

January 30, 2018

## NOTICE TO CONTRACTORS

Sealed bids will be received by the South Dakota Department of Transportation until 1:30 pm, **Tuesday, February 13, 2018** at which time they will be opened for the following project(s):

<b>Project Number</b>	<b>PCN</b>	<b>County</b>	<b>Type of Work</b>	<b>Area Engineer</b>
NH 0012(00)293	06K9	Brown	Furnish Traffic Signal Equipment	Phil Dwight (605-626-7885)

Should you have questions you are encouraged to contact Area Engineer listed for the project.

### AVAILABILITY OF PLANS AND PROPOSALS:

Specifications and proposal forms are available at the Aberdeen Regional Office and at the following website: <http://sddot.com/business/contractors/bid/region/default.aspx>

The DOT-123 form provided within the proposal document is for information only. Do not use for bidding purposes. Bids submitted on the enclosed DOT-123 form will be considered void and will not be accepted by the department. Please email the Aberdeen Region office for the DOT-123 form that can be used for bidding purposes to the following:

[Scott.Schneider@state.sd.us](mailto:Scott.Schneider@state.sd.us) and [Michael.Welch@state.sd.us](mailto:Michael.Welch@state.sd.us)

The email request for the DOT-123 form shall include the following information, so that the SDDOT can maintain a list of prospective bidders for this project and to maintain a contact list for future region lettings:

**Company Name**  
**Mailing Address**  
**Phone Number**

Addendums, if any, will be made available on-line at the above website, no later than **48 hours** prior to opening bids. It will be the Contractor's responsibility to check for addendums prior to submitting bids.

### CONTENT OF BIDS:

Returned Bids shall include the following items all signed in ink:

1. A notarized Contract Proposal (DOT-123). Non-signature items shall be typed or completed in ink.
2. Participation by Minority Contractors Form.
3. Contractor's Affidavit/Declaration.
4. Fuel Adjustment Affidavit.
5. Bid Bond

Bids shall be in sealed envelopes and clearly marked on the outside as to the content when delivered to the Regional Office by the time indicated for Opening. Proposals faxed to the office will not be accepted.

<i>If hand delivering or using a package delivery service, address the envelope:</i>	<i>If using the US Postal Service, address the envelope:</i>
<b>Jeff Sens, Region Engineer Department of Transportation 2735 West Highway 12 Aberdeen, SD 57401</b>	<b>Jeff Sens, Region Engineer Department of Transportation P.O. Box 1767 Aberdeen, SD 57402-1767</b>

Bidders will be required to fill out the blank spaces in the proposal form correctly. The bidder must fill in a unit price for each bid item shown on the proposal form. Bidders will also be required to carry out extensions and determine the "Total or Gross Sum Bid" as indicated in the proposal. The total of any proposal, as determined by the bidder, will be used only for a comparison when bids are publicly opened and read, and any errors noted in extensions or totals will be corrected to determine the "Total or Gross Sum Bid" of any proposal.

Failure to properly carry out any of the above requirements is deemed as sufficient reason to reject any proposal.

### **BONDING & INSURANCE:**

No proposal will be considered unless a guaranty in the amount of 5% of the total amount of the bid is secured by the Contractor and received by the Department with the bid or prior to opening of the bids. Satisfactory proposal guaranties include certified checks, cashier's checks, bank drafts issued upon a national or state bank, and bid bonds issued in accordance with South Dakota law. If the bidder uses an electronic bid bond, the bidder must submit the bid bond identification number with the Contractor's bid. Unless otherwise specified in the proposal, the proposal guaranty must be made payable at sight to the "South Dakota Department of Transportation."

The successful bidder must provide a **performance bond** in the total amount of the contract prior to beginning work on the project as per section 3.5 of the Standard Specifications.

**NOTE:** A cashiers check, money order or other monetary instrument in the total amount of the contract, made out to and under the full control of the Department is acceptable in lieu of a performance bond. Such bond shall remain in effect for not less than one year after date of acceptance of the completed contract by the Department.

Unless the successful bidder already has a **Certificate of Insurance** on file in the Bid Letting Engineer's Office in Pierre, one must be furnished to the Region Office in Aberdeen. The contract award is subject to verification of the Contractor Excise Tax License and receipt of the Performance Bond or Cashiers Check and Certificate of Insurance.

### **PREQUALIFICATION:**

In accordance with current bidding procedures, [Administrative Rules 70:07:02](#), a bidder must be prequalified prior to bidding on state highway construction projects, unless his bid is less than \$200,000. Bidders must be prequalified for the Work Type(s): **Work Type 10, Lighting and Signals.**

Contractors may apply for prequalification by fully completing and executing a Prequalification Statement on forms furnished by the Department. Such application must be sent to the Classification and Rating Committee at the Becker-Hansen Building, 700 East Broadway, Pierre, SD 57501 at least fourteen (14) days prior to the day of the letting. This form is available on line at <http://www.sddot.com/business/contractors/forms/Default.aspx> and is Form DOT-144-Contractor's Prequalification Form. Maintenance stockpile projects are excluded from this requirement.

Requests to add work types are considered a new questionnaire submission, and must meet the 14-day requirement.

A line of credit submitted to increase bidding capacity must be received by the committee before 4:00 p.m. of the last working day of the week preceding the letting. If the Legislature or the Governor declares the afternoon of the last working day of the week preceding the letting to be a holiday, the request must be received before 11:00 a.m. of the last working day. This form is available on line at <http://www.sddot.com/business/contractors/forms/Default.aspx> and is Form DOT-144A-Contractor's Line of Credit Form.

Upon approval by the Committee, said Qualification shall be in force for not more than eighteen (18) months from the date of the balance sheet submitted.

To request a prequalification application, please contact:

Classification and Rating Committee  
**Division of Finance and Management**  
South Dakota Department of Transportation  
700 East Broadway  
Pierre, SD 57501  
Phone: (605) 773-3284

Further information is also available on the SDDOT Web site at <http://apps.sd.gov/HC65BidLetting/ebshowtobid.aspx>.

A bidder who is not pre-qualified may submit an experience questionnaire prior to or with the bid letting. Copies of the experience questionnaire may be obtained from any Region DOT Office or at the following web address: <http://www.sddot.com/business/contractors/bid/regdocs/ExperienceQuestionnaire.pdf>.

Region personnel will determine from the questionnaire, if the low bidder is capable of performing the work intended. If it is determined that the low bidder does not have the capacity (experience or equipment) to complete this work, they will be determined to be non-responsive, and the bid awarded to the next responsive bidder.

**MISCELLANEOUS:**

Any person engaged in highway construction work in the State of South Dakota must obtain a motor fuel highway contractor tax license.

The Department of Transportation in accordance with Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42 U.S.C. 2000d to 2000d-4 and Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-assisted programs of the Department of Transportation issued pursuant to such Act, hereby notifies all bidders that it will affirmatively insure that in any contract entered into pursuant to this advertisement, minority business enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, religion, national origin, sex, age or disability in consideration for an award.

**The Contractor, by signing and submitting a bid or proposal, agrees to provide services in compliance with the Americans with Disabilities Act of 1990.**

The Department of Transportation reserves the right to reject any and all bids.

Sincerely,

DEPARTMENT OF TRANSPORTATION

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Jeff Senst, P.E.  
Aberdeen Region Engineer

cc:  
J. Humphrey  
J. Hansen  
[P. Dwight](#)  
J. Steen  
File

## **NOTICE TO ALL BIDDERS**

**TO REPORT BID RIGGING ACTIVITIES, CALL: 1-800-424-9071**

THE U.S. DEPARTMENT OF TRANSPORTATION (DOT) OPERATES THE ABOVE TOLL-FREE "HOTLINE" MONDAY THROUGH FRIDAY, 8:00 A.M. TO 5:00 P.M., EASTERN TIME. ANYONE WITH KNOWLEDGE OF POSSIBLE BID RIGGING, BIDDER COLLUSION, OR OTHER FRAUDULENT ACTIVITIES SHOULD USE THE "HOTLINE" TO REPORT SUCH ACTIVITIES.

