

SECTION III

PART I

CITY OF ST. CHARLES, IL SUBSTATION NO. 9 CONTROL BUILDING SPECIAL CONDITIONS

1.0 SUBMITTAL OF PROPOSAL

Sealed proposals for the **Substation no. 9 control building** as described in the accompanying technical specification, shall be received **before 2:00p.m, Thursday, March 31st** at the City of St. Charles City Hall, Two East Main Street, St. Charles, IL 60174, Attention: Mike Shortall, Purchasing Department. At that time and place the proposals will be publicly opened and read. Any proposal received subsequent to the time specified will be promptly returned to the Bidder unopened.

Interested Bidders shall “register” with Mike Shortall and provide name, phone number, and e-mail address.

Any questions shall be submitted to both Erika Drennan (Engineer) and Mike Shortall (Purchasing) via e-mail to the following e-mail addresses:

edrennan@stcharlesil.gov

mshortall@stcharlesil.gov

before 5:00 PM Tuesday, March 22nd, 2016

Upon receipt of questions prior to March 22nd, the bidder shall receive a reply e-mail acknowledging the receipt of the question. Response to the question shall be as soon as practical. Should the question result in a clarification that requires addenda, such addenda will be issued to all registered bidders as soon as practical.

Questions submitted after March 22nd, 2016 shall not be acknowledged or answered. Bidder shall take all necessary steps to propose questions prior to March 22nd.

City reserves the right to extend the due date. Should an extension be necessary, communication of such shall be e-mailed to all registered bidders.

All equipment provided with the control building shall be clearly identified with an equipment tag number, the purchase order number, and an item list. The Substation No. 9 building project is under development by the City of St. Charles, IL (hereinafter interchangeably called the “CITY,” “Owner” and “Purchaser”) and is known as the City of St. Charles, Legacy Park Substation.

SPECIAL CONDITIONS

For the purposes of these specifications, the terms "Bidder," "Manufacturer," and "Vendor" may be regarded as interchangeable to refer to the Party of Agency responding to the Owner's request for bids under this project.

2.0 DESCRIPTION OF PROJECT

The scope of the work includes, but is not limited to the following:

- A. Providing a comprehensive set of approval drawings to the CITY Engineers for approval prior to manufacture in AutoCAD format.

The CITY Engineers will have two (2) weeks to review and return approval drawings with all required corrections or revisions.

- B. Manufacture of a new Modular Control Building built with reinforced concrete panels or equivalent.

- C. Shipping the new control building to the CITY by the most reliable and economic method, as included in the accompanying technical specifications.

- D. Delivering the building to the foundation provided by the CITY at the substation site.

The Vendor shall advise the City in the appropriate foundation for the building, but the pouring and contracting for the foundation is the responsibility of the City.

The Vendor shall coordinate the date and time of delivery with the CITY.

The Vendor shall provide or contract for the necessary equipment and manpower to unload and transfer the building to the foundation slab or piers.

- E. Once installed at the substation, it is the vendor's responsibility that the building is fully functional within the requirements of this specification. The manufacturer is to provide field service technicians that tests and approves all the subsystems of the building, this includes, but is not limited to electric, heating, cooling, fire suppression, all alarms and all prewired terminals and cabinets. Vendor is to provide the CITY with written credentials of the field service technician for the CITY's approval of the service technician.

- F. All work such as delivery and installation that is to be performed at the substation site shall comply with the Prevailing Wage Rate Act of the State of Illinois, Illinois Compiled Statutes, 1987, Chapter 820, par. 130/31, et. seq, and as amended by Public Acts 86-799 and 86-693 and our current city ordinance, with rates to be paid in effect at time work is performed.

SPECIAL CONDITIONS

- G. Contractors shall submit certified payroll records to the city for work done on city property prior to being paid.

- H. Providing three (3) comprehensive set of final “as-built” drawings including user manuals for all accessories and other documents, as included in the accompanying technical specifications, at the time of delivery of the transformer on site. In addition, one complete set of transformer drawings and documents shall be provided in an agreed computer file format. CAD drawings shall be in AutoCAD, or other agreed format.

