Contract Documents and Specifications

For

USC Upstate Elevator Upgrades for Recall-Library

Project Number CP00372367

February 27, 2015

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Project Number: CP00372367

Project Name: USC Upstate-Elevator Upgrades for Recall-Library

Project Manager: Ben Coonrod

SE-311
INVITATION FOR MINOR CONSTRUCTION QUOTES

PROJECT NAME: USC UPSTATE- ELEVATOR UPGRADES FOR RECALL - LIBRARY

PROJECT NUMBER: CP00372367

PROJECT LOCATION: USC Upstate, Spartanburg, SC

BID SECURITY REQUIRED? Yes ☐ No ☒

PERFORMANCE BOND REQUIRED? Yes ☐ No ☒

PAYMENT BOND REQUIRED? Yes ☐ No ☒ **CONSTRUCTION COST RANGE:** $ $20,000 - $40,000

DESCRIPTION OF PROJECT: Materials and labor for installation of emergency recall for existing elevator.

BIDDING DOCUMENTS/PLANS MAY BE OBTAINED FROM: http://purchasing.sc.edu (See Facilities Construction & Awards)

PLAN DEPOSIT AMOUNT: $ $0.00 **IS DEPOSIT REFUNDABLE** Yes ☐ No ☐ N/A ☒

Bidders must obtain Bidding Documents/Plans from the above listed source(s) to be listed as an official plan holder. Only those Bidding Documents/Plans obtained from the above listed source(s) are official. Bidders rely on copies of Bidding Documents/Plans obtained from any other source at their own risk.

IN ADDITION TO THE ABOVE OFFICIAL SOURCE(S), BIDDING DOCUMENTS/PLANS ARE ALSO AVAILABLE AT:

All questions & correspondence concerning this Invitation shall be addressed to the A-E.

A-E NAME: Burdette Engineering, Inc.

A-E CONTACT: Don Burdette

A-E ADDRESS: **Street/PO Box:** 102 Pilgrim Road

City: Greenville **State:** SC **ZIP:** 29607-5702

EMAIL: DBurdette@burdetteengr.com

TELEPHONE: (864) 297-8717 **FAX:** 864-297-8719

AGENCY: University of South Carolina

AGENCY PROJECT COORDINATOR: Aimee B. Rish

ADDRESS: **Street/PO Box:** 743 Greene Street

City: Columbia **State:** SC **ZIP:** 29208-

EMAIL: arish@fmc.sc.edu

TELEPHONE: (803)777-2261 **FAX:** (803) 777-7334

PRE-QUOTE CONFERENCE: Yes ☒ No ☐ **MANDATORY ATTENDANCE:** Yes ☐ No ☒

PRE-QUOTE DATE: 3/10/2015 **TIME:** 10AM **PLACE:** 155 American Way, Spartanburg, SC

QUOTE CLOSING DATE: 3/18/2015 **TIME:** 1PM **PLACE:** 743 Greene Street; Columbia Conference Rm 053

QUOTE DELIVERY ADDRESSES:

HAND-DELIVERY:
Attn: Aimee Rish "Bid Enclosed"
743 Greene Street
Columbia, SC 29208

MAIL SERVICE:
Attn: Aimee Rish "Bid Enclosed"
743 Greene Street
Columbia, SC 29208

APPROVED BY: _____ **DATE:** _____
(Agency Project Coordinator)

SE-331
QUOTE FORM

Quotes shall be submitted only on SE-331.

QUOTE SUBMITTED BY: _____

(Offeror's Name)

QUOTE SUBMITTED TO: _____

(Owner's Name)

FOR: PROJECT NAME: USC Upstate-Elevator Upgrades for Recall-Library

PROJECT NUMBER: CP00372367

OFFER

1. In response to the Invitation for Minor Construction Quotes, and in compliance with the Instructions to Bidders for the above-named Project, the undersigned **OFFEROR** proposes and agrees, if this Quote is accepted, to enter into a Contract with the Owner in the form included in the Solicitation Documents, and to perform all Work as specified or indicated in the Solicitation Documents, for the prices and within the time frames indicated in the Solicitation and in accordance with the other terms and conditions stated.
2. Pursuant to Section 11-32-3030(1) of the SC Code of Laws, as amended, **OFFEROR** has submitted Bid Security as follows in the amount and form required by the Solicitation Documents:

☐ **Bid Bond with Power of Attorney** ☐ **Electronic Bid Bond** ☐ **Cashier's Check**

(Bidder check one)

3. **OFFEROR** acknowledges the receipt of the following Addenda to the Solicitation documents and has incorporated the effects of said Addenda into its Quote *(Bidder, check only boxes that apply.)*:

ADDENDA: ☐ **#1** ☐ **#2** ☐ **#3** ☐ **#4** ☐ **#5**

4. **OFFEROR** agrees that this Quote, including all bid alternates, if any, may not be revoked or withdrawn after the opening of quotes, and shall remain open for acceptance for a period of **60** Days following the Quote Date, or for such longer period of time that **OFFEROR** may agree to in writing upon request of the Owner.
5. **OFFEROR** agrees that from the compensation to be paid, the Owner shall retain as Liquidated Damages the amount of $_____ for each calendar day the actual construction time required to achieve Substantial Completion exceeds the specified or adjusted Contract Time for Substantial Completion, as provided in the Contract Documents.
6. **OFFEROR** herewith submits its offer to provide all labor, materials, equipment, tools of trades and labor, accessories, appliances, warranties and guarantees, and to pay all royalties, fee, permits, licenses and applicable taxes necessary to complete the following items of construction work:

6.1 BASE QUOTE $_____

(enter BASE QUOTE in figures only)

6.1.1 ALTERNATE NO. 1 $_____ **to be ADDED / DEDUCTED from BASE QUOTE.**

(circle one)

6.1.2 ALTERNATE NO. 2 $_____ **to be ADDED / DEDUCTED from BASE QUOTE.**

(circle one)

SC Contractor's License Number: _____

Classification(s) & Limits: _____

Address: _____

_____

Telephone/Fax _____

E-mail _____

This Quote is hereby submitted on behalf of the Offeror named above.

BY: _____

(Signature of Offeror's Representative)

_____

(Print or Type Name of Offeror's Representative)

TITLE: _____

USC SUPPLEMENTAL GENERAL CONDITIONS FOR CONSTRUCTION PROJECTS

1. Contractor's employees shall take all reasonable means not to interrupt the flow of student traffic in building corridors, lobbies and stairs. All necessary and reasonable safety precautions shall be taken to prevent injury to building occupants while transporting materials and equipment through the building to the work area. Providing safe, accessible, plywood pedestrian ways around construction may be required if a suitable alternative route is not available.

2. Fraternization between Contractor's employees and USC students, faculty or staff is strictly prohibited-zero tolerance!

