SUBMIT BID TO:
PROCUREMENT SERVICES
UNIVERSITY OF FLORIDA
971 ELMORE DRIVE
PO BOX 115250
GAINESVILLE, FL 32611
Phone: (352) 392-1331 - FAX: (352) 392-8837
Web Address: https://procurement.ufl.edu/

UF UNIVERSITY of FLORIDA

INVITATION TO BID

Construction Acknowledgment Form

Page 1 of 63 pages	BID WILL BE OPENED: **June 16, 2022 at 3:00 PM** local time and may not be withdrawn within 90 days after such date and time. Mandatory Pre-bid: **June 1, 2022 at 9:30 AM** local time.	BID NO.: ITB22KO-137
DATE: 05/20/2022	PROCUREMENT AGENT: KO	**BID TITLE: Service Elevator Modernization at JWRU**
VENDOR NAME		
VENDOR MAILING ADDRESS		REASON FOR NOT SUBMITTING BID
CITY - STATE - ZIP CODE		**POSTING OF BID TABULATIONS**
AREA CODE _____ _____	TELEPHONE NO. _____ FAX NO. _____ WEB ADDRESS EMAIL ADDRESS	Bid tabulations with intended award(s) will be posted electronically for review by interested parties at https://procurement.ufl.edu/ and will remain posted for a period of 72 hours excluding Saturdays, Sundays, or state holidays. Failure to file a protest in accordance with Board of Governors (BOG) Regulation 18.002 or failure to post the bond or other security as required in the BOG regulations 18.002 and 18.003(3), shall constitute a waiver of protest proceedings.

I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm or person submitting a bid for the same materials, supplies, or equipment and is in all respects fair and without collusion or fraud. I agree to abide by all conditions of this bid and certify that I am authorized to sign this bid for the vendor and that the vendor is in compliance with all the requirements of the Invitation to Bid, including but not limited to, certification requirements. In submitting a bid on behalf of the Board of Trustees, hereinafter known as the University, the vendor offers and agrees that if the bid is accepted the vendor will convey, sell, assign, or transfer to the University all rights, title and interest in and to all causes of action it may now or hereafter acquire under the Anti-trust laws of the United States and the University for price fixing relating to the particular commodities or services purchased or acquired by the University. At the University's discretion, such assignment shall be made and become effective at the time the purchasing agency tenders final payment to the vendor.

_____
AUTHORIZED SIGNATURE (MANUAL)

_____
NAME AND TITLE (TYPED)

GENERAL CONDITIONS

SEALED BIDS: All bid sheets and this form must be executed and submitted in a sealed envelope. (DO NOT INCLUDE MORE THAN ONE BID PER ENVELOPE.) The face of the envelope shall contain, in addition to the above address, the date, and time of the bid opening and the bid number. Bids not submitted on the attached bid form shall be rejected. All bids are subject to the conditions specified herein. Those which do not comply with these conditions are subject to rejection.

1. **EXECUTION OF BID**: Bid must contain an original manual signature of authorized representative in the space provided above. Bid must be typed or printed in ink. Use of erasable ink is not permitted. All corrections to prices made by vendor must be initialed.

2. **NO BID**: If not submitting a bid, respond by returning only this vendor acknowledgment form, marking it "NO BID", and explain the reason in the space provided above. Failure to respond to a procurement solicitation without giving justifiable reason for such failure, nonconformance to contract conditions, or other pertinent factors deemed reasonable and valid shall be cause for removal of the supplier's name from the bid mailing list. NOTE: To qualify as a respondent, vendor must submit a "NO BID", and it must be received no later than the stated bid opening date and hour.

3. **BID OPENING**: Shall be public, on the date, location and the time specified on the bid form. It is the vendor's responsibility to assure that the bid is delivered at the proper time and place of the bid opening. Bids which for any reason are not so delivered will not be considered. A bid may not be altered after opening of the bids. NOTE: Bid tabulations will be posted electronically at https://procurement.ufl.edu/ . Bid tabulations will not be provided by telephone.

4. **PRICES, TERMS AND PAYMENT**: Firm prices shall be bid and will include all packing, handling, shipping charges, and delivery to the destination shown herein.
(a) TAXES: The University does not pay Federal Excise and Sales taxes on direct purchases of tangible personal property or services. The Florida Tax Exempt Number is 11-06-024056-57C. This exemption does not apply to purchases of tangible personal property or services made by vendors who use the tangible personal property or services in the performance of contracts for the improvement of University-owned real property as defined in Chapter 192, F.S.
(b) DISCOUNTS: Vendors are encouraged to reflect trade discounts in the unit prices quoted; however, vendors may offer a discount for prompt payment. Prompt payment discounts will not be considered in the bid award. However, every effort will be made to take the discount within the time offered.
(c) MISTAKES: Vendors are expected to examine the specifications, delivery schedule, bid prices, extensions, and all instructions pertaining to supplies and services. Failure to do so will be at vendor's risk. In case of a mistake in extensions the unit price will govern.
(d) INVOICING AND PAYMENT: Payment will be made by the University of Florida after the items awarded to a vendor have been received, inspected, and found to comply with award specifications, free of damage or defect and properly invoiced. All invoices shall bear the purchase order number. Payment for partial shipments shall not be made unless specified. An original invoice shall be submitted. Failure to follow these instructions may result in delay in processing invoices for payment. Payment shall be made in accordance with Section 215.422 (1) (2) F.S. VENDOR OMBUDSMAN: The University's vendor ombudsman, whose duties include acting as an advocate for vendors may be experiencing problems in obtaining payment from the University, may be contacted at 352-392-1241.
(e) ANNUAL APPROPRIATIONS: The University's performance and obligation to pay under any contract awarded is contingent upon an annual appropriation by the Legislature.
(f) CONDITION AND PACKAGING: It is understood and agreed that any item offered or shipped as a result of this bid shall be a new, current standard production model available at the time of this bid. All containers shall be suitable for storage or shipment, and all prices shall include standard commercial packaging.
(g) SAFETY STANDARDS: Unless otherwise stipulated in the bid, all manufactured items and fabricated assemblies shall comply with applicable requirements of Occupational Safety and Health Act and any standards hereunder.

5. CONFLICT OF INTEREST: The award hereunder is subject to the provisions of Chapter 112, F.S. All vendors must disclose with their bid the name of any officer, director, or agent who is also an employee of the University of Florida. Further, all vendors must disclose the name of any University employee who owns, directly or indirectly, an interest of five percent (5%) or more in the vendor's firm or any of its branches.

6. AWARDS: As the best interest of the University may require, the right is reserved to make award(s) by individual item, group of items, all or none or a combination thereof; to reject any and all bids or waive any minor irregularity or technicality in bids received. When it is determined there is no competition to the lowest responsible vendor, evaluation of other bids are not required. Vendors are cautioned to make no assumptions unless their bid has been evaluated as being responsive.

7. INTERPRETATIONS/DISPUTES: Any questions concerning conditions or specifications shall be directed in writing to Procurement Services. Inquiries must reference the date of bid opening and bid number. No interpretations shall be

considered binding unless provided in writing by the University in response to requests in full compliance with this provision.

8. NOTICE OF BID PROTEST BONDING REQUIREMENT; Any person or entity who files an action protesting a decision or an intended decision pertaining to a competitive solicitation shall at the time of filing the formal protest, post with the University a bond payable to the University in an amount equal to: 10% of the estimated value of the protestor's bid or proposal; 10% of the estimated expenditure during the contract term; $10,000.00; or whichever is less. The bond shall be conditioned upon the payment of all costs which may be adjudged against the person or entity filing the protest action. In lieu of a bond, the University may accept a cashier's check, bank official check or money order in the amount of the bond. FAILURE OF THE PROTESTING PERSON OR ENTITY TO FILE THE REQUIRED BOND, CASHIER'S CHECK, BANK OFFICIAL CHECK OR MONEY ORDER AT THE TIME OF THE FILING THE FORMAL PROTEST SHALL RESULT IN DENIAL OF THE PROTEST.

9. GOVERNMENTAL RESTRICTIONS: In the event any governmental restrictions may be imposed which would necessitate alteration of the material, quality, workmanship or performance of the items offered in this bid prior to their delivery, it shall be the responsibility of the successful vendor to notify the purchaser at once, indicating in writing the specific regulation which requires an alteration. The University reserves the right to accept any such alteration, including any price adjustments occasioned thereby, or to cancel the contract at no expense to the University.

10. LEGAL REQUIREMENTS: Applicable provision of all Federal, State, county and local laws, and of all ordinances, rules and regulations shall govern development, submittal and evaluation of all bids received in response hereto and shall govern any and all claims and disputes which may arise between person(s) submitting a bid response hereto and the University, by and through its officers, employees and authorized representatives, or any other person, natural or otherwise: and lack of knowledge by any vendor shall not constitute a cognizable defense against the legal effect thereof.

11. LOBBYING: Vendor is prohibited from using funds provided under any contract or purchase order for the purpose of lobbying the Legislature or any official, officer, commission, board, authority, council, committee, or department of the executive branch or the judicial branch of state government.

12. ADVERTISING: In submitting a bid, the vendor agrees not to use the results therefrom as a part of any commercial advertising. Vendor may not use the names, logos, or trademarks of the University, its employees, or affiliates without the prior written consent of the University.

13. ASSIGNMENT: Any contract or purchase order issued pursuant to this Invitation to Bid and the monies which may become due hereunder are not assignable except with the prior written approval of the purchaser.

14. LIABILITY: The vendor agrees to indemnify and save the University of Florida, the State of Florida and the Florida Board of Governors, their officers, agents, and employees harmless from any and all judgments, orders, awards, costs and expenses, including attorney's fees, and also all claims on account of damages to property, including loss of use thereof, or bodily injury (including death) which may be hereafter sustained by the vendor, its employees, its subcontractors, or the University of Florida, the State of Florida and the Florida Board of Governors, their officers, agents, or employees, or third persons, arising out of or in connection with any contract awarded and which are the result of the vendor's breach of contract or of the negligent acts of the vendor, its officers, agents, and employees. This clause does not apply to contracts between government agencies.

15. FACILITIES: The University reserves the right to inspect the vendor's facilities at any time with prior notice.

16. ADDITIONAL QUANTITIES: For a period not exceeding ninety (90) days from the date of acceptance of any offer by the University of Florida, the right is reserved to acquire additional quantities up to but not exceeding those shown on bid or the bid level at the prices bid in this invitation. If additional quantities are not acceptable, the bid sheets must be noted "BID IS FOR SPECIFIED QUANTITY ONLY".

17. SERVICE AND WARRANTY: Unless otherwise specified, the vendor shall define any warranty service and replacements that will be provided during and subsequent to this contract. Vendors must explain on an attached sheet to what extent warranty and service facilities are provided.

18. SAMPLES: Samples of items, when called for, must be furnished free of expense, on or before bid opening time and date, and if not destroyed, may upon request, be returned at the vendor's expense. Each individual sample must be labeled with vendor's name, manufacturer's brand name and number, bid number and item reference. Request for return of samples shall be accompanied by instructions which include shipping authorization and name of carrier and must be received with the bid. If instructions are not received within this time, the commodities shall be disposed of by the University.

