NO. 20

NORTH DAKOTA
DEPARTMENT OF TRANSPORTATION

REQUEST FOR PROPOSAL

STATE FEDERAL AID PROJECT NOS. ITS-9-999(350) (PCN-21118) and SS-9-999(340) (PCN-20899)

0.000 Miles

ATR, WIM, & ESS IMPROVEMENTS

I-94 BELFIELD, FRYBURG, NEW SALEM, STERLING & MEDINA and US 2 RAY, I-94 BELFIELD, ND 810 BISMARCK, I-94 MEDINA, & US 52 JAMESTOWN

BILLINGS, BURLEIGH, MORTON, STUTSMAN, and WILLIAMS COUNTIES

DBE Race Neutral Goal - 0%

BID OPENING: The bidder's proposal will be accepted via the Bid Express on-line bidding exchange at www.bidx.com until **09:30AM Central Time on February 05, 2016.**

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

Proposal Form of:

_____
(Firm Name)

_____
(Address, City, State, Zipcode)

(For official use only)

PAGE INTENTIONALLY LEFT BLANK

Projects: ITS-9-999(350) (PCN-21118) and SS-9-999(340) (PCN-20899)

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 proposal, 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

Projects: ITS-9-999(350) (PCN-21118) and SS-9-999(340) (PCN-20899)

---

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 proposal form for which the Bidder desires protection. Each such proposal must be covered by a proposal guaranty.

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.

Projects: ITS-9-999(350) (PCN-21118) and SS-9-999(340) (PCN-20899)

PERMISSIBLE DISCOUNT (optional)

Only when invited to do so in the Request for 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: $_____

TOTAL DISCOUNT_____

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

Projects: ITS-9-999(350) (PCN-21118) and SS-9-999(340) (PCN-20899)

RECEIPT OF ADDENDA ACKNOWLEDGEMENT

We hereby acknowledge receipt of the following addenda:

Addendum #_____ Dated_____

Addendum #_____ Dated_____

Addendum #_____ Dated_____

Addendum #_____ Dated_____

Addendum #_____ Dated_____

Addendum #_____ Dated_____

PROPOSAL GUARANTY

A proposal guaranty is required. The proposal guaranty must comply with Section 102.09, "Proposal Guarantee" of the Standard Specifications.

TYPE OF PROPOSAL GUARANTY APPLIED TO THIS PROJECT (Check one):

_____ Annual Bid Bond*

_____ Single Project Bid Bond

_____ Certified or Cashier's Check

*Annual Bid Bond is required when submitting proposals electronically

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			
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

BID ITEMS

Projects: ITS-9-999(350) (PCN-21118) and SS-9-999(340) (PCN-20899)

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	400.				
004	704	1000	TRAFFIC CONTROL SIGNS	UNIT	1,020.				
005	704	1060	DELINEATOR DRUMS	EA	30.				
006	704	1065	TRAFFIC CONES	EA	20.				
007	704	1067	TUBULAR MARKERS	EA	50.				
008	704	1087	SEQUENCING ARROW PANEL-TYPE C	EA	1.				
009	772	9010	AUTOMATIC TRAFFIC RECORDER SYSTEM	EA	3.				
010	772	9012	REVISE AUTOMATIC TRAFFIC RECORDER SYSTEM	EA	2.				
011	772	9110	VIRTUAL WEIGH IN MOTION SYSTEM	EA	1.				
012	772	9151	INSTALL ESS STATION/RWIS	EA	4.				
			TOTAL SUM BID						

Projects: ITS-9-999(350) (PCN-21118) and SS-9-999(340) (PCN-20899)

Type of Work: ATR, WIM, & ESS IMPROVEMENTS

Counties: BILLINGS, BURLEIGH, MORTON, STUTSMAN, and WILLIAMS

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 are provided. The Department will begin charging working days beginning **NA** or the date work begins on the project site, whichever is earlier.

CALENDAR DAY CONTRACT: **NA** calendar days are provided. The completion date will be determined by adding **NA** calendar days to **NA** or the date work begins on the project site, whichever is earlier.

COMPLETION DATE CONTRACT The project completion date is **10/29/2016**. The Department provides a minimum of **NA** working days. The Department will begin charging working days beginning **NA** or the date work begins on the project site, whichever is earlier.

Projects: ITS-9-999(350) (PCN-21118) and SS-9-999(340) (PCN-20899)

Type of Work: ATR, WIM, & ESS IMPROVEMENTS

Counties: BILLINGS, BURLEIGH, MORTON, STUTSMAN, and WILLIAMS

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 fifteen calendar days, as determined by NDCC Section 1-02-15, after date of notice of 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 #20, Project No. ITS-9-999(350) & SS-9-999(340)

ATR, WIM, & ESS Improvements

INDEX OF PROVISIONS

Road Restriction Permits

Hot Line Notice

NDDOT Supplemental Specifications dated October 1, 2015

Price Schedule for Miscellaneous Items dated October 1, 2014 (PS-1)

SP DBE Program - Race Neutral dated November 9, 2012

E.E.O. Affirmative Action Requirements dated March 15, 2014

Appendix A of the Title VI Assurances dated October 1, 2014

Appendix E of the Title VI Assurances dated October 1, 2014

SP Cargo Preference Act (CPA)

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

SP Certified Payrolls, revised 10-24-2015

Labor Rates from U.S. Department of Labor dated January 2, 2015, revised 10-9-15
(Mod. No. 5)

On-The-Job Training Program dated October 1, 2015

SP 240(14) Automatic Traffic Recorder System, for SS-9-999(340)

SP 241(14) Virtual Weigh-In-Motion System, for SS-9-999(340)

SP 242(14) Environmental Sensor Station, for ITS-9-999(350)

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, 2015.

/S/ 6/1/15

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

Date

North Dakota
Department of Transportation

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION
SUPPLEMENTAL SPECIFICATION
REVISIONS

Effective Date: 10/01/2015

The following specifications are supplementary to the 2014 Edition of the *Standard Specifications for Road and Bridge Construction* as they apply to this Contract. Page references in this document apply to the hard bound, printed edition of the specifications (the "blue book") and the "as printed" version of the specifications on the Department's website.

101.03 ABBREVIATIONS **PAGE 8** **10/01/15**

Delete the line for "ACPA American Concrete Precast Association" and replace it with the following:

ACPA American Concrete Pipe Association

Add the following item to Section 101.03:

NPCA National Precast Concrete Association
SWPPP Storm Water Pollution Prevention Plan

101.04 DEFINITIONS **PAGE 10** **10/01/15**

Delete the definition for "Sieve" and replace it with the following:

Sieve. U.S.A. Standard Sieve, as defined in ASTM E 11. The specified percent passing for each sieve is measured by weight.

104.02 C Significant Changes to the Character of Work **PAGE 34** **10/01/15**

Delete the following paragraph in its entirety:

If the Contractor believes an alteration in the work is a significant change that necessitates a contract revision, the Contractor shall notify the Engineer in accordance with Section 104.03, "Contractor Requested Contract Revisions".

104.05 A Submission of the Claim **PAGE 37** **10/01/15**

Replace the fourth paragraph of Section 104.05 with the following:

Provide a claim submittal to the Engineer that contains, at a minimum, the following information for each claim issue included on the *Notice of Intention to File a Claim* (SFN 16743). Failure to supply the following information for each claim issue constitutes a waiver of claim for addional compensation for each submitted claim item.

105.03 B Scheduling **PAGE 45** **10/01/15**

Replace Section 105.03 B with the following:

B. Scheduling.

1. General.
In order to minimize interference with traffic operations, the Contractor, Engineer, and utility owner shall agree to a detailed schedule before starting work.

2. Utility Coordination Meeting.
If the contract requires a utility coordination meeting, arrange the meeting with the utility owners and the Engineer to occur no later than two weeks after the notice to proceed. At the meeting, provide an agenda and a tentative construction schedule for planning utility relocations and adjustments; after the meeting, publish minutes and distribute a copy to all meeting attendees.

106.02 D Aggregate Source Limitations **PAGE 58** **10/01/15**

Delete number 8 and replace it with the following:

8. In Stark County, within the 2-mile radius from the center of Section 30-137-92;

Delete number 11 and replace it with the following:

11. In Hettinger County, within the 1-mile radius from the center of Section 28-135-91;

107.17 REMOVED MATERIAL **PAGE 80** **10/01/15**

Replace Section 107.17 with the following:

107.17 REMOVED MATERIAL
Unless otherwise designated in the contract, removed material becomes the property of the Contractor.

If the Contractor determines that the material will be disposed of, the material must be disposed in one of the following ways:

A. Dispose of the material through a beneficial use. Apply for a beneficial use permit from the NDDoH by completing an *NDDOT Projects-Inert Waste Beneficial Use Application* (SFN 58981). Provide the Engineer with copies of all documents submitted to the NDDoH.

B. Dispose of the material at an approved permanent waste management facility.

C. If waste cannot be reasonably managed at a permanent waste management facility, obtain approval from the NDDoH for a variance to dispose of the inert waste at another site. Apply for a variance by completing an *NDDOT Projects-Inert Waste Disposal Variance Application* (SFN 54344). Provide the Engineer with copies of all documents submitted to the NDDoH.

   Obtain locations of permanent waste facilities, applications, and guidelines from the NDDoH, Division of Waste Management. View a list of municipal and inert waste landfills and review guidance on the NDDoH website: http://www.ndhealth.gov.

Include the cost of material disposal in the contract unit price of the relevant contract item.

108.03 D Measurement and Payment **PAGE 91** **10/01/15**

Replace Table 108-01 with the following:

Table 108-01
CPM Schedule Price Reductions

Days Late Submitting Update Schedule	Percentage Price Reduction to the Prorated Amount[1]
1	20
2	40
3	60
4	80
5	100

[1] The "prorated amount" is equivalent to the amount calculated for each update schedule submission in Section 108.03 D, Item 2.

108.06 B.1 General **PAGE 93** **10/01/15**

Replace the 6th paragraph of Section 108.06 B.1 with the following:

The Contractor's plea that the contract time was insufficient is not a valid reason for an extension of time. For calendar day and completion date contracts, the Department will not extend the contract time for delays encountered on holidays and during the period from November 15 to April 15. When the time as extended by the Department falls on a date that is a holiday, the Engineer will extend the contract time to the next business day.

109.01 J.2.b Computerized Loader Bucket Scales **PAGE 103** **10/01/15**

Delete the first paragraph and replace with the following:

Loader bucket scales may be used to weigh materials when the quantity of material included in the bid item list is less than 10,000 tons and for aggregates specified under Sections 420 "Bituminous Seal Coat", 421 "Microsurfacing", and 422 "Slurry Seal" regardless of quantity.

109.01 J.4.b(2) Hopper or Batch Scales **PAGE 105** **10/01/15**

Replace Section 109.01 J.4.b(2) with the following:

After the material has been weighed on the project scale and placed in a truck, weigh the loaded truck on a certified scale owned and operated by an entity other than the Contractor. Provide the tare weight of the truck along with the comparison weigh ticket.

109.01 J.6.a General **PAGE 106** **10/01/15**

Delete the second paragraph and replace with the following:

Document the weight of each load on a separate, sequentially numbered weigh ticket that has a maximum size of 5.5 × 8.5 inches. Provide one copy to the driver of the truck. The truck driver shall deliver the weigh ticket to the Engineer at the location where the material is incorporated into the work. The Engineer will reject loads that are not accompanied by a legible weigh ticket.

155.03 A.3 Water Measuring **PAGE 143** **10/01/15**

Replace the second paragraph in Section 155.03 A.3 with the following:

Use a water measuring system that:

- Delivers the designated quantity of water for each batch within the tolerance specified in Section 802.03 B.4, “Batching Water”;
- Automatically stops the water flow when the designated quantity has been delivered; and
- Is adjustable and has a calibrated indicator showing the quantity of water measured for each batch.

155.07 D Bridge Deck Overlay Finishing Machines **PAGE 147** **10/01/15**

Replace Section 155.07 D with the following:

D. Bridge Deck Overlays Finishing Equipment.

Use a finishing machine that is:

- Equipped with an oscillating screed or screeds with an effective weight of at least 75 pounds for each square foot of bottom face area, and provided with positive control of vertical position, the angle of tilt, and the shape of the crown. At least one oscillating screed shall be capable of consolidating the concrete to the specified density;
- Long enough to uniformly strike off and consolidate the width of lane to be paved
- Capable of forward and reverse motion under positive control;
- Travelling on rails with fully-adjustable and stable supports;
- Supported without the use of shims; and
- Not anchored to the concrete using powder actuated fasteners, unless that concrete will be subsequently overlaid.

203.02 EQUIPMENT **PAGE 163** **10/01/15**

Replace the equipment list in Section 203.02 with the following:

Equipment	Section
Vibratory Sheepsfoot/Pad Foot/Extended Pad Foot Rollers	151.01 E

203.04 B.1 Topsoil - Wetland **PAGE 165** **10/01/15**

Replace the second paragraph of Section 203.04 B.1 with the following:

Spread a minimum of 6 inches of wetland topsoil at mitigation sites and temporary wetland impact areas.

203.04 C Subcut **PAGE 165** **10/01/15**

Add the following paragraph to the end of Section 203.04 C:

Dispose of material removed from the subcut area as specified in Section 107.17, “Removed Material”.

216.06 Basis of Payment **PAGE 175** **10/01/15**

Replace Section 216.06 with the following:

Pay Item	Pay Unit
Water	M Gal

An “M Gal” is equivalent to 1,000 gallons.

Such payment is full compensation for furnishing all materials, equipment, labor, and incidentals to complete the work as specified.

251.03 D Seed Class **PAGE 182** **10/01/15**

Add the following footnote to Table 251-01:

[1] Substitute Thickspike or Stream bank Wheatgrass of the Critana, Banstock, Sodar, AC Polar or Elbee variety if Sideoats Grama is unavailable.

253.03 C Straw Mulch **PAGE 188** **10/01/15**

Delete the following sentence from this section:

At least 50 percent of the mulch by weight must be at least 8 inches in length.

262.04 A Installation **PAGE 201** **10/01/15**

Replace the first paragraph of Section 262.04 A with the following:

Attach anchor lines to the flotation device.

265.06 Basis of Payment **PAGE 204** **10/01/15**

Replace the first paragraph after the list of pay items with the following:

Include the cost for pipe, geosynthetic material, topsoil, and seed in the price bid for “Stabilized Construction Access”.

302.03 MATERIALS **PAGE 209** **10/01/15**

Replace table in Section 302.03 with the following:

Material	Section
Aggregates	816
Salvaged Base Course	817
Traffic Service Aggregate	816 Class 5; or 817

302.04 A.2 Gradation **PAGE 209** **10/01/15**

Replace the first paragraph in Section 302.04 A.2 with the following:

The Engineer will collect three samples for each 1,000 tons of material placed, except when more than 1,000 tons are placed in a day. If more than 1,000 tons are placed in a day, the Engineer will collect three samples for that day's placement. If the aggregate fails to meet the specified gradation, the Engineer will apply a price reduction as specified in Section 302.06 B, "Contract Price Adjustments".

302.04 C Surface Tolerance **PAGE 210** **10/01/15**

Replace Section 302.04 C with the following:

C. Surface Tolerance.
Unless one of the following surface tolerances is specified, construct the surface to within 0.08 feet of the proposed elevation.

1. Surface Tolerance Type B.
Use trimming equipment, including motor graders, equipped with automatic grade control to adjust for the cross slope and longitudinal profile. Construct the finished surface to within 0.04 feet of the proposed elevation.

Reincorporate material removed from high points during trimming into other portions of the base.

2. Surface Tolerance Type C.
Use roadbed planers to construct the finished surface. The Engineer will allow the base or surface course to be used as the grade reference when trimming shoulders. Construct the finished surface to within 0.04 feet of the proposed elevation.

Reincorporate material removed from high points during trimming into other portions of the base.

306.04 A.1 Gradation **PAGE 213** **10/01/15**

Replace the first paragraph in Section 306.04 A.1 with the following:

The Engineer will collect three samples for each 1,000 tons of material placed, except when more than 1,000 tons are placed in a day. If more than 1,000 tons are placed in a day, the Engineer will collect three samples for that day's placement. If the aggregate fails to meet the specified gradation, the Engineer will apply a price reduction as specified in Section 302.06 B, "Contract Price Adjustments".

401.03 B Tack Coat and Fog Seal. **PAGE 221** **10/01/15**

Delete Section 401.03 B and add the following:

B. Tack Coat.
Use a material from Table 401-01.

Table 401-01

Material	Section
SS-1h	818.02 F
MS-1	818.02 F
CSS-1h	818.02 E.1

When MS-1 is used it may be diluted by the supplier or the Contractor.

C. Fog Seal.
Use a material from Table 401-02.

Table 401-02

Material	Section
SS-1h	818.02 F
CSS-1h	818.02 E.1

401.04 A Application of Bitumen **PAGE 221** **10/01/15**

Delete Section 401.04 A and add the following:

A. Application of Bitumen.

1. General.
Prepare the surface by removing loose dirt and deleterious material.

Provide the Engineer with the manufacturer recommended application temperature ranges. During application, maintain the temperature of bitumen within the ranges recommended by the manufacturer.

Apply bitumen with a distributor on a compacted and stable surface. Use hand sprayers to cover irregular areas. Completely cover the area receiving the bitumen application.

If applying bitumen in multiple passes, overlap the bitumen along adjoining edges of the passes.

Protect the surfaces of structures and other roadway appurtenances against tracking and splattering.

2. Prime Coat.
Apply prime coat when the ambient air temperature is at least 40°F.

Allow the prime coat to cure a minimum of 48 hours before placing pavement.

3. Tack Coat.
Apply tack coat when the air temperature and existing mat temperature are at least 35°F.

Apply tack coat to a dry surface.

Allow tack coat to cure before applying surfacing material.

4. Fog Coat.
Apply fog coat when the ambient air temperature is at least 40°F.

Apply fog coat to a dry surface.

420.04 A General **PAGE 224** **10/01/15**

Replace Section 420.04 A with the following:

A. General.
Do not start seal work after September 1.

Allow material to cure as shown in Table 420-01 before applying seal coat materials.

Table 420-01 Curing Period	
Material Type	**Curing Period**
Prime Coat	4 days
Asphalt Cement Pavements	7 days
Emulsion Pavements	15 days

Schedule the work so that the last bitumen application of the day is sufficiently cured to allow installation of the short-term pavement marking before sunset.

420.04 D Cover Coat Material Application **PAGE 225** **10/01/15**

Replace the third paragraph with the following:

Within one minute following the application of the bitumen, spread the cover coat material uniformly over the bituminous material with an aggregate spreader. Apply cover material by hand to areas that are inaccessible to the aggregate spreader.

420.04 D Cover Coat Material Application **PAGE 225** **10/01/15**

Delete the eighth paragraph in its entirety.

430.03 F Commercial Grade Asphalt **PAGE 238** **10/01/15**

Replace the second paragraph of Section 430.03 F with the following:

The requirements of the following sections will not be applied to commercial grade asphalt:
- Section 430.04 A, “Contractor Quality Control Plan”;
- Section 430.04 B, “Engineer’s Quality Assurance Plan”;
- Section 430.04 C.2, “Determination of Specific Gravity”;
- Section 430.04 E, “QC Testing”; and
- Section 430.04 M, “Acceptance”.

430.04 D.1 General **PAGE 241** **10/01/15**

Replace the third paragraph of Section 430.04 D.1 with the following:

Submit the mix design a minimum of 10 calendar days before beginning paving operations. The Engineer will review the mix design. If the Engineer does not approve the mix design, revise the mix design and submit the revised mix design. Allow 10 calendar days for the Engineer to review a revised mix design before beginning paving operations.