THE "HOTLINE" IS PART OF THE DOT'S CONTINUING EFFORT TO IDENTIFY AND INVESTIGATE HIGHWAY CONSTRUCTION CONTRACT FRAUD AND ABUSE AND IS OPERATED UNDER THE DIRECTION OF THE DOT INSPECTOR GENERAL.

ALL INFORMATION WILL BE TREATED CONFIDENTIALLY AND CALLER ANONYMITY WILL BE RESPECTED.

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**SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION  
CONTRACT PROPOSAL**

DOT-123  
July 2017  
1 of 2

CODE	PROJECT			MAINT UNIT	CONTROL REFERENCE	AFE	FUNCTION	BEGIN MRM	END MRM
	PRE	ROUTE	AGR						
	NH	0012	00		293	06K9			

**CITY AND/OR COUNTY:** Aberdeen, Bown County

**BUDGET SOURCE:** Major Art (100% State Funds)

**REGION MATERIALS CERTIFICATION REQUIRED:**     YES     NO    **WIP #:** \_\_\_\_\_

**CERTIFIED INSPECTORS/TESTERS REQUIRED:**     YES     NO

**TO BE INSTALLED ON CM&P:**     YES     NO

**TYPE, PURPOSE AND LOCATION OF WORK:** Furnish Traffic Signal Poles, Signal Heads, Traffic Controller and related components

**ESTIMATE OF QUANTITIES AND COST**

BID ITEM NUMBER	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
635E2125	Signal Pole with 25' Mast Arm and Luminaire Arm	1	Each		
635E2140	Signal Pole with 40' Mast Arm and Luminaire Arm	1	Each		
635E2150	Signal Pole with 50' Mast Arm and Luminaire Arm	2	Each		
635E4030	3 Section Vehicle Signal Head	10	Each		
635E4040	4 Section Vehicle Signal Head	4	Each		
635E5430	Traffic Signal Controller	1	Each		
635E5515	Battery Backup System for Traffic Signal	1	Each		
635E5550	Detector Unit	13	Each		
635E5560	Emergency Vehicle Preemption Unit	1	Each		
635E5570	Optical Detector	4	Each		
<b>TOTAL</b>					

**SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION  
CONTRACT PROPOSAL**

CODE	PROJECT			MAINT UNIT	CONTROL		FUNCTION	BEGIN MRM	END MRM
	PRE	ROUTE	AGR		REFERENCE	AFE			
	NH	0012	00		293	06K9			

**CONTRACTOR'S PROPOSAL STATEMENT**

The undersigned does hereby agree to furnish the labor and/or material in the quantities, at the unit price, for the purpose, in the place and in accordance with attached provisions upon approval of this Proposal by the State Transportation Commission. This document becomes the Contract when signed by the Contractor and a Department of Transportation Representative. The Contractor agrees to provide services in compliance with the Americans with Disabilities Act of 1990. The Contractor agrees to provide a certificate of insurance prior to commencing work, for liability coverage for the duration of the work as per the current edition of the SDDOT Standard Specifications for Roads and Bridges.

SUBSTANTIAL COMPLETION DATE <u style="color: red;">N/A</u> FIELD WORK COMPLETION DATE <u style="color: red;">July 6, 2018</u> SUBSCRIBED AND SWORN TO BEFORE ME THE <u>                    </u> DAY OF <u>                    </u> , 20 <u>  </u>	PROPOSED START DATE _____ SIGNATURE _____ PRINTED NAME _____ COMPANY _____ STR. ADDRESS _____ CITY, STATE, ZIP _____ NOTARY - My Commission Expires _____ (SEAL)      FEDERAL TAX ID NUMBER _____
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**TO BE FILLED OUT BY STATE PERSONNEL:**

<b>RECOMMENDED FOR APPROVAL:</b>		
	CONSTRUCTION & MAINTENANCE ENGINEER	DATE
AREA / REGION / OPS ENGINEER		
	DATE	DATE
	INTERNAL SERVICES / AUDITS	DATE

**APPROVED FOR THE TRANSPORTATION COMMISSION**

NAME _____	TITLE _____	DATE _____
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APPROVED as per Federal Highway Stewardship Provisions this \_\_\_\_\_ day of \_\_\_\_\_, 20  .

\_\_\_\_\_  
PROJECT DEVELOPMENT ENGINEER

**BIDDER MUST EXECUTE THE FOLLOWING:  
PARTICIPATION BY MINORITY CONTRACTORS**

**Utilization of Minority Business Enterprises Clauses**

**PROJECT(S):** NH 0012(00)293

**PCN 06K9**

**COUNTY(IES):** Brown

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1. The Contractor agrees to use his best efforts to carry out this policy in the award of his subcontracts to the fullest extent consistent with the efficient performance of his contract. As used in this contract, 'Minority Business Enterprise' or 'MBE' means a small business concern, as defined pursuant to section 3 of the Small Business Act and implementing regulations, which is owned and controlled by one or more minorities or women. 'Owned and controlled' means a business: (a) Which is at least 51 per centum owned by one or more minorities or women or, in the case of publicly owned business, at least 51 per centum of the stock of which is owned by one or more minorities or women; and (b) Whose management and daily business operations are controlled by one or more such individuals. 'Minority' means a person who is a citizen or lawful permanent resident of the United States and who is: (a) Black (a person having origins in any of the black racial groups of Africa); (b) Hispanic (a person of Spanish or Portuguese culture with origins in Mexico, South or Central America or the Caribbean Islands, regardless of race); (c) Asian American (a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands); or (d) American Indian and Alaskan Native (a person having origins in any of the original peoples of North America); (e) Members of other groups, or other individuals, found to be economically and socially disadvantaged by the Small Business Administration under section 8(a) of the Small Business Act, as amended. Contractors may rely on written representatives by subcontractors regarding their status as minority business enterprise in lieu of an independent investigation.
  
2. The Contractor agrees to establish and conduct a program which will enable minority business enterprise to be considered fairly as subcontractors and suppliers under this contract. In this connection the Contractor shall . . .
  - (a) Designate a liaison officer who will administer the Contractor's minority business enterprises program.
  - (b) Provide adequate and timely consideration of the potentialities of known minority business enterprises in all "make-or-buy" decisions.
  - (c) Ensure that known minority business enterprises will have an equitable opportunity to compete for subcontracts, particularly by arranging solicitations, time for the preparation of bids, quantities, specifications and delivery schedules so as to facilitate the participation of minority business enterprises.
  - (d) Maintain records showing (1) procedures which have been adopted to comply with the policies set forth in this clause, including the establishment of a source list of minority business enterprises, (2) awards to minority business enterprises on the source list, and (3) specific efforts to identify and award contracts to minority business enterprises.
  - (e) Include the "Utilization of Minority Business Enterprises Clause" in subcontracts which offer substantial minority business enterprises subcontracting opportunities.
  - (f) Cooperate with the State's Contracting Officer in any studies and surveys of the Contractor's minority business enterprises procedures and practices that the State's Contracting Officer may from time to time conduct.
  - (g) Submit periodic reports of subcontracting to known minority business enterprises with respect to the records referred to in subparagraph (d) above, in such form and manner and at such time (not more often than quarterly) as the State's Contracting Officer may prescribe.
  