19. INSPECTION, ACCEPTANCE AND TITLE: Inspection and acceptance will be at destination unless otherwise provided. Title and risk of loss or damage of all items shall be the responsibility of the contract supplier until accepted by the University, unless loss or damage results from negligence by the University. The contract supplier shall be responsible for filing, processing and collecting all damage claims. However, to assist him in the expeditious handling of damage claims, the University will:

(a) Record any evidence of visible damage on all copies of the delivering carrier's Bill of Lading.
(b) Report damage (Visible or Concealed) to the carrier and contract supplier confirming such reports in writing within 15 days of delivery, requesting that the carrier inspect the damaged merchandise.
(c) Retain the item and its shipping container, including inner packing material until inspection is performed by the carrier, and disposition given by the contract supplier.
(d) Provide the contract supplier with a copy of the carrier's Bill of Lading and damage inspection report.

20. PATENTS, COPYRIGHTS, TRADEMARKS, ROYALTIES and other Intellectual Property: The vendor, without exception, shall indemnify and save harmless the University and its employees from liability of any nature or kind, including cost and expenses for or on account of any copyrighted, patented, or unpatented invention, process, or article manufactured or used in the performance of the contract, including its use by the University of Florida. If the vendor uses any design, device, or materials covered by letters, patent or copyright, it is mutually agreed and understood without exception that the bid prices shall include all royalties or costs arising from the use of such design, device, or materials in any way involved in the work.

21. CONFLICT BETWEEN DOCUMENTS: If any terms and conditions contained within the documents that are a part of this ITB or resulting contract are in conflict with any other terms and conditions contained therein, then the various documents comprising this ITB or resulting contract, as applicable, shall govern in the following order of precedence: change order, purchase order, addenda, special conditions, general conditions, specifications, departmental description of work, and bid.

22. MANUFACTURERS' NAMES AND APPROVED EQUIVALENTS: Any manufacturer's names, trade names, brand names, information and/or catalog numbers listed in a specification are for information and not intended to limit competition. If bids are based on equivalent products, indicate on the bid form the manufacturer's name and number. Vendor shall submit with the bid, cuts, sketches, and descriptive literature, and/or complete specifications. Reference to literature submitted with a previous bid will not satisfy this provision. The vendor shall also explain in detail the reasons why the proposed equivalent will meet the specifications and not be considered an exception thereto. The University of Florida reserves the right to determine acceptance of item(s) as an approved equivalent. Bids which do not comply with these requirements are subject to rejection. Bids lacking any written indication of intent to quote an alternate brand will be received and considered in complete compliance with the specifications as listed on the bid form.

23. NONCONFORMANCE TO CONTRACT CONDITIONS: Items may be tested and/or inspected for compliance with specifications by any appropriate testing facilities. Should the items fail, the University may require the vendor to reimburse the University for costs incurred by the University in connection with the examination or testing. The data derived from any tests for compliance with specifications are public records and open to examination thereto in accordance with Chapter 119, F.S. Items delivered not conforming to specifications may be rejected and returned at vendor's expense. These items and items not delivered as per delivery data in bid and/or purchase order may result in vendor being found in default in which event any and all reprocurement costs may be charged against the defaulting vendor. Any violation of these conditions may also result in the vendor's name being removed from the University of Florida's vendor file.

24. PUBLIC RECORDS: Any material submitted in response to this Invitation to Bid will become a public document pursuant to Section 119.07 F.S. This includes material which the responding vendor might consider to be confidential or a trade secret. Any claim of confidentiality is waived upon submission, effective after opening pursuant to Section 119.07 F.S.

25. DELIVERY: Unless actual date of delivery is specified (or if specified delivery cannot be met), show number of days required to make delivery after receipt of purchase order in space provided. Delivery time may become a basis for making an award (see Special Conditions). Delivery shall be within the normal working hours of the University of Florida, Monday through Friday, unless otherwise specified.

26. PUBLIC PRINTING - PREFERENCE GIVEN PRINTING WITHIN THE STATE: The University of Florida shall give preference to vendors located within the state when awarding contracts to have materials printed, whenever such printing can be done at no greater expense than, and at a level of quality comparable to, that obtainable from a vendor located outside of the state.

(a) CONTRACTS NOT TO BE SUBLET: In accordance with Class B Printing Laws and Regulations "Printing shall be awarded only to printing firms. No contract shall be awarded to any broker, agent, or independent contractor offering printing manufactured by other firms or persons."
(b) DISQUALIFICATION OF VENDOR: Reasonable grounds for believing that a vendor is involved in more than one bid for the same work will be cause for rejection of all bids in which such vendors are believed to be involved. Any or all bids will be rejected if there is reason to believe that collusion exists between vendors. Bids in which the prices obviously are unbalanced will be subject to rejection.
(c) TRADE CUSTOMS: Current trade customs of the printing industry are recognized unless accepted by Special Conditions or Specifications herein.
(d) COMMUNICATIONS: It is expected that all materials and proofs will be picked up and delivered by the printer or his representative, unless otherwise specified. Upon request, materials will be forwarded by registered mail.
(e) RETURN OF MATERIAL: All copy, photos, artwork, and other materials supplied by the University of Florida must be handled carefully and returned in good condition upon completion of the job. Such return is a condition of the contract and payment will not be made until return is affected.

27. E-VERIFY COMPLIANCE. Agency is obligated to comply with the provisions of Section 448.095, Fla. Stat., "Employment Eligibility." Compliance with Section 448.095, Fla. Stat., includes, but is not limited to, utilization of the E-Verify System to verify the work authorization status of all newly hired employees. Vendor affirms and represents that it is registered with the E-Verify system and are using same and will continue to use same as required by Section 448.095, Fla. Statute.

END OF SECTION

Bid Number: ITB22KO-137

Title: Service Elevator Modernization at J. Wayne Reitz Union

AUTHORIZED REPRESENTATIVES AND CONTACT INFO:

UF PROCUREMENT SERVICES:
Karen Olitsky
971 Elmore Drive / PO Box 115250
Gainesville, FL 32611-5250
(352) 294-1163
kolitsk@ufl.edu

NON-TECHNICAL SPECIFICATIONS TABLE OF CONTENTS

I. Bidding Conditions

00020 Invitation to Bid
00100 Instruction to Bidders
00310 Bid Form

II. General Terms and Conditions

https://facilities.ufl.edu/wp-content/uploads/forms/contracts/GTC.pdf

III. Division 0 Non-Technical Specifications

https://facilities.ufl.edu/wp-content/uploads/forms/contracts/Div0NonTechSpecs.pdf

IV. Division 1 Non-Technical Specifications

https://facilities.ufl.edu/wp-content/uploads/forms/contracts/Div1_NonTech_Specs_SEPT_2020.pdf

V. UF Design and Construction Standards

https://facilities.ufl.edu/projects/forms-standards/design-construction-standards/

VI. Standards, Policies, Regulations, Forms, Guides, Inspection & Closeout and References

https://facilities.ufl.edu/projects/forms-standards/

a. Other Forms

- Dig Permits: https://www.facilitiesservices.ufl.edu/departments/utilities/dig-permits/
- Building Codes Enforcement Inspections: https://www.ehs.ufl.edu/departments/facility-support-services/building-codes-enforcement/inspections/
- Fire Plan Review and Inspection: https://www.ehs.ufl.edu/departments/facility-support-services/fire-safety/

00020 - INVITATION TO BID

The Invitation to Bid shall be in accordance with the University of Florida, Procurement Services "Invitation to Bid Acknowledgement Form" with all relevant information provided therein.

END OF SECTION

00100 - INSTRUCTIONS TO BIDDERS

1.1 RELATED SECTIONS

A. Documents affecting the work of this Section include, but are not necessarily limited to, the General Terms & Conditions and other Sections in Divisions 0 and 1 of these Specifications.

1.2 THE WORK

PROJECT TITLE: Service Elevator Modernization at J. Wayne Reitz Union

1.3 SECURING DOCUMENTS

Copies of the proposed Contract Documents may be obtained from:

University of Florida Procurement Services website.
https://procurement.ufl.edu/vendors/schedule-of-bids/

1.4 BID FORM

To be considered responsive and responsible, make bids in accordance with the following:

A. Make bids upon the forms provided, properly signed and with all items completed. Do not change the wording of the bid form and do not otherwise alter or add words to the bid form. Unauthorized conditions, limitations, or provisions attached to the bid may be cause for rejection of the bid.

B. Include with bid a completed and signed Invitation to Bid Construction AcknowledgmentForm.

C. Include completed Section 00310 - Bid Form.

D. Include list of subcontractors as described in Section 00430 - Subcontractor Listing.

E. **Bids must be submitted no later than June 16, 2022 at 3:00PM, local time**. No bids received after the time fixed for receiving them will be considered. Late bids will be returned to the bidder unopened.

F. Address bids to Karen Olitsky, Procurement Agent III, and deliver to:

University of Florida
Procurement Services
971 Elmore Drive / PO Box 115250
Gainesville, FL 32611-5250

Submit bid in a sealed envelope that includes the bid number, contractor name and date and time of the bid opening on the outside of the envelope. Submit one (1) original bid and one (1) electronic copy on flash drive or CD/DVD. It is the sole responsibility of the bidder to see that bids are received on time. Faxed and/or emailed bids will not be accepted.

1.5 WITHDRAWAL OF BIDS

A. A bidder may withdraw their bid, either personally or by written request, at any time prior to the scheduled time for opening bids.

B. No bidder may withdraw their bid for a period of forty-five calendar days after the date set for opening thereof, and bids shall be subject to acceptance by the Owner during this period.

1.6 PROOF OF COMPETENCY AND QUALIFICATION OF BIDDERS

A. A bidder may be required to furnish evidence, satisfactory to the Owner, that the bidder and the bidder's proposed subcontractors have sufficient means and experience in the types of work required to assure completion of the Contract in a satisfactory manner.

B. A contract will be awarded only to a responsible, properly licensed, bidder, qualified by appropriate experience, with the ability, capacity, skill and financial resources to perform the work specified.

C. If the bidder has not been pre-qualified with Procurement Services within the fiscal year (July 1 through June 30), the bidder may be required to submit the following evidence of eligibility prior to bid award:

1. Evidence that bidder is licensed by the appropriate government agency to perform the work specified and in good standing at the time of the receipt of bids.

2. Experience record showing bidder's training and experience in similar work.

3. List and briefly describe projects of similar size and/or complexity which have been satisfactorily completed over the last five (5) years, including location, dates of contracts, names of contracts, and names and addresses of owners.

4. References:

   a. Trade References

   b. Bank References

   c. Surety

      - Name of bonding company
      - Name and address of agent
      - Proof that surety and/or its agent is licensed to conduct business in the State of Florida and has a Best Rating of “A” and a financial size of “Class X” or better.

- Letter from Surety or its agent licensed to do business in Florida verifying the bidder's capability to provide performance and payment bonds for this project.

- Letter stating whether or not, within the past five (5) years, a contract or any portion of the Work connected to a contract was completed by the Owner or the applicant's Surety. If so, attach an explanation providing the name and location of the project, the name and address of the owner's representative and all pertinent details of the matter.