430.04 D.2 Items to be Submitted **PAGE 242** **10/01/15**

Add the following item to Section 430.04 D.2:

e. If the mix contains RAP, submit a 50 pound sample of the milled material.

430.04 F Surface Preparation **PAGE 246** **10/01/15**

Replace the second paragraph of Section 430.04 F with the following:

Correct local irregularities in the existing surface before placing the first lift of bituminous material. If milling is specified, correct local irregularities after milling. Apply a tack coat to the surface before correcting the irregularities. Use the same type of mix that is required for the subsequent lift Use a pneumatic roller as specified in Section 151.01 A.3. “Self-Propelled Pnuematic-Tired Roller” to compact the mix.

430.04 G Patching **PAGE 247** **10/01/15**

Replace Section 430.04 G with the following:

G. Patching.
Remove existing broken or unstable surface material and replace that material with the same mixture specified for the next course.

Place the bituminous material in lifts not to exceed 3 inches and compact the material. Allow the patch material to cool to 130°F before placing additional material. If patching is required during the paving operation, allow the patch material to cool to 185°F before placing additional material.

430.04 H.1 General **PAGE 248** **10/01/15**

Delete the ninth paragraph of Section 430.04 H.1

430.04 I.3.c Intermediate Rolling **PAGE 250** **10/01/15**

Replace the second paragraph of Section 430.04 I.3.c with the following:

If roller tires pick up the bituminous material or there are excessive roller marks in the mat, the Engineer may allow the removal of the intermediate rolling operation if it appears to the Engineer that compaction is being achieved.

430.04 J Joints **PAGE 250** **10/01/15**

Replace Section 430.04 J with the following:

J. Joints.

1. General.
Place pavement against the surface of curbing, gutters, manholes, and similar structures uniformly near the contact surfaces so the pavement is slightly higher than the edge of the structure after compaction. Do not construct a joint on top of a joint from a previous lift.

2. Longitudinal Joints.
Construct longitudinal joints on successive lifts between 6 and 12 inches from the previous longitudinal joint.

Place and follow markings to guide the paver. Construct joints in a uniform line. Correct pavement edges that deviate from the uniform line and correct areas of the joint that vary from the intended location of the joint by more than 2 inches. Construct joints with tight seams and no visible segregation.

3. Transverse Joints.
Construct transverse joints on successive lifts a minimum of 12 feet from the previous transverse joint.

550.03 Materials **PAGE 261** **10/01/15**

Add the following to Section 550.03:

Develop a mix design with a maximum water-cement ratio of 0.40 when placing concrete with a slip form paving machine. Use the water-cement ratio shown in Section 802.01 B.2, “Concrete Class Designation” for all other paving methods.

550.04 H.1.d Final Surface Finish **PAGE 268** **10/01/15**

Replace Section 550.04 H.1.d with the following:

d. Final Surface Finish.

(1) General.
Uniformly texture the surface by dragging a seamless strip of stiff-fiber artificial grass carpet longitudinally along the full width of the pavement in a single pass.

Use and maintain a taut string line for operating the carpet drag. Attach the leading edge of the carpet drag to a bridge. If the Engineer determines it is not feasible to use a bridge or string line, other texturing methods will be allowed.

Maintain a clean carpet free of encrusted concrete.

Provide a minimum texture depth of 0.031 inches.

(2) Roadways with Speed Limits Less than 45 MPH.
The Engineer will test the texture achieved by the carpet drag in accordance with ASTM E 965 and the Field Sampling and Testing Manual. The Engineer will determine the test location.

If three or more lots have texture depths less than 0.031 inches but greater than or equal to 0.025 inches, perform diamond grinding on those lots.

Perform diamond grinding any lot having a texture depth of less than 0.025 inches.

Perform grinding as specified in Section 550.04 M.4, “Grinding.”

The Engineer will determine the limits of any failing test by running additional tests at 100 foot intervals before and after the failing test. The Engineer will determine the location of the additional tests.

(3) Roadways with Speed Limits 45 MPH or Greater.
Run a clean, metal tine longitudinally along the surface immediately following the carpet drag. Exclude areas within 3 inches of the edge of the slab and longitudinal joints. Run the tine continuously across transverse joints.

Use a tine that provides:
- 1/8 inch ±1/64 inch groove width;
- 3/16 inch ±1/16 inch groove depth; and
- 3/4 inch spacing of between grooves.

If the concrete has becomes too stiff to receive the metal tine finish, use diamond bladed equipment to produce the longitudinal grooves.

550.04 I.3 Impervious Membrane Cure **PAGE 271** **10/01/15**

Replace the first paragraph of Section 550.04 I.3 with the following:

Use a curing compound that meets the requirements of Section 810.01 B.2, “Type 2, Class B”.

570.03 A General **PAGE 281** **10/01/15**

Add the following item to the table:

Impervious Membrane Cure	810.01 B.1

570.03 B.2.a Concrete **PAGE 281** **10/01/15**

Replace Section 570.03 B.2.a with the following:

a. Concrete.
Use Class AE concrete with cement that meets the requirements of AASHTO M 85, Type I or Type IA for spall repairs.

570.03 D Curing Compound **PAGE 281** **10/01/15**

Delete Section 570.03 D.

570.04 A.1.b Full Depth Repairs **PAGE 282** **10/01/15**

Replace Section 570.04 A.1.b with the following:

b. Full Depth Repairs.
Use the lift out method to remove concrete in full depth repair areas with minimal disruption to the subgrade and without damage to the remaining concrete. Do not operate equipment, other than compaction equipment, in areas where concrete has been removed. Fill voids deeper than 1 inch with aggregate and compact the material to the level of the existing subgrade.

Place concrete for repairs less than 100 feet long the same day that removals are initiated. Place concrete for repairs longer than 100 feet within 48 hours of initiating removals. Dampen the faces of existing concrete before placing new concrete.

Place, consolidate, finish, and cure concrete according to the following portions of Section 550.04, "Construction Requirements":

- 550.04 C, "Roadbed Condition";
- 550.04 D, "Placing and Spreading Concrete";
- 550.04 E, "Placing Reinforcing Steel and Tie Bars";
- 550.04 F, "Uncontrolled Cracking";
- 550.04 G, "Joints";
- 550.04 H, "Finishing Concrete", except parts 1.d, "Final Surface Finish" and 1.e, "Imprinting Pavement";
- 550.04 J, "Removing Forms";
- 550.04 K, "Sealing Joints"; and
- 550.04 L, "Opening to Traffic".

Provide finished concrete that is flush with all adjacent pavement surfaces. Before the concrete sets, check the repair utilizing a 10 foot straight edge and correct areas that deviate by 1/8 inch or greater.

Texture the repair by dragging a carpet of artificial grass longitudinally over the repaired area.

If repairs involve multiple lanes, fill the gap between the lane under repair and the existing concrete with cold bituminous material. Remove this material before making the repair to the adjacent lane.

(1) Repairs One Lane Wide.
Use a bond breaker along the centerline joint. Tie bars are not required on repairs that are one lane wide.

When the repair falls in a ramp, restore the longitudinal joints crossing the repair, but do not use tie bars.

(2) Repairs Wider Than One Lane.
Before placing the concrete in the second lane, install 30 inch #5 tie bars in the longitudianl joint using the original tie bar pattern. Drill holes for the bars and secure the bars in the holes using epoxy.

(3) Impervious Membrane Cure.
Use a curing compound that meets the requirements of Section 810.01 B.1, “Type 2”.

Apply the cure at a minimum rate of 1 gallon per 150 square feet of pavement in one or two applications. If applying two coats, apply the second application within 30 minutes of the first application.

Protect joints that require sealing from infiltration of the curing compound.

Immediately cover the exposed sides of the concrete pavement with curing compound if removing forms exposes curing concrete before the expiration of the curing period.

Immediately reapply curing compound to damaged areas within the curing period.

570.04 A.2.c Dowel Bars **PAGE 284** **10/01/15**

Replace the first paragraph of Section 570.04 A.2.c with the following:

Drill 1-3/8 inch diameter holes using a rigid frame-mounted drill. Clean the hole, inject epoxy into the hole, and insert dowels.

570.04 A.3.a Concrete Removal **PAGE 285** **10/01/15**

Replace the third paragraph of Section 570.04 A.3.a with the following:

If existing reinforcing steel is damaged or bent within the 18 inch lap area, replace the damaged reinforcing steel.

570.04 C Grinding **PAGE 285** **10/01/15**

Replace the first paragraph of Section 570.04 C with the following:

Allow new concrete and dowel bar retrofit patch material to cure for a minimum of 24 hours before grinding.

570.04 C.6 Slurry Removal **PAGE 286** **10/01/15**

Replace Section 570.04 C.6 with the following:

6. Slurry Removal.
Continuously collect all slurry or residue resulting from the grinding operation.

In areas with speed limits of 45 mph or less and in areas with curb and gutter, dispose of slurry as specified in Section 107.17, “Removed Material”.

In areas with speeds greater than 45 mph and without curb and gutter, slurry may be place on the foreslope of the roadway. Prevent slurry from entering pipes, culverts, storm drains, ravines, streams, waterways, wetlands, and all other water conveyances. Install erosion control features as necessary to prevent contamination, or dispose of slurry as specified in Section 107.17, “Removed Material”.

570.06 BASIS OF PAYMENT **PAGE 289** **10/01/15**

Delete the following paragraph from Section 570.06:

Include all costs for saw cuts, steel reinforcing, bar supports, tie bars, and joint sealing in the unit price bid for "__Inch Concrete Pavement Repair - Full-Depth _____".

602.04 J Penetrating Water Repellent Treatment of Concrete Surfaces **PAGE 307**
10/01/15

Replace section 602.04 J with the following:

J. Penetrating Water Repellent Treatment.
Apply penetrating water repellant to the driving surface of the bridge deck after barrier forms have been removed.

Before treating the deck, use sandblasting or water washing equipment to clean the surfaces of material that might inhibit the coverage and penetration of the solution.

Prepare the deck by applying pre-treatment cleaning agents before the use of water washing cleansing methods. Add detergent to the cleansing water, if necessary. After washing, rinse with clear water.

Use solvents and hand tools to remove bonded foreign materials.

Use a cleaning process that does not remove or alter the existing deck finish and does not expose the coarse aggregate.

Before treatment, allow the deck to dry to meet the requirements of the repellent manufacturer.

Apply penetrating water repellent treatment solution when the air or concrete surface temperature is 40°F and rising. Use airless application equipment with 15 to 40 psi application pressure. Apply treatment solution at the rate recommended by the solution manufacturer.

602.04 K.1 General **PAGE 307** **10/01/15**

Replace Section 602.04 K.1 with the following:

1. General.
When shown in the plans, apply membrane and primer in dry weather and when the air temperature is above 40°F. Apply to surfaces that are dry, clean, free of sharp protrusions and above 40°F.

604.03 B.3 Trial Mix **PAGE 310** **10/01/15**

Replace the "AASHTO T 23" test requirement with "ND T 23:

604.03 E.1 Concrete **PAGE 310** **10/01/15**

Replace the "AASHTO T 23" test requirement with "ND T 23:

606.04 A Design and Manufacture **PAGE 314** **10/01/15**

Replace the second paragraph in Section 602.04 A with the following:

Use an ACPA or NPCA certified plant in the construction.

702.06 Basis of Payment **PAGE 355** **10/01/15**

Replace the Table 702-01 with the following:

Table 702-01

Payment for Mobilization

Original Contract Amount Earned	Payment will be the Lesser of:	
	Mobilization Bid Amount	Original Contract Amount
5%	25%	2.5%
10%	50%	5.0%
50%	100%	7.5%
75%	100%	10.0%

704.04 B Traffic Control Device Condition Classifications **PAGE 359** **10/01/15**

Replace all instances of “ATSAA” in Section 704.04 B with “ATSSA”.

704.04 M Protection Vehicle with Truck Mounted Attenuation Device (TMA) **PAGE 366** **10/01/15**

Replace the last paragraph of 704.04 M with the following:

Equip the protection vehicle with an advance warning flashing or sequencing arrow panel conforming to Section 704.03 M, “Advance Warning Flasher or Sequencing Arrow Panel” and the MUTCD.

704.04 O Traffic Control for Uneven Pavement **PAGE 367** **10/01/15**

Replace all instances of “Sign W20-52-24” in Section 704.04 O with “W20-52-54”.

Change the title of Section 704.04 O.3.b to “Uneven Pavement Greater Than 2 Inches.”

706.02 B Aggregate Laboratory **PAGE 372** **10/01/15**

Replace Section 706.02 B with the following:

B. Aggregate Laboratory.
Place the laboratory at a location acceptable to the Engineer. The Engineer will have the full control and the exclusive use of the laboratory.

Provide a laboratory with a minimum floor area of 230 square feet, minimum exterior width of 8 feet, and a minimum ceiling height of 7 feet.

Partition the building into a minimum of two rooms, a smaller room having a floor area of approximately 70 square feet.

Provide a workbench with a length of 7 feet in the smaller room:

Provide the following equipment in the larger room:

1. Mechanical shaker capable of receiving 6 trays that have a screen size of 14 inches by 14 inches and the following compatible sieves:
   - 1-1/2 inch;
   - 1-1/4 inch;
   - 1 inch;
   - 3/4 inch;
   - 1/2 inch;
   - 3/8 inch;
   - No. 4; and
   - An enclosed dust pan.
2. Mary Ann shaker capable of being adjusted to receive 8 and 12 inch diameter sieves;
3. Splitter with a maximum hopper capacity of 0.6 cubic feet;
4. Splitter with a minimum hopper capacity of 1.0 cubic feet; and
5. An exhaust fan capable of changing the air in the room every minute.

709.04 C Geosynthetic Geogrid (Type G) **PAGE 376** **10/01/15**

Replace Section 709.04 C with the following:

C. Geosynthetic Geogrid (Type G).

Unroll geogrid parallel to the centerline of the road. Do not drag the geogrid across the underlying material. Use geogrid widths that produce overlaps of parallel rolls at the centerline and at the shoulders and so that no overlaps are required along wheel paths.

Overlap geogrid a minimum of 30 inches at all splices and joints when placing on subgrade. Overlap geogrid a minimum of 12 inches at all splices and joints when placing on base.

Construct overlaps at the end of a roll so the previous roll laps over the subsequent roll in the direction of the cover material placement. Mechanically tie transverse joints to maintain the minimum overlap. Place pins, staples, or small piles of aggregate to maintain the geogrid position before placement of cover material.

Stagger end overlaps at least 10 feet from other end overlaps in parallel rolls. Cut or increase overlaps to conform to curves.

Patch damaged areas of geogrid. Place a patch that overlaps the damaged area by 36 inches on all sides. Mechanically tie the patch to the underlying grid.

Place the first lift of material over geogrid installed on subgrade to a depth of 10 inches of loose material. Place the first lift of material over geogrid installed on base to a depth of 6 inches of loose material.

Use low ground pressure equipment to spread the initial lift of material. If rutting occurs, fill the ruts with additional material before placing the subsequent lift. Do not blade out ruts. Do not turn construction equipment on the first layer of material.

714.04 A.1 Bedding **PAGE 379** **10/01/15**

Delete the first paragraph from Section 714.04 A.1.

714.04 A.6 Connection to Manholes, Inlets, and Pipes **PAGE 380** **10/01/15**

Replace Section 714.04 A.6 with the following:

6. Connection to Manholes, Inlets, and Pipes.
If connections are required to a manhole, inlet barrel, or pipe entrance, connect pipe by cutting the opening and grouting in the connecting pipe.

714.04 A.7 Compaction Control for Aggregate **PAGE 380** **10/01/15**

Replace Section 714.04 A.7 with the following:

7. Compaction Control for Aggregate.
Compact aggregate according to Section 203.04 E.2, “Compaction Control, Type A” The moisture content of the aggregate at the time of compaction shall be not less than 2.0 percentage points below, nor more than 3.0 percentage points above the optimum moisture content.

Compact aggregate for approach pipes according to the conduit manufacturer’s recommendation

Use a maximum lift thickness of 6 inches.

714.04 A.8 Compaction Control for Non-Aggregate Material **PAGE 380** **10/01/15**

Replace Section 714.04 A.8 with the following:

8. Compaction Control for Non-Aggregate Material.
If Common Excavation Type A is specified, follow the compaction requirements in Section 203.04 E.2, “Compaction Control, Type A”. If Common Excavation Type B is specified, follow the compaction requirements in Section 203.04 E.3, “Compaction Control, Type B”.

Compact material for approach pipes according to the conduit manufacturer’s recommendations.

748.03 MATERIALS **PAGE 393** **10/01/15**

Add the following item to the table:

Impervious Membrane Cure	810.01 B.1 or 810.01 B.2

750.03 MATERIALS **PAGE 395** **10/01/15**

Add the following item to the table:

Impervious Membrane Cure	810.01 B

Replace the paragraph directly after the table with the following:

For imprinted concrete use any size coarse aggregate specified in Section 802.01 C.2, “Coarse Aggregate”. Produce a mix that consists of 60 percent fine aggregate and 40 percent coarse aggregate.

754.04 D.2 Anchor for Telescoping Perforated Tubes Supports **PAGE 403** **10/01/15**

Replace the last two paragraphs in Section 754.04 D.2 with the following:

If installation is in either concrete or bituminous material, omit the soil plate or use a surface mount anchor base.

Core concrete and bituminous surfacing before installing the anchor unit and fill the cored area with like material that matches the surrounding surfacing.

754.04 F Removing and Resetting Signs and Supports **PAGE 407** **10/01/15**

Replace the Section 754.04 F with the following:

F. Removing and Resetting Signs and Supports.

1. General.
Remove and reset existing signs and supports as specified. Stockpile all signs and supports not to be reset at designated locations within the project limits. The Engineer will arrange to have stockpiled signs removed from the project limits and delivered to the Department’s facility.

Replace removed or reset signs and supports that are damaged during removing, resetting, or stockpiling at no additional cost to the Department.

Remove existing signs and supports as construction progresses, and immediately reset or install new signs.

The Engineer will allow the temporary reset of existing signs, or the temporary installation of new signs. Include the cost of installing and resetting signs temporarily in the price bid for other items.

2. Reset Sign Panel.
Remove sign panels from existing supports. Reinstall sign panels, angles, stringers, and steel channels on new supports.

Provide all necessary brackets and hardware to attach sign panels, angles, stringers, and steel channels on new supports.

754.04 I Overlay Panel Sign Refacing **PAGE 407** **10/01/15**

Replace the second paragraph of Section 754.04 I with the following:

Remove the legend, border, and symbol on those signs that have demountable copy and remove any existing sign overlays and place overlay panels on the signs. Do not remove direct applied sheeting legends, borders, and symbols. Direct apply the new legends, borders, and symbols to the overlay panels and install on the existing signs.

754.04 J Auxiliary Signs **PAGE 408** **10/01/15**

Replace the Section 754.04 J with the following:

J. Auxiliary Signs.
Install auxiliary signs used with route markers with the same background color as the route markers:

- Interstate, Blue;
- Interstate Business Loop, Green;
- State, White;
- US, White; and
- County, Blue.

754.05 METHOD OF MEASUREMENT **PAGE 408** **10/01/15**

Add the following to Section 754.05:

D. Reset Sign Panel.
The Engineer will measure the item “Reset Sign Panel” by the number of locations a sign or sign assembly has been reset.

E. Reset Sign Support.
The Engineer will measure the item “Reset Sign Support” by each leg of a sign support that has been reset.

760.03 Materials **PAGE 410** **10/01/15**

Replace Section 760.03 with the following:

760.03 MATERIALS
Use one of the following materials when applying a fog coat to rumple strips:

- SS-1h, Section 818.02 F, “Anionic Emulsified Asphalt”;
- MS-1 Section 818.02 F, “Anionic Emulsified Asphalt”; or
- CSS-1h Section 818.02 E.1 “Cationic Emulsified Asphalt”.