3. The Contractor further agrees to insert in any subcontract hereunder provisions which shall conform substantially to the language of this clause, including this paragraph 3 and to notify the State's Contracting Officer of the names of such subcontractors.
  
4. The bidder hereby certifies that should he at any time decide to subcontract a portion of the work, he will take affirmative action to seek out and consider minority business enterprises as potential subcontractors. He further certifies that he will maintain records showing the contacts made with potential minority business enterprises subcontractors and the results of such contacts.

\_\_\_\_\_  
Name of Company (print or type)

\_\_\_\_\_  
Date

By \_\_\_\_\_  
Signature of Company Official

\_\_\_\_\_  
Title

**BIDDER MUST EXECUTE THE FOLLOWING:**

**STATE OF SOUTH DAKOTA  
DEPARTMENT OF TRANSPORTATION**

**CONTRACTOR'S AFFIDAVIT / DECLARATION**

PROJECT(S): NH 0012(00)293

PCN 06K9

COUNTY(IES): Brown

\_\_\_\_\_  
(an individual)  
(a partnership)  
(a corporation)

do hereby certify that I, We or any owner or partner holding a controlling interest, director or officer of the bidder; principal investigator, project director or other position involved in management of the project for which this bid is submitted, have not directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with the contract for the project, and that within the last 3 years none of the above have been suspended, debarred, voluntarily excluded or determined ineligible by any federal or state agency, been indicted, convicted, or had a civil judgment rendered against any of the above or the business entity described herein by a court of competent jurisdiction in any matter involving fraud or official misconduct for which we are currently under suspension or debarment. Nor is a proposed suspension or debarment pending against any of the above for any of the above listed reasons.

\* \* \* \*

COMPLETE SIGNATURE BLOCK **A. or B.** BELOW:

**A.** Signed \_\_\_\_\_ (an individual)  
(a partnership)  
(a corporation)

By \_\_\_\_\_

Title \_\_\_\_\_

County of \_\_\_\_\_ )

State of \_\_\_\_\_ ) :SS

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

(SEAL) \_\_\_\_\_  
Notary Public My Commission Expires \_\_\_\_\_.

\* \* \* \*

**B.** Under the penalty of perjury under the laws of the United States, I hereby certify that the above statement is true and correct.

Signed \_\_\_\_\_ (an individual)  
(a partnership)  
(a corporation)

By \_\_\_\_\_

Title \_\_\_\_\_



REV. 7/25/17

INDEX OF SPECIAL PROVISIONS

PROJECT(S): NH 0012(00)293

PCN 06K9

COUNTY(IES): Brown

TYPE OF WORK: FURNISH TRAFFIC SIGNAL EQUIPMENT

**THE FOLLOWING ITEMS ARE INCLUDED IN THIS PROPOSAL FORM:**

**Plans for Project – Sheet 1 thru 3.**

SPECIAL PROVISION FOR BATTERY BACKUP SYSTEM FOR TRAFFIC SIGNAL,  
dated 1/29/16.

SPECIAL PROVISION FOR OPTICAL ACTIVATED EMERGENCY VEHICLE PRE-EMPTION  
SYSTEM, dated 1/29/18.

Special Provision for Contractor Administered Preconstruction Meeting, dated 3/15/16.

Fuel Adjustment Affidavit, DOT form 208 dated 7/15.

Standard Title VI Assurance, dated 3/1/16.

Special Provision For Implementation of Clean Air Act & Federal Water Pollution Control Act,  
dated 9/1/97.

Special Provision Regarding Minimum Wage on State Funded Projects, dated 4/30/13.

Wage and Hour Division US Department of Labor Washington DC.

- US Dept. of Labor Decision Number SD150001, dated 10/9/15.

Special Provision for Supplemental Specifications to 2015 Standard Specifications for Roads and  
Bridges,  
dated 6/1/16.

Special Provision for Errata to 2015 Standard Specifications for Roads and Bridges, dated 6/1/16.

Special Provision for Price Schedule for Miscellaneous Items, dated 10/14/15.

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**STATE OF SOUTH DAKOTA  
DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION  
FOR  
BATTERY BACKUP SYSTEM FOR TRAFFIC SIGNAL**

**PROJECT NH 0012(00)293, PCN 06K9  
BROWN COUNTY**

**JANUARY 29, 2018**

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**I. DESCRIPTION**

This specification describes the minimum requirements for a Battery Backup System (BBU) for Traffic Signal. The BBU System consists of three modules within an enclosed cabinet:

- Inverter/Charger
- Bypass Switch
- Battery Bank

**II. OPERATING REQUIREMENTS**

- A.** The BBU System shall be certified per UL 1778. All elements of the System shall comply with the applicable code sections of the NEC, NEMA, and OSHA.
- B.** The BBU System shall operate using the Line Interactive (Buck and Boost) method.
- C.** The BBU System shall be capable of operating a signalized intersection (700-watt load) for four hours of full runtime when utility power is disabled and under ambient temperatures of 25°C.
- D.** The BBU system shall switch the intersection to flash mode of operation when approximately 40% of battery charge is remaining via relay contact connection points on the front panel of the inverter/charger unit. The BBU System shall operate the intersection in the flash mode of operation (350-watt load) for an additional two hours.
- E.** The transfer time allowed, from disruption of normal utility line voltage to stabilized inverter line voltage from batteries, shall be less than 65

milliseconds. The same allowable transfer time shall also apply when switching from inverter line voltage to utility line voltage.

- F. The BBU system shall bypass utility line power whenever the utility line voltage is outside of the manufacturer's default or a user programmed voltage range  $\pm 2V$  AC.
- G. When the utility line power has been restored to a normal operating voltage for more than 30 seconds, the BBU system shall transfer from battery back to utility line mode. The BBU shall be equipped to prevent a malfunction feedback to the cabinet or from feeding back to the utility service.
- H. The BBU system shall operate with an automatic "fail safe" mode. Should a breaker trip on the inverter/charger and/or the power transfer relay, the unit will automatically default to utility line power and bypass the BBU system.
- I. The BBU system unit shall be capable of logging up to 100 events. Events shall date and time stamp faults with AC line voltage and BBU battery voltages. The following conditions shall be recorded as an event:
  - 1. Occurrences of the utility line voltage being above or below the upper and lower control limits or manufacturer preset defaults.
  - 2. Whenever the BBU system automatically switches to battery power.
  - 3. Self-monitoring, BBU system component failures shall be recorded as an event.

### **III. SYSTEM COMPONENT REQUIREMENTS**

#### **A. Inverter/Charger**

- 1. The inverter/charger shall be rated for 2,000V AC and a power factor of 0.7 allowing 1,400 watts of continuous power from the unit.
- 2. The inverter/charger shall have the capability to deliver 120% of the maximum output rating for a period of 60 seconds. The inverter/charger shall shutdown to prevent internal damage to the unit when a 120% 60 second overload has occurred.
- 3. When utility line voltage is out of normal operating range (100V AC to 135V AC), the inverter/charger shall provide voltage regulation and/or power conditioning to the inverter line voltage using the Line Interactive (Buck and Boost) method. When utility line voltage is present, the inverter/charger shall act as a charging device for the batteries.