SECTION III

PART II

CITY OF ST. CHARLES, IL LEGACY PARK SUBSTATION SUBSTATION BUILDING

1.0 SCOPE

This specification covers the minimum requirements for the design, manufacture, and installation of (1) one approximately 14ft by 22ft by 10ft concrete precast substation building or approved equivalent. Building from materials other than concrete will be considered by the city, if the other design criteria are equivalent. The building will be turn-key manufactured and installed with all the added features, and accessories as described in this technical specification. All materials shall be new and free of defects.

The building shall be furnished, and delivered onto the slab foundation or foundation piers as furnished by the purchaser at the CITY's Legacy Park Substation Site. All equipment provided with the building shall be clearly identified with the equipment tag number, the purchase order number, and an item list.

The timeframe of the project is such that after the building is chosen and awarded, the City – with the assistance of the building vendor - will hire a contractor to pour the required foundation. The building is expected to be on site during the fourth quarter of 2016.

2.0 SAFETY

- 2.1 The contractor shall work in a safe and professional manner and keep their worksite clean and safe at all times.
- 2.2 The contractor shall provide required safety equipment to get the job done.
- 2.3 The contractor must comply with Illinois Occupational Safety and Health Standards for General Industry, 29CFR 1910. Construction bidders must comply with Illinois Occupational Safety and Health Standards for the Construction Industry, 29CFR 1926. In addition, contractors shall comply with all applicable occupational health and safety and environmental rules and regulations.
- 2.4 Contractor is not to start work without receiving information transfer from the City on known or potential hazards of the work (OSHA 1910.269(a) (3)).

TECHNICAL SPECIFICATIONS

3.0 DEVIATIONS / EXCEPTIONS

Any deviation/exception from this specification must be clearly pointed out; otherwise, it will be considered that items offered are in strict compliance with this specification, and the contractor will be held responsible therefore. Deviations must be explained in detail on an attached sheet(s). **The contractor shall not construe this paragraph as inviting deviation or implying that any deviation will be acceptable.**

4.0 CODES, STANDARDS, AND REFERENCE DOCUMENTS

The building and its components and accessories shall be constructed in accordance with the following design guidelines:

IBC	-	International Building Code
ANSI	-	American National Standards Institute
ASCE	-	American Society of Civil Engineers
ASTM	-	American Society for Testing and Material
SDI	-	Steel Door Institute
AISC	-	American Institute of Steel Construction
AWS	-	American Welding Society
ACI	-	American Concrete Institute
ASHRAE	-	American Society of Heating, Refrigerating, and Air-Conditioning Engineers

All codes and standards shall be those in effect at the time of Purchase Order award. Deviations from this specification or the referenced codes and standards shall be obtained in writing from City. In the event of conflicting requirements, the order of precedence shall be this specification, the standards, and the purchase order.

TECHNICAL SPECIFICATIONS

5.0 TECHNICAL REQUIREMENTS

5.1 GENERAL REQUIREMENTS

UL752 Level 4 Bullet Resistant Walls & Roof
Seismic Rated Construction – Category D
2 Hour Fire Rated Construction
5000psi Lightweight Concrete
4” Solid Steel Reinforced Concrete Wall and Roof Construction
8” Steel Reinforced Concrete Floor System (Waffle Design)
Internal Non-Exposed Structural Seals
Roof Must Cap Walls – 2” Overhang On 4 Sides with 1/4” Per Ft. Slope in 4
Directions
Structural Seals Must Not Be Exposed to UV
Integral Lift Shackles Cast into Concrete
Min 200 PSF Floor Load Uniformly Distributed
Min 60 PSF Roof Load Uniformly Distributed
Min 125 MPH Wind Load
Manufacturing to Occur in an Indoor Controlled Environment Facility
Bids to be Accompanied with Documentation Demonstrating the Manufacturing
Facility is a NPCA Inspected and Certified Facility at the time of bid. NPCA
(National Precast Concrete Association)

5.1.1 Roof System

Construction is to include a Water Proofing Membrane Roof System.