3. USC will not tolerate rude, abusive or degrading behavior on the job site. Heckling and cat-calling directed toward students, faculty or staff or any other person on USC property is strictly prohibited. Any contractor whose employees violate this requirement will be assessed a fine of up to $500 per violation.

4. Contractor's employees must adhere to the University's policy of maintaining a drug-free and smoke-free/tobacco free workplace.

5. Contractor must sign a Contractor Key Receipt/Return form before any keys are issued. Keys must be returned immediately upon the completion of the work. The Contractor will bear the cost of any re-keying necessary due to the loss of or failure to return keys.

6. A welding permit must be issued by the University Fire Marshall before any welding can begin inside a building. Project Manager will coordinate.

7. Contractor must notify the University immediately upon the discovery of suspect material such as those potentially containing asbestos or other such hazardous materials. These materials **must not** be disturbed until approved by the USC Project Manager.

8. At the beginning of the project, the USC Project Manager will establish the Contractor's lay-down area. This area will also be used for the Contractor's work vehicles. No personal vehicles will be allowed in this area, or in any areas surrounding the construction site that are not regular or authorized parking lots. Personal vehicles must be parked in the perimeter parking lots. Parking permits can be obtained at the USC Parking Office located in the Pendleton Street parking garage. The lay down area will be clearly identified to the contractor by the PM, with a sketch or drawing provided to Parking. In turn, the contractor will mark off this area with a sign containing the project name, PM name, Contractor name and contact number, and end date. Where this area is subject to foot traffic, protective barriers will be provided as specified by the PM. The area will be maintained in a neat and orderly fashion. Vehicles parked in the lay down area (or designated parking areas) will be clearly marked or display a CPC furnished placard for identification.

Updated: July 15, 2011

9. Contractor will be responsible for providing its own temporary toilet facilities, unless prior arrangements are made with the USC Project Manager.

10. Use of USC communications facilities (telephones, computers, etc.) by the Contractor is prohibited, unless prior arrangements are made with the USC Project Manager.

11. For all projects over $100,000, including IDC's, an SE-395, Contractor Performance Evaluation, will be completed by the USC Project Manager and reviewed with the GC at the beginning of the project and a copy given to the GC. At the end of the project the form will be completed and a Construction Performance rating will be established.

12. Contractor is responsible for removal of all debris from the site, and is required to provide the necessary dumpsters which will be emptied at least _one_ times per week. Construction waste must not be placed in University dumpsters. THE CONSTRUCTION SITE MUST BE THOROUGHLY CLEANED WITH ALL TRASH PICKED UP AND PROPERLY DISPOSED OF ON A DAILY BASIS AND THE SITE MUST BE LEFT IN A SAFE AND SANITARY CONDITION EACH DAY. THE UNIVERSITY WILL INSPECT JOB SITES REGULARLY AND WILL FINE ANY CONTRACTOR FOUND TO BE IN VIOLATION OF THIS REQUIREMENT AN AMOUNT OF UP TO $1,000 PER VIOLATION.

13. **Contractor must provide all O&M manuals, as-built drawings, and training of USC personnel on new equipment, controls, etc. prior to Substantial Completion. Final payment will not be made until this is completed.**

14. The contractor will comply with all regulations set forth by OSHA and SCDHEC. Contractor must also adhere to USC's internal policies and procedures (available by request). As requested, the contractor will submit all Safety Programs and Certificates of Insurance to the University for review.

15. Tree protection fencing is required to protect existing trees and other landscape features to be preserved within a construction area. The limits of this fence will be evaluated for each situation with the consultant, USC Arborist and USC Project Manager. The tree protection fence shall be 5' high chain link fence unless otherwise approved by USC Project Manager. No entry or materials storage will be allowed inside the tree protection zone. A 4" layer of mulch shall be placed over the tree protection area to maintain moisture in the root zone.

16. Where it is necessary to cross walks, tree root zones (i.e., under canopy) or lawns the following measures shall be taken: For single loads up to 9,000 lbs., a 3/4" minimum plywood base shall be placed over areas impacted. For single loads over 9,000 lbs., two layers of 3/4" plywood is required.

17. For projects requiring heavy loads to cross walks tree root zones or lawns. A construction entry road consisting of 10' X 16' oak logging mates on 12" coarse, chipped, hardwood base. Mulch and logging mats shall be supplemented throughout the project to keep

matting structurally functional.

18. Any damage to existing landscaping (including lawn areas) will be remediated before final payment is made.

19. Orange safety fence to be provided by the contractor. (USC Arborist, Kevin Curtis may be contacted at 777-0033 or 315-0319)

Campus Vehicle Expectations

1. All motorized vehicles on the University campus are expected to travel and park on roadways and/or in parking stalls.

2. All motorized vehicle traffic on USC walkways must first receive the Landscape Manager=s authorization. Violators may be subject to fines and penalties.

3. All motorized vehicles that leak or drip liquids are prohibited from traveling or parking on walks or landscaped areas.

4. Contractors, vendors, and delivery personnel are required to obtain prior parking authorization before parking in a designated space. Violators may be subject to fines and/or penalties. See Item 10 below.

5. Drivers of equipment or motor vehicles that damage university hardscape or landscape will be held personally responsible for damages and restoration expense.

6. Vehicle drivers who park on landscape or drives must be able to produce written evidence of need or emergency requiring parking on same.

7. All vehicles parked on landscape, hardscape, or in the process of service delivery, must display adequate safety devices, i.e. flashing lights, cones, signage, etc.

8. All drivers of equipment and vehicles will be respectful of University landscape, equipment, structures, fixtures and signage.

9. All incidents of property damage will be reported to Parking Services or the Work Management Center.

10. Parking on campus is restricted to spaces designated by Parking Services at the beginning of the project. Once the project manager and contractor agree on how many spaces are needed, the project manager will obtain a placard for each vehicle. This placard must be hung from the mirror of the vehicle, otherwise a ticket will be issued and these tickets cannot be "fixed". Parking spaces are restricted to work vehicles only; no personal vehicles.

Project Name: USC Upstate-Elevator Upgrades for Recall-Library
Project Number: CP00372367

University of South Carolina

CONTRACTOR'S ONE YEAR GUARANTEE

STATE OF _____

COUNTY OF _____

WE_____
as Contractor on the above-named project, do hereby guarantee that all work executed under the requirements of the Contract Documents shall be free from defects due to faulty materials and /or workmanship for a period of one (1) year from date of acceptance of the work by the Owner and/or Architect/Engineer; and hereby agree to remedy defects due to faulty materials and/or workmanship, and pay for any damage resulting wherefrom, at no cost to the Owner, provided; however, that the following are excluded from this guarantee;

Defects or failures resulting from abuse by Owner.

Damage caused by fire, tornado, hail, hurricane, acts of God, wars, riots, or civil commotion.

