bidder shall submit the Proposal Form furnished by the Department before the time and date designated in the Notice to Bidders.

A. Electronic bid on the internet using Bid Express. Bidders utilizing this bid submission method shall not sign, notarize, nor return the Proposal Form as described in other sections of the Specifications.

B. Paper bid on the Proposal Form furnished by the Department. Proposals shall be placed in a sealed envelope bearing the Bidder's name, and plainly marked to indicate its contents.

Proposals received after the time established for opening of Proposals will be returned unopened.

Mailed bids will be accepted, if all other bidding requirements have been met and the bids are received prior to the date and time designated on the Notice to Bidders. If a Proposal Guaranty check is required, as specified in Section 102.08 B, such check must accompany any mailed bid.

102.10 WITHDRAWAL OR REVISION OF PROPOSALS.

A Bidder may withdraw or revise a Proposal after delivery to the Department, provided the request for withdrawal or revision is received in writing before the time established for opening Proposals.

102.11 PUBLIC OPENING OF PROPOSALS.

Proposals will be publicly opened and announced at the time and place indicated in the Notice to Bidders.

102.12 IRREGULAR PROPOSALS.

A. Proposals will be considered irregular and will be rejected if:

1. The Proposal is not electronically signed by use of the digital ID; or in the case of a paper bid, it is not properly signed and notarized.

2. The Proposal is not submitted in accordance with Section 102.07 or Section 102.09.

3. The Bidder fails to provide a properly executed Proposal Guaranty.

4. The Bidder adds any provisions reserving the right to accept or reject an award, or to enter into a Contract pursuant to an award.

This does not exclude a bid limiting the maximum gross amount of awards acceptable to any one Bidder at any one bid opening. Selection of awards will be made by the Department.

B. Proposals may be considered irregular and may be rejected if:

1. The submitted Proposal fails to comply with any other requirements of the "Notice to Bidders" or the issued Proposal itself.

2. There are unauthorized additions, conditional or alternate bids, or irregularities of any kind which may make the Proposal's meaning incomplete, indefinite, or ambiguous.

3. A price per unit cannot be determined from the bid proposal, except in the case of authorized alternate pay items.

4. The Proposal does not include a unit price for every bid item, except in the case of authorized alternate pay items.

5. It is determined that any of the unit prices are materially unbalanced to the potential detriment of the Department.

6. The Unit Prices on paper bids are not typed or entered in ink.

7. The check code printed on the bottom of the printout of the Expedite-generated schedule of items is not the same on each page.

8. There is non-compliance with the Disadvantage Business Enterprise (DBE) requirements.

102.13 DISQUALIFICATION OF BIDDERS.

The Department has the right to disqualify a Bidder after a proposal has been submitted.

A. The following reasons will be considered sufficient for disqualifying a Bidder and rejecting a Proposal or Proposals.

1. Not prequalified in accordance with Section 102.01.
2. Evidence of collusion among Bidders. Participants in collusion will not receive recognition as Bidders for future work with the Department until they are reinstated as a qualified Bidder.
3. More than one Proposal for the same work from an individual, firm, or corporation under the same or different name.
4. Any other reason deemed proper by the Department.

B. The following reasons may be considered sufficient for disqualifying a Bidder and rejecting a Proposal or Proposals.

1. Uncompleted work which the Department determines might hinder or prevent prompt completion of additional work.
2. Failure to promptly pay or satisfactorily settle all claims for labor and material on any Contract, including those Contracts where the Contractor is a party to a joint venture that has failed to settle such claims.
3. Default under previous Contracts.
4. Failure to repay monies due the Department resulting from overpayments.
5. Unsatisfactory performance on previous work or current Contract(s), consisting of, but not limited to, repeated:
   - **a.** Noncompliance with Contract requirements, or Engineer's directives.
   - **b.** Failure to complete work on time.
   - **c**. Instances of substantial corrective work prior to acceptance.
   - **d**. Instances of completed work that requires acceptance at reduced pay.
   - **e.** Production of non-specification work or materials.
6. Questionable moral integrity, as determined by the Attorney General of the State, or the Department.
7. Disbarment from performing work on Federal Contracts.

103.02 AWARD OF CONTRACT **PAGE 26** **5/20/11**

In Section 103.02 delete the second paragraph in its entirety and insert the following:

The successful Bidder shall submit an initial schedule of proposed progress on Department form SFN 7721 within 10 days after the bid opening. The time schedule submitted on the proposed progress chart shall not change the Contract requirements listed in the Proposal Form.

104.06 B SUBMISSION OF THE CLAIM **PAGE 34** **10/15/10**

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

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

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

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.

105.02 CONTRACTOR REQUIREMENTS PAGE 39 2/18/11

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 PAGE 44 2/20/09

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**
3/01/13

Delete Section 107.02 in its entirety and insert the following:

A. **General.** The Contractor shall obtain and submit to the Engineer all permits and licenses; pay all charges, fees, and taxes; and give all notices necessary and incidental to the due and lawful prosecution of the work.

These charges, fees, or taxes may include, but are not limited to, State sales taxes, City sales taxes, and TERO or Indian Reservation taxes or requirements.

No claim shall be made to the Department for reimbursement of these taxes, charges, fees, or for any costs related in meeting TERO or Indian Reservation requirements. All these costs shall be included in the bid prices for the Contract items.

B. State Water Commission. It is the Contractor's responsibility to obtain the necessary permit from the State Water Commission after the Contract has been awarded and prior to obtaining surface or ground water from the water source.

The Application for a Temporary Water Permit (SFN 60158) must be completed and submitted to the State Water Commission by the Contractor to obtain the permit.

The Contractor shall obtain permission for access to the waterway from all affected landowners prior to obtaining surface or ground water from the water source. The Contractor shall submit written permission for access to the waterway from all affected landowners and the Temporary Water Permit to the Engineer prior to obtaining surface or ground water from the water source.

For additional information from the State Water Commission, contact:

State Engineer
North Dakota State Water Commission
State Office Building

900 East Boulevard Ave
Bismarck, ND 58505-0850
(701) 328-2754
swc@nd.gov

C. **United States Army Corps of Engineers Water Permit.** All waterways listed below will require a United States Army Corps of Engineers Water permit in addition to the North Dakota State Water Commission permit. It is the Contractor's responsibility to obtain the necessary permit from the Corps of Engineers after the Contract has been awarded. Corps of Engineers Form 4345 must be completed and submitted to the Corps by the Contractor to obtain the permit prior to obtaining water from the waterways listed:

MISSOURI RIVER - from the Montana-North Dakota state line to the North Dakota-South Dakota state line

YELLOWSTONE RIVER - from the Montana-North Dakota state line to its mouth

UPPER DES LACS LAKE

RED RIVER OF THE NORTH - from Wahpeton, ND, to the Canadian border

BOIS DE SIOUX RIVER - from the South Dakota-North Dakota state line to Wahpeton, ND

JAMES RIVER - from Jamestown, ND, to the North Dakota-South Dakota state line

For additional information from the Corps of Engineers, contact:

Bismarck Regulatory Office
1513 S. 12th St.
Bismarck, ND 58504
Telephone 701-255-0015

D. 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.

107.05 B HAUL ROADS **PAGE 61** **4/17/09**

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

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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 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 B PROGRESS SCHEDULE **PAGE 70** **5/20/11**

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

B. **Progress Schedule.** The Contractor shall provide sufficient materials, equipment, and labor to guarantee completion within the time established in the Contract. The Contractor shall submit a detailed progress schedule to the Engineer at least ten calendar days prior to the preconstruction conference. The progress schedule shall be used to establish the critical construction operations and to monitor progress of the work.

Unless the Contract requires a CPM Schedule, the Contractor shall provide a progress schedule in the form of a time-scaled bar chart and narrative meeting the following minimum requirements:

1. Define activities that describe the essential features of the work, activities that might delay Contract completion, activities related to procurement of significant materials and equipment, and other critical activities.

2. The planned start and completion dates for each activity, the duration of each activity, and the sequencing of all activities.

3. Dates related to the submission of shop drawings, plans and other data specified for review or approval by the Department.

4. Dates related to utility adjustments and other third party activities.

5. Number of work days planned per week, the number of hours planned per work day, major equipment planned, and planned activity production rates per work day.

The Contractor shall submit an updated progress schedule once every month. At a minimum, updates will include the actual start and finish of each activity, percentage complete, and remaining durations of activities started but not yet completed. Additional updates may be required when critical activities fall behind schedule more than 14 calendar days or when requested by the Engineer.

No work shall be started until the progress schedule is acceptable to the Engineer. The Engineer will accept or reject the progress schedule based solely on completeness. Acceptance of the progress schedule does not modify the Contract or constitute endorsement or validation by the Engineer of the Contractor's logic, activity durations, or assumptions in creating the schedule. Failure to provide a progress chart may result in withholding Contract payments until a progress chart or required updates to the progress have been submitted.

108.01 C CRITICAL PATH METHOD (CPM) SCHEDULE **PAGE 70** **10/16/09**
2/19/10
3/26/10
10/01/13

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 CPM scheduling software that is compatible with Microsoft Project. 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**
10/19/12

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			**Amount Liquidated Damages**	
Over - To & Including			Calendar Day	Working Day
$0	-	$100,000	$350	$400
$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	-	$3,000,000	$1,500	$1,900
$3,000,000	-	$5,000,000	$1,900	$2,300
$5,000,000	-	$8,000,000	$2,200	$2,800
$8,000,000	-	$12,000,000	$2,500	$3,300
$12,000,000	-	$18,000,000	$3,000	$3,800
$18,000,000	-	Up	$3,500	$4,400

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 the 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.

109.05 PARTIAL PAYMENT. **PAGE 84** **2/20/09**

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.

110.04 STORM WATER PERMITS. **PAGE 89** **11/20/09**

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.

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151 GENERAL EQUIPMENT **PAGE 99** **10/21/11**

Insert the following in Section 151:

151.09 MICRO SURFACING AND SLURRY SEAL EQUIPMENT.

A. Mixing Equipment. The equipment shall be self-propelled and specifically designed and manufactured to lay Micro Surfacing or Slurry Seal Coat. The mixing machine shall be a continuous flow unit able to accurately deliver and proportion the aggregate, emulsified asphalt, mineral and field control additives, and water to a revolving multi-blade twin shafted mixer and discharge the mixed product on a continuous flow basis. The machine shall have sufficient storage capacity for aggregate, emulsified asphalt, mineral and field control additives, and water to maintain an adequate supply to the proportioning controls. The machine may be equipped with self-loading devices which provide for the loading of materials while continuing to lay Micro Surfacing or Slurry Seal Coat.

B. Proportioning Devices. Individual volume or weight controls for proportioning each material to be added to the mix shall be provided and properly marked.

C. Emulsion Pumps. The emulsion pump shall be a heated positive displacement type.

D. Spreading Equipment. A mechanical type spreader box shall be attached to the mixer. The spreader box shall be equipped with paddles to agitate and spread the materials throughout the box. The surfacing mixture shall be spread uniformly by the spreader box. A front seal shall be provided to ensure no loss of the mixture at the road contact point. The rear seal shall act as final strike off and shall be adjustable. The spreader box and rear seal shall be designed and operated to achieve a uniform consistency and to produce a free flow of material to the rear seal. The spreader box shall have suitable means provided to side shift the box to compensate for variations in pavement width and longitudinal alignment. The spreader box shall also be hinged near the center to compensate for a quarter crown.

E. Rut box. A Rut Box shall be used only for Micro Surfacing. A Rut Box shall be available to pre-fill wheel ruts, when necessary, prior to overlay. The box shall be commercially designed and manufactured with hydraulically adjusted strike off screeds to attain maximum grade and profile. The Rut Box shall be five feet in width and capable of an inverted or regular crown.

151.07 SCALES **PAGE 104** **10/19/12**
11/01/12

Delete Section 151.07 in its entirety and insert the following:

151.07 Scales

A. General.

Materials measured and paid for by weight shall be weighed on a certified scale. The Contractor shall provide a person to operate the scale, issue weigh tickets, perform scale verifications, and prepare tare weight reports and daily haul summaries.

The Contractor is responsible for meeting legal load limits. Scales shall:

1. Be certified by a scale service company registered with the North Dakota Public Service Commission. The certification must have been performed within 9 months prior to use on the project.
2. Be accurate to within 1.0 percent of the true weight of the applied load throughout the range of use.

B. Scale Applications.

1. **Computerized Scales**.
   - **a.** Shall be equipped with a digital readout and computer capable of producing weigh tickets and daily haul summaries.
   - **b.** Shall be used to determine the weight of a material when the estimated quantity of the pay item is more than 2,000 tons.

2. **Computerized Loader Bucket Scales.**
   - **a.** Shall be equipped with an onboard computer capable of producing weigh tickets.
   - **b.** May be used to weigh materials with estimated quantities in excess of 2,000 tons, but shall not be used to weigh materials when the estimated quantity of a pay item is over 10,000 tons.
   - **c.** May be used to weigh aggregates specified under Sections 420, 421, and 422 regardless of quantity.

Computerized or non-computerized scales may be used to weigh materials when the estimated quantity is less than 2,000 tons.

C. Types of Scales.

1. **Platform Scales.**

   Platform Scales shall be equipped with a platform of sufficient length to allow all axles of the longest truck or truck-trailer combination used on the project to be weighed simultaneously.

   The Contractor shall determine the daily tare weight of each truck before it hauls its first load. Trucks shall be fully fueled when determining the tare weight.
   Platform Scales shall be verified before first use and any time the scale is recertified by performing the Zero Load Test, the Comparison Test, the Sensitivity Test, and the Shift Test.

2. **Hopper or Batch Scale.**

   Hopper or Batch scales shall use a load cell or cells.

   Hopper or Batch scales shall be verified before first use and any time the scale is recertified by performing the Zero Load Test, the Comparison Test, and the Sensitivity Test.

3. **Computerized Loader Bucket Scale.**

   Loader Bucket Scales shall be verified by performing the Comparison Test before first use and any time the scale is recertified.

D. Verification Tests.

The Engineer shall verify the scale's accuracy by observing the Contractor check the scale using the applicable verification tests before its first use and as necessary. If the scale is not within the required tolerance the scale shall be recertified by a registered scale service company and must be verified before it will be allowed to be used on the project.

Scale verification may be waived by the Engineer if the proposal quantity of a material multiplied by the unit bid price has a value less than $10,000.00.

1. Zero Load Test.

When no load is on the scale the scale shall be adjusted to balance or to read zero.

2. Comparison Test.

a. Platform Scales.

The comparison test can be performed by one of the following methods:

i. The Engineer will randomly select a loaded truck weighed on the project scale. The Contractor shall weigh the randomly selected truck on an independent certified scale operated by another contractor or business.

ii. A piece of equipment that has been certified as to weight shall be weighed on the project scale. The piece of equipment shall weigh at least 60 percent of the maximum weight which will be applied to the scale during the Project. The certification shall consist of an affidavit affirming the true weight of the piece of equipment. The piece of equipment shall be clean of mud and dirt and shall be fully refueled each time it is used for the weight comparison. Recertification shall be required when any changes, such as wheel weights and ballast are made that will affect the certified weight.

When a certified weight is used to make comparison tests, loaded truck weight comparisons shall be made on an independent certified scale for the first two days and once a month thereafter.

b. Hopper or Batch Scales

Perform the test by comparing the weight of the material in the hopper and the weight of the material after it has been weighed on an independent certified scale operated by another contractor or business.

c. Computerized Loader Bucket Scales.

At the beginning of the first day of production, the Contractor shall perform a comparison test by one of the following methods:

i. The Contractor shall weigh the load placed in a truck and compare the weight of the same load on an independent certified scale. Load the trucks using the loader scale in dynamic mode. The loading area shall be level. Operation of the loader scale shall be as recommended by the manufacturer.

ii. A certified weighted object. The Contractor shall weigh the certified weighted object and compare its weight to the loader bucket scale readout. The weighted object shall weigh at least 60 percent of the capacity of 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 of the object will be required when any changes are made that will affect the certified weight or at the Engineers request.

The difference between the weight determined by the scale and the independent scale or certified weight shall be 1.0 percent or less.

3. Sensitivity Test.
A sensitivity test shall be made by weighing a representative load, then adding 100 pounds of test weights. If the scale is not sensitive to the added weight, the scale shall not be used on the project until it has been repaired.

4. Shift Test (Platform Scales only).
The performance of the scale with off-center loading shall be checked by comparing the results obtained by weighing a loaded truck with the:

a. Rear wheels at the extreme end of the scale platform;
b. Position of the truck is then reversed with the rear wheels at the extreme opposite end of the platform; and
c. Truck is centered on the scale platform.

Recertify the scale if the results of any two positions differ by more than 0.2 percent from one another.

E. Random Comparison Tests
Once production begins Random Comparison Tests shall be conducted at the frequency specified to demonstrate the continued accuracy of the scale. If a comparison test reveals a scale is out of tolerance, use of the scale shall be discontinued until the scale is repaired and has been recertified by a registered scale service.

The Engineer may require the scale to be checked for accuracy at any time by the method he chooses.

1. Platform Scales
The truck and material weight shall be checked by performing a comparison test according to Section D.2.a of this provision.

One test shall be conducted for each 5,000 tons weighed except when more than 5,000 tons are weighed in a day. When more than 5,000 tons is weighed in a day one test will be required for that day's production.

2. Batch and Hopper Scales
The truck and material weight shall be checked by performing a comparison test according to Section D.2.b of this provision.

One test shall be conducted for each 5,000 tons weighed except when more than 5,000 tons are weighed in a day. When more than 5,000 tons is weighed in a day one test will be required for that day's production.

3. Computerized Loader Bucket Scales
The truck and material weight shall be checked by performing a comparison test according to Section D.2.c of this provision.

A daily comparison test of the loader bucket scale shall be conducted by the Contractor. The Contractor shall record the results of the test and provide a signed copy to the Engineer for each scale used. The Engineer may prohibit use of loader bucket scales if two consecutive tests fail.

F. Documentation

1. **General.**
   a. **Computerized Scales.**
   Computer generated weigh tickets shall be produced. Computer generated daily haul summaries shall be produced using the same computer, software, and-data that produced the individual weigh tickets. Haul summaries shall be submitted to the Engineer.

   Notify the Engineer if the computer or printer malfunctions. If this occurs non- computerized weighing and recording will be permitted, but will not be allowed for more than 2 consecutive work days.

   b. **Computerized Loader Bucket Scales.**
   Weigh tickets shall be generated by the onboard computer and printer of the loader bucket scale. Daily haul summaries may be produced by hand or computer generated spreadsheet.

   c. **Non-Computerized Scales.**
   When non-computerized scales are used, a scale person shall generate the weigh tickets. Daily haul summaries may be produced by hand or computer generated spreadsheet.

2. **Trucks and Weigh Tickets**
   The Contractor shall produce a minimum of two copies of each ticket with a maximum size of 5½ × 8½ inches. All copies of the tickets produced shall be legible.

   The weight of each load shall be documented on a separate, sequentially numbered weigh ticket. One copy of the ticket shall be provided to the truck driver. The truck driver shall deliver the weigh ticket in legible condition to the Engineer at the location where the material is incorporated into the work. Loads without a legible ticket will be rejected.

   Each truck to be weighed must have a unique identification number. This number must be legible and in plain view of the scale operator. Each truck driver must obtain a weigh ticket from the scale operator. At a minimum, all tickets must contain the following information:

   a. Ticket Number
   b. NDDOT project number or NDDOT Project Control Number (PCN)
   c. Delivery date
   d. Contractor and Subcontractor if applicable
   e. Time of weighing
   f. Identification number of truck
   g. Material type identified by pay item name
   h. Unit of measure
   i. Weight delivered:
      1. Net weight for batch, hopper, and loader bucket scales
      2. Gross weight, tare weight and net weight for platform scales
   j. Scale person's signature for manually produced tickets

3. **Daily Haul Summaries.**
   Each material shall have a haul summary which includes the following:

   a. NDDOT project number or NDDOT PCN (whichever is used on the weigh tickets)
   b. Delivery date
   c. Contractor and Subcontractor if applicable
   d. Pit location and owner
   e. Identification number of truck

f. Each load's net weight and ticket number, with justification for out of sequence numbers
g. Material type identified by pay item name
h. Total weight of material delivered to the project
i. Weight of material voided for the day
j. Weight of the day's production
k. A signed statement from the Contractor attesting to the accuracy and completeness of the facts represented. A signed statement from a subcontractor or supplier attesting to the accuracy and completeness of the facts represented is required if they operate the scales. The following language shall be included: "I certify the Daily Haul Summary is true, accurate, and complete."
l. Blank for the Engineer's signature. The following language shall be included: "I certify the Daily Haul Summary has been reviewed, corrected as necessary, and approved."
m. Place for remarks

G. Basis of Payment

If a comparison test reveals a scale is overweighing, the payment for all material weighed since the last accepted test under Section E of this provision shall be adjusted. The Engineer will calculate the weight of all materials weighed after the last test showing accurate results. This weight will be reduced for payment by the percentage of scale error that exceeds 1.0 percent. The Contractor shall not be compensated for any loss from underweighing.

The Department will pay for materials on the basis of daily haul summaries produced by the Contractor and approved by the Engineer. Payment will be based on individual weigh tickets when daily haul summaries are not generated using the same computer, software, and data.

All costs to perform the work will be included in the bid price for the item being weighed.

153.06 ROADBED PLANERS **PAGE 120** **10/01/13**

Delete the last sentence in the second paragraph in Section 153.06 beginning with "The Equipment shall…" in its entirety.

153.07 CONCRETE SPREADERS **PAGE 120** **10/01/13**

Insert the following sentence at the end of Section 153.07**:**

The spreader shall be independent of the paver.

202.02 E REMOVAL OF PAVEMENT, SIDEWALKS, CURBS, ECT. **PAGE 134** **2/18/11 3/18/11**

After the second paragraph in Section 202.02 E insert the following paragraph:

The reinforcing steel removed from the existing concrete pavement shall become the property of the Contractor. The Contractor shall not be permitted to stockpile the reinforcing steel on the highway Right of Way.

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.”

202.03 METHOD OF MEASUREMENT **PAGE 135** **3/18/11**

After the second paragraph in Section 202.03 insert the following paragraph:

The reinforcing steel will be included in the total weight when concrete pavement is paid for by the ton.

202.03 METHOD OF MEASUREMENT **PAGE 135** **1/1/12**

In Section 202.03, insert the following paragraph after the first paragraph:

> Removal of pipes 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 pipe. Each conduit will be measured to the nearest foot.

202.04 BASIS OF PAYMENT **PAGE 135** **1/1/12**

In Section 202.04 following the pay item “Removal & Salvage of _____Surfacing” insert the following pay item and pay unit:

Pay Item	**Pay Unit**
Removal of Culvert, All Types and Sizes	Linear Foot
Removal of Pipe, All Types and Sizes	Linear Foot

Insert the following at the end of Section 202.04:

> Flared end sections will not be paid for separately but will be considered as part of the pipe or culvert.

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 E.1 GENERAL **PAGE 139** **7/1/12**

After the second paragraph in Section 203.02 E.1 insert the following paragraph:

The Contractor shall place the borrow material in the embankment locations as specified in Section 203.02 F. The Contractor shall compact the borrow material in the embankment locations as specified in Section 203.02 G.

203.02 E.3 CONTRACTOR-FURNISHED BORROW **PAGE 141** **1/1/12**

Delete the third paragraph in Section 203.02 E.3 in its entirety and insert the following:

> After the borrow area has been restored to satisfactory condition, the Contractor shall obtain a release and receipt of payment from the landowner and furnish copies to the Department.
>
> All costs for borrow furnished by the Contractor shall include but not restricted to, royalty payments, removal and replacement of topsoil, erosion control, reshaping and scarifying, obliterating cartways, crop damage, seeding, and any overhaul shall be included in the price bid for “Borrow Excavation”.

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

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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”.

302.04 C DEPOSITING AND LAYDOWN **PAGE 163** **03/01/13**

Insert the following at the end of Section 302.04 C:

The Contractor shall uniformly mix the aggregate placed in windrows before spreading.

302.04 D COMPACTION **PAGE 164** **5/20/11**

In Section 302.04 D delete the sentence "If geotextile fabric is specified, Section 709 will govern compaction requirements." and insert the following, "If geotextile fabric is specified, Section 709 will govern compaction requirements for the first lift above the fabric."

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.

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400 BITUMINOUS PAVEMENT **PAGE 175** **10/21/11**
1/1/12
10/01/13

Insert the following in Section 421:

SECTION 421
MICRO SURFACING

421.01 DESCRIPTION.

Micro Surfacing is a thin overlay material which has properties based on a mixture of modified emulsified asphalt, mineral aggregate, water and additives which are proportioned, mixed and uniformly spread over a properly prepared surface.

421.02 MATERIALS.

The material shall meet the following:

Item	Section
Aggregates	816.04
Bitumen	818.03
Tack Coat	401.00

A. Modifier. Special quick-setting emulsifier agents shall be mixed into the asphalt emulsion. The emulsified asphalt shall be formulated so that a paving mixture is applied at a thickness of one inch with the relative humidity at 59% or less and the ambient air temperature at 75° F or higher,

the material shall cure sufficiently to carry rolling traffic in one hour with no damage to the surface, as verified by the Engineer.

B. Water. The water shall be potable and shall be free of harmful soluble salts.

C. Additives. A liquid field control additive is introduced and blended with water to provide effective control of the required quick-set properties. This additive shall be made available by the chemical supplier or emulsion manufacturer and certified as being compatible with the mixture.

421.03 EQUIPMENT.

The equipment shall meet the following:

Item	**Section**
Truck Scales	151.07
Mixing Equipment	151.09 A
Proportioning Devices	151.09 B
Emulsion Pump	151.09 C
Spreading Equipment	151.09 D
Rut Box	151.09 E

Machine Calibration. Each mixing unit to be used in performance of the work shall be calibrated in the presence of the Engineer prior to construction, or previous calibration documentation covering the exact materials to be used may be acceptable provided they were made during that calendar year. The documentation shall include the individual calibration of each material at various settings, which can be related to the machine metering devices.

421.04 CONSTRUCTION REQUIREMENTS.

A. Mix Design. Before start of work, the Contractor shall submit a mix design covering the specific material to be used on the project. This design shall be performed by a qualified laboratory. Once the materials are approved, no substitution will be permitted unless first tested and approved by the laboratory preparing the mix design.

The qualified laboratory shall develop the job mix design and present certified test results for the Contractors approval. Compatibility of the aggregate and emulsion shall be certified by the emulsion manufacturer. All component material used in the mix design shall be representative of the material proposed by the Contractor for use on the project. The mix design will meet the following:

TEST	*ISSA TEST NO.	SPECIFICATION
Mix Time @ 77°F (25°C)	TB-113	Controllable to 120 Seconds Minimum
Wet Cohesion @ 30 Minutes Minimum (Set) @ 60 Minutes Minimum (Traffic)	TB-139	 12 kg-cm Minimum 20 kg-cm or Near Spin Minimum
Wet Stripping	TB-114	Pass (90% Minimum)
Wet-Track Abrasion Loss One-hour Soak Six-day Soak	TB-100	 50 g/ft2 (538 g/m^2) Maximum 75 g/ft2 (807 g/m^2) Maximum

Lateral Displacement Specific Gravity after 1,000 Cycles of 125 lb (56.71 kg)	TB-147	5% Maximum 2.10 Maximum
Excess Asphalt by LWT Sand Adhesion	TB-109	50 g/ft^2 (538 g/m^2) Maximum
Classification Compatibility	TB-144	11 Grade Points Minimum (AAA, BAA)

* International Slurry Surfacing Association (ISSA)

The percentage of each individual material required shall be shown in the laboratory report.

The Engineer will review the design mix, all Micro Surfacing materials and methods prior to use. The component materials shall be within the following limits.

Residual Asphalt -	5% to 9% by dry weight of aggregate
Mineral Additive -	0.5% to 3% by dry weight of aggregate
Modifier -	As required to provide specified properties
Field Control Additive -	As required to provide the specified properties
Water -	As required to produce consistency

B. Stockpile. The mineral aggregate shall be stockpiled according to Section 106.06. The mineral aggregate shall be screened prior to being weighed for job site delivery.

C. Test Strip. A 1000-foot long, one lane wide test strip shall be constructed for each machine used on the project. A test section shall be done at sunrise. The machines shall be compared for variances in surface texture and appearance. The Engineer may direct any such variations to be corrected prior to production application beginning.

The emulsion shall not exceed 122° F. Construction of the test strip shall be postponed until the emulsion temperature is less than 122° F.