When MS-1 is used it may be diluted by the supplier or the Contractor.

760.04 F Traffic Control **PAGE 411** **10/01/15**

Replace Section 760.04 F with the following:

F. Traffic Control.

1. **General.**
   Use a TMA as specified in Section 704.04 M, “Protection Vehicle with Truck Mounted Attenuation Device (TMA)”.

2. **Centerline Rumble Strip Installation.**
   Provide flaggers and 2 sets of the required flagger signing for each direction of travel. Ensure that at least one set of the required flagger signing is in place in each direct of travel whenever work centerline installation is performed. Limit the work area to a maximum of 3 miles.

760.05 METHOD OF MEASUREMENT **PAGE 411** **10/01/15**

Add the following paragraph to the end of Section 760.05:

The Engineer will measure flagging and traffic control signs as specified in Section 704.05, “Method of Measurement”.

760.06 BASIS OF PAYMENT **PAGE 411** **10/01/15**

Add the following paragraph after the list of pay items in Section 760.05:

Flagging and traffic control signs will be paid for as specified in Section 704.06, “Basis of Payment”.

762.04 A.4.c Grooves for Epoxy Paint **PAGE 414** **10/01/15**

Replace the “Depth” row of Table 762-02 with the following:

Depth	45 to 55 mils

762.04 D.2 Short-Term Pavement Marking – Type NR (Non-Removable) **PAGE 418** **10/01/15**

Replace the second paragraph of Section 762.04 D.2 with the following:

Place the short term pavement markings at the rate specified in Section 762.04 C.2.b, “Rate of Application” with the following exception:

Exception: When the permanent pavement marking is specified as epoxy paint, apply the short term pavement marking at a thickness of 10 mils.

762.04 D.3 Short-Term Pavement Marking – Type R (Removable) PAGE 419 10/01/15

Replace Section 762.04 D.3 with the following:

3. **Short-Term Pavement Marking – Type R (Removable).**
   Install Type R markings when the air and pavement temperatures are at a minimum of 50°F and expected to remain above 50°F.

   If the air or pavement temperature falls below 50°F during installation, Type NR markings may be installed as specified in Section 762.04 D.2, "Short-Term Pavement Markings – Type NR (Non-Removable)". Install Type R markings once the specified temperatures exist.

Remove Type R markings once they are no longer necessary for traffic control operations. If Type NR markings were substituted for Type R markings, remove the Type NR markings using a method that does not leave a scar on the pavement.

762.06 Basis of Payment PAGE 419 10/01/15

Add the following to the end of the first paragraph:

If Type NR markings are substituted for Type R markings due to temperature requirements, the markings will be paid for at the contract unit price for Type R markings.

766.04 CONSTRUCTION REQUIREMENTS PAGE 425 10/01/15

Replace Section 766.04 with the following:

766.04 CONSTRUCTION REQUIREMENTS

A. General.
The mailbox owner will furnish a postal service approved mailbox. Install the furnished mailbox on the new support system.

B. Temporary Relocation.
If construction activities require the removal of the support system and delayed installation of the new support system, reset the existing support system at a location approved by the Engineer and postal service.

If construction activities require the removal of the support system and delayed installation of the new support system, relocate mailboxes to a location approved by the Engineer and postal service.

If existing mailboxes meet NCHRP 350 or MASH requirements, they may be reset adjacent to the roadway. If existing mailboxes do not meet NCHRP 350 or MASH requirements perform one of the following actions:

- Place them outside the clear zone;
- Place them on a 4 × 4 inch post; or
- Reset them using assemblies shown in the plans.

After construction has progressed to allow permanent installation, install the mailbox assemblies and mailboxes at the specified locations.

770.04 D.1 General **PAGE 428** **10/01/15**

Add the following to the end of Section 770.04 D.1:

Install duct seal on all conduits containing cables at controller cabinets, traffic signal bases, and pull boxes.

772.03 D Wiring Diagrams **PAGE 434** **10/01/15**

Replace the first paragraph with the following:

At the time the cabinet and control equipment is accepted, furnish a traffic signal cabinet wiring diagrams showing all circuits and parts in detail. Place the wiring diagram in the signal cabinet and submit one PDF copy to the Engineer.

772.04 A General **PAGE 435** **10/01/15**

Replace the second paragraph with the following:

Provide and bear all costs for the electrical service necessary to operate and maintain the traffic signal system until the system is accepted as specified in Section 772.04 N.3, “Supplemental Inspections and Final Acceptance”.

772.04 E.8 Final Testing **PAGE 439** **10/01/15**

Replace Section 772.04 E.8 with the following:

After installing sealer, perform the tests specified in Section 772.04 E.6, “Initial Testing”. Record the test results on SFN 60844 *Traffic Signal Loop Detector Test Report* and submit the form to the Engineer.

772.04 G Traffic Signal Standards and Combination Signal and Light Standards **PAGE 439**
10/01/15

Replace number 3 with the following:

Install and tighten the anchor bolts as specified in Section 754.04 D.5, “Overhead Sign Structures”.

772.04 N Tests and Acceptance **PAGE 442** **10/01/15**

Replace 772.04 N with the following:

1. **General.**
   Furnish all instruments and personnel required for testing and record test results. If a subcontractor performed electrical work, ensure the subcontractor is present during testing and inspection.

   The Engineer will perform the initial and final inspections when:
   - Winds are 30 mph or less;
   - Ambient temperature is 15°F or greater; and

– It is not raining or snowing.

a. Malfunction Management Unit Test.
Before uncovering the signal heads, perform a malfunction management unit test. Record the test results on SFN 60836 *Traffic Signal Malfunction Management Unit Test* and submit the results to the Engineer.

b. Ground Test.
Before opening to traffic, perform a ground test. The maximum allowable resistance at the controller cabinet is 10 Ohms. The maximum allowable resistance at each traffic signal standard is 25 Ohms. Record and submit the test results on SFN 60834, *Traffic Signal Ground Test*.

2. Initial Inspection.
After the signal system is operational and open to traffic, submit a request to schedule the initial inspection. The system must be fully operational for a minimum of 15 days before the Engineer will perform the initial inspection. The Engineer will record the inspection results on form SFN 59867, *Traffic Signal Inspection* Checklist or SFN 60845 *Flashing Beacon Inspection Checklist*. Copies of completed forms will be sent to the Contractor.

3. Supplemental Inspections and Final Acceptance.
After performing corrections, submit a request for a supplemental inspection. The Engineer will perform a supplemental inspection within 30 days of receiving the request.

If this inspection discloses any unsatisfactory items, the Engineer will provide the Contractor with a written list of items that require correction. After correcting the items, request another supplemental inspection.

If the Engineer determines that the work is complete, the signal system must operate for 14 consecutive days without interruption from defective equipment or improper workmanship.

If the signal system fails within the 14 days, make necessary repairs. After repairs are complete, request another supplemental inspection.

If the signal system operates for 14 consecutive days without interruption from defective equipment or improper workmanship, the Engineer will consider the last supplemental inspection as the final inspection and will accept the signal system.

802.01 A.1 Development **PAGE 453** **10/01/15**

Replace the second paragraph with the following:

Design a mix that will attain a compressive strength of 3,000 psi after 7 days or a flexural strength of 450 psi after 7 days. Measure compressive strength according to AASHTO T 22 and flexural strength according to AASHTO T 97. Apply a correction factor of 0.92 when using 4 inch by 8 inch concrete cylinders.

802.01 C.2 Coarse Aggregate **PAGE 454** **10/01/15**

Replace Table 802-02 with the following:

Table 802-02
Miscellaneous Coarse Aggregate Properties

Test	Method	Max. Percent by Weight of the Plus No. 4 fraction
Shale	NDDOT 3	0.7
Iron oxide particles	NDDOT 3	4.0[1]
Lignite and other coal	NDDOT 3	0.5
Soft Particles (Excluding Shale, Iron oxide particles and Lignite and other coal)	NDDOT 3	2.5
Thin or Elongated Pieces	NDDOT 3	15
L.A. Abrasion	AASHTO T 96	40.0
Soundness (Sodium Sulfate)	AASHTO T 104	12

[1] For concrete for spall repairs and bridge deck overlays, the maximum iron oxide particles shall be 2.0 percent.

802.01 C.3 Fine Aggregate **PAGE 454** **10/01/15**

Replace the second paragraph of Section 802.01 C.3 with the following:

Test fine aggregates in accordance with AASHTO T 21. If the results of the analysis are darker than the standard color, determine the compressive strength of mortar mixed using the aggregate in accordance with AASHTO T 71. If the results of the AASHTO T 71 test result in a relative strength less than 95 percent, do not use the fine aggregate.

810.01 B Liquid-Membrane-Forming Compounds **PAGE 464** **10/01/15**

Add the following to the end of Section 810.01 B:

3. **Curing Compound for Pigmented Concrete.**
   Use a curing compound when curing pigmented concrete that meets the requirements of ASTM C 309 Type 1-D.

816.04 AGGREGATE FOR MICRO SURFACING **PAGE 467** **10/01/15**

Replace Section 816.04 with the following:

816.04 AGGREGATE FOR MICRO SURFACING

A. General.
Use aggregate that is manufactured crushed stone such as granite, slag, limestone, or other high quality aggregate or combination thereof.

Before stockpiling aggregate, perform the tests specified in Table 816-03.

Table 816-03

Test	Test Method	Requirement
Soundness of Aggregates by Use of Sodium Sulfate	AASHTO T 104	15% Max
Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine[1]	AASHTO T 96	30% Max
Deleterious Substances	ND T 176	60 or Higher

[1] Perform the AASHTO T 96 test on the parent aggregate

B. Mix Design.

Develop a mix design using aggregate that meets the requirements of Table 816-04. Establish mix design target values for each sieve and submit the mix design before beginning placement operations.

Table 816-04
Aggregate Gradation for Development of Mix Design

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

C. Stockpile Tolerances.

The mix design target values will be used for acceptance of material. Gradation tests may vary from the mix design target values based on the stockpile tolerance shown in Table 816-05. The percent passing each sieve for gradation tests may not fall outside the gradation limits specified in Table 816-04.

Table 816-05

SIEVE SIZE	STOCKPILE TOLERANCE
3/8”	-
#4	± 5%
#8	±5%
#16	±5%
#30	±5%
#50	±4%
#100	±3%
#200	±2%

D. Acceptance.

1. Stockpile Testing.

Perform a gradation test in accordance with ND T 11 and ND T 27 for every 500 tons of material produced and placed in the stockpile. Also perform test ND T 176 when performing gradation tests. Submit the test results to the Engineer.

The Engineer will perform acceptance testing. If the result of the Engineer’s testing lead to rejection of the stockpile, additional material may be blended with the stockpiled material so that

the stockpile meets the requirements. The Engineer will resample and retest for both gradation and deleterious substances to determine if the stockpiled material will be accepted.

If choosing to blend additional material into the stockpile, use additional material that meets the requirements of Table 816-06. After blending, develop and submit a new mix design.

2. Gradation.
The Engineer will obtain 5 independent samples from the stockpile and perform a gradation analysis in accordance with ND T 11 and ND T 27. If the average gradation for each sieve is within the stockpile tolerance of the mix design target values, the Engineer will accept the material.

If the stockpile is rejected, additional material may be blended with the stockpiled material to obtain the required gradation. The Engineer will resample and retest to determine if the stockpiled material will be accepted.

If choosing to blend additional material into the stockpile, use additional material that meets the requirements of Table 816-03. After blending, develop and submit a new mix design.

3. Deleterious Substances.
The Engineer will determine the amount of deleterious substances in the aggregate using the same samples obtained in Section 816.05 D.2, "Gradation". If the average of the test results is 60 or higher, the Engineer will accept the material.

816.05 AGGREGATE FOR SLURRY SEAL PAGE 469 10/01/15

Replace Section 816.05 with the following:

816.05 AGGREGATE FOR SLURRY SEAL

A. General.
Use aggregate that is manufactured crushed stone such as granite, slag, limestone, or other high quality aggregate or combination thereof. Use aggregate with 100 percent of the parent aggregate larger than the largest stone in the specified gradation.

Before stockpiling aggregate, perform the tests specified in Table 816-06.

Table 816-06

Test	Test Method	Requirement
Soundness of Aggregates by Use of Sodium Sulfate	AASHTO T 104	15% Max
Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine[1]	AASHTO T 96	35% Max
Deleterious Substances	ND T 176	60 or Higher

[1] Perform the AASHTO T 96 test on the parent aggregate

B. Mix Design.
Develop a mix design using aggregate that meets the requirements of Table 816-07. Establish mix design target values for each sieve and submit the mix design before beginning placement operations.

Table 816-07
Aggregate Gradation for Development of Mix Design

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

C. Stockpile Tolerances.

The mix design target values will be used for acceptance of material. Gradation tests may vary from the mix design target values based on the stockpile tolerance shown in Table 816-08. The percent passing each sieve for gradation tests may not fall outside the gradation limits specified in Table 816-07.

Table 816-08

SIEVE SIZE	STOCKPILE TOLERANCE
3/8”	-
#4	± 5%
#8	±5%
#16	±5%
#30	±5%
#50	±4%
#100	±3%
#200	±2%

D. Acceptance.

1. Stockpile Testing.

Perform a gradation test in accordance with ND T 11 and ND T 27 for every 500 tons of material produced and placed in the stockpile. Also perform test ND T 176 when performing gradation tests. Submit the test results to the Engineer.

The Engineer will perform acceptance testing. If the result of the Engineer’s testing lead to rejection of the stockpile, additional material may be blended with the stockpiled material so that the stockpile meets the requirements. The Engineer will resample and retest for both gradation and deleterious substances to determine if the stockpiled material will be accepted.

If choosing to blend additional material into the stockpile, use additional material that meets the requirements of Table 816-06. After blending, develop and submit a new mix design.

2. Gradation.

The Engineer will obtain 5 independent samples from the stockpile and perform a gradation analysis in accordance with ND T 11 and ND T 27. If the average gradation for each sieve is within the stockpile tolerance of the mix design target values, the Engineer will accept the material.

3. **Deleterious Substances.**
The Engineer will determine the amount of deleterious substances in the aggregate using the same samples obtained in Section 816.05 D.2, “Gradation”. If the average of the test results is 60 or higher, the Engineer will accept the material.

817.01 D.2.a Extraction Test Method **PAGE 472** **10/01/15**

Replace the second paragraph of Section 817.01 D.2.a with the following:

The Engineer will determine the percentage of asphalt binder in the stockpile in accordance with AASHTO T 164 and average the results obtained from the three samples. The material will be rejected if any single sample has a value greater than 4.0 percent or the average extraction is greater than 3.5 percent. If the stockpile is rejected, the stockpiled material may be blended with other material.

818.03 Bituminous Materials for Micro Surfacing **PAGE 475** **10/01/15**

Replace Table 818-01 with the following:

Table 818-01

Test	Specification	Requirement
Settlement and Storage Stability of Emulsified Asphalts, 24-h	AASHTO T 59	1% Minimum
Distillation of Emulsified Asphalt[1]	AASHTO T 59	62% Minimum
Tests on Emulsified Asphalt Residue		
Softening Point of Bitumen (Ring and Ball Apparatus)	AASHTO T 53	135°F Minimum

[1] Hold the temperature for this test at 350°F for 20 minutes.

830.01 CONCRETE PIPE AND DRAINAGE STRUCTURES **PAGE 480** **10/01/15**

Replace the second paragraph of Section 830.01 with the following:

Use an ACPA or NPCA certified plant in the construction.

856.01 A General **PAGE 495** **10/01/15**

Replace the “Slope Gradient” row in Table 856-01 with the following:

Slope Gradient Application	≤ 3H:1V	< 3H:1V - 2H:1V	≤ 2H:1V	< 2H:1 - 1.5H:1V

860.02 A Barbed Wire **PAGE 501** **10/01/15**

Replace Section 860.02 A with the following:

A. Barbed Wire.
Provide barbed wire that meets the requirements of AASHTO M 280. Provide wire that has a minimum gage of 12½ and at least 2 point barbs.

860.02 B Woven Wire **PAGE 501** **10/01/15**

Replace Section 860.02 B with the following:

Provide woven wire that meets the requirement of AASHTO M 279, Design Number 939-6-12½.

862.04 C 3-Cable **PAGE 505** **10/01/15**

Replace the Section 862.04 C with the following:

C. 3-Cable.
Provide round treated timber posts used for three-cable guardrail that are between 4.5 and 6.5 inches in diameter.

880.02 B.2 Epoxy Resin Material **PAGE 509** **10/01/15**

Replace Section 880.02 B.2 with the following:

2. Color.
Provide material that meets the requirements of Table 880-03 and 880-04 when tested in accordance with ASTM D 2805.

Table 880-03
CIE Chromaticity limits using illuminant "C" for Yellow Epoxy

x	0.470	0.485	0.520	0.048
y	0.440	0.460	0.450	0.420

Table 880-04
Daylight Directional Reflectance (Y)

Color	Minimum Value
White	83
Yellow	50

896.10 Controller Cabinet **PAGE 557** **10/01/15**

Replace the 3 with the following:

3. Provide a metal weatherproof cover that blocks air flow in cold weather, and adequately covers the fan vent assembly and the louver on the door. Install a gasket to the cover and attach the cover to the inside of the cabinet. Construct the cover of the same material as the cabinet.

   Provide a weep hole in the bottom loop on each end of the cabinet full-size door.

Build the cabinet to contain the following items:

- All items of control equipment specified in these Specifications.

- Provide a thermostatically-controlled minimum 250 watt strip-type heater mounted on the full-size door cover with a protective wire-mesh shield installed around the heater. Use a heavy-duty thermostat capable of being set within a temperature range of 30°F to 90°F. Activate the power to the fan and to the heater using a three-position toggle switch located on the auxiliary switch panel.

  Use a switch that operates vertically up and down with the:

  - Up position being FAN (power to the fan on and power to the heater off);
  - Center position being OFF (power to both the fan and the heater off); and
  - Down position being HEATER (power to the heater on and power to the fan off).

  Provide an electrical three-prong twist lock-type plug between the switch and the heater. Mount the heater thermostat on the auxiliary switch panel. Make the connection to the heater with stranded copper wire having 200°C insulation and noninsulated, solderless terminals.

- Provide three duplex receptacles with ground fault interrupter. Fuse the receptacles ahead of the main circuit breaker.

- Provide a switched lamp socket, fuse the lamp socket ahead of the main circuit breaker.

- Include the following in the maintenance switches inside the cabinet:

  - Stop time control.
  - Timer power.
  - Flash.
  - Vehicle detector input for each phase in use and all future phases.
  - Pedestrian input for each phase in use and all future phases.

10/1/2014

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION
PRICE SCHEDULE FOR MISCELLANEOUS ITEMS (PS-1)

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.

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

SECTION NO.	SECTION NAME	ITEM NAME	PRICE PER ITEM
107.08	Haul Roads	Water	$27 per M Gal
107.08	Haul Roads	Bitumen for Mix	Invoice Price [1] + 10%
107.08	Haul Roads	Bituminous Mix	$42 per Ton [2]
107.08	Haul Roads	Aggregate Base	$17 per Ton [2]
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
203.05 H.3	Embankment	Overhaul	$1.40 per CY - Mile
260	Silt Fence	Mucking Silt Fence	$3.90 per LF
260	Silt Fence	Removal of Silt Fence [3]	$4.25 per LF
261	Fiber Rolls	Mucking of Fiber Rolls	$3.90 per LF
261	Fiber Rolls	Removal of Fiber Rolls [3]	$4.25 per LF
420.04 E	Bituminous Seal Coat	Blotter Sand	$27 per Ton [2]
430.04 G	Hot Mix Asphalt (Exc. Material Hauled to Disposal Area)	Bituminous Mixture	Machine Placed: Bid or Invoice Price + $31 per ton Hand Placed: Bid or Invoice Price + $48 per Ton
704	Temporary Traffic Control	Flagging	$32 per MHR

[1] Price paid for bituminous material will be invoice price plus freight costs.

