

**SECTION 26 21 00**

**~~~ PROJECT NOTE ~~~~~**

ARCHITECT OF RECORD/ENGINEER OF RECORD IS RESPONSIBLE FOR REVIEWING THIS SPECIFICATION SECTION IN DETAIL FOR COORDINATION WITH THE PROJECT SCOPE OF WORK.

ALL "PROJECT NOTE" TEXT IS TO BE REMOVED FOLLOWING REVIEW OF THE CONTENT OF EACH NOTE BY THE ARCHITECT OF RECORD/ENGINEER OF RECORD.

EDIT THE DOCUMENT FOOTER TO INCLUDE THE PROJECT NAME AND NUMBER.

EDIT THE DOCUMENT HEADER TO INDICATE THE ARCHITECT OF RECORD PROJECT ISSUE" DATE. THE "CPS CONTROL" DATE SHOULD NOT BE EDITED.

ANY MODIFICATIONS TO THE TECHNICAL STANDARDS IN THIS SECTION - INCLUDING THE REMOVAL OR ADDITION OF MANUFACTURERS - MUST BE APPROVED BY CPS.

REQUESTS FOR MODIFICATION ARE TO BE SUBMITTED TO THE DESIGN MANAGER DURING THE DESIGN PHASE FOR REVIEW AND APPROVAL.

**~~~ END OF PROJECT NOTE ~~~~~**

**LOW-VOLTAGE ELECTRICAL SERVICE ENTRANCE**

**PART 1 GENERAL**

**1.01 SECTION INCLUDES**

- A. Electrical service requirements.

**1.02 PRICE AND PAYMENT PROCEDURES**

- A. Allowances:
  - 1. See Section 01 21 00 - Allowances, for allowances affecting this section.

**~~~ PROJECT NOTE ~~~~~**

BASE BID AMOUNT TO BE COORDINATED AND CONFIRMED WITH UTILITY COMPANY PRIOR TO COMPLETION OF CONTRACT DOCUMENTS.

**~~~ END OF PROJECT NOTE ~~~~~**

- 2. Include in the Base Bid the amount \$\_\_\_\_\_ for payment of project electrical utility company fees. Copy Board's Representative and Architect/Engineer of Record on all paid fees to assure Division 26 contract balancing.

**1.03 DEFINITIONS**

- A. Service Point: The point of connection between the facilities of the serving utility and the premises wiring as defined in the City of Chicago Electrical Code, and as designated by the Utility Company.

**1.04 REFERENCE STANDARDS**

- A. IEEE C2 - National Electrical Safety Code; 2017.
- B. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2015.

**1.05 ADMINISTRATIVE REQUIREMENTS**

- A. No later than two (2) weeks following date of the Agreement, notify Utility Company of anticipated date of service.
- B. Coordination:
  - 1. Verify the following with Utility Company representative:
    - a. Utility Company requirements, including division of responsibility.

- b. Exact location and details of utility point of connection.
    - c. Utility easement requirements.
    - d. Utility Company charges associated with providing service.
  2. Coordinate the work with other trades to avoid placement of other utilities or obstructions within the spaces dedicated for electrical service and associated equipment.
  3. Coordinate arrangement of service entrance equipment with the dimensions and clearance requirements of the actual equipment to be installed.
  4. Coordinate the work with other installers to provide communication lines required for Utility Company meters.
  5. Notify Architect/Engineer of Record of any conflicts with or deviations from the contract documents. Obtain direction before proceeding with work.
- C. Arrange for Utility Company to provide permanent electrical service. Prepare and submit documentation required by Utility Company.
- D. Utility Company charges associated with providing permanent service to be paid by Board.
- E. Preinstallation Meetings:
  1. Preinstallation Meeting: Conduct a preinstallation meeting at least one week prior to the start of the work of this section; require attendance by all affected installers.
  2. Ensure required submittals have been provided with sufficient time for review prior to scheduling the preinstallation meeting.
  3. Review the detailed requirements for the work of this section and to review the drawings and specifications for this work. Require attendance by all affected installers including but not limited to:
    - a. Contractor's Superintendent.
    - b. Installer.
    - c. Manufacturer/Fabricator Representative.
    - d. Utility Company representative.
    - e. Other affected Subcontractors.
    - f. Architect/Engineer of Record.
    - g. Board's Representative.
  4. Record minutes and distribute copies within five (5) days after meeting to participants as well as Architect/Engineer of Record, Board and those affected by decisions made.
- F. Scheduling:
  1. Where work of this section involves interruption of existing electrical service, arrange service interruption with Board.
  2. Arrange for inspections necessary to obtain Utility Company approval of installation.