A new test strip shall be constructed whenever the system used in the job mix changes or there is field evidence that the system is out of control. The system includes the following: emulsion, aggregate supplier, type of mineral filler, and the lay-down machine.

In place of construction of a test strip, the Contractor may submit evidence of successful construction of a test strip on another Department project using the same mix designs. The project must have been constructed in the same construction season. The system used for the test strip must be identical to all parts of the proposed system.

Normal traffic shall be carried on the test strip within one and one-half hours after application, without any damage occurring. The Engineer will inspect the completed test strip after 12 hours of traffic to determine if the mix design is acceptable. Full production may begin after the Engineer accepts a test strip. The Engineer shall approve the location of the test strip.

D. Weather Limitations. The material shall be spread only when the road surface and atmospheric temperatures are at least 45° F and rising and the weather is not rainy and there is no forecast of temperatures below 32° F within 48 hours from the time of placement of the mixture.

E. Traffic Control. Suitable methods shall be used by the Contractor to protect the microsurface from traffic until the new surface will support traffic without damage.

The Contractor shall furnish flag persons, pilot cars, signs, and lights according to Section 704.

On two-lane, two-way traffic highways, the Contractor shall provide additional flaggers and signs at each end of the operation and at all major intersections within the operation area. These flaggers and signs will be in addition to the flaggers used with the pilot car. The flaggers will be on

the project during the application operation when a pilot car is being used. Flaggers and pilot car(s) shall not be bid separately, but shall be included in the price bid for other items.

On four-lane highways the additional flaggers will not be required.

F. Surface Preparation.

1. **General.** The area to be surfaced shall be thoroughly cleaned of vegetation, loose aggregate and soil, particularly soil that is bound to the surface. Manholes, valve boxes and other service entrances will be protected from the surfacing material.

2. **Tack Coat.** If required by the plans, the Contractor shall apply a tack coat. The tack coat shall be allowed to cure before the application of the micro surfacing.

G. Application.

1. **General**. The surface shall be pre-wetted by fogging with water ahead of the spreader box when required by local conditions. The rate of application of the fog spray shall be adjusted during the day to suit temperatures, surface texture, humidity and dryness of the pavement surface.

   The Micro Surfacing mixture shall be of the desired consistency upon leaving the mixer and no additional materials should be added. A sufficient amount of material shall be carried in all parts of the spreader at all times so that a complete coverage is obtained. Overloading of the spreader is not permitted. No lumping, balling, or unmixed aggregate shall be permitted.

   No streaks may be left in the finished surface. If excessive streaking develops, the job will be stopped until the contractor proves to the Engineer that the situation has been corrected.

   The spreader box shall be cleaned to be free of material buildup at the start of each work day. If material buildup begins to affect performance during operations, the Contractor shall stop operations and clean the spreader box.

2. **Joints.** No excessive buildup, uncovered areas or unsightly appearances shall be permitted on longitudinal or transverse joints. The Contractor shall provide suitable width spreading equipment to produce a minimum number of longitudinal joints throughout the project. When possible, longitudinal joints shall be placed on lane lines. Half passes and odd width passes will be used only in minimum amounts. If half passes are used, they shall not be the last pass of any paved areas.

3. **Mix Stability.** The Micro Surfacing mixture shall possess sufficient stability so that premature breaking of the material in the spreader box does not occur. The mixture shall be homogeneous during and following mixing and spreading. It shall be free of excess water or emulsion, free of segregation of the emulsion and free of segregation of aggregate fines from coarse aggregate.

4. **Hand Work.** Areas which cannot be reached with the mixing machine shall be surfaced using hand squeegees to provide complete and uniform coverage. The area to be hand worked shall be lightly dampened prior to mix placement. Care shall be exercised to leave no unsightly appearance from handwork.

   Handwork shall be smoothed with a burlap drag to remove all ridges and valleys and to match the surface of the machine placed material unless another method of finishing is approved by the Engineer. Handwork shall be completed at the time of the machine-applied application.

5. **Lines.** Care shall be taken to insure straight lines along curbs and shoulders. No runoff on these areas will be permitted. Lines at intersections will be kept straight to provide a neat appearance.

421.05 METHOD OF MEASUREMENT.

Aggregate for Micro Surfacing. The dry aggregate weight will be measured by the ton. Weight of any moisture determined from moisture tests conducted will be subtracted from the weight of the aggregate for the purpose of obtaining a dry aggregate weight. The aggregate will be accepted at the job location stockpile or when loading into the support units for delivery to the lay-down machine.

Asphalt Emulsion for Micro Surfacing. Asphalt emulsion measured by the gallon.

421.06 BASIS OF PAYMENT.

Pay Item	Pay Unit
Aggregate for Micro-Surfacing Type __	Ton
Asphalt Emulsion for Microsurfacing	Gal

This payment shall be full compensation for all labor, equipment, additives, modifiers, and material necessary to complete work.

Insert the following in Section 422:

SECTION 422
SLURRY SEAL

422.01 DESCRIPTION.

The slurry seal shall consist of a mixture of an approved emulsified asphalt, mineral aggregate, water, mineral filler, and specified additives which are proportioned, mixed and uniformly spread over a properly prepared surface. The completed slurry seal shall leave a homogeneous mat, adhere firmly to the prepared surface, and have a skid-resistant surface texture.

422.02 MATERIALS.

The material shall meet the following:

Item	Section
Aggregates	816.05
Bitumen	818.04
Tack Coat	401.00

A. **Water.** The water shall be potable and shall be free of harmful soluble salts.

B. **Additives** The liquid field control additive is introduced and blended with water to provide effective control of the required set properties. This additive shall be made available by the chemical supplier or emulsion manufacturer and certified as being compatible with the mixture.

The mix design shall include the minimum and maximum allowances for the liquid field control additive in the mix. The mix design shall include the Wet Cohesion test results of the mix at the maximum allowable liquid field control additive. The test results shall meet the following requirements:

*ISSA TEST NO.	DESCRIPTION	SPECIFICATION
ISSA TB-139 @ 80° F	Wet Cohesion at 30 Minutes Wet cohesion at 60 Minutes	12 kg-cm Minimum 20kg-cm Minimum

*International Slurry Surfacing Association (ISSA)

422.03 EQUIPMENT.

The equipment shall meet the following:

Item	**Section**
Truck Scales	151.07
Mixing Equipment	151.09 A
Proportioning Devices	151.09 B
Emulsion Pump	151.09 C
Spreading Equipment	151.09 D

Machine Calibration.

Each mixing unit to be used in performance of the work shall be calibrated in the presence of the Engineer prior to construction. The documentation shall include the individual calibration of each material at various settings, which can be related to the machine metering devices. No machine will be allowed to work on the project until the calibration has been completed and accepted.

To aid in the calibration of slurry machines, the laboratory shall also report the quantitative effects of moisture content on the unit weight of the aggregate (bulking effect) per AASHTO T 19, Rodding Procedure.

422.04 CONSTRUCTION REQUIREMENTS.

A. **Mix Design**. Before work begins, the Contractor shall submit a signed mix design covering the specific material to be used on the project. This mix design shall be performed by a laboratory qualified in designing emulsified asphalt slurry seal surfacing.

The qualified laboratory shall present certified test results for the Contractors approval. Once the materials are approved, no substitution will be permitted unless first tested and approved by the laboratory preparing the mix design.

Compatibility of the aggregate, emulsion, mineral filler, and other additives shall be verified by the mix design. All component material used in the mix design shall be representative of the material proposed by the Contractor for use on the project.

The mix design report must clearly show the minimum and maximum proportions of mineral fill, water, usage additive(s) and asphalt emulsion based on the dry weight of the aggregate.

The following table lists the required tests and mix specifications:

ISSA TEST NO.	DESCRIPTION	SPECIFICATION
ISSA TB-106	Slurry Seal Consistency	3 cm Maximum
ISSA TB-139 @ 77° F	Wet Cohesion at 30 Minutes (Set)	12 kg-cm Minimum

	Wet cohesion at 60 Minutes	20kg-cm Minimum
ISSA TB-109	Excess Asphalt by LWT Sand Adhesion	50 g/sq.ft. Maximum
ISSA TB-114	Wet Stripping	Pass (90% Minimum)
ISSA TB-100	Wet-Track Abrasion Loss, One-hour Soak	75 g/sq. ft.
ISSA TB-113	Mix Time*	Controllable to 180 Seconds Minimum

*The mixing test and set-time test should be performed at the highest temperatures expected during construction.

The Engineer will approve the mix design and all slurry sealing materials and methods prior to use. The component materials shall be within the following limits:

COMPONENT MATERIALS	LIMITS
Residual Asphalt	Type II: 8.0% to 13.5% Type III: 6.5% to 12% (By dry weight of aggregate)
Mineral Filler	0.5% to 2.0% (By dry weight of aggregate
Additives	As required to provide the specified properties and meet the wet cohesion requirements
Water	As required to produce consistency

B. Weather Limitations. The slurry seal shall not be applied if either the pavement or air temperature is below 50° F. and falling, but may be applied when both pavement and air temperatures are above 45° F. and rising. No slurry seal shall be applied when there is danger that the finished product will freeze before 24 hours. No slurry seal shall be applied when there is a weather forecast of rainfall or humidity greater than 75% within 48 hours of scheduled placement. The mixture shall not be applied when weather conditions prolong opening to traffic beyond a reasonable time.

C. Preparation of Surface.

1. **General.** The area to be surfaced shall be thoroughly cleaned of vegetation, loose aggregate and soil, particularly soil that is bound to the surface.

2. **Tack Coat.** If required by the plans, the Contractor shall apply a tack coat. The tack coat shall be allowed to cure before the application of the slurry seal.

D. Application

1. **General.** The surface shall be pre-wetted by fogging with water ahead of the spreader box when required by local conditions. The rate of application of the fog spray shall be adjusted during the day to suit temperatures, surface texture, humidity and dryness of the pavement surface.

The slurry seal coat mixture shall be of the desired consistency upon leaving the mixer and no additional materials should be added. A sufficient amount of material shall be carried in all parts of the spreader at all times so that a complete coverage is obtained. Overloading of the spreader shall be avoided. No lumping, balling, or unmixed aggregate shall be permitted.

No streaks may be left in the finished surface. If excessive streaking develops, the job will be stopped until the Contractor proves to the Engineer that the situation has been corrected.

All excess material shall be removed from the job site prior to opening the road.

The spreader box shall be cleaned to be free of material buildup at the start of each work day. If material buildup begins to affect performance during operations, the Contractor shall stop operations and clean the spreader box.

2. **Joints.** No excessive buildup, uncovered areas or unsightly appearances shall be permitted on longitudinal or transverse joints. The Contractor shall provide suitable width spreading equipment to produce a minimum number of longitudinal joints throughout the project. When possible, longitudinal joints shall be placed on lane. The longitudinal joint where two passes join shall be neat appearing, uniform and lapped. Half passes and odd width passes will be used only in minimum amounts. If half passes are used, they shall not be the last pass of any paved areas.

E. Mix Stability. The slurry seal coat mixture shall possess sufficient stability so that premature breaking of the material in the spreader box does not occur. The mixture shall be homogeneous during and following mixing and spreading. It shall be free of excess water or emulsion, free of segregation of the emulsion and free of segregation of aggregate fines from coarse aggregate.

F. Hand Work. Areas which cannot be reached with the mixing machine shall be surfaced using hand squeegees to provide complete and uniform coverage. The area to be hand worked shall be lightly dampened prior to mix placement.

Handwork shall be smoothed with a burlap drag to remove all ridges and valleys and to match the surface of the machine placed material unless another method of finishing is approved by the Engineer. Handwork shall be completed at the time of the machine-applied application.

G. Lines. Care shall be taken to insure straight lines along curbs and shoulders. No runoff on these areas will be permitted. Lines at intersections will be kept straight to provide a neat appearance.

H. Traffic Control. The Contractor shall furnish flag persons, pilot cars, signs, and lights according to Section 704.

On two-lane, two-way traffic highways, the Contractor shall provide additional flaggers and signs at each end of the operation and at all major intersections within the operation area. These flaggers and signs will be in addition to the flaggers used with the pilot car. The flaggers will be on the project during the application operation when a pilot car is being used. Flaggers and pilot car(s) shall not be bid separately, but shall be included in the price bid for other items.

On four-lane highways the additional flaggers will not be required.

422.05 METHOD OF MEASUREMENT.

Aggregate for Slurry Seal. The dry aggregate weight will be measured by the ton. Weight of any moisture determined from moisture tests conducted will be subtracted from the weight of the aggregate for the purpose of obtaining a dry aggregate weight. The aggregate will be accepted at the job location stockpile or when loading into the support units for delivery to the lay-down machine.

Asphalt Emulsion for Slurry Seal. Asphalt emulsion measured by the gallon.

422.06 BASIS OF PAYMENT.

Pay Item	**Pay Unit**
Aggregate for Slurry Seal - Type __	Ton
Asphalt Emulsion for Slurry Seal	Gal

This payment shall be full compensation for all labor, equipment, additives, modifiers, and material necessary to complete work.

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

In Section 407.04 J insert the following phase ", 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**
3/01/13

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 under Section 104.03. 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 E MIXING **PAGE 207** **5/20/11**

In Section 408.04 E insert the following sentence “The Contractor shall inform the Engineer in writing prior to any changes of the blend percentages during production.” to the end of the last paragraph.

408.04 F MIX TEMPERATURES **PAGE 207** **10/17/08**

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

408.04 H SPREADING AND FINISHING **PAGE 208** **10/21/11**

In section 408.04 H delete the last paragraph in its entirety, beginning with “Rumble strips…”

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 sieve[1] +2%” in its entirety and insert “5/8 sieve[1] -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

Table1:

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.

408.06 D RUMBLE STRIPS **PAGE 217** **10/21/11**

Delete section 408.06 D in its entirety.

408.07 BASIS OF PAYMENT **PAGE 217** **10/21/11**

In the “Pay Item” Column delete the pay item “Rumble Strips”.

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

Table1:

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.

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 ENGINEER'S LABORATORY **PAGE 237** **3/01/13**

Delete the first and second sentences in Section 410.04 "Engineer's Laboratory" in its entirety and insert the following:

The Contractor shall provide an additional Type C laboratory and the testing equipment to be used during actual mix production by the Department's aggregate lab and asphalt mix tester.

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.

410.04 A.1 DEPARTMENT-DEVELOPED MIX DESIGN **PAGE 238** **1/1/12**

Delete the first sentence in Section 410.04 A.1 in its entirety and insert the following:

The Plans will specify when the Department will develop the mix design.

410.04 A.2 CONTRACTOR-DEVELOPED MIX DESIGN **PAGE 238** **1/1/12**

Delete the first sentence in Section 410.04 A.2 in its entirety and insert the following:

The Contractor shall develop the mix design.

Insert the following Subsection after Section 410.04 A.2.b and change the existing Subsection c to Subsection d:

c. The mix design shall be submitted for approval a minimum seven days before the material is used.

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

Table1:

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.

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 G.1 GENERAL PAGE 269 10/21/11

In section 550.04 G.1 delete the sixth paragraph in its entirety, beginning with "Continuous rumble strips…"

550.04 I.2 TRANSVERSE CONTRACTION JOINTS PAGE 272 10/21/11

Delete the sixth paragraph of Section 550.04 I.2 starting with "Dowel baskets shall…" in its entirety and insert the following:

Dowel baskets shall be placed a minimum of 2000 feet ahead of the paving operation to allow adequate time to be properly inspected.

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.2 USE OF WATER **PAGE 276** **5/20/11**

In Section 550.04 J.2 delete the first sentence in its entirety.

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.”

550.04 J.6 FINAL SURFACE FINISH **PAGE 277** **1/1/12**

Delete Section 550.04 J.6 in its entirety and insert the following:

6. **Final Surface Finish.** After surface irregularities have been removed and before the concrete attains an initial set, a seamless strip of stiff-fiber artificial grass carpet shall be dragged longitudinally along the full width of the pavement. The surface texture shall be uniformly roughened leaving corrugations in the surface that are uniform in appearance. The width of material in the drag shall be in contact with the full width of the pavement. The drag shall be operated off of a string-line with its leading edge attached to a bridge riding on the forms or adjacent slabs. The drag shall be maintained clean and free from encrusted mortar. A drag that cannot be cleaned shall be replaced with new fabric.

    a. **Carpet Drag.** The texture achieved by the carpet drag shall be tested by the Engineer in accordance with ASTM E 965 and the Department’s *Field Sampling and Testing Manual*. The tests shall be performed at a location to be determined by the Engineer.

    The test results determined by ASTM E 965 shall have a minimum texture depth of 0.031 inches. The Contractor shall take corrective action to achieve the required 0.031 inches minimum depth for any lot having a result less than 0.031 inches. If three or more lots have texture depths less than 0.031 inches but greater than or equal to 0.025 inches, diamond grinding shall be required of those lots. Any one lot having a texture depth of less than 0.025 inches shall require diamond grinding. All diamond grinding shall be in accordance with Section 550.04 P.3 at the Contractor's expense. Limits of any failing test shall be determined by running additional tests at 100 foot intervals before and after the failing test. The location of the additional tests shall be determined by the Engineer.

    b. **Metal Tining.** When speeds are greater than 40 mph metal tining will be required. Immediately following the carpet drag, the surface of the concrete pavement shall be given a longitudinal metal-tine finish over the entire driving surface, as specified below. However, the slab shall not be tined within 3 inches of the edge of the slab or centerline.

Tining devices shall be maintained clean and free from encrusted mortar and debris to ensure uniform groove dimensions. The longitudinal metal-tine finish shall provide a groove width of 1/8 inch ± 1/64 inch, a groove depth of 3/16 inch ± 1/16 inch, and a uniform spacing of 3/4 inch between individual grooves.

550.04 K.1 GENERAL **PAGE 278** **5/20/11**

At the beginning of the paragraph insert the following sentence: “When weather conditions cause rapid drying of the pavement surface, a fine mist or fog spray shall be applied to the concrete surface for interim curing.”

550.04 J.8 RUMBLE STRIPS **PAGE 278** **10/21/11**

Delete section 550.04 J.8 in its entirety.

550.04 N PROTECTION OF PAVEMENT **PAGE 280** **3/18/11**

In Section 550.04 N delete the second paragraph in its entirety and insert the following:

The Contractor shall maintain a temperature of 40° F. or above for five full days, for all newly-placed concrete. If the air temperature is expected to be 40° F. or below, the Contractor shall submit a detailed plan that states the procedure of maintaining the concrete temperature at 40° F. or above, prior to any placement of concrete. If the plan is approved, the removal and replacement of concrete that is damaged or not cured within the specified temperature control shall be at the Contractor’s expense. Admixtures for curing or temperature control shall be used only as permitted or directed. The admixtures shall not be considered as a substitute for any specified curing requirement.

550.04 R OPERATIONAL LIMITS **PAGE 285** **3/18/11**

Delete Section 550.04 R in its entirety and insert the following:

R. **Operational Limits.**

1. **General.** No concrete shall be mixed, placed, or finished without adequate natural or artificial lighting.

2. **Mixing.** Concrete mixing operations shall be suspended whenever rain, wind, blowing dirt, extreme temperatures, or other adverse conditions occur which damage the work. The previously placed plastic concrete shall be immediately protected from damage. After mixing, the concrete temperature shall be maintained at not less than 50°F. nor more than 90°F. until placed in the work. If the specified temperature range cannot be maintained, the aggregates, mixing water, or both shall be heated or cooled as required. Aggregates shall not be heated by a direct flame or to a temperature exceeding 150°F. If the aggregate or the water is heated to a temperature exceeding 100°F., the aggregate and water shall be combined before being placed in contact with the cement. When heated by live steam, aggregates shall be drained as provided in Section 802.04 A.2 before being measured into the batches. Heating equipment or methods which do not heat the materials uniformly, or alter or prevent the entrainment of the specified concrete air content shall not be used. Materials containing frost or lumps of frozen material shall not be used.

3. **Placing.** Concrete shall not be placed on or against frozen ground.

   If enclosures are used, the enclosures shall be heated with electric heaters or if combustible heaters are used, be properly vented to prevent the buildup of carbon monoxide.

4. **Curing.** When the temperature falls below 40°F., the concrete surface temperature shall be maintained between 40°F. and 90°F. for the duration of the curing period.

   If high early strength Portland Cement is used, the temperature shall be maintained at between 50°F. and 90°F. during the first 72-hour curing period.

Heating operations shall be discontinued so that sudden temperature changes in the concrete are avoided. Before removing any enclosures, the concrete's surface temperature shall be decreased to the air temperature at a rate not to exceed 15°F. per hour.

The concrete shall be protected against damage from construction operations or traffic. No work shall be conducted on the concrete during the curing process. Vehicles or equipment not required in the curing process shall not be placed on the concrete until the curing period is completed.

Damaged concrete shall be repaired or removed and replaced at the Contractor's expense.

550.06 B MISCELLANEOUS ITEMS **PAGE 288** **10/21/11**

In the "Pay Item" Column delete the pay item "Continuous Rumble Strip".

570.02 B PORTLAND CEMENT CONCRETE FOR REPAIRS **PAGE 292** **5/20/11**

In Section 570.02 B delete the second sentence, "Use AASHTO M-85 high early cement for spall repairs." in its entirety and replace it with the sentence, "The cement content for spall repairs shall have a minimum cement content of six sacks per cubic yard.

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."

570.05 G SAWCUTS **PAGE 302** **3/18/11**

In the second sentence delete the word "te" in its entirety and insert the word "the".

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.

602.03 F.3 DECK SLAB CONCRETE **PAGE 323** **1/1/12**

In Section 602.03 F.3.a delete the third sentence in its entirety and insert the following:

> The wet cure material shall be placed and the wet cure started no later than 30 minutes after placement of concrete.

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.

606.03 DESIGN AND MANUFACTURE **PAGE 334** **5/20/11**
7/1/12

Delete Section 606.03 in its entirety and insert the following:

The design and manufacture of the precast RCB shall satisfy the applicable portions of AASHTO LRFD Bridge Design Specifications, Section 12, and “AASHTO Materials Specification M 259.” The design shall also meet the following criteria:

A. **Live Load.** HL93

B. **Load Factors.**
   1. Dead Load

      a. Components and Attachments**,** $\square_{DC}$ = 1.25

      b. Vertical Earth Pressure, $\square_{EV(max)}$ = 1.3, $\square_{EV(min)}$ = 0.9

   2. Live Load, $\square_{LL}$ = 1.75

   3. Horizontal Earth Pressure, $\square_{EH(max)}$ = 1.5, $\square_{EH(min)}$ = 0.9

C. **Strength Reduction Factors.**

1. Shear = 0.9

2. Flexure = 0.9

D. **Loads.**

1. Concrete = 150 lbs./cu. ft.

2. Earth = 120 lbs./cu. ft.

3. Horizontal Earth = 40 lbs./sq. ft./ft. of depth

E. **Application of Loads.** The RCB shall be designed for the greater moments and shears resulting from the following two load conditions:

1. Dead Load + Live Load + Balanced Horizontal Earth Load

2. 0.8 X (Dead Load + Live Load + Unbalanced Horizontal Earth Load). The unbalanced horizontal earth load occurs when one side of the culvert has 40 lbs./sq. ft./ft. of depth while the other side has 20 lbs./sq. ft./ft. of depth.

The precast RCB shall be comprised of barrel sections and end sections. The concrete used to make the sections shall have a minimum compressive strength of 3,000 psi and shall have a minimum cement content of six sacks per cubic yard.

The barrel sections shall not be any shorter than 4 feet long. The minimum thickness of the barrel parts are 8 inches for the roof, floor and walls. Any haunch or fillet at the inside corners of the barrel shall not exceed a triangular shape with 12-inch horizontal and 12-inch vertical legs. The barrel section joints shall be tongue and groove, a minimum of 4 inches long and a width of 3 ½ inches at the end of the tongue.

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.

650.03 B PROPORTIONING AND MIXING EQUIPMENT **PAGE 376** **3/01/13**

Delete Section 650.03 B in its entirety and insert the following:

B. **Proportioning and Mixing Equipment.** Proportioning and mixing equipment shall be of a self-contained mobile type (not conventional ready-mix truck), meeting Section 153.02 C and set up at the bridge site.

650.03 C PLACING AND FINISHING EQUIPMENT **PAGE 376** **3/01/13**

Delete Section 650.03 C in its entirety and insert the following:

C. Placing and Finishing Equipment.

1. Placing and finishing equipment shall include hand tools for placing and brushing-in freshly mixed mortar, and for distributing material to the depth that can be struck off with the screed. Hand operated vibrators and screeds shall be used to place and finish small areas of work.

2. Finishing equipment shall meet Section 153.09 C.

3. A drag and a metal tining device meeting Section 602.03 B.2 shall be used for the final finish.

650.04 REMOVAL AND OVERLAY WITH THE USE OF MECHANICAL EQUIPMENT. **PAGE 376** **10/16/09 3/01/13**

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 ½ 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 reoverlaying 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.

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.

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**
3/01/13

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

D. Basis of Payment.

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.

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700 MISCELLANEOUS CONSTRUCTION **PAGE 385** **10/21/11**
7/1/12

Insert the following in Section 760:

SECTION 760
RUMBLE STRIPS

760.01 DESCRIPTION

This work consists of milling centerline, shoulder, and intersection rumble strips on concrete or bituminous surfaces, sweeping of driving lanes, paved shoulders, and all milled areas. If milled into new or existing bituminous pavements, work shall consist of fog sealing across the full width of the milled area.

760.02 CONSTRUCTION REQUIREMENTS

A. **Shoulder and Centerline Rumble Strips.** Shoulder and centerline rumble strips shall be discontinued across bridge decks and approach slabs. Shoulder rumble strips shall be discontinued when adjacent to guardrail. Shoulder and centerline rumble strips shall be discontinued one half mile on either side of highway segments with posted speeds of 45 mph or less, all urban areas, and areas with curb and gutter, or as directed by the engineer.

Shoulder and centerline rumble strips shall be discontinued 10 feet before and after any Automated Traffic Recorders or Roadway Weather Information Systems system. Shoulder rumble strips shall be discontinued 300 feet before and 100 feet after in the direction of travel for any Weigh in Motion equipment. Centerline rumble strips shall be discontinued 300 feet before and after any Weigh in Motion equipment.

B. **Intersection Rumble Strips.** Intersection rumble strips shall be installed at all T-intersections of two state highways and at all STOP conditions of state highways.

Intersection rumble strips shall be saw cut. The Contractor shall dispose of all waste material outside of the right of way.

Intersection rumble strips shall not be installed on highways with posted speeds 45 mph or less, in urban areas, or areas with curb and gutter.

Intersection rumble strips shall be discontinued across bridge decks and approach slabs.

C. Sweeping. The sweeper shall immediately follow the milling machine. The sweeper shall remove all milled and sawed materials. Driving lanes and paved shoulders shall be swept within 48 hours prior to fog coat. All costs for sweeping shall be included in the price bid for "Rumble Strips - _____".

D. Fog Coat. The Contractor shall apply a fog coat across the full width of the milling and sawing with an application of SS-1h or CSS-1h emulsified asphalt at a rate of 0.10 Gal/SY on bituminous surfaces. Fog coats shall be in accordance with Section 401. All costs for fog sealing shall be included in the price bid for "Rumble Strips –_____".

E. Traffic Control. A TMA shall be used as specified in Section 762.04 C.2

760.03 METHOD OF MEASUREMENT

Shoulder rumble strips shall be measured by segment length for each shoulder per mile. Centerline rumble strips shall be measured by segment length per mile. No deduction in length will be made for discontinued rumble strips with the exception of areas one half mile on either side of highway with posted speeds of 45 mph or less, all urban areas, and areas with curb and gutter.

Intersection rumble strips shall be measured as "Each". One "Each" Intersection rumble strip shall consist of installing four 15 foot and two 25 foot saw slotted rumble strip sections.

760.04 BASIS OF PAYMENT

Pay Item	Pay Unit
Rumble Strips – Concrete Shoulder	Mile
Rumble Strips – Concrete Centerline	Mile
Rumble Strips – Asphalt Shoulder	Mile
Rumble Strips – Asphalt Centerline	Mile
Rumble Strips – Intersection	Each

This payment shall be full compensation for all labor, equipment, TMA, and material necessary to complete work.

704.02 J DELINEATORS **PAGE 401** **10/19/12**

Insert the following as the last sentence in Section 704.02 J:

Delineators shall meet the requirements as specified in Section 894.06.

