

SECTION 26 05 00
COMMON WORK RESULTS FOR ELECTRICAL

PART 1 - GENERAL

1.1 SCOPE

- A. The work under this section includes basic electrical requirements, which are applicable project scope of work as defined in electrical drawings. This section includes information common to two or more technical specification sections or items that are of a general nature, not conveniently fitting into other technical sections. Included are the following topics:

- B. PART 1 - GENERAL
 - 1. Scope
 - 2. Reference Standards
 - 3. Regulatory Requirements
 - 4. Quality Assurance
 - 5. Continuity of Existing Services and Systems
 - 6. Protection of Finished Surfaces
 - 7. Approved Electrical Testing Laboratories
 - 8. Sealing and Fire Stopping Openings
 - 9. Intent
 - 10. Submittals
 - 11. Project/Site Conditions
 - 12. Work Sequence and Scheduling
 - 13. Work by Other Trades
 - 14. Offsite Storage
 - 15. Salvage Materials
 - 16. Certificates and Inspections
 - 17. Operating, Maintenance Data, and Testing Reports
 - 18. Record Drawings

- C. PART 2 - PRODUCTS
 - 1. Access Panels and Doors
 - 2. Identification
 - 3. Sealing and Fire Stopping

- D. PART 3 - EXECUTION
 - 1. Building Access
 - 2. Equipment Access
 - 3. Coordination
 - 4. Housekeeping and Clean Up
 - 5. Agency Training

1.2 REFERENCE STANDARDS

- A. Abbreviations of standards organizations referenced in this and other sections are as follows:
1. ANSI American National Standards Institute
 2. ASTM American Society for Testing and Materials
 3. EPA Environmental Protection Agency
 4. ETL Electrical Testing Laboratories, Inc.
 5. IEEE Institute of Electrical and Electronics Engineers
 6. IES Illuminating Engineering Society
 7. ISA Instrument Society of America
 8. NBS National Bureau of Standards
 9. NEC National Electric Code
 10. NEMA National Electrical Manufacturers Association
 11. NESC National Electrical Safety Code
 12. NFPA National Fire Protection Association
 13. UL Underwriters Laboratories Inc.
 14. DSPS Wisconsin Department of Safety and Professional Services

1.3 REGULATORY REQUIREMENTS

- A. All work and materials are to conform in every detail to applicable rules and requirements of the Wisconsin State Electrical Code (SPS 316), the National Electrical Code (NFPA 70), other applicable National Fire Protection Association codes, the National Electrical Safety Code, and present manufacturing standards (including NEMA).
- B. All Division 26 work shall be done under the direction of a currently licensed State of Wisconsin Master Electrician.

1.4 QUALITY ASSURANCE

- A. Where equipment or accessories are used which differ in arrangement, configuration, dimensions, ratings, or engineering parameters from those indicated on the contract documents, the contractor is responsible for all costs involved in integrating the equipment or accessories into the system and the assigned space, and for obtaining the performance from the system into which these items are placed.
- B. Manufacturer references used herein are intended to establish a level of quality and performance requirements unless more explicit restrictions are stated to apply.
- C. All materials and components, shall be listed by and shall bear the label of an approved electrical testing laboratory. If none of the approved electrical testing laboratories has published standards for a particular item, then other national independent testing standards, if available, applicable, and approved by DFD, shall apply and such items shall bear those labels. Where one of the approved electrical testing laboratories has an applicable system listing and label, the entire system, except for medium voltage equipment and components, shall be so labeled.

1.5 CONTINUITY OF EXISTING SERVICES AND SYSTEMS

- A. No outages shall be permitted on existing systems except at the time and during the interval specified by the Ho-Chunk Gaming facility. The institution may require written approval. Any outage must be scheduled when the interruption causes the least interference with normal

institutional schedules and business routines. No extra costs will be paid to the Contractor for such outages which must occur outside of regular weekly working hours.

- B. This Contractor shall restore any circuit interrupted as a result of this work to proper operation as soon as possible. Note that institutional operations are on a seven-day week schedule.

1.6 PROTECTION OF FINISHED SURFACES

- A. Protect all finished work surface areas. Any damage occurred while performing the work shall be responsibility of the contractor to repair and finish the surfaces to match existing.

1.7 APPROVED ELECTRICAL TESTING LABORATORIES

- A. The following laboratories are approved for providing electrical product safety testing and listing services as required in these specifications:
 1. Underwriters Laboratories Inc.
 2. Electrical Testing Laboratories, Inc.