5. Financial Statement which shall include latest balance sheet and income statement showing the following items:

   a. Current Assets

   b. Net Fixed Assets

   c. Other Assets

   d. Current Liabilities

1.7 SUBCONTRACTS

If the Bidder intends to subcontract any of the Work:

A. Each bidder shall furnish with its bid a list of all subcontractors for subcontracted scopes/packages of work valued at more than $10,000.

B. This list shall identify, for each subcontracted package in excess of $10,000, the name and address of the proposed subcontractor and the approximate value of the subcontract.

C. If the bidder does not intend to subcontract portions of the Work in amounts greater than $10,000, then a statement to that affect shall be furnished with the bid.

D. Each subcontractor performing work more than $10,000 must present evidence of being qualified in and licensed for the applicable trade. Such proof of subcontractor licensure shall be provided by the successful bidder after award, but prior to commencement of Work.

1.8 PERFORMANCE AND PAYMENT BONDS

See General Terms & Conditions, Article 20.

1.9 BID DEPOSIT

Not required.

1.10 AWARD OR REJECTION OF BIDS

A. The Contract, if awarded, will be awarded to the responsible and responsive bidder who has proposed the lowest Base Bid (Bid Item 001), subject to the owner's right to reject any or all bids and to waive informality and irregularity in the bids and in the bidding. Acceptance or rejection of any bid will be at the owner's sole discretion.

B. Bid Item 002 and 002A are for information only.

1.11 MANDATORY PRE-BID CONFERENCE:

A mandatory pre-bid conference will be held prior to the scheduled bid opening for the purpose of considering questions posed by bidders. The conference is open to interested bidders, prospective subcontractors, and any other interested parties. This conference will be held **June 1, 2022 at 9:30AM, local time, at J. Wayne Reitz Union, 655 Reitz Union Drive, Gainesville, Florida, 32611. The meeting will begin promptly at 9:30AM in the elevator lobby on the lower level (basement).**

1.12 EXECUTION OF AGREEMENT

A. A Purchase Order (PO) will be issued for purposes of fiscal encumbrance and payment. The PO itself serves as the form of contract.

B. Upon notice of Bid Award, the bidder to whom the Contract is awarded shall deliver to UF those Certificates of Insurance and Payment & Performance Bonds required by the Contract Documents.

C. Bonds and Certificates of Insurance shall be approved by UF before the successful bidder may proceed with the Work.

1.13 INTERPRETATION OF CONTRACT DOCUMENTS PRIOR TO BIDDING

A. If any person contemplating submitting a bid for construction of the Work is in doubt as to the true meaning of any part of the Contract Documents, or finds discrepancies in or omissions from any part of the Contract Documents, they may submit a written request for interpretation thereof no later than **June 6, 2022 at 5:00PM**, local time, to Karen Olitsky, Procurement Agent III at kolitsk@ufl.edu. The person submitting the request shall be responsible for its prompt delivery.

B. Interpretations or corrections of proposed Contract Documents will be made only by Addendum and will be available on the Procurement Services "Schedule of Bids" webpage https://procurement.ufl.edu/vendors/schedule-of-bids/. The Owner will not be responsible for any other explanations or interpretations of the proposed Contract Documents.

1.14 TIME OF COMMENCEMENT COMPLETION:

The work to be performed under this Contract shall commence on the date this Contract is executed by the parties hereto and, subject to authorized adjustment, shall be completed no later than the time periods detailed in the project schedule in Section 00310 - Bid Form. Contractor agrees to commence and complete the work with continued diligence as a continuous operation from start through completion in accordance with project schedule.

Contractor's ability to maintain scheduled job progress is conditioned on Contractor being allowed additional time for delays beyond its control as well as the timely furnishing of all necessary approvals.

Under no circumstances shall either party be liable for any loss, damage or delay due to any cause beyond either party's reasonable control, including but not limited to acts of government, strikes, lockouts, labor disputes, fire, explosion, theft, weather damage, flood, earthquake, riot, civil commotion, war mischief or act of God.

1.15 PROJECT SCHEDULE

Contractor shall provide a schedule for execution of modernization work with time periods necessary to indicate the milestones as listed in Section 00310 - Bid Form.

The start of on-site modernization must initiate on the date provided by the Elevator Contractor with completion finished in accordance with the schedule submitted by the Elevator Contractor and approved by the Owner for the elevator modernization.

All open time periods are to be calculated after a date of award for this contract. The schedule in Section 00310 – Bid Form, when completed, will constitute the final schedule for this project.

All time periods are to be calculated after a date of award for this contract with the actual start date as listed below. Once the elevator is turned over to the Elevator Contractor for modernization, the Elevator Contractor shall provide all material and labor to ensure that the approved schedule is achieved to complete all modernization work on the elevator.

END OF SECTION

00310 - BID FORM

BID PROPOSAL

FROM: _____
(Name of Bidder)

TO: UNIVERSITY OF FLORIDA
PROCUREMENT SERVICES
971 Elmore Drive
P.O. Box 115250
Gainesville, Florida 32611-5250

The undersigned, hereinafter called "Bidder", having reviewed the Contract Documents for the Project entitled **ITB22KO-137, Service Elevator Modernization at J. Wayne Reitz Union,** and having visited and thoroughly inspected the site of the proposed Project and familiarized himself/herself with all conditions affecting and governing the construction of said Project, hereby proposes to furnish all labor, materials, equipment and other items, facilities and services for the proper execution and completion of the Project, in strict compliance with the Contract Documents, Addenda, and all other Documents relating thereto on file in Procurement Services, and, if awarded the Contract, to complete the said Work within the time limits called for in the Documents and as stated herein, for the sums as enumerated on this and the following pages:

BASE BID:

Bid Item	Description	Item Total Cost
001	**ELEVATOR MODERNIZATION:** Total price for labor, equipment, transportation, supervision, tools, administrative costs, materials, permits and taxes including any incidental cost necessary to perform all work specified in BID ITEM 001 - ELEVATOR MODERNIZATION SPECIFICATION section of this specification for One (1) Electric Traction Elevator.	**Total Cost** $_____

FOR INFORMATION ONLY:

Bid Item	Description	Item Total Cost
002	**ELEVATOR MAINTENANCE**: Total Monthly price for labor, equipment, transportation, supervision, tools, administrative costs, materials and any incidental cost necessary to perform all work specified in the ELEVATOR MAINTENANCE CONTRACT section of this solicitation.	**Cost for One (1) Elevator** $_____

002A	**ELEVATOR MAINTENANCE PARTS AND MATERIALS COST MARKUP:** Elevator Contractor shall provide a maximum % (percentage) markup for parts and materials used outside the scope of the contract as detailed in Part 11.5. Parts and Materials Cost in the Elevator Maintenance Contract section of this solicitation. The percentage of markup shall remain the same for the duration of the contract for all parts and materials not specifically included under the monthly maintenance charges.	_____ %

PROJECT SCHEDULE:

Days	Action
_____	Product submittals date
_____	Submittal review period
_____	Submittal approval date
_____	On-site work starts for 1st elevator
_____	1st elevator repair work completes
_____	All elevator modernization work completed

ADDENDA:
Receipt of the following Addenda to the Construction Documents is acknowledged:

ADDENDUM #_____ Dated _____

ADDENDUM #_____ Dated _____

ADDENDUM #_____ Dated _____

COMPLETION DATE:

All Work covered by the Bidding Documents and the foregoing Base Bid shall be completed and ready for Owner's occupancy as specified in the contract documents.

SIGNATURE:

I hereby certify that for all statements and amounts herein made on behalf of

_____
(Name of Bidder)

a (Corporation) (Partnership) (Individual) organized and existing under the laws of the State of Florida, I have carefully prepared this Bid Proposal from Contract Documents described hereinbefore, I have examined Contract Documents and local conditions affecting execution of Work before submitting this Bid Proposal, I have full authority to make the statements and commitment herein and submit this Bid Proposal in (its) (their) behalf, and all statements are true and correct.

Signed and sealed this_____day of_____, 2022.

_____
(Signature of Bidder)

_____ _____
(Print Name) (Title)

WITNESS:

_____
(Signature of Witness)

_____
(Print Name)

Address: _____

_____
(City) (State) (Zip Code)

END OF SECTION

ITB22KO-137

Technical Specifications

Service Elevator Modernization
J. Wayne Reitz Union

Consultant: Liberty Elevator Experts

Bid Item 001
SPECIFICATION FOR MODERNIZATION OF ELEVATOR

J. Wayne Reitz Student Union
655 Reitz Union Drive, Gainesville, FL 32611

ELECTRIC TRACTION PASSENGER ELEVATOR

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1 GENERAL

1.1 SUMMARY

A) This section specifies required work to complete the modernization of One (1) Electric Traction Elevator.

B) Elevator work includes:

1) Commercial, standard electric traction elevator.

2) Elevator car and hoistway signal equipment.

3) Operation and control systems.

4) Patching, painting etc. as indicated.

5) Accessibility provisions for physically disabled persons.

C) Engineering, equipment, labor, machines, control systems, devices and accessories as required for safely operating the specified elevator at rated speed with rated capacities.

D) Delivery, staging, and hoisting of new equipment. Hoisting, dismantling, removal and disposal of existing equipment. Repair, cleaning, and painting of reusable equipment.

E) Materials and accessories as required for completing the elevator modernization.

F) Hoistway, pit and machine room barricades for safety as required.

G) Required hoisting, hoisting permits and traffic coordination and/or permits with local jurisdictions and the State of FL as required.

H) Required permits and coordination and/or permits with local jurisdictions, Bureau of Elevator Safety and the State of FL as required.

1.2 DEFINITIONS

A) The following definitions shall be used throughout all general conditions, specifications and contract documents except where superseded in those documents.

1) "Owner": J. Wayne Reitz Student Union .
2) "Consultant": Liberty Elevator Experts.
3) "Contractor": The Elevator Contractor unless stated differently.
4) "Contract": The Contract for the elevator modernization and other related work shall be deemed to be the Elevator Specifications provided to Contractor prior to execution.
5) "Contract Documents": The Contract for the elevator modernization and other related work to the elevator of the building, the Elevator Specifications (the "Specifications") and any Addendum shall comprise the Contract Documents. Additional Contract Documents may be created and incorporated upon written agreement by Owner and Contractor. Notwithstanding, any documents not furnished hereunder shall not be binding upon Contractor until such time Contractor is furnished with same and specifically accepts in writing.
6) "Contract Sum": The amount set forth in the Contract as priced by the "Contractor" for Bid Items, for Contractor's performance of the Work.
7) "Direct Labor Costs": Wages or salaries, which can be properly identified with and charged to one specific product or service. Direct labor cost shall include all direct labor employee benefit costs and burdens. Employee benefits shall include the employer's cost contributions for health and welfare, injury compensation, Federal and State Unemployment and Social Security taxes. It shall also include a burden factor to recover the cost of paid absence due to Federal Holidays, vacation, and election days required by the Department of Labor Wage Determinations. Other benefit costs including retirement contributions and paid sick leave may be included where identifiable and payable by the Contractor.
8) "Direct Labor Hours": Those hours actually expended in the accomplishment of direct labor costed work.
9) "Direct Materials Cost: The actual vendor invoice charges for materials used for performance of work under this contract. Direct material costs shall include transportation charges when such charges are included on the invoice by the vendor, as well as any discounts allowed for prompt payment and discounts or rebates for core value of salvage value that accrue to the Contractor. When questions arise concerning the cost of materials, material costs will be based on the lowest of quotes provided by the Contractor from at least three different commercial vendors "Fire Alarm Contractor": Contractor approved to work on Fire Alarm System installed in J. Wayne Reitz Student Union , 655 Reitz Union Drive, Gainesville, FL 32611.
10) "Code": All applicable laws and codes, including but not limited to the electrical, fire, building, and Safety Codes for Elevators and Escalators codes designated by any authority having jurisdiction as detailed in the codes and standards reference section of this specification.
11) "Jurisdictional Authority": The authority having jurisdiction, the organization, office, or individual responsible for enforcement of the associated Elevator Code(s). Where compliance with these Codes has been mandated by legislation or regulation, the "Jurisdictional Authority" is the regulatory authority.
12) "Component" or "Component Part": Any part of any item or system that is detachable or removable from the main body or main assembly of the item or system.