704.03 CONSTRUCTION REQUIREMENTS **PAGE 403** **3/01/13**

Insert the following at the end of Section 704.03:

AA. Attenuation Device. The Contractor shall provide the required modules for layouts as required in the plans. The Contractor shall provide and have available on the project site additional replacement modules for each layout location up to a maximum of 20 modules per project.

The Contractor shall be responsible for maintaining the modules in each layout. The Contractor shall replace any damaged modules. The Department will reimburse the Contractor for damaged

modules based on module invoice price plus 10 percent. All other costs associated with installing and maintaining replacement modules will be at no additional cost to the Department.

704.03 A GENERAL **PAGE 403** **10/01/13**

In seventh paragraph in Section 704.03 A starting with “Traffic control devices…” delete the last sentence in its entirety and insert the following:

The Contractor shall remove sign anchors at the same time the sign face is removed.

704.03 U.1.c TRAFFIC CONTROL COURSE **PAGE 410** **3/18/11**

Delete Section 704.03 U.1.c in its entirety and insert the following:

c. **Traffic Control Course**. The course prescribed in Section 704.03 U.1.a (1) above shall be the American Traffic Safety Service Association (ATSSA) Traffic Control Supervisor Course, American General Contractor (AGC) Traffic Control Supervisor Course, or the National Highway Institute (NHI) Course 380003, Design and Operation of Work Zone Traffic Control, or equal. All courses shall have a minimum of 16 hours of instruction. A valid Minnesota Department of Transportation Traffic Control Supervisor Certification will be accepted in lieu of traffic control courses listed above.

An equal course shall include the following subjects: Manual and Standard Signs used in Work Areas; Channelizing Devices and Temporary Barriers, Pavement Markings, Lighting Devices, Arrow Displays and Special Devices, and Devices Location and Placement; Layout for Traffic Control Devices, Motorist Characteristics, and Options and Alternatives; Installation and Removal of the Traffic Control Zone, and Operation and Maintenance of the Traffic Control Zone; Flagging Operations, Legal Liability and Record Keeping, and Emergency Situations. All courses shall have a minimum of 3 hours of instruction per subject.

Workshops shall be included in the above time frames covering (a) design problems, (b) installation and removal, and (c) operations and maintenance. Each session shall also include a question and answer.

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.

704.04 METHOD OF MEASUREMENT **PAGE 412** **3/01/13**

Insert the following at the end of Section 704.04:

F. Attenuation Device. The Engineer will measure "Attenuation Devices Type B" by the number of arrays installed. The Contractor shall include in the price bid all costs for materials, labor, equipment, relocation if required, and removal.

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

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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".

708.04 B.3.a GRADATION . **PAGE 433** **10/01/13**

Delete the table in Section 708.04 B.3.a and insert the following table:

Size (Inches)	Percent Smaller
28*	80-100

22*	30-80
16	20-50
10	1-5
< 6	0-1

*The maximum size of stone permitted for riprap installation shall not exceed the specified thickness of the riprap blanket by more than 6 inches. Stone of this excess size may be placed providing it does not exceed 10 percent of the total stone and can be blended satisfactorily into the riprap.

708.07 B.2 WOVEN WIRE **PAGE 438** **10/21/11**

In Section 708.07 B.2 delete the second sentence in its entirety.

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 C.1 INSTALLATION **PAGE 441** **10/19/12**

In Section 708.08 C.1 delete the third sentence beginning with “Trenching is not required…” in its entirety.

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
5/20/11

Delete the third paragraph in Section 709.03 E in its entirety and insert the following:

The first lift above the reinforcement fabric shall be 6 inches before compaction.

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**
10/19/12

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.

Insert the following paragraph as the last paragraph in Section 714.03 A.2:

> Bedding material shall be tamped in place under both haunches of the pipe up to 15 percent of the total height by hand-held air-operated, mechanical tampers.

714.03 A CULVERTS AND STORM DRAINS **PAGE 452** **2/20/09**
1/1/12
10/19/12
10/01/13

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

7. **Placement and Compaction Control of Aggregate.** Maximum compacted lift thickness of any one lift shall not exceed 6 inches.

   AASHTO T 180 shall be used to determine the maximum dry density and optimum water content.

   The moisture content of the aggregate at the time of compaction shall be not less than 2 percentage points below, nor more than 3 percentage points above the optimum moisture content.

   The aggregate shall be compacted to 90 percent of the maximum dry density.

Delete Section 714.03 A.8 in its entirety and insert the following:

8. **Construction Cover.** Cover requirements during construction operations shall meet or exceed the pipe manufacturer’s recommendations.

   Any damage to the pipe conduit due to construction traffic shall be the repaired or removed and replaced at no cost to the Department.

Delete Section 714.03 A.9 in its entirety and insert the following:

9. **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.

Insert the following at the end of Section 714.03 A:

11. **Common Excavation** If Common Excavation Type A is specified, the Contractor shall follow the compaction requirements in Section 203.02 G. If Common Excavation Type B is specified, the Contractor shall follow the compaction requirements in 203.02 H.

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.

714.04 A CULVERTS AND STORM DRAINS **PAGE 455** **1/1/12**

Insert the following paragraph at the end of Section 714.04 A:

Removal of all pipes will be measured and paid for in accordance with Section 202.

714.05 BASIS OF PAYMENT **PAGE 456** **2/20/09**
7/1/12

In Section 714.05 insert the following Pay Items and Pay Units:

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
10/19/12

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

J. **Backfill.** The Contractor shall deposit and compact the backfill in lifts not to exceed 6 inches. The Contractor shall meet the requirements for compaction control as specified in Section 714.03 A.7.

724.03 B EXCAVATION AND TRENCHING **PAGE 462** **3/26/10**
10/19/12

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

The Contractor shall place this material in lifts not to exceed 6 inches. The Contractor shall meet the requirements for compaction control as specified in Section 714.03 A.7.

748.03 A.5 USE OF WATER **PAGE 470** **2/18/11**
5/20/11

In Section 748.03 A.5 delete the first sentence in its entirety.

748.03 A.7 CURING **PAGE 470** **2/18/11**
5/20/11

In Section 748.03 A.7 insert the following sentence at the beginning of the paragraph: “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.”

750.02 MATERIALS. **PAGE 472** **10/21/11**

In Section 750.02 insert the following Item and Section:

Item	Section
Detectable Warning Panels	885

750.03 CONSTRUCTION REQUIREMENTS **PAGE 472** **10/21/11**

Delete Section 750.03 K. in its entirety and insert the following:

K. Detectable Warning Panels. The panels shall be installed according to the manufacturer's recommendations.

1. **Construction.** The Detectable Warning Panels shall have a minimum size of 1 foot by 1 foot. The panels shall consist of a surface of truncated domes aligned in a square grid pattern.

2. **Dome Size.** Truncated domes in a detectable warning surface shall have a base diameter of 0.9 inch minimum to 1.4 inches maximum, a top diameter of 50 percent of the base diameter minimum to 65 percent of the base diameter maximum, and a height of 0.2 inch.

3. **Dome Spacing.** Truncated domes in a detectable warning surface shall have a center-to-center spacing of 1.6 inches minimum and 2.4 inches maximum and a base-to-base spacing of 0.65 inches minimum measured between the most adjacent domes on the square grid.

4. **Dome Alignment.** The rows of truncated domes in a detectable warning surface shall be aligned to be perpendicular to the grade break of the curb ramp.

5. **Size.** Detectable warning surfaces shall extend 24 inches in the direction of travel and the full width of the curb ramp landing.

6. **Friction.** Panels shall have a minimum coefficient of friction of 0.80.

7. **Rail Crossings.** The detectable warning surface shall be located so that the edge nearest the rail crossing is 6 feet minimum and 15 feet maximum from the centerline of the nearest rail. The rows of the truncated domes in the detectable warning surface shall be aligned with the direction of wheelchair travel.

750.03 F USE OF WATER **PAGE 473** **2/18/11**
5/20/11

In Section 750.03 F delete the first sentence in its entirety.

750.03 H CURING **PAGE 473** **2/18/11**
5/20/11

In Section 750.03 H insert the following sentence at the beginning of the paragraph: "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.

754.03 E.1 GENERAL **PAGE 481** **1/1/12**

Insert the following paragraph at the end of Section 754.03 E.1:

The Contractor shall use the same Breakaway Coupler System throughout the project.

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.

754.04 C BREAKAWAY BASES **PAGE 488** **1/1/12**

In Section 754.04 C delete the bid item “Galvanized Steel Post” in its entirety and insert the following bid items:

"Steel Galv Posts - Telescoping Perforated Tube", "Galv Steel Post - Standard Pipe", and "Galv Steel Posts - W-Shape Posts (Two or More)"

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

754.04 N RESET MILE POST **PAGE 489** **10/21/11**

Delete Section 754.04 N in its entirety and insert the following:

N. **Reset Mile Post and Reference Marker.** The items “Reset Mile Post” and “Reset Reference Marker” will be measured by the number of locations at which a mile post and reference marker has been reset. The quantities measured will be paid for at the contract price and shall be full compensation for all labor, equipment, and material necessary to complete the work.

762.04 D.1.b APPLICATION DATES AND TEMPERATURES PAGE 494 10/21/11

In Section 762.04 D.1.b delete the title “Application Dates and Temperatures” in its entirety and insert “Application”.

At the end of Section 762.04 D.1.b insert the paragraph:

The fog coat on rumble strips shall be given a minimum curing period of 48 hours prior to applying permanent striping.

762.04 D.1.c RATE OF APPLICATION PAGE 494 10/21/11

In the Second sentence in Section 762.04 D.1.c delete the number “8” in its entirety and insert “10”.

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.b GENERAL **PAGE 498** **10/21/11**

Delete the sixth paragraph in Section 762.04 D.6.b starting with “When permanent pavement…” in its entirety and insert the following:

When permanent pavement markings are to be epoxy paint, and short-term pavement marking paint is used, the paint and beads shall be applied as required and at the rate specified in Section 762.04 D.1.c. Removal of the short-term pavement markings shall not be required prior to placing the epoxy paint.

762.04 D.6.c EPOXY PAINT AND GLASS BEADS **PAGE 498** **5/15/09**
10/21/11

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

Before placement of epoxy material, any bituminous surface material 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".

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800 MATERIALS **PAGE 515** **10/21/11**
1/1/12
10/01/13

Insert the following in Section 885:

SECTION 885
DETECTABLE WARNING PANELS

885.01 GENERAL. The Detectable Warning Panels shall be cast iron, concrete pavers, stainless steel, or of a composite material.

A. Cast Iron. Cast iron panels shall have a minimum thickness of 0.3 inches. Grey cast iron shall be in accordance with AASHTO M 105, Class 35 B. Ductile cast iron shall be in accordance with ASTM A 536, Grade 65-45-12. The panels shall have no surface coating, and shall be allowed to transition to their natural patina.

B. Concrete Pavers. Panels shall have a minimum thickness of 0.75 inches and shall be yellow or brick red in color throughout the panel. The panels shall have a minimum compressive strength of 8000 PSI according to ASTM C 936. The panels shall have a maximum absorption of 5%, and freeze thaw testing according to ASTM C 67.

C. Stainless Steel. Panels shall have a minimum thickness of 0.5 inches and shall be yellow or brick red in color. Any surface applied coating must be on the panel at the time of manufacture. Surface coatings shall be powder-type and baked on the surface of the panel per manufacturer's recommendations. Field-applied surface coatings and/or paint will not be accepted. The panels shall show no signs of deterioration or other defects from salt spray after 1,000 hours of exposure according to ASTM B 117.

D. Composite. Panels shall have a minimum thickness of 0.16 inches and shall be yellow or brick red in color throughout the panel. Panels shall have a minimum compressive strength of 25,000 PSI according to ASTM D 695. Panels shall have a minimum flexural strength of 25,000 PSI according to ASTM D 790. Panels shall have a minimum tensile strength of 11,500 according to ASTM D 638. The panels shall show no signs of deterioration or other defects from salt spray after 1,000 hours of exposure according to ASTM B 117. Panels shall have a maximum water absorption of 0.07% according to ASTM D 570.

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.

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816 AGGREGATES **PAGE 539** **10/21/11**
7/1/12

Insert the following in Section 816:

816.04 AGGREGATE FOR MICRO SURFACING.

A. General. The mineral aggregate used shall be of the type and grade specified below for Micro Surfacing. The aggregate shall be manufactured crushed stone such as granite, slag, limestone, or other high quality aggregate or combination thereof.

B. Sampling and Testing.

Sampling	AASHTO T 2
Reducing Sample to Test Size	AASHTO T 248
Sieve Analysis	AASHTO T 27

C. Gradation. The aggregate, including natural fines, shall meet the referenced gradation requirements when tested by AASHTO methods T 11.

SIEVE SIZE	TYPE II %PASSING	TYPE III %PASSING	STOCKPILE TOLERANCE
3/8"	100	100	-
#4	90 -100	70-90	± 5%
#8	65 – 90	45-70	±5%
#16	45 – 70	28-50	±5%
#30	30 – 50	19-34	±5%

#50	18 – 30	12-25	±4%
#100	10 – 21	7-18	±3%
#200	5 – 15	5-15	±2%

After the target gradation has been submitted (which is the gradation that the mix design is based on), then the percent passing each sieve shall not vary by more than the stockpile tolerance for each individual sieve and still remain within the gradation band.

The stockpile shall be approved for use based on five gradation tests according to AASHTO T 27. If the average of the five tests are within the gradation tolerances, then the materials will be approved for use. If the average of the five tests is not within the gradation tolerances, the contractor will be given the choice to either remove the material or blend other aggregate with the stockpiled material to bring it into specification. Materials used in blending must meet the quality tests before blending and must be blended in a manner to produce a consistent gradation. If blending is used, it will require that a new mix design be performed.

Screening shall be required at the stockpile prior to delivery to the paving machine to prevent having oversize material in the mix.

The Contractor shall perform a gradation test every 500 tons of material produced. The gradation tests shall include the sand equivalency test.

D. Deleterious Substances - To limit the permissible amount of clay-like fines in an aggregate, a sand equivalency of 60 or higher is required when tested by AASHTO T 176. The sand equivalency test shall be performed during the gradation tests during the production of the stockpile.

E. Soundness - The aggregate shall have a weighted loss of not more than 15% when the sodium sulfate test is used or not more than 20% when the magnesium sulfate test is used. Soundness shall be tested in accordance with AASHTO T 104. The soundness test shall be preformed and accepted before the production of the stockpile.

F. Hardness - The aggregate wear, from abrasion resistance, shall be a maximum of 35%, when using AASHTO T 96 test methods. The hardness test shall be preformed and accepted before the production of the stockpile.

G. Additives. A mineral additive shall be introduced to the mineral aggregate and may be any recognized brand of non air-entrained portland cement, fly ash or hydrated lime all free of lumps, or other approved mineral additive. It may be accepted upon visual inspection. The amount of mineral additive needed shall be determined by the laboratory mix design and will be considered as part of the material gradation Requirement. The mineral additive will not be paid for directly, but shall be incidental to the bid unit price of “Aggregate for Micro Surfacing”.

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816 AGGREGATES **PAGE 539** **10/21/11**
7/1/12

Insert the following in Section 816:

816.05 AGGREGATE FOR SLURRY SEAL.

A. General. The mineral aggregate used shall be of the type and grade specified below for slurry seal coats. The aggregate shall be manufactured crushed stone such as granite, slag, limestone, or other high quality aggregate or combination thereof. To assure the material is totally crushed, 100 percent of the parent aggregate will be larger than the largest stone in the gradation to be used.

B. Sampling and Testing.

Sampling	AASHTO T 2
Reducing Sample to Test Size	AASHTO T 248
Sieve Analysis	AASHTO T 27

C. Gradation Requirements. The aggregate shall meet the referenced gradation requirements when tested by AASHTO methods T 11 and T 27. The job mix (target) gradation shall be within the band shown in the following table:

SIEVE SIZE	TYPE II %PASSING	TYPE III %PASSING	STOCKPILE TOLERANCE
3/8”	100	100	-
#4	90 -100	70-90	± 5%
#8	65 – 90	45-70	±5%
#16	45 – 70	28-50	±5%
#30	30 – 50	19-34	±5%
#50	18 – 30	12-25	±4%
#100	10 – 21	7-18	±3%
#200	5 – 15	5-15	±2%

After the target gradation has been submitted (which is the mix design’s gradation basis) the percent passing each sieve shall not vary by more than the stockpile tolerance and still remain within the gradation band.

The stockpile shall be approved for use based on five gradation tests according to AASHTO T 27. If the average of the five tests is within the gradation tolerances then the material will be approved for use. If the average of the five tests is not within the gradation tolerances, the contractor will be given the choice to either remove the material or blend other aggregates with the stockpile material to bring it into specifications. Materials used in blending must meet the quality tests before blending and must be blended in a manner to produce a consistent gradation. This may require a new mix design. Screening shall be required at the stockpile to prevent having oversize materials in the mix.

The Contractor shall perform a gradation test every 500 tons of material produced. The gradation tests shall include the sand equivalency test.

D. Deleterious Substances. To limit the permissible amount of clay-like fines in an aggregate, a sand equivalency of 60 or higher is required when tested by AASHTO T 176. The sand

equivalency test shall be performed during the gradation tests during the production of the stockpile.

E. Soundness. The aggregate shall have a weighted loss of not more than 15% when the sodium sulfate test is used or not more than 25% when the magnesium sulfate test is used. Soundness shall be tested once during production of stockpile, in accordance with AASHTO T 104. The soundness test shall be performed and accepted before the production of the stockpile.

F. Hardness. The aggregate wear, from abrasion resistance, shall be a maximum of 35%, when using AASHTO T 96. The abrasion test is to be run on the aggregate before it is crushed. The aggregate should meet approved polishing valves. The hardness test shall be performed and accepted before the production of the stockpile.

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 C PROCESSED VIRGIN AGGREGATE FOR BLEND **PAGE 546** **3/01/13**

Insert the following sentence at the end of the first paragraph:

Virgin aggregate shall be Class 5 Aggregate and meet the requirements in Section 816.

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.

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818 BITUMINOUS MATERIALS **PAGE 548** **10/21/11**

Insert the following in Section 818:

818.03 BITUMINOUS MATERIALS FOR MICRO SURFACING.

A. Emulsified Asphalt. The emulsified asphalt shall be polymer or latex modified. The polymer material shall be milled or blended into the asphalt or emulsifier solution prior to the emulsification process. The latex shall be milled into the emulsion.

The emulsified asphalt and emulsified asphalt residue shall meet the requirements specified in AASHTO M 208 for CQS-1h. It shall pass all applicable storage and settlement tests and have a minimum residue after distillation of 62%. The cement mixing test will be waived for this emulsion.

B. Modifier. Special quick-setting emulsifier agents shall be milled into the asphalt emulsion.

C. Special Residue Properties. Distillation of residue will be at a temperature of 350° F for 20 minutes. Softening point of the residue shall be 135° F minimum, absolute viscosity shall be 8,000 poise minimum using the average of two bulbs with the methods of ASTM D 2171 and #13 Canon-Manning viscosity tubes.

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818 BITUMINOUS MATERIALS **PAGE 548** **10/21/11**

Insert the following in Section 818:

818.04 BITUMINOUS MATERIALS FOR SLURRY SEAL.

Emulsified Asphalt. The emulsified asphalt shall conform to Grade CQS-1h as specified in AASHTO M 140 and AASHTO M 208. The cement mixing test is waived. The CQS-1h emulsified asphalt shall also meet the following:

Material	Test	Requirement
Emulsion	AASHTO T 59	60% Minimum Residue After Distillation
Emulsion Residue	AASHTO T 49	40-100 Penetration at 77 degrees F

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.3 STEEL (GALVANIZED) POSTS AND ACCESSORIES PAGE 609 10/21/11

In Section 894.05 B.3 add ASTM A53 to the Specification list for Standard Steel Pipe.

Material	**Specification**
Standard Steel Pipe	AASHTO M 111, ASTM A53, 270 Grade 36, and M 232

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.

894.06 B.1 REFLECTIVE SHEETING PAGE 612 1/1/12

In the first paragraph of Section 894.06 B.1 delete the phrase “Type III” in its entirety and insert the following “Type IX”.

Delete the second sentence of the second paragraph of Section 894.06 B.1 in its entirety and insert the following:

Backing material shall meet Section 894.01 A.1 with the following thicknesses:

Delineator Type	Steel Plates (gage)	Aluminum Plates (inches)
A	18	0.040
B	18	0.040
C	18	0.040
D	-	0.063
E	-	0.063

894.06 C FASTENERS **PAGE 614** **1/1/12**

Delete Section 894.06 C in its entirety and insert the following:

C. **Fasteners.**

Fasteners shall be either tension pin fasteners or a round un-slotted head aluminum machine screws and vandal resistant nuts.

Aluminum tension pin fasteners shall be an aluminum alloy meeting ASTM B 211, Alloy 2024 T4 or 6061 T6.

Steel tension pin fasteners shall be a medium carbon steel with a minimum shear strength of 70,000 psi and a minimum tensile strength of 67,500 psi. They shall be galvanized according to AASHTO M 232.

Aluminum machine screws shall be an aluminum alloy meeting ASTM B 211, Alloy 2024 T4. The vandal resistant nuts shall be an aluminum alloy meeting ASTM B 211, Alloy 2011 T3.

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**
10/21/11

Delete Section 894.09 in its entirety.

CERTIFICATION **PAGE I, VOL 2** **5/20/11**

Delete page I in its entirety and insert the following:

COPIES OF THIS BOOK MAY BE OBTAINED FROM:

North Dakota Department of Transportation
Environmental and Transportation Services
608 East Boulevard Avenue
Bismarck, ND 58505-0700
Phone: (701) 328-2590
Fax: (701) 328-0310
Email: dotspecbook@nd.gov
www.dot.nd.gov

All orders must be prepaid by Check, Money Order, Discover, VISA, or MasterCard. Orders may be requested via fax, phone, or internet.

The electronic versions of:

Standard Specifications for Road and Bridge Construction, Volume I
Standard Specifications for Road and Bridge Construction, Volume II
Current Supplemental Specifications

are available at: www.dot.nd.gov

I hereby certify that this Standard Specifications Book was prepared under the Office of Project Development, compiled from specifications prepared, examined, adopted and implemented by the North Dakota Department of Transportation in accordance with established procedures, and as approved by the Federal Highway Administration.

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

2/9/11
Date

These North Dakota Department of Transportation Standard Specifications for Road and Bridge Construction, 2008, are hereby approved for application on highway and related constructions contracts as referenced in the contract plans or specifications, and they shall apply as noted and amended by those documents.

Approved,

Grant Levi, P.E.
Deputy Director for Engineering

2/9/11
Date

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.

895.03 A.2 MULTIPLE CONDUCTOR **PAGE 44, VOL. 2** **1/1/12**

In the first paragraph in Section 895.03 A.2 delete the phrase "NEMA Standards Publications WC-3, WC-5, WC-7," in its entirety and insert "NEMA Standards Publication WC-70".

In the third paragraph in Section 895.03 A.2 delete the phrase "WC-3" in its entirety and insert "WC-70".

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.

896.03 C TRAFFIC SIGNAL AND FLASHING BEACON CONTROL CIRCUITS **PAGE 63, VOL. 2** **1/1/12**

In the last sentence of the first paragraph in Section 896.03 C delete the phrase “WC-5” in its entirety and insert “WC-70”.

In the first sentence of the third paragraph in Section 896.03 C delete the phrase “WC-5” in its entirety and insert “WC-70”.

In the second sentence of the third paragraph in Section 896.03 C delete the phrase “Appendix K, Method I, Table K-1 of NEMA WC-5” in its entirety and insert “Appendix E, Method 1, Table E-1 of NEMA WC-57.”

In the fourth paragraph in Section 896.03 C delete the phrase “Table 7.4.2, NEMA WC5” in its entirety and insert “Table 4-4 NEMA WC-5”.

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.

3/1/2013

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION
PRICE SCHEDULE FOR MISCELLANEOUS ITEMS

The Contractor agrees to accept the following unit prices for each listed item of work and or material when no project Contract Unit Price exists for that item. Each price listed will be full compensation for the cost of labor, material and equipment necessary to provide the item of work and/or material, complete in place, including (but not limited to) royalty, disposal of unsuitable material, equipment rental, sales tax, use tax, overhead, profit, and incidentals.

Payment for items of work under this schedule performed by a Subcontractor shall include an additional allowance for the Prime Contractor as specified in Section 104.03 of Standard Specifications.

Each listed price is referenced to the Standard Specifications by Section number and Section name.

SECTION NO.	SECTION NAME	ITEM NAME	PRICE PER ITEM
107.05 A.1	Maintaining Traffic	Flagging	$32 per MHR
107.05 B.1	Haul Roads	Water	$27 per M Gal
107.05 B.7	Haul Roads	Bituminous Mix	$42 per Ton**
107.05 B.7	Haul Roads	Bitumen for Mix	Invoice Price* + 10%
107.05 B.7	Haul Roads	Aggregate Base	$17 per Ton**
203.01 B	Rock Excavation	Rock Excavation	$11 per CY
203.01 C	Shale Excavation	Shale Excavation	Common Excavation Price + $1.00 per CY
203.01 D	Muck Excavation	Muck Excavation	$9 per CY
203.02 F	Embankment Construction	Overhaul	$1.40 per CY - Mile
408.07 C.2.a	Hot Bit. Pavement (Exc. Matl Hauled to Disposal Area)	Bituminous Mixture	Machine Placed: Bid or Invoice Price + $31 per ton Hand Placed: Bid or Invoice Price + $48 per Ton
420.06	Bituminous Seal Coat	Blotter Sand	$27 per Ton**
708	Erosion Control	Mucking Silt Fence	$3.90 per L.F.
708	Erosion Control	Mucking of Fiber Rolls	$3.90 per L.F.
708	Erosion Control	Removal of Silt Fence***	$4.25 per L.F.
708	Erosion Control	Removal of Fiber Rolls***	$4.25 per L.F.

*Price paid for bituminous material will be Invoice Price plus Freight Costs.

**Price Includes haul up to 10 miles. Payment for haul exceeding 10 miles will be according to Section 109.04 of the Standard Specifications. The haul distance for Aggregate Base and Bituminous Mix will be based on the average haul. The haul distance for Blotter Sand will be from the point where the haul begins to the point where it enters the project.

***This is only for pre-existing items that were not installed under the Contract.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION: DISADVANTAGED BUSINESS ENTERPRISE PROGRAM

PROJECT SHE-3-057(048)000 (PCN-18753)

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INTRODUCTION

49 Code of Federal Regulations Part 26 (CFR) states that the contractor, subrecipient, or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. Contractors shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of USDOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the recipient deems appropriate.

The paragraph above applies to every contractor on the project, including every tier of subcontractor. <u>It is the prime contractor's or subcontractor's responsibility to include the above paragraph in every subcontract.</u>

In this special provision:

"Apparent low bidder" means the bidder whose bid is read as low bid at the bid opening.

"Blanket Quote" means when a business provides the same quote, for all projects, at a bid opening, using the same price or when a business provides one quote for an entire season, at one rate, that is not project specific. Generally this is done by trucking firms.

"Contractor" means ALL DBE (including MBE and WBE) and non-DBE firms, including prime contractors, subcontractors (under/over $500,000), suppliers, brokers, vendors, regular dealers, and manufacturers.

"Equipment supplier" is a firm who provides equipment for sale or lease, without operators, and whose primary business function is equipment sales or leasing.

"Prime Contractor" means bidders or contractors who are submitting proposals on this project, regardless of the size of the project.

"Quoter" means a DBE or a non-DBE subcontractor (under/over $500,000), supplier, broker, vendor, regular dealer, or manufacturer who submits quotes to another contractor.

"Subcontractor quoting over $500,000" means a subcontractor whose quote is over $500,000 on any project and who is not a supplier, broker, vendor, regular dealer, or manufacturer. All aggregate providers are considered subcontractors, regardless of the amount of their quote.

"Aggregate providers" are considered subcontractors rather than suppliers, regardless of the amount of their quote.

When counting DBE participation the following definitions will apply as per 49 CFR Part 26:

"Broker" means an agent who negotiates contracts of purchase, work, lease, or sale; or buys and sells goods; or negotiates between buyers and sellers; but without having custody of the property. A broker may assist in the procurement of facilities, materials or supplies required for the performance of the contract. A broker is not regarded as a supplier, manufacturer, or regular dealer for the purposes of this program.

"Manufacturer" means a firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the contract and of the general character described by the specifications.

"Regular dealer" means a DBE firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials supplies, articles, or equipment of the general character described by the specifications and required under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business.

