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BROWN MISSIONARY BAPTIST CHURCH

DESIGN DEVELOPMENT: ELECTRICAL NARRATIVE

1. The following information outlines the assumptions used for the basic design of this project. Utilizing the square footage and assuming 10-15 watts per square foot – we arrive at an approximation for the building service ampacity requirements as:
   - Square footage estimate = 118,000
   - Watts per square foot estimate = 10 – 15
   - Watts estimate = 1,180,000 – 1,770,000
   - Service voltage = 480Y/277
   - Amperage estimate = 1420 - 2130
2. The total designed service load is 1600 – 2000A; 480Y/277V; 3Φ, 4W; 75kAIC
3. We assume that the local utility will provide a pad mounted transformer. The electrical contractor shall provide the conduits; perform all trenching, etc. for a fully functional underground electrical service to the building. The electrical contractor shall coordinate with the local utility and verify the work/materials to be performed/supplied by the local utility company. The electrical contractor shall perform all work and supply all material not supplied by the local utility company. The electrical contractor shall include in their total price any utility surcharge to provide service to this site.
4. The service equipment, feeders and panels are shown on the one-line diagram.
5. The service will be from the utility transformer, routed underground, to the Service Entrance Equipment located in Mechanical Room #004.
6. Prior to procurement, the electrical contractor shall furnish a scaled drawing showing the placement of the Service Entrance equipment in Room #004.
7. The electrical contractor shall provide power to all equipment supplied by others. This shall include, but not be limited to, HVAC equipment, A/V equipment, Kitchen equipment, security equipment, etc.
8. The electrical contractor shall provide all house lighting. The electrical contractor shall provide all the power to the house and theatrical lighting. The theatrical lighting power requirements shall be specified by the Owners' theatrical lighting consultant.
9. The electrical contractor shall provide the dimmers for the house lighting in the Sanctuary and Theatre.
10. The electrical contractor shall provide all exterior lighting.

11. The theatrical sound system shall require an isolation transformer. Size to be specified after the sound system has been defined by the Owners' theatrical sound consultant.

12. Work shall comply with all local and national codes, rules, ordinances and regulations of the authority having jurisdiction. Specifically the following requirements shall be complied with in their entirety:
    a. All design criteria shall comply with:
        i. National Electrical Code (NEC) 2008 edition.
        ii. National Electrical Safety Code (NESC).
        iii. National Fire Protection Association (NFPA).
        iv. Federal, State and Local Codes.
        v. Illuminating Engineering Society (IES) Handbook.
        vi. International Energy Conservation Code, 2008 edition.
    b. New materials and equipment will be specified to meet the requirements of:
        i. American National Standards Institute (ANSI).
        ii. Institute of Electrical and Electronic Engineers (IEEE).
        iii. National Electrical Manufacturers Association (NEMA).
        iv. Underwriters Laboratories, Inc. (UL).
        v. Factory Mutual (FM).

13. Power Distribution System – Service will be routed from an exterior Utility furnished transformer to an interior Main Distribution Panel. The MDP will incorporate GFI and TVSS protection. The distribution voltage will be 480Y/277, three phase, four wire.

    The new service shall back feed the existing building electrical service.

14. Lighting System
    a. Interior Lighting
        i. TBD
    b. Exterior Lighting
        i. Exterior Lighting on building
            1. TBD
        ii. Parking lot lighting
            1. TBD
        iii. Accent lighting
            1. TBD
    c. Energy Saving Strategies
        i. Occupancy Sensors will be used in the following locations:
            1. Select offices
            2. Select classrooms
            3. restrooms
        ii. Lighting control system will be installed with the following options:
            1. astrological clock
            2. parking lot lighting control
            3. exterior lighting on building control

iii. Lighting fixtures will include the following energy saving components when possible:
    1. LED lamps
    2. Energy saving lamps
        a. T8 lamps
        b. Compact fluorescent lamps

iv. Power density levels (w/ft^2) will be the following:
    1. Classrooms – 1 w/ft^2
    2. Offices – 1 w/ft^2
    3. Parking lot – 0.5 foot candles
    4. Canopies – 1.25 w/ft^2

15. Audio/Visual Systems
    a. Will be designed by an A/V consulting firm contracted directly by the Church.
    b. Electrical contractor shall coordinate the installation of these systems with the A/V consultant/installer.

16. Fire Alarm and Detection System – The building fire alarm system design will incorporate a microprocessor based fire alarm control panel with zoned addressable devices where required throughout. Fire alarm pull stations shall be located at all exits. Remote annunciation panel(s) shall be stationed where required. The system shall interface with all HVAC equipment as required. The new system shall interface with the existing fire alarm system in the existing building.