[2] Price Includes haul up to 10 miles. Payment for haul exceeding 10 miles will be according to Section 109.03 E, “Force Account.” 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.

[3] 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

PROJECTS ITS-9-999(350) (PCN-21118) and SS-9-999(340) (PCN-20899)

Introduction 1
Solicitation Efforts 2
Guidelines for Submitting Quotes to Bidders . 4
Submitting Quotes to Dept. of Transportation 5
Form A 5
Form B or Copies of Quotes 5
Form C 5
Failure to Provide Required Documentation . 6
List of DBE Participation 6
Construction Progress Chart 6
Award of Contract 6
Pre-Job Conference 6
Contract Monitoring, Responsibilities and Reporting 6
Maintaining Records & Tracking Payments . . . 7
Monitoring and Enforcement Mechanisms 7
Counting DBE Participation 7
Sample Form A 13
Sample Form B 15
Sample Form C 17

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: https://apps.nd.gov/dot/cr/csi/login.htm 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 https://apps.nd.gov/dot/cr/csi/public/listBidOpenings.htm 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 contr act ors' responsi bil it y t o provi de 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.

[Blank Page]

DISADVANTAGED BUSINESS ENTERPRISE PARTICIPATION (RN)

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

FORMA

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		;otal Contract Dollar Value
Percent DBE will do with own equipment/forces= Percent Non-DBE will do (trucking only) =	0;:l %	If Regular Dealer, X 60% = $

DBE Firm		
List Specific Bid Item Numbers or Products to be Supplied		;otal Contract Dollar Value
Percent DBE will do with own equipment/forces – Percent Non-DBE will do (trucking only) =	0/1 %	If Regular Dealer, X 60% = $

DBE Firm		
List Specific Bid Item Numbers or Products to be Supplied		;otal Contract Dollar Value
Percent DBE will do with own equipment/forces = Percent Non-DBE will do (trucking only) =	0/1 %	If Regular Dealer, X 60% = $

FORM A (continued)

DBE Firm			
List Specific Bid Item Numbers or Products to be Supplied			;otal Contract Dollar Value
Percent DBE will do with own equipment/forces – Percent Non-DBE will do (trucking only) =	%1	If Regular Dealer, X 60% = $	

DBE Firm			
List Specific Bid Item Numbers or Products to be Supplied			;otal Contract Dollar Value
Percent DBE will do with own equipment/forces – Percent Non-DBE will do (trucking only) =	%1	If Regular Dealer, X 60% = $	

DBE Firm			
List Specific Bid Item Numbers or Products to be Supplied			;otal Contract Dollar Value
Percent DBE will do with own equipment/forces – Percent Non-DBE will do (trucking only) =	%1	If Regular Dealer, X 60% = $	

DBE Firm			
List Specific Bid Item Numbers or Products to be Supplied			1 ;otal Contract Dollar Value
Percent DBE will do with own equipment/forces – Percent Non-DBE will do (trucking only) =	%1	If Regular Dealer, X 60% = $	

DBE Firm			
List Specific Bid Item Numbers or Products to be Supplied			1 ;otal Contract Dollar Value
Percent DBE will do with own equipment/forces – Percent Non-DBE will do (trucking only) =	%1	If Regular Dealer, X 60% = $	

DBE Firm			
List Specific Bid Item Numbers or Products to be Supplied			;otal Contract Dollar Value
Percent DBE will do with own equipment/forces – Percent Non-DBE will do (trucking only) =	%1	If Regular Dealer, X 60% = $	

DBE Firm			
List Specific Bid Item Numbers or Products to be Supplied			;otal Contract Dollar Value
Percent DBE will do with own equipment/forces – Percent Non-DBE will do (trucking only) =	%1	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
NO DEPARTMENT OF TRANSPORTATION
608 E BOULEVARD AVE
BISMARCK NO 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)

FORMB

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 m.u.s.t be retained, by each bidder, for **45 days after the bjd openjng date.** If a quoter has not provided a copy of their quote to the Department, the bidder.JD.l.IS 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

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)
Name of Business	Contact Person	Phone
Mailing Address		Type of Work (See Reverse Side for Codes)
Name of Business	Contact Person	Phone
Mallmg Address		Type OT WorK (See Reverse Side for Codes)
Name or l::lusmess	contact 1-'erson	1-'none
Mailing Address		Type of Work (See Reverse Side for Codes)
Name OT l::lUSineSS	contact 1-'erson	1-'none
Mailing Address		Iype OT WorK (See Reverse Side for Codes)
Name of Business	Contact Person	Phone
Mailing Address		Iype OT 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

FORMC

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

March 15, 2014

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 the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the contractor performs construction work in a geographical area located outside the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the contractor also is subject to the goals for both federally involved and nonfederally involved construction.

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
   1244 Speer Boulevard
   Denver, Colorado 80202
   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:

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

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

(3) 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

(4) 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 underutilized).

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, termina-

tion, 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).

Effective October 1, 2014

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 (hereinafter includes consultants) will comply with the Acts and the Regulations relative to Non-discrimination in Federally-assisted programs of the U.S. Department of Transportation, the Federal Highway Administration, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.

2. Non-discrimination: The Contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The Contractor will not participate directly or indirectly in the discrimination prohibited by the Acts and the Regulations, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR Part 21.

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 will be notified by the Contractor of the Contractor's obligations under this contract and the Acts and the Regulations relative to Non-discrimination on the grounds of race, color, or national origin.

4. Information and Reports: The Contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Recipient or the Federal Highway Administration to be pertinent to ascertain compliance with such Acts, Regulations, and instructions. Where any information required of a Contractor is in the exclusive possession of another who fails or refuses to furnish the information, the Contractor will so certify to the Recipient or the Federal Highway Administration as appropriate, and will set forth what efforts it has made to obtain the information.

5. Sanctions for Noncompliance: In the event of a contractor's noncompliance with the Non-discrimination provisions of this contract, the Recipient will impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to:

   a. withholding payments to the Contractor under the contract until the Contractor complies; and/or
   b. cancelling, terminating, or suspending a contract, in whole or in part.

6. Incorporation of Provisions: The Contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The Contractor will take action with respect to any subcontract or procurement as the Recipient or the Federal Highway Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the Contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, the Contractor may request the Recipient to enter into any litigation to protect the interests of the Recipient. In addition, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

Effective October 1, 2014

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION
APPENDIX E 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 to comply with the following non-discrimination statutes and authorities; including but not limited to:

Pertinent Non-Discrimination Authorities:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.,* 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin); and 49 CFR Part 21.
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Federal-Aid Highway Act of 1973, (23 U.S.C. § 324 *et seq.),* (prohibits discrimination on the basis of sex);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 *et seq.),* as amended, (prohibits discrimination on the basis of disability); and 49 CFR Part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 *et seq.),* (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131-12189) as implemented by Department of Transportation regulations at 49 C.F.R. parts 37 and 38;
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION

CARGO PREFERENCE ACT (CPA)

DESCRIPTION

The Federal Highway Administration (FHWA) in partnership with the Federal Maritime Administration (MARAD) has mandated the implementation of 46 CFR 381 making the cargo preference requirements applicable to the Federal Aid Highway Program.

The requirements of this Special Provision apply to items transported by ocean vessel.

CONTRACT REQUIREMENTS

A. General

Utilize privately owned United States-flag commercial vessels to ship at least 50 percent of the gross tonnage whenever shipping any equipment, material, or commodities pursuant to this contract, to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels. Gross tonnage is computed separately for dry bulk carriers, dry cargo liners, and tankers.

Furnish a legible, English language copy of a rated ‘on-board’ commercial ocean bill-of-lading for each shipment of cargo described in the previous paragraph. Furnish the bill-of-lading within 20 days following the date of loading for shipments originating in the United States and within 30 working days following the date of loading from shipments originating outside the United States.

Furnish bills-of-lading to the Engineer and to the following:

Division of National Cargo
Office of Market Development
Maritime Administration
Washington, DC 20590

B. Subcontracts

Include the language in Section “A, General” of this Special Provision in all subcontracts issued pursuant to this contract.

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.

REVISED 10/24/2015

CONTRACT SPECIAL PROVISION

AUTOMATED CERTIFIED PAYROLL

All Contractors on NDDOT federal-aid projects must file weekly Certified Payroll, as required by the Davis-Bacon Act and Related Acts (DBRA). NDDOT is moving to LCP Tracker, which is a paperless, online system for entering certified payrolls. Use of LCP Tracker will eliminate certified payroll in paper form, and contractors will only need access to a computer and an internet connection.
NDDOT encourages all contractors to file their payroll electronically, but at this time both paper and electronic submissions will be accepted.

As the option for electronic filings of Certified Payroll is offered, the responsibilities of the parties will be as follows:

Prime Contractor: After award, the Prime Contractor will receive an email and will be asked to set up a log-in and password with LCP Tracker. Whether or not the prime contractor chooses to file electronically, they must set up a Prime Approver account which will allow subcontractors to file electronically. The Prime Contractor will input information on all subcontractors and will be responsible for the review of any payrolls filed electronically. After Prime contractor approval, all electronic payrolls will automatically be forwarded to the NDDOT. The Prime Contractor will continue to be responsible for review of payrolls filed in paper form by subcontractors, and to forward these paper payrolls to the NDDOT as required under Davis-Bacon and Related Acts (DBRA).

Subcontractor: If a subcontractor chooses to file electronically, they will set up an account and receive a password and log-in. This will allow electronic filing of the certified payrolls with the Prime Approver (Prime Contractor). Alternatively, the subcontractor may file the Certified Payrolls in paper form.

NDDOT: The Project Engineer and staff will review the payrolls and will work through the Prime Contractor to address any issues with subcontractors, whether filed electronically or by paper. Access to LCP Tracker will be provided free of charge to contractors.

Information on LCP Tracker is available at www.lcptracker.com. Once a contractor is set up with an account, they may take advantage of self-guided online tutorials at www.lcptracker.net.

For further information on certified payroll, go to the NDDOT Labor Compliance page at https://www.dot.nd.gov/divisions/civilrights/laborcompliance.htm.

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	ND150002	1
		DATE OF DECISION 1-2-15	

Revised 06-05-15 (Mod. No. 1)
Revised 07-10-15 (Mod. No. 2)
Revised 09-25-15 (Mod. No. 3)
Revised 10-02-15 (Mod. No. 4)
Revised 10-09-15 (Mod. No. 5)

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W/Pensions	Vacation	App. Tr	Others
CARPENTERS	$27.10	$ 5.60			
CEMENT MASONS/FINISHERS	27.10	5.60			
LINE CONSTRUCTION:					
Lineman	36.30	5.00 + 29.5%			
Cable Splicer	34.15	5.00 + 29.5%			
Line Equipment Operator	32.67	5.00 + 29.5%			
Groundman	21.78	5.00 + 29.5%			
ELECTRICIANS:					
Electrician	33.29	8.62 + 10.5%			
Cable Splicer	32.89	8.62 + 10.5%			
(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	27.59	11.37			
Cable Splicer	28.30	11.26			
(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	19.50	1.70			

1-2-15

Revised 06-05-15 (Mod. No. 1)
Revised 07-10-15 (Mod. No. 2)
Revised 09-25-15 (Mod. No. 3)
Revised 10-02-15 (Mod. No. 4)
Revised 10-09-15 (Mod. No. 5)

	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 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	$19.75	$ 1.70			
Group 3 Bottom Man (sanitary sewer, storm sewer, water, and gas lines); Caisson Worker; Concrete Mixer Operator (one bag capacity); Mortar Mixer	19.90	1.70			
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: Concrete Finisher Tender	20.65	1.70			
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	27.25	14.85			
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 super-vising 5 or more Mechanics); Mon-O-Rail Hoist Operator; Power Shovel, up to and including 3-1/2 cy; Tugboat	26.35	14.85			

1-2-15

Revised 06-05-15 (Mod. No. 1)
Revised 07-10-15 (Mod. No. 2)
Revised 09-25-15 (Mod. No. 3)
Revised 10-02-15 (Mod. No. 4)
Revised 10-09-15 (Mod. No. 5)

	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	$26.10	$14.85			
Group 4 Articulated/Off Road Hauler; Asphalt Dump Person; Asphalt Paving Screed Operator; Backhoe, up to and including 1/2 cy; Boring Machine Locator: Con-sole 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; Micro Surfacer Machine; 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”; Rumble Strip Machine; Sand and Chip Spreader; Self-Propelled Sheepsfoot Packer with or without Blade Attachment; Self-Propelled Traveling Soil Stabilizer; Sheepsfoot					

1-2-15

Revised 06-05-15 (Mod. No. 1)
Revised 07-10-15 (Mod. No. 2)
Revised 09-25-15 (Mod. No. 3)
Revised 10-02-15 (Mod. No. 4)
Revised 10-09-15 (Mod. No. 5)

	Basic Hourly Rates	Fringe Benefits Payments			
		H & W/Pensions	Vacation	App. Tr.	Others
POWER EQUIP. OPERATORS: (CONT.)					
Group 4 (cont.)					
Packer with Dozer Attachment, 100 H.P. and over; Shouldering Machine; Slip Form, Curb and Gutter Operator; Slurry Seal Machine; Tamping Machine Operator; Tie Tamper and Ballast Machine; Trenching Machine Operator, 46 H.P. up to and including 99 H.P.; Truck Mechanic; Tub Grinder; Well Points; Fuel/Lube Operator	$25.95	$14.85			
Group 5					
Boom Truck, A-Frame or Hydraulic, 2 tons up to and including 7 tons; Broom, Self-Propelled; Concrete Saw (power operated); Cure Bridge Operator; 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; Skidsteer Operator with attachments	25.10	14.85			
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.; Assistant/Apprentice Operator	23.80	14.85			
TRUCK DRIVERS:					
Single-Axle Truck	26.67	11.60			
Tandem- and Tri-Axle Truck	26.79	11.60			
Tandem- and Tri-Axle Semi	27.10	11.60			
Lowboy	27.10	11.60			
Off Road Heavy Duty End Dumps, 20 Yards and Under	27.10	11.60			
Euclid, Over 20 Yards	28.62	11.60			

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 (NDDOT)

2016 ON-THE-JOB TRAINING SPECIAL PROVISION

The bidder's signature on the proposal sheet indicates the bidder agrees to take part in the On-the-Job Training (OJT) Program and to follow this OJT Special Provision. Contractors that fail to follow this special provision will be subject to suspension of progress payments or sanctions up to and including revocation of bidding privileges.

I. POLICY STATEMENT

The purpose of the OJT Program is to provide training in the highway construction industry for minority, female, and economically disadvantaged individuals, hereafter known as the targeted group. Pursuant to 23 Code of Federal Regulations Part 230, Subpart A, Appendix B - Training Special Provisions, this program provides for on-the-job training aimed at developing full journeyworkers in the type of trade or job classification involved. Training and upgrading minorities and women in highway construction trades is the primary goal of the program.

The Contractor shall take all necessary and reasonable steps to ensure that minorities and women have the opportunity to compete for and participate as trainees or apprentices and to develop as journey-level workers in the type of trade or job classification employed. Contractors may use the NDDOT OJT preapproved training programs, apprentices in approved Bureau of Apprenticeship and Training (BAT) programs, or submit their own on-the job training curriculum for approval by NDDOT and Federal Highway Administration (FHWA).

II. ASSIGNED OJT POSITIONS

A. Contractors are assigned trainee positions based on federal highway dollars awarded by NDDOT to a contractor from October 1 to September 30. Trainee assignments are not project specific. The number of trainee positions assigned will be determined by formula outlined in the OJT Program Manual. https://www.dot.nd.gov/divisions/civilrights/docs/ojtprogram.pdf.

B. Contractors will receive the number of positions assigned and links to resources necessary for completion of program requirements via email.

C. The number of trainee positions assigned to each contractor will increase proportionately, as shown in the OJT Program Manual, for any applicable federally funded projects awarded to them.

Failure to follow this OJT Special Provision and the accompanying OJT Program Manual may result in suspension of progress payments or sanctions up to and including revocation of bidding privileges.

III. ONLINE RESOURCES

OJT Program Manual: Includes program requirements, wage rates, and curriculum: https://www.dot.nd.gov/divisions/civilrights/docs/ojtprogram.pdf

SFN 9762 Request for On-the-Job Training Program Approval: http://www.dot.nd.gov/forms/sfn09762.pdf

SFN 60226 Request for On-the-Job Trainee Approval: http://www.dot.nd.gov/forms/sfn60226.pdf

SFN 51023 Voucher for On-the-Job Training Program Hourly Reimbursement: http://www.dot.nd.gov/forms/sfn51023.pdf

Davis-Bacon and Related Acts (DBRA) Handbook: https://www.dot.nd.gov/manuals/civilrights/davisbacon.pdf

IV. APPROVALS REQUIRED

A. Requests for Approval of Training Programs and Trainee Candidates must be submitted to Civil Rights Division (CRD). Contractors must request and receive program and trainee candidate approval in order to pay trainees less than the established Davis-Bacon wage for the job classification concerned. No training

program hours will count toward the fulfillment of an assigned trainee position or be eligible for reimbursement without prior approval. No retroactive approval will be granted.

1. Submit *SFN 9762 Request for On-the-Job Training Program Approval* and the pre-approved training curriculum for each trainee position assigned by April 1 or within fifteen (15) calendar days of notification of any additional position assignments. http://www.dot.nd.gov/forms/sfn09762.pdf

2. Submit SFN 60226 *Request for On-the-Job Trainee Approval* and each trainee's employment application. http://www.dot.nd.gov/forms/sfn60226.pdf

3. Submit *SFN 7857 Application for Eligibility,* completed/approved by Job Service North Dakota (JSND) to qualify an economically disadvantaged individual for participation in the OJT Program.

B. Pre-approved curriculum: NDDOT's OJT Program Manual contains pre-approved training curriculum for a number of skilled trade positions. Contractors should select a training program(s) based on their company's employment/staffing needs.

C. Customized curriculum: To request a training curriculum not included in the pre-approved curriculum, submit a written request for approval by NDDOT and FHWA.

The request must include:

- A training curriculum, including the classification requested, minimum number of hours required, and type of training the individual will receive to achieve journeyworker status.
- A minimum wage scale.

If approved, each new classification must comply with the provisions specified in the OJT Program Manual. No hours worked prior to approval will be credited toward completion of the customized training program. Training programs for classifications not covered by the Davis-Bacon and Related Acts (DBRA) will be considered on a limited basis.

The contractor may commence its "customized" training as of the date of the written approval.

D. Union apprenticeship and on-the-job training programs registered with the Bureau of Apprenticeship and Training (BAT), U.S. Department of Labor, 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 only be used when the contractor has requested and received approval, from the Department, for additional trainee positions. The apprenticeship indenture agreements serve as the trainee's job application and must be provided prior to any hours being credited toward OJT Program completion.

E. Power Equipment Operators:

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 DBRA 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.

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."

V. NDDOT'S RESPONSIBILITIES

A. The NDDOT OJT supportive services (OJTSS) consultant will monitor 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 assess when the trainees have completed the specified number of hours and their wages are increased accordingly. The OJTSS consultant will also assure that applicable fringe benefits are paid either directly to the trainees or for the trainee into approved plans, funds, or programs.

B. The OJTSS consultant is charged with visiting trainees and monitoring their progress under the OJT Program. To facilitate the on-site visits, the OJTSS consultant will contact contractors for the location of the trainees weekly.