- To be a regular dealer, the firm must be an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question.

- A person may be a regular dealer in such bulk items as petroleum products, steel, cement, gravel, stone, or asphalt without owning, operating, or maintaining a place of business as provided above if the person both owns and operates distribution equipment for the products. Any supplementing of regular dealers' own distribution equipment shall be by a long-term lease agreement and not on an ad hoc or contract-by-contract basis.

"Supplier" means a firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles, or equipment of the general character described by the specifications and required under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business.

- The firm must be an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question.

- "Materials" is defined as aggregate, steel, petroleum products, concrete, asphalt, and other construction materials.

SOLICITATION EFFORTS

The following is a list of actions to be taken or documentation to be provided by all bidders (including DBE primes) to obtain DBE participation. Efforts shall include, but are not limited to, the following steps:

STEP 1: ADVERTISE

- The prime contractor may place an advertisement soliciting DBE participation in either general circulation media or the supportive services newsletter before the bid opening. "General circulation media" means a newspaper in the area of a project or a trade association publication such as the Construction Bulletin

- The ad should state a date and time by which all quotes may be submitted for consideration, and where quotes should be sent.

- The supportive services newsletter is published two weeks before each bid opening. Requests for ads in the newsletter must be received, in writing, by the Civil Rights Division no later than noon (Central time), 2 weeks before the bid opening date. Advertisements maybe be emailed to: subquotes@nd.gov or faxed to 701-328-0343, 701-328-1965, or mailed to the Civil Rights Division, 608 East Boulevard, Bismarck, ND 58505-0700. Bidders are also encouraged to publish an email address for their company where subcontractors and suppliers can email their quotes to.

STEP 2: SIGN IN

DBE and non-DBE prime contractors and subcontractors over $500,000, (excluding suppliers, brokers, vendors, regular dealers, and manufacturers), are not required but are strongly encouraged to do the following:

- Prior to 11 a.m. (Central), the day before the bid opening date, may electronically sign-in at: http://www.dot.nd.gov/dbebidinfo.html and click on "***Sign-in for*** **Prime Contractor and Subcontractor Quoting Over $500,000,"** providing information (location, phone, email and/or fax number) where they can be contacted by businesses wishing to submit quotes, to them, between 11:00 a.m. and 8 p.m. that same day.

- Designate at that time which jobs they are bidding or quoting on.

- Between 11:00 a.m. and 8 p.m. (Central), the day before the bid opening the prime contractor and subcontractors over $500,000 should have a representative available to receive and discuss quotes at the contact location, phone/fax numbers, or email, as required above.

NOTE: To facilitate the flow of information subcontractors quoting over $500,000 are not required but are strongly encouraged to complete each phase in Step 1 above.

DBE and non-DBE suppliers, brokers, vendors, regular dealers, manufacturers, and subcontractors quoting either over/under $500,000 are not required but are strongly encouraged to:

- After 11:00 a.m. (Central), the day before the bid opening, retrieve the **"Report for Prime Contractor and Subcontractor Quoting Over $500,000,"** which will be posted electronically at http://www.dot.nd.gov/dbebidinfo.html A copy can be obtained by fax, by calling 701-328-3116, 701-328-2637, or 701-328-2576.

GUIDELINES FOR SUBMITTING QUOTES TO BIDDERS

All DBE and non-DBE businesses are **strongly encouraged** to follow these guidelines when quoting.

- The night before the bid opening,
  - By 2 p.m. (Central) all DBE and non-DBE suppliers, regular dealers, vendors, manufacturers, and brokers should cease quoting.
  - By 5 p.m. (Central) all subcontractors under $500,000 should cease quoting.
  - By 8 p.m. (Central) all subcontractors over $500,000 should cease quoting.

- Indicate the date of the bid opening, job number, and project number being quoted.

- Include bid item numbers and units or quantities.

- Use bid items and quantities from the proposal rather than from the Notice to Bidders.

- Show all calculations on the quote.

- Indicate whether mobilization is included, cost of bond if required, and any other special conditions.

- Indicate if a quote does not include something required by the specifications for a particular bid item.

- Include on all trucking quotes the type and number of units available and their capacity.

- Provide separate quotes for each project (each quote on a separate page).

- Indicate on all quotes for more than one bid item whether the bid items are tied or not tied.

- Subcontractors over $500,000 should attach a copy of their Form A to their quote when submitting it to the prime contractor.

- DBEs should state on their quote the dollar value of the work to be actually performed by their own forces or other DBEs they intend to use.

- Blanket quotes for an entire bid opening or the construction season are not allowed (i.e. trucking, striping, signing, etc.)

- Faxed quotes must clearly indicate the date and time the fax was sent.

SUBMITTING QUOTES TO DEPARTMENT OF TRANSPORTATION

By the times listed in the chart below, the night before a bid opening, all DBE and non-DBE subcontractors (under/over $500,000), suppliers, regular dealers, vendors, manufacturers, or brokers **should submit a copy** of all phone or paper quotes given for each project. Quotes may be emailed to subquotes@nd.gov or faxed to the DBE Liaison Officer, 701-328-1965, 701-328-0343, 701-328-4545.

DBE AND NON-DBE	SHOULD TURN IN QUOTES
Suppliers, brokers, vendors, regular dealers, and manufacturers	3:00 p.m. (Central)
Subcontractors **under** $500,000	6:00 p.m. (Central)
Subcontractors **over** $500,000	9:00 p.m. (Central)

FORM A

By noon (Central) on the next work day following the bid opening, the apparent low bidder **must** submit Form A to the DBE Liaison Officer. Form A is a list of all the DBEs intended for use on the project including DBE's intended to perform work in the first tier(or below) of subcontracting.

FORM B OR COPIES OF QUOTES

Within 5 working days after the bid opening, all bidders must either:

- Submit Form B to include all tiers of subcontracting on the project or
- Provide copies of all quotes received to include all tiers of subcontracting on the project to the DBE Liaison Officer, North Dakota Department of Transportation, 608 East Boulevard Avenue, Bismarck, ND 58505-0700. Copies may be faxed to: 701-328-1965, 701-328-0343 or emailed to subquotes@nd.gov

When submitting a Form B, copies of all quotes **must** be retained, by each bidder, for **45 days after the bid opening date**. If a quoter has not provided a copy of their quote to the Department, the bidder **must** provide a copy of the quote, upon request, by the Department.

FORM C

Within 10 working days after the bid opening, the apparent low bidder **must** submit a Form C for each DBE listed on Form A to the address below, unless NDDOT grants a time extension.

No award will be made on a project until all Form C's, for each DBE, are submitted to NDDOT. The contractor and DBE **must both** sign the form. Form C applies to all tiers of subcontractors working with DBEs.

Form Cs may be faxed to NDDOT's Civil Rights Division at 701-328-1965, 701-328-0343 or mailed to the DBE Liaison Officer, North Dakota Department of Transportation, 608 East Boulevard Avenue, Bismarck, ND 58505-0700.

Signatures need not be original; faxed signatures are acceptable.

If Form C contains additional pages or an attachment, each page or attachment must be signed by the intended DBE.

If Form A and Form C contain different information (e.g., bid items numbers, quantities, or dollar amounts), the prime contractor or subcontractor must explain the difference in writing to NDDOT when submitting Form C.

FAILURE TO PROVIDE REQUIRED DOCUMENTATION

Prime contractors and subcontractors are encouraged to discuss the requirements of this special provision with all businesses providing quotes on a specific project.

Apparent low bidders may be denied future quoting or bidding privileges for failure to submit Form A and Form C as required.

LIST OF DBE PARTICIPATION

Generally, two working days after the bid opening, the DBE Participation list is posted to the NDDOT website: http://www.dot.nd.gov/dbebidinfo.html To request a paper copy of the DBE participation web site listing, contact Civil Rights Division, North Dakota Department of Transportation, 608 East Boulevard Avenue, Bismarck, ND 58505-0700, fax 701-328-1965 or 701-328-0343, phone 701-328-2637 or 701-328-3116.

CONSTRUCTION PROGRESS CHART

Before the award of the contract, the apparent low bidder must create a construction progress chart for each DBE to be used on the contract (excluding oil haulers, suppliers, brokers, vendors, regular dealers, or manufacturers). The chart must state the type of work to be performed and when it will be performed.

The apparent low bidder must supply all charts to the Department and the appropriate chart to each DBE to be used on the contract. Any subsequent charts noting a change in schedule **must** also be provided to the Department and all DBEs.

AWARD OF CONTRACT

Contract award will be made to the bidder who submits the lowest responsive proposal meeting the pre-bid and pre-award requirements.

PRE-JOB CONFERENCE

It is the prime contractors' responsibility to invite all DBEs listed on Form C to the pre-job conference and to encourage attendance. If the DBE is unable to attend the pre-job conference **it is the prime contractors' responsibility to provide a copy of the pre-job conference minutes to each DBE.** In addition, it is the prime contractors' responsibility to discuss any project issues necessary for joint DBE program compliance on the part of the prime contractor, non-DBEs subcontractors and their DBE subcontractors, manufacturers, or regular dealers.

CONTRACT MONITORING, RESPONSIBILITIES, AND REPORTING

For the life of the project, the prime contractor is responsible for the DBEs listed on Form C and for the specific bid items or products that the bidder committed to during the pre-award process.

It is the prime contractors' responsibility to:

- monitor DBE performance on the project, to ensure that the DBE performs a commercially useful function, and

- to ensure both the prime contractor and their subcontractors, suppliers, manufacturers, and regular dealers comply with the requirements of this special provision.

DBEs are responsible for performing a commercially useful function. Should the DBE be unable to perform a commercially useful function or perform as stated on Form C it is their responsibility to **immediately notify** the prime contractor orally and in writing. See pages **8 through 10** of this special provision for information regarding commercially useful function.

The prime contractor must submit a completed copy of the DBE Participation Certification (SFN 14268), signed by the prime contractor and the DBE, to the project engineer upon completion of the contract to verify DBE participation. This includes DBEs used that were not included on Form A. The project will be monitored to ensure the DBE is performing a commercially useful function.

MAINTAINING RECORDS AND TRACKING PAYMENTS

The Department will require prime contractors and subcontractors to maintain records and documents of payments to DBEs for three years following the performance of the contract. The three year period will commence upon acceptance of the final payment from NDDOT. These records will be made available for inspection, upon request, by an authorized representative of the NDDOT or USDOT. This reporting requirement also applies to any certified DBE.

Prime contractors and subcontractors must keep a running tally of actual payments to DBEs for work committed to them at any time during the life of the contract. Prime contractors and subcontractors will be required to complete the Record of DBE Project Payments (SFN 53664) on a semi-annual basis. The record must be submitted to the NDDOT by the tenth working day after the October-March period, and the tenth working day after the April-September period. The form must be signed by a company representative. Send the record to the Civil Rights Division, North Dakota Department of Transportation, 608 East Boulevard Avenue, Bismarck, ND 58505-0700 or fax to 701-328-0343 or 701-328-1965.

NDDOT may perform interim audits of contract payments to DBEs to ensure that the actual amount paid to DBEs equals or exceeds the dollar amount stated on Form C.

MONITORING AND ENFORCEMENT MECHANISMS

The Department will bring to the attention of the USDOT any false, fraudulent, or dishonest conduct in connection with the DBE program, so that USDOT can take the steps (e.g., referral to the Department of Justice for criminal prosecution, or referral to the USDOT Inspector General for action under Suspension and debarment or Program Fraud and Civil Remedies rules) provided in subsection 26.107 of 49 CFR Part 26. The Department will also consider similar action under its own legal authorities, including responsibility determination in future contracts.

COUNTING DBE PARTICIPATION

The Department will count DBE participation toward our overall annual goal as provided in 49 CFR 26.55 as noted below:

1. When a DBE participates in a contract, the Department counts only the value of the work actually performed by the DBE toward DBE goals.

   A. The Department counts the entire amount of that portion of a construction contract (or other contract not covered by paragraph 1B of this section) that is performed by the DBE's own forces. Included are the cost of supplies and materials obtained by the DBE for the work of the contract, including supplies purchased or equipment leased by the DBE (except supplies and equipment the DBE subcontractor purchases or leases from the prime contractor or its affiliate).

   B. The Department counts the entire amount of fees or commissions charged by a DBE firm for providing a bona fide service, such as professional, technical, consultant, or managerial services, or for providing bonds or insurance specifically required for the performance of a USDOT-assisted contract, toward DBE goals, if the Department determines the fee to be reasonable and not excessive as compared with fees customarily allowed for similar services.

   C. When a DBE subcontracts part of the work of its contract to another firm, the value of the subcontracted work may be counted toward DBE goals only if the DBE's subcontractor is also a DBE. Work that a DBE subcontracts to a non-DBE firm does not count toward DBE goals.

2. When a DBE performs as a participant in a joint venture, the Department counts a portion of the total dollar value of the contract equal to the distinct, clearly defined portion of the work of the contract that the DBE performs with its own forces toward DBE goals.

3. The Department counts expenditures to a DBE contractor toward DBE goals only if the DBE is performing a commercially useful function on that contract.

   A. A DBE performs a commercially useful function when it is responsible for execution of the work of the contract and is carrying out its responsibilities by actually performing, managing, and supervising the work involved. To perform a commercially useful function, the DBE must also be responsible, with respect to materials and supplies used on the contract, for negotiating price, determining quality and quantity, ordering the material, and installing (where applicable) and paying for the material itself. To determine whether a DBE is performing a commercially useful function, the Department must evaluate the amount of work subcontracted, industry practices, whether the amount the firm is to be paid under the contract is commensurate with the work it is actually performing and the DBE credit claimed for its performance of the work, and other relevant factors.

   B. A DBE does not perform a commercially useful function if its role is limited to that of an extra participant in a transaction, contract, or project through which funds are passed in order to obtain the appearance of DBE participation. In determining whether a DBE is such an extra participant, the Department must examine similar transactions, particularly those in which DBEs do not participate.

   C. If a DBE does not perform or exercise responsibility for at least 30 percent of the total cost of its contract with its own work force, or the DBE subcontracts a greater portion of the work of a contract than would be expected on the basis of normal industry practice for the type of work involved, the Department must presume that it is not performing a commercially useful function.

D. When a DBE is presumed not to be performing a commercially useful function as provided in paragraph 3C of this section, the DBE may present evidence to rebut this presumption. The Department may determine that the firm is performing a commercially useful function given the type of work involved and normal industry practices.

E. The Department's decisions on commercially useful function matters are subject to review by the concerned operating administration, but are not administratively appealable to USDOT.

4. The Department will use the following factors in determining whether a DBE trucking company is performing a commercially useful function:

A. The DBE must be responsible for the management and supervision of the entire trucking operation for which it is responsible on a particular contract, and there cannot be a contrived arrangement for the purpose of meeting DBE goals.

B. The DBE must itself own and operate at least one fully licensed, insured, and operational truck used on the contract.

C. The DBE receives credit for the total value of the transportation services it provides on the contract using trucks its owns, insures, and operates using drivers it employs.

D. The DBE may lease trucks from another DBE firm, including an owner-operator certified as a DBE. The DBE leasing trucks from another DBE receives credit for the total value of the transportation services the lessee DBE provides on the contract.

E. The DBE may also lease trucks from a non-DBE firm, including from an owner-operator. The DBE who leases trucks from a non-DBE is entitled to credit for the total value of the transportation services provided by non-DBE lessees not to exceed the value of transportation services provided by DBE-owned trucks on the contract. Additional participation by non-DBE lessees receives credit only for the fee or commission it receives as a result of the lease arrangement.

Example to this paragraph (d)(5): DBE Firm X uses two of its own trucks on a contract. It leases two trucks from DBE Firm Y and six trucks from non-DBE Firm Z. DBE credit would be awarded for the total value of transportation services provided by Firm X and Firm Y, and may also be awarded for the total value of transportation services provided by four of the six trucks provided by Firm Z. In all, full credit would be allowed for the participation of eight trucks. With respect to the other two trucks provided by Firm Z, DBE credit could be awarded only for the fees or commissions pertaining to those trucks Firm X receives as a result of the lease with Firm Z.

F. For purposes of this paragraph (4), a lease must indicate that the DBE has exclusive use of and control over the truck. This does not preclude the leased truck from working for others during the term of the lease with the consent of the DBE, so long as the lease gives the DBE absolute priority for use of the leased truck. Leased trucks must display the name and identification number of the DBE.

5. The Department counts expenditures with DBEs for materials or supplies toward DBE goals as provided in the following:

A. If the materials or supplies are obtained from a DBE manufacturer, count 100% of the cost of the materials or supplies toward DBE goals.

(1) For purposes of this paragraph (5A), a manufacturer is a firm that operates or maintains a factory or establishment that produces, on the premises, the materials, supplies, articles, or equipment required under the contract and of the general character described by the specifications.

B. If the materials or supplies are purchased from a DBE regular dealer, count 60 percent of the cost of the materials or supplies toward DBE goals.

(1) For purposes of this section, a regular dealer is a firm that owns, operates, or maintains a store, warehouse, or other establishment in which the materials, supplies, articles or equipment of the general character described by the specifications and required under the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business.

a. To be a regular dealer, the firm must be an established, regular business that engages, as its principal business and under its own name, in the purchase and sale or lease of the products in question.

b. A person may be a regular dealer in such bulk items as petroleum products, steel, cement, gravel, stone, or asphalt without owning, operating, or maintaining a place of business as provided in this paragraph (5B[1]) if the person both owns and operates distribution equipment for the products. Any supplementing of regular dealers' own distribution equipment shall be by a long-term lease agreement and not on an ad hoc or contract-by-contract basis.

c. Packagers, brokers, manufacturers' representatives, or other persons who arrange or expedite transactions are not regular dealers within the meaning of this paragraph (5B).

C. With respect to materials or supplies purchased from a DBE which is neither a manufacturer nor a regular dealer, count the entire amount of fees or commissions charged for assistance in the procurement of the materials and supplies, or fees or transportation charges for the delivery of materials or supplies required on a job site, toward DBE goals, if the Department determines the fees to be reasonable and not excessive as compared with fees customarily allowed for similar services. Do not count any portion of the cost of the materials and supplies themselves toward DBE goals, however.

6. If a firm is not currently certified as a DBE in accordance with the standards of subpart D of this part at the time of the execution of the contract, the Department does not count the firm's participation toward any DBE goals, except as provided for in 26.87(i).

7. The Department does not count the dollar value of work performed under a contract with a firm after it has ceased to be certified toward the Department’s overall annual goal.

8. The Department does not count the participation of a DBE subcontractor toward a contractor's final compliance with its DBE obligations on a contract until the amount being counted has actually been paid to the DBE.

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DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION (RN)

North Dakota Department of Transportation, Civil Rights Division
SFN 52012 (Rev. 07-2012)

FORM A

Contractor		Phone
Job No.	Project No.	Bid Opening Date

By noon (Central time) on the next work day following the bid opening, all apparent low bidders must provide a list of the DBE firms intended for use on this project to the NDDOT Civil Rights Division. The information provided may be submitted on this Form A or on a computer-generated form, giving the same information, attached to this Form A. If the prime contractor intends to use DBE quotes received from a subcontractor, the prime contractor **must** include the subcontractor's Form A information in the prime contractor's Form A.

PRINT ALL NUMBERS CLEARLY AND LEGIBLY.

1. For each DBE firm, list the specific bid item numbers to be performed and the total dollar value of the contract:
   a. If the DBE firm is perform do only a portion of a bid item (supply, haul, etc.), this **must** be so noted, in parenthesis, after the bid item number **the bidder must state why the DBE was not used for the entire bid item..**
   b. For DBE subcontractors, suppliers (regular dealers), and manufacturers, **list only the amount of work to be completed with each DBE's own employees and equipment.**
   c. For DBE trucking firms, **list the amount of hauling to be performed by the DBE with its own trucks and employees;** or the fees or commissions earned on non-DBE leased trucks. However, if the DBE is leasing trucks from a non-DBE firm, including an owner-operator, you can count the total value of the services provided by the non-DBE, not to exceed the total value of the services provided by the DBE-owned trucks). (See page 9, number 4, of this special provision for more detailed information.)
2. DBE prime contractors **must** list the work they will perform with their **own forces** and any work subcontracted to or materials purchased from other DBEs.
3. If the information provided on Form C **differs** from the information provided on this Form A (bid item numbers, quantities, or dollar amounts), the apparent low bidder or subcontractor **must** provide, with the Form C, a written explanation for the difference.
4. The apparent low bidder or subcontractor **must** use the DBEs listed for the intended work indicated on Form C.
5. DBE bidders **must** list the work they will perform with their **own employees and equipment** and any work subcontracted to or materials purchased from other DBEs.

DBE Firm	
List Specific Bid Item Numbers or Products to be Supplied	Total Contract Dollar Value $
Percent DBE will do with own equipment/forces = % Percent Non-DBE will do (trucking only) = %	If Regular Dealer, X 60% = $

DBE Firm	
List Specific Bid Item Numbers or Products to be Supplied	Total Contract Dollar Value $
Percent DBE will do with own equipment/forces = % Percent Non-DBE will do (trucking only) = %	If Regular Dealer, X 60% = $

DBE Firm	
List Specific Bid Item Numbers or Products to be Supplied	Total Contract Dollar Value $
Percent DBE will do with own equipment/forces = % Percent Non-DBE will do (trucking only) = %	If Regular Dealer, X 60% = $

FORM A (continued)

DBE Firm		
List Specific Bid Item Numbers or Products to be Supplied		Total Contract Dollar Value $
Percent DBE will do with own equipment/forces = % Percent Non-DBE will do (trucking only) = %	If Regular Dealer, X 60% = $	

DBE Firm		
List Specific Bid Item Numbers or Products to be Supplied		Total Contract Dollar Value $
Percent DBE will do with own equipment/forces = % Percent Non-DBE will do (trucking only) = %	If Regular Dealer, X 60% = $	

DBE Firm		
List Specific Bid Item Numbers or Products to be Supplied		Total Contract Dollar Value $
Percent DBE will do with own equipment/forces = % Percent Non-DBE will do (trucking only) = %	If Regular Dealer, X 60% = $	

DBE Firm		
List Specific Bid Item Numbers or Products to be Supplied		Total Contract Dollar Value $
Percent DBE will do with own equipment/forces = % Percent Non-DBE will do (trucking only) = %	If Regular Dealer, X 60% = $	

DBE Firm		
List Specific Bid Item Numbers or Products to be Supplied		Total Contract Dollar Value $
Percent DBE will do with own equipment/forces = % Percent Non-DBE will do (trucking only) = %	If Regular Dealer, X 60% = $	

DBE Firm		
List Specific Bid Item Numbers or Products to be Supplied		Total Contract Dollar Value $
Percent DBE will do with own equipment/forces = % Percent Non-DBE will do (trucking only) = %	If Regular Dealer, X 60% = $	

DBE Firm		
List Specific Bid Item Numbers or Products to be Supplied		Total Contract Dollar Value $
Percent DBE will do with own equipment/forces = % Percent Non-DBE will do (trucking only) = %	If Regular Dealer, X 60% = $	

Use additional pages, following the same format, if necessary.

The NDDOT DBE Liaison Officer can be contacted at:

CIVIL RIGHTS DIVISION
ND DEPARTMENT OF TRANSPORTATION
608 E BOULEVARD AVE
BISMARCK ND 58505-0700

dlaub@nd.gov
phone (701) 328-2576
fax (701) 328-1965, (701) 328-0343

LIST OF BUSINESSES THAT SUBMITTED QUOTES (RN)

North Dakota Department of Transportation, Civil Rights Division
SFN 52013 (Rev. 12-2011)

FORM B

Contractor		Phone
Job No.	Project No.	Bid Opening Date

SUBMIT WITHIN 5 WORKING DAYS OF BID OPENING

Within 5 working days after the bid opening, all bidders must either:

- Submit Form B to include all tiers of subcontracting on the project or
- Provide copies of all quotes received to include all tiers of subcontracting on the project to the DBE Liaison Officer, North Dakota Department of Transportation, 608 E Boulevard Ave., Bismarck, ND 58505-0700. Copies may be faxed to (701) 328-0343 or emailed to subquotes @nd.gov

When submitting a Form B, copies of all quotes **must** be retained, by each bidder, for **45 days after the bid opening date**. If a quoter has not provided a copy of their quote to the Department, the bidder **must** provide a copy of the quote, upon request by the Department.

This includes information from all tiers of subcontractors for the project.

List below the names of all businesses, including subcontractors, suppliers, vendors, regular dealers, manufacturers, and brokers who provided you quotes for this project. This includes information from any large subcontractor who also provided you a quote on this project and their subcontractors, suppliers, vendors, regular dealers, manufactures, and brokers.

Name of Business	Contact Person	Phone
Mailing Address		Type of Work (See Reverse Side for Codes)
Name of Business	Contact Person	Phone
Mailing Address		Type of Work (See Reverse Side for Codes)
Name of Business	Contact Person	Phone
Mailing Address		Type of Work (See Reverse Side for Codes)
Name of Business	Contact Person	Phone
Mailing Address		Type of Work (See Reverse Side for Codes)
Name of Business	Contact Person	Phone
Mailing Address		Type of Work (See Reverse Side for Codes)
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Name of Business	Contact Person	Phone
Mailing Address		Type of Work (See Reverse Side for Codes)
Name of Business	Contact Person	Phone
Mailing Address		Type of Work (See Reverse Side for Codes)

Use additional pages, following the same format, if necessary.

FORM B (continued)

A-1	**Engineering -** Professional services such as design or construction inspections performed by an engineering firm.
A-5	**Other -** Other professional services such as supportive services and research contracts.
B-1	**Grading/Drainage -** Grading, drainage, clearing, and related construction items.
B-2	**Paving -** Construction of base course, pavements, and related items.
B-3	**Structures/Buildings -** Bridge construction operations, including piling, substructure, superstructure, etc.; and building construction, including plumbing, heating, electrical, etc.
B-4	**Trucking -** Hauling of earthwork or other materials for a construction project.
B-5	**Traffic Control -** Permanent traffic control items such as signs, signals, and markings; and temporary traffic control items such as barricades and flagging.
B-6	**Landscaping -** Landscaping, seeding, sodding, erosion control, and related items.
B-7	**Other -** Other construction activities such as lighting contracts and guardrail.
C-	**Supplies -** The packaging and shipment of a product (materials, goods, and supplies) and the furnishing of BULK ITEMS which are incorporated into a construction project. C-1 Aggregate C-2 Concrete C-3 Electrical C-4 General C-5 Petroleum Products C-6 Pipe C-7 Ready Mix
D	**Manufacturing -** The physical production of materials and supplies through standard manufacturing processes obtained by a contractor for incorporation into a construction project.
E	**Equipment -** Purchases and rental of equipment for use on a specific construction project.

The DBE Liaison Officer can be contacted at:

CIVIL RIGHTS DIVISION
ND DEPT OF TRANSPORTATION
608 E BOULEVARD AVE
BISMARCK ND 58505-0700

E-mail: dlaub@nd.gov
Phone: (701) 328-2576
Fax: (701)328-1965, (701) 328-0343

NOTIFICATION OF INTENT TO USE DBE (RN)

North Dakota Department of Transportation, Civil Rights Division
SFN 52160 (Rev. 12-2011)

FORM C

1. The prime contractor and any subcontractors who listed DBE Participation on Form A **must** complete a Form C for each of their respective, intended DBEs. The prime contractor is responsible for the completion and submission of a Form C for each DBE commitment made by any lower-tier subcontractor.

2. If the information on a Form C **differs** from the information provided on Form A (bid item numbers, quantities, or dollar amounts), a written explanation for the difference **must** be provided by the prime contractor or subcontractor with the Form C.

3. The Form C **must be signed** by the prime contractor or subcontractor and their respective, intended DBE. If Form C contains additional pages or an attachment, each page **must** be signed by the intended DBE. Signatures do not have to be original (faxed signatures are acceptable).

4. The forms **must** be returned to the NDDOT Civil Rights Division **within ten working days** after the bid opening. Forms may be faxed to the Civil Rights Division at (701) 328-1965 or (701) 328-0343. **Award will not be made** until a Form C is received for each intended DBE listed on Form A.

This form is NOT a contract and does not take the place of any contract. It is an indication to NDDOT that all DBEs listed on Form A understand they will be used on this project.

Prime Contractor or Subcontractor	Project No.	
Intended DBE	Bid Opening Date	Job No.