_____
[Name of Contracting Firm]

*By_____

Title_____

*Must be executed by an office of the Contracting Firm.

SWORN TO before me this
_____ day of _____, 2____ (seal)

_____State

My commission expires _____

PROJECT MANUAL FOR

ELEVATOR UPGRADES FOR RECALL - LIBRARY

University of South Carolina – Upstate
Spartanburg, South Carolina

Project Number CP00372367

BEI #14860B

February 27, 2015

Burdette Engineering
QUALITY. INTEGRITY. TEAMWORK.

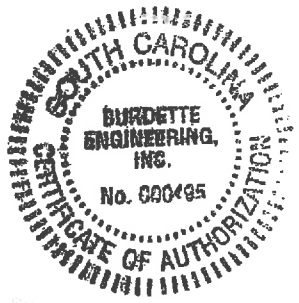
Greenville, SC
www.burdetteengr.com

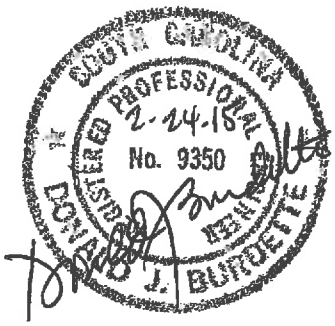
BURDETTE ENGINEERING, INC.
SPECIFICATIONS
ELEVATOR UPGRADES FOR RECALL – LIBRARY
USC UPSTATE
PROJECT NO. CP00372367
SPARTANBURG, SC

BEI # 14860B

DIVISION 1

DIVISION 26 ELECTRICAL





SECTION 013000 – ADMINISTRATIVE REQUIREMENTS

PART 1 - GENERAL

1.1. SECTION INCLUDES

A. Preconstruction conference.

B. Progress meetings.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.1 PRECONSTRUCTION CONFERENCE

A. Engineer will schedule a meeting after Notice of Award.

1. Meeting to take place no later than 15 days following the execution of the Agreement.

B. Attendance Required:

1. Owner.
2. Engineer.
3. Contractor.

C. Agenda: Agenda to be prepared by Contractor and distributed to all invited attendees, to include:

1. Project organizational structure and chain of command.
2. Duties and expectations of the Owner, Engineer, and Contractor.
3. Submission of executed bonds and insurance certificates.
4. Project scope of work.
5. Construction schedule.
6. Distribution of Contract Documents.
7. Contract disputes, mediation, partnering, and resolution.
8. Submission of list of Subcontractors, list of Projects, schedule of values, and progress schedule.
9. Designation of personnel representing the parties, including Owner, Contractor and

Engineer.

10. Work schedule, normal working hours, and normal work week. Also to include required notice for scheduling overtime, outages, and interruptions.

11. Safety procedures.

12. Temporary and permanent utilities.

13. Security, keys, fencing, site access, and limited access to certain areas.

14. Designated parking and delivery areas.

15. Designated storage areas, bonded storage, and security.

16. Designated toilets, break areas, vending areas, and smoking areas.

17. Daily cleanup, trash removal, dumpsters, and trash areas.

18. Procedures and processing of field decisions, submittals, RFIs, substitutions, applications for payments, proposal requests, Change Orders, and Contract closeout procedures.

19. Procedures and responsibilities for testing and inspecting, required permits, and licenses.

20. Demolition items to be salvaged for Owner, notification, and storage area.

21. Scheduling.

22. Preparation of Record Documents, and Operating and Maintenance Manuals.

23. Instruction and training of Owner's maintenance personnel.

24. Warranties, manufacturer startup, prior to substantial completion.

25. Final completion inspection and punch list.

26. One year warranty inspection (Engineer to inspect 10 months after substantial completion).

27. Contractor corrections for items found during the warranty inspection.

D. Contractor shall record minutes and distribute copies within three days after meeting to participants, with copies to Engineer, Owner, participants, and those affected by decisions made.

3.02 PROGRESS MEETINGS

A. Contractor shall schedule and administer meetings throughout progress of the Work at maximum bi-monthly intervals.

B. Contractor shall make arrangements for meetings, prepare agenda with copies for participants, and preside at meetings.

C. Attendance Required: Contractor's project manager, job superintendent, major Subcontractors

and suppliers, Owner, Engineer as appropriate to agenda topics for each meeting.

D. Agenda:

1. Review of Work progress.
2. Field observations, problems, and decisions.
3. Identification of problems that impede, or will impede, planned progress.
4. Review of submittals schedule and status of submittals.
5. Maintenance of progress schedule.
6. Corrective measures to regain projected schedule.
7. Planned progress during succeeding work period.
8. Maintenance of quality and work standards.
9. Effect of proposed changes on progress schedule and coordination.
10. Other business relating to Work.

E. Contractor shall record minutes and distribute copies within three days after meeting to participants, with copies to Engineer, Owner, participants, and those affected by decisions made. Engineer shall review a draft copy of the minutes prior to distribution.

3.03 PROJECT RECORD DOCUMENTS

A. Record Prints: Maintain one set of blue- or black-line white prints of the Contract Drawings and Shop Drawings. Mark prints to show actual installation where installation varies from that shown originally.

1. Cross reference changes on Contract Drawings and Shop Drawings, noting construction change directive numbers, change order numbers and similar identification where applicable.

2. Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.

3. Organize into unbound sets. Place record prints in durable tube-type drawing containers with end caps. Mark end cap of each container with identification. If container does not include a complete set, identify Drawings included.

B. Record Specifications: Mark Specifications to indicate actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications. Note related Change Orders, Record Product Data, and Record Drawings where applicable.

C. Record Product Data: Mark Product Data to indicate the actual project installation where installation varies substantially from that indicated in Product Data submittal. Note related Change Orders, Record Specifications, and Record Drawings where applicable.

END OF SECTION 013000

SECTION 013200 – CONSTRUCTION PROGRESS SCHEDULE

PART 1 - GENERAL

1.01. SECTION INCLUDES

A. Preliminary schedule.

B. Construction progress schedule, bar chart type.

1.02 SUBMITTALS

A. Within 10 days after date of Agreement, submit four copies of preliminary schedule.

B. If preliminary schedule required revision after review, submit four copies of revised schedule within 10 days.

C. Within 20 days after review of preliminary schedule, submit four (4) copies of draft of proposed complete schedule for review.

D. Within 10 days after joint review, submit four copies of complete schedule. Submittal and approval of project Schedule is a condition precedent to the Payment of progress payments. Therefore, no construction work will be permitted and no progress payments will be made until project schedule has been approved by the Owner's Representative.

E. Submit updated schedule with each Application for Payment.

F. Daily Construction Report: Submit one (1) bound copy with project record documents at end of construction.

G. Filed Condition Reports: Submit four (4) copies at time of discovery of differing conditions.

1.03 COORDINATION

A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.

B. Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.

1. Secure time commitments for performing critical elements of the Work from parties involved.

2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

1.04 SCHEDULE FORMAT

A. Listings: In chronological order according to the start date for each activity. Identify each activity with the applicable specification section number.

B. Sheet Size: Multiples of 8-1/2 x 11 inches.

PART 2 PRODUCTS

2.01 PRELIMINARY SCHEDULE

A. Define planned operations for the first 60 days of Work with a general outline for remainder of Work.

B. Prepare in the form of a horizontal bar chart.

2.02 SUBMITTALS SCHEDULE

A. Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, resubmitted, ordering, manufacturing, fabrication, and delivery when establishing dates.

1. Coordinate Submittals Schedule with list of subcontractors, the Schedule of Values, and Contractor's Construction Schedule.

B. Submit 4 copies of schedule. Arrange the following information in a tabular format.

1. Scheduled date for first submittal.
2. Specification Section number and title.
3. Submittal category (action or informational.)
4. Name of subcontractor.
5. Description of the Work covered.
6. Scheduled date for Engineer's final release or approval.

2.03 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction, in the form of a horizontal bar chart.

B. Identify each item by specification section number.

C. Identify work of separate stages and other logically grouped activities.

D. Show accumulated percentage of completion of each item, and total percentage of Work completed, as of the first day of each month.

E. Coordinate content with Schedule of Values.

F. Provide legend for symbols and abbreviations used.

G. Include a separate bar for each major portion of Work or operation.

H. Identify the first work day of each week.

2.04 DAILY CONSTRUCTION REPORTS

A. Prepare a daily construction report recording the following information concerning events at the project site:

1. List of subcontractors at Project site.
2. Equipment at Project site.
3. Material deliveries.
4. High and low temperatures and weather conditions.
5. Accidents.
6. Stoppages, delays, shortages, and losses.
7. Meter readings and similar recordings.
8. Orders and requests of authorities having jurisdiction.
9. Services connected and disconnected.
10. Equipment or system tests or startups.

2.05 FIELD CONDITION REPORTS

A. Immediately upon the discovery of a difference between field conditions and the Contract Documents, prepare a detailed report. Submit with a request for information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

PART 3 EXECUTION

3.01 REVIEW AND EVALUATION OF SCHEDULE

A. Participate in joint review and of schedule with Engineer at each submittal.

B. Evaluate project status to determine work behind schedule and work ahead of schedule.

C. After review, revise as necessary as result of review, and resubmit within 10 days.

3.02 UPDATING SCHEDULE

A. Main schedules to record actual start and finish dates of completed activities.

B. Indicate progress of each activity to date of revision, with projected completion date of each activity.

C. Identify activities modified since previous submittal, major changes in Work, and other identifiable changes.

D. Indicate changes required to maintain Date of Substantial Completion.

E. Submit reports required to support recommended changes.

F. Update schedule monthly and submit with each Application for Payment.

3.03 DISTRIBUTION OF SCHEDULE

A. Distribute copies of updated schedules to Contractor's project site file, to Subcontractors, suppliers, Engineer, Owner, and other concerned parties with a need-to-know scheduling responsibility.

B. Instruct recipients to promptly report, in writing, problems anticipated by projections shown in schedules.

C. Post copies in Project meeting rooms and in temporary field offices.

D. When revisions are made, distribute updated schedules to the same parties and post in the same locations.

END OF SECTION 013200

SECTION 013300 – SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.01. SUBMITTAL SCHEDULE

A. Include a submittal register listing all anticipated submittals, shop drawings, product data, and samples as defined in the Contract Documents and also include certificates, test data, schedules, and other submitted data required to demonstrate compliance with the Contract Documents.

1.02 SUBMITTAL DESCRIPTIONS

A. Submit electronic file and two (2) hard copies of each of the following unless otherwise specified.

1. SD-01 Manufacturer's Catalog Data & Shop Drawings

   a. Data composed of catalog cuts, brochures, circulars, drawings and wiring diagrams, specifications and product data, and printed information in sufficient details and scope to verify compliance with requirements of the Contract Documents. Reviews and submittals shall be as specified for shop drawings. Clearly mark product data to identify the applicable products or models proposed for use. Clearly identify items where options or modifications are required by the Contract Documents.

2. SD-02 Certificates

   a. Certificates signed by responsible officials of a manufacturer of a project, system, or material attesting that the product, system, or material meet specified requirements. Submit certificates certifying the method of installation or quality of installation at the completion of the work. The submittal must be dated after the award of this contract, name the project and list the specific requirements, which it is intended to address.

3. SD-03 Warranty Forms

   a. Prior to installation, submit warranty forms complete in every respect, except for authorized signature(s) and date of commencement.

1.03 CONTRACTOR PREPARATION

A. Certification:

1. Contractor submittals shall be reviewed by the Contractor prior to submittal to the Engineer and shall include the following certification:

   a. "I hereby certify that the material(s), equipment, and/or article(s) shown and

marked in this submittal and proposed to be incorporated into the Work is (are) in strict conformance with the Contract Documents, can be installed in the allocated spaces, and comprises(s) no variation thereto, unless specifically noted otherwise."

2. Contractor Review and Coordination: Before submitting a show drawing or related material to the Engineer, the Contractor shall:

   a. Review each such submission for conformance with the Contractor's means, method techniques, sequences and operations of construction, and safety precautions and programs incidental thereto, all of which are the sole responsibility of the Contractor.

   b. Review and coordinate each such submission with other related or affected work.

   c. Approve each such submission before submitting same; and

   d. Provide the required Contractor's certification as specified in Paragraph A1a Certification, above.

3. By approving a submittal, the Contractor thereby warrants and represents that he has determined and verified applicable field measurements, field construction criteria, materials, catalog numbers and similar data, and has checked and coordinated the submittal with the requirements of the Work and for conformance with the Contract Documents. Submittals submitted without the required certification and coordination will be returned to the Contractor without review. Delays in construction because of late submission or re-submission of required submittals shall be the sole responsibility of the Contractor.

4. Deviations: If a submittal deviates from the drawings and project manual because of standard shop practice, substitutions (approved in accordance with the General Conditions as amended), or any other reason advise Engineer via a separate written instrument. Otherwise, the Contractor will not be relieved of the responsibility for executing the Work in accordance with the Contract Documents even though such submittals may have been approved.

5. Extent of Submittals: Submit only submittals required by the Contract Documents. The Engineer reserves the right to refrain from reviewing other submittals.

   a. Do not include items from more than one specification section per submittal.

   b. Contractor may require additional documentation from subcontractors or suppliers for his own use at no additional cost to the Owner. Such documentation shall not be submitted for review without prior written consent from the Engineer.

   c. Submit only complete specifications sections for review; no partial submittals will be accepted. Incomplete specifications sections will be returned without review by the Engineer.