- 4.** A minimum of 6 sets of NO and NC single-pole double-throw dry contact relay closures shall be made available on the front face of the inverter/charger and labeled so as to identify each contact. The relay closures shall consist of:
  - a.** A set of NO and NC contact closures that shall be energized whenever the unit switches to battery power. The contact shall be labeled as “On Battery.”
  - b.** A second set of NO and NC contact closures that shall be energized whenever the battery approaches approximately 40% of remaining capacity. This limit will determine when the unit will switch from normal operation to flash. The contact shall be labeled as “Low Battery.”
- 5.** The operating temperature range for the inverter/charger shall be  $-34^{\circ}\text{C}$  to  $+74^{\circ}\text{C}$ .
- 6.** When battery power is used, the BBU system output voltage shall be between 110V AC and 125V AC, pure sine wave output,  $\leq 3\%$  THD,  $60\text{Hz} \pm 3\text{Hz}$ .
- 7.** The battery charging system shall be compensated over a range of 2.5 to 4.0 mV/ $^{\circ}\text{C}$  per cell.
- 8.** A temperature sensor shall be used to monitor the temperature and regulate the charge rate of the batteries.
- 9.** Should the temperature sensor fail, the inverter/charger shall not allow the BBU system to overcharge the batteries. The BBU system shall provide an alarm should the temperature sensor fail.
- 10.** Recharge time for the batteries to 80% or more of full battery charge capacity shall not exceed 20 hours.
- 11.** Batteries shall not be charged when battery temperature exceeds  $50^{\circ}\text{C} \pm 3^{\circ}\text{C}$ .
- 12.** The BBU system shall monitor battery strings within a system and set a fault indicator if battery voltage falls below normal operating voltages.
- 13.** The BBU system shall include a front panel display. All applicable programmable functions of the operational methods described in this specification shall be viewable through the front panel display.
- 14.** All logging events shall be viewable from the front panel display.

15. The BBU System software shall be programmable from the front panel of the inverter/charger by means of a keyboard or momentary buttons allowing the user to step through menu driven software.
16. A 10/100 Ethernet port shall be provided on the front panel of the inverter/charger.
17. An RS232 port shall be provided on the front panel of the inverter/charger.
18. BBU System software shall be provided for the operational needs of the BBU system. The user/ operator shall be able to access all software via the Ethernet port and the RS232 port on the front panel of the inverter/charger. The user shall be able to read logged events and/or change programmable parameters from the keyboard, laptop, or local area network via the Ethernet port.
19. The inverter/charger shall have an LED or LCD status display showing the following:
  - a. Input/output Voltages
  - b. Input/output Frequency
  - c. BBU System Load
  - d. BBU System Battery Voltage
  - e. Battery Discharge Percentage
  - f. Battery Disconnected
  - g. Battery Failure
  - h. Low Input Voltage Boost
  - i. High Input Voltage Buck
  - j. Service Required
  - k. BBU System Failure
  - l. Output Overload
  - m. Output Shorted
  - n. Hour meter for operating in battery backup mode.

#### **B. Bypass Switches**

1. An automatic bypass switch shall be provided as a separate unit external to the inverter/charger unit. The automatic bypass switch shall be two position and rated at a minimum of 240V AC/20 amps. A BBU supply breaker rated at 240V AC/20 amps shall be provided for the 120V AC input to the inverter/charger.
2. When the automatic bypass switch is in the “on” position and the supply breaker is on, the BBU system is connected to utility line voltage and its output is connected to the cabinet service panel. If the utility line voltage is

deactivated, the BBU system will automatically switch over to battery power.

3. When the automatic bypass switch is in the “off” position and the supply breaker is on, utility line power is provided to the cabinet service panel and the inverter/charger allowing equipment to be tested without interrupting power to the traffic signal load.
4. When the automatic bypass switch is off and the supply breaker is off, the utility line voltage will feed power directly to the traffic signal cabinet service panel and power to the inverter/charger will be deactivated allowing the user to service BBU equipment.
5. A manual bypass switch shall be provided separately from the automatic bypass switch. The manual bypass switch shall be two position and allow the user to switch utility line power directly to the cabinet service panel. When the manual bypass switch is in this mode, the user may replace the automatic bypass switch and/ or the inverter/charger without interrupting power to the intersection.

#### C. Battery Bank

1. Individual batteries shall be 12V type, and shall be easily replaced and commercially available for purchase as common off the shelf equal.
2. Batteries shall be AGM or gel cell types.
3. Batteries shall operate over a temperature range of -34°C to +74°C.
4. Battery interconnect wiring shall connect to the inverter/charger via modular harness with red and black cabling that terminates into a typical power pole style connector. The harness shall be equipped with mating power flag style connectors for batteries and a single insulated plug-in style connection to the inverter/charging unit. The harness shall allow batteries to be quickly and easily connected in any order and shall be keyed to ensure proper polarity and circuit configuration.
5. Insulated covers shall be provided at the connection points (post) to prevent accidental shorting.
6. Batteries weighing 50 pounds or more shall be provided with a handle or hand strap.

#### D. BBU Cabinet

1. The cabinet shall be an aluminum NEMA 3R type.

2. The cabinet shall have a thermostatically controlled exhaust fan and air filter.

#### **IV. WARRANTY**

- A. The manufacturer shall provide a 2-year full replacement warranty on all components of the BBU System.
- B. Batteries shall be warranted for full replacement for 5 years. Batteries shall be defined as bad if they are not able to deliver 80% of battery rating.

#### **V. METHOD OF MEASUREMENT**

Battery Backup System for Traffic Signal will be measured by actual count furnished and installed.

#### **VI. METHOD OF PAYMENT**

- A. The Contractor will be paid at the contract unit price per each for Battery Backup System for Traffic Signal.
- B. This payment shall be full compensation for all equipment, labor, and incidentals necessary to install the Battery Backup System for Traffic Signal.

**STATE OF SOUTH DAKOTA  
DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION  
FOR  
OPTICAL ACTIVATED  
EMERGENCY VEHICLE PRE-EMPTION SYSTEM**

**PROJECT NH 0012(00)293, PCN 06K9  
BROWN COUNTY**

**JANUARY 29, 2018**

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**I. SYSTEM DESCRIPTION**

The required priority control system will employ data-encoded optical communication to verify the presence of authorized priority vehicles. The data-encoded optical communication will request the traffic signal controller to advance to and/or hold a desired traffic signal display selected from phases normally available.

The priority control system will consist of a matched system of optical detectors, detector cable, signal discriminators and confirmation lights.

A code secured signal will be detected and recognized by the optical detectors at or near the intersection over a line-of-sight path of up to 2,500 feet under clear atmospheric conditions. The signal discriminator will process the electrical signal from the detector to ensure that the communication (1) is a valid base frequency, and (2) is within user-settable range. If these conditions are met, the signal discriminator will generate a priority control request (i.e. the appropriate green lights) for the approaching priority vehicles.

The system will require no action from the vehicle operator other than to turn on a code secured emitter. The system will operate on a first-come, first-served basis. Higher priority (Command) requests will override lower priority (Advantage) requests. The system will interface with most traffic signal controllers and will not compromise normal operation or existing safety provisions.

**II. MATCHED SYSTEM COMPONENTS**

The required priority control data-encoded optical communications system will consist of an optical detector, detector cable, signal discriminator, and confirmation light. In addition, a card rack shall be available, if required. To ensure system



integrity, operation and compatibility, all components will be from the same manufacturer. The system will be compatible with NEMA (National Electrical Manufacturers Association) TS1 and TS2 controllers.

- A. Optical Detector:** The detector will change the optical signal to an electrical signal. It will be located at or near the intersection. It will send the electrical signal, via the detector cable, to the discriminator.
- B. Detector Cable:** The detector cable will carry the electrical signal from the detector to the discriminator.
- C. Signal Discriminator:** The discriminator will validate the signal from the detector. It will be located within the controller cabinet at the intersection. It will request the controller to provide priority to the requesting vehicle.
- D. Card Rack:** The card rack will provide simplified installation of a signal discriminator into controller cabinets that do not already have a suitable card rack.