VI. CONTRACTOR'S RESPONSIBILITIES

A. Appoint a company employee to be available and respond to weekly contacts by the OJTSS consultant. OJTSS monitors the status of assigned trainee positions (e.g., program and trainee approvals, trainees' progress, etc.). The OJTSS consultant will contact the individual listed on the company's approved SFN 60226 Request for OJT Trainee Approval. The appointed must reply to communications from the Department and the OJTSS consultant in a timely manner.

B. Take steps to ensure trainees are aware they are formally enrolled in the OJT program.

C. Make trainees available to the OJTSS consultant for at least two on-site visits during the construction season.

D. Identify trainees on the payroll excerpts, for example: "grp. 4 roller operator trainee." This includes trainees in job classifications not covered by DBRA. Handwritten notes are appropriate for identification.

E. Assign each trainee to a particular person–either a supervisor or an employee proficient in the skills to be trained–who shall see that the trainee is given timely, instructional experience. This person must be familiar with the OJT Program, keep proper records, and ensure completion of the required training hours in accordance with the training curriculum.

F. Make the trainer and project superintendent available to the OJTSS consultant for at least two on-site visits each construction season.

G. May notify the Department to "propose graduation" or discontinue the training period of a trainee who has completed 90% or more of their hours and thereafter advance the trainee to journeyworker status.

H. Notify the Department when a trainee completes the number of hours required to graduate from the OJT Program. The Department will issue a certificate of completion and a wallet-sized card to the trainee.

I. May upgrade proficient trainees from one power equipment operator group or truck driver group to another, with the approval of CRD. Fewer hours are required to complete the upgraded position.

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 CRD.

K. May transfer trainees from one project to another in order to complete the OJT Program. If transfers are made, CRD 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 CRD. 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 CRD 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).

VII. CLASSROOM TRAINING

A. Classroom training may be used to train employees. Each classroom training curriculum must be pre-approved by CRD if the contractor wishes to count the classroom hours as training hours and be reimbursed.

Submit a proposed classroom training curriculum to CRD for approval. Define the type of training the individual will receive, classroom training curriculum, and the minimum number of hours required. The Department will determine the number of hours of credit each trainee will receive toward their training. No retroactive approval will be granted.

B. Contractors will be reimbursed for classroom training hours after the trainee has completed 80 hours of work on highway construction projects.

C. Reimbursement for classroom training will be limited to 60 hours per trainee per construction season. Qualified testing technicians and concrete testing technicians/inspectors will not be included in the 60-hour limit. Reimbursement for classroom training required under the NDDOT Transportation Technician Qualification Program will be at the NDDOT 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. However, if the first project on which the trainee will be employed is a state funded only contract, the minimum wage scale to be used for the classroom training will be that of the appropriate DBRA wage in effect at the time of award of the state funded contract.

VIII. WAGE RATES

A. In no case shall the minimum wage be less than that of the Group 1 Laborer classification in the federal

DBRA wage rates contained in the contract proposal. A trainee working on a state funded only project, must be paid the DBRA wage rate in effect at the time of award for the type of work the trainee is performing.

B. 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.

- 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 trainee's 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.
- For the purpose of the OJT Program, a quarter is 25% of the hours the trainee works toward completion of their approved program. 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.

C. Trainees shall be paid full fringe benefit amounts, where applicable, in accordance to DBRA requirements.

D. At the completion of the OJT Program, the trainee shall receive the wages of a skilled journeyworker.

IX. RECRUITMENT AND SELECTION

A. Trainee Prerequisites:

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. Place notices and posters setting forth the contractor's Equal Employment Opportunity (EEO) Policy and the availability of the OJT Program in areas readily accessible to employees, applicants for employment, and potential employees.
2. Employ members of the targeted group (minority, female, or economically disadvantaged individuals) for all trainee positions assigned in accordance with the OJT Program. Additional positions requested by the contractor may be filled by individuals outside of the targeted groups.
3. Conduct systematic and direct recruitment through public and private employee referral sources.
4. Screen present employees for upgrading to higher skilled crafts. 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 CRD.

D. Selection:

1. Hire and enroll OJT trainee candidates who qualify as an individual in the targeted group.
2. Select a training program(s) based on their company's employment/staffing needs.

3. Individuals in the targeted group having experience in the selected curriculum may be eligible to participate in the OJT Program providing they:
    - are not or have not been journeyworkers in the selected curriculum, and/or
    - have not been previously trained in the selected curriculum
4. Non-minority males who are economically disadvantaged must obtain written certification from Job Service North Dakota (JSND) to qualify for the OJT Program. Contractors wishing to hire and enroll economically disadvantaged candidates must provide JSND's certification along with SFN 60226 and the employment application when requesting trainee approval.
    - JSND is the only agency that may certify an individual as economically disadvantaged. If JSND refers the candidate to the contractor, written certification under this category will be provided to the contractor at the time of the interview.
    - Any person wishing to obtain this certification must apply to JSND and complete the Workforce Investment Act Program's Application for Eligibility (SFN 7857). A contractor recruiting a candidate who may qualify must contact the Workforce Investment Act Program Manager at JSND. JSND contacts are also online: http://www.dot.nd.gov/divisions/civilrights/docs/jobservice-workforce-invest-contacts.pdf

X. BASIS OF PAYMENT

A. Contractors will be paid $4.00 for each hour of training in accordance with the OJT Program Manual.

B. Reimbursement will be made directly to the contractor. Complete SFN 51023 Voucher for On-the-Job Training Program Hourly Reimbursement for each trainee. Attach excerpts from the weekly certified payrolls showing the trainee's hours, rate of pay, and how applicable fringe benefits were paid. Excerpts from weekly payrolls are also required 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 paid and the trainee's hours will not be credited toward completion. http://www.dot.nd.gov/forms/sfn51023.pdf

C. Submit completed vouchers to CRD 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 CRD 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 CRD no later than October 15 in order to be reimbursed. This is due to state and federal end-of-the-year budget fiduciary requirements.

XI. 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.

B. If payments have been made, the Department will deduct the amount paid from the contractor's progress payment.

C. A trainee should be hired to begin training as soon as feasible after start of work utilizing the skill involved and remain employed as long as training opportunities exist in the approved work classification or until the trainee has completed his or her training program.

D. 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 Special Provision if it has provided acceptable training to

the number of trainees assigned. The number trained shall be determined on the basis of the total number enrolled for a significant period.

XII. UNFILLED OR INCOMPLETE TRAINEE POSITIONS

A. Provide written explanation for unfilled or incomplete trainee assignments to CRD by October 1 of the current construction season. CRD will decide, on a case-by-case basis, whether to carry the assigned positions over to the next construction season.

B. Positions carried over from the previous construction season must be among the first positions filled at season startup. To notify CRD of the trainee's rehiring, submit *SFN 60226 Request for On-the-Job Trainee Approval*, marking 'Check if Carryover Trainee' in the Approved Training Program section of the form. There is no need for the training position or a returning trainee to be re-approved.

C. Sanctions, up to and including revocation of bidding privileges, may be imposed on the contractor for failure to provide sufficient explanation and documentation for reasons assigned trainee positions when unfilled or incomplete.

XIII. DEFINITIONS

Carryover Position: Incomplete 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.

CRD: NDDOT's Civil Rights Division administers the NDDOT On-the-Job Training Program.

Good Faith Efforts: A contractor's documented efforts to fulfill the OJT Program requirements, e.g., a new hires list, examples and locations of advertisements, list of current employees reviewed for skills upgrades, and any other means of demonstrating the contractor's efforts.

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): A consultant under contract with the Department to provide in-person oversight, support, and guidance to contractors and trainees to increase the effectiveness of approved training programs.

Trainee: A person who receives on-the-job training, whether through an apprenticeship program or other program approved or accepted by FHWA.

Trainer/Supervisor: Contractor's employee assigned to mentor, train, supervise, and support a OJT Program trainee.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION

AUTOMATIC TRAFFIC RECORDER SYSTEM

PROJECT SS-9-999(340) – PCN 20899

DESCRIPTION

Furnish and install a complete operational Automatic Traffic Recorder (ATR) system as required in these documents. Supply any additional items that may be unique to the design of the system or needed to meet the contract requirements. Furnish these additional items even though they are not individually specified.

MATERIALS

A. General.

Verify that the systems and components are new and have been tested.

Use stainless steel hardware (e.g. mounting bolts, nuts, washers, and external hinges, etc.) on outdoor components.

Use only components designed for 10 or more years of industrial use.

Contact the Utility Company and work with them to obtain all necessary permits, pay any assessed fees for hookup, and establish metered service to the system cabinet. Work with the Information Technology Division (ITD) within the Department to establish communications from the NDDOT to the site. The ITD contact for the Department is:

Robert Steckler
216 Airport Road
Bismarck, ND 58504
Telephone: (701) 328-6935

B. Work Drawings.

Furnish work drawings to the Engineer within 50 days after the date of contract execution. Provide the dimensions, type of material, and the functional characteristics of the equipment to be installed within the work drawings.

Submit the following work drawings:

- Loop Conductor
- Loop Lead-in Conductor
- Pull Box
- Cabinet
- Conduit Plugs
- Modem
- Remote Power Control
- Surge Protection Devices
- AC Line Protector Unit

- Ethernet Switch
- Data Collector
- Power Conductor

C. Ground-Mounted Cabinet.

Provide a cabinet that is large enough to house all equipment specified and accommodate future expansion. Design the cabinet top to be waterproof with a 0.5 inch crown or slanted to the rear. Secure the cabinet to a concrete foundation. Provide the cabinet opening with a full-sized door with a gasket made of natural sponge rubber. Cover the keyhole of the lock with a swing away cover made of stainless steel. Supply 2 keys for each cabinet.

Size copper conductors according to the National Electrical Code (NEC) and Section 10 of the National Electrical Manufacturers Association (NEMA) Standards Publication TS-1. Finish all cabinet wiring in a neat and organized fashion. Furnish all assemblies and panels to be easily accessible for maintenance purposes. Label live wires inside the cabinet.

Provide a light socket that is fused ahead of the main circuit breaker. Install the light socket and lamp in a location where they do not interfere with the installation and removal of equipment from the cabinet. Energize the lamp by a switch operated by the cabinet door.

Equip the cabinet with a main circuit breaker used to disconnect the incoming AC service entrance. Provide a duplex Ground Fault Circuit Interrupt (GFCI) and a duplex non-GFCI in the control cabinet.

Construct a 4 foot by 4 foot concrete working slab, 4 inches thick, next to the cabinet foundation on the door side of the cabinet.

The Contractor is responsible for all conductor termination. Crimp and solder all lug terminals for conductor termination. Provide conductors that meet the requirements of Section 896.02 A, “Feeder”.

D. 4G Cellular Modem.

Supply a 4G cellular modem including all necessary equipment and mounting hardware required for operation. Provide a modem that meets the following requirements:

1. LTE standards with fallback to:
   a. EV-DO Rev. A,
   b. CDMA EV-DO (Rev.0), and
   c. CDMA 1xRTT

2. Supports the following bands:
   a. LTE 700MHz,
   b. CDMA/EV-DO 800, 1900,
   c. HSPA/HSPA+ 900/2100, and
   d. GPRS 900/1800/1900

3. Has the following Security Features:
   a. IPsec VPN,
   b. GRE Tunneling,
   c. MAC Address Filtering,
   d. IP Filtering,

   e. Port Filtering, and
   f. SSH and HTTPS

4. Works in the following Atmospheric Conditions:
   a. Operating Temperature: -30ºC to +70ºC (-22ºF to +158ºF)
   b. Storage Temperature: -40ºC to +85ºC (-40ºF to +185ºF)

5. Uses an Ethernet Host interface that meets the following:
   a. 10/100 Mbps RJ-45,
   b. RS-232, and
   c. DB9 DCE (300-230400 baud)

6. Antenna Connections:
   a. Cellular – 50 Ohm SMA, and
   b. Receive Diversity – 50 Ohm SMA

7. Application Interfaces:
   a. TCP/IP,
   b. UDP/IP,
   c. DHCP,
   d. HTTP,
   e. SNMP,
   f. SMTP,
   g. SMS,
   h. MSCI,
   i. Modbus, and
   j. Binary

8. Has LED indicator lights for the following:
   a. Network,
   b. Signal,
   c. Activity,
   d. Service, and
   e. Power

E. Ethernet Switch.

Supply an Ethernet switch with the necessary hardware required for operation. Provide the Ethernet Switch, enclosure, mount, and cables with standard accessories.

Provide an Ethernet Switch that meets the following:

- Ruggedized construction,
- Powered by 24V DC,
- Has 4-10/100TX Ports, and
- Has an operating temperature of -40°C to 49°C (-40°F to 120°F)

F. Ethernet Lightning Suppressor.

Provide an Ethernet Lightning Suppressor that meets the following:

- Ensure this unit is in a cast metal box with shielded connections,
- Clamping voltage of 65 Volts,
- Cat 6 outdoor direct burial cabling at 10/100/1000 speed,

- Ensure the unit is compatible with Power over Ethernet cable, and
- Has an operating temperature of -40°C to 49°C (-40°F to 120°F)

G. Remote Power Control Rack Mounted Outlet Strip.

Supply a Remote Power Control that meets the following:

- Web-accessible IP-based power controller for minimum eight independently controlled outlets.
- Enables minimum 15 users to remotely power control outlets using any web browser, Telnet client or SNMP manager.
- 10/100 Ethernet, Web, Telnet, SNMP, Port assignable for Web and Telnet, SSL Security on Web control.
- Monitors network devices and auto reboots whenever network response fails. 16 auto Pings can be assigned to any outlet.
- Current sensing and Alarms (determined by adjustable high and low current thresholds) when critical power conditions occur, notifications are sent by email.

H. ADR 6000 Traffic Counter/Classifier.

The NDDOT has obtained sole source approval for the purchase of the PEEK brand electronics. Provide an ADR 6000 for this ATR site. Protect all AC power feeds, data lines, and loops with approved surge protectors.

Provide any updates to the current version of the Department ADR 6000 TOPS Enterprise system and include software user manuals.

The field unit of the ADR 6000 system shall instantaneously calculate and temporarily store “bin” data on an electronic storage medium at the site. Data stored prior to power loss and after restoration of power shall remain in the event of a power loss at the site. The data shall be configured in TOPS to auto poll daily. The ADR 6000 system shall be able to collect 14 days of BIN file data storage before having to be downloaded into TOPS. TOPS database software shall be capable of holding 2GB of data before needing to be archived and the database cleared.

I. Surge Protection Devices.

Protection against lightning, electrostatic discharge and other transient high voltage surges shall be provided by the Contractor. The surge protection equipment shall meet all applicable surge test requirements of the latest IEEE Test Standard, and will operate under the specified environmental conditions and meet PEEK’s specifications.

J. AC-Line Protector Unit.

A 6-outlet AC-Line Protector Unit shall be provided for the 120-volt, 60-Hz power source. The protector unit shall include a thermal circuit breaker, and EMI/RFI noise suppression for diverting and clamping high voltage surges so as to limit the maximum voltage reaching the sensitive electronic equipment during a transient pulse. The unit shall be approved by Underwriter Laboratories (UL).

The AC-Line Protector shall provide protection against transients which may enter electronic equipment through line Neutral paths (Differential Mode) or through line or Neutral to Ground paths (Common Mode).

The AC-Line Protector shall be contained in a single enclosure with appropriate terminations for interconnecting cables to those assemblies requiring 120-volt, 60-Hz protected power.

K. Pull Box.
Provide a round PCV pull box as shown on the detail. Provide a pull box cover that is watertight using a gasket around the opening and each of the screw holes.

Compact the soil around the pull boxes. Provide a drainable base to protect against water infiltration. Install pull boxes of sufficient size as to accommodate all wiring and conduit without crimping or bending the wires.

Plug and seal all holes in the pull box.

CONSTRUCTION REQUIREMENTS

A. General.
Materials and equipment conform to these special provisions, the National Electrical Manufacturers Association (NEMA); the Electronics Industries Association (EIA), National Electrical Code (NEC), and the Telecommunications Industries Association (TIA).

The Contractor shall be responsible for all wire termination.

Mount the modem antenna on the roof of the cabinet.

B. Removal of Equipment.
Where pull box removal is specified in the plans; remove the pull box and disconnect the wires.

Where cabinet removal is specified in the plans; remove the cabinet, the entire foundation and working slab, and disconnect the wires.

Where removal of feed point is specified in the plans; remove the perforated tube supports, switch box, and meter trim. The local utility company will remove the meter.

All conduit and conductor shall be terminated 2 feet below ground level.

C. Earthwork.
Excess excavation obtained from construction activities shall become property of the Contractor. Use the excavated material to fill areas of pull box and cabinet foundation removal.

Restore the ground to match adjacent areas.

D. Seeding.
Restore ground disturbed by construction activities to the original grade. Reseed these areas with Class II Seed. This includes areas disturbed by trenching, boring, pull boxes, cabinet foundations, and feed points.

E. Qualified Technician.
Ensure that a PEEK qualified technician is on site to assist and supervise the installation of the PEEK ADR 6000 system and all work. Ensure the qualified technician is certified in all

aspects of the PEEK ADR 6000 equipment installation and operation. The contact information is:

ACT Traffic Solutions Inc.
7975 Stone Creek Drive
Suite 30
Chanhassen, MN 55317
Business Phone (952) 288-4828
Business Fax (952) 960-8002

The PEEK qualified technician will provide documentation, training, calibration, and testing. The PEEK qualified technician will be providing installation oversight. The Contractor shall be responsible for installing all components of the ADR 6000 system. The Contractor will indicate the Manufacturer of all necessary equipment.

The PEEK qualified technician will provide sufficient acceptance testing using live traffic stream data and demonstrate that 95% accuracy is based on the number of axles per vehicle for a standard vehicle population. Accuracy will be based on a sample size equal to or greater than 1000 vehicles. Base line shall be established that requires video to be captured, analyzed, and compared to ADR 6000 data (per methodology supplied by the vendor). Provide all results including video to the Department. All testing results both manual and ADR 6000 will be compiled, bound and provided in a neat, and orderly file. Electronic versions of all results may also be provided so long as the information is compatible with Microsoft Excel software.

F. Manuals.

Provide one paper copy and one electronic copy of the operational and maintenance manuals. Include the following documentation in the manuals: equipment, software operation, troubleshooting, service procedures, module descriptions, circuit diagrams, replacement parts lists, installation procedures, mechanical details, and termination points for the equipment furnished. Provide technical support telephone numbers, fax numbers, and email addresses.

The paper copy manual shall be bound. Provide test criteria and results in a spreadsheet format that is compatible with Department spreadsheet software.

G. Labeling Cables and Components.

Secure permanent identifying labels to each cable and component. This includes 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.

H. External Grounding System.

Provide bonding and grounding in accordance with NEC and IRD's instructions. Provide ground conductor that is No. 2/0 AWG copper conductor. Each ground rod must be 5/8 inch diameter and 10 feet long.

Clean each grounding component with 300-grit emery cloth before applying a mineral oil based oxide inhibitor to the bonding area.

Connect all electrical service grounds to the grounding ring.

Route each ground conductor to the ground buss via the straightest route that does not hinder maintenance or installation activities.

Place ground rods at all 4 corners of the cabinet foundation. Bond the ground conductor to the cabinet using a ground ring. Ensure the total length of the ground ring is less than 20 feet in circumference.

Bury the ground ring a minimum of 20 inches below ground level. Provide the ground ring in a trench around the cabinet, attached to all the ground rods. Route the ground cable from the buss bar inside the cabinet through ¾ inch flex conduit to the first ground rod next to the cabinet foundation. Seal conduit ends using conduit plugs.

Inspection of all underground work will be completed by the Engineer before it is covered. Connect all underground site connections using the exothermic weld process.