1.04 FORM OF SUBMITTAL

A. Submit letter of transmittal with each submission listing the contents of the submission and identifying each items by reference to specifications section or drawing. Clearly label shop drawings with the name of the project and other necessary information. Bound product data and other similar material that cannot be so labeled conveniently in suitable covers bearing the identifying data. Distribution of submittals by Engineer will be as specified in Paragraph "Owner's Representative Procedures." Additional copies, as required, shall be marked by the Contractor for his use after submittals have been approved.

1.05 TIME FOR REVIEW

A. The Contractor shall allow a minimum of ten (10) consecutive working days (i.e. Monday through Friday, excluding holidays, and measured from the date of receipt of the Contractor's submittal) for the Engineer's review of each submittal. The same minimum timeframe shall be allowed for at least one (1) re-submittal of each such submittal.

1.06 RESUBMISSION

A. Change or correct submittals as required by the Engineer and resubmit until approved. Indicate any changes which have been made other than those requested by the Engineer.

B. Use the same transmittal procedure as outlined above.

1.07 DISTRIBUTION OF SUBMITTALS

A. Approved Shop Drawings, product data, manufacturer's literature, and certificates, will be distributed by the Engineer as follows:

1. Electronically.

B. Changes After Approval

1. Make no change in a submittal marked "Reviewed" or "Furnish as Corrected" without obtaining the prior written consent of the Engineer. If such written consent is obtained, revise the submittal to show fully the altered parts of the work and resubmit according to the procedures specified herein. State on resubmittal that the work shown supersedes and voids identified parts of the same work previously shown. Give full identification on the drawings previously approved by the Engineer and the date of such action.

1.08 PROCEEDING WITHOUT APPROVAL

A. No submittal may be used in the shop or on the work, except in accordance with the foregoing paragraphs. Proceeding with any construction and ordering or fabricating materials before all relevant drawings have been "Reviewed" or marked "Furnish as Corrected" shall be done at the Contractor's sole risk.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION 013300

SECTION 013550 – SECURITY PROCEDURES

PART 1 - GENERAL

1.01. SECTION INCLUDES

A. Security measures including formal security program, entry control, personnel identification, and miscellaneous restrictions.

1.02 SECURITY PROGRAM

A. Protect Work, existing premises and Owner's operations from theft, vandalism and unauthorized entry.

B. Initiate program in coordination with Owner's existing security system at project mobilization.

C. Maintain program throughout construction period until Owner acceptance precludes the need for Contractor security.

1.03 ENTRY CONTROL

A. Restrict entrance of persons and vehicles into Project site and existing facilities.

B. Allow entrance only to authorized persons with proper identification.

C. Maintain log of workers and visitors, make available to Owner on request.

D. Owner will control entrance of persons and vehicles related to Owner's operations.

E. Coordinate access of Owner's personnel to site in coordination with Owner's security forces.

F. Secure all construction equipment, machinery and vehicles, park and store only within fenced area, and render inoperable during non-work hours. Contractor is responsible to insure that no construction materials, tools, equipment, machinery, or vehicles can be used for unauthorized entry or other damage or interference to activities and security of existing facilities adjacent to and in the vicinity of construction site.

1.04 PERSONNEL IDENTIFICATION

A. Provide identification badge to each person authorized to enter premises.

B. Badge to include: Personal photograph, name assigned number, expiration date and employer.

C. Maintain a list of accredited persons; submit copy to Owner on request.

D. Require return of badges at expiration of their employment on the work.

PART 2 PRODUCTS & PART 3 EXECUTION (NOT USED)

END OF SECTION 013550

SECTION 014000 – QUALITY REQUIREMENTS

PART 1 - GENERAL

1.01. SECTION INCLUDES

A. Qualifications.

B. Control of Installation.

C. Mock-ups.

D. Tolerances.

E. Manufacturer's field services.

F. Defect Assessment.

1.02 QUALITY ASSURANCE

A. Installation of new elevator controls shall be carefully coordinated with the Owner to minimize downtime of the elevator while the building is open for use.

1.03 QUALIFICATIONS

A. General: Qualifications paragraphs in this Article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

C. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

D. Fabricator Qualifications: A firm experienced in manufacturing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to product required units.

E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or products that are similar to those indicated for this project in material, design, and extent.

F. Specialists: Certain sections of the Specifications require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy

qualification requirements indicated and shall be engaged for the activities indicated.

1. Requirements for specialists shall not supersede building codes and regulations governing the Work.

G. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 CONTROL OF INSTALLATION

A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.

B. Comply with manufacturers' instructions, including each step in sequence.

C. Should manufacturer's instructions conflict with Contract Documents, request clarification from Engineer before proceeding?

D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes or specified requirements indicate higher standards or more precise workmanship. If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Engineer for a decision before proceeding.

E. Have Work performed by persons qualified to produce required and specified quality.

F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.

G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

3.02 MANUFACTURERS' FIELD SERVICES

A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, test, adjust and balance of equipment as applicable, and to initiate instructions when necessary.

B. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

3.03 DEFECT ASSESSMENT

A. Replace Work or portions of the Work not conforming to specified requirements.

B. If, in the opinion of Engineer, it is not practical to remove and replace the Work, Engineer will direct an appropriate remedy or adjust payment.

END OF SECTION 014000

SECTION 260500 — GENERAL PROVISIONS

PART 1 - GENERAL

1.1 RELATED SECTIONS

A. The provisions of The Supplement to Advertisement, The Instructions to Bidders, Supplement to Instruction to Bidders, General Conditions, Supplementary Conditions and all other sections of Division 1 of these Specifications shall govern the work under this Division or Section the same as if incorporated herein.

1.2 SCOPE

A. The Contractor shall provide and install complete electrical systems including all conductors, raceways, fittings, protective devices, wiring devices, fixtures, supports, and all miscellaneous hardware necessary. All of the above equipment shall be completely installed and left in proper operating condition. All electrically powered equipment whether furnished by others or by the Contractor shall be wired by the Contractor.

1.3 REQUIREMENTS

A. Field verification of scale on electrical plans is directed since actual locations, distances and levels will be governed by actual field conditions.

B. In case of conflicts or discrepancies between plans, plans and specifications and/or actual field conditions, Contractor shall notify the Engineer before work is continued. Coordinate with other trades to avoid conflicts.

C. Permits, and Tests - The Contractor shall procure and pay for all permits, fees and licenses required. Perform all tests to ensure all systems are in good operating condition.

D. Review of Material; Specific reference in the specification to any article, device, product, material, fixture, form or type of construction by name, make or catalog number, with or without the words "or equal", shall be interpreted as establishing a standard of quality and shall not be construed as limiting competition.

