MICHIGAN

DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION

FOR

**ELECTRIC SERVICE FEED**

BRG:JST 1 of 6 APPR:ANC:EMS:10-18-23

**a. Description.** This work consists of coordinating work with the utility companies and arranging for and paying fees for providing the utility services for this project, furnishing all labor and materials required to complete and keep ready for operation the installation of all items of electric service feed work in accordance with this special provision and the accompanying plans.

1. Make application and payment to the utility company listed below in the name of the MDOT. The Engineer will sign all application forms and must approve all final details and costs for the utility feeds. Items of electric service feed work include, but are not limited to, the following:

A. Prepare the detailed electric service feed system design and drawings (shop drawings and the final as-built drawings); fabricate and furnish the service feed equipment; define the installation and interconnection of the electric service feed equipment, including all required interconnections with equipment furnished under other subsections of this special provision; and test and verify that the completed electric service feed system is satisfactory with respect to the requirements of this special provision.

B. Furnish and install all wiring, cables, conduits, wire devices, safety switches, and all other apparatus and accessories indicated, specified, or required for a complete electric service feed system for the bridge as specified in this special provision and in the Special Provision for Bridge Electrical Work.

C. Finish, test, and make ready for operation all work specified in this special provision and shown on the plans. Furnish, deliver, and install any apparatus, appliance, materials, or work not shown on the plans but described or mentioned in the special provision or vice versa, or any incidental accessories necessary to make the work complete in all respects and ready for operation, without additional expense to the contract.

D. Wiring and conduit work includes runs to service disconnects, automatic transfer switch, system grounding scheme, and any other component necessary for a complete service feed system.

Coordinate the work with Bay City Electric Light and Power (BCELP).

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2. Basic Electrical Requirements. See Special Provision for Bridge Electrical Work.

A. References. See Special Provision for Bridge Electrical Work.

B. Coordination of Electric Service Feed Work with other work. See Special Provision for Bridge Electrical Work.

C. Existing Structure Information. See Special Provision for Bridge Electrical Work.

D. Tools and Procedures. See Special Provision for Bridge Electrical Work.

E. Job-Site Working Drawings. See Special Provision for Bridge Electrical Work.

F. Verification Testing. See Special Provision for Bridge Electrical Work.

G. Warranty. See Special Provision for Bridge Electrical Work.

H. Product Delivery. See Special Provision for Bridge Electrical Work.

I. Working Drawings and Shop Drawings. See Special Provision for Bridge Electrical Work.

**b. Materials and Equipment****.**

1. General Requirements. Use only new materials that conform to the standards of the *UL*, in every case where such a standard has been established for the materials in question.

Submit, prior to purchase of any materials or equipment required to be furnished and installed under this special provision, a complete list of all materials and equipment, including manufacturer's catalog numbers, catalog data sheets, illustrations, and shop drawings, to the Engineer for approval.

Furnish and install all new conduit, wiring, wiring devices, electrical identification, and supporting devices for a complete service feed installation for the bridge under Special Provision for Bridge Electrical Work.

2. Incoming Service.

A. General Requirements. Arrange with BCELP for permanent electric service, including payment of BCELP charges for service. This includes any additional or related metering equipment that may be required.

B. System Description.

(1) Primary service: As shown on plans.

(2) System Characteristics: 480 Delta/277 Wye (480/277Y) volts, 3 phase, four-wire, 60 Hertz.

(3) Regulatory Requirements: Conform to requirements of *ANSI/NFPA 70*.

(4) Furnish products listed and classified by UL as suitable for purpose specified and shown.

C. Material Requirements. Furnish all materials that meet the requirements of the BCELP and this special provision.

(1) BCELP must supply 4160/480 step-down transformers on each side of the channel. Furnish concrete mounting pads for the transformers. Mounting pads must be in full conformance with BCELP standard drawing herein.