Test the earth ground resistance to 25 ohms or less, using an earth-ground resistance tester. Install additional ground rods to achieve the 25 ohms or less earth ground resistance. Document all results and furnish to the Engineer in a clean organized format.

I. Loop Wire and Loop Lead-in Wire.

Provide loop conductor that meets Section 896.02 B.1 “Copper Loop Conductor”. Provide loop lead-in conductor that meets Section 896.03 B.3 “Copper Loop Lead-in Conductor”. Splicing is only allowed at the pull box where loop conductor and loop lead-in conductor are joined. Solder splices using a 3M splice kit, CK 137 Shake-N-Seal from Uraseal, or approved equal. Provide loop splices according to IRD’s recommendation.

J. Sawing and Sealing Joints.

Follow Section 772.04 E.4 “Saw Cut, and 772.04 E.7 “Saw Cut Seal” when sawing and sealing any saw cuts. Provide loop saw slots 2 inches deep or as recommended by PEEK. Using hot pour joint seal is not allowed for any saw cuts. Approved joint seals include 3M Bondo P-606V Loop Sealant, VersaFLEX SL/75 Joint Filler, BASF MasterSeal SL 180, or approved equal for sealing all saw cuts. Follow minimum curing specifications. Allow the sealant to cure until it does not track or has set sufficiently where it is not damaged by traffic. Damaged sealant will be repaired at the Contractor’s expense.

K. Conduit.

Install 2 inch rigid conduit a minimum depth of 24 inches below finished grade. Provide conduit that meets Section 896.01 B.2, “HDPE”. Splicing conduit is not allowed from the pull box from the recorder cabinet. Provide a continuous run of conduit.

Seal conduit ends with steel wool immediately after installation and reinstall after each phase of construction.

Install conduit plugs in each conduit end after the conductor is installed. Provide conduit plugs which create an air and water tight seal, and are removable and reusable. Provide plugs that can be split to permit installation or removal of the plugs without removing the

conductor. Provide conduit plugs that seal using an adjustable filler of neoprene or silicone rubber compressed with stainless steel hardware.

L. Cabinet Foundation and Installation.

Construct the ATR cabinet foundation and working slab according to the detail sheet.

Construct the cabinet foundation so there is a minimum of 3 Inches of clearance from the outside edge of the cabinet to the outside edge of the foundations on all sides.

Caulk saw cuts between the cabinet and foundation except where the V-groove is. Install copper or stainless mesh rodent protection in the V-groove where the cabinet meets the foundation.

Securely fasten the cabinet flange to the cabinet foundation on all four sides. Use washer of a sufficient size to prevent pull through of the nuts through the cabinet flange.

Mount the modem antenna on the roof of the cabinet.

M. Training.

PEEK shall conduct 2 training sessions. Provide the first training session at the project site. Instruct and demonstrate to Department personnel the following items:

- Detailed ADR 6000 operation and functionality,
- Troubleshoot procedures of the ADR 6000 including all tests/modes available, and
- Federal Highway Administration (FHWA) classification schemes available in the software.

Conduct this training session after the ADR 6000 has been installed and is functioning properly. Utilize the live traffic stream for demonstrations.

The second training session should be held in a classroom setting, to include the following items:

- All information from first training session,
- Maintenance,
- Discussion on how the algorithms and established processes are used by the ADR 6000 to perform all aspects of traffic data collection that meets or exceeds the Manufacturer's statement of accuracy,
- Discussion on how the roadway loops capture and classify the traffic stream in bumper to bumper, stopped, and weaving traffic flows,
- Discussion on all maintenance requirements,
- Life expectancy of all equipment including all loops, and
- Contact information for technical support.

All training session materials shall be made available in a neat organized hard copy, bound and distributed to all participants.

Provide training locations and agenda to the Engineer 3 weeks prior to training. PEEK is responsible for scheduling a training facility in Bismarck, ND for the second training session.

N. Testing.

Test all new loops prior to and after installation. Loops must test to Manufacturer's specifications or be replaced. If the loops meet Manufacturer's specifications after installation, but do not perform traffic count or classification correctly, the Contractor will be responsible for any corrections up to and including replacing the defective part or parts. This may include loops and electronic equipment.

Verify vehicle classification by comparing ATR results with base line traffic counts and classification obtained by videotaping and manually counting and classifying vehicles for a period of 2 hours.

The ADR system shall be able to accommodate vehicles and/or vehicle combinations with a maximum of 14 axles. The system shall provide set parameters for a minimum of 14 vehicle classifications. Classes 1 through 13 shall be used according to the Federal Highway Administration (FHWA) 13 Vehicle Category Classification (identified in the FHWA Traffic Monitoring Guide). Class 15 shall identify any vehicle not identified by Classes 1 through 15.

O. Initial Acceptance.

PEEK shall install all electronics, software, hardware, and initialize the system. After PEEK determines the system to be operational, they shall provide a test to establish a ground truth based on methodology supplied by PEEK for volume and axle classification, which demonstrates to the Department the accuracy of the system.

P. Final Acceptance.

PEEK shall install all electronics, software, hardware, and initialize the system.

A site commissioning checklist shall be provided by PEEK that includes but not limited to all installation acceptance and final acceptance, trials, re-calibration, and results. Final acceptance test criteria and results shall be provided to the Department in a spreadsheet format both in hard copy and electronic form. The Department uses Microsoft Excel spreadsheet software.

The system shall undergo a 30 day final acceptance period after the following items are completed:

- The site meets the initial acceptance thresholds,
- PEEK determines the system is operational, and
- Written notification sent by PEEK to the Engineer

This constitutes a period of 30 consecutive days whereby no remedial action or interpretation is required by PEEK or Department personnel to view or obtain data and tables which are being accumulated. Monitor the calibration of the system on a continuing basis. PEEK shall monitor the site and download data from the site to verify to the Engineer and ensure conformance and proper operation. Provide results to the Department in a neat, clean, and orderly fashion in a separate binder. PEEK shall contact the Engineer prior to making any adjustments. After each adjustment or re-calibration, at PEEK's expense, the 30 consecutive day final acceptance shall begin again.

Upon completion of 30 consecutive days of data collecting, beginning with the start of the most recent 30 day test period, the individual system is considered accepted. The Department reserves the option to check the performance of the system at any time during

the life of this contract. Major malfunctions shall be taken into consideration as acceptance or rejection of the system.

Final payment will be made after final acceptance is complete and the site meets all Department requirements.

Q. Stand-Alone Test.
Conduct an approved Stand-Alone Test of the equipment installed at the field site. Submit the Stand-Alone Test Plan to the Engineer for approval. Receive approval prior to starting this test. The test demonstrates all stand-alone functional operations of the field equipment. Submit the test results to the Engineer for approval.

Complete state form SFN 60717 which can be downloaded at https://www.dot.nd.gov/dotnet/forms/forms.aspx. Submit the form to the NDDOT ITS Engineer when completed.

R. Central Test.
A Central Test will be completed by the Department after the Stand-Alone Test is completed. This test consists of testing the system remote control functionality from the NDDOT central office.

S. Warranty.
All documents and information necessary for installation, maintenance, troubleshooting, and general operation of the system shall be bound and provided in a neat, clean, and orderly file.

PEEK shall warranty and provide a statement to the Engineer for all equipment supplied, including equipment from other Manufacturers, against defective materials and workmanship or damage incurred during shipping or installation. The minimum warranty for the ADR 6000 unit shall be as follows:

During the first 2 years following final acceptance by the Department, all repairs, including all parts, labor, materials, and shipping necessary to correct any failures/problems with any of the components within the cabinet shall be made at PEEK's sole cost, including any calibration and traffic control. Any failures associated with the installation of the loop sensors shall be evaluated by the PEEK qualified technician to determine the cause of the problem and a suggested course of action. All necessary repairs for any failures/problems with the sensors in the road, including all parts, labor, materials, and traffic control shall be made at the Contractor's expense. The Department, at its discretion, may require that complete replacement modules be supplied. PEEK shall perform diagnostics and inform the Department contact person (to be named) of a plan of action to repair the system within 48 hours of being notified by the Department of ADR 6000 problems at this location.

METHOD OF MEASUREMENT
The Engineer will measure each AUTOMATIC TRAFFIC RECORDER SYSTEM installed at each location.

BASIS OF PAYMENT

Pay Item	**Pay Unit**
Automatic Traffic Recorder System	Each

Such payment is full compensation for furnishing all materials, equipment, labor, and incidentals to complete the work as specified, including providing a qualified technician.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION

VIRTUAL WEIGH-IN-MOTION SYSTEM

PROJECT SS-9-999(340) – PCN 20899

DESCRIPTION

Furnish and install a complete operational Virtual Weigh in Motion (WIM) system as required in these documents, and any additional items that may be unique to the design of the system or needed to meet the contract requirements. Furnish these additional items even though they are not individually specified.

Install a WIM System, which includes Kistler Quartz Lineas Piezo Sensors, International Road Dynamics (IRD) brand iSINC Lite WIM electronics and all hardware, software, and Internet Protocol (IP) communications for the North Dakota Highway Patrol (NDHP) wireless in-car communications, North Dakota Department of Transportation (NDDOT) office locations and in-car communications.

MATERIALS

A. General.

Verify that the systems and components are new and have been tested.

Use stainless steel hardware (e.g. mounting bolts, nuts, washers, and external hinges, etc.) on outdoor components.

Use only components designed for 10 or more years of industrial use.

Contact the Utility Company and work with them to obtain all necessary permits, pay any assessed fees for hookup, and establish metered service to the system cabinet. Work with the Information Technology Division (ITD) within the Department to establish communications from the NDDOT to the site. The ITD contact for the Department is:

Robert Steckler
216 Airport Road
Bismarck, ND 58504
Telephone: (701) 328-6935

B. Work Drawings.

Furnish work drawings to the Engineer within 50 days after the date of contract execution. Provide the dimensions, type of material, and the functional characteristics of the equipment to be installed within the work drawings.

Submit the following work drawings:

- Road Sensors
- Loop Conductor
- Loop Lead-in Conductor

- Pull Box
- Cabinet
- Conduit Plugs
- Modem
- Remote Power Control
- Surge Protection Devices
- AC Line Protector Unit
- Detector Amplifier Input Protector Unit
- Data Collector
- Power Conductor

C. Ground-Mounted Cabinet.

Provide a cabinet that is large enough to house all equipment specified and accommodate future expansion. Design the cabinet top to be waterproof with a 0.5 inch crown or slanted to the rear. Secure the cabinet to a concrete foundation. Provide the cabinet opening with a full-sized door with a gasket made of natural sponge rubber. Cover the keyhole of the lock with a swing away cover made of stainless steel. Supply 2 keys for each cabinet.

Size copper conductors according to the National Electrical Code (NEC) and Section 10 of the National Electrical Manufacturers Association (NEMA) Standards Publication TS-1. Finish all cabinet wiring in a neat and organized fashion. Furnish all assemblies and panels to be easily accessible for maintenance purposes. Label live wires inside the cabinet.

Provide a light socket that is fused ahead of the main circuit breaker. Install the light socket and lamp in a location where they do not interfere with the installation and removal of equipment from the cabinet. Energize the lamp by an switch operated by the cabinet door.

Equip the cabinet with a main circuit breaker used to disconnect the incoming AC service entrance. Provide a duplex Ground Fault Circuit Interrupt (GFCI) and a duplex non-GFCI in the control cabinet.

Construct a 4 foot by 4 foot concrete working slab, 4 inches thick, next to the cabinet foundation on the door side of the cabinet.

The Contractor is responsible for all conductor termination. Crimp and solder all lug terminals for conductor termination. Provide conductors that meet the requirements of Section 896.02 A, “Feeder”.

D. 4G Cellular Modem.

Supply a 4G cellular modem including all necessary equipment and mounting hardware required for operation. Provide a modem that meets the following requirements:

1. LTE standards with fallback to:
   a. EV-DO Rev. A,
   b. CDMA EV-DO (Rev.0), and
   c. CDMA 1xRTT

2. Supports the following bands:
   a. LTE 700MHz,
   b. CDMA/EV-DO 800, 1900,

c. HSPA/HSPA+ 900/2100, and
d. GPRS 900/1800/1900

3. Has the following Security Features:
   a. IPsec VPN,
   b. GRE Tunneling,
   c. MAC Address Filtering,
   d. IP Filtering,
   e. Port Filtering, and
   f. SSH and HTTPS

4. Works in the following Atmospheric Conditions:
   a. Operating Temperature: -30ºC to +70ºC (-22ºF to +158ºF)
   b. Storage Temperature: -40ºC to +85ºC (-40ºF to +185ºF)

5. Uses an Ethernet Host interface that meets the following:
   a. 10/100 Mbps RJ-45,
   b. RS-232, and
   c. DB9 DCE (300-230400 baud)

6. Antenna Connections:
   a. Cellular – 50 Ohm SMA, and
   b. Receive Diversity – 50 Ohm SMA

7. Application Interfaces:
   a. TCP/IP,
   b. UDP/IP,
   c. DHCP,
   d. HTTP,
   e. SNMP,
   f. SMTP,
   g. SMS,
   h. MSCI,
   i. Modbus, and
   j. Binary

8. Has LED indicator lights for the following:
   a. Network,
   b. Signal,
   c. Activity,
   d. Service, and
   e. Power

E. AC-Line Protector Unit.

Provide a 6-outlet AC-Line Protector Unit for the 120 Volt, 60 Hz power source. Include in the unit a thermal circuit breaker and EMI/RFI noise suppression. Approval for the unit shall be provided by Underwriter Laboratories (UL).

Provide protection against transients which may enter electronic equipment through line Neutral paths (Differential Mode) or through line or Neutral to Ground paths (Common

Mode).Contain the unit in a single enclosure with appropriate terminations for interconnecting cables to those assemblies requiring 120-volt, 60-Hz protected power.

F. Ethernet Switch.
Supply an Ethernet Switch with the necessary hardware required for operation. Provide the Ethernet Switch, enclosure, mount and cables with standard accessories.

Provide an Ethernet Switch that meets the following:

- Ruggedized construction,
- Powered by 24V DC,
- Has 4-10/100TX Ports, and
- Has an operating temperature of -40°C to 49°C (-40°F to 120°F)

G. Ethernet Lightning Suppressor.
Provide an Ethernet Lightning Suppressor that meets the following:

- Ensure this unit is in a cast metal box with shielded connections,
- Clamping voltage of 65 Volts,
- Cat 6 outdoor direct burial cabling at 10/100/1000 speed,
- Ensure the unit is compatible with Power over Ethernet cable, and
- Has an operating temperature of -40°C to 49°C (-40°F to 120°F)

H. Remote Power Control rack mounted outlet strip.
The requirements for the Remote Power Control are:

- Web-accessible IP-based power controller for minimum eight independently controlled outlets.
- Enables minimum 15 users to remotely power control outlets using any web browser, Telnet client or SNMP manager.
- 10/100 Ethernet, Web, Telnet, SNMP, Port assignable for Web and Telnet, SSL Security on Web control.
- Monitors network devices and auto reboots whenever network response fails. 16 auto Pings can be assigned to any outlet.
- Current sensing and Alarms (determined by adjustable high and low current thresholds) when critical power conditions occur, notifications are sent by email.

I. Detector Amplified Input Protector Unit.
Provide a Detector Amplifier Input Protector unit as recommended by IRD. Provide this unit at the input of each loop detector amplifier unit.

J. Virtual WIM Communications.
The NDDOT has obtained sole source approval for the purchase of the IRD brand electronics. Supply IRD brand iSINC Lite electronics, all cabling, power supplies, communication devices and all necessary peripherals to provide a functional WIM system. Provide a DC power supply with sufficient battery capacity to operate the WIM electronics for 15 minutes without AC power. Contact IRD for all necessary equipment, materials, drawings, specifications, and installation guidance for the WIM site before starting work. The WIM Manufacturer contact information is:

IRD Inc.
1002 S. Main Street
Chambersburg, PA 17201
Phone: (717) 264-2077
Fax: (717) 264-4941
Contact Person: Bruce Myers

Provide testing between the WIM site, NDHP, and NDDOT central office and any field computers provided by NDDOT.

Establish communications from the WIM site to NDDOT central office computers that allows off-site personnel to remotely monitor the operation and provides the ability to adjust the calibration or modify any user definable parameter of the WIM software at the site. Provide a system that allows users to transfer data between the site and the polling computer

K. Pull Boxes.

Provide a round PVC pull box as shown on the detail. Provide a pull box cover that is watertight using a gasket around the opening and each of the screw holes.

Compact the soil around the pull boxes. Provide a drainable base to protect against water infiltration. Install pull boxes of sufficient size as to accommodate all wiring and conduit without crimping or bending the wires.

Plug and seal all holes in the pull box.

L. In-Road Sensors.

The NDDOT has obtained sole source approval for the purchase of the Kistler Quartz Lineas Piezo sensors. Supply the sensors, inductive loops, sealant and any other materials necessary for the Virtual WIM System.

Ensure the sensors cover the number of lanes at each site and each axle sensor conductor extends from the sensor location in the pavement to the WIM cabinet. Provide the grouting compound or sealant, conduit, and electrical connectors as recommended by IRD.

Install the sensors when ambient air temperature is above 40°F. The Engineer may approve a method of heating to allow the sensor grout to cure. Heating the pavement with a propane torch heater is not allowed.

Follow Section 772.04 E.7, “Saw Cut Seal”, when sealing any joints. Sealing joints with hot pour seal is not allowed.

Ensure the in-pavement axle sensors are 5.75 feet, ½ lane, 1 piece in each wheel path. Ensure the axle sensor in-road configuration meets IRD’s sensor array layout and installation requirements. Provide sensor cables of sufficient length to extend from the sensors to the WIM cabinet.

Install the axle sensors as a continuous run from the roadway through the pull box and into the cabinet as specified in Section 770.04 E, “Conductors”. Store and label cables in the pull boxes and cabinet for the appropriate sensor, lane, and position of sensor within each lane.

Install the axle sensors and inductance loops to detect and classify vehicles according to the NDDOT decision tree that is installed in the iSINC unit.

Ensure the system provides for each vehicle processed:

- Number of Axles,
- Axle Weight,
- Gross Vehicle Weight,
- Speed,
- Center-to-Center Spacing Between Axles,
- Overall Length,
- Vehicle Class,
- Lane and Direction of Travel (the right-most lane eastbound or northbound shall be designated as lane 1),
- Date and Time of Passage, and
- Sequential Vehicle Record Number

CONSTRUCTION REQUIREMENTS

A. 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).

The Contractor is responsible for all wire termination.

B. Removal of Equipment.

Where pull box removal is specified in the plans; remove the pull box and disconnect the wires.

Where cabinet removal is specified in the plans; remove the cabinet, the entire foundation and working slab, and disconnect the wires.

Where removal of feed point is specified in the plans; remove the perforated tube supports, switch box, and meter trim. The local utility company will remove the meter.

All conduit and conductor shall be terminated 2 feet below ground level.

C. Earthwork.

Excess excavation obtained from construction activities shall become property of the Contractor. Use the excavated material to fill areas of pull box and cabinet foundation removal.

Restore the ground to match adjacent areas.

D. Seeding.

Restore ground disturbed by construction activities to the original grade. Reseed these areas with Class II Seed. This includes areas disturbed by trenching, boring, pull boxes, cabinet foundations, and feed points.

E. Qualified Technician.

Provide an IRD WIM qualified technician on site to assist and supervise the system installation at each location. Ensure the technician is certified for the WIM equipment, sensor installation and operation, in-car NDHP system operation, calibration and vehicle verification processes.

The IRD qualified technician will be providing documentation, training, calibration, and testing. The Contractor shall be responsible for installing all components of the WIM system. The IRD qualified technician will be providing installation oversight. Indicate the Manufacturer of all WIM components, system sensors and other necessary equipment.