E. Bidders shall base bids on the material specified or on equals receiving approval 10 days prior to Bid Opening. Any increase in the cost of work resulting from substitution of any product specified is part of this contract and shall be accomplished in an approved manner at no extra cost to the Owner.

F. Substitutions. No substitution will be considered unless written request for approval has been received by the Engineer at least 10 days prior to the date of receipt of bids. Each such request shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitution including drawings, cuts, performance and test data and any other information necessary for an evaluation. A statement setting forth any changes in other materials, equipment or other Work that incorporation of the substitute would require shall be included; failure to do so does not alleviate the Contractor of his responsibility to make any and all necessary changes required for installation of the approved substitution. The

burden of proof of the merit of the proposed substitute is upon the proposer. The Engineer's decision of approval or disapproval of a proposed substitution shall be final.

G. All materials shall be new and of current manufacturer. Where more than one of a type of device is used, all shall be by the same manufacturer. All materials shall conform to the grade, quality and standards of those specified.

H. Shop drawings shall be submitted in accordance with the General Conditions. Forward all shop drawings at one time. Each item shall bear project name and identifying symbol from plans. Shop Drawings required are as follows:
1. Elevator Control Additions for Recall
2. Elevator Wiring Diagrams with Fire Alarm Interface

I. Interferences - The drawings are generally diagrammatic in nature, and accordingly the Contractor shall coordinate his work with that of all other trades to avoid interferences. The Contractor shall examine the complete set of drawings and specifications for the job before installation of electrical work, coordinating locations and routings with other trades to avoid interferences. Work installed by the Contractor which does interfere with another trade shall be removed and reinstalled at the Contractor's expense when directed by the Architect.

J. Workmanship shall be of the highest quality and all work shall be done by workmen skilled in the trades involved.

K. The Contractor shall guarantee all work under this contract for one year and shall be responsible for the maintenance of all electrical equipment furnished and installed under this contract, excluding lamp replacement, for a period of one year from the date of substantial completion.

PART 2 - PRODUCTS

NOT USED

PART 3 - EXECUTION

3.1 APPLICABLE CODES AND STANDARDS

Note: The materials and installation shall conform to the minimum requirements and latest outstanding issues and revisions of the following codes, standards, and regulations wherein they apply:

NFPA No. 70, National Electrical Code, (2011 edition).

IBC (2012), IECC (2009), IFC (2012)

American National Standard, National Electrical Safety Code, (2012).

Applicable Publications of NEMA, ANSI, IEEE and IPCEA.

Underwriter's Laboratories, Inc. Standards

City, State and Local Codes and Regulations having jurisdiction.

OSHA requirements.

ADA requirements.

END OF SECTION 260500

SECTION 260501 — BASIC MATERIALS

PART 1 - GENERAL

1.1 RELATED SECTIONS

A. Materials specified in this section shall comply with all applicable requirements of SECTION 16010, GENERAL PROVISIONS.

1.2 SCOPE

A. Contractor Furnished. Unless otherwise noted on the drawings, equipment list, or specifications, the Contractor shall furnish and install all materials, devices, and apparatus necessary for the complete electrical system. All materials and equipment shall be of types and manufacturer specified wherever practical. Should materials or equipment so specified be unobtainable, the Contractor shall submit the description and manufacturer's literature, reason for the substitution request and shall secure the approval of the Engineers before substitution of other material or equipment. This specification establishes performance requirements and the quality of equipment acceptable for use and shall in no way be construed to limit procurement from other manufacturers.

B. Equal or Equivalent. The term "or equal" and similar terms as used on the drawings or specifications shall be interpreted to mean "equal or equivalent" in the opinion of the Engineers.

C. Manufacturer's Prints. Where the Contractor furnishes equipment other than standard construction items, he shall furnish manufacturer's prints and reproducibles of all such equipment to the Engineers.

D. U.L. Listing. All equipment and materials shall be new and conform to the requirements of this specification. All equipment and materials shall be listed by the Underwriter's Laboratories, Inc., and shall bear their label whenever standards have been established and label service is regularly furnished. All equipment and materials shall be of the best grade of their respective kind for the purpose.

PART 2 - PRODUCTS AND EXECUTION

2.1 FUSES

A. Contractor Furnished. The contractor shall furnish and install fuses in all fusible devices and equipment that are furnished by the contractor.

B. Manufacturer and Listing. The following fuse types shall be used for the applications listed. The following are trade names of the Bussman Manufacturing Division, however, equivalent products by Chase Shawmut Division shall be acceptable.

Application	Trade Names	Class	Voltage (Type)
Motors, Transformers & Miscellaneous Equipment 0-600 Amps	Fusetron	K-5 K-5	240 (FRN) 600 (FRS)

2.2 MISCELLANEOUS CONTROL DEVICES

A. Furnished by Others. Miscellaneous control devices such as duct switches, air flow switches, thermostats and temperature control devices, and similar equipment shall normally be furnished under another division. Any such device that is to be furnished under this division shall be specifically designated on the drawings.

B. Enclosures. All devices furnished shall be suitable for the control requirements and shall have voltage rating and adequate capacity for the application. They shall be housed in enclosures suitable for the location and environment as indicated on the drawings.

2.3 BOXES

A. Contractor Furnished. The contractor shall furnish and install all electrical boxes required for the proper installation of the electrical systems. Boxes shall be of the NEMA type suitable for the location. Boxes shall be installed as specified on the drawings and as described under "Wiring Methods", and other applicable sections of this specification for wiring devices such as switches, receptacles, and similar devices. In order to maintain fire ratings, boxes installed "back-to-back" in fire walls shall not be located in the same space between studs, but shall have a stud located between them.

B. Concealed. Fixture, outlet, and switch boxes installed concealed in walls or ceiling areas shall be galvanized or cadmium plated sheet steel of not less than the minimum size as recommended in the National Electrical Code and shall be furnished with appropriate covers as specified in other applicable sections of these specifications or on the drawings. All boxes shall be accessible for maintenance purposes.

C. Exact locations of all floor boxes shall be coordinated in the field with the architect unless specific dimensions are shown on the drawings. Also, see Section 16500 of these specifications.

D. Surface Mounted. Fixture, outlet, and switch boxes installed surface mounted in plant, shop, operating, and unfinished areas shall be threaded, cast alloy iron or malleable iron. Iron type shall have a cadmium/zinc electroplate, or galvanized finish with appropriate lacquer. Boxes shall be of the approved type for the outlets, switches, and fixtures served and shall be made of the material and finish compatible with the conduit system and location. Surface mounted boxes shall be only as noted on the plans.

E. Splice and Tap Boxes. Splice and tap boxes for power circuits shall be used only where designated on the drawings and shall be of the type and size indicated. Otherwise all power wiring shall be continuous, splice and tap free, between equipment. On lighting and convenience receptacle circuitry, wiring may be spliced and boxes shall be provided for concealed or surface mounting as previously specified or may be JIC oil-tight of size and type indicated on the drawings or minimum size as specified in the National Electrical Code.