### **III. SYSTEM COMPONENT SPECIFICATIONS**

#### **A. Optical Detector**

1. The required optical detector will be a lightweight, weatherproof device capable of sensing and transforming pulsed infrared energy into electrical signals for use by the discrimination equipment.
2. The optical detector will be designed for mounting at or near an intersection on mast arms, pedestals, pipes or span wires.
3. Each optical detector will be supplied with mounting hardware to accommodate installation on span wires or mast arms.
4. The optical detector design shall include adjustable tubes to enable their reorientation for span wire mounting without disassembly of the unit.
5. The optical detector will accept optical signals from one or two directions and will provide single or dual electrical output signal(s).
6. The optical detector will be available in three configurations:
  - a. Uni-directional with one output channel
  - b. Bi-directional with one output channel
  - c. Bi-directional with two output channels

7. The optical detector will allow aiming of the two optical sensing inputs for skewed approaches or slight curves.
8. The optical detector will have a built-in terminal block to simplify wiring connections.
9. The optical detector will receive power from the discriminator and will have internal voltage regulation to operate from 18 to 37 volts DC.
10. The optical detector will respond to a clear lens code secured emitter with 0.84 ( $\pm 10\%$ ) Joules of energy output per flash at a distance of 2,500 feet under clear atmospheric conditions. If the emitter is configured with a visible light filter, the detector will respond at a distance of 1,800 feet under clear atmospheric conditions. The noted distances shall be comparable day and night.
11. The optical detector will deliver the necessary electrical signal to the discriminator via a detector cable up to 1,000 feet in length.

## **B. Detector Cable**

1. The detector cable shall deliver sufficient power from the discriminator to the detector and will deliver the necessary quality signal from the detector to the discriminator over a non-spliced distance of 1,000 feet.
2. The detector cable will be of durable construction to satisfy the following installation methods:
  - a. Direct burial
  - b. Conduit and mast arm pull
  - c. Exposed overhead (supported by messenger wire)
3. The outside diameter of the detector cable will not exceed 0.3 inches.
4. The insulation rating of the detector cable will be 600 volts minimum.
5. The temperature rating of the detector cable will be +158°F minimum.
6. The conductors will be shielded with aluminized polyester and have an AWG #20 (7 x 28) stranded and individually tinned drain wire to provide signal integrity and transient protection.

7. The detector cable will have four conductors of AWG #20 (7 x 28) stranded, individually tinned copper, color-coded insulation as follows:
  - a. Orange for delivery of optical detector power (+)
  - b. Drain wire for optical detector power return (-)
  - c. Yellow for optical detector signal #1
  - d. Blue for optical detector signal #2
8. The characteristic impedance of the detector cable shall be:  
0.6 ohms/1000'  
14.3 uF/1000'
9. The shield wrapping will have a 20% overlap to ensure shield integrity following conduit and mast arm pulls.

### **C. Signal Discriminator**

1. The signal discriminator, designed to be installed in the traffic controller cabinet, is intended for use directly with NEMA controllers, with the system card rack and suitable system interface equipment.
2. The discriminator will be a plug-in, two or four-channel (as specified in the plans), dual-priority device intended to be installed directly into a card rack located within the controller cabinet.
3. The discriminator will be powered from 115 volt (95 volts AC to 135 volts AC), 60 Hz mains and will contain an internal, regulated power supply that supports up to four optical detectors.
4. The discriminator's default range values shall be re-settable by the operator using switches located on its front.
5. The discriminator will be capable of two levels of discrimination code secured optical signals, as follows:
  - a. Verification of the presence of the base optical signal of either  $14.03509\text{Hz} \pm 0.01773\text{Hz}$  for Command priority, or  $9.63855\text{Hz} \pm 0.00836\text{Hz}$  for Advantage priority.
  - b. Determination of when the vehicle is within the prescribed range.
6. The discriminator's card edge connector will include primary optical detector inputs and power outputs.

- 7.** The discriminator will include one opto-isolated NPN output per channel that provides the following electrical signal to the appropriate pin on the card edge connector:
  - a.** 6.25Hz  $\pm$  0.1Hz 50% on/duty square wave in response to an Advantage priority call.
  - b.** A steady ON in response to a Command priority call.
- 8.** The discriminator will accommodate two methods for setting intensity thresholds (emitter range) for high and low priority signals:
  - a.** Using an encoded emitter with range-setting capability.
  - b.** Using any encoded emitter while manipulating the front panel switches.
- 9.** The discriminator will have a solid state POWER ON LED indicator that flashes to indicate unit diagnostic mode and illuminates steadily to indicate proper operation.
- 10.** The discriminator will have internal diagnostics to test for proper operation. If a fault is detected, the discriminator will use the front panel LED indicators to display fault information.
- 11.** The discriminator will have a Command (High) and Advantage (Low) solid state LED indicator for each channel to display active calls.
- 12.** The discriminator will have a test switch for each channel to test proper operation of Command or Advantage priority.
- 13.** The discriminator will properly identify a Command priority call with the presence of 10 Advantage priority code secured emitter signals being received simultaneously on the same channel.
- 14.** The discriminator will have write-on pads to allow identification of the phase and channel.
- 15.** The discriminator shall have the capability of functionally testing connected detector circuits and indicating via front panel LEDs non-functional detector circuits.
- 16.** The signal discriminator shall have a solid state circuit board. Module units will not be allowed.

## **D. Card Rack**

1. The required card rack will provide simplified installation of a discriminator into controller cabinets that do not already have a suitable card rack.
2. The card rack will be factory wired to one connector, located behind the card slot, and a terminal block, located next to the discriminator slot, on the front of the card rack.
3. The card rack connector on the front will provide for all connections to the traffic controller.
4. The card rack will provide labeled terminal blocks for connecting the primary optical detectors to a discriminator.

## **E. Interface Cards**

### **1. Interface Card for Electromechanical Controllers**

- a. The required interface card for electromechanical controllers will provide electrical and logic interface between the discriminator and an electromechanical-type controller.
- b. The inputs to the interface card for electromechanical controllers will be connected to the outputs of the discriminator.
- c. The outputs of the interface card for electromechanical controllers will be connected to the Hand Control Switch or Police Panel where the dial motor and its self-generated solenoid advance pulses are disconnected from the cam/solenoid assembly and replaced by pulses generated by the action of the Hand Control Switch in the electromechanical-type controller.
- d. The interface card for electromechanical controllers will decode the outputs of the discriminator(s) and advance the controller to the phase that is set for that channel by sensing the traffic controller signal indications.
- e. The interface card for electromechanical controllers will have one input to disable the interface card.
- f. The interface card for electromechanical controllers will include the following switches:
  - 1) Channel 1 Green Time: 16-position rotary switch; Controls timing between advance pulses, in seconds, when in Phase 1 green

- 2) Channel 2 Green Time: 16-position rotary switch; Controls timing between advance pulses, in seconds, when in Phase 2 green
- 3) Channel 3 Green Time: 16-position rotary switch; Controls timing between advance pulses, in seconds, when in Phase 3 green
- 4) Channel 4 Green Time: 16-position rotary switch; Controls timing between advance pulses, in seconds, when in Phase 4 green
- 5) NON Green Time: 16-position rotary switch; Controls timing between advance pulses, in seconds, when no indications are green
- 6) Power Switch

## **2. Confirmation Light Card**

- a. The required confirmation light card will provide electrical and logic interface between discriminators and confirmation light switching devices at the intersection.
- b. The confirmation light card will have four inputs to allow connection to the outputs of one or two discriminators.
- c. The confirmation light card will connect to unused load switch inputs in the controller cabinet.
- d. The confirmation light card will provide 10 confirmation light patterns programmable by the user using a rotary switch.
- e. The confirmation light card will monitor green traffic signal indications for dynamic control of confirmation lights; e.g., to modify the response when proper phasing is reached.
- f. The patterns shall be as described below:

Pattern Number	Non-Called Direction		Called Direction	
	Desired Green	Non-Desired Green	Desired Green	Non-Desired Green
0	Off	Off	Steady On	Off
1	Off	Off	Flashing	Off
2	Flashing	Flashing	Steady On	Steady On
3	Steady On	Steady On	Flashing	Flashing
4	Flashing	Flashing	Steady On	Off
5	Steady On	Steady On	Flashing	Off
6	Flashing	Flashing	Steady On	Flashing
7	Steady On	Steady On	Flashing	Steady On
8	Off	Off	Steady On	Flashing
9	Off	Off	Flashing	Steady On
1/0	Off	Off	Flashing	Off
1/1	Off	Off	Steady On	Off
1/2	Steady On	Steady On	Flashing	Flashing
1/3	Flashing	Flashing	Steady On	Steady On
1/4	Steady On	Steady On	Flashing	Off
1/5	Flashing	Flashing	Steady On	Off
1/6	Steady On	Steady On	Flashing	Steady On
1/7	Flashing	Flashing	Steady On	Flashing
1/8	Off	Off	Flashing	Steady On
1/9	Off	Off	Steady On	Off

#### IV. RELIABILITY

- A. All equipment supplied as part of the optical priority control system intended for use in the controller cabinet will meet the following electrical and environmental specifications spelled out in the NEMA Standards Publication TS2 1992, Part 2:
1. Line voltage variations per NEMA TS2 1992, Paragraph 2.1.2.
  2. Power source frequency per NEMA TS2 1992, Paragraph 2.1.3.
  3. Power source noise transients per NEMA TS2 1992, Paragraph 2.1.6.1.
  4. Temperature range per NEMA TS2 1992, Paragraph 2.1.5.1.
  5. Humidity per NEMA TS2 1992, Paragraph 2.1.5.2.
  6. Shock test per NEMA TS2 1992, Paragraph 3.13.9.

7. Vibration per NEMA TS2 1992, Paragraph 3.13.8.

- B. Each piece of equipment supplied as part of the priority control system intended for use in or on priority vehicles will operate properly across the entire spectrum of combinations of environmental conditions (temperature range, relative humidity, vehicle battery voltage) per the individual component specifications.

## **V. RESPONSIBILITIES**

The manufacturer of the required optical priority control system and/or the manufacturer's representative will provide responsive service before, during and after installation of the priority control system. The manufacturer and/or the manufacturer's representative will provide certified, trained technicians having traffic systems industry experience and operational knowledge of priority control systems.

## **VI. GUARANTEED WARRANTY**

- A. The manufacturer of the required optical priority control system will warrant that, provided the priority control system has been properly installed, operated and maintained, component parts of a matched component system (see Section II) that prove to be defective in workmanship and/or material during the first five years from the date of shipment from the manufacturer will be covered in a documented system-protection plan, plus an added five-year warranty for repair or replacement at a fixed deductible charge for a total of 10 years of product coverage.
- B. The protection plan will warrant that component parts of a matched component system that prove to be defective in workmanship and/or material during the first five years from the date of shipment from manufacturer will be repaired at no charge, and that extended coverage with a fixed repair deductible will be available for an additional five years.
- C. In total, the warranty coverage must assure 10-year operational reliability and interface compatibility with future components designed for the system.

## **VII. CERTIFICATION**

The manufacturer of the required priority control system will certify that all component products are designed, manufactured and tested as a system of matched components and will meet or exceed the requirements of this specification.

## **VIII. METHOD OF MEASUREMENT**

- A. Optical Detector will be measured per each for the number of optical detectors furnished and installed.



**B.** Emergency Vehicle Preemption Unit will be measured per each for the number of units furnished and installed.

**IX. BASIS OF PAYMENT**

**A.** Optical Detector will be paid at the contract unit price per each. Payment will be full compensation for furnishing and installing the optical detector.

**B.** Emergency Vehicle Preemption Unit will be paid at the contract unit price per each. Payment will be full compensation for furnishing and installing the Emergency Vehicle Preemption Unit, detector cable, and all incidentals required to complete the work.

\* \* \* \* \*

**STATE OF SOUTH DAKOTA  
DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION  
FOR  
CONTRACTOR ADMINISTERED PRECONSTRUCTION MEETING**

**MARCH 15, 2016**

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**I. DESCRIPTION**

This work consists of the Contractor scheduling and conducting a preconstruction meeting prior to beginning work on this contract. Additionally, this work consists of the Contractor providing the Area Engineer a completed list of required submittals.

**II. MATERIALS (Not Specified)**

**III. CONSTRUCTION REQUIREMENTS**

The Area Engineer will provide the Contractor the Authorization Form for Preconstruction Meeting (Form DOT-270) and the Contractor's Required Submittals Form (Form DOT-272) after the date of the Notice of Award and no later than 10 business days after the date of the Notice to Proceed.

The Contractor's authorized representative as indicated on the Signature Authorization Form (Form DOT-209) will complete, in its entirety, the first page of the Authorization Form for Preconstruction Meeting and will initial each proceeding section. By initialing each section, the Contractor is confirming comprehension of each section.

The Contractor's Required Submittals Form is a document outlining information required prior to the completion of the project. This list will include two types of submittals; 1) information required before scheduling a preconstruction meeting and 2) information required before the Contractor begins related work. The Department reserves the right to request additional information not included in the original list of required submittals. The list of required submittals will include, but is not limited to, proposed sequence changes, shop drawings, permits, certifications, mix designs, labor compliance, equal employment opportunity, and disadvantaged business enterprise documents. The Area Engineer will update the Contractor's Required Submittals Form with any project specific requirements and cross out or delete those that do not apply prior to providing the document to the Contractor.

Prior to scheduling the preconstruction meeting, the Contractor will complete and provide the Area Engineer all items on the list of required submittals that are required as described in 1) above. If the Contractor cannot complete and provide a submittal item required prior to scheduling the preconstruction meeting, the Contractor will contact the Area Engineer to establish a mutually agreed upon date when the required submittal will be completed and provided to the Area office.

The Contractor will not begin work on an item until the Contractor has provided the Area Engineer with all required information for the applicable work item and the appropriate office has approved the information, if necessary. The Contractor will make every reasonable effort to deliver the required submittals at the earliest possible time.

When the Contractor has provided the Area Engineer all required submittals, except those mutually agreed upon to be provided at a later date or dates, the Contractor will schedule a preconstruction meeting with the Area Engineer.

Within 2 business days following the Contractor scheduling the preconstruction meeting, the Area Engineer will prepare and send the Contractor a meeting confirmation and the Preconstruction Meeting Outline (Form DOT-271).

The Area Engineer will edit and amend the Preconstruction Meeting Outline, as necessary, to meet the specific needs of the project. The Area Engineer will complete the project information and the Department information prior to furnishing the form to the Contractor.

The Contractor will complete the Contractor's portion of the Preconstruction Meeting Outline and will add additional discussion items as needed. The Contractor will send the meeting notice and final Preconstruction Meeting Outline to the Area Engineer, all subcontractors, utility companies, and all suppliers at least 5 business days prior to the preconstruction meeting.

The Area Engineer will send the notice of the meeting and the final Preconstruction Meeting Outline of discussion items to any other government entities and other principle stakeholders involved in the project at least 3 business days prior to the preconstruction meeting.