IRD will provide sufficient acceptance testing using live traffic stream data and demonstrate that 95% accuracy is based on the number of axles per vehicle for a standard vehicle population. Accuracy will be based on a sample size equal to or greater than 1000 vehicles. Ground truth shall be performed and shall require that video be captured, analyzed, and compared to WIM data per methodology to be supplied by IRD. All results including the video shall be provided to the Department. Ensure all testing results both manual and WIM are compiled, bound and provided in a neat, clean and orderly file. Electronic versions of all results may also be provided so long as the information is compatible with Department available software.

F. Manuals.

Provide one paper copy and one electronic copy of the operational and maintenance manuals. Include the following documentation in the manuals: equipment, software operation, troubleshooting, service procedures, module descriptions, circuit diagrams, replacement parts lists, installation procedures, mechanical details, and termination points for the equipment furnished. Provide technical support telephone numbers, fax numbers, and email addresses.

The paper copy manual shall be bound. Provide test criteria and results in a spreadsheet format that is compatible with Department spreadsheet software.

G. Labeling Cables and Components.

Secure permanent identifying labels to each cable and component. This includes 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.

H. External Grounding System.

Provide bonding and grounding in accordance with NEC and IRD's instructions. Provide ground conductor that is No. 2/0 AWG copper conductor. Each ground rod must be 5/8 inch diameter and 10 feet long.

Clean each grounding component with 300-grit emery cloth before applying a mineral oil based oxide inhibitor to the bonding area.

Connect all electrical service grounds to the grounding ring.

Route each ground conductor to the ground buss via the straightest route that does not hinder maintenance or installation activities.

Place ground rods at all 4 corners of the cabinet foundation. Bond the ground conductor to the cabinet using a ground ring. Ensure the total length of the ground ring is less than 20 feet in circumference.

Bury the ground ring a minimum of 20 inches below ground level. Provide the ground ring in a trench around the cabinet, attached to all the ground rods. Route the ground cable from the buss bar inside the cabinet through ¾ inch flex conduit to the first ground rod next to the cabinet foundation. Seal conduit ends using conduit plugs.

Inspection of all underground work will be completed by the Engineer before it is covered. Connect all underground site connections using the exothermic weld process.

Test the earth ground resistance to 25 ohms or less, using an earth-ground resistance tester. Install additional ground rods to achieve the 25 ohms or less earth ground resistance. Document all results and furnish to the Engineer in a clean organized format.

I. Loop Wire and Loop Lead-in Wire.

Provide loop conductor that meets Section 896.02 B.1 “Copper Loop Conductor”. Provide loop lead-in conductor that meets Section 896.03 B.3 “Copper Loop Lead-in Conductor”. Splicing is only allowed at the pull box where loop conductor and loop lead-in conductor are joined. Solder splices using a 3M splice kit, CK 137 Shake-N-Seal from Uraseal, or approved equal. Provide loop splices according to IRD’s recommendation.

Loop sealant shall be in accordance with IRD’s recommendations.

J. Sawing and Sealing Joints.

Follow Section 772.04 E.4 “Saw Cut, and 772.04 E.7 “Saw Cut Seal” when sawing and sealing any saw cuts. Provide loop saw slots 2 inches deep or as recommended by IRD. Using hot pour joint seal is not allowed for any saw cuts. Approved joint seals include 3M Bondo P-606V Loop Sealant, VersaFLEX SL/75 Joint Filler, BASF MasterSeal SL 180, or approved equal for sealing all saw cuts. Follow minimum curing specifications. Allow the sealant to cure until it does not track or has set sufficiently where it is not damaged by traffic. Damaged sealant will be repaired at the Contractor’s expense.

K. Conduit.

Install 2 inch rigid conduit a minimum depth of 24 inches below finished grade. Provide conduit that meets Section 896.01 B.2, “HDPE”. Splicing conduit is not allowed from the pull box from the recorder cabinet. Provide a continuous run of conduit.

Seal conduit ends with steel wool immediately after installation and reinstall after each phase of construction.

Install conduit plugs in each conduit end after the conductor is installed. Provide conduit plugs which create an air and water tight seal, and are removable and reusable. Provide plugs that can be split to permit installation or removal of the plugs without removing the conductor. Provide conduit plugs that seal using an adjustable filler of neoprene or silicone rubber compressed with stainless steel hardware.

L. Ride Quality.

Ensure the pavement meets ASTM E1318 6.1.5 “Surface Smoothness” ride quality specification. Provide grinding of the pavement if this specification is not met. Consult the Engineer before any grinding begins.

M. Cabinet Foundations and Installation.

Construct the WIM cabinet foundation and working slab according to the detail sheet.

Construct the cabinet foundations so there is a minimum of 3 inches of clearance from the outside edge of the cabinet to the outside edge of the foundation on all sides.

Caulk saw cuts between the cabinet and foundation except where the V-groove is. Install mesh rodent protection in the V-groove where the cabinet meets the foundation.

Securely fasten the cabinet flange to the cabinet foundation on all four corners. Use washer of a sufficient size to prevent pull through of the nuts through the cabinet flange.

Mount the modem antenna on the roof of the cabinet.

N. Training.

IRD shall conduct comprehensive 2 day training including all aspects of the iSINC Lite WIM System. The Contractor is responsible for obtaining a meeting room in Bismarck ND, making all arrangements, providing an iSINC Lite System for demonstration purposes to supplement the training of NDDOT technicians and NDHP troopers. Provide classroom style training for both days.

Day 1 for NDHP personnel to include the following:

1. Discussion of WIM accuracy,
2. Methodology between the interaction of the sensors and vehicles and how that translates into all the different WIM metrics, interpretation of WIM results, proper operation of the NDHP software, video displays of test vehicles and explanation of all WIM data as it will appear on NDHP laptops in the field.

Day 2 for Department Technicians to include the following:

1. All information from Day 1
2. More technically based and offer troubleshooting techniques
3. Field demonstration of the WIM electronics, communications, and NDHP trooper laptop computer display.
4. Interpretation of vehicle data held at the classroom location and WIM location for both groups.

Provide training location and agenda to the Engineer, 3 weeks prior to training. Demonstrate that the NDHP WIM equipped cruisers have correct communications established with the WIM site.

O. Testing.

a. General.

Ensure the vehicle classification and verification consists of developing a base line vehicle count and classification. Verify by manually counting, classifying, and documenting all vehicles in all lanes and directions for a minimum of 100 vehicles. Video recordings may be allowed by the Engineer to verify the traffic stream.

Compare base line count and classification by lane and direction with the electronic identification of the traffic stream by the WIM electronics.

Ensure the manual and electronic count start and end times are coordinated and all information is provided to the Engineer.

Provide to the Engineer with the approved counting and classifying method used.

Use the normal traffic stream during the vehicle classification and verification testing.

Ensure the system properly counts, weighs, and classifies a minimum of 80% of all vehicles. The Contractor is responsible for all costs to make any changes/adjustments to ensure the Virtual WIM System is classifying, counting, and weighing vehicles properly.

b. Weight Testing.

Secure and pay for the test truck used for calibrating the WIM system. Ensure the test truck is:

- 5 axle, Class 9 semi-trailer and truck
- 5 years old or newer
- Length: 48 to 53 feet
- Equipped with: full air ride suspension and tie downs
- Current DOT Inspection Certification
- Capable of 80,000 lbs gross vehicle weight (GVW)
- A flatbed trailer, no Lowboys will be accepted
- The load shall be non-shifting and secure
- Tires must not be cupped, worn, of different tread type or tire size or be out of round. If it is determined that calibration or weight readings are being affected by tire performance, the tires shall be replaced immediately at the Contractor's expense.
- The tractor and trailer rear tandem axle spacing must not be spaced more than 55 inches apart, no spread axles will be allowed.

The Contractor shall ensure the sensitivity of each axle sensor is recorded. For each instrumented lane, the test truck will be driven over the WIM sensors at safe speeds recommended by IRD.

Ensure the deviation from the static weight is calculated as a percent, and the new overall sensitivity is calculated.

Take an additional 5 runs at the posted speed limit, at 5 mph above and at 5 mph below the posted speed limit to obtain the speed calibration factors for each lane. The Engineer may require additional runs if the measured weight deviates by more than 10% from the mean within a speed range.

Using a single test vehicle, ensure the accuracy of the system to be within:

- The system will properly classify a minimum of 90% of all vehicles
- ± 6% gross, ± 10% Axle Group Load and ± 15% Axle load 95% of the time

Weigh the test truck at an independent certified scale. Provide the weight ticket from the scale, to the Engineer. Obtain gross vehicle weight and individual axle weights. Record and properly identify test truck length and axle spacing measurements by the WIM system. The NDHP will be available to provide an individual axle weight (both left and right side) of the calibration vehicle if required.

c. Speed Testing.
The Engineer or NDHP may check the speed recorded by the system to verify that 90% of the vehicle speeds collected are within ± 1 mph of the actual speed.

d. Axle Spacing Testing.
Conduct the test runs concurrently with the weight testing. Ensure the spacing between axles, recorded by the WIM equipment, will be within ± 0.5 ft.

P. Initial Acceptance.
IRD shall install all electronics, software, and hardware, and initialize the system. After IRD determines the system is operational, they shall provide a test to establish a base line based on methodology supplied by IRD for volume and axle classification, which demonstrates to the Department the accuracy of the system.

Q. Final Acceptance.
Upon successful completion of the above listed procedures as determined by the Engineer, and after written notification by the Contractor to the Engineer, the system will be considered complete and accepted.

The system will then undergo a 30 day acceptance period. This constitutes a period of 30 consecutive days whereby no remedial action or interpretation is required by the Contractor or the Department to view or obtain data, tables or reports which are accumulated or can be generated by the system. Monitor the performance of the WIM system during this time and provide a summary of the information collected. Prove the system is functioning as designed and is operating within calibration specifications as defined during calibration testing.

Contact the Engineer prior to making any adjustments. After each adjustment or recalibration the 30 consecutive day final acceptance will begin again. Any costs to recalibrate the site or make adjustments will be the responsibility of the Contractor. Upon completion of 30 consecutive days of successful data collection beginning with the start of the most recent 30 day test period, the individual system's warranty period shall begin.

A site commissioning checklist shall be provided by IRD. The checklist includes:

- All installation acceptance,
- All final acceptance,
- Trials,
- Re-calibration,
- Results of Trials and Re-calibration documented and kept in a clean, orderly file. The file will become the property of the Department at contract completion.
- Final acceptance test criteria and results shall be provided to the Department in a spreadsheet format both in hard copy and electronic form that is compatible with the Department's excel spreadsheet software. Provide final acceptance test criteria and results to the Department in a spreadsheet format both in hard copy and electronic. The Department uses Microsoft Excel spreadsheet software.

R. Stand-Alone Test.

Conduct an approved Stand-Alone Test of the equipment installed at the field site. Submit the Stand-Alone Test Plan to the Engineer for approval. Receive approval prior to starting this test. The test demonstrates all stand-alone functional operations of the field equipment. Submit test results to the Engineer for approval.

Complete state form SFN 60717, which can be downloaded at https://www.dot.nd.gov/dotnet/forms/forms.aspx. Submit the form to the NDDOT ITS Engineer when completed.

S. Central Test.

A Central Test will be completed by the Department after the Stand-Alone Test is completed. This test consists of testing the system remote control functionality from the NDDOT central office.

T. Warranty.

Warranty all equipment supplied, including equipment from other Manufacturers, against defective materials and workmanship. Provide the warranty certifications to the Engineer.

The first 365 calendar days following system acceptance by the Department, the warranty will include all repairs at no cost to the Department. This work includes vehicle and weight verification, labor and materials needed to correct any failures, and traffic control..

During the following 365 calendar days, the warranty will be limited to the replacement of any materials including shipping charges. Any labor costs during this time will be the responsibility of Department.

If the Contractor's or Manufacturer's standard warranty exceeds the warranty terms specified in this section, the standard warranty will apply.

METHOD OF MEASUREMENT

The Engineer will measure each VIRTUAL WEIGH IN MOTION SYSTEM installed at each location.

BASIS OF PAYMENT

Pay Item	Pay Unit
Virtual Weigh In Motion System	Each

Such payment is full compensation for furnishing all materials, equipment, labor, and incidentals to complete the work as specified, including providing a qualified technician.

NORTH DAKOTA DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION

ENVIRONMENTAL SENSOR STATION

PROJECT ITS-9-999(350) – PCN 21118

DESCRIPTION
Furnish and install an Environmental Sensor Station (ESS). Sensors shall be installed on specified Tower as described in plan sheets. The ESS shall integrate with the existing software and servers at the NDDOT.

A. Ensure the pavement sensors report:
   1. Surface condition
   2. Surface temperature
B. Ensure ESS monitors and displays:
   1. Pavement Surface Conditions:
      a. Dry
      b. Wet
      c. Frost
      d. Snow or ice warnings
   2. Pavement Temperature
   3. Traffic Counts (if specified)
   4. Atmospheric Conditions
      a. Ambient Air Temperature
      b. Relative Humidity
      c. Dew Point
      d. Precipitation Classification
      e. Visibility
      f. Barometric Pressure
      g. Solar Radiation
      h. Water Level
      i. Snow Depth (if specified)
      j. Wind Speed and Direction
   5. Color Still frame images of roadway (Daytime)
   6. Black and White Still frame images of roadway (Nighttime)
   7. Streaming Video of roadway surface

C. Include all hardware, software, and licenses to operate as follows:
   1. An operating system capable of multi-tasking operations to optimize data acquisition from all connected devices.
   2. The RPU shall process and temporarily store output:
      a. Traffic counters
      b. Pavement sensors
      c. Atmospheric sensors
   3. RWIS server will poll each RPU as scheduled. The RPU shall respond and transfer the data.

4. Data transfers are compliant with the most current Federal NTCIP ESS requirements.
5. RWIS server will store the ESS data in a standard SQL Server database.
6. RWIS user displays shall include all sensor, and video data in a browser-based data display format

MATERIALS

A. General.

The Contractor shall ensure the Manufacturer provides technical assistance and support for all systems and components via toll-free telephone number.

Verify that the systems and components are new and have been tested.

Provide a separate power supply for each device.

Use only components designed for 10, or more, years of industrial use.

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)

The Contractor shall procure the data connections working with Information Technology Division (ITD) within the Department:

Robert Steckler
216 Airport Road
Bismarck, ND 58504
Telephone: (701) 328-6935

B. Work Drawings.

Furnish work drawings to the Engineer within 50 days after the date of contract execution. Provide the dimensions, type of material, and the functional characteristics of the equipment to be installed within the work drawings.

Submit the following work drawings:

- Truss Tower and Foundation
- Breakaway Steel Pole and Foundation
- Cabinet
- Modem
- Ethernet Switch
- Remote Power Control
- RPU
- Non-Intrusive Pavement Condition Sensor
- Non-Intrusive Pavement Temp. Sensor
- Temp./Relative Humidity Sensor
- Deep Subsurface Temp. Probe
- Precipitation Occurrence Sensor
- Wind Speed/Direction Sensor

- Barometric Pressure Sensor
- Radiation Sensor
- Microwave Vehicle Detection System
- Camera
- Memory Card
- Pull Box
- Conduit Plugs
- Power Conductor
- Ethernet Cable

C. Ground-Mounted Cabinet.

Supply a NEMA 3R rated ground-mounted cabinet and door designed according to the AASHTO Standard Specification of Structural Support for Highway Signs, Luminaries and Traffic Signals that meets the following:

1. Dimensions
   a. 24” wide x 24” deep
   b. Height shall be a minimum of 60”
   c. Space reserved for spread spectrum transceiver or fiber optic modem.
2. Electronics Industries Association (EIA) equipment rack with 2 adjustable shelves
   a. 19” EIA Rack
   b. Rack shall be minimum of 30” high
   c. Rack shall be placed above the RPU
3. Pull-out drawer and shelf, mounted on ball-bearing slides capable of supporting 20 pound test equipment.
4. Removable pleated paper air filter
   a. Outside dimensions of 10” x 10” x 0.88”
   b. Filter intake located near the bottom of the cabinet.
5. Exhaust fans located near the top of the cabinet and adjustable thermostat
6. Light convenience outlets – 2 each
7. Surge Protection and lightning protection
   a. Protection against lightning, electrostatic discharge and other transient high voltage surges shall be provided by the Contractor. The surge protection equipment shall meet all applicable surge test requirements of the latest Institute of Electrical and Electronics Engineers (IEEE) Test Standard, and will operate under the specified environmental conditions and meet the Manufacturer specifications.
   b. A 6-outlet AC-Line Protector Unit shall be provided for the 120-volt, 60-Hz power source. The protector unit shall include a thermal circuit breaker, and EMI/RFI noise suppression for diverting and clamping high voltage surges so as to limit the maximum voltage reaching the sensitive electronic equipment during a transient pulse. The unit shall be approved by Underwriter Laboratories (UL). The AC-Line Protector shall provide protection against transients which may enter electronic equipment through line Neutral paths (Differential Mode) or through line or Neutral to Ground paths (Common Mode).

      The AC-Line Protector shall be contained in a single enclosure with appropriate terminations for interconnecting cables to those assemblies requiring 120-volt, 60-Hz protected power.
8. Connect the cabinet to the tower grounding system

9. Florescent lamp at top of cabinet with door switch actuation
10. Cabinet label
11. Cabinet electrical diagram and drawing storage
12. Cabinet weather proofing
    a. Door gasket in channels or L bracket with 3/8” nonabsorbent material.
13. Cabinet door with a lockable latching handle and 2 keys
14. All seams continuously welded
15. Constructed of mill finish aluminum

D. 4G Cellular Modem.

Supply a 4G cellular modem including all necessary equipment and mounting hardware required for operation. Provide a modem that meets the following requirements:

1. LTE standards with fallback to:
    a. EV-DO Rev. A,
    b. CDMA EV-DO (Rev.0), and
    c. CDMA 1xRTT

2. Supports the following bands:
    a. LTE 700MHz,
    b. CDMA/EV-DO 800, 1900,
    c. HSPA/HSPA+ 900/2100, and
    d. GPRS 900/1800/1900

3. Has the following Security Features:
    a. IPsec VPN,
    b. GRE Tunneling,
    c. MAC Address Filtering,
    d. IP Filtering,
    e. Port Filtering, and
    f. SSH and HTTPS

4. Works in the following Atmospheric Conditions:
    a. Operating Temperature: -30ºC to +70ºC (-22ºF to 158ºF)
    b. Storage Temperature: -40ºC to +85ºC (-40ºF to 185ºF)

5. Uses an Ethernet Host interface that meets the following:
    a. 10/100 Mbps RJ-45,
    b. RS-232, and
    c. DB9 DCE (300-230400 baud)

6. Antenna Connections:
    a. Cellular – 50 Ohm SMA, and
    b. Receive Diversity – 50 Ohm SMA

7. Application Interfaces:
    a. TCP/IP,
    b. UDP/IP,
    c. DHCP,
    d. HTTP,
    e. SNMP,

f. SMTP,
g. SMS,
h. MSCI,
i. Modbus, and
j. Binary

8. Has LED indicator lights for the following:
   a. Network,
   b. Signal,
   c. Activity,
   d. Service, and
   e. Power

E. Ethernet Switch.

Supply an Ethernet Switch with the necessary hardware required for operation. Provide the Ethernet Switch, enclosure, mount and cables with standard accessories.