## 1.06 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide manufacturer's standard catalog pages and data sheets for each product. Include ratings, configurations, standard wiring diagrams, outline and support point dimensions, finishes, weights, service condition requirements, and installed features.
- C. Shop Drawings: Include dimensioned plan views and sections indicating locations and arrangement of Utility Company and service entrance equipment, metering provisions, required clearances, and proposed service routing.
  1. Obtain Utility company approval of shop drawings prior to submittal.
  2. Coordination drawings with dimensional relationship of exterior pad-mounted electrical service entrance equipment with surrounding fencing and building(s) and associated underground raceway installations relative to property line. Show minimum clearances, installed devices, and major features. Include sections depicting underground and aerial equipment clearances relative to grade.
- D. Drawings prepared by Utility Company.
- E. Project Record Documents: Record actual locations of equipment and installed service routing.

### 1.07 QUALITY ASSURANCE

- A. Comply with the following:
  - 1. IEEE C2 (National Electrical Safety Code).
  - 2. The requirements of the Utility Company.
  - 3. The requirements of the local authorities having jurisdiction.
  - 4. Comply with the City of Chicago Electrical Code.
- B. Maintain at the project site a copy of each referenced document that prescribes execution requirements.
- C. Products: Listed, classified, and labeled as suitable for the purpose intended.
- D. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

### 1.08 DELIVERY, STORAGE, AND HANDLING

- A. Receive, inspect, handle, and store products in accordance with manufacturer's instructions.
- B. Store products indoors in a clean, dry space having a uniform temperature to prevent condensation (including outdoor rated products which are not weatherproof until completely and properly installed). Maintain factory wrapping or provide an additional heavy canvas or heavy plastic cover to protect units from dirt, water, construction debris, and traffic.
- C. Handle products carefully to avoid damage to internal components, enclosure, and finish.

## PART 2 PRODUCTS

*~~~ PROJECT NOTE ~~~~~  
PROVIDE NEW, REPLACEMENT OF EXISTING, OR EXTENSION OF EXISTING ELECTRICAL SERVICE AS DEFINED BY THE PROJECT SCOPE OF WORK. COORDINATE OUTAGES AND TIMEFRAME WITH BOARD AND UTILITY.*

*~~~ END OF PROJECT NOTE ~~~~~*

### 2.01 ELECTRICAL SERVICE REQUIREMENTS

- A. Provide new electrical service consisting of all required conduits, conductors, equipment, metering provisions, supports, accessories, etc. as necessary for connection between Utility Company point of supply and service entrance equipment.

*~~~ PROJECT NOTE ~~~~~  
ELECTRICAL CHARACTERISTICS ARE TO BE INDICATED ON DRAWINGS AS PART OF THE CONTRACT DOCUMENT. IT CAN BE DEFINED UNDER THIS SECTION BY TYPE, VOLTAGE, AND SIZE.*

*~~~ END OF PROJECT NOTE ~~~~~*

- B. Electrical Service Characteristics: As indicated on drawings.

*~~~ PROJECT NOTE ~~~~~  
INDICATION OF UTILITY COMPANY TO BE AS INDICATED ON DRAWINGS OR CAN BE INCLUDED HERE AS POINT OF CONTACT WITH CORRESPONDING CONTACT INFORMATION.*

*~~~ END OF PROJECT NOTE ~~~~~*

- C. Utility Company: As indicated on drawings.