F. Pull Boxes. Pull boxes for interior, or outdoor exposed power wiring shall be provided where shown or required to facilitate the installation of the wiring. Pull boxes shall not be located in

finished rooms and shall be accessible for maintenance use. For conduit sizes 3/4 and 1 inch, conduit fittings of the "C", "LB", "TB" and similar types may be used for "Pulling In." Unless designated otherwise, all pull boxes shall be the straight-through type and changes in direction shall not be made in the box. The boxes shall be of the minimum size and type as required by the National Electric Code or as sized on the drawings.

2.4 COVERS AND DEVICE PLATES

A. Contractor Furnished. The contractor shall furnish and install the appropriate cover on all boxes, conduit fittings, panels, cabinets, switches, receptacles, and similar wiring devices and other equipment that is Contractor furnished. Conduit outlet fitting covers shall be the type specified under "Conduit Fittings."

2.5 ENCLOSURES

A. Enclosures and housings for all Contractor furnished electrical equipment and devices shall be suitable for the location and environmental conditions and shall be of NEMA type as shown on symbol sheet drawing.

END OF SECTION 260501

SECTION 260519 — CONDUCTORS

PART 1 - GENERAL

1.1 RELATED SECTIONS

A. Materials specified in this Section shall comply with all applicable requirements of SECTION 260500, GENERAL PROVISIONS.

1.2 SCOPE

A. This specification covers the requirements for all wire and cable to be used in the installation of the electrical systems for the project, including all power, control, and instrumentation systems.

B. Wire and cable will normally be furnished by the Contractor for installation. Drawings will indicate where cable is not to be furnished.

C. All cable is to be "Contractor-furnished", the Contractor shall submit for approval by the Owner any deviations anticipated or proposed with respect to the cable manufacturer, cable type, or specification contained herein.

PART 2 - PRODUCTS

2.1 MATERIALS

A. All wire and cable shall be Underwriters' Laboratories (UL) listed. In addition to other standard labeling, all wire and cable shall be marked UL on the outer surface indicating Underwriters' Laboratories, Inc. certification.

B. Grounding conductors, where insulated, shall be colored solid green. Conductors intended as a neutral shall be colored solid white.

C. For all circuits 600 volt and less, wires and cables shall have code grade, 600 volt type THWN-THHN, 75 degrees C., wet or dry locations, moisture and heat resistant thermoplastic insulation. Insulation thickness shall be per National Electrical Code, Table 310-13.

D. Conductor sizes are expressed in American Wire Gage (AWG) or in circular mils. Conductors shall be annealed copper wire, minimum size #12 AWG, except that #14 AWG may be used for control or as otherwise directed by the manufacturer. All conductors shall be stranded.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Separation of Usage. Fire Alarm connections to the elevator controller shall be provided in separate conduit from other signal wiring.

B. Pulling. Where mechanical assistance is used for pulling conductors, patented wire pulling compounds having inert qualities that do not harm the wire insulation or covering shall be applied to the conductors as they are pulled into raceways. Interior of all raceways shall be free from grease, filings or foreign matter before conductors are pulled in.

3.2 IDENTIFICATION

A. Wire, Cable, Raceways, and Conduits.

B. Circuit identification numbers shall be placed on each end of the conductor involved by using self-laminating marker tags, T&B Company E-Z Code Type WSL or equal. Circuit numbers shall be as shown on the plan and panel schedule drawings.

3.3 SPLICES AND TERMINATIONS

A. Power Conductors shall be continuous. No power cable shall be spliced except on explicit instructions of the Owner's Representative.

3.4 LUGS

A. All terminations shall be furnished and installed by the Contractor where required.

3.5 TAPING

A. All voids, sharp corners and bolt projections shall be made smooth by filling with Okonite or Scotch Fill before applying the laps of tape required for insulation. All loose strands of wire shall be removed before taping. Duxseal will not be permitted.

B. Joints and other sections of wiring requiring tape shall be half lap and at least two layers. Taping shall be neatly done and shall form a permanent insulation equal in mechanical and electrical strength to the insulation of the conductor. Taping shall be as follows:

1. 600 Volt insulation - A minimum of 1-1/2 lap layer varnished cambric and 2-1/2 lap layers of 3M No. 33 vinyl plastic electrical tape.

C. All taping, splicing and termination materials shall be furnished by the Contractor.

END OF SECTION 260519

SECTION 260539 — ELECTRICAL RACEWAYS

PART 1 - GENERAL

1.1 RELATED SECTIONS

A. Materials specified in this Section shall comply with all applicable requirements of SECTION 260500, GENERAL PROVISIONS.

1.2 SCOPE

A. Contractor Furnished. The contractor shall provide all conduit, fittings, and supports required and not otherwise shown on plans as furnished by others.

B. The types of electrical raceways required for the project include the following:

1. Electrical Metallic Tubing

C. The minimum raceway size shall be 3/4".

D. Product Delivery, Storage, and Handling. Contractor is to provide color-coded end-cap thread protectors and handle conduit and tubing carefully to prevent damage. Store pipe and tubing inside whenever possible. When necessary to store outdoors, elevate well above grade and enclose with durable, watertight wrapping.

PART 2 - PRODUCTS

2.1 MATERIALS AND COMPONENTS

A. Electrical Metallic Tubing. Galvanized, thin wall tubing, fittings shall be hex-nut, expansion gland type, zinc plated, and U.L. listed as "raintight." No crimp, spring, or set-screw type fittings will be accepted.

PART 3 - EXECUTION

A. Electrical Metallic Tubing. Branch circuits run in hollow dry walls and above ceilings. Not to be exposed.

3.2 INSTALLATION

A. Install conduit and tubing in accordance with NEC and National Electrical Contractors Association's "Standard of Installation", and with recognized industry practices. Where NECA and NEC standards differ, use the more stringent requirement.

B. Complete the installation of raceways before starting installation of wires.

C. Wherever possible, install horizontal raceway runs above water and steam piping.

D. Care shall be taken to keep the interior of conduits clean, and each conduit run shall be thoroughly cleaned and dried before any cable is pulled through.

E. Unless indicated otherwise on drawings, all exposed conduits shall be run parallel with or perpendicular to building structural members.

F. Conduits entering sheet metal enclosures shall be made up with double locknut and insulating bushing. Locknut shall be of the type which will bite into the metal of the box.

G. Conduits entering threaded openings in equipment enclosures, boxes, etc., shall have at least five full threads engaged. In outdoor and underground locations, threaded joints shall be made up with a thin application of conducting joint compound. The inside of the fitting shall be thoroughly cleaned of any excess compound.

H. Power operated bending machines shall be used on conduits 1-1/4" and larger. Heating with torches will not be permitted.