Provide an Ethernet Switch that meets the following:

- Ruggedized construction,
- Powered by 24V DC,
- Has 4-10/100TX Ports, and
- Has an operating temperature of -40°C to 49°C (-40°F to 120°F)

F. Ethernet Lightning Suppressor.

Provide an Ethernet Lightning Suppressor that meets the following:

- Ensure this unit is in a cast metal box with shielded connections,
- Clamping voltage of 65 Volts,
- Cat 6 outdoor direct burial cabling at 10/100/1000 speed,
- Ensure the unit is compatible with Power over Ethernet cable, and
- Has an operating temperature of -40°C to 49°C (-40°F to 120°F)

G. Remote Power Control Rack Mounted Outlet Strip.

Supply Remote Power Control that meets the following:

- Web-accessible IP-based power controller for minimum eight independently controlled outlets.
- Enables minimum 15 users to remotely power control outlets using any web browser, Telnet client or SNMP manager.
- 10/100 Ethernet, Web, Telnet, SNMP, Port assignable for Web and Telnet, SSL Security on Web control.
- Monitors network devices and auto reboots whenever network response fails. 16 auto Pings can be assigned to any outlet.
- Current sensing and Alarms (determined by adjustable high and low current thresholds) when critical power conditions occur, notifications are sent by email.

H. Remote Processing Unit (RPU).

Supply and install a Remote Processing Unit. The supplied RPU shall include the necessary cables, adapters, and mounting hardware required to operate the RPU. The RPU and cables shall be standard production of the latest model with standard accessories and in addition meet following specifications:

1. Provide the RPU with 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.

2. Provide RPU to meet the following values not including sensors and measurement noise.
   a. ±(0.06% of reading + offset) at 0°C to 40°C (32°F to 104°F)
   b. ±(0.12% of reading + offset), -25°C to 50°C (-13°F to 122°F)
   c. ±(0.18% of reading + offset), -55°C to 85°C (-67°F to 185°F)

3. Provide RPU with 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.

4. Provide RPU with the following communications ports:
   a. 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
   b. Peripheral port: 40-pin interface for attaching CompactFlash or Ethernet peripherals

5. Provide RPU to be IP addressable and communicate through an integrated RJ45 Ethernet connector.

6. Provide RPU to support the following communication protocols: PakBus, Modbus, DNP3, FTP, HTTP, XML, POP3, SMTP, Telnet, NTCIP, NTP, SDI-12, SDM.

7. Provide support software that enables a Certified 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. Provide a CD containing software to be installed on other computers. Provide the Department with unlimited number of copies of this software.

8. Accuracy of temperature measurement: ±0.2°C from -10°C to 10°C. If outside this range it may be ±0.5°C.

9. Support an open architecture for communications

I. Non-Intrusive Pavement Condition Sensor.

Supply Non-intrusive Pavement condition sensors with all components required for operation and that meets the following requirements:

1. Accurately measure presence of water, ice, slush, snow, or frost
2. Measure the level of grip or friction coefficient of the roadway with 0.01 resolution
3. Accurate measurements shall be obtainable from 10 to 50 feet from the roadway
4. Power: 9 – 30 VDC source and no more than 4 watts of power
5. Operating Temperature Range of -40°C to 60°C (-40°F to 140°F) at 0 to 95% RH.
6. Measuring Range:

a. Friction: 0.01 to 1.00
b. Snow: 0.00 to 10 mm
c. Ice: 0.00 to 2 mm
d. Water: 0.00 to 2 mm

7. Provide data communication interfaces compatible with RPU and be capable of operation on cable lengths up to 300 feet from RPU

J. Non-Intrusive Pavement Temperature Sensor.

Supply Non-intrusive Pavement temperature sensor with all components required for operation and that meets the following requirements:

1. Accurately measure road surface temperature
2. Operating Temperature Range of -40°C to 60°C (-40°F to 140°F) at 0 to 95% RH.
3. Accurate measurements shall be obtainable from 10 to 45 feet from roadway
4. Measuring range: -40°C to 60°C (-40°F to 140°F) with 0.1°C resolution
5. Provide data communication interfaces compatible with RPU and be capable of operation on cable lengths up to 300 feet from RPU

K. Temperature/Relative Humidity Sensor.

Supply Temperature/Relative Humidity sensor with all components required for operation and that meets the following requirements:

1. Temperature Measurement Range of -30°C to 50°C (-22°F to 122°F),
2. Relative Humidity Measurement Range of 0 to 100%,
3. Temperature accuracy of ±0.3°C at 20°C (±0.5°F at 68°F),
4. Relative humidity accuracy of ±2% over 0-90% RH, and ±3% over 90-100% RH,
5. Operating Temperature Range of -30°C to 50°C (-22°F to 122°F),
6. Support an open architecture for communications

L. Deep Subsurface Temperature Probe.

Provide subsurface temperature probes with all necessary cables and power supplies required to operate. The sensor shall meet the following criteria:

1. Operating temperature range of -30°C to 70°C (-22°F to 158°F)
2. Accuracy of temperature measurement: ±0.2°C (-10°C to 10°C), otherwise ±0.5°C
3. Minimum 15 readings at following spacing in inches: 0,3,6,9,12,18,24,30,36,42,48,54,60,66,72
4. Support an open architecture for communications

Supply a waterproof molded cable capable of operating at extended cable lengths up to 1000 feet from the RPU.

M. Precipitation Occurrence Sensor.

Supply the sensor with internal heating elements for moisture control and that meet the following requirements:

1. Operation temperature of -30°C to 70°C (-22°F to 158°F)
2. Precipitation quantity/type repeatability > 90%
3. Precipitation type distinction: rain, snow, hail, freezing rain, sleet
4. Precipitation amount options: 0.1 mm, 0.01mm, 0.001mm
5. Detect precipitation intensity
6. Support an open architecture for communications

N. Wind Speed/Direction Sensor.

Ensure the sensor meets the following requirements:

1. Wind speed range of 0 to 50 m/s
2. Wind direction range of 0 to 360 Degrees
3. Wind speed accuracy of ±0.135m/s or ±3% of reading
4. Wind direction accuracy of ±2°
5. Operating temperature range of -40°C to 50°C (-40°F to 122°F)
6. Must have a heater associated with the sensor
7. Support an open architecture for communications

O. Barometric Pressure Sensor.

The requirements for a barometric pressure sensor are:

1. Pressure measurement range of 500 to 1100 hPa
2. Accuracy of ±0.30 hPa @ 20°C
3. Operating temperature range of -40°C to 55°C (-40°F to 131°F)
4. Support an open architecture for communications

P. Radiation Sensor.

The requirements for a radiation sensor are:

1. Operating temperature range of -40°C to 70°C (-40°F to 158°F)
2. Provide downward welling shortwave and longwave radiation
3. Expected accuracy for daily totals of ±10%
4. Sensitivity range of 10 to 20 $\mu V\ W^{-1}m^{2}$
5. Support an open architecture for communications

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.

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 requirements:

1. Able to measure volume, classification by length, occupancy (including slow moving or stationary vehicles), and speed, when in a sidefire configuration.

2. Suitable for polled operation using multipoint RS-232 communication at 9600 bits per second.

3. Detector shall meet the following parameters:
    a. Detection range: 10 to 250 feet
    b. Detection Zone: up to 10 traffic lanes simultaneously
    c. Frequency Band: 10.525 GHz +/-25MHz
    d. Instantaneous bandwidth: 45 MHz
    e. Transmitter power: 10 mW
    f. Operating temperature range: -37°C to 74°C (-35°F to 165°F)
    g. Operating humidity range from 5 to 95% RH
    h. Meets FCC rules Part 15 for interference

   i. Occupies no more than 0.6 cubic feet
   j. Weighs no more than 15 lbs
   k. 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 support 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:
   a. Information level: NTCIP Standard 1209, including implementation of the TSS Data Collection conformance group.
   b. Application level: NTCIP Standard 1101, Compliance Level 2.
   c. Transport level: Null protocol
   d. 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 requirements:
    a. Able to convert half-duplex serial communication to Ethernet and vice versa
    b. Include multiple communication ports: Ethernet, RS-485, RS-232 DTE
    c. Use either Ethernet or serial interfaces to configure baud rates
    d. Operating temperature range: -34°C to 74°C (-29°F to 165°F)
    e. Operating humidity range from 5 to 95% RH
    f. Input voltage range between 10 to 30 VDC

11. Provide a surge protector or approved equal that meets the following requirements:
    a. Three-stage surge suppression design over DC, RS-232 and RS-485 lines
    b. 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 requirements:
    a. Provide 24 VDC at currents of 1 amp.
    b. 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.

R. Hinged Truss Tower.

Supply a Hinged Truss Tower that meets the following:

1. Withstand a wind velocity of 85 mph with a maximum of 6 square feet area of attached equipment.
2. Fabricated from Aluminum 6061 T6 with an anodized finish or A36 Steel with a hot dipped galvanized coating.
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. Provide a hinged base footing assembly
7. Lightning rod kit and mounting hardware.
8. Ground rod kit
9. Three 120” anti-climbing panels

S. Breakaway Steel Pole.

Refer to standard drawing D-770-1 “Light and Signal Standard Foundation”, “Light & Signal Foundation Table”, “Anchor Bolt Detail”, and light & signal standard foundation notes.

Provide a pole that meets the requirements of Section 770.04 G “Light Standards” and Section 895.05 A “General”, B.1 “Galvanized Material”, D.3 “Transformer Base”

Pole:

- Provide a transformer base,
- Install a minimum of 4 anchor bolts to the bottom of the pole,
- Cap the top of the pole,
- Run cables inside the pole and through the 2 inch conduit in the base,

- Locate the top of the slip base above the ground surface no more than 4 inch, and
- Provide a pole that is round or multi-sided 11 gauge steel.

Foundation:

- Cast concrete foundations in place,
- Do not grout between the foundation and the pole base,
- Install the top of the concrete foundation flush with the ground level, and
- Install a grounding lug inside the base.

T. Pan Tilt Zoom (PTZ) Camera.

Supply a camera that includes 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 and meet the following specifications:

Provide a PTZ Camera that features: 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
   a. Minimum of 8 preset positions capable of automatically uploading images when on tour.
   b. Pan: 360°endless
   c. Tilt: 180°
   d. 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. Communication cable
    a. Black Category 6 Outside Plant (OSP)
    b. Copper-clad steel armor shield
    c. Weather resistant polyethylene outer jacket
    d. Gel-filled, water repellent core
    e. Solid annealed copper conductor
    f. Dry block between shield/armor and inner jacket
    g. 4 pair count
11. Enclosure: IP66 and NEMA 4x rated
12. Enclosure: Fan assisted heater
13. Tour: The camera tour shall be capable of automatically uploading images at each preset with unique file names using FTP

14. Display: Shall be capable of an informational overlay on the camera image to include Date, Time, and Camera location.
15. System Integration: File upload via FTP
16. Security: Password protection, IP address filtering, HTTPS encryption, IEEE 802.1X network access control, digest authentication, user access log
17. Connectors: IP66-rated
18. Mount: All equipment required to mount the supplied camera to a tower mast shall be provided.

Any of the following cameras or approved equal may be implemented:

- Axis Q6042-E
- Cohu 3724-1000

U. Memory Card.

Supply a memory card compatible with the camera and meets the following requirements:

1. Secure Digital Extended Capacity (SDXC)
2. Storage Capacity: 64 GB
3. Speed Class: 10
4. UHS Speed Class: U1
5. Operating Temperature: -13°F to 185°F (-25°C to +85°C)

V. Infrared Illuminator.

Supply an infrared illuminator including all necessary equipment and mounting hardware required for operation. Provide an infrared illuminator that meets the following requirements:

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. SOOW Power Cable
   a. 14-3 600V
   b. Black flexible heat, moisture and oil resistant EPDM rubber jacket
   c. Temperature Rating: -40°C to +90°C
   d. UL and CSA listed for continuous submersion in water
   e. RoHS compliant, UL listed and CSA certified for outdoor use
6. Illuminator Distance:100m
7. Mount: All equipment required to mount supplied illuminator to tower shall be provided.

W. Pull Box.

Supply a round PVC pull box as shown on the detail. The pull box cover shall be made watertight using a gasket around the opening and around each of the screw holes.

The soil around the pull boxes shall be compacted. A sufficient drainable base shall be provided to protect against water infiltration. All pull boxes shall be of sufficient size as to accommodate all wiring and conduit without crimping or bending the wires. Pull boxes shall be made of a non-ferrous material to reduce interference with sensor signals.

CONSTRUCTION REQUIREMENTS

A. General.

The Contractor is responsible for all wire termination.

The Contractor shall ensure that the conduit and cabinet is sealed and watertight.

The Contractor shall install a subsurface temperature probe in the roadway near a surface sensor at a depth of 72 inches measured from the bottom of pavement.

The Contractor shall install the wind speed and direction sensor at the top of the ESS tower structure.

All holes made or existing in the pull box for conduit access shall be plugged, sealed, and made watertight

1. Use stainless steel hardware (e.g. mounting bolts, nuts, washers, and external hinges, etc.) on outdoor components.
2. The Contractor is responsible for rounding and smoothing sharp corners and edges of all systems components.

B. Removal of Equipment.

Where pull box removal is specified in the plans; remove the pull box and disconnect the wires.

Where cabinet removal is specified in the plans; remove the cabinet, the entire foundation and working slab, and disconnect the wires. If the plans designate electronic equipment as salvage, refer to the plan notes.

Where truss tower or breakaway steel pole removal is specified in the plans, remove the pole or tower, disconnect the sensors. Remove the foundation a minimum depth of 3 feet below the ground line. If the plan notes designate the sensors as salvage, refer to the plan notes.

Where removal of feed point is specified in the plans; remove the perforated tube supports, switch box, and meter trim. The local utility company will remove the meter.

All conduit and conductor shall be terminated 2 feet below ground level.

C. Earthwork.

Excess excavation obtained from construction activities shall become property of the Contractor. Use the excavated material to fill areas of pull box and cabinet foundation removal.

Restore the ground to match adjacent areas.

D. Seeding.

Restore ground disturbed by construction activities to the original grade. Reseed these areas with Class II Seed. This includes areas disturbed by trenching, boring, pull boxes, cabinet foundations, and feed points.

E. Labeling Cables and Components.

Secure permanent identifying labels to each cable and component; including any required cross connects to communications equipment; 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 installation of the ESS.

F. Manuals.

Provide 3 service and operating manuals for the ESS. The Engineer will distribute the manuals to the ESS cabinet, District IT Division, and the Maintenance Division.

Include the following information in the service manuals:

1. Detailed description of operation and instructions for initial set-up
2. All schematics and wiring diagrams of the unit
3. Recommended servicing and service hints
4. Complete parts list including model and serial numbers
5. Recommended spare parts list

G. External Grounding System.

Provide bonding and grounding in accordance with NEC and IRD's instructions. Provide ground conductor that is No. 2/0 AWG copper conductor. Each ground rod must be 5/8 inch diameter and 10 feet long.

Clean each grounding component with 300-grit emery cloth before applying a mineral oil based oxide inhibitor to the bonding area.

Connect all electrical service grounds to the grounding ring.

Route each ground conductor to the ground buss via the straightest route that does not hinder maintenance or installation activities.

Place ground rods at all 4 corners of the cabinet foundation. Bond the ground conductor to the cabinet using a ground ring. Ensure the total length of the ground ring is less than 20 feet in circumference.

Bury the ground ring a minimum of 20 inches below ground level. Provide the ground ring in a trench around the cabinet, attached to all the ground rods. Route the ground cable from the buss bar inside the cabinet through ¾ inch flex conduit to the first ground rod next to the cabinet foundation. Seal conduit ends using conduit plugs.

Inspection of all underground work will be completed by the Engineer before it is covered. Connect all underground site connections using the exothermic weld process.

Test the earth ground resistance to 25 ohms or less, using an earth-ground resistance tester. Install additional ground rods to achieve the 25 ohms or less earth ground resistance. Document all results and furnish to the Engineer in a clean organized format.

Provide 2 ground rods on each tower leg. Connect all 3 tower legs, ground buss bars, and metal cabinet to the ground ring as shown in the detail.

H. Sawing and Sealing Slots.

Install saw slots according to Section 772.04 E.4, “Saw Cut” to a depth of 2 inches or as recommended by the Manufacturer.

Seal slots according to Section 772.04 E.7 “Saw Cut Seal”. Do not use Hot Poured Joint Seal for sealing slots.

I. Conduit.

Provide conduit that meets the requirements of Section 896.01 B.2 “HDPE”. Bury the 2 inch conduit a minimum of 24” below finished grade. Install conduit as a continuous run from the pull box to the cabinet.

Provide a temporary conduit seal in both ends with steel wood immediately after installation and reinstall after each phase of construction.

Provide permanent conduit plugs to seal the ends of the conduit after the conductor has been pulled through. Provide plugs that meet these requirements:

- Removable and reusable
- Split type that permit installation or removal without removing cables.
- Contain an adjustable filler of neoprene or silicone rubber compressed with stainless steel hardware.

J. Cabinet Foundation.

Construct the ESS cabinet foundation and working slab according to the detail sheet.

Construct the cabinet foundation so there is a minimum of 3 Inches of clearance from the outside edge of the cabinet to the outside edge of the foundations on all sides.

Caulk joint between the cabinet and the foundation in all location except where the V-groove is. Install copper or stainless mesh rodent protection in the V-groove where the cabinet meets the foundation.

Securely fasten the cabinet flange to the cabinet foundation on all four corners. Use washer of a sufficient size to prevent pull through of the nuts through the cabinet flange.

K. Training.

Provide one 8 hour training class for Department personnel. Include manuals, displays, notes, visual aids, etc., that may be needed in the operations and maintenance of the ESS.

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. Provide training in a classroom setting at the NDDOT District office with substantial "hands-on" experience at the ESS site.

Provide training that includes:

- Support software setup and operation
- Troubleshooting and diagnostics
- Periodic and preventative maintenance procedures
- Installation and replacement of spare parts and consumables
- Operation of custom objects not covered by NTCIP, if applicable

Provide training within 2 weeks after system commissioning unless approved by the Engineer.

L. Commissioning.

Provide a Certified Technician, from the systems Manufacturer, to start-up and test the entire system. Notify ITD when the system will be commissioned.

Robert Steckler
216 Airport Road
Bismarck, ND 58504
Telephone: (701) 328-6935

The Certified Technician will perform:

- Final sensor connections to the RPU,
- Final system checks,
- Sensor alignments,
- Software setup, and
- Software configuration to provide a fully operational ESS system

M. Stand-Alone Test.

Perform an approved stand-alone test of the equipment installed at the field site. Submit the stand-alone Test Plan to the Engineer for approval, and receive approval prior to starting the stand-alone test. Submit test results to the Engineer for approval.

Complete form SFN 60717 which can be downloaded at https://www.dot.nd.gov/dotnet/forms/forms.aspx. Submit the completed form to the NDDOT ITS Engineer.

N. Central Test.

After the successful completion of the stand-alone test the NDDOT will complete a central test. This test will consist of testing the system remote control functionality from the NDDOT central office.

O. Warranty, Maintenance, and Support.

Equipment furnished under this Specification must be guaranteed to perform according to these specifications and to the Supplier's published specifications. Warranty equipment for

a minimum of 3 years against defects or failure in design, materials and workmanship. Final acceptance of the system by the Department is the date the warranty becomes effective. The Supplier must assign to the Department all Manufacturer's normal warranties or guarantees, on all such electronic, electrical and mechanical equipment, materials, technical data, and products furnished for and installed on the project. Defective equipment must be repaired or replaced, at the Supplier's option, during the warranty period at no cost to the Department.

Software and firmware must also be warranted for 3 years to include updates, patches, and fixes.

METHOD OF MEASUREMENT

The Engineer will measure each ENVIRONMENTAL SENSOR STATION installed at each location.

BASIS OF PAYMENT

Pay Item	**Pay Unit**
Environmental Sensor Station	Each

Such payment is full compensation for furnishing all materials, equipment, labor, and incidentals to complete the work as specified, including providing a Certified Technician.

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 _____