13) Where "as shown", "as indicated", "as detailed", or words of similar import are used, it shall be understood that reference is made to this specification and the drawings accompanying this specification unless stated otherwise.

14) Where “as directed", "as required", "as permitted", "approval", "acceptance”, or other words of similar import are used, it shall be understood that direction, requirement, permission, approval, or acceptance of the Owner is intended unless stated otherwise.

15) “Work”: The services to be completed by Contractor are as specified in the Contract Documents. This Work includes all Services necessary; material and labor required to provide and install and/or repair equipment as specified under this specification. Schedules and completion dates shall be agreed to in writing by both parties before becoming effective.

16) “Provide”: Provide all materials and labor required to furnish and install and or repair.

17) “Services”: Services shall include, but shall not necessarily be limited to, all labor, transportation, supplies, materials, parts, tools, scaffolding, machinery, hoists, employee safety equipment, equipment, lubricants; supervision, applicable taxes, and all other work and materials expressly required under this Contract or reasonably inferred whether or not expressly stated herein necessary to maintain all equipment covered under this specification.

18) “Fire Alarm Contractor”: Contractor approved to work on Fire Alarm System installed in J. Wayne Reitz Student Union , 655 Reitz Union Drive, Gainesville, FL 32611.

19) “Subcontractor”: A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work and Services at the site. All Subcontractors must be licensed and insured and must provide proof of adequate insurance in the amounts specified herein prior to the commencement of any portion of the Work.

1.3 CODE AND STANDARD REFERENCES

A) All codes and standards referenced in this specification will be to the edition of the references as detailed in this section. All materials and Work and Services to be performed under these specifications shall be in compliance with the Codes listed in this section or as determined by the authority having jurisdiction.

B) Comply with applicable FL Regulatory Requirements, Building Codes and Elevator Codes at the project site, including but not limited to the following:

1) Florida Statutes 399 and 553
2) Florida Administrative Code 61C-5
3) Florida Building Code 2020, including all supplements
4) A17.1-2016 Safety Code for Elevators and Escalators
5) ASME A17.3-2015 Safety Code for Existing Elevators and Escalators
6) ASME A17.2-2017 Guide for Inspection of Elevators and Escalators
7) ADAAG, Americans with Disabilities Act Accessibility Guidelines
8) ASCE 24 Flood Resistant Design and Construction
9) NFPA 13-2016 Standard for the Installation of Sprinkler Systems

10) NFPA 70-2017 National Electrical Code

11) NFPA 80, Fire Doors and Windows

12) ANSI/UL 10B, Fire Tests of Door Assemblies

13) NFPA 72-2016 National Fire Alarm Code

14) NFPA 101 Life Safety Code

15) O.S.H.A. Requirements for construction and repairs of existing buildings

16) Elevator Industry Field Employees' Safety Handbook 2020

17) Any and all onsite workmen and receiving of products to site are required to follow security and safety procedures as per policies due to facility regulations.

1.4 RELATED WORK BY OTHERS

A) This project will be a "turn-key" project with all work requirements included under the Work and Services by the Elevator Contractor unless specifically detailed in this section.

1.5 WORK BY ELEVATOR CONTRACTOR

A) This contract will be issued as a "Turn-Key" project with all work required in the WORK BY ELEVATOR CONTRACTOR section being the responsibility of the Elevator Contractor for completion as detailed in this specification.

B) **Machine Room HVAC:** Machine room HVAC is required, to maintain temperature and humidity to between 55 deg F and 90 deg F with relative humidity of not more than 85% non-condensing. The Elevator Contractor shall provide actual calculations for total anticipated heat loads generated by all elevator machine room equipment.

1) Machine room HVAC must be positioned as approved by the Elevator Contractor and consultant. There shall be no drain lines or condensation allowing water in the machine room.

2) Dedicated HVAC system for machine room is required to have an electrical disconnect lockable in the off position with proper labels identifying source of power and purpose.

3) HVAC Contractor shall provide HVAC receptacle or disconnect switch as required for the installation of HVAC system by HVAC Contractor.

4) HVAC Contractor is responsible for providing electrical power and code compliant disconnect switch for installation of HVAC equipment.

5) Remote systems shall have a proper thermostat inside the machine room.

6) Any existing vents in the machine room will be properly covered and protected.

C) **Fire Alarm:** Fire alarm including heat and smoke sensing devices as per NFPA 70 National Electrical Code and NFPA 72 National Fire Alarm.

1) Verify that proper connections exist for fire recall devices to the elevator controllers. If required, provide connection from new or existing fire recall devices to the elevator controllers in machine room. For each elevator within the building, a minimum of three separate elevator control circuits shall be terminated at the designated elevator controller within each elevator machine room in accordance with NFPA 72, section 21.3. Operation

of the elevator shall be in accordance with Section 2.27 of ASME A17.1 Safety Code for Elevators and Escalators. The smoke detectors or other automatic fire detection as permitted by NFPA 72, shall actuate the elevator control circuits as detailed in NFPA 72.

2) Fire alarm contractor shall demonstrate at time of elevator inspection, compliance and testing of all alarm initiating devices as required by ASME A17.1 Safety Code for Elevators and Escalators, ASME A17.2 and NFPA 72 National Fire Alarm Code.

3) Installation of alarm system and devices shall conform to ASME A17.1 Safety Code for Elevators and Escalators, and NFPA 72 including NFPA 70 NEC.

4) All conduit and wiring requirements for Fire Alarm System work is the responsibility of the Fire Alarm Contractor.

D) **Emergency Generator:** This elevator is provided with emergency generator power. Emergency generator personnel shall demonstrate system and tests at completion of each elevator for inspection as required by the applicable Building Code, Jurisdictional Statutes, Rules & requirements and ASME A17.1 Safety Code for Elevators and Escalators.

1) Verify the existence of code compliant emergency power supply transfer switch. If existing transfer switch is not code compliant, provide and install emergency power supply transfer switch, wiring and auxiliary contacts as required by applicable Building Code and NFPA 70 National Electrical Code.

2) Emergency generator configuration, installation, wiring including conduit to elevator controller; repair, transfer switches including elevator selector options, connections or testing with or standby or emergency power systems shall be coordinated and completed by emergency generator service contractor. Emergency generator personnel shall demonstrate system and tests at completion of each elevator for inspection as required by the applicable Building Code, Jurisdictional Statutes, Rules & requirements, and ASME A17.1 Safety Code for Elevators and Escalators

3) An illuminated signal marked “ELEVATOR EMERGENCY POWER” shall be provided in the elevator lobby at the designated level to indicate that the normal power supply has failed, and the emergency or standby power is in effect for the elevator. This will be provided with the elevator hall station fixtures for the designated landing.

4) Generator contractor shall provide signal in transfer switch to elevator controller that the building is on emergency standby power.

5) Elevator Contractor will provide new elevator controller capable of required emergency power operations as detailed in this section for conformance with the requirement detailed in the applicable Building Code.

6) Current Building Code Chapter 30, Section 3003, Emergency Operations requires the following:

a) 3003.1 Standby Power. In buildings and structures where, standby power is required or furnished to operate an elevator, the operation shall be in accordance with Sections 3003.1.1 through 3003.1.4.

b) 3003.1.1 Manual Transfer. Standby power shall be manually transferable to all elevators in each bank.

c) 3003.1.3 Two or More Elevators. Where two or more elevators are controlled by a common operating system, all elevators shall automatically transfer to standby power

within 60 seconds after failure of normal power where the standby power source is of sufficient capacity to operate all elevators at the same time.

d) Emergency Power has been verified to be capable of operating the elevator in the building and other building loads concurrently.

e) Contractor, or Generator Subcontractor, shall provide signal in transfer switch to elevator controllers that the building is on emergency standby power.

E) **Sprinklers:**

1) If sprinklers are required by local Fire Officials a code compliant shunt trip breaker would need to be installed and located for disconnecting power to the elevator in conformance with applicable codes.

2) Where elevator equipment is located or its enclosure is configured such that application of water from sprinklers could cause unsafe elevator operation, means shall be provided to automatically disconnect the main line power supply to the affected elevator and any other power supplies used to move the elevator upon or prior to the application of water.

3) When sprinklers are installed not more than 600 mm (24 in.) above the pit floor, the following shall apply to elevator electrical equipment and wiring in the hoistway located less than 1 200 mm (48 in.) above the pit floor, except earthquake protective devices conforming as required to A17.1 Part 8.4); and on the exterior of the car at the point where the car platform sill and the lowest landing hoistway door sill are in vertical alignment.

a) Elevator electrical equipment shall be weatherproof (Type 4 as specified in NEMA 250).

b) Elevator wiring, except traveling cables, shall be identified for use in wet locations in accordance with the requirements in NFPA 70.

4) If sprinkler head(s) are located in the machine room or hoistway, it will be required to install a heat detector within 24” of each sprinkler in order to automatically disconnect the main line power supply to the affected elevator(s) upon or prior to the application of water, in accordance with ASME A17 Safety Code for Elevators and Escalators, and NFPA 72 National Fire Alarm Code.

B) **Telephone Lines**:

1) Telephone lines and wiring to elevator controllers for telephone system including all wiring in machine room to be installed inside conduit as per NFPA 70 NEC.

2) All emergency telephone devices shall include a minimum of 4 hours emergency backup power including power from emergency generator if supplied.

C) **Electrical Requirements:** Electrical work required for elevator modernization shall be the responsibility of the Elevator Contractor. Electrical requirements shall include the following:

1) All Electrical work must be coordinated and scheduled with, at least 7 days’ notice, with the building owner. Elevators shall be removed from service while electrical trades are working.

2) Electrical requirements for hoistway and machine room HVAC, GFCI receptacles and disconnects, as required by NFPA 70, NEC and ASME A17.1 Safety Code for Elevators and Escalators. Additionally, Electrical Contractor shall provide and install conduits and wiring required for communication devices as detailed in this section.