5.1.2 Exterior Finish

Exterior Walls Shall be Exposed Aggregate
Trim Shall be Painted
Exposed Aggregate Should Be Integral to the Concrete. Seeded Aggregate and/or
Synthetic Aggregate Paneling is Not Allowed.

TECHNICAL SPECIFICATIONS

5.1.3 Interior Finish

¾" HDPE Coated Plywood Walls and Ceiling (OSB and/or Plywood less than ¾" is Not Allowed). Internal Wall Studs/Furring Strips to be Installed 24" on Center. Floor covering is to be either commercial grade Vinyl Tile with Cove Molding or polyamide epoxy coating.

Note: Direct Wood to Concrete Contact is Not Allowed. Furring must be isolated from Concrete

5.1.4 Insulation

R-11 Walls

R-19 Ceiling

R-21 Floor

Note: Insulation Must Isolate Wood From Concrete.

5.2 DOORS AND ACCESSORIES

One (1) 6' x 8' Exterior 18 Gauge Galvanized and Painted Steel Double Door with Cast-in 16 Gauge Galvanized and Painted Steel Door Frame

One (1) 3' x 7' Exterior 18 Gauge Galvanized and Painted Steel Door with Cast-in 16 Gauge Galvanized and Painted Steel Door Frame

each with,

Removable Mullion – *Double Door Only*

NRP Non-Corrosive Hinges

Lever Mortise Lockset with Interchangeable Core

Panic Hardware

Aluminum Threshold and Door Sweep

Weather-stripping

Hydraulic Door Closer with Hold Open Feature – *Active Doors Only*

Door Stop with Hold Open Latch – *Inactive Leaf of Double Door Only*

Aluminum Awning

TECHNICAL SPECIFICATIONS

5.3 ELECTRICAL PACKAGE

5.3.1 Dry Core transformer

Dry core transformer (single phase) to convert the available city power of 480 to the 240V to supply the AC panel for the building

5.3.2 Electric Panels

The building is to have two 120/240V (AC) panels one for normal loads such as lighting and non-emergency outlets heat and air conditioning; the other one fed from the main panel with a 100A circuit breaker through a transfer switch for emergency loads. It is also to have a DC panel for the protection relays.

5.3.2.1 Primary 480/277 VAC panel

24 Circuit Primary AC panelboard
480/277 VAC Three Phase
60 Hz
200 Amp Main Breaker

5.3.2.2 Primary 240/120 VAC panel

42 Circuit Primary AC panelboard
120/240 VAC Single Phase
60 Hz
200 Amp Main Breaker

5.3.2.3 Emergency AC panel

32 Circuit Emergency AC panelboard
120/240 VAC Single Phase
60 Hz
100 Amp Main Breaker

5.3.2.4 DC panel

42 Circuit
200A main breaker
Wired through the charger to the DC battery rack

TECHNICAL SPECIFICATIONS

5.3.3 Light Fixtures

5.3.3.1 Interior Lights

Six (6) 4' Dual Bulb Fluorescent Interior Light Fixtures with Three Way Switches and Lenses

Two (2) Dual Bulb Emergency Interior Light Fixtures with EXIT Sign, Battery, and Charger

5.3.3.2 Exterior Lights

Two (2) 11 Watt LED Exterior Light Fixtures with Switched Photocell

5.3.3.3 Receptacles

Six (6) Duplex receptacles – Wall mounted. Three (3) of the receptacles are to be from the emergency panel from two separate breakers.

5.3.3.4 Electrical accessories - extras

Required Surface Mounted EMT Conduit, Connectors, Bolt-on Breakers Wire, and Clamps

5.3.4 Automatic transfer switch

One wall mounted automatic transfer switch to shift power to the inverter of the solar farm if primary AC power to the station is lost. Transfer switch may need special control scheme to assure that there is no back feed to the utility from the solar farm. City engineer will work with the contractor to choose the correct transfer switch.

5.3.5 Interior Grounding

#4/0 Bare Stranded Copper Equipment Ground Bus Run in Cable Tray to Cable Entrance Floor Slot with Ten (10) Feet Coiled up Equipment Ground Bus to Bond Each Individual Cable Tray Section