1.8 SEALING AND FIRE STOPPING OPENINGS

- A. Sealing and fire stopping of sleeves/openings between conduits, wireways, troughs, cablebus, busduct, etc. and the sleeve, structural or partition opening shall be the responsibility of the contractor whose work penetrates the opening. Provide all fire stopping of fire rated penetrations and sealing of smoke rated penetrations to maintain the fire ratings of the existing structure.

1.9 INTENT

- A. The Contractor shall furnish and install all the necessary materials, apparatus, and devices to complete the electrical equipment and systems installation herein specified, except such parts as are specifically exempted herein.
- B. If an item is either called for in the specifications or shown on the plans, it shall be considered sufficient for the inclusion of said item in this contract. If a conflict exists within the Specifications or exists within the Drawings, the Contractor shall furnish the item, system, or workmanship, which is the highest quality, largest, or most closely fits the intent for the system functionality.
- C. It must be understood that the details and drawings are diagrammatic. The Contractor shall verify all dimensions at the site and be responsible for their accuracy.
- D. All sizes as given are minimum except as noted.
- E. Materials and labor shall be new (unless noted or stated otherwise), first class, and workmanlike, and shall be subject at all times to the Ho-Chunk Gaming facility inspections, tests and approval from the commencement until the acceptance of the completed work.
- F. Whenever a particular manufacturer's product is named, it is intended to establish a level of quality and performance requirements unless more explicit restrictions are stated to apply.

1.10 SUBMITTALS

- A. Submit for all equipment and systems as indicated in the respective specification sections, marking each submittal with that specification section number. Mark general catalog sheets and drawings to indicate specific items being submitted and proper identification of equipment by name and/or number, as indicated in the contract documents. Failure to do this may result in the submittal(s) being returned to the Contractor for correction and resubmission. Failing to

follow these instructions does not relieve the Contractor from the requirement of meeting the project schedule.

- B. The successful bidder shall furnish additional drawings, illustrations, catalog data, performance characteristics, etc.
- C. Submittals shall be grouped to include complete submittals of related systems, products, and accessories in a single submittal. Mark dimensions and values in units to match those specified. Include wiring diagrams of electrically powered equipment.
- D. The submittals must be approved before fabrication is authorized.
- E. Submit sufficient quantities of submittals to allow the following distribution:

Operating and Maintenance Manuals	2 copies
User agency	2 copies
A/E	1 copy

1.11 PROJECT/SITE CONDITIONS

- A. Install Work in locations shown on drawings, unless prevented by project conditions.
- B. Prepare drawings showing proposed rearrangement of work to meet project conditions, including changes to work specified in other sections. Obtain permission of the facility before proceeding.
- C. Tools, materials and equipment shall be confined to areas designated by the facility.

1.12 WORK SEQUENCE AND SCHEDULING

- A. Install work in phases to accommodate user agency's occupancy requirements. During the construction period coordinate electrical schedule and operations with Facility Construction Representative.

1.13 WORK BY OTHER TRADES

- A. Every attempt has been made to indicate in this trade's specifications and drawings all work required of this Contractor. However, there may be additional specific paragraphs in other trade specifications and addenda, and additional notes on drawings for other trades which pertain to this trade's work, and thus those additional requirements are hereby made a part of these specifications and drawings.
- B. Electrical details on drawings for equipment to be provided by others are based on preliminary design data only. This Contractor shall lay out the electrical work and shall be responsible for its correctness to match equipment actually provided by others.

1.14 OFFSITE STORAGE

- A. Prior approval by facility will be needed. In general, building wire, conduit, fittings and similar rough-in material will not be accepted for off-site storage. No material will be accepted for off-site storage unless shop drawings for the material have been approved.

1.15 SALVAGE MATERIALS

- A. No materials removed from this project shall be reused unless specifically noted otherwise. All materials removed shall become the property of and shall be disposed of by the Contractor.

1.16 CERTIFICATES AND INSPECTIONS

- A. Obtain and pay for all required installation inspections, except those provided by the facility, in accordance with the Wisconsin Administrative Code. Deliver originals of these certificates to the Facility Project Representative.
- B. The Electrical Contractor is responsible for coordination of electrical inspections. Prior to the start of significant on-site electrical work, the contractor shall schedule a pre-installation meeting with the Ho-chunk Gaming to discuss the inspection requirements and review the contract requirements. The Electrical Contractor shall be present when the Electrical Inspector conducts the electrical inspections.

