2. Design Information

Construction Details

Two Liberty Center is a shell and core office building being constructed as part of a three building expansion of the Liberty Center complex. The project is being delivered under a modified design-bid-build method. Modification to the traditional method includes the involvement of the general contractor as a negotiator during the design phase. For their services on the project, the general contractor is held under a cost plus fee contract with a guaranteed maximum price. Trade contracts were awarded after a competitive bid, and were selected on the basis of lowest cost with the most reliable scope of work.

Structural System

The super-structure of the building is composed of reinforced cast-in-place concrete slabs and frame. All elevated slabs are 8" thick and slabs for floors 2 through 9 are post-tensioned to accommodate a typical bay size of 20'x 40'. The foundation consists of cast-in-place concrete spread footings with a 5" thick cast-in-place slab on grade.

Curtain Wall

The building enclosure is a combination of pre-cast concrete panels with some areas of glass curtain wall systems. Glass curtain walls are located in two major areas: around the ground floor of the building, and up the architectural glass tower above the main entrance to the building. Pre-cast concrete panels make up the rest of the façade and are finished with traditional punch windows.

Mechanical System

Conditioned air for Two Liberty Center is supplied by 12 Factory-Built Air Handling Units with chilled water cooling coils and electric heating coils. Cooling capacity is provided through a central chilled water plant consisting of 2 centrifugal water chilling units and 2 roof-top cooling towers. Air volume is digitally controlled for multiple zones provided by Variable-Air-Volume boxes.

Electrical System

Service for the building is provided through a 277/480V, 3-phase, 4-wire, 8000A Utility Service Junction Box. Distribution through the building is handled by two 277/480V, 3-phase, 4-wire, 3000A switchboards, with an additional 277/480V, 3-phase, 4-wire, wye-connected, 1200A Bus Gutter for Retail service connection. Total connected loads for the two switchboards, MS1 and MS2, are 1852kVA and 2784kVA respectively, in addition to a total connected load for the retail bus gutter of 1203kVA. Emergency power will be provided through a diesel engine driven electric generator set rated for 277/480V, 3-phase, 4-wire, for a minimum 550kW/687.5kVA load.