(2) Use Grade 3500 concrete in accordance with section 1004, steel reinforcement in accordance with section 905, and adhesive anchoring in accordance with subsection 712.03.J of the Standard Specifications for Construction.

(3) Electrical Grounding System. Ensure ground rods and grounding cable are as shown on the plans. Ensure the grounding is in accordance with subsection 918.02.B of the Standard Specifications for Construction.

3. Electrical Demolition.

A. General Requirements.

(1) Remove and properly dispose of all existing electrical components that will not be reused by the Department or salvaged.

Refer to the Special Provision for Bridge Electrical Work for a list of items that are to be salvaged.

(2) Demolition plans are based on field observation and existing record documents. Report discrepancies to the Engineer before disturbing existing installation. Assess existing conditions prior to start of demolition.

(3) Remove and dispose of, by a qualified Contractor, all hazardous materials prior to demolition.

(4) Contact local utility prior to removal of any underground equipment.

B. Material Requirements. None specified.

**c. Construction.**

1. Utility work to the meter locations will be performed by the BCELP. Coordinate worksite operations with the utility representatives to facilitate their work. Upon contract award, contact the BCELP representative in order to have all utility services operational within the established time frames. No additional payment will be allowed due to any delay caused by the utility feeds not being completed.

2. Incoming Service.

A. The space may be limited at the project for storage of materials and products. Coordinate the deliveries of electrical materials and products with the scheduling and sequencing of the work so that storage requirements at the project are minimized. In general, do not deliver individual items of electrical equipment to the project substantially ahead of the installation time.

B. Discontinue the existing 480/277 volts, 3-phase four-wire, 60 Hertz electric service during demolition of the existing bridge. The service entrance to the metering point located on the existing service location is to be disconnected and removed back to service point.

C. Install new service meter and metering enclosure at location selected by the BCELP and shown on the plans. The service disconnect is to be located inside the Operator House on the east approach as shown on the plans. Furnish an adequate service grounding point at the metering point in conformance with the *NEC*, local ordinances, and BCELP requirements.

D. New service meter and metering enclosure as specified by BCELP.

3. Electrical Demolition.

A. Coordinate utility service outages with BCELP.

B. If power is required during construction before new installations are operational, relocate and extend existing installations to accommodate new construction, or arrange with BCELP for temporary electric service, including payment of utility charges for service. This includes any additional or related metering equipment that may be required.

C. Ensure when work is performed on energized equipment or circuits use personnel experienced in such operations.

D. Remove existing installations to accommodate new construction.

E. Disconnect and remove all out of service wiring to source of supply.

F. Disconnect and remove electrical devices and equipment serving equipment that has been removed.

G. Repair adjacent construction and finishes damaged during demolition and extension work.

H. Maintain access to existing electrical installations that will remain active.

I. Modify installation or provide access panel as appropriate.

J. Where required, extend existing installations using materials and methods compatible with existing electrical installations, or as specified under Special Provision for Bridge Electrical Work.

K. Clean and repair existing materials and equipment that remain or are to be reused, as shown on the plans.

L. Obtain permission from the Engineer at least 24 hours before partially or completely disabling system. Minimize outage duration. Make temporary connections to maintain service in areas adjacent to work area where required.

**d.** **Measurement and Payment.** The completed work, as described, will be measured as a lump sum and paid at the contract price using the following pay item:

**Pay Item Pay Unit**

Electric Service Feed (Structure Identification) Lump Sum

**Electric Service Feed (Structure Identification)** includes cost of coordination and local utility fees as specified herein and/or as shown on the plans to install a new electric service to allow complete operation of the bridge electrical equipment. The installation of the meter enclosure is included in this pay item and will not be paid for separately.

The work also includes all incidental items required for a finished and complete installation even though such items are not shown on the drawings or specified herein. The work includes, but is not limited to, furnishing and installing the following items:

● Concrete pad

● Meter enclosure

● Meter installation

● Cabling

● Transformer