3) **Main Line Disconnect:** Main line disconnect is to be verified by Elevator Contractor as appropriate size and type for power requirements of new elevator equipment prior to

installation. Main line disconnect for elevators shall not be used for other conductors to pass thru disconnect switch boxes.

a) If existing disconnect is not satisfactory, Electrical Contractor shall provide new disconnect for elevator main line power in accordance with NFPA 70, NEC. The disconnecting means shall be an enclosed externally operable fused motor circuit switch capable of being locked in the open position. The provision for locking or adding a lock to the disconnecting means shall be installed on or at the switch used as the disconnecting means and shall remain in place with or without the lock installed. Portable means for adding a lock to the switch or circuit breaker shall not be permitted as the means required to be installed at and remain with the equipment.

4) **Cab Lighting Disconnect:** Cab Lighting disconnect is to be verified by Electrical Contractor as appropriate size and type for power requirements. Cab Lighting disconnect for elevators shall not be used for other conductors to pass thru disconnect switch boxes. Electrical Contractor shall provide new disconnect(s) for elevator cab lighting in accordance with NFPA 70, NEC.

a) The disconnecting means shall be an enclosed externally operable fused motor circuit switch capable of being locked in the open position. The provision for locking or adding a lock to the disconnecting means shall be installed on or at the switch used as the disconnecting means and shall remain in place with or without the lock installed. Portable means for adding a lock to the switch or circuit breaker shall not be permitted as the means required to be installed at and remain with the equipment.

b) Car Light Source: A separate branch circuit shall supply the car lights, receptacle(s), auxiliary lighting power source, and ventilation on each elevator car. The overcurrent device protecting the branch circuit shall be located in the elevator machine room or control room/machinery space or control space. Required lighting shall not be connected to the load side of a ground-fault circuit interrupter.

5) **Machine Room Lighting and Receptacles:**

a) A separate branch circuit shall supply the machine room or control room/machinery space or control space lighting and receptacle(s).

b) Minimum lighting in machine room shall be 19 ft-c.

c) Required lighting shall not be connected to the load side of a ground-fault circuit interrupter.

6) **Pit Lighting and Receptacle(s):**

a) Verify that current pit lighting meets minimum 10 ft-c. at all locations in the pit. If pit lighting is below 10 ft-c requirement, provide additional lighting as detailed in this specification.

b) Verify that a separate branch circuit is installed to supply the hoistway pit lighting and receptacle(s).

c) Required lighting shall not be connected to the load side of a ground-fault circuit interrupter.

d) The lighting switch shall be so located as to be readily accessible from the pit access door.

e) Duplex Receptacle. At least one 125-volt, single phase, 15- or 20-ampere duplex receptacle shall be provided in the hoistway pit.

7) **Pit Receptacles:** Pit receptacles, with GFCI protection shall be installed in NEMA 4 devices where placed within 4'-0" of pit floor. Care must be taken not to place equipment in line with elevator equipment.

8) Each 125-volt, single-phase, 15 and 20 ampere receptacles installed in pits, in hoistways and on elevator car tops shall be of the ground fault circuit-interrupter type for protection of personnel.

9) All disconnects shall be labeled according to NFPA 70 National Electrical Code including source of power, Jurisdictional Identification (Serial Number) and all required warning signs.

10) All disconnects shall be installed with proper clearances in accordance with the applicable provisions of NFPA 70 National Electrical Code.

11) All conduit and wiring in the hoistway must be checked for proper installation and properly mounted in accordance with applicable provisions of NFPA 70 National Electrical Code.

12) Equipment grounding and bonding shall be provided in accordance with the requirements of NFPA 70 National Electrical Code. The equipment grounding conductor will be run with the circuit conductors and shall be a copper conductor. Ground all conductors, supports, controller enclosure, and other non-current conducting metal enclosures for electrical equipment in accordance with NFPA 70 National Electrical Code. The ground wires shall be solid or stranded; insulated, covered, or bare copper, sized as required by NEC, and shall be colored green if #6 AWG or smaller, and have green tape or adhesive marking if #4 AWG or larger.

13) Provide new electric wiring from disconnect switches to the terminals of the new elevator controllers in their new locations, inclusive of a normal 120 VAC, 15 AMP supply at each controller.

14) Provide new pit lighting and machine room lighting as per NFPA 70 National Electrical Code with enclosed and protected lamps.

15) All existing and new lighting fixtures in machine rooms, elevator cars and on top of car are to be suitably guarded in accordance with ASME A17.1 Safety Code for Elevators and Escalators clearance requirements and NFPA 70 National Electrical Code requirements for guarding.

16) Pit lighting switches and emergency stop switches shall be installed approximately 18" above first floor landing adjacent to opening and operable from side of pit access where pit ladder is installed.

17) Telephone lines and wiring to elevator controllers for telephone system including all wiring in machine room to be installed inside conduit as per NFPA 70 NEC. Conduit to be installed under Electrical Requirements.

D) **Patching**: Patching of all masonry openings and drywall surfaces as required by elevator installation work as detailed below will be the responsibility of the Elevator Contractor and shall be completed with fire rating of hoistway or machine room equal or greater than 2 hours in accordance with FL Building Code.

1) All openings left from the removal of any surface mounted devices will be patched appropriately and surface restoration performed by the Elevator Contractor. Included in this will be the removal of old position indicators and directional indicators.

2) Patching of all surfaces at elevator landings will be the responsibility of the Elevator Contractor. Masonry, drywall, patching, and finishes including painting for repair of all openings as required by elevator installation work and shall be completed with fire rating of hoistway or machine room equal or greater than 2 hours in accordance with applicable Building Code.

3) Patching of all masonry openings and drywall surfaces as required by elevator installation work inside the hoistway and machine room will be the responsibility of the Elevator Contractor.

E) **Coordination of Work:**

1) Elevator Contractor shall coordinate as required with other contractors to ensure that schedules are met, and all work being performed in association with the elevator modernization project is acceptable.

2) Before proceeding with any Work, the Contractor shall carefully check and verify all pertinent dimensions and sizes, and assume full responsibility for fitting the equipment and materials to the structure. Where the apparatus and equipment have been indicated on the drawings, the dimensions have been taken from typical equipment of the type specified in these specifications. The Contractor shall carefully check the drawings to verify that the equipment that will be actually provided will fit into the spaces available. Should the equipment not fit the specific structure shown on the drawings, all additional sub-framing members required to accommodate the equipment installation shall be provided and paid for by Contractor as part of the Work of this section. The Contractor shall submit all structural shop drawings and engineering calculations for the Consultant's review and written approval.

3) Contractor shall familiarize himself with the specifications, drawings, installation procedures and construction schedules for those phases of Work performed by his subcontractors. The Contractor shall also familiarize himself with the Owner's security and safety requirements and shall abide by and conform to such established regulations at all times. If the Contractor's Work or the Work of any of his subcontractors depends upon the execution of the Work of another subcontractor or upon his own Work, he shall so coordinate all phases of Work so as to avoid conflicts in installation procedures and construction schedules.

4) As work progresses, Contractor shall consult with his subcontractors, examine the Work installed by them, and resolve all conflicts without expense to Owner and/or Consultant.

5) Progress meetings shall be held at the job site, as and when requested by Owner or Consultant. The Contractor shall be represented at these meetings by persons familiar with the details of the scope of Work and authorized to conclude matters relative to Work progress, as may be necessary to expedite completion of Work.

6) All above work and materials to be performed to meet compliance with applicable Building Code, ASME A17.1 Safety Code for Elevators and Escalators, NFPA 70 National Electrical Code, NFPA 13 National Sprinkler Code and NFPA 72 Fire Alarm Code or as determined by the authority having jurisdiction.

7) Failure by above associated contractors to perform required testing at time of scheduled elevator acceptance testing and inspection will require full advance payment by contractor at fault for all expenses relating to re-inspection, permit, and scheduling fees to building management.

F) **Building General Construction:** Building general construction conditions will include, work detailed in this section, including cleaning and painting of miscellaneous surfaces. The Elevator

Contractor shall be responsible for all work as detailed in this section. All construction, cleaning and painting other than equipment directly supplied by the Elevator Contractor shall be performed by Work by Others.

1) Verify proper installation of 1 ½ hour "B-Label" door to machine room to include self-closing and self-locking requirements.
2) Verify proper Class ABC Fire Extinguisher in machine room permanently mounted and conveniently located to the access door as required by ASME A17.1 Safety Code for Elevators and Escalators.
3) Verify that all non-elevator related pipes, wiring, conduit have been removed and openings in machine rooms and hoistways to include a 2-hour fire rating. All foreign pipes, wiring or conduit not in use or directly related to the elevator system shall be removed from machine rooms and hoistways.
4) All sills must be substantially level to all adjacent finished flooring surfaces.
5) Machine room warning sign "Danger Authorized Personnel Only" shall be provided on the machine room door as required by NFPA 70 NEC.

G) Each contractor will be required to provide any cutting, patching including painting to match existing finishes of building.

H) All above work and materials to be performed to meet compliance with applicable Building Code, ASME A17.1 Safety Code for Elevators and Escalators, NFPA 70 National Electrical Code, NFPA 13 National Sprinkler Code and NFPA 72 Fire Alarm Code or as determined by the authority having jurisdiction.

I) Failure by above associated contractors to perform required testing at time of scheduled elevator acceptance testing and inspection will require full advance payment by contractor at fault for all expenses relating to re-inspection, permit and scheduling fees to building management.

1.6 PAINTING

A) **Cleaning and Painting of Miscellaneous Surfaces**: The Contractor shall be responsible for all miscellaneous painting as detailed in this specification. The procedures proposed for the accomplishment of the work shall provide for safe conduct of the work, careful removal and disposition of materials specified to be salvaged, protection of property, which is to remain undisturbed, and coordination with other work in progress. The work plan shall include a Safety and Health Plan describing procedures for handling monitoring, and disposition of Volatile Organic Compounds "VOCs" and other hazardous and toxic materials. The procedures shall include a detailed description of the methods and equipment to be used for each operation, and the sequence of operations.

B) **Painting Provisions:** For all painting performed, the following provisions shall apply:

1) Provide all ferrous metals installed in the hoistway shop primed with a rust inhibitive primer.
2) All cleaning or painting work that produces any vapors or fumes shall not be performed during normal business work hours. All cleaning or painting work that produces any vapors or fumes shall be performed with sufficient ventilation to prevent the vapors or fumes from permeating into the building. Work of this nature must be scheduled and coordinated with the Owner three (3) days prior to execution of work.

a) The procedures proposed for the accomplishment of the Work shall provide for safe conduct of the Work, careful removal and disposition of materials specified to be salvaged, protection of property, which is to remain undisturbed, and coordination with other work in progress. The Work Plan shall include a Safety and Health plan describing procedures for handling monitoring, and disposition of Volatile Organic Compounds "VOCs" and other hazardous and toxic materials. The procedures shall include a detailed description of the methods and equipment to be used for each operation, and the sequence of operations.

b) All paint products and application method must be pre-approved prior to application by Owner or Owner's agent. Paint products and application methods are to be equal or better than existing product applicable with matching color as approved by Owner.

c) All products of paint, thinners or cleaning agents must be pre-approved prior to use for VOC's or any additional health concerns.