I. All conduit runs shall be continuous from outlet to outlet with all joints and connections pulled tight to insure an electrically continuous and mechanically secure raceway system.

3.3 CONDUIT AND TRAY OPENINGS

A. Contractor's Responsibility. The Contractor shall be responsible for all sleeves and openings through walls and floors necessary for passage of electrical conduits and raceways. Where contractor must provide openings and/or drill concrete floors and/or walls, he shall be responsible for the repair of these openings. Structural members and reinforcing shall not be cut, burned or damaged in any way. All openings in walls and floors, and under switchgear and panels where electrical cables and conduits are installed, shall be closed up by the Contractor to prevent dust, dirt and water from entering.

B. Sealing. The Contractor shall be responsible for sealing all wall and floor openings and all floor and wall sleeve openings utilized by the contractor whether furnished by Others or by the Contractor.

C. Sleeves and openings shall be sealed with materials that will withstand fire and heat to the same rating as the wall, floor, or ceiling through which the conduit or tray passes and shall not be less than a 30-minute barrier.

END OF SECTION 260539

SECTION 265107 — ELEVATORS INSTALLATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Materials specified in this Section shall comply with all applicable requirements of SECTION 260500, GENERAL PROVISIONS.

1.2 WORK INCLUDES

A. The Contractor shall provide electrical connections required for the recall operation of the existing passenger elevator. Contractor shall provide required wiring from lobby shaft and machine room detectors to the elevator controller for Fireman's Recall, if required. The system shall comply with NEC, NFPA and ANSI A17.1. The existing fire alarm system has relays installed to provide the required signals in the machine room. Coordinate with Owner's installer for connection of the fire alarm outputs for the required connections.

PART 2 - PRODUCTS

2.1 PRODUCTS

A. Components of wiring system shall comply with other sections of Division 26.

B. Controllers shall be furnished and installed by the elevators' control's installer.

C. The Contractor shall furnish and install all disconnect switches and fuses required for operation of the elevators.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Contractor shall confirm all equipment locations in field with Installer prior to mounting of any equipment. All locations indicated are approximate.

B. Contractor shall confirm all equipment fuses and feeder ratings. Exact fuse and feeder requirements shall be determined by the Contractor and provided per actual equipment furnished.

C. Coordinate with elevator installer for required testing.

END OF SECTION 265107

SECTION 283111 - FIRE ALARM SYSTEM

PART 1 - GENERAL

1.1 RELATED SECTIONS

A. Materials specified in this Section shall comply with all applicable requirements of SECTION 260500, GENERAL PROVISIONS.

1.2 DESCRIPTION OF WORK

A. Contractor shall coordinate his work with the Owner's Fire Alarm installer I order to make the connections from the existing fire alarm system to the elevator controller. The existing fire alarm system has provisions for the outputs for primary and secondary recall.

PART 2 - PRODUCTS

2.1 WIRE AND CABLE

A. Wire and cable for fire alarm systems shall be UL listed and labeled as complying with NFPA 70, Article 760.

B. Signaling Line Circuits: Twisted, shielded pair, size as recommended by system manufacturer, but not less than No. 18 AWG .

C. Non-Power-Limited Circuits: Solid-copper conductors with 600-V rated, 75 deg C, color-coded insulation.

1. Low-Voltage Circuits: No. 14 AWG, minimum.
2. Line-Voltage Circuits: No. 12 AWG, minimum.

PART 3 - EXECUTION

3.1 WIRING INSTALLATION

A. Install wiring according to the following:

1. NECA 1.
2. TIA/EIA 568-A.

B. Wiring Method: Install wiring in metal raceway according to Division 26 Section "Electrical Raceways."

1. Fire alarm circuits and equipment control wiring associated with the fire alarm system shall be installed in a dedicated raceway system. This system shall not be used for any other wire or cable.

C. Wiring within Enclosures: Separate power-limited and non-power-limited conductors as recommended by manufacturer. Install conductors parallel with or at right angles to sides and back of the enclosure. Bundle, lace, and train conductors to terminal points with no excess. Connect conductors that are terminated, spliced, or interrupted in any enclosure associated with the fire alarm system to terminal blocks. Mark each terminal according to the system's wiring diagrams. Make all connections with approved crimp-on terminal spade lugs, pressure-type terminal blocks, or plug connectors.

D. Color-Coding: Color-code fire alarm conductors differently from the normal building power wiring. Use one color-code for alarm circuit wiring and a different color-code for supervisory circuits. Color-code audible alarm-indicating circuits differently from alarm-initiating circuits. Use different colors for visible alarm-indicating devices. Paint fire alarm system junction boxes and covers red.

3.2 IDENTIFICATION

A. Identify system components, wiring, cabling, and terminals according to Division 26 Section "Basic Materials."

3.3 FIELD QUALITY CONTROL

A. Perform the following field tests and inspections and prepare test reports:

1. Before requesting final approval of the installation, submit a written statement using the form for Record of Completion shown in NFPA 72.
2. Perform each electrical test and visual and mechanical inspection listed in NFPA 72. Certify compliance with test parameters.
3. Visual Inspection: Conduct a visual inspection before any testing. Use as-built drawings and system documentation for the inspection. Identify improperly located, damaged, or nonfunctional equipment, and correct before beginning tests.
4. Testing: Follow procedure and record results complying with requirements in NFPA 72.

    a. Detectors that are outside their marked sensitivity range shall be replaced.

3.4 WARRANTY AND POST-INSTALLATION TESTING

A. **WARRANTY: All work performed and all material and equipment furnished under this contract shall be free from defects and shall remain so for a period of at least one (1) year from the date of acceptance. The full cost of maintenance, labor and materials required to correct any defect during this one year period shall be included in the submittal bid. The Contractor shall repair or replace any deficiencies reported in the guarantee period promptly after notification, without any additional compensation from the Owner.**

B. As part of the above one-year warranty, the Contractor shall provide the following maintenance and testing, once at the 6-month point and a second time at the twelve-month point of the warranty period. The date of the two maintenance and testing sessions shall be scheduled as part of the fire alarm system closeout documents and shall be coordinated with

the Owner and the Engineer prior to acceptance of the fire alarm system. The cost of this work shall be included in the Base Bid and shall include the following:

1. Examination, adjustment and cleaning of all detectors, control panels, power supplies, relays and all accessories of the fire alarm system required for the operation of the elevator recall.
2. Each smoke detector shall be tested in accordance with the requirements of NFPA 72.
3. Test each detector to verify correct operation of the elevator recall function.

3.7 RECORD DOCUMENTATION

A. Record Drawings: Provide Owner with a redline copy of all changes made during construction to original design, along with an electronic AutoCAD copy of the fire alarm system with the changes incorporated. CAD files shall be saved in AutoCAD 2009.

END OF SECTION 283111