Bid Item Nos.	Work Description	Units	Approx. Quantity	Unit Costs	Amount
				Total	$ 0.00

Comments

Prime Contractor/Subcontractor Signature	Title	Date
Intended DBE Signature	Title	Date

The NDDOT DBE Liaison Officer can be contacted at the Civil Rights Division, ND Department of Transportation, 608 E. Boulevard Ave., Bismarck, ND 58505-0700, dlaub@nd.gov, phone (701) 328-2576, or fax (701) 328-1965, (701) 328-0343.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION
EEO AFFIRMATIVE ACTION REQUIREMENTS

June 27, 2002

Bidders shall become familiar with the following requirements and be prepared to comply in good faith with all of them:

APPENDIX A

Notice or Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246)

1. The Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.

2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate work force in each trade on all construction work in the covered area, are as follows:

   a. Goals for Female Participation in Each Trade – Statewide 6.9%

   b. Goals for Minority Participation in Each Trade by County:

Barnes, Cass, Dickey, Eddy, Foster, Griggs, LaMoure, Logan, McIntosh, Ransom, Richland, Sargent, Steele, Stutsman, Traill	0.7%
Grand Forks	1.2%
Benson, Cavalier, Nelson, Pembina, Ramsey, Towner, Walsh	2.0%
Burleigh, Morton	0.4%
Adams, Billings, Bowman, Dunn, Emmons, Golden Valley, Grant, Hettinger, Kidder, Mercer, Oliver, Sheridan, Sioux, Slope, Stark, Wells	1.3%
Bottineau, Burke, Divide, McHenry, McKenzie, McLean, Mountrail, Pierce, Renville, Rolette, Ward, Williams	4.4%

These goals are applicable to all federal-aid highway construction work performed in the covered area.

The Contractor's compliance with the Executive Order and the regulations in 41 CFR 60-4 shall be based on its implementation of the Equal Opportunity Clause specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3 (a), and its efforts to meet the goals established for the geographical area where the contract resulting from this solicitation is to be performed. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order, and the regulations in 41 CFR part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall notify the Office of Federal Contract Compliance Programs, in writing, within ten working days of award of any subcontract in excess of $10,000. The notification shall include the name, address, and telephone number of the subcontractor and their employer identification number; dollar amount of the contract, estimated starting and completion dates of the contract; the contract number; and geographical area in which the contract is to be performed.

   Notification should be sent to:

   U.S. Department of Labor/ESA/OFCCP
   Denver District Office
   P.O. Box 46550
   Denver, Colorado 80201-6550
   Phone: 720-264-3200
   Fax: 720-264-3211

4. As used in this "Notice" and in the contract for this project, the "covered area" is the State of North Dakota.

APPENDIX B

Standard Federal Equal Employment Opportunity Construction Contract Specifications (Executive Order 11246)

1. As used in these specifications:

   a. "Covered area" means the geographical area described in the proposal from which this contract resulted.

b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority.

c. "Employer identification number" means the Federal Social Security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.

d. "Minority" includes:

i. Black (all persons having origins in any of the Black African racial groups, not of Hispanic origin);

ii. Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish Culture or origin, regardless of race);

iii. Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and

iv. American Indian or Alaskan Native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation of community identification).

2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of $10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the proposal from which this contract resulted.

3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or Subcontractor participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other Contractors or

Subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or Subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

4. The Contractor shall implement the specific affirmative action standards provided in paragraphs 7a through p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. The Contractor is expected to make substantially uniform progress toward its goals in each craft.

5. Neither the provisions of any collective bargaining agreement, nor the failure by a union with whom the Contractor has a collective bargaining agreement, to refer either minorities or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.

6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor. (Training programs approved by the North Dakota Department of Transportation are recognized by the U.S. Department of Labor.)

7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully, and shall implement affirmative action steps at least as extensive as the following:

    a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all Foremen, Superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working

environment, with specific attention to minority or female individuals working at such sites or in such facilities.

b. Establish and maintain a current list of minority and female recruitment sources; provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its union have employment opportunities available, and maintain a record of the organization's responses.

c. Maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union, or if referred, not employed by the Contractor, this shall be documented in the file with the reason therefore, along with whatever additional actions the Contractor may have taken.

d. Provide immediate written notification to the Director when the union with which the Contractor has a collective bargaining agreement has not referred to the Contractor a minority or woman sent by the Contractor, or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under 7b above.

f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the Company newspaper, annual report, etc., by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the Company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

g. Review, at least annually, the Company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, General Foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing it with the Contractors and Subcontractors with whom the Contractor does or anticipates doing business.

i. Direct its recruitment efforts, both oral and written, to minority, female, and community organizations, to schools with minority and female students, and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notification to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

j. Encourage present minority and female employees to recruit other minorities and women, and where reasonable, provide after school, summer, and vacation employment to minority and female youth both on the site and in other areas of the Contractor's work force.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.

l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel for promotional opportunities and encourage these to seek or to prepare for, through appropriate training, etc., such opportunities.

m. Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the Contractor's obligations under these specifications are being carried out.

n. Ensure that all facilities and Company activities are non-segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction Contractors and Suppliers, including circulation of solicitations to minority and female Contractor associations and other business associations.

p. Conduct a review, at least annually, of all Supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligation.

8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a Contractor association, joint Contractor-union, Contractor-community, or other similar group of which the Contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these Specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the Contractor's minority and female work force participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's, and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's noncompliance.

9. Goals for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minorities, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is under utilized).

10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

11. The Contractor shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination, and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

14. The Contractor shall designate a responsible official to monitor all employment-related activity to ensure that the Company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government, and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade, union affiliation, if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form, however, to the degree that existing records satisfy this requirement, Contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION
APPENDIX A OF THE TITLE VI ASSURANCES

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the Contractor), agrees as follows:

1. Compliance with Regulations: The Contractor shall comply with the regulations relative to nondiscrimination in federally-assisted programs of the Department of Transportation, Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.

2. Nondiscrimination: The Contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, national origin, sex, age, disability/handicap, or income status**, in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The Contractor shall not participate, either directly or indirectly, in the discrimination prohibited by Section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

3. Solicitations for Subcontracts, Including Procurements of Materials and Equipment: In all solicitations, either by competitive bidding or negotiation, made by the Contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the Contractor of the Contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, national origin, sex, age, disability/handicap, or income status**.

4. Information and Reports: The contractor shall provide all information and reports required by the Regulations, or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information and its facilities as may be determined by the North Dakota Department of Transportation or the Federal Highway Administration to be pertinent to ascertain compliance with such Regulations, orders, and instructions. Where any information required of a Contractor is in the exclusive possession of another who fails or refuses to furnish this information, the Contractor shall so certify to the North Dakota Department of Transportation, or the Federal Highway Administration, as appropriate, and shall set forth what efforts it has made to obtain the information.

5. Sanctions for Noncompliance: In the event of the Contractor's noncompliance with the nondiscrimination provisions of this contract, the North Dakota Department of Transportation shall impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including but not limited to:

a. withholding of payments to the Contractor under the contract until the Contractor complies, and/or
b. cancellation, termination, or suspension of the contract, in whole or in part.

6. Incorporation of Provisions: The Contractor shall include the provisions of paragraphs 1 through 6 in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations or directives issued pursuant thereto.

The Contractor shall take such action with respect to any subcontract or procurement as the North Dakota Department of Transportation or the Federal Highway Administration may direct as a means of enforcing such provisions, including sanctions for noncompliance provided, however, that in the event a Contractor becomes involved in, or is threatened with, litigation by a subcontractor or supplier as a result of such direction, the Contractor may request the North Dakota Department of Transportation to enter into such litigation to protect the interests of the State; and, in addition, the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

**The Act governs race, color, and national origin. Related Nondiscrimination Authorities govern sex, 23 U.S.C. 324; age, 42 U.S.C. 6101; disability/handicap, 29 U.S.C. 790; and low income, E.O. 12898.

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

I. General
II. Nondiscrimination
III. Nonsegregated Facilities
IV. Davis-Bacon and Related Act Provisions
V. Contract Work Hours and Safety Standards Act Provisions
VI. Subletting or Assigning the Contract
VII. Safety: Accident Prevention
VIII. False Statements Concerning Highway Projects
IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
X. Compliance with Governmentwide Suspension and Debarment Requirements
XI. Certification Regarding Use of Contract Funds for Lobbying

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding $10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. Equal Employment Opportunity: Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under

this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

b. The contractor will accept as its operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. EEO Officer: The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. Dissemination of Policy: All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. Recruitment: When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. Personnel Actions: Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. Training and Promotion:

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are

applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. Unions: If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. Reasonable Accommodation for Applicants / Employees with Disabilities: The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment: The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. Assurance Required by 49 CFR 26.13(b):

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. Records and Reports: The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor

will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding $2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 “Contract provisions and related matters” with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. Minimum wages

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH–1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b.(1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(ii) The classification is utilized in the area by the construction industry; and

(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or

will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. Withholding

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. Payrolls and basic records

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b.(1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division Web site at http://www.dol.gov/esa/whd/forms/wh347instr.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency..

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. Apprentices and trainees

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. Compliance with Copeland Act requirements. The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. Subcontracts. The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. Contract termination: debarment. A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. Compliance with Davis-Bacon and Related Act requirements. All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. Certification of eligibility.

a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. Withholding for unpaid wages and liquidated damages. The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. Subcontracts. The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

a. The term “perform work with its own organization” refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

(1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;
(2) the prime contractor remains responsible for the quality of the work of the leased employees;
(3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and
(4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.
2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost $25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1**. Instructions for Certification – First Tier Participants:**

a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. “First Tier Covered Transactions” refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.

h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (https://www.epls.gov/), which is compiled by the General Services Administration.

i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

2. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. **Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost $25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. “First Tier Covered Transactions” refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). “Lower Tier Covered Transactions” refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). “First Tier Participant” refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). “Lower Tier Participant” refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (https://www.epls.gov/), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the

department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

a. To the extent that qualified persons regularly residing in the area are not available.

b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

LABOR RATES FROM U.S. DEPARTMENT OF LABOR

NDDOT's *Davis-Bacon Wage and Payroll Requirements Handbook* is available at:
www.dot.nd.gov/manuals/civilrights/davisbacon.pdf

U.S. DEPARTMENT OF LABOR

STATE	COUNTY	DECISION NO.	PAGE
NORTH DAKOTA	STATEWIDE	ND130002	1
		DATE OF DECISION 1-4-13	

Revised 03-08-13 (Mod. No. 1)

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W/Pensions	Vacation	App. Tr.	Others
CARPENTERS	$25.00	$ 3.65			
CEMENT MASONS/FINISHERS	25.00	3.65			
LINE CONSTRUCTION:					
Lineman	31.16	4.75 + 29.5%			
Cable Splicer	31.16	4.75 + 29.5%			
Line Equipment Operator	28.04	4.75 + 29.5%			
Groundman	18.70	4.75 + 29.5%			
ELECTRICIANS:					
Electrician	34.06	11.61			
Cable Splicer	34.46	11.66			
(Adams, Billings, Bottineau, Bowman, Burke, Burleigh, Divide, Dunn, Emmons, Golden Valley, Grant, Hettinger, McHenry, McKenzie, McLean, Mercer, Morton, Mountrail, Oliver, Pierce, Renville, Rolette, Sheridan, Sioux, Slope, Stark, Ward, and Williams Counties)					
Electrician	25.99	10.99			
Cable Splicer	27.29	11.14			
(Barnes, Benson, Cavalier, Dickey, Eddy, Foster, Grand Forks, Griggs, Kidder, La-Moure, Logan, McIntosh, Nelson, Pembina, Ramsey, Ransom, Richland, Sargent, Steele, Stutsman, Towner, Traill, Walsh, and Wells Counties)					
Electrician (Cass County)	14.72	3.40			
WELDERS: Receive rate prescribed for craft performing operation to which welding is incidental					
LABORERS:					
Group 1 Drill Runner Tender; Flaggers and Pilot Car Drivers; General Construction Laborer; Light Truck and Pickup Driver; Pipe Handler; Sack Shaker (cement and mineral filler); Salamander Heater and Blower Tender	17.40				

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W/Pensions	Vacation	App. Tr.	Others
LABORERS: (CONT.)					
Group 2 Bituminous Worker (Shoveler, Dumper, Raker, and Floater); Brick and Mason Tender; Bulk Cement Handler; Carpenter Tender; Chain Saw Operator; Chipping Hammer, Grinders, and Paving Brakers (tamper-dirt); Concrete Bucket Signalman; Concrete Curing Man (not water); Concrete Finisher Tender; Concrete Saw Operator; Concrete Vibrator Operator; Conduit Layer, telephone or electrical; Culvert Pipe Layer; Form Setter (pavement); Gas, Electric, or Pneumatic Tool Operator; Kettleman (bitum. or lead); Multiplate Pipe Layer; Power Buggy Operator; Semi Skilled Laborer	$17.65				
Group 3 Bottom Man (sanitary sewer, storm sewer, water, and gas lines); Caisson Worker; Concrete Mixer Operator (one bag capacity); Mortar Mixer	17.80				
Group 4 Drill Runner (includes Wagon Churn or Air Track); Pipe Layers (sanitary sewer, storm sewer, water, and gas lines); Powderman, gunite and sandblast; Nozzleman; Reinforcing Steel Setters/Tiers	18.55				
POWER EQUIPMENT OPERATORS:					
Group 1 All Cranes, 60 tons and over; Cranes doing piling, sheeting, dragline/clam work; Derrick (Guy and Stiff); Gentry Crane Operator; Helicopter Operator; Mole Operator or Tunnel Mucking Machine; Power Shovel, 3-1/2 cy and over; Traveling Tower Crane	24.55	$13.05			
Group 2 All Cranes, 21 tons and up to 59 tons; Backhoe Operator, 3 cy and over; Creter Crane; Dredge Operator, 12” and over; Equipment Dispatcher; Finish Motor Grader; Front End Loader Operator, 8 cy and over; Master Mechanic (when supervising 5 or more Mechanics); Mon-O-Rail Hoist Operator; Power Shovel, up to and including 3-1/2 cy; Tugboat	23.65	13.05			

ND130002 Page 3

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W/Pensions	Vacation	App. Tr.	Others
POWER EQUIP. OPERATORS: (CONT.)					
Group 3 All Cranes, 20 tons and under; Asphalt Paving Machine Operator; Asphalt Plant Operator; Automated Grade Trimmer; Backhoe Operator, 1 cy up to and including 2-1/2 cy; Boom Truck, Hydraulic, 8 tons and over; Cableway Operator; Concrete Batch Plant Operator (electronic or manual); Concrete Mixer Paving Machine Operator; Concrete Paver, Bridge Decks; Concrete Pump; Concrete Spreader Operator and Belt Placer; Crushing Plant Operator; Dozer Operator; Dredge Operator or Engineer, 11" and under; Drill Rigs, Heavy Duty Rotary or Churn or Cable Drill; Front End Loader Operator, 3-1/2 cy up to and including 7-1/2 cy; Gravel Washing and Screening Plant Operator; Locomotive, all types; Mechanic or Welder, Heavy Duty; Motor Grader Operator; Pavement Breaker, Non-Hydro Hammer Type: Pipeline Wrapping, Cleaning, and Bending Machine Operator; Power Actuated Auger and Horizontal Boring Machine Operator, 6" and over; Refrigeration Plant Engineer; Roto Milling Machine (Surface Planer), 43" and over; Scraper Operator; Slip Form Concrete Paving Operator; Tandem Pushed Quad 9 or similar; Tractor with Boom Attachment; Trenching Machine Operator, 100 H.P. and over	$23.40	$13.05			
Group 4 Articulated/Off Road Hauler; Asphalt Dump Person; Asphalt Paving Screed Operator; Backhoe, up to and including 1/2 cy; Console Board Operator; Distributor Operator (Bituminous); Forklift Operator; Front End Loader, 1-1/2 cy up to and including 3 cy; Grade Person; Gravel Screening Plant Operator (not Crushing or Washing); Greaser; Lazer Screed Operator; Longitudinal Float and Spray Operator; Motor Grader Operator (Haul Road); Paving Breaker, Hydro Hammer Type; Pugmill Operator; Push Tractor; Roller, Steel and Rubber on Hot Mix Asphalt Paving; Rotomill Machine (Surface Planer), up to and including 42"; Sand and Chip Spreader; Self-Propelled Sheepsfoot Packer with or without Blade Attachment; Self-Propelled Traveling Soil Stabilizer; Sheepsfoot Packer with Dozer Attachment, 100 H.P. and over; Shouldering Machine; Slip Form, Curb and Gutter Operator; Tamping Machine Operator; Tie Tamper and Ballast Machine; Trenching					

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W/Pensions	Vacation	App. Tr.	Others
POWER EQUIP. OPERATORS: (CONT.)					
Group 4 (cont.)					
Machine Operator, 46 H.P. up to and including 99 H.P.; Truck Mechanic; Tub Grinder; Well Points	$23.25	$13.05			
Group 5					
Boom Truck, A-Frame or Hydraulic, 2 tons up to and including 7 tons; Broom, Self-Propelled; Concrete Saw (power operated); Front End Loader Operator, less than 1-1/2 cy; Mobile Cement Mixer; Oiler; Power Actuated Auger and Horizontal Boring Machine Operator, up to and including 5"; Roller (on other than hot mix asphalt paving); Vibrating Packer Operator (Pad Type) (Self-Propelled); Water Spraying Equipment, Self-Propelled	22.40	13.05			
Group 6					
Brakeman or Switchman; Curb Machine Operator (Manual); Dredge or Tugboat Deckhand; Drill Truck Gravel/Testing Operator; Form Trench Digger (Power); Gunite Operator Gunall; Paint Machine Striping Operator; Pick-up Sweeper, 1 cy and over Hopper Capacity; Scissor Jack (Self-Propelled) Platform Lift; Straw Mulcher and Blower; Stump Chipper Operator; Tractor Pulling Compaction or Areating Equipment; Trenching Machine Operator, up to and including 45 H.P.	21.10	13.05			
TRUCK DRIVERS:					
Single-Axle Truck	24.02	10.70			
Tandem- and Tri-Axle Truck	24.14	10.70			
Tandem- and Tri-Axle Semi	24.45	10.70			
Lowboy	24.45	10.70			
Off Road Heavy Duty End Dumps, 20 Yards and Under	24.45	10.70			
Euclid, Over 20 Yards	25.97	10.70			

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses [29 CFR, 5.5 (a) (1) (ii)].

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION

ON-THE-JOB TRAINING PROGRAM

I. PURPOSE

The purpose of the On-the-Job Training (OJT) Program is to provide training for minority, female, and economically disadvantaged individuals, hereafter known as the targeted group, in order that they may develop marketable skills and gain journeyworker status in the skilled craft classifications in which they are being trained.

II. INTRODUCTION

A. The OJT Program has been prepared through the cooperative efforts of the Associated General Contractors of North Dakota (AGC); the Federal Highway Administration (FHWA); and the North Dakota Department of Transportation (Department).

B. Successful operation of the OJT Program requires that contractors follow uniform and basic procedures in training, keeping records of trainee progress toward journeyworker status, and reporting each trainee's successful completion or termination from the OJT Program.

C. The bidder's signature on the proposal sheet indicates the bidder agrees to take part in the OJT program and to abide by the provisions of the On-the-Job Training Program Special Provision.

D. Projects funded solely with county funds and emergency relief projects that are **not** included in the Department of Transportation's bid openings will be excluded from the OJT program (i.e., no training program hours will count toward completion of an approved training program or be eligible for reimbursement).

III. DEFINITIONS

Carryover Position: Unfulfilled trainee position carried forward from a prior program year.

Carryover Trainee: Trainee scheduled to continue required training hours under an approved training program from a prior program year.

Journeyworker: A worker employed in a trade or craft who has attained a level of skill, abilities, and competencies recognized within the industry.

OJT Supportive Services (OJTSS) Consultant: A consultant under contract with the Department to provide in-person oversight, support, and guidance to contractors and trainees in an effort to increase the effectiveness of approved training programs.

Targeted Group: Individuals eligible to receive training under the OJT Program. For trainee positions assigned by the Department, trainees **must** be minority, female, or economically disadvantaged as defined by Job Service North Dakota (JSND).

Trainee: A person who receives on-the-job training, whether through an apprenticeship program or other program approved or accepted by FHWA.

Trainer/Supervisor: Prime contractor employee assigned to mentor, train, supervise, and support an assigned OJT Program trainee.

IV. FUNDING

The Department will establish an OJT fund annually from which contractors may bill the Department directly for eligible trainee hours. The funds for payment of trainee hours on federal-aid projects will be allocated from the ½ of 1% provided for OJT funding to a maximum of $100,000. The funds for payment of trainee hours on state-aided projects will be allocated to a maximum of $10,000.

V. ASSIGNED TRAINEE POSITIONS

A. Trainee positions will be assigned to contractors and will **not** be project specific. The number of trainee positions assigned will be determined by applying a formula based on calculations involving specific project specification numbers on applicable projects funded with federal highway dollars awarded by the Department to a contractor from October 1 to September 30.

B. The dollar value of projects subject to Tribal Employment Rights Ordinances (TERO), concrete pavement repair (CPR) projects, electrical projects, rest area projects, signing projects, striping projects, and state-aid highway projects will be excluded when determining the number of trainee positions assigned.

C. In early March, a summary of the trainee required to date and links to the OJT Program package will be sent to participating contractors. The links to the OJT Program package are also provided to prime contractors and subcontractors upon request. The summary and links are sent to prime contractors as they become eligible for trainees throughout the remainder of the year. The number of trainee assigned to each contractor in the summary provided in March will increase proportionately, as shown in the following table, for any applicable federally funded projects awarded to them between March 1 and September 30. Projects awarded after September 30 will be included in the following year's OJT Program.

D. The number of trainees will be assigned and will increase as follows:

For all federal highway dollars awarded from October 1 to September 30,

$ 4,500,000	- 8,000,000	= 1 trainee
$ 8,000,001	- 15,000,000	= 2 trainees
$15,000,001	- 23,000,000	= 3 trainees
$23,000,001	- and above	= 4 trainees

A maximum of four (4) trainee positions in a federal fiscal year will be assigned to any prime contractor regardless of dollar amount. Carryover positions from a prior program year are not included in the four trainee maximum, e.g., a contractor with one carryover and four assigned positions will have a total five trainees.

E. Contractors **not** qualifying for the OJT Program, or contractors desiring to train more than the allotted number of trainees, may apply to the Department for additional trainee positions. Approval of additional positions will be at the sole discretion of the Department. The Department will take into consideration whether there is enough work for the trainee to successfully complete the curriculum and whether the contractor will be exceeding the allowable ratio of trainees to journeyworkers (generally considered to be one trainee or apprentice to every three to five journeyworkers).

F. The additional positions may be filled by individuals outside of the targeted groups. The contractor may pay the reduced training rates to additional trainees outside of the targeted groups and receive hourly reimbursement for those individuals.

VI. APPROVALS REQUIRED

A. Training Programs: Contractors **must** have training programs approved by the Department's Civil Rights Division in order to pay the trainees less than the appropriate Davis-Bacon wage established for the job classification concerned and to be eligible for reimbursement under the OJT Program. **No** training program hours will count toward the fulfillment of an assigned trainee position or be eligible for reimbursement without **prior** approval.

1. The contractor will notify the Department's Civil Rights Division using the *Request for On-the-Job Training Program Approval SFN 9762.* This form is available on the Department's website at:

   http://www.dot.nd.gov/forms/sfn09762.pdf

2. A completed request form and the training curriculum **must** be submitted for each trainee in the OJT Program. Requests **must** be submitted by **April 1** or within fifteen (15) calendar days of notification of additional trainee assignments.

B. Trainees: Contractors **must** have trainees approved by the Department's Civil Rights Division in order to pay the trainees less than the appropriate Davis-Bacon wage established for the job classification concerned and to be eligible for

reimbursement under the OJT Program. **No** training program hours will count toward completion of an approved training program or be eligible for reimbursement without **prior** trainee approval.

1. The contractor will notify the Department's Civil Rights Division using the *Request for On-the-Job Trainee Approval SFN 60226*. This form is available on the Department's website at:

   http://www.dot.nd.gov/forms/sfn60226.pdf

2. A completed request form and the trainee's employment application **must** be submitted for each trainee employed under the OJT Program.

3. Written JSND certification of an individual as economically disadvantaged **must** also be provided to the Civil Rights Division as part of the approval process for trainees.

C. The contractor may request to train an individual in a classification **not** included in this OJT Program package. The request **must** be submitted, in its entirety, for approval by the Department and FHWA **before** the trainee begins work under the OJT Program. Training programs for classifications **not** covered by the Davis-Bacon and Related Acts will be considered on a limited basis. If approved, the new classification **must** comply with the provisions specified in this OJT Program package. The request **must** include:

1. A training curriculum, including the classification requested, minimum number of hours required, and type of training the individual will receive to achieve journeyworker status.

2. A minimum wage scale.

D. Union apprenticeship and on-the-job training programs registered with the Bureau of Apprenticeship and Training (BAT), U.S. Department of Labor, are recognized by the Department. These programs may be used for trainee positions assigned under the OJT Program, provided the trainees or apprentices are minority, female, or economically disadvantaged. Nonminority males **not** certified as economically disadvantaged may be used when the contractor has requested and received approval, from the Department, for additional trainee positions. However, contractors **must** produce indenture papers to be eligible for reimbursement, to pay the trainees or apprentices less than the appropriate Davis-Bacon wage established for the job classification concerned, and to receive credit for fulfilling assigned trainee positions.

E. The contractor may train an individual on a combination of equipment if each piece of equipment falls within the same groups of power equipment operators identified in the training curricula (groups 1-3 and groups 4-6). These power equipment operator groups are referenced to the federal Davis-Bacon wage rates contained in the contract proposal. As an example, a "utility operator" may receive training on a broom, a front-end loader less than 1½ cubic yards, or other piece of equipment that is used around a paver if each piece falls within either

groups 1-3 or groups 4-6. When multiple wage rates apply, the trainee's wage will be based on the equipment being operated at the time or on the highest of the applicable wage rates.

F. Use of the classification "pickup machine operator (asphalt dump-person)" as a group 4 power equipment operator is considered standard industry practice. The classification is defined as: "Operates the controls on the pickup machine that runs in front of the paver, trips the levers on the dump trucks, and balances the loads for the paver. The pickup machine operates on similar principles as a shouldering machine."

VII. DEPARTMENT'S RESPONSIBILITIES

A. Once the trainees have been approved, the Department's OJT Supportive Services (OJTSS) consultant will monitor the excerpts from the weekly certified payrolls submitted with the monthly vouchers for reimbursement. This includes weekly payrolls from contractors working on state funded **only** projects. The OJTSS consultant will assure that when the trainees have completed the specified number of hours, their wages are increased accordingly. The OJTSS consultant will also assure that applicable fringe benefits are paid either directly to the trainees or into approved plans, funds, or programs on their behalf.

B. Targeted group trainees will be counseled periodically during their training period. The contractor will make trainees available for counseling. To facilitate counseling sessions, contractors will be contacted for the location of the trainees.

VIII. CONTRACTOR'S RESPONSIBILITIES

The contractor:

A. Will appoint an individual within their company who will be available to respond to weekly contacts by the OJTSS consultant in order to monitor the status of assigned trainee positions (e.g., program and trainee approvals, trainees' progress, etc.). Upon assignment of a trainee position, the OJTSS consultant will immediately send a Request for On-the-Job Trainee Approval (SFN 60226) to the contractor to obtain the name, direct phone number, and email address of the individual. The individual must reply to communications from the Department and the OJTSS consultant in a timely manner.

B. Will identify all approved trainees on the payrolls, for example: "grp. 4 roller operator trainee." This includes trainees in job classifications **not** covered under the Davis-Bacon and Related Acts.

C. Will assign each trainee to a particular person–either a supervisor or an employee proficient in the skill–who shall see that timely, instructional experience is received by the trainee. This person will ensure proper records are kept, and the required training hours are completed according to the training curriculum.

D. May terminate the training period of a trainee who has completed 90% or more of their hours and advance the trainee to journeyworker status after providing notice

to the Department.

E. Will notify the Department when a trainee completes the OJT Program. The Department will issue a certificate of completion to the trainee.

F. May upgrade trainees from one power equipment operator group or truck driver group to another, with the approval of the Department. Trainees upgraded will **not** be required to complete the entire number of hours assigned to the new training curriculum. The minimum number of hours required will be:

Power Equipment Operator Groups 4-6 to Groups 1-3 = 400 hrs.
Class C Truck Driver to Class B = 200 hrs.
Class B Truck Driver to Class A = 200 hrs.