1.17 OPERATION, MAINTENANCE DATA, AND TESTING REPORTS

- A. All operations and maintenance data shall comply include all necessary documents to maintain installed equipment and parts list that will require routine maintenance. Include the following: Manufacturer's wiring diagrams for electrically powered equipment.
- B. Test reports as noted on the drawings.

1.18 RECORD DRAWINGS

- A. The Contractor shall maintain at least one copy each of the specifications and drawings on the job site at all times.
- B. Contractor shall maintain contract drawings and maintain daily records of changes and deviations from contract shall be recorded. Dimensions and elevations on the record drawings shall locate all buried or concealed piping, conduit, or similar items.
- C. The daily record of changes shall be the responsibility of Contractor's field superintendent. No arbitrary mark-ups will be permitted.
- D. At completion of the project, the Contractor shall submit the marked-up record drawings to the Facility Engineer prior to final payment.

PART 2 - PRODUCTS

2.1 ELECTRICAL EQUIPMENT

- A. Existing Equipment:
 - 1. Main Switch, Switchboard, Panelboards, Power feeders and branch circuits
 - 2. Document existing equipment data including manufacturer, part number, electrical ratings, size etc. that will require to perform power study including short circuit, voltage drop, and arc flash study for the future use. A copy of existing power study performed will be available to contractor upon request.
- B. New Equipment:
 - 1. Power Meter: As specified in section 26.27.13
- C. Conduits and Wiring:
 - 1. All new power wiring shall be installed in EMT conduit with suitable conduit fittings and hardware support as necessary in compliance with the existing facility installation standards.
 - 2. All power wiring shall be THHN/THWN type as recommended by the manufacturer for new metering equipment installation.

3. All control and communications wiring as recommended by the metering equipment supplier.
- D. Testing tools and equipment:
 1. It is the Contractor responsibility to provide required tools and equipment to perform required tools and equipment for the project.

2.2 IDENTIFICATION

- A. All new electrical equipment shall have identification to match the standards used by the facility.
- B. Update panel directory as necessary.

2.3 SEALING AND FIRE STOPPING

- A. FIRE AND/OR SMOKE RATED PENETRATIONS:
- B. Provide all fire stopping of fire rated penetrations and sealing of smoke rated penetrations to maintain existing structural integrity and fire ratings.

PART 3 - EXECUTION

3.1 BUILDING ACCESS

- A. Arrange for the necessary openings in the building to allow for admittance of all apparatus. When the building access was not previously arranged and must be provided by this contractor, restore any opening to its original condition after the apparatus has been brought into the building.

3.2 EQUIPMENT ACCESS

- A. Install all piping, conduit, ductwork, and accessories to permit access to equipment for maintenance. Coordinate the exact location of wall and ceiling access panels and doors with the General Contractor, making sure that access is available for all equipment and specialties. Where access is required in plaster or drywall walls or ceilings, furnish the access doors to the General Contractor and reimburse the General Contractor for installation of those access doors.

3.3 COORDINATION

- A. The Contractor shall cooperate with other trades and the facility in locating work in a proper manner. Should it be necessary to raise or lower or move longitudinally any part of the electrical work to better fit the general installation, such work shall be done at no extra cost to the facility, provided such decision is reached prior to actual installation. The Contractor shall check location of electrical outlets with respect to other installations before installing.
- B. The Contractor shall verify that all devices are compatible for the surfaces on which they will be used. This includes, but is not limited to light panelboards, power meters, devices, etc.
- C. Field verify existing condition and coordinate all work with the facility engineer prior to installation. Any installed work that is not coordinated and that interferes with other contractor's work shall be removed or relocated at the installing contractor's expense.

3.4 HOUSEKEEPING AND CLEAN UP

- A. The Contractor shall clean up and remove from the premises, on a daily basis, all debris and rubbish resulting from its work and shall repair all damage to new and existing equipment resulting from its work. When job is complete, this Contractor shall remove all tools, excess material and equipment, etc., from the site.

3.5 AGENCY TRAINING

- A. All training provided for agency shall comply with the format, general content requirements.
- B. Contractor to provide factory authorized representative and/or field personnel knowledgeable with the operations, maintenance and troubleshooting of the system and/or components defined within this section for a minimum period of 8 hours.

END OF SECTION