3) Interior work zones having a volume of 1,000 cubic feet or less shall be ventilated at a minimum of 2 air exchanges per hour. Ventilation in larger work zones shall be maintained by means of mechanical exhaust. Solvent vapors shall be exhausted outdoors, away from air intakes, building occupants and workers. Building air conditioning return air inlets in the work zone shall be temporarily sealed before start of work until the prepared surfaces have dried and are free of odor. Operators and personnel in the vicinity of paint removal processes involving chemicals or mechanical action (sanding or blasting) shall wear respirators.

1.7 ELEVATOR SYSTEM DESCRIPTION

A) **Elevator Arrangement:** Quantity – One (1) with Elevator numbered as follows:

1) Elevator #5 (SN# 3754)

2) Specific requirements for the specific elevator or component shall be designated as such. It shall be the bidding Contractor's responsibility to review and verify as required for proper installation. Specifications for elevators include minimum requirements of elevators and it shall be the responsibility of the bidder to complete all work to code compliance.

B) **Type:**

1) Elevator #5 (SN# 3754) – Passenger – Electric Traction

C) **Number of Stops & Openings:**

1) Elevator #5 (SN# 3754): 8 Landings 6 front (labeled *G, 1, 2, 3, 5, 6)) / 6 rear (labeled LL, GR, 1R, 2R, 3R, 4R)

D) **Rise:** All existing conditions

E) **Rated Capacity/Speed:** Maintain existing conditions.

1) Elevator #5 (SN# 3754)

a) Capacity rated at 4000 lbs.

b) Speed rated at 200 fpm

F) **Minimum Car Inside:** Maintain existing dimensions.

G) **Inside Cab Height:** Maintain existing clear headroom dimensions inside car.

H) **Entrance Width & Type:**

1) Elevator #5 (SN# 3754):
   a) Front Openings: Two Speed Side Opening 48" x 84"
   b) Rear Openings: Two Speed Side Opening 48" x 84"

I) **Main Power Supply:**

1) Elevator #5 (SN# 3754) - Existing 480 VAC + or - 5% of normal, 3 Phase, 60 Cycle with a separate equipment grounding conductor.

J) **Lighting Power Supply:** 120 Volts, 1 Phase, 15 Amp, 60 Hz.

K) **Stopping Accuracy:** ±1/4" under any loading condition or direction of travel.

L) **Door Operating Equipment:** Door operating equipment shall be labeled with maximum door speed and Kinetic Energy shall not exceed 7.37 ft-lbf. as required by ASME A17.1 Safety Code for Elevators and Escalators.

M) **Car Operation:**

1) Using a Simplex Selective Collective for elevators 1 & 2 microprocessor-based controller, the operation shall be automatic by means of the car and hall buttons.

2) Provide microprocessor-based Simplex Selective Collective automatic operation control system, which utilizes on-board diagnostics for servicing, troubleshooting, and adjusting without requiring the use of an outside service tool.

1.8 SUBMITTALS

A) **Product data**: Submit product data for the following:

1) Elevator car and hoistway fixtures.

2) Operation, control, and signal systems.

3) Motor & traction driving machine, speed governor and all major components of system including layout for machine room if equipment layout is changed all major components of system.

4) Elevator cab interior materials and finishes.

B) **Shop drawings**: Provide the following if equipment existing layout is changed.

1) Show equipment arrangement in the machine room, pit and hoistway plans, elevations, sections and details of assembly, erection, anchorage, and equipment location as required.

2) Indicate elevator system capacities, sizes, performances, safety features, finishes and other pertinent information.

3) Show floors served, existing travel distances, maximum loads imposed on the building structure at points of support and all similar considerations of the elevator work.

4) Indicate electrical power requirements and branch circuit protection device recommendations and locations.

C) **Certificates**: Inspection and acceptance certificates of elevator system installation.

D) **Submittals at Project Close-Out:**

1) **Operation and Maintenance Data:** Include the following:

   a) Product User Manuals and maintenance guides.

b) Parts list, with recommended parts inventory.

a) Furnish two (2) copies of bound Product User Manuals and maintenance guides for elevators. Furnish one (1) electronic copy of all project close-out submittals to Owner.

2) **Wiring Diagrams:** Provide complete as built wiring diagrams with all electrical connections of elevator systems.

a) Provide one set of as built wiring diagrams in the elevator machine room.

b) Provide one (1) additional hard copy and 1 electronic copy on separate USB Flash Drive, in PDF format to Elevator Consultant for review and delivery to Owner.

c) Provide legible schematic wiring diagrams of installed electrical equipment, including control equipment, and any changes and/or in field modifications.

d) Provide legible copy of field pull sheets and wiring notes. Pull sheets to include wire numbers and colors. List symbols corresponding to identity or markings on machine room and hoistway apparatus.

e) Coded diagrams are not acceptable unless fully identified.

1.9 QUALITY ASSURANCE

A) **Contractor Qualifications**: Elevator Contractor shall provide pre-engineered elevator system components by manufacturer(s) regularly engaged in the manufacture of elevator systems and that complies with ASME A17.1Safety Code for Elevators and Escalators in its entirety, Jurisdictional Statutes, Rules & requirements, all applicable sections of the Building Code as referenced above in its entirety, and additional requirements specified herein.

B) **Quality Assurance Program**: The Contractor shall have a documented, on-going quality assurance program.

C) **Installer Qualifications**: The Elevator Contractor must have not less than ten years of satisfactory experience installing elevators equal in character and performance to the project elevator. All mechanics employed to work onsite must be certified and/or licensed by appropriate federal and/or state regulatory agencies to meet federal and/or local certification requirements in maintenance, repair, alteration, and construction of elevators. There shall not be allowed onsite more than one helper or assistant unlicensed per onsite licensed mechanic.

D) **Permits and Inspections**: The Contractor shall be responsible to obtain all permits, licenses and other fees that are necessary for proper completion and execution of the Work, which are specifically included in the Contract Sum, but not limited to required Jurisdictional Authority permits as required by Jurisdictional Statutes, Rules & requirements for Alteration Permits, and local jurisdiction permits. Elevator Contractor is responsible for proper posting of all required licenses, permits and safety documentation.

E) **Inspection and testing**: Elevator Installer shall obtain and pay for all required tests, permits and fees for elevator installation as required by the State of FL.

1) Owner has designated Liberty Elevator Experts as their consultant on this project. Liberty Elevator Experts, in accordance with ASME A17.1 Safety Code for Elevators and Escalators, Inspection and Test Requirements, may be present for and review all acceptance inspections for this elevator. Elevator Installer in accordance with ASME A17.1 Safety Code for Elevators and Escalators, Inspection and Test Requirements will schedule and coordinate all acceptance tests and arrange for inspection for this elevator. Elevator Contractor must notify

building owner and elevator consultant 5 days prior to inspection advising of the date and time of all inspections and tests. Elevator consultant must qualify and approve any inspector prior to inspection other than inspectors employed by the Authority Having Jurisdiction (AHJ).

2) Elevator Contractor shall be solely responsible for the application, securing, maintaining, completion and posting of existing elevator permits as per Jurisdictional Statutes, Rules & requirements, and delivery to the Owner upon completion and acceptance of elevator work, the certificate of operation.

3) Failures by Contractor to successfully perform required testing and pass alteration acceptance inspection, at time of scheduled elevator acceptance testing, will require a re-inspection. All costs for re-inspection required due to Contractor fault will be paid by Contractor.

F) **Signage:** All signage as required by applicable Building Code, ASME A17.1 Safety Code for Elevators and Escalators, NFPA 70 National Electrical Code and NFPA 72 Fire Alarm Code to be posted in elevator lobbies, fire alarm panels, disconnects, machine rooms and machine room doors.

G) N**on-Proprietary Controls:** Letter of guarantee that any and all equipment installed shall be completely non-proprietary and shall not require the need for specialized testing or programming tools currently or in the future. Future information for trouble shooting or adjusting shall be available to any licensed elevator maintenance contractor by the supplier of the control system at a reasonable cost comparable to cost of competitive parts within marketplace. Contractor shall provide complete schematics and wiring diagrams for control systems including information for change of program, on board diagnostics or mnemonics, or other on-board switches or settings.

1) Any equipment that is provided for installation which would require any specialized tool, laptop computer, devices, manuals, source codes, access codes, objects, passwords and/or software to input parameters, make adjustments, troubleshoot, perform diagnostics, perform testing functions or required for any other type of maintenance or repair function shall be included with the modernization cost of this contract and will become the property of the Owner. At the time of bid submission, this shall be identified as such on the bid.

2) Any controller by a manufacturer other than specified must be pre-approved prior to bid. Letter stating agreement to the above compliance shall be signed by an officer of Contractor and shall be notarized.

H) **Contractor's Safety and Health Plan:** The contractor shall have in place a safety and health plan that, at a minimum, addresses OSHA requirements. The safety and health plan shall comply with the requirements of the Elevator Industry Field Employees' Safety Handbook. The program shall include job site cleanliness, hard hats, safety glasses, safety shoes, hearing protection, fall protection, proper use of ladders, barriers around hazards and proper scaffolding.

I) **Protection of Spaces:** Contractor is responsible for all protection both inside and outside of hoistway to all personnel inside or outside of hoistway areas. This includes providing and maintaining of protective barricades at hall entrances, screening of each hoistway during work and protection from trip hazards due to storage or use of materials or drop cords.

1) Contractor is to provide due care to protect building flooring, walls and other surfaces from excessive debris, dirt or damage due to workmen onsite.

1.10 DELIVERY, STORAGE AND HANDLING

A) Deliver elevator materials, components, and equipment in manufacturer's protective packaging.

B) Elevator equipment disassembled for replacement shall be neatly stored prior to removal from site and disposal, which is responsibility of Elevator Contractor.

C) Store materials in a dry protected area if designated by owner. Protect and handle materials in accordance with manufacturer's recommendations to prevent damage, soiling, or deterioration.

D) Elevator Contractor shall be responsible for the material handling of all elevator equipment to site storage area. Elevator Contractor will be responsible for keeping all stored materials inside storage area with lock and key.

E) Elevator Contractor's sole responsibility and liability shall be limited to the extent Elevator Contractor is at fault; and shall not be responsible for material once material arrives at jobsite.

F) Elevator Contractor shall be responsible for the removal the existing equipment from the machine rooms and placement of the new equipment in the machine rooms.

G) Owner shall afford the Contractor and separate contractors' reasonable opportunity for storage of materials and performance of their activities on the property and shall cooperate in coordinating operations with such other activities.

H) Locked and protected storage for Elevator Contractor's tools or materials at site is contractor's responsibility. Key will be provided for elevator machine room and can be utilized for storage or securing of tools and equipment. This is the only area available on site for storage of any elevator materials, equipment, or tools.

I) Elevator Contractor will be provided a single location for either a storage trailer or POD. The cost of the storage container/trailer is the responsibility of the Elevator Contractor.

J) Authorized elevator personnel only are responsible for temporary installed barrier panels as may be required during construction to protect the openings at elevator at each floor. Panels may be removed only while the authorized elevator personnel are to perform work in the immediate area of the unprotected opening. Authorized elevator personnel shall re-install all barriers as required to maintain the original solid and safe protection to the opening prior to leaving immediate work area of the opening.