Depending on the variety of experience the trainee has gained under the previous curriculum, the difference in the hours may be deducted from the actual operation of the piece of equipment or truck. The contractor will need to review the trainee's past performance in order to make this determination.

J. Commercial driver's license (CDL) holders having over-the-road driving experience, with little or no highway construction experience, may be considered to have completed the Class C truck driver training curriculum and, therefore, are eligible to be upgraded to a Class B truck driver trainee, with the approval the Department's Civil Rights Division.

K. May transfer trainees from one project to another in order to complete the OJT Program. If transfers are made, the Civil Rights Division **must** be notified and provided with the name of the trainer. The training hours will count toward overall OJT Program completion.

L. May use trainees on municipal, private, or other non-highway work and work performed out of state. The training hours will count toward overall OJT Program completion; however, no program reimbursement will be made for those hours. In addition, the hours will be limited to no more than 25% of the total hours required under the training curriculum.

M. Contractors may delegate or reassign trainee positions to subcontractors, with the acceptance of the subcontractors and the approval of the Civil Rights Division. The prime contractor must verify that the trainee will be able to accumulate enough hours to complete his or her training program. If approved, the subcontractor must obtain training program and trainee approval from the Civil Rights Division before the trainee begins work under the OJT program. Program reimbursement will be made directly to the prime contractor. The trainee position will remain the responsibility of the prime contractor.

N. May use trainees on projects subject to TERO requirements as part of the core crew or as part of the skilled labor supplied by the contractor.

O. Contractors may **not** use one trainee to fill multiple trainee positions. For instance, a subcontractor may **not** use the same trainee in the same training

program to simultaneously fill two or more trainee positions reassigned to them by prime contractors.

P. May use a trainee on a piece of equipment in groups 1-3 or groups 4-6 for one assigned trainee position, then once that trainee has completed the program, the trainee may be trained on a different piece of equipment in groups 1-3 or groups 4-6 to fulfill a second assigned trainee position. When a trainee is used for a second time within a group, the contractor **must** pay that trainee at the higher wage rate as described in paragraph B under Wage Rates (page 8).

IX. CLASSROOM TRAINING

A. Classroom training may be used to train employees. The contractor will submit a proposed classroom training curriculum to the Department for approval. The classroom training curriculum **must** define the type of training the individual will receive and the minimum number of hours required. The Department will determine the number of hours of credit each trainee will receive toward their training. Each classroom training curriculum **must** be pre-approved by the Department if the contractor wishes to count the classroom hours as training hours.

B. Contractors will be reimbursed for classroom training hours after the trainee has completed 80 hours of work on highway construction projects.

C. With the exception of qualified testing technicians and concrete testing technicians/inspectors, reimbursement for classroom training will be limited to 60 hours per trainee per construction season. Reimbursement for classroom training required under the Department's Transportation Technician Qualification Program will be at the Department's discretion.

D. The minimum wage scale to be used for classroom training will be that of the first federal-aid highway construction project on which the trainee will be employed. If the trainee is already employed on a federal-aid highway construction project, the trainee will be paid in accordance with the minimum wage scale applicable to that project.

X. WAGE RATES

A. The minimum wage rates shall **not** be less than 80% of the journeyworker rate for the first two quarters of training, 85% of the journeyworker rate for the third quarter, and 90% of the journeyworker rate for the fourth quarter. In no case shall the minimum wage be less than that of the group 1 laborer classification in the federal Davis-Bacon wage rates contained in the contract proposal. Trainees shall be paid full fringe benefit amounts, where applicable. The contractor has the option of paying the fringe benefits into approved plans, funds, or programs or directly to their employees. A trainee working on a state funded only project, **must** be paid the Davis-Bacon wage rate in effect at the time of award of the state funded project for the type of work the trainee is performing.

B. Under the power equipment operator training curricula **only**, once a trainee has

completed a training curriculum in either groups 1-3 or groups 4-6, the contractor may enroll the trainee in another training curriculum on a different piece of equipment in either groups 1-3 or groups 4-6. The minimum wage rate under the second program shall **not** be less than 85% of the journeyworker rate for the first two quarters of training, 90% of the journeyworker rate for the third quarter, and 95% of the journeyworker rate for the fourth quarter.

C. At the completion of the OJT Program, the trainee shall receive the wages of a skilled journeyworker.

D. For the purpose of the OJT Program, a quarter is 25% of the hours worked by each trainee and does **not** represent three months of the year. The first two quarters of a 550-hour training curriculum would end after 275 hours, the third quarter after 138 hours, and the fourth after 137 hours.

XI. RECRUITMENT AND SELECTION PROCEDURES

A. Prerequisite for Trainees:

To be qualified for enrollment in the OJT Program, trainees **must** possess basic physical fitness for the work to be performed, dependability, willingness to learn, ability to follow instructions, and an aptitude to maintain a safe work environment.

B. Licenses:

Truck driver trainees **must** possess appropriate driver permits or licenses for the operation of Class A, B, and C trucks. When an instructional permit is used in lieu of a license, the trainee **must** be accompanied by an operator who:

1. Holds a license corresponding to the vehicle being operated;

2. Has had at least one year of driving experience; and

3. Is occupying the seat next to the driver.

C. Recruitment:

1. Notices and posters setting forth the contractor's Equal Employment Opportunity Policy and the availability of the OJT Program will be placed in areas readily accessible to employees, applicants for employment, and potential employees.

2. The contractor **must** employ minority, female, or economically disadvantaged individuals for all trainee positions assigned according to the OJT Program. Additional positions requested by the contractor may be filled by individuals outside of the targeted groups.

3. The contractor will conduct systematic and direct recruitment through public and private employee referral sources.

4. Present employees will be screened for participation in the OJT Program. A present employee may qualify as a trainee; however, **no** work hours will be reimbursed or counted toward program completion prior to training program and trainee approval by the Department's Civil Rights Division.

D. Selection:

1. The selection and employment of a person meeting the aforementioned criteria by a participating contractor shall qualify the person for the OJT Program.

2. Employment of trainees will be in accordance with the workforce requirements of the contractor. Each contractor will hire and train the trainees for use in their own organization.

3. A contractor may **not** employ an individual as a trainee in a job classification in which that individual has successfully completed a training course leading to journeyworker status or in which the individual has been previously employed as a journeyworker.

4. Contractors **must** submit the *Request for On-the-Job Trainee Approval (SFN 60226)* and the trainee's employment application to the Civil Rights Division for review and approval. Approval **must** be obtained before the trainee may begin work under the OJT Program.

5. The economically disadvantaged certification can only be obtained from Job Service North Dakota. Written certification of individuals under this category can be provided to the contractor at the time of the interview if the applicant is referred by Job Service. Any person wishing to obtain this certification must apply to Job Service and complete the Application for Eligibility (SFN 7857). This certification must be provided to the Civil Rights Division with the other required information as part of the approval process for trainees. A contractor that has an individual who may qualify must contact the Workforce Investment Act Program Manager at Job Service. This list of contacts is available on the Department's website at:

   http://www.dot.nd.gov/divisions/civilrights/docs/jobservice-workforce-invest-contacts.pdf

6. Nonminority males used to fill additional trainee positions approved by the Department do **not** have to be certified as economically disadvantaged.

XII. BASIS OF PAYMENT

A. Contractors will be paid $4.00 for each hour of training provided in accordance with the OJT Program.

B. Program reimbursement will be made directly to the prime contractor. To request reimbursement, prime contractors **must** complete the *Voucher for On-the-Job Training Program Hourly Reimbursement (SFN 51023)* for each trainee employed under the OJT Program. Attached to each voucher must be excerpts

from the weekly certified payrolls showing the trainee's hours, rate of pay, and how applicable fringe benefits are paid. This includes excerpts from weekly payrolls for state funded only projects. Vouchers without excerpts from payrolls will not be paid until the excerpts are provided. If the excerpts from the payrolls are not provided within one week, the voucher will not be approved. The voucher is available on the Department's website at:

http://www.dot.nd.gov/forms/sfn51023.pdf

C. The completed vouchers **must** be submitted to the Civil Rights Division for approval and processing by the fifteenth (15th) calendar day of every following month the trainee is employed under the OJT Program.

Regardless, all vouchers for trainee hours worked on state funded only projects from July 1 to June 30 must be received by the Civil Rights Division no later than July 15 in order to be reimbursed. All vouchers for trainee hours worked on federally funded projects from October 1 to September 30 must be received by the Civil Rights Division no later than October 15 in order to be reimbursed. This is due to state and federal end-of-the-year budget fiduciary requirements.

XIII. FAILURE TO PROVIDE THE REQUIRED TRAINING OR HIRE THE TRAINEE AS A JOURNEYWORKER

A. No payment shall be made to a contractor for failure to provide the required training or failure to hire the trainee as a journeyworker when such failure is caused by the contractor and evidences a lack of good faith on the part of the contractor in meeting the requirements of this OJT Program Special Provision. If payments have been made, the Department will withhold the amount paid from the contractor's progress payment.

B. It is normally expected that a trainee will begin his or her training as soon as feasible after start of work utilizing the skill involved and remain employed as long as training opportunities exist in his or her work classification or until he or she has completed his or her training program.

C. It is not required that all trainees be employed for the entire length of the construction season. A contractor will have fulfilled its responsibilities under this OJT Program Special Provision if it has provided acceptable training to the number of trainees specified. The number trained shall be determined on the basis of the total number enrolled for a significant period.

XIV. UNFULFILLED TRAINEE POSITIONS

A. For a variety of reasons, a contractor may be unable to fulfill the assigned number of trainee positions during a construction season. Any contractor that has **not** completed the assigned number of trainee positions **must** contact the Civil Rights Division by October 1 of the current construction season and provide documentation as to why the assigned trainee positions were not fulfilled. The Civil Rights Division will decide, on a case-by-case basis, whether to carry the trainee positions over to the next construction season.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION

TRIBAL EMPLOYMENT RIGHTS ORDINANCE (TERO) REQUIREMENTS

SHE-3-057(048)000 - PCN 18753

This Special Provision defines the core crew, reservation taxes, and the Indian preference requirements for this project. This project consists of approximately thirteen miles of installation of intelligent transportation system, a portion of which is within the exterior boundaries of the Spirit Lake Nation.

The Contractor and Subcontractors must comply with Tribal laws as long as the Tribal laws are in compliance with state and federal requirements.

CORE CREW

The Contractor and Subcontractor shall choose a core crew and utilize it on the project listed above. The core crew will consist of the following operators and key personnel for installation of intelligent transportation system:

INTELLIGENT TRANSPORTATION SYSTEM OPERATIONS:

1 Superintendent
1 Electrician
1 Journeyman
1 Trainee

CONDUIT PIPE INSTALLATION:

1 Superintendent
1 Borer Operator
1 Auger Operator
1 Excavator Operator
1 Front End Loader Operator
1 Borer/Pipe Locator
1 Trainee

The successful Bidder will be allowed to fill these key positions with personnel of his/her choosing.

WORK FORCE

The Contractor and all Subcontractors doing work on this Project shall extend preferential employment to Indians. The Contractor and all Subcontractors shall hire at least 75% of all positions (over and above the Core Crew) and 100% of their Group 1-4 Laborers through the Spirit Lake Nation TERO office.

Each Contractor and Subcontractor shall prepare a list of workers needed to complete the labor force as defined above. This list shall be submitted to the TERO office at least 72 hours

(not including Saturday and Sunday) prior to commencement of construction activities. The TERO office shall then see that the qualified employees are available for work at the time and date indicated by the Contractor. The term qualified employees cannot be used to eliminate or discriminate against any potential Indian employees.

If any of the employees have not reported for work within 24 hours of start-up time, the Contractor shall be free to hire by his/her own methods. The Contractor must abide by the Indian preference requirements when hiring additional and replacement workers.

After construction activities have commenced, requests for additional and replacement workers shall be made to the TERO office. The TERO office shall have 24 hours to furnish such employees. If the employees are not provided within this time, the Contractor will be at liberty to do his/her own hiring. The Contractor must abide by the Indian preference requirements when hiring additional and replacement workers. After the Contractor has hired an additional or replacement employee or subcontractor, the Contractor will be permitted to retain this employee or subcontractor through completion of the Project. The Contractor will not be required to displace workers or subcontractors on the Project.

TERO FEE

The established Tribal Employment Rights (TERO) fee is 2% of and the established TERO Training fee is ½% of the Contract amount associated with work inside the exterior boundaries of the Spirit Lake Nation, resulting in a total of 2½% in fees to be assessed to the applicable portions of the Contract.

For project **SHE-3-057(048)000** ninety two and four tenths percent (92.4%) of this project lies within the exterior boundaries of the Spirit Lake Nation. Therefore, the Contractor shall pay a TERO fee in the amount of 92.4% of the established 2½% rate, or 2.309% of the total contract amount. **The fee shall be paid at a rate of 2.309% of each progressive estimate.** Payment shall be made within two weeks of receipt of project payment.

Each Contractor and Subcontractor shall obtain a $250 business permit and a $10 license decal fee for each truck or semi from the Spirit Lake Nation Tax Department before beginning any work on this contract.

Payment of the above items shall be made to:

Spirit Lake Tribe, Tribal Tax Department
P.O. Box 192
816 3rd Ave. N.
Fort Totten, ND 58335

TERO COMPLIANCE

Contract compliance is the responsibility of the North Dakota Department of Transportation, and the Department has the exclusive right to suspend construction operations on this project for any instances of noncompliance, including TERO issues. If there is reason to believe that the Contractor or Subcontractors are violating the requirement of the Special Provision, the TERO office will notify the Department, and the Department will resolve those issues with the Contractor or Subcontractor.

Contractor will be required to provide proof of payment to the Engineer before final acceptance of the project.

Attachment B

MEMORANDUM OF UNDERSTANDING
Tribal Employments Rights Ordinance (TERO) and Tribal Business License Requirements
Project No. SHE-3-057(048)000, PCN 18753

Be it understood that the Spirit Lake Nation and the North Dakota Department of Transportation (NDDOT) mutually agree in the award of the above-mentioned project contract to the contractor determined by the NDDOT to be the successful bidder. This memorandum is consistent with and does not supersede or eliminate any requirements specified in SP 686(08), which is part of the bidding proposal for this contract.

NDDOT:

1. The NDDOT and the NDDOT's employees and agents will not be subject to reservation taxes, fees, permits, licenses, or TERO provisions.

2. NDDOT will provide copies of the payment estimates to the Tribe.

Contractors and Subcontractors of the NDDOT:

1. The prime contractor and subcontractors of the NDDOT shall provide preference in employment and contracting to Indians in accord with the Spirit Lake Tribe's Tribal Employment Rights Ordinance and as outlined in SP 686(08).

2. Core crew of the contractor will be as outlined in SP 686(08).

3. A TERO fee and training fee shall be paid as outlined in SP 686(08).

4. Each contractor and subcontractor must obtain a $250 business license and $10 license decal fee for each truck or semi from the Tribe before beginning any work on the Reservation. Tribal business licenses and license decal fee are available from the Tribe's Tax Department.

Roger Yankton Sr. — 3-11-13
Spirit Lake Nation
Roger Yankton, Sr., Chairperson
Date

Grant Levi — 3/12/13
North Dakota Department of Transportation
Grant Levi ~~Francis G. Ziegler,~~ PE, Director
Date

MGaydos — 3/11/13
Approved as to Substance by:
Environmental & Transportation Services
Mary Gaydos, PE
North Dakota Department of Transportation
Date

APPROVED as to execution this 12th day of March 2013
ATTORNEY GENERAL
By [signature]
SPECIAL ASST. ATTORNEY GENERAL

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION

HIGHWAY 57 INTELLIGENT TRANSPORTATION SYSTEMS IMPROVEMENTS

SHE-3-057(048)000 – PCN 18753

This document was originally issued and sealed by Erik D. Minge Registration Number PE- 8470, on 8/19/13 and the original document is stored at the North Dakota Department Of Transportation

1.0 DESCRIPTION

The North Dakota Department of Transportation (NDDOT) is deploying Intelligent Transportation System (ITS) improvements to improve safety for the traveling public in the vicinity of Devils Lake. Severe weather events warrant the closure of a section of Highway 57 to protect the traveling public. The following ITS improvements will monitor weather conditions and facilitate road closures:

- Environmental Sensor Station (ESS) – one roadside weather monitoring station shall be deployed. The ESS station shall include an IP PTZ camera, radar traffic sensor and various environmental sensors to monitor local road conditions.

- Surveillance camera system – surveillance cameras will be deployed at two locations. The surveillance camera system will consist of an IP PTZ camera and infrared illuminator mounted to an RWIS tower 30 feet in height.

- Road closure gate – one manual road closure gate shall close a key section of Highway 20 and 57. The gate shall be equipped with flashers on the gate arm.

- Signing (advanced road closed sign) – advanced road closure sign will be deployed a half mile ahead of the road closure gate. The advanced road closure sign will be equipped with a beacon with flasher.

- Wireless Ethernet communication system – an Ethernet-based point to multi-point wireless communication system shall connect select field components to the access point radio to be installed on the NDDOT tower near BIA 15 and Highway 57 (Ski Jump Hill).

- Backhaul communication – backhaul communication path from the NDDOT tower to the NDDOT District office shall be provided by NDDOT and is not a part of this contract.

- Cell modem communication – 4G standalone cellular service shall be used for backhaul communication to the device that is not within communication range of the NDDOT tower.

This Special Provision explains how to implement the proposed operational concept for the system and presents system specifications for individual system components.

Operational Concept

The ITS field components in the project area shall operate in a coordinated fashion to monitor weather conditions and allow operators to deploy a closure gate and activate an advanced road closed sign. A wireless Ethernet network provides high-bandwidth data suitable for streaming video.

General Mode Operation

The ESS installation shall automatically capture meteorological data and traffic flow information and transmit it to a processing/storage server via the wireless Ethernet network or cell modem. Users can then access the data via an RWIS software client from the District Office or other sites. The ESS site shall also be equipped with an IP PTZ camera that supplies streaming digital video. Users can access this stream via a desktop client software package to verify roadway conditions and monitor traffic. This desktop client software package shall be included with the system and delivered by the Contractor. This software may be web-based or client-based.

2.0 QUALIFICATIONS

The Contractor shall propose a qualified system integrator to provide assistance and expertise in the areas of equipment installation, configuration, integration, testing, and system commissioning. The field system integrator shall be responsible for ensuring all equipment installed operates in conformance with contract documents, including these plans and specifications. The system integrator shall also provide submission of material lists, shop drawings, documentation, as-builts, test plans, test results, and training and operation manuals.

The Contractor shall submit the resume of the proposed system integrator for review and acceptance by NDDOT. The resume shall demonstrate the qualifications of an individual who meets a minimum of two years of experience in at least two of the following:

- Maintain or service traffic signal controllers, including NEMA, 170, or 2070 controllers.
- Install, maintain, integrate, or service digital communications equipment on wireless networks. The experience must include work with video encoders and decoders.
- Install, maintain, integrate, or service of computer networks and network equipment including switches, routers, hubs. Provide documentation of training and work experience in network management, SNMP, and software integration.
- Install, maintain, integrate, or service of closed circuit television systems for traffic surveillance or security. Knowledge of control systems, video signals, switches, and encoding devices is required.

3.0 DOCUMENTATION

Project Documentation shall be included with the appropriate ITS subsystem.

The Contractor shall submit to the Engineer for review and approval the following items:

A. Shop drawings shall be submitted for all components indicating types of materials proposed, parts lists, assembly techniques and wiring schematics. These drawings must be submitted to the Department before any field work is done on that subsystem.

B. Detailed design and installation working drawings for the complete ITS system with sufficient detail to allow review of all power and communications for compliance with this Special Provision. Working drawings shall clearly indicate any and all deviations from the contract documents. The working drawings shall include specific details and exact locations of all system components including proprietary equipment.

C. Compliance Traceability Matrix that gives evidence of the compliance of each component with the requirements in the Special Provisions.

D. Communications Infrastructure Plan showing routing of electronic communications between devices in the field, between devices and computers, between systems, and between the field computers/systems and remote users.

E. Installation schedule that shall outline the steps the Contractor intends to make to complete the contract. The installation schedule shall be revised and resubmitted if there is a significant change to the schedule.

F. Contractor qualifications and resumes.

G. Working drawings for all towers, poles, signs and foundations.

H. Product data sheets or certificates of conformance with this Special Provision.

I. Operations and Maintenance Manual – The Contractor shall furnish an Operations and Maintenance Manual, or O&M Manual. The O&M Manual shall include operation and maintenance instructions for all systems and items of equipment provided under the contract. The O&M Manual shall be in the form of neatly formatted bound ring binders and electronic format in the form of CD-ROM disks. Prior to completion of the work, and at least 90 days prior to final payment, the Contractor shall furnish for the Engineer's review three O&M Manual draft copies.

   The O&M Manual shall consist of product data sheets, brochures, bulletins, charts, schedules, approved working drawings corrected to as-built conditions, assembly drawings, wiring diagrams, operation and maintenance information for equipment, and other information necessary for the Department to establish an effective operating maintenance program. The O&M Manual shall include:

   1. Title page giving the name and location of the facilities and Project Numbers;
   2. Approved working drawings of each component;
   3. Approved product data sheets and dimensioned drawings of each piece of equipment, and details of all replacement parts;
   4. Manufacturer's installation, operation, and maintenance instructions for each piece of equipment;

5. Complete wiring diagrams of all individual pieces of equipment and systems including, schematic diagrams and interconnection diagrams;
6. Complete parts list with parts assembly drawing, recommended list of spare parts to be kept on hand by the Department.
7. Instructions with easily understood schematics or diagrams for disassembling and assembling the equipment for overhaul or repair.

J. Test Plan - The Contractor shall prepare a Test Plan that details the procedures that will be used to test the full range of the functions of the subsystems and overall system. Test Plan requirements are detailed in another section of this Special Provisions.

3.1 Submittals

Within sixty (60) days after receipt of Notice to Proceed the Contractor shall submit to the Engineer for approval, five (5) sets of cut sheets and data sheets for all hardware to be supplied.

3.1.1 Cut Sheets

Cut sheets that show multiple items or product numbers shall be annotated to indicate exactly which item the Contractor is proposing to use.

3.1.2 Shop Drawings

Submit shop drawings as required in Section 105.08 of Department's Standard Specifications for Road and Bridge Construction. Shop drawings shall include, but not be limited to, the following:

- System Block Diagram illustrating the interrelationship between the various components.
- Detailed drawings for all equipment to be used in the System, including physical layout of internal components and proposed mounting or installation locations. This shall include cut sheets of any "off-the-shelf" enclosures used.
- Design of any ventilation, heating and cooling systems require for the sign enclosure or any other equipment enclosures. Submittals shall include design calculations.
- As-Built Drawings
- As-built drawings shall be furnished, and submitted for approval, for all equipment layouts, cabling, and conduit installations.

4.0 CONTROL SOFTWARE

The Supplier shall furnish software packages that accommodate data collection and operation of the proposed system. The control software will be used for central control from various client sites and on laptop computers for local control and maintenance and must operate using the most current version of 64-bit Windows Operating Systems. The ESS station and detectors will integrate with the existing NDDOT RWIS software.

A. Communications

The ESS station and surveillance camera systems shall be capable of transferring data via the following service types:

- High Speed Local Area Network (LAN)/Wide Area Network (WAN) (e.g. T1, Digital Subscriber Line (DSL))
- Cellular service
- Microwave radio transmission
- Fiber Optic Transmission Systems (FOTS)

5.0 MATERIALS

5.1 General

Materials and equipment conform to these special provisions, the NDDOT Standard Specifications for Construction, local codes and ordinances, the National Electrical Manufacturers Association (NEMA); the Electronics Industries Association (EIA), National Electrical Code (NEC), and the Telecommunications Industries Association (TIA).

A. Use stainless steel hardware (e.g. mounting bolts, nuts, washers, and external hinges, etc.) on outdoor components.

B. Use only components designed for 10, or more, years of industrial use.

C. The Contractor warranties all system materials and workmanship for three years from completion and acceptance of the work. The warranty period begins when system is fully accepted by the Engineer in writing.

D. The Contractor is responsible for rounding and smoothing sharp corners and edges of all systems components.

5.2 Grounding

All electrical and electronic grounding meets "SINGLE POINT" GROUNDING requirements. Single point grounding means referencing all grounded devices to a Single Point, one single piece ground rod, via the shortest and straightest route. Collect the devices' chassis and electrical grounds at a ground bus before connecting them to the earth ground rod. Connect the ground busses via conductors that meet the requirements of single point grounding.

A. Provide single point grounding by:

1. Grounding all equipment to meet the requirements of the manufacturer;
2. Routing each ground conductor to the ground bus via the straightest route that does not hinder maintenance or installation activities; and
3. The Contractor shall clean each grounding component with 300-grit emery cloth before bonding. Apply a mineral oil based oxide inhibitor to the bond area.

B. An oxide inhibitor is applied over bonded connections to ground rods. The Oxide Inhibitor:

1. Provides an airtight seal around the conductor and ground rod;
2. May be applied to the bonded area between the temperatures of -22 degrees C (-30 degrees F) and 149 degrees C (300 degrees F);
3. May be used on copper conductors;
4. Prevents oxides from forming; and
5. Is mineral oil based.

Selected Oxide Inhibitor shall be approved by the Engineer.

C. Bonding the ground conductor to the ground rod shall be accomplished through exothermic welding.

D. Maintain the electrical continuity of the cable shields. Ground all cable shields entering an enclosure. Shield bonding complies with RUS splicing Standard PC-2, Section 3.3. Use bonding connectors complying with RUS standard PE-33 (Cable Shield Connectors).

5.3 Electric and Electronic Cable

Electric, electronic, video and telephone cables are found within the project limits and may be impacted or replaced by construction activities. The Contractor shall exercise caution when working near existing cables.

A. Exercise caution and dig by hand when exposing the existing cables. Seal all nicks or abrasions with rubber splicing tape. If the cable jacket is nicked so deeply that the armor is exposed, install an approved epoxy repair kit over the damaged area.

B. The Contractor stocks approved splice kits to repair any cable, damaged by Construction activities.

1. Use button style, gel filled, crimp-on butt splices enclosed in zippered poly bags, when making temporary, twisted pair, control cable splices. Protect the splices in an approved manner, above ground, until the permanent splices are installed.
2. Install new cable between existing terminations or vaults, as appropriate, for cable severed by contract activities.
3. The devices, enclosures, and material required for severed cable repair/replacement shall be included with the Contract pay item.

Selected splice kit shall be approved by the Engineer.

C. Permanent repairs to twisted pair cables are done using rigid-body, non-reenterable, enclosures in combination with button style, crimp-on butt splices. The closure is made of translucent polypropylene and packed with a urethane Compound. Rubber tape is used to seal the ends of the closure. The closure is available in 4-pr, 18-pr, and 50-pr sizes.

D. The electric and electronic cables comply with the following specifications. Splices are not allowed in electric or electronic cables without the Engineer’s approval. Power, Control, and RF cables are one-piece cables between termination points.

E. When using crimp-on connectors, install the insulation of electrical cables deep enough into the lug that the insulation acts as a strain relief. Crimp both the conductor and the insulation to the lug. When using crimp-on connectors, make the crimps with a ratchet style crimp tool. The AMP 59250 has met this specification.

F. Protect all cables not terminated immediately and stored below ground (in a handhole) from moisture intrusion. Provide epoxy encapsulation for cable ends. It is not necessary to provide epoxy protection for cable ends stored above ground. Protecting power cable ends shall be included with the ITS subsystems.

5.4 Labeling Cables and Components

Secure permanent identifying labels to each cable and component; including any required cross connects to communications equipment, according to these contract documents and information provided by the Engineer. Use self-laminating vinyl labels at least 1-inch wide and long enough that the translucent portion of the label completely covers the white area bearing the legend. Use vinyl with a layer of pressure sensitive acrylic adhesive. Use labels that resist oil, water, and solvents and are self-extinguishing. Use a machine to print the legend in letters at least 1/8 inch high.

Labeling components, wire, and cable are incidental to the individual ITS subsystems.

5.5 Radio Tower

Access to the NDDOT communications tower on Ski Jump Hill is required for installation of the communication system's access radio unit. The Contractor shall coordinate with NDDOT to identify acceptable tower climber personnel and practices. The following two tower climber companies have been approved for climbing on this tower. The qualifications of other tower climber companies and personnel may be submitted to NDDOT for approval.

Great Plains Tower Service
126 Sixth Street West
West Fargo, ND 58078-1536

Allstate Tower Service
9310 82nd SE Ave
Minot, ND

The Contractor shall install two compatible radio/antenna access units on the tower. The Contractor shall submit a tower access request for NDDOT's approval before accessing the tower.