*~~~ PROJECT NOTE ~~~~~  
COORDINATE RESPONSIBILITY OF EQUIPMENT AND ACCESSORIES WITH BOARD AND UTILITY COMPANY.*

~~~ END OF PROJECT NOTE ~~~~~

- D. Division of Responsibility:
  - 1. Pad-Mounted Utility Transformers:
    - a. Transformer Vaults and Pads: Furnished and installed by Contractor per Utility Company requirements.
    - b. Transformers: Furnished and installed by Utility Company.
    - c. Transformer Grounding Provisions: Furnished and installed by Contractor per Utility Company requirements.
    - d. Transformer Protective Bollards: Furnished and installed by Contractor per Utility Company requirements.
    - e. Primary:
      - 1) Trenching and Backfilling: Provided by Contractor.
      - 2) Conduits: Furnished and installed by Contractor.
      - 3) Conductors: Furnished and installed by Utility Company.
    - f. Secondary:
      - 1) Trenching and Backfilling: Provided by Contractor.
      - 2) Conduits: Furnished and installed by Contractor.
      - 3) Conductors: Furnished and installed by Contractor (Service Point at transformer).
  - 2. Pole-Mounted Utility Transformers:
    - a. Utility Poles: Furnished and installed by Utility Company.
    - b. Transformers: Furnished and installed by Utility Company.
    - c. Transformer Grounding Provisions: Furnished and installed by Utility Company.
    - d. Primary: Furnished and installed by Utility Company.
    - e. Secondary - Underground Service:
      - 1) Conduits: Furnished and installed by Contractor.
      - 2) Conductors: Furnished and installed by Contractor (Service Point at utility pole).
    - f. Secondary - Overhead Service:
      - 1) Conduits/Service Masts: Furnished and installed by Contractor.
      - 2) Conductors: Furnished and installed by Contractor (Service Point at service mast).
  - 3. Terminations at Service Point: Provided by Utility Company.
  - 4. Metering Provisions:
    - a. Meter Bases: Furnished and installed by Contractor per Utility Company requirements.
    - b. Metering Transformer Cabinets: Furnished and installed by Contractor per Utility Company requirements.
    - c. Metering Compartments in Service Entrance Equipment: Furnished and installed by Contractor per Utility Company requirements.
    - d. Metering Transformers: Furnished and installed by Utility Company.
    - e. Conduits Between Metering Transformers and Meters: Furnished and installed by Contractor per Utility Company requirements.
    - f. Wiring Between Metering Transformers and Meters: Furnished and installed by Utility Company.
    - g. Communications Conduits for Meters: Furnished and installed by Contractor per Utility Company requirements.
- E. Products Furnished by Contractor: Comply with Utility Company requirements.
- F. Metered Voltage and service characteristics as indicated on drawings.

**PART 3 EXECUTION**

**3.01 EXAMINATION**

- A. Verify that field measurements are as indicated.

- B. Verify that ratings and configurations of service entrance equipment are consistent with the indicated requirements.
- C. Verify that conditions are satisfactory for installation prior to starting work.

### **3.02 PREPARATION**

- A. Verify and mark locations of existing underground utilities.

### **3.03 INSTALLATION**

- A. Install products in accordance with manufacturer's instructions and Utility Company requirements.
- B. Perform work in accordance with NECA 1 (general workmanship).
- C. Arrange equipment to provide minimum clearances and required maintenance access.
- D. Provide required trenching and backfilling in accordance with Section 31 23 16 and Section 31 23 23.
- E. Construct cast-in-place concrete pads for utility equipment in accordance with Utility Company requirements and Section 03 30 00.
- F. Provide required protective bollards in accordance with Utility Company requirements.
- G. Provide required support and attachment components in accordance with Section 26 05 29 - Hangers and Supports for Electrical Systems.
- H. Provide grounding and bonding for service entrance equipment in accordance with Section 26 05 26 - Grounding and Bonding for Electrical Systems.
- I. Identify service entrance equipment, including main service disconnect(s) in accordance with Section 26 05 53 - Identification for Electrical Systems.

### **3.04 CLEANING**

- A. Clean dirt and debris from equipment, enclosures and components according to manufacturer's instructions.
- B. Repair scratched or marred exterior surfaces to match original factory finish.

### **3.05 PROTECTION**

- A. Protect installed equipment from subsequent construction operations.

**END OF SECTION 26 21 00**