1.11 PROJECT CONDITIONS

A) **Prohibited Use:** Elevator that is turned over to the Contractor for modernization work shall not be used for any purpose during the construction period before Substantial Completion. The elevator will only be turned over to the Owner upon completion of all modernization work, including successful completion of all required inspections and tests including acceptance by Consultant.

B) **Painting:**

1) Only paint metal work provided by Contractor or impacted by Work performed under this specification by Contractor unless specifically required in other sections of this specification.

2) For all painting performed the requirements of Part 1.6 Painting shall be complied with as required.

1.12 WARRANTY

A) **Warranty:** The Contractor's acceptance is conditional on the understanding that their warranty covers defective material and workmanship.

1) The guarantee period shall extend to one (1) year from the date of completion or acceptance thereof by beneficial use; whichever is earlier, of each elevator.

2) The guarantee excludes ordinary wear and tear or improper use, vandalism, abuse, misuse, or neglect or any other causes beyond the control of the Contractor and this express warranty is in lieu of all other warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose.

3) Any defective condition or workmanship not mutually agreeable as satisfactory to building Owner and Contractor shall be determined by the independent elevator Consultant as final for the replacement, repair or continued use or product or part in question.

4) In addition to Contractor's above-mentioned warranties, Contractor shall, for the benefit of the Owner, obtain and assign to Owner if necessary, warranties from the manufacturers, producers and suppliers whose products are incorporated into or used in the work performed hereunder. All work and materials provided pursuant to the warranties hereunder shall be performed at no charge to the Owner.

B) **Warranty Response Time:** Contractor shall respond to warranty calls within one hour and be on site within 2 hours.

1.13 CONTRACT PREVENTIVE MAINTENANCE

A) **Existing Elevator Maintenance Agreement:** In the event that a bidder is currently the provider of preventive maintenance services on the elevators that are the subject of this modernization specification, this bidder acknowledges and fully agrees that their present agreement shall terminate upon submission of a bid from their company and Award of Contract to their company, or to another Elevator Contractor bidder, for the work called for in this specification for modernization.

1) The existing maintenance agreement for all elevator(s) will terminate on the date that the elevator modernization contractor commences on-site work.

2) The elevator modernization contractor will assume maintenance on the elevator that is the subject of this modernization specification once on-site modernization work commences on the elevator. Monthly maintenance pricing will be the pricing submitted under BID ITEM 002 - ELEVATOR MAINTENANCE.

3) Elevators taken out of service for modernization will not be billed for maintenance during any time the elevator is under modernization.

4) Once the elevator is turned over for substantial use of the owner after modernization, no additional maintenance charges will be due for the elevator until after the maintenance period detailed in Contract Preventive Maintenance section herein subpart C), Modernization Maintenance Period as detailed below has ended.

B) **Follow on Maintenance Contract:** The Building Owner reserves the right to initiate a solicitation for any follow-on elevator maintenance contract that would take effect at the end of all warranty maintenance that is included in the modernization contract pricing. All bidders shall quote monthly cost for Preventive Maintenance Service for all elevators that are the

subject of this modernization commencing upon completion of the warranty period specified in at the end of the modernization specification but a part of this document. Submit bid price based upon full service maintenance and conditions of BID ITEM #002 - ELEVATOR PREVENTIVE MAINTENANCE, as detailed in Part 1.13 of this specification.

C) **Modernization Maintenance Period:** Maintenance service consisting of a minimum of monthly examinations, adjustments and lubrication of the elevator equipment shall be provided by the Elevator Contractor for a period of twelve (12) months after the elevator has been turned over for the customer's use. This service shall not be subcontracted but shall be performed by the Elevator Contractor. All work shall be performed by competent employees during regular working hours of regular working days and shall include emergency 24-hour callback service at no additional charge. This service shall not cover adjustments, repairs, or replacement of parts due to negligence, misuse, abuse, or accidents caused by persons other than the Elevator Contractor. Only genuine parts and supplies as used in the manufacture and installation of the original equipment shall be provided.

1) Elevator Contractor shall provide a service manual for each elevator describing monthly, quarterly, and annual maintenance tasks. Each task shall include an area for signature by a Certified Elevator Technician upon completion of task. Service manual shall also include page/s for documenting all required inspections and tests. Service manual shall contain a section to record all related maintenance, repair, and replacement information in accordance with ASME A17.1 Safety Code for Elevators and Escalators, Part 8.6 and remain on site.

2) Elevator Contractor shall provide documentation and shall perform monthly testing of fire service recall operation as per ASME A17.1 Safety Code for Elevators and Escalators and ASME A17.2.

3) Submit parts catalog and show evidence of local parts inventory with complete list of recommended spare parts. Manufacturer of original equipment shall produce parts.

4) Elevator Contractor shall have a service office and full-time service personnel within 50-mile radius of the project site.

5) Maintenance service shall include all required tests for inspection services as required by Jurisdictional Authority and ASME A17.1Safety Code for Elevators and Escalators.

6) Elevator taken out of service for modernization will not be billed for maintenance during any time the elevator is under modernization. Maintenance charges will be equally divided by the number of elevators and number of weeks of each month for an equivalent percentage deduction of the number of elevators removed from service. Time not under maintenance charges is from the time of the elevator being removed from service until the time of certificate for public use.

2 PRODUCTS

2.1 ACCEPTABLE MANUFACTURER

A) Only products and components produced or provided by manufacturer(s) regularly engaged in the manufacture of elevator products, and that complies with ASME A17.1 Safety Code for Elevators and Escalators in its entirety, ASME A17.2, Jurisdictional Statutes, Rules & requirements, all applicable sections of the applicable Building Code in its entirety, and

additional requirements specified herein are acceptable. Only Bidders deemed qualified shall be notified by Request for Bid.

2.2 MATERIALS, GENERAL

A) **Colors, Patterns, and Finishes:** As selected by the Owner or Owner's Representative from manufacturer's full range of standard colors, patterns, and finishes.

1) Steel:

a) Shapes and bars: ASTM A 36.

b) Sheet: ASTM A 366, cold-rolled steel sheet, commercial quality, Class 1, matte finish, stretcher leveled.

c) Finish: Factory-applied baked or powder coated enamel.

2) Stainless Steel:

a) Shapes and bars: ASTM A 276, Type 300 (18-8).

b) Tubing: ASTM A 269, Type 300 (18-8).

2.3 EQUIPMENT: MACHINE ROOM/SPACE COMPONENTS

A) **Geared Drive Machine:** Elevator geared drive machines shall be replaced with new non-pro-proprietary geared drive machines suitable for installation.

1) **Hoisting Motor & Drive:** Install new Hoisting Motor and Drive:

a) **Drive:** Provide Variable Voltage Variable Frequency (VVVF) type.

(1) Hoist Motor: Standard, open drip proof AC motor. Motor armature shall be dynamically balanced and supported by ball bearings of ample capacity. New Hoisting Machine Motor, Imperial or equal, will be provided and will be specifically designed and rated for elevator duty with high starting torque and low starting current. The new motor will be fitted to the drive machine, adjusted, and aligned to run smooth and free of excessive vibration.

(2) The flux vector drive shall be capable of producing full torque at zero speed and shall not require DC injection braking in order to control the stopping of the car. The drive shall use a three-phase, full-wave bridge rectifier and capacitor bank to provide a DC voltage bus for the solid-state inverter.

b) The drive shall use power semiconductor devices and pulse width modulation, with a carrier frequency of not less than 2 kHz, to synthesize the three-phase, variable voltage variable frequency output to operate the hoist motor in an essentially synchronous mode. The drive shall have the capability of being adjusted or programmed to achieve the required motor voltage, current and frequency, in order to properly match the characteristics of the AC elevator hoist motor.

c) The drive shall not create excessive audible noise in the elevator motor. The drive shall be a heavy-duty type, capable of delivering sufficient current required to accelerate the elevator to contract speed with rated load. The drive shall provide speed regulation appropriate to the motor type.

d) For non-regenerative drives, a means shall be provided for removing regenerated power from the drive's DC power supply during dynamic braking. This power shall be dissipated in a resistor bank, which is an integral part of the controller. Failure of the system to remove the regenerated power shall cause the drive's output to be removed from the hoist motor.

e) A contactor shall be used to disconnect the hoist motor from the output of the drive unit each time the elevator stops. This contactor shall be monitored and the elevator shall not start again if the contactor has not returned to the de-energized position when the elevator stops.

f) An electro-mechanical switch shall open all power feed lines to the brake. A single ground, short circuit or solid-state control failure shall not prevent the application of the brake. The controller shall provide step less acceleration and deceleration and provide smooth operation at all speeds. The power control shall be arranged to continuously monitor the performance of the elevator in such a way that if the car speed exceeds 150 fpm during access, inspection or leveling, the car shall shut down immediately, requiring a reset operation.

g) Existing coupling and bushing attaching motor to drive machine shall be replaced with a new coupling and bushing assembly.

2) **Traction Machine:** Existing geared traction machines shall be replaced with new non-pro-proprietary geared drive machines suitable for installation.

a) New machines shall be engineered and manufactured to increase the speed of the application to 350 fpm.

b) All necessary accompanying elevator equipment shall be adjusted to increase the speed of the application to 350 fpm to comply with A17. 1.

B) **Brake Assembly:** New brake assembly suitable for installation.

1) Install new brake shoes and properly adjust for smooth and quiet operation.

C) **Emergency Brake Assembly:** An emergency brake assembly, “RopeGripper” as manufactured by Hollister Whitney shall be installed as per the requirements of ASME A17.1 to provide protection against car overspeed and unintended car movement.

1) Modification to existing machine beam, if required, to accommodate installation of RopeGripper shall be verified and the sole responsibility of the Elevator Contractor.

2) The preferred method to mount a rope gripper assembly is to through bolt to the existing bed plate or machine beams.

3) All bolts used in the mounting of the Rope Gripper shall be minimum Grade 5 bolt.

4) Rope gripper assembly shall be located either in machine room or other code permitted spaces. Pump assembly, if provided, shall be located in machine room adjacent to elevator drive machine.

D) weights are required, Contractor shall provide and adjust for proper balance as a part of this specification and contract.

E) **Sheaves and Cable Guards**: Existing primary and secondary drive sheaves shall be field verified by the Elevator Contractor to be structurally sound to be retained. If not structurally sound for retention they shall be replaced by the elevator contractor. New cable guards shall be provided as required by ASME A17.1.

1) **Elevator #5 (SN# 3754):** Suspension ropes shall be replaced with new suspension ropes as detailed below:

   a) Replace suspension ropes with traction steel hoist ropes of size and number to ensure proper wearing qualities, consisting of at least six strands wound around a hemp core center. Suspension ropes shall be provided in conformance with rope data on elevator car crosshead data plate.

   b) All suspension means shall be adjusted and installed with alternating shackle rod length so that shackles do not make contact and include anti-rotation devices.

   c) Load-carrying rope must be vertically in line with shackle rod.

   d) All required labels shall be affixed after installation.

   e) All ropes are to be tensioned equally.

2) **Rope Tensioning:** All ropes are to be tensioned equally.

   a) Suspension members are considered to be equally tensioned when the smallest tension measured is within 10% of the highest tension measured. Equal tension shall be maintained between individual suspension members in each set.

   b) Written results of the measurement of the tension of all suspension members for traction elevator shall be provided and maintained in the elevator machine room as permanent records that are considered the property of the Owner.

F) **Load Weighing Devices:** Draka Micelect Model # LW-ILC3-MSTD or approved EMCO equal load weighing device for 1:1 roping shall be installed to provide signals to the controller for various load monitoring and dispatching operations.

G) **Centrifugal Speed Governor:** The centrifugal speed governor shall be replaced as required to cut off power to the motor and apply the brake whenever the governor indicates the car has excessive speed. Governor as manufactured by Hollister Whitney or equal.

H) **Governor Ropes:** Provide and install new governor rope as follows:

   a) Replace governor ropes with traction steel ropes of size and number to ensure proper wearing qualities, consisting of at least six strands wound around a hemp core center.

   b) All required labels shall be affixed after installation.

I) **Elevator Controller:** The Elevator control system shall be Motion Control Engineering Controller Model iControl or preapproved equal. Provide above manufacturer's standard microprocessor operation system for each elevator as required to provide type of operation system indicated. The elevator controller shall use a microprocessor-based logic system and shall be ASME A17.1 compliant including all applicable elevator and electrical safety codes to include the following:

   1) All power feed lines to the brake shall be opened by an electro-mechanical switch. A single ground, short circuit or solid-state control failure shall not prevent application of the brake.

   2) The automatic leveling zone shall not extend more than 6 inches (152.4 mm) above or below the landing level, nor shall the doors begin to open until the car is within 6 inches (152.4 mm) of the landing. In addition, the inner leveling zone shall not extend more than 3 inches (76.2 mm) above or below the landing. The car shall not move if it stops outside the inner leveling zone unless the doors are fully closed and locked.

3) The system shall use an automatic two-way leveling device to control the leveling of the car to within 0.25 inches (6.35 mm) or better above or below the landing sill. Overtravel, undertravel or rope stretch must be compensated for, and the car brought level to the landing sill.

4) The closed loop feedback power control shall be arranged to continuously monitor the actual elevator speed signal from the velocity transducer and compare it with the intended speed signal to verify proper and safe operation of the elevator.

5) During operation of the elevator with an overhauling load (empty car up or loaded car down), precision speed control shall be obtained by the regulation system used in the power control. The power control shall have the capability to maintain regulation under varying loads.

6) The controller shall provide stepless acceleration and deceleration and smooth operation at all speeds. The system shall provide the required electrical operation of the elevator control system including automatic application of the brake, which shall bring the car to rest in the event of a power failure.

7) The controller shall include absolute floor encoding which, upon power up, shall move the car to the closest floor to identify the position of the elevator. With absolute floor encoding it is not necessary to travel to a terminal to establish floor position.

8) The controller shall use a variable voltage, variable frequency drive to control three-phase AC induction and Permanent Magnet AC motors.

9) The drive shall use a three-phase, full-wave bridge rectifier and capacitor bank to provide a DC voltage bus for the solid-state inverter.

10) The drive shall use power semiconductor devices and pulse width modulation with a carrier frequency of not less than 8 kHz to synthesize the three-phase, variable voltage, variable frequency output to operate the hoist motor in an essentially synchronous mode.

11) The drive shall have the capability of being adjusted or programmed to achieve the required motor voltage, current and frequency to properly match the characteristics of the AC elevator hoist motor.

12) The drive shall not create excessive audible noise in the elevator motor.

13) The drive shall be a heavy-duty type, capable of delivering sufficient current to accelerate the elevator to contract speed with rated load. The drive shall provide speed regulation appropriate to the motor type.

14) A means shall be provided for removing regenerated power from the drive DC power supply during dynamic braking. This power shall be dissipated in a resistor bank which is an integral part of the controller. Failure of the system to remove the regenerated power shall cause drive output to be removed from the hoist motor.

15) A contactor shall be used to disconnect the hoist motor from the output of the drive unit each time the elevator stops. This contactor shall be monitored. The elevator shall not start again if the contactor has not returned to the de-energized position when the elevator stops.

16) The controls shall be arranged to continuously monitor the performance of the elevator so that, if car speed exceeds 150 fpm during access, inspection, or leveling, the car shall shut down immediately, requiring a reset operation.

17) The controller shall have an RFI Filter to reduce EMI and RFI noise.

18) Failure of the brake to lift as detected by a mechanical switch (if provided) shall cause the control system to take the elevator out of service at the next stop where it shall remain out of service until the condition is corrected.

19) Hoistway Equipment Minimization:

a) The control system shall allow slowdown, emergency terminal, and hoistway access limit switches to be eliminated. These switches shall exist as virtual switches in system software.

b) The control system shall allow leveling magnets and/or vanes to be eliminated.

20) Programmable Logic:

a) All available programming options or parameters shall be field programmable, without need for any external device or knowledge of any programming languages. Programmable options and parameters shall be stored in nonvolatile memory. At a minimum, there shall be a 32-character alphanumeric display used for programming and diagnostics. Programmable parameters and options shall include, but are not limited to, the following:

(1) Number of Stops/Openings Served (Each Car)

(2) Selective Collective

(3) Programmable Fire Code Options/Fire Floors (Main, Alternates)

(4) Floor Encoding (Absolute PI)

(5) Digital Position Indicators/Single Wire Position Indicators

(6) Programmable CE Microcom floor labels

(7) Programmable Door Times

(8) Programmable Motor Limit Timer

(9) Programmable Car Fan and Light Timer

(10) Door Nudging, Automatic and Fire Operation

(11) Emergency Power

(12) Parking Floor

(13) Lobby Floor

(14) Hall or Car Gong Selection

(15) Standard Security

(16) Anti-nuisance - Light Load Weighing and Photo Eye

(17) Load Weighing for Light, Heavy and Overload Car

(18) High Speed Inspection Enable

(19) Door behavior selections

(20) Door type selection

(21) Fault Bypass – Inspection Operation

(22) Fault Bypass – Automatic Operation

21) ADA Requirements:

a) The elevator shall comply with ICC/ANSI A117.1, the American National Standard for Accessible and Usable Buildings and Facilities and the applicable Building Code, Chapter 11.

b) Leveling Accuracy: The controller shall have a self-leveling feature that shall automatically bring the car to floor landings within a tolerance of 0.25 inches (6.35 mm) or better under all loading conditions up to the rated load.

c) Hall Lanterns: The controller shall have outputs to drive the visible and audible signals that are required at each hoistway entrance to indicate which elevator car is answering a call. Audible signals shall sound once for up, twice for down.

d) Position Indicators: The controller shall have a position indicator output to drive the required position indicator capable of indicating the corresponding floor numbers as the car passes or stops at a floor.

e) The controller shall have an output capable of indicating car direction and floor number.

22) Environmental Considerations:

a) The elevator control shall be capable of operating within the following environmental conditions:

(1) Ambient temperature: 32°F to 104°F (0°C degrees to 40°C degrees).

(2) Humidity: Non-condensing up to 95%

(3) Altitude: Up to 7,500 feet (2286 m)

23) Building and System Configuration:

a) The elevator controller shall be microprocessor based and designed specifically for elevator applications. Elevator and drive logic shall be implemented independently of safety functions.

b) Elevator logic shall be implemented to facilitate tight coordination between subsystems and enhance reliability. The implementation shall utilize a real-time, multi-tasking operating system to allow the processors to simultaneously execute elevator control logic, drive control logic, operator interface logic, and communication support.

c) The elevator controller shall have an independent safety system in order to implement safety features required by ASME A17.1 code. The safety system shall incorporate check redundant, multi-processor, multi-path, solid-state, ASME compliant implementation that meets CSA and CE standards.

d) The elevator controller shall be configured and packaged in such a way that external "jumpers" cannot be used (intentionally or unintentionally) while the elevator is running in any passenger mode of operation. Non-passenger modes of operation shall be provided, along with means to bypass safety functionality, to allow inspection testing and other setup and/or troubleshooting operations.

e) The elevator control logic configuration shall be fully field programmable. Changes in number of floors, I/O configuration, starter setup, eligibility etc. shall not require the replacement/reprogramming of EEPROMs or other storage devices. Further, changes in the controller configuration shall be user adjustable in the field.

24) Diagnostics:

a) The control system shall provide comprehensive means of accessing the computer memory for elevator diagnostic purposes. It shall have permanent indicators for important elevator status conditions as an integral part of the controller.

b) The microprocessor boards shall be equipped with on-board diagnostics for ease of troubleshooting and field programmability of specific control variables. Field changes shall be stored permanently, using nonvolatile memory. The microprocessor board shall provide the features listed below:

(1) On-board diagnostic switches and an alphanumeric display to provide user friendly interaction between the mechanic and the controller.

(2) An on-board event log shall store and display time-stamped events for diagnostic purposes. (Viewable only with monitoring software.)

(3) An on-board real time clock shall display the time and date and be adjustable by means of on-board switches.

(4) Field programmability of specific timer values (i.e., door times, etc.) may be viewed and/or altered through on-board switches and pushbuttons.

(5) The elevator controller shall have extensive diagnostic capability. A built-in LCD display or equivalent shall allow access to major user functions and diagnostic features. The display shall be a multi-character, multi-line type with associated keypad to allow users to enter information. The display shall show data and menus in readily understood character format. No numeric, hexadecimal, or binary codes are acceptable.

(6) Dedicated indicators shall be provided in a conspicuous location on the elevator controller to indicate important system statuses, such as when the safety string is made, when the door locks are made, when the elevator is on Inspection/Access, etc. In addition, other special or error conditions detected by the main processor or safety subsystem shall be displayed.

25) CAN Bus Connectivity:

a) Circuit boards within the controller shall communicate through CAN Bus connections for reliable performance and simplified board replacement. Power for individual circuit boards shall also be distributed through the CAN Bus connection. Communication and power connection shall radiate from a central, multi-connection point such that single-point board failure shall not affect operation of other boards.

26) Universal I/O:

a) Field I/O boards shall be universal in that 24V to 120V AC or DC connections shall be accepted without requirement for unique circuit boards for each. I/O boards shall provide built-in current limiting protection.

27) Intended Operation of Critical Components:

a) Failure of any single magnetically operated switch, contactor, or relay to release in the intended manner; the failure of any static control device, speed measuring circuit, or speed pattern generating circuit to operate as intended; the occurrence of a single accidental ground or short circuit shall not permit the car to start or run if any hoistway door or gate interlock is unlocked or if any hoistway door or car door or gate contact is not in the made position. Furthermore, while on car top inspection or hoistway access operation, failure of any single magnetically operated switch, contactor or relay to

release in the intended manner, failure of any static control device to operate as intended or the occurrence of a single accidental ground, shall not permit the car to move even with the hoistway door locks and car door contacts in the closed or made position.

28) Status Indicators:

a) Dedicated permanent status indicators shall be provided on the controller to indicate when the safety string is made, when the door locks are made, when the elevator is operating at high speed, when the elevator is on independent service, when the elevator is on Inspection or Access, when the elevator is on fire service, when the elevator out of service timer has elapsed, and when the elevator