Contact Robert Steckler to coordinate installation activities.

Robert Steckler
216 Airport Road
Bismarck, ND 58504
701-328-6935

NDDOT will place a firewall (Juniper Networks SSG5) at the Ski Jump Hill Tower that shall interface with and serve as the connection for the Ethernet radio system to interface with the DOT network.

5.6 Environmental Sensor Station

One Environmental Sensor Station shall be installed as a part of this project. The ESS site shall have an IP PTZ camera, IR illuminator, and shall incorporate all sensors listed in this section.

A. General

The Contractor shall install passive in-pavement sensors, active in-pavement sensors, and non-intrusive sensors. The Contractor shall ensure the in-pavement sensors reports:

- Surface temperature
- Pavement temperature
- Sub-surface temperature

The Contractor shall ensure sensors have a removable lid for maintenance and battery replacement.

The Contractor shall ensure RWIS monitors and displays:

- Pavement surface conditions
  - Dry
  - Wet
  - Frost
  - Chemical wet
  - Snow or ice warnings
- Pavement temperature
- Freeze point temperature
- Chemical percent concentration
- Subsurface temperature
- Roadway video images
- Traffic counts
- Atmospheric conditions
  - Ambient air temperature
  - Relative humidity
  - Dew point
  - Precipitation classification
  - Visibility
  - Barometric pressure

- Solar radiation
- Water level
- Snow depth
- Wind speed and direction

The Contractor shall ensure the ESS provides:

- Color still frame video images of the roadway
- Streaming video images of the roadway surface
- IR illuminator for night viewing

The Department will collect, archive, and display the information from RWIS on the Department's statewide RWIS server.

The Contractor shall include all hardware, software, and licenses to operate as follows:

- An IP Pan-Tilt-Zoom (PTZ), low light, color, snapshot video camera shall capture video images from multiple angles and transfer the images to the Remote Processing Unit (RPU).
- Streaming video shall capture video images of roadway showing areas of snow and ice on the surface.
- An operating system capable of multi-tasking operations to optimize data acquisition from all connected devices.
- The RPU shall process and temporarily store output:
  - Cameras
  - Traffic counters
  - Pavement sensors
  - Atmospheric sensors
- NDDOT RWIS server will poll each RPU as scheduled. The RPU shall respond and transfer the data and images.
- Data transfers are compliant with the most current Federal NTCIP ESS requirements.
- NDDOT RWIS server will store the ESS data and video images in a standard SQL Server database.
- ESS user displays shall include all sensor, and video data in a browser-based data display format.

B. <u>RPU</u>

The Contractor shall supply and install an RPU electronics package.

The RPU shall have at least eight differential inputs or 16 single-ended (SE) individually configured analog inputs. Channel expansion capability shall be able to be provided by multiplexers.

RPU shall be at least as accurate as the following values not including sensors and measurement noise.

- ±(0.06% of reading + offset) at 0° to 40°C
- ±(0.12% of reading + offset), -25° to 50°C
- ±(0.18% of reading + offset), -55° to 85°C

RPU shall have a minimum of eight ports that are software selectable as binary inputs or control outputs. The ports shall provide subroutine interrupts/wake up, switch closure pulse counting, high frequency pulse counting, asynchronous communications (UARTs), SDI-12 communications, and SDM communications.

RPU shall minimally have the following communications ports:

- 9-pin: DCE (not electrically isolated) for battery-powered computer or modem connection. Four independent Tx/Rx pairs on control ports (non-isolated); 0 to 5 Vdc UART Baud Rates: selectable from 300 bps to 115.2 kbps. Default Format: 8 data bits; 1 stop bits; no parity Optional Formats: 7 data bits; 2 stop bits; odd, even parity
- Peripheral port: 40-pin interface for attaching CompactFlash or Ethernet peripherals

RPU shall be IP addressable and communicate through an integrated RJ45 Ethernet connector.

RPU shall support the following communication protocols: PakBus, Modbus, DNP3, FTP, HTTP, XML, POP3, SMTP, Telnet, NTCIP, NTP, SDI-12, SDM.

Minimum three year manufacturer's warranty against defects in materials and workmanship. Manufacturer's standard warranty shall apply if it is for a longer duration than three years.

The successful bidder or manufacturer's authorized service facility shall be fully responsible for any applicable delivery, pick-up, and (or) site visit costs associated with warranty work throughout the warranty period.

The Contractor shall provide vendor software that enables a technician to test all features and functions of the device when locally connected to the RPU, and perform all set-up procedures with a web based interface. The software shall be delivered on a CD so that it can be installed on other computers. The NDDOT shall have the right to make and use an unlimited number of copies of this software.

C. <u>Ethernet Switch</u>

The Ethernet switch shall include the necessary cables, adapters, and mounting hardware required to operate the Ethernet Switch. The Ethernet Switch, enclosure, mount and cables shall be standard production of the latest model with standard accessories and in addition meet or exceed the following minimum specifications:

- Ruggedized construction
- Din Rail Mounted
- Power: 24V DC

- 4-10/100TX Ports
- Operating Temperature: -40°F to 120°F

D. Temperature/Relative Humidity Sensor

The temperature/relative humidity sensor shall meet the following criteria:

- Temperature Measurement Range of -30°C to +50°C (-22°F to +122°F),
- Relative Humidity Measurement Range of 0 to 100%,
- Temperature accuracy of ±0.3°C at 20°C (±0.5°F at 68°F),
- Relative humidity accuracy of ±2% over 0-90% RH, and ±3% over 90-100% RH,
- Operating Temperature Range of -30°C to +50°C (-22°F to +122°F),
- Support an open architecture for communications
- Provide an interface specification document

Any of the following sensors or approved equal may be implemented:

- Campbell Scientific HC2S3-L Temperature/Relative Humidity
- RM Young Model 41382 Relative Humidity/Temperature Probe
- Vaisala HMP155
- Vaisala QMH101/102

E. Passive Pavement Sensors

The Contractor shall ensure the passive sensor supplied is single solid-state electronic device.

The Contractor shall ensure the sensor is constructed of materials that have thermal characteristics similar to pavement materials. The Contractor shall ensure the top of the sensor is the roadway pavement color and texture. The Contractor shall install the sensor with epoxy sealer so the top is flush with the roadway surface.

The Contractor shall ensure the sensor is thermally passive, providing stable operation between -40°F and 176°F (-40°C and 80°C).

The Contractor shall ensure performance is not degraded by:

- Weather conditions
- Traffic
- Ice control chemicals

The Contractor shall supply a 150 foot, 300 foot, or 500 foot waterproof molded cable capable of operating at extended cable lengths up to 5000 feet from the RPU. The Contractor shall ensure the sensor electronically samples:

- Surface temperature at the sensor head

- Dry pavement condition
- Wet pavement condition above 32°F (0°C)
- Pavement status information

The Contractor shall ensure the sensors supply data for the ESS to determine the following pavement surface conditions when sufficient water is present on the pavement, and atmospheric data from precipitation, relative humidity, and air temperature sensors are available:

- Water on the pavement at or below 32°F (0°C)
- Snowy or icy pavement at or below 32°F (0°C)
- Freezing point temperature of the water and ice control chemical solution present on the surface of the pavement sensor for selected ice control chemicals
- Depth of the water and ice control chemical solution present on the surface of the pavement sensor up to a depth of 0.5 inches
- Percentage of ice particles present in the water and ice control chemical solution resident on the surface of the pavement sensor

The Contractor shall provide within 10 calendar days after the date of notice of Contract award the field test documentation that substantiates pavement sensor performance.

- Operating temperature range of -30°C to +70°C (-22°F to +158°F),
- Accuracy of temperature measurement: ±0.2°C (-10°C to +10°C), otherwise ±0.5°C,
- Support an open architecture for communications, and
- Must provide an interface specification document.

Pavement condition sensor:

- An operating temperature range of -50°C to +85°C (-58°F to +185°F),
- Pavement condition (active and passive cycles): wet, dry, trace, chemical wet,
- Support an open architecture for communications, and
- Must provide an interface specifications document

F. Subsurface Temperature Probes

The Contractor shall install a subsurface temperature probe in the roadway near a surface sensor at a depth of 17 inches. The Contractor shall ensure the probe measures ground temperature below the roadway pavement surface.

- Operating temperature range of -30°C to +70°C (-22°F to +158°F),
- Accuracy of temperature measurement: ±0.2°C (-10°C to +10°C), otherwise ±0.5°C,
- Support an open architecture for communications, and
- Must provide an interface specification document.

The contractor shall supply a 150 foot or 300 foot waterproof molded cable capable of operating at extended cable lengths up to 1000 feet from the RPU.

G. Deep Subsurface Temperature Probe

The Contractor shall install a subsurface temperature probe in the roadway near a surface sensor at a depth of 72 inches. The Contractor shall ensure the probe measures ground temperature below the roadway pavement surface. This probe shall be capable of sensing temperatures of at least six locations spaced at a maximum of one foot intervals.

- Operating temperature range of -30°C to +70°C (-22°F to +158°F)
- Accuracy of temperature measurement: ±0.2°C (-10°C to +10°C), otherwise ±0.5°C
- Support an open architecture for communications
- Must provide an interface specification document

The contractor shall supply a 150 foot or 300 foot waterproof molded cable capable of operating at extended cable lengths up to 1000 feet from the RPU.

H. Precipitation Occurrence Sensor

The Contractor shall install the sensor 6 feet above ground on the ESS tower structure. The Contractor shall ensure the sensor operates on the basis of droplet detection.

The sensor shall identify at least four different types of precipitation including rain, drizzle, mixed rain/snow, and snow. The system shall measure precipitation intensity and accumulation. The system must operate from -40 to +60 °C and must operate in up to 100% relative humidity. The sensor shall be protected with IP66 or better intrusion protection.

I. Ultrasonic Wind Speed/Direction Sensor

The Contractor shall install the wind speed and direction sensor 30 ft. above ground at the top of the ESS tower structure. The Contractor shall ensure the wind speed and direction sensor operates:

- Wind speed range of 0 to 50 m/s
- Wind direction range of 0 to 360 Degrees
- Wind speed accuracy of ±0.135m/s or ±3% of reading
- Wind direction accuracy of ±2°
- Operating temperature range of -40°C to +50°C (-40°F to +122°F)
- Must have a heater associated with the sensor
- Support and open architecture for communications
- Must provide an interface specification document

Any of the following sensors or approved equal may be implemented:

- RM Young Ultrasonic Anemometer (Heated) Model 85004

- Vaisala WINDCAP Ultrasonic Wind Sensor Model WS425 (heated)
- Vaisala WINDCAP Ultrasonic Wind Sensor Model WS425 F/G
- Met One Instruments (Heated) Model 50.5H.

J. Barometric Pressure Sensor

The minimum requirements for a barometric pressure sensor are:

- Pressure measurement range of 500 to 1100 hPa
- Accuracy of ±0.30 hPa @ 20°C
- Operating temperature range of -40°C to +55°C (-40°F to +131°F)
- Support an open architecture for communications
- Must provide an interface specification document

Any of the following sensors or approved equal may be implemented:

- Campbell Scientific CS100 Setra Model 278
- Campbell Scientific CS106 Vaisala PTB110
- RM Young Barometric Pressure Sensor Model 61202V/61202L (with recommended Pressure Port Model 61002)
- Vaisala BAROCAP PTB110
- Vaisala BAROCAP PTB210
- Vaisala BAROCAP Digital Barometer PTB330
- Met One Instruments Barometric Pressure Sensor Model 092

K. Chemical Concentration Sensor

The chemical concentration data may be obtained using the capabilities of other sensors already specified in this document or meet the following standalone minimum requirements:

- Operating temperature range of -30°C to +70°C (-22°F to +158°F)
- Support an open architecture for communications
- Must provide an interface specification document.

L. Radiation Sensor

The minimum requirements for a radiation sensor are:

- Operating temperature range of -40°C to +70°C (-40°F to +158°F)
- Provide downward welling shortwave and longwave radiation
- Expected accuracy for daily totals of ±10%
- Sensitivity range of 10 to 20 µV $W^{-1}m^{2}$
- Support and open architecture for communications

- Must provide an interface specification document.

Any of the following sensors or approved equal may be implemented:

- Campbell Scientific CNR1 Net Radiometer
- Campbell Scientific CNR2 Long and Short Wave Net Radiometer
- Kipp and Zonen CNR1 Net Radiometer
- Kipp and Zonen CNR2 Long and Short Wave Net Radiometer

M. Hinged Truss Tower

1. Shall withstand a wind velocity of 85 mph with a maximum of 10.5 square feet area of attached equipment.
2. Fabricated from Aluminum 6061 T6. Provide an anodized finish and or A36 Steel
3. Fold-Over Assembly
4. A mast pole with a 2 3/8” outside diameter and a length of 5’ at top of pole
5. Secured winch
6. Shall include a hinged base footing assembly. The assembly shall include a hinge base set on a concrete leveling footing.
7. Minimum concrete foundation of 3-feet in diameter and 10-feet in depth, or as recommended by tower manufacturer.
8. Lightning rod kit and mounting hardware.
9. Ground rod kit
10. Three 120” anti-climbing panels
11. Warranty
    i) Minimum one year manufacturer’s warranty against defects in materials and workmanship. Manufacturer’s standard warranty shall apply if it is for a longer duration than one year.
    ii) The successful bidder or manufacturer’s authorized service facility shall be fully responsible for any applicable delivery, pick-up, and (or) site visit costs associated with warranty work throughout the warranty period.

The equipment shall be delivered free of any defects due to shipping or workmanship.

Product literature should be submitted with the bid.

N. Ground-Mounted ESS Cabinet

The contractor shall ensure the Cabinet and Door design is in accordance with the AASHTO Standard Specification of Structural Supports for Highway Signs, Luminaries and Traffic Signals and the following as a minimum:

- Dimensions
    - 24” Wide X 24” Deep

  - Height shall be a minimum of 60”.
  - Space reserved for spread spectrum transceiver or fiber optic modem
- EIA equipment rack with 2 adjustable shelves
  - 19” EIA Rack
  - Rack shall be 30” high
  - Rack shall be placed above the RPU
- Pull-out drawer and shelf, mounted on ball-bearing slides capable of supporting 20 pound test equipment
- Removable pleated paper air filter
  - Outside dimensions of 10 inches by 10 inches by 0.88 inches
  - Filter intake shall be near the bottom of the cabinet
- Exhaust Fans and adjustable thermostat
  - Exhaust Fans shall be near the top of the cabinet
- Light convenience outlets – two (2) each
- Rack mounted outlet strip
- Surge Protection and lighting protection
- Cabinet shall be grounded to the tower grounding system
- Florescent lamp at top of cabinet with door switch actuation door
- Cabinet label
- Cabinet electrical diagram and drawing storage
- Cabinet weatherproofing
  - Door gasket in channels or L bracket with 3/8 inch nonabsorbent material
- Cabinet door
  - Latching handle with lock and (2) keys
  - Door catches at 90° and 135°
- NEMA 4 rated
- All seams continuously welded
- Constructed of mill finish aluminum

O. <u>IP PTZ Camera</u>

The ESS shall be equipped with an IP addressable pan-tilt-zoom, low light, color, video camera system which will integrate with existing software. The camera will be used to relay images of current conditions to the districts as well as the public.

The supplied camera shall include the necessary cables, adapters, power supplies and mounting hardware required to operate the camera. The camera, enclosure, mount, power

supplies and cables shall be standard production of the latest model with standard accessories and in addition meet or exceed the following minimum specifications:

The IP PTZ Camera shall feature: streaming video capability, built-in web server for configuration and image viewing, capable of providing full motion streaming video in all hardwired applications and wireless applications where proper signal strength is available, thermostatically controlled heater, and surge protection.

1. Pan/tilt/zoom: Minimum of 8 preset positions capable of automatically uploading images when on tour, automatic return to tour; Pan: 360°endless; Tilt: 180°; Minimum Zoom: 30x optical and 2x digital
2. Video Streaming: Configurable streams in H.264 and Motion JPEG, Controllable frame rate and bandwidth VBR.CBR H.264
3. Frame Rate: H.264: Up to 30 fps in all resolutions; Motion JPEG: Up to 30 fps in all resolutions
4. Minimum Video Resolution: 720x480
5. Minimum Horizontal Resolution: 540 lines
6. Iris: Automatic
7. Minimum Illumination: Color: 0.5 lux; B/W: 0.008 lux
8. Operating temperature: -30°C to 50°C (-22°F to +122°F)
9. Power: Power over Ethernet (PoE) IEEE 802.3at, Max. 60 W
10. Enclosure: IP66 and NEMA 4x rated
11. Enclosure: Fan assisted heater
12. Tour: The camera tour shall be capable of automatically uploading images at each preset with unique file names using FTP
13. Display: Shall be capable of an informational overlay on the camera image to include Date, Time, and Camera location.
14. System Integration: File upload via FTP
15. Security: Password protection, IP address filtering, HTTPS encryption, IEEE 802.1X network access control, digest authentication, user access log
16. Connectors: IP66-rated
17. Mount: All equipment required to mount supplied camera to a tower mast shall be provided.
18. Warranty
    i) Minimum three year manufacturer's warranty against defects in materials and workmanship. Manufacturer's standard warranty shall apply if it is for a longer duration than three years.
    ii) The successful bidder or manufacturer's authorized service facility shall be fully responsible for any applicable delivery, pick-up, and (or) site visit costs associated with warranty work throughout the warranty period.

The equipment shall be delivered free of any defects due to shipping or workmanship. Product literature should be submitted with the bid.

Any of the following cameras or approved equal may be implemented:

- Axis Q6032-E
- Cohu 3724-1000

P. Infrared Illuminator

All equipment necessary for operation must be included (power supplies, cables, etc.).

1. Angle: 60°
2. Operating Temperature: -40°F to 120°F (-40°C to +50°C)
3. Enclosure/Housing: IP66- rated
4. Power Supply: The power supply shall have sufficient capacity to operate the illuminator from a dead start
5. Illuminator Distance:100m
6. Integrated Photocell to automatically activate the illuminator during low light conditions.
7. Mount: All equipment required to mount supplied illuminator to a tower mast shall be provided.
8. Warranty
   i) Minimum one year manufacturer's warranty against defects in materials and workmanship. Manufacturer's standard warranty shall apply if it is for a longer duration than one year.
   ii) The successful bidder or manufacturer's authorized service facility shall be fully responsible for any applicable delivery, pick-up, and (or) site visit costs associated with warranty work throughout the warranty period.

The equipment shall be delivered free of any defects due to shipping or workmanship. Product literature should be submitted with the bid.

Q. Microwave Vehicle Detection System

Install a Microwave Vehicle Detection System (MVDS) including lightning surge protection, AC/DC power converter and a media converter for Ethernet communications for the purposes of detecting vehicular speed, volume counts, classification by length, and lane occupancies. Install in the locations shown on the Plans.

Include all the cables, connectors, and mounting hardware recommended by the manufacturer for proper operation of the system. Provide a detector, lightning surge protection, AC/DC power converter and a media converter that meets the following minimum requirements:

1. Able to measure volume, classification by length, occupancy (including slow moving or stationary vehicles), and speed, when in a sidefire configuration and mounted as shown on the Plans.
2. Suitable for polled operation using multipoint RS-232 communication at 9600 bits per second.

3. Detector shall meet the following parameters:
   i) Detection range: 10 to 250 feet
   ii) Detection Zone: Up to 10 traffic lanes simultaneously
   iii) Frequency Band: 10.525 GHz +/-25MHz
   iv) Instantaneous bandwidth: 45 MHz
   v) Transmitter power: 10 mW
   vi) Operating temperature range: -37°C to +74°C (-35°F to +165°F)
   vii) Operating humidity range from 5 to 95% RH
   viii) Meets FCC rules Part 15 for interference
   ix) Occupies no more than 0.6 cubic feet
   x) Weighs no more than 15 lbs
   xi) Housing sealed to withstand rain (or snow) up to a rate of 4 Inches per hour or wind loads up to 90mph
4. Includes a mounting assembly for each microwave detector with the following requirements: stainless steel or all aluminum construction, capable of supporting a load of 20 lb., approved by the manufacturer of the microwave detector.
5. Includes a twisted-pair cable between the cabinet and each microwave detector with the following requirements: provides both power and serial communication, UV-resistant and rated for 300 volts, terminate on a single MS connector.
6. Provide vendor software that enables a technician to test all features and functions of the detector, and perform all set-up procedures with a web based interface. Deliver this software on a CD so that it can be installed on other computers. Ensure that the Engineer has the right to make and use an unlimited number of copies of this software.
7. The vehicle detector shall be compliant with the National Transportation Communications for ITS Protocol (NTCIP).
8. To be NTCIP compliant, ensure that the detector adheres to the version of the following standards that is current at the time of bidding:
   i) Information level: NTCIP Standard 1209, including implementation of the TSS Data Collection conformance group.
   ii) Application level: NTCIP Standard 1101, Compliance Level 2.
   iii) Transport level: Null protocol
   iv) Subnetwork level: NTCIP Standard 2101
9. The Contractor shall supply full documentation of all manufacturer-specific objects supported by the detector. Submit this in the form of a CD containing ASCII versions of a MIB in ANSI format. Ensure that the MIB contains accurate and meaningful description fields and supported ranges indicated in the syntax field of the object-type macros. Ensure that the manufacturer will allow the use of any and all of the documentation described above by the Engineer for system integration purposes at any time, regardless of what parties are involved in the system integration effort.

10. Provide a device server that will allow the detector to communicate over the Ethernet IP network when the detector is connected to an Ethernet network device. Provide a device server that meets the following minimum requirements:
    i) Able to convert half-duplex serial communication to Ethernet and vice versa
    ii) Include multiple communication ports: Ethernet, RS-485, RS-232 DTE
    iii) Use either Ethernet or serial interfaces to configure baud rates
    iv) Operating temperature range: -34°C to +74°C (-30°F to +165°F)
    v) Operating humidity range from 5 to 95% RH
    vi) Input voltage range between 10 to 30 VDC
11. Provide a surge protector or approved equal that meets the following minimum requirements:
    i) Three-stage surge suppression design over DC, RS-232 and RS-485 lines
    ii) Meets NEMA TS2-1998 environmental testing and IEC 61000-4-5 electrical surge test. Use this inside the cabinet in order to protect both the power and the communication lines.
12. Provide a AC/DC power converter or approved equal that meets the following minimum requirements:
    i) Provide 24 VDC at currents of 1 amp.
    ii) Provide main buffering greater than 20ms under full load.
13. Install in accordance with the manufacturer's recommended procedure for side-fired installation. Determine proper mounting height of the detector being supplied based on offset, height, and lanes to be detected. Note that the recommended mounting height is relative to the road surface, not the base of the pole. Aim the detector to detect vehicles in the lanes indicated at the particular location.
14. Specify the length of control cable/harness required to the detector supplier.
15. The set up includes speed calibration using measured (not estimated) reference speeds with a radar gun. When the setup is complete and the detector is ready for operation, deliver the values of all parameters that were set during the process to the Engineer in printed or computer-readable form. Provide all equipment, such as a radar gun, software, laptop computer, tools and cables, needed for the set up work.
16. Warranty
    i) Minimum one year manufacturer’s warranty against defects in materials and workmanship. Manufacturer’s standard warranty shall apply if it is for a longer duration than one year.
    ii) The successful bidder or manufacturer’s authorized service facility shall be fully responsible for any applicable delivery, pick-up, and (or) site visit costs associated with warranty work throughout the warranty period.

The equipment shall be delivered free of any defects due to shipping or workmanship. Product literature should be submitted with the bid.

5.7 Surveillance Camera System

The surveillance camera system shall consist of a hinged truss tower, ground mounted cabinet, IP PTZ camera, and infrared illuminator. Refer to section 5.6 parts M., N., O., P., for description

5.8 Road Closure Gates

This special provision describes providing a road closure gate and luminaire on a steel luminaire pole.

A. General

Provide five user manuals and a listing of vendors and contact information for each manufactured component including flasher electrical components.

B. Components

Furnish one steel pole designed to carry a single 15-foot luminaire arm with dimensions for acceptable installation of gate hardware as shown on the detail. Ensure a contiguous pole that allows uninhibited mounting of the gate pivot assembly. The Contractor may propose a pole and arm design that differs from this design by submitting shop drawings and calculations supporting the design for approval by Engineer.

Furnish one concrete foundation, minimum of 2-feet in diameter and 6-feet in depth, or as recommended by the pole manufacturer.

Furnish galvanized steel nuts and galvanized bolts conforming to ASTM A307 except where designated as high strength (HS) conform to ASTM A325.

Furnish grade A36 steel for the gate supports, gate pivot assembly, and associated hardware that is all galvanized after fabrication by either a mechanical or hot-dip process. Grind welded connections, rough edges, and burrs smooth before galvanizing to ensure a finished appearance. Ensure that the galvanized coating conforms to ASTM A 153.

Provide aluminum/fiberglass gate arms of the nominal length the bid item indicates and conforming to plan dimensions. Cover gate arms on two sides with alternating red and white shop-applied ASTM Type XI Retro-Reflective Material. of the standard specifications. Also provide a shear pin base that is the manufacturer's "permanent pivot" style.

Furnish a worm gear winch with a single line vertical lift capacity of 2000 lbs. Ensure that the winch has hardened steel gears, a handgrip, permanently lubricated bearings, a reinforced arc-welded reel assembly, and mounting plate. Ensure that the winch can be mounted to the winch mount plate shown on the construction details and the handgrip can be operated without conflict with the pole or gate assembly. Furnish a 1/4-inch diameter cable for the connection between the worm gear winch and the gate arm pivot assembly.

Furnish hardwire power system and connections conforming to the following:

1. Cabinet

   Furnish cabinet assemblies, power wire terminal strips, and power supplies for the road closure gate system.

Minimum wall thickness of the aluminum castings shall be 3/16-inch.

Cabinet body shall have a cast rain hood over the top of the door opening.

Door shall be manufactured to accept a lock.

Hinges shall consist of 3/6-inch diameter pins in cast hinge bosses that allow door to swing no less than 180º when open.

Cabinet shall be capable of being field prepared for top, bottom, or rear mounting and wire entrance holes.

Set screws shall be stainless steel.

Assembly shall be water resistant by the door flange in full contact with and compressing a neoprene gasket held by an adhesive to a groove cast into the cabinet body.

The cabinets shall consist of a cabinet body, door, and latch cast from aluminum alloy 319 or approved equivalent. The cast shall be free of voids, pits, dents, molding sand, and excessive foundry grinding marks. All radii shall be smooth and intact. Exterior and interior surfaces shall be smooth and cosmetically acceptable, free of molding fins, cracks, and other blemishes.

The aluminum shall meet the following minimum requirements:

- Yield Strength – 18 ksi
- Tensile Strength – 27 ksi
- Brinell Hardness – 70
- Elongation (% in 2 inches) – 2

The assembly shall have an alodine conversion coating to provide corrosion resistance and a proper base for paint adhesion.

Furnish a stainless steel or anodized steel mounting adapter plate to mount the cabinet to a pole with stainless steel banding straps.

2. Power Converter

   Furnish the cabinet with a 120 VAC to 12 VDC power converter.

   Furnish the cabinet with a 10 position terminal block for the 12 VDC power distribution. Power wire terminal strips 10 position feed-through terminal blocks UL recognized for No. 22 AWG wire through No. 16 AWG wire and UL rated for 15 amps. The terminals shall be tin-plated brass with brass clips and clamps.

3. Furnish gate flasher assemblies conforming to the following:

   A 2-conductor connector, rated 12 volts at 5 amps minimum.

   A 2-amp weather resistant in-line fuse and fuse holder.

Wiring harness made from 6-conductor 14 AWG stranded insulated control cable.

A 12 V flasher controller, capable of providing LED flashers with 5% to 100% duty cycle at a one-second pulse repetition rate.

A 4-conductor male/female electrical connector pair, 10 amp capacity for each connection, weather resistant, and mounted to allow rapid gate arm replacement.

A switch for activating the flashers and for sending a contact closure to activate the ARCS and DMS.

Furnish red LED flashers meeting the requirements of the MUTCD and/or AREMA standards for hue and brightness.