At the discretion of the Area Engineer, the preconstruction meeting may be held in person, videoconference, or over the phone. The Contractor's competent superintendent who will be working on this project, as required by Section 5.5, or the Contractors Project Manager, as required by the Special Provision for Cooperation by Contractor and Department (if applicable), is required to attend the preconstruction meeting.

The Contractor will lead the meeting discussion as described in the Preconstruction Meeting Outline. The Area Engineer will prepare the meeting minutes including any unresolved items and distribute the minutes to all attendees and principle stakeholders within 5 business days following the preconstruction meeting.

**IV. METHOD OF MEASUREMENT**

The Department will not make a separate measurement for the preconstruction meeting.

**V. BASIS OF PAYMENT**

The Department will not make a separate payment for the preconstruction meeting. All costs associated with the preconstruction meeting will be incidental to other contract items.

\* \* \* \* \*



**FUEL ADJUSTMENT AFFIDAVIT**

Project Number \_\_\_\_\_  
PCN \_\_\_\_\_  
County \_\_\_\_\_

*For project let using the SDEBS) and in accordance with Section 9.12, the bidder 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 program. Prior to execution of the contract, the successful bidder must submit this completed form to the Department for approval. The Fuel Adjustment Affidavit shall include the anticipated fuel cost of subcontractors.*

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. No adjustments in fuel price will be made for the fuel types that are left blank or completed with a \$0.00 value.

Diesel (x) \$ \_\_\_\_\_

Unleaded (y) \$ \_\_\_\_\_

Burner Fuel (z) \$ \_\_\_\_\_ Type of Burner Fuel Used: \_\_\_\_\_

Sum (x + y + z) = \$ \_\_\_\_\_

**Note:** The sum of the x, y, and z may not exceed 15% of the original contract amount.

**The following must be completed regardless of whether the Contractor elects to participate in the fuel adjustment affidavit**

Under the penalty of law for perjury or falsification, the undersigned, \_\_\_\_\_,  
*(Printed Name)*  
\_\_\_\_\_ of \_\_\_\_\_,  
*(Title)* *(Contractor)*

hereby certifies that the documentation is submitted in good 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.

Dated \_\_\_\_\_ Signature \_\_\_\_\_

**Notarization is required only when the Contractor elects to participate in the fuel adjustment affidavit**

Subscribed and sworn before me this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
*Notary Public*

\_\_\_\_\_  
*My Commission Expires*



**STATE OF SOUTH DAKOTA  
DEPARTMENT OF TRANSPORTATION**

**STANDARD TITLE VI / NONDISCRIMINATION ASSURANCES  
APPENDIX A & E**

**MARCH 1, 2016**

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, 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.

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 Non-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).

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**STATE OF SOUTH DAKOTA  
DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION FOR  
IMPLEMENTATION OF CLEAN AIR ACT  
AND  
FEDERAL WATER POLLUTION CONTROL ACT**

**SEPTEMBER 1, 1997**

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By signing this bid, the bidder will be deemed to have stipulated as follows:

- a) That any facility to be utilized in the performance of this contract, unless such contract is exempt under the Clean Air Act, as amended (42 U.S.C. 1857 et seq., as amended by Pub. L. 91-604), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq., as amended by Pub. L. 92-500), Executive Order 11738, and regulations in implementation thereof (40 CFR, Part 15), is not listed on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20.
- b) That the State Transportation Department shall be promptly notified prior to contract award of the receipt by the bidder of any communication from the Director, Office of Federal Activities, EPA, indicating that a facility to be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.

\* \* \* \*



**STATE OF SOUTH DAKOTA  
DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION REGARDING  
MINIMUM WAGE ON STATE FUNDED PROJECTS**

**APRIL 30, 2013**

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This proposal contains a copy of the most recent United States Department of Labor (USDOL) Davis-Bacon Act Wage Decision, adopted by the South Dakota Transportation Commission.

If the amount of this contract, as awarded, is \$100,000.00 or more, the following wage provisions will apply:

1. The Contractor and each related subcontractor will pay all laborers and mechanics working at the site of work unconditionally and not less than once a week, and without subsequent deduction or rebate of any account, other than permitted payroll deductions. The Contractor and each related subcontractor must compute the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at the time of payment at rates not less than those rates contained in the USDOL Davis-Bacon Act Wage Decision.
2. The Contractor and each related subcontractor will pay their respective employees not less than the USDOL minimum wage for each work classification an employee actually performs at the site of the work.
3. The Contractor and each related subcontractor must submit weekly, for each week in which any contract work is performed, a copy of a completed certified weekly payroll report to the South Dakota Department of Transportation (SDDOT) Labor Compliance Officer (LCO), at the following mailing address, within fourteen (14) calendar days of the end of the workweek

Department of Transportation  
Labor Compliance Program  
700 E. Broadway Avenue.  
Pierre, SD 57501-2586

4. Each submitted certified weekly payroll report must set out accurately and completely all information required by the Instructions for SDDOT Statement of Compliance & Certified Payroll Report (located on the SDDOT Labor Compliance website). Each certified weekly payroll report must include the most recent [SDDOT Statement of Compliance Form](#), signed by the Contractor or related subcontractor or his or her agent who pays or supervises the payment of the persons employed

under the contract. The SDDOT will not accept any payroll report which does not include the most recent [SDDOT Statement of Compliance Form](#).

5. The Contractor and each related subcontractor will maintain payrolls and basic records relating thereto during the course of the work and preserve these records for a period of three (3) years from the date of completion of the contract for all laborers, mechanics, apprentices, trainees, watchmen, and guards working at the site of the work. These records must contain the name, address, social security number of each such worker, his or her correct work classification, and hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof). The Contractor and each related subcontractor will make these records available for inspection, copying, or transcription by the LCO and will permit the LCO to interview employees during working hours on the site of the work.
  
6. The SDDOT will upon its own action, or upon written request of an authorized representative of the USDOL, withhold, or cause to be withheld, from the Contractor or related subcontractor under this contract, or any other contract with the same prime Contractor, as much of the accrued payments, advances, or guarantee of funds as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers employed by the Contractor or any related subcontractor, the full amount of wages required by the contract. In the event the Contractor fails 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 LCO 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 under this contract or any other contract with the same prime Contractor until such violations have ceased.

\* \* \* \* \*

**Wage and Hour Division  
U.S. Department of Labor (DOL)  
200 Constitution Avenue, N.W.  
Washington, DC 20210**

**Davis-Bacon Act Wage Decisions**  
**State: South Dakota**  
**Construction Types: Heavy and Highway**  
**Counties: South Dakota Statewide**

**Agency:** U.S. DOL  
**Wage Decision Number:** **SD150001** SD1  
**Counties:** SD Statewide  
**Wage Decision Date:** **10/09/2015**

**\*SUSD2015-001 08-13-2015**

**LABORERS**

**GROUP GL1**

Air Tool Operator; Common Laborer; Landscape Worker; Flagger; Pilot Car Driver;  
Trucks under 26,000 GVW; Blue-top Checker; Materials Checker

**GROUP GL2**

Mechanic Tender (Helper); Pipe Layer (except culvert); Form Builder Tender;  
Special Surface Finish Applicator; Striping

**GROUP GL3**

Asphalt Plant Tender; Pile Driver Leadsman; Form Setter; Oiler/Greaser

**GROUP GL5**

Carpenter; Form Builder

**GROUP GL6**

Concrete Finisher; Painter; Grade Checker

**POWER EQUIPMENT OPERATORS**

**GROUP G01**

Concrete Paving Cure Machine; Concrete Paving Joint Sealer; Conveyor; Tractor (farm type with  
attachments); Self Propelled Broom; Concrete Routing Machine; Paver Feeder; Pugmill; Skid Steer

**GROUP G02**

Bull Dozer 80 HP or less; Front End Loader 1.25 CY or less; Self Propelled Roller (except Hot Mix);  
Sheepsfoot/50Ton Pneumatic Roller; Pneumatic Tired Tractor or Crawler (includes Water Wagon and  
Power Spray units); Wagon Drill; Air Trac; Truck Type Auger; Concrete Paving Saw

**GROUP G03**

Asphalt Distributor; Bull Dozer over 80 HP; Concrete Paving Finishing Machine; Backhoes/ Excavators  
20 tons or less; Crusher (may include internal screening plant); Front End Loader over 1.25 CY;  
Rough Motor Grader; Self Propelled Hot Mix Roller; Push Tractor; Euclid or Dumpster; Material Spreader;  
Rumble Strip Machine

**GROUP G04**

Asphalt Paving Machine Screed; Asphalt Paving Machine; Cranes/Derricks/Draglines/Pile Drivers/Shovels  
30 to 50 tons; Backhoes/Excavators 21 to 40 tons; Maintenance Mechanic; Scrapers; Concrete Pump Truck

**GROUP G05**

Asphalt Plant; Concrete Batch Plant; Backhoes/Excavators over 40 Tons; Cranes/ Derricks/Draglines/Pile  
Drivers/Shovels over 50 tons; Heavy Duty Mechanic; Finish Motor Grader; Automatic Fine Grader;  
Milling Machine; Bridge Welder

**TRUCK DRIVERS**

**GROUP GT1**

Tandem Truck without trailer or pup; Single Axle Truck over 26,000 GVW with Trailer

**GROUP GT2**

Semi-Tractor and Trailer; Tandem Truck with Pup

**ELECTRICIANS**

**GROUP E01**

Electrician

<u>Rates</u>	<u>Fringes</u>
15.74	0.00
17.51	0.00
18.95	0.00
22.77	0.00
21.41	0.00
16.85	0.00
18.13	0.00
19.89	0.00
20.30	0.00
22.75	0.00
16.57	0.00
18.82	0.00
22.79	0.00

**WELDERS – Receive rate prescribed for craft performing operation to which welding is incidental.**

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award, pursuant to 29 CFR 5.5(a)(1)(ii); contractors are responsible for requesting SDDOT to secure necessary additional work classifications and rates.

\*Classifications listed under an "SU" identifier were derived from survey data and the published rate is the weighted average rate of all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates.

Survey wage rates are not updated and will remain in effect until a new survey is conducted.

**A COPY OF THIS DOCUMENT, COLORED TURQUOISE, MUST BE CONSPICUOUSLY POSTED AT THE PROJECT SITE**

**Wage and Hour Division  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210**

**Davis-Bacon Act Wage Decisions  
State: South Dakota  
Construction Types: Heavy and Highway  
Counties: South Dakota Statewide**

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In the listing above, the "SU" identifier indicates the rates were derived from survey data. As these weighted average rates include all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of the survey on which these classifications and rates are based. The next number, 007 in this example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

For SDDOT Defined Work Classifications, please visit: <http://www.sddot.com/business/contractors/labor/wcwr/Default.aspx>

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**WAGE DETERMINATION APPEALS PROCESS**  
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1.) Has there been an initial decision in the matter? This can be:

- an existing published wage determination
- a survey underlying a wage determination
- a Wage and Hour Division letter setting forth a position on a wage determination matter
- a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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**END OF GENERAL DECISION**

**STATE OF SOUTH DAKOTA  
DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION  
FOR  
SUPPLEMENTAL SPECIFICATIONS TO  
2015 STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES**

**JUNE 1, 2016**

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The Supplemental Specifications dated June 1, 2016 are in effect for and made a part of this contract.

The Supplemental Specifications may be obtained from the Department website or the local Area Office or by contacting the Operations Support Office.

Department Website:

<http://www.sddot.com/business/contractors/specs/2015specbook/Default.aspx>

Operations Support:

605-773-3571

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**STATE OF SOUTH DAKOTA  
DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION  
FOR  
SUPPLEMENTAL SPECIFICATIONS FOR  
ERRATA  
TO 2015 STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES**

**JUNE 1, 2016**

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The Supplemental Specifications for Errata dated June 1, 2016 are in effect for and made a part of this contract.

The Supplemental Specifications for Errata may be obtained from the Department website or the local Area Office or by contacting the Operations Support Office.

Department Website:

<http://www.sddot.com/business/contractors/specs/2015specbook/Default.aspx>

Operations Support:

605-773-3571

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**STATE OF SOUTH DAKOTA  
DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION  
FOR  
PRICE SCHEDULE FOR MISCELLANEOUS ITEMS**

**OCTOBER 14, 2015**

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The following unit bid prices have been established by the South Dakota Department of Transportation Commission.

These prices will be pre-entered in the bidding package for each project or will establish a standard price to be used whenever no project contract unit price exists for that item.

Each unit price listed is considered full compensation for the cost of labor, material, and equipment to provide the item of work and/or material, complete in place, including (but not limited to) royalty, waste of unsuitable materials, equipment rental, overhead, profit, and incidentals.

Items specified in this document may be paid for on progressive estimates without the benefit of a prior approved Construction Change Order.

<b>Specification Section Number</b>	<b>Specification Section Name</b>	<b>Item Name</b>	<b>Price per Item</b>
5.8	Construction Stakes, Lines and Grades	Three-Man Survey Crew	\$160.00/hour
7.7	Public Convenience and Safety	Water	\$15.00/M.Gal
9.3	Payment for extra haul of Materials	Extra Haul	\$0.15/ton mile
120.5 A.5.	Roadway and Drainage Exc. & Emb.	Unclassified Excavation Digouts	\$8.00/cu.yd.
120.5 H.	Roadway and Drainage Exc. & Emb.	Extra Haul	\$0.05/cu.yd. station
120.5 I.	Roadway and Drainage Exc. & Emb.	Water for Embankment	\$15.00/M.Gal
421.5	Undercutting Pipe & Plate Pipe	Undercutting Culverts	\$12.00/cu.yd.
510.5 D.	Timber, Prestressed, and Steel Piles	Timber Pile Splice	\$550.00/each

		Steel Pile Splices (*All Weights)	Splice made after one of the pieces has been driven.
		8 HP*	\$220.00/each
		10 HP*	\$300.00/each
		12 HP*	\$360.00/each
		14 HP*	\$420.00/each
			Splice made before either of the pieces has been driven.
		8 HP*	\$105.00/each
		10 HP*	\$125.00/each
		12 HP*	\$140.00/each
		14 HP*	\$160.00/each
510.5 E	Timber, Prestressed, and Steel Piles	Pile Shoes (Timber Pile)	\$110.00/each
510.5.H	Timber, Prestressed, and Steel Piles	Pile Tip Reinforcement (Steel Pile)	
		10" HP Tip Reinforced	\$120.00/each
		12" HP Tip Reinforced	\$140.00/each
		14" HP Tip Reinforced	\$170.00/each
601.5	Haul Roads	Granular Material	\$12.00/ton
601.5	Haul Roads	Asphalt Concrete (including asphalt)	\$80.00/ton
601.5	Haul Roads	Cover Aggregate	\$25.00/ton
601.5	Haul Roads	Asphalt for Prime	\$700.00/ton
601.5	Haul Roads	Asphalt (Tack, Flush & Surface Treatment)	\$450.00/ton
601.5	Haul Roads	Water	\$15.00/M.Gal
601.5	Haul Roads	Dust Control Chlorides	\$0.35/lb
634.5	Temporary Traffic Control	Flagging	\$24.19/hour
634.5	Temporary Traffic Control	Pilot Car	\$38.35/hour

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