Power consumption	0.45 amp @ 10.5 V
Life expectancy	100,000 hrs
Directionality	0-degree cone orthogonal to face of flasher
Compliance temperature	-40° C to +70° C (-40° F to +158° F)

Furnish electrical wires with jackets conforming to the following color scheme throughout the road closure gate system:

- Hot = Black or Red
- Neutral = White
- Ground = Green

A battery backup assembly shall be provided for the flasher assemblies. The battery backup assembly shall be capable of powering all three 12 volt flashing LED lights continuously for 72 hours. The battery backup assembly shall be integrated with the power system and the system shall automatically switch to backup power if wire line power is lost.

C. Construction

1. Road closure gate

Under the Road Closure Gate bid item, provide a road closure gate at the location the plans show. Apply corrosion protection material to the interface between the aluminum base and steel pole. The engineer may direct adjustment of the gate arm assembly to ensure the correct vertical and angular orientation of the completed closure gate. Gate offset to be field located by the Engineer.

Install cabinet with power supply, flasher controller, and other components. Connect the 120 VAC to 12 VDC power supply to the circuit breaker in the breaker disconnect box. Connect the 120 VAC to 12 VDC power supply to the 10-position terminal block and connect the 12 VDC components to the terminal block.

Connect the 12 VDC terminal strip to the wiring harness through the female side of a 2-terminal polarized electrical connector. Connect male side of this connector to the flasher controller and the female side of a weatherproof polarized 4-conductor electrical connector.

Attach the male side of the 4 conductor electrical connector, wiring harness and the three LED flasher units to the portion of the flasher assembly mounted on the breakaway portion of the gate arm.

5.9 Signing

Signing shall consist of one flip-down advance waning road closure sign is located 1/2 mile upstream of the road closure gate. The sign shall be comprised of a sign panel, sign panel support structure, and beacon with flasher. The sign is shown on detail sheet D-900-3 and is the W-20-3-48 sign design. This sign shall be equipped with a single beacon that automatically flashes at 1 Hz when the sign is flipped down.

5.10 Ethernet Radio System (Communication System)

The Ethernet Radio System shall meet the requirements for a Point-to-Multipoint wireless network device as detailed in this section. Devices shall be wireless access points (multipoint “hubs”) and wireless client (multipoint “subscriber”) units. Where different specifications apply to each device, separate subsections will be included.

A. General Requirements

1. Field equipment shall incorporate a wireless a point to multipoint access point device.
2. The wireless network shall comply with all Ethernet applicable transport standards.
3. The wireless mesh nodes and wireless access points shall environmentally hardened and suitable for installation in outdoor environments.
4. Minimum three year manufacturer’s warranty against defects in materials and workmanship. Manufacturer’s standard warranty shall apply if it is for a longer duration than three years.
5. The wireless access point shall provide access functionality in 5.8 GHz spectra.
6. The network shall include an access point controller or similar device (hardware or software) to manage client authentication.

B. Networking

1. Standards
   i) The wireless nodes shall support IEEE 802.3 Ethernet transport standards.
   ii) The nodes shall support IEEE 802.1p standards for Quality of Service and traffic prioritization.
   iii) The wireless nodes shall support, at a minimum IPV4, UDP, TCP, ICMP.
2. Interfaces
   i) The wireless nodes shall support at least one 10/100Base-T Ethernet port.
   ii) The wireless access point shall provide the ability to seamlessly integrate with a backbone Ethernet/IP network.
   iii) The wireless network shall support VLAN trunking.

iv) The wireless access point shall support multiple independent VLANs

v) The wireless networks shall support configuration of static routes.

vi) The wireless network shall support manual configuration of links.

vii) The wireless access point shall support DHCP client as well as DHCP server functionality.

3. Quality of Service

   i) The wireless network shall have simultaneous support for video, data services.

   ii) The wireless nodes shall support 802.1p standards based QoS.

   iii) The wireless access point shall support multicast traffic (voice, video and data).

4. Scalability

   i) Networks of up to 50 nodes shall be supported

   ii) The wireless nodes shall provide the ability to bridge multiple wireless networks over IP.

   iii) The wireless nodes shall support a minimum of one gateway interface.

C. Radio Requirements

1. The wireless nodes and wireless access point radios shall be FCC certified.
2. The wireless mesh nodes shall operate in a 5.8 GHz band.
3. The wireless mesh nodes and wireless access points shall provide a mechanism for selecting channels within the operating frequency band.
4. The wireless mesh nodes and wireless access point shall support a maximum Effective Radiated Power of at least 21 dBm.
5. The wireless access point shall support at least 20 concurrent users at the same time.
6. The wireless access points and nodes shall support a minimum receive sensitivities of at least -86 dBm @ 2 Mbit/sec sustained throughput
7. The wireless nodes shall provide the ability to configure any channel in the specified frequency bands.

D. Performance Requirements

1. The wireless nodes and access point shall support a minimum data rate of 10 Mbps under ideal design conditions
2. The wireless node latency shall not exceed 7 ms (average).

E. Antenna System Requirements

1. The wireless node and wireless access point shall support external antenna enhancements
2. Antenna enhancements shall provide a minimum of 16 dB gain over integrated or standard antenna solutions

F. Management Requirements

1. The wireless nodes and wireless access points shall provide management interfaces via:
   i) HTTP via a web-based interface
   ii) SNMP
   iii) Telnet with command-line interface
2. Software shall provide statistics and alarms and events on a per device basis.
3. The wireless node and wireless access point shall support remote software upgradeability.

G. Security Requirements

1. The wireless nodes and wireless access points shall support user name and password security for all networking interfaces.
2. The wireless nodes shall support hardware based encryption.
3. The wireless nodes and wireless access points shall support 128-bit AES.
4. The wireless nodes shall have the capability to distinguish between radios that are part of their network from radios that are not, even if those radios are from the same manufacturer and operate on the same radio channel.
5. The security encryption standards on the wireless nodes and wireless access points shall be FIPS certifiable.
6. The wireless access point shall support VPN tunneling.

H. Physical & Environmental Requirements

1. Mounting
   i) The point-to-multipoint Access Units to be mounted at the Ski Jump Hill Tower shall be mounted at a height of 225 feet.
   ii) Subscriber Units shall be mounted as specified in the plans and with a minimum height of 30 feet for RWIS and surveillance camera system.
2. Environmental
   i) The outdoor devices shall be pole mountable (with low profile mounting).
   ii) The wireless nodes and wireless access points enclosure shall be rugged NEMA 4X/IP67 rated for outdoor deployments.
   iii) The wireless mesh nodes shall support surge suppression protection.
   iv) The outdoor mesh nodes and wireless access points shall have weather proof antenna connectors (IP64 minimum) where applicable.
   v) The outdoor wireless nodes and access points shall have the following environmental specifications:
      (1) Operating temperature: -40ºC to +55ºC (-40ºF to +131ºF)
      (2) Humidity (non-condensing) - 10% to 90%

3. Power
   i) All wireless hardware units shall support 120 VAC,60 Hz, 0.9A or 12-30 V DC+/-15%.
   ii) The outdoor wireless mesh nodes shall support 802.3af PoE standard (PS: Power Source) and be able to power two devices that are capable of deriving power over Ethernet (PoE).
   iii) The wireless access point shall support 90–240 VAC, 50/60 Hz.
   iv) The wireless access point radios at the Ski Jump Hill tower shall be outfitted with an uninterruptible power supply that will continuously power the access point radios and NDDOT-provided firewall (Juniper Networks SSG5) for 30 minutes after losing power.

5.11 4G Cellular Modem (Communication System)

A. <u>The cellular modem shall support either of the following standards:</u>

1. LTE with fallback to: EV-DO Rev. A, CDMA EV-DO (Rev.0), CDMA 1xRTT

B. <u>The cellular modem shall support the following bands:</u>

1. LTE 700MHz
2. CDMA/EV-DO 800, 1900
3. HSPA/HSPA+ 900/2100
4. GPRS 900/1800/1900

C. <u>Security</u>

1. The cellular modem shall support the following security and intelligence features: IPsec VPN, GRE Tunneling, MAC Address Filtering, IP Filtering, Port Filtering, SSH and HTTPS.

D. <u>Environmental</u>

1. Operating Temperature: -30ºC to +70ºC (-22ºF to +158ºF)
2. Storage Temperature: -40ºC to +85ºC (-40ºF to +185ºF)

E. <u>Host interfaces</u>

1. Ethernet: 10/100 Mbps RJ-45
2. RS-232: DB9 DCE (300-230400 baud)
3. Antenna Connections: Cellular – 50 Ohm SMA, Receive Diversity – 50 Ohm SMA

F. <u>Application Interfaces</u>

1. The cellular modem shall support the following application interfaces: TCP/IP, UDP/IP, DHCP, HTTP, SNMP, SMTP, SMS, MSCI, Modbus and binary.

G. <u>Indicators</u>

1. The cellular modem shall have LED indicators for network, signal, activity, service and power.

H. Warranty

1. Minimum three year manufacturer's warranty against defects in materials and workmanship. Manufacturer's standard warranty shall apply if it is for a longer duration than three years.
2. The successful bidder or manufacturer's authorized service facility shall be fully responsible for any applicable delivery, pick-up, and (or) site visit costs associated with warranty work throughout the warranty period.

6.0 WARRANTY

Except otherwise noted in this Special Provision, the Contractor shall warrant all parts and materials for the complete system for a period of three full years after the DOT's acceptance of the completed project based on satisfactory Contractor completion of all tasks as determined by the Engineer. All necessary replacement parts and materials shall be shipped to the Department within three days of notification by the Engineer.

6.1 Spare Parts

The supplier must furnish the following spare parts:

1. One (1) spare of each sensor
2. One (1) spare access radio
3. One (1) spare subscriber radio
4. One (1) spare RPU
5. One (1) spare IP PTZ camera
6. One (1) spare gate assembly with a 33-foot arm

7.0 CONSTRUCTION DETAILS

7.1 General Requirements

A. The Contractor locates all underground utilities installed under this Contract until the Department accepts all contract work in writing. The Department will forward the appropriate requests for underground location via facsimile to the Contractor within 8 hours of receipt. The Contractor shall furnish their facsimile number to the Department.

B. The Contractor shall notify the Engineer when all work requirements have been satisfied. The Department will accept the Contract work after the Department has verified proper operation of all installed components and after the Contractor meets these conditions:

1. Approval of all tests by the Engineer;
2. Approval of all required documentation;

3. All cabinets and junction boxes are clean and arranged in a professional manner
4. Punch list is complete; and
5. General cleanup is complete.

7.2 ESS Commissioning

The Contractor shall provide an on-site field engineer, from the systems manufacturer, to start-up and test the entire system. The Contractor shall notify NDDOT when the system will be commissioned. Engineer will make all final sensor connections to the RPU. The systems manufacturer Engineer will perform:

1. Final system checks
2. Sensor alignments
3. Software setup
4. Software configuration to provide a fully operational RWIS system

8.0 TESTING REQUIREMENTS

The ITS equipment covered by this specification must be subjected to the following types of tests to determine conformance with all the specification requirements:

- Stand-alone functional tests (one day)
- System functional tests (one day)
- Reliability tests (30 day)

The Contractor shall prepare a Test Plan that details the procedures to be used to verify conformance with all requirements and test procedures specified herein. The Test Plan will detail the test procedure to be followed and the method for determining that the system requirement has been met. The Test Plan will be submitted to the Engineer for review and approval two weeks prior to the start of test activities. During the conduct of test activities the Contractor will maintain test logs that document the outcome of each test. The test logs will be formal documentation of whether the system passed or failed to meet requirements. Comments about each test will be entered into the log with enough detail for the Contractor to take appropriate corrective action as needed.

The Contractor must arrange for and conduct the tests in accordance with the approved Test Plan. Unless otherwise specified, the Contractor is responsible for satisfying all inspection requirements prior to submission for the Engineer's inspection and acceptance. The contract periods will not be extended for time lost or delays caused by testing prior to final Department approval of any items. The Engineer reserves the right to have his representative witness any and all tests. The results of each test must be compared with the requirements specified herein. Failure to conform to the requirements of any test must be counted as a defect, and the equipment shall be subject to rejection by the Engineer. Rejected equipment may be offered again for a retest, provided that all non-compliance's have been corrected and retest by the Contractor and evidence thereof submitted to the Engineer.

Final inspection and acceptance of equipment must be made after installation at the designated location (indicated on the plans), unless otherwise specified herein.

8.1 Stand Alone Functional Tests (One Day)

The Contractor shall conduct an approved stand-alone test of all ITS equipment installation at the field site. The test shall, as a minimum, exercise all stand-alone (non-network) functional operations of the field equipment with all of the equipment installed as per the plans, or as directed by the Engineer.

Approved data forms shall be completed and turned over to the Engineer as the basis for review and rejection or acceptance. At least five (5) working days' notice shall be given prior to all tests to permit the Engineer or his representative to observe each test.

Consequences of Stand-Alone Test Failure

If any unit fails to pass its stand-alone test, the unit shall be corrected or another unit substituted in its place and the test successfully repeated. If a unit has been modified as a result of a stand-alone test failure, a report shall be prepared and delivered to the Engineer prior to the re-testing of the unit. The report shall describe the nature of the failure and the corrective action taken.

If a failure pattern develops, the Engineer may direct that design and construction modifications be made to all units without additional cost to the Department or extension of the contract period.

8.2 System Functional Test (One Day)

The Contractor shall conduct approved ITS subsystem tests on each field equipment with the central equipment. The tests shall, at a minimum, exercise all data communications. After successful completion of all subsystem functional tests, functional testing of the full system's operation will be completed. The full system testing shall consist primarily of exercising all control, monitor and communications functions of the systems. Approved data forms shall be completed and turned over to the Engineer as the basis for review and for rejection or acceptance.

Consequence of System Test Failure

If system tests fail because of any components(s) in the subsystem, the particular component(s) shall be corrected or substituted with other component(s) and the tests shall be repeated. If a component has been modified as a result of the system test failure, a report shall be prepared and delivered to the Engineer prior to retest.

8.3 Reliability Test (30 Day)

After successful completion of all System Tests, the Contractor shall conduct reliability testing over a 30 day test period. The testing shall consist primarily of exercising all control, monitor and communications functions of the field equipment by the central equipment.

The 30 days test period shall commence on the first day after the successful completion of the approved Stand Alone and System Tests. The Engineer may at their discretion, discontinue the 30 day test period if the ITS systems have performed successfully and there have been no

errors or downtime experienced and all of the required tests have passed successfully without error.

The Engineer will furnish the Contractor with a letter of approval stating the first day of the 30 days test period.

Consequence of Reliability Test Failure

During the 30 days test period, downtime, due to mechanical, electrical and/or other malfunctions, shall not exceed five (5) working days. The Engineer may extend the 30 days test period by a number of days equal to the downtime in excess of five (5) working days.

9.0 FINAL SYSTEM ACCEPTANCE

Final system acceptance shall be defined as when all work and materials provided for in this item have been furnished and completely installed, and all parts of the work have been approved and accepted by the Engineer and the ITS systems has been operated continuously and successfully for thirty calendar days or as determined by the Engineer, with no more than five working days downtime due to mechanical, electrical and/or other malfunctions.

10.0 TRAINING

Provide one four-hour training class sessions for Department personnel, including necessary manuals, displays, notes, visual aids, in the operations and maintenance of the sign and control equipment. Training shall take place in Devils Lake, ND. Contractor shall provide and set up the meeting space and any necessary equipment. Topics covered shall at a minimum include operation, updates, modifications, and maintenance of the software and system.

The NDDOT District Office located at 316 Sixth Street SE, Devils Lake, ND may be available to house this training. Call (701) 665-5100 to inquire about availability.

Submit a training outline to the Engineer for review at least 30 days prior to its proposed use. Do not use the material for training prior to receiving the Engineer's approval. Provide approved material for 12 people to attend the training class. The Engineer may lengthen or shorten the training time period. Training shall consist of classroom time and "hands-on" experience at the sign site and central control location.

Training shall include:

- Central software setup and operation
- Troubleshooting and diagnostics
- Periodic and preventative maintenance procedures
- Installation and replacement of spare parts and consumables

The training period may run concurrently with construction, or may start with the 30-day system test period. The training period must be concluded within two weeks after the start of the 30-day system test period.

11.0 METHOD OF MEASUREMENT

The work under this item will be measured for payment for each item furnished, completely installed, successfully tested, and operational.

12.0 BASIS OF PAYMENT

The work shall be paid for at the contract unit price for LUMP SUM to **INSTALL ESS STATION/RWIS** and shall include the cost of furnishing all labor, materials, software, and tools and equipment necessary to complete the work. The work shall also include system documentation, including manuals, and training, as specified herein. Some, but not necessarily all, items that shall be included with this pay item are shown in the plans.

The work shall be paid for at the contract unit price for EACH **ROAD CLOSURE GATE-33 FT** and shall include the cost of furnishing all labor, materials, software, and tools and equipment necessary to complete the work. Some, but not necessarily all, items that shall be included with this pay item are shown in the plans.

The work shall be paid for at the contract unit price for EACH **SURVEILLANCE CAMERA SYSTEM** and shall include the cost of furnishing all labor, materials, software, and tools and equipment necessary to complete the work. Some, but not necessarily all, items that shall be included with this pay item are shown in the plans.

The work shall be paid for at the contract unit price for EACH **COMMUNICATION SYSTEM** and shall include the cost of furnishing all labor, materials, software, and tools and equipment necessary to complete the work. This pay item includes all hardware to be installed at the Ski Jump Hill tower and backhaul integration to NDDOT. Some, but not necessarily all, items that shall be included with this pay item are shown in the plans.

The work shall be paid for at the contract unit price for EACH **FLASHING BEACON – POST MOUNTED** and shall include the cost of furnishing all labor, materials, tools and equipment necessary to complete the work. The work shall also include system documentation, including manuals, and training, as specified herein. Some, but not necessarily all, items that shall be included with this pay item are shown in the plans.

Payment will be made as follows:

- Fifty percent (50%) of the bid price of each ESS, surveillance camera, communication system, and gate subsystem will be paid upon completion of installation of all components of that subsystem.
- Forty percent (40%) of the bid price of each ESS, surveillance camera, communication system, and gate subsystem will be paid upon satisfactory completion of the Stand Alone Test for all components of each subsystem.
- Ten percent (10%), less any liquidated damages, will be paid upon satisfactory completion of Final Acceptance Test for each ESS, surveillance camera, communication system, and gate subsystem.

12.1 Liquidated Damages

Liquidated damages will be assessed as stated in Section 108.04 J of the Standard Specifications for Road and Bridge Construction and based on the schedule below. The Engineer may adjust the dates to compensate for delays in delivery of signs from the manufacturer.

Description	Deadline to Avoid Liquidated Damages
1. Completion of Installation	October 15, 2014
2. Completion of Stand Alone Test & System Test	November 15, 2014
3. Completion of Final Acceptance Test	November 29, 2014

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION

FUEL COST ADJUSTMENT CLAUSE

Revision Date: 9/8/2006

Introduction

This Special Provision provides for price adjustments to the Contract when significant changes in the cost of motor fuels and burner fuels occur while completing the Contract work. Participation in fuel cost adjustment program is not mandatory. A Contractor is not required to notify the Department at the time of submitting bids whether the Contractor will or will not participate in the fuel cost adjustment provision.

The North Dakota Department of Transportation (NDDOT) will send the low responsible bidder a "Fuel Cost Adjustment Affidavit" (SFN 58393) with the proposed Contract. The Contractor shall return a completed Fuel Adjustment Affidavit with the signed Contract as specified in Standard Specification Section 103.06, Execution and Approval of the Contract. The affidavit shall be returned on all Contracts with this provision even if the Contractor elects not to participate in the provision.

Compensation adjustments for motor fuels and burner fuels consumed in prosecuting the Contract shall be determined by the Engineer in accordance with the provisions set forth herein. Compensation adjustments will be assessed monthly for the cost of the motor fuels and burner fuels whenever the Current Fuel Index (CFI) is outside the given threshold of the Base Fuel Index (BFI) for the Contract.

If the Contractor has a fixed price for fuel for motor or burner fuels to complete the work, no fuel cost adjustments will be made for that fuel type. If there is no fixed fuel price for motor or burner fuels, participation in the Fuel Adjustment provision is the decision of the prime Contractor.

If the prime Contractor decides not to participate, no fuel cost adjustments will be made to the Contract for the Contractor or any subcontractors. If the prime Contractor elects to participate in the fuel cost adjustment provision, the prime Contractor shall include the anticipated fuel cost of subcontractors who wish to participate. If fuel cost adjustments are made to the Contract, the prime Contractor shall ensure that participating subcontractors including second and lower tier, are included in the adjustments in proportion to the percentage of work and anticipated fuel cost by that subcontractor.

Fuel Indexes

Each month, NDDOT will record the average wholesale price for No. 2 diesel fuel and the average wholesale price for unleaded gasoline (87 octane). The monthly average will be the average of the daily rack prices for the month as reported by DTN Energy for Fargo ND.

The burner fuel index will be the No. 2 diesel fuel index regardless of the type of burner fuel actually used.

The Base Fuel Index (BFI) price for motor fuels and burner fuel to be used in the Contract will be the average wholesale price for the month prior to the bid opening.

The Current Fuel Index (CFI) price for motor fuels and burner fuel to be used for each monthly adjustment will be the average wholesale price for the month prior to the adjustment month.

Fuel Ratio

For motor fuels diesel and unleaded gas, the fuel ratio of the Contract will be determined by dividing the Contractor's affidavit costs for each motor fuel by the original Contract amount.

For burner fuels, the fuel ratio of the contract will be determined by dividing the Contractor's affidavit cost for burner fuels by the original Contract amount of plant-mixed hot bituminous pavement paid by the ton. Asphalt cement, binders and other miscellaneous bituminous items shall not be included.

The fuel ratio of the contract for motor and burner fuels will remain the same throughout the length of the contract. The sum of the affidavit fuel costs shall not exceed 15% of the original Contract amount.

The fuel ratio for the three fuel types will be determined by the following equation:

$$\textbf{Fuel Ratio}_{(x, y, z)} = \textbf{Affidavit Cost}_{(x, y, z)} / \textbf{Original Contract Amount}_{(x, y, z)}$$

(x)	=	Motor Fuel (Diesel)
(y)	=	Motor Fuel (Unleaded)
(z)	=	Burner Fuel
Fuel Ratio$_{(x, y, z)}$	=	Fuel ratio of the contract for each respective fuel type
Affidavit Cost$_{(x, y, z)}$	=	Fuel costs from Fuel Adjustment Affidavit (SFN 58393)
Original Contract Amount$_{(x, y)}$	=	Total of the original contract amount excluding lane rental, and Part B of the bid (when A+B bidding is used), if applicable.
Original Contract Amount$_{(z)}$	=	Total original contract amount for all hot bituminous pavement bid items combined, excluding bid items for asphalt cement, sawing and sealing joints, coring, etc. Only hot bituminous pavement bid items measured by the Ton will be included in the calculation.

Cost Change

The monthly change in fuel costs will be determined by the following equation:

$$\textbf{Cost Change}_{(x, y, z)} = (\textbf{CFI}_{(x, y, z)} - \textbf{BFI}_{(x, y, z)}) / \textbf{BFI}_{(x, y, z)}$$

(x)	=	Motor Fuel (Diesel)
(y)	=	Motor Fuel (Unleaded)
(z)	=	Burner Fuel (use diesel prices)
Cost Change$_{(x, y, z)}$	=	The relative change in the current CFI and the BFI for each fuel type
CFI$_{(x, y, z)}$	=	Current Fuel Index for each fuel type
BFI$_{(x, y, z)}$	=	Base Fuel Index for each fuel type

Contract Adjustments

Contract adjustments will be made for the cost of motor and burner fuels whenever the cost change exceeds a ±0.10 threshold. No fuel cost adjustment will be made for work done under liquidated damages. Adjustments will be determined for Motor Fuel (diesel), Motor Fuel (unleaded), and Burner Fuel (burner) separately and shall be computed on a monthly basis.

When the cost change is greater than 0.10, the rebate to the Contractor for each fuel type shall be computed according to the following formulas:

$$\mathbf{FCA_{(x,\,y,\,z)} = Fuel\ Ratio_{(x,\,y,\,z)} \times Estimate_{(x,\,y,\,z)} \times (\ Cost\ Change_{(x,\,y,\,z)} - 0.10\ )}$$

(x)	=	Motor Fuel (Diesel)
(y)	=	Motor Fuel (Unleaded)
(z)	=	Burner Fuel
$FCA_{(x,\,y,\,z)}$	=	Fuel Cost Adjustment for each of the fuel types
$Fuel\ Ratio_{(x,\,y,\,z)}$	=	Fuel Ratio for each of the fuel types
$Estimate_{(x,\,y)}$	=	The monthly total of work done on estimates issued in the current month excluding incentive or disincentive payments, pay factor adjustments and any work completed under liquidated damages.
$Estimate_{(z)}$	=	The monthly total of hot bituminous pavement work done on estimates issued in the current month, excluding bid items for asphalt cement, sawing and sealing joints, coring, etc. Only hot bituminous pavement bid items measured by the Ton will be included in the calculation. Hot bituminous pavement work completed under liquidated damages will not be included.
$Cost\ Change_{(x,\,y,\,z)}$	=	The monthly change in fuel costs for each of the fuel types

When the cost change is less than -0.10, the credit to the Department for each fuel type shall be computed according to the following formulas:

$$\mathbf{FCA_{(x,\,y,\,z)} = Fuel\ Ratio_{(x,\,y,\,z)} \times Estimate_{(x,\,y,\,z)} \times (\ Cost\ Change_{(x,\,y,\,z)} + 0.10\ )}$$

(x)	=	Motor Fuel (Diesel)
(y)	=	Motor Fuel (Unleaded)
(z)	=	Burner Fuel
$FCA_{(x,\,y,\,z)}$	=	Fuel Cost Adjustment for each of the fuel types
$Fuel\ Ratio_{(x,\,y,\,z)}$	=	Fuel Ratio for each of the fuel types
$Estimate_{(x,\,y)}$	=	The monthly total of work done on estimates issued in the current month excluding any incentive or disincentive payments, pay factor adjustments and any work completed under liquidated damages.
$Estimate_{(z)}$	=	The monthly total of hot bituminous pavement work done on estimates issued in the current month, excluding bid items for asphalt cement, sawing and sealing joints, coring, etc. Only hot bituminous pavement bid items measured by the Ton will be included in the calculation. Hot bituminous pavement work completed under liquidated damages will not be included.
$Cost\ Change_{(x,\,y,\,z)}$	=	The monthly change in fuel costs for each of the fuel types

Payments

Adjustments will be determined by the Engineer monthly. Adjustments will be made under the following spec and code for each fuel type:

109 0100	Motor Fuels (Diesel)
109 0200	Motor Fuels (Unleaded)
109 0300	Burner Fuel

When significant payment adjustments are made on final estimates to account for final in-place measured quantities, the Engineer may prorate the adjustments back to the months when the work was done.

Attachments

For informational purposes, a ‘Fuel Cost Adjustment Affidavit’ (SFN 58393) is included as Attachment A.

FUEL COST ADJUSTMENT AFFIDAVIT

North Dakota Department of Transportation, Construction Services
SFN 58393 (08-2006)

Attachment A

Project Number

The Contractor is not required to notify the Department at the time of submitting bids whether he will or will not participate in the fuel cost adjustment program. The Contractor shall return the affidavit on all Contracts with this Provision even if the Contractor elects not to participate.

Check the box for each fuel type that has a fixed price.
No adjustments in fuel price will be made for the boxes that are checked.

☐ Diesel ☐ Unleaded ☐ Burner Fuel

Does your company elect to participate in a fuel adjustment for this contract for the fuels that do not have a fixed price?
No adjustments in fuel prices will be made if **No** is checked.

☐ Yes ☐ No

If yes, provide the total dollars for each of the applicable fuels.

Diesel (x)	$		
Unleaded (y)	$		
Burner Fuel (z)	$		
Sum (x+y+z)	$	% of Original Contract Amount	%*

*The sum of the x, y, and z may not exceed 15% of the original contract amount.

Under the penalty of law for perjury of falsification, the undersigned,

_____, _____
Name Title

of _____, here by certifies that the documentation is submitted in good
Contractor

faith, that the information provided is accurate and complete to the best of their knowledge and belief, and that the monetary amount identified accurately reflects the cost for fuel, and that they are duly authorized to certify the above documentation on behalf of the company.

I hereby agree that the Department or its authorized representative shall have the right to examine and copy all Contractor records, documents, work sheets, bid sheets and other data pertinent to the justification of the fuel costs shown above.

_____ **X** _____
Date Signed

State of _____

County of _____

Subscribed and sworn to before me this _____ day of _____, _____.

(Seal) **X** _____
Signature of Notary Public

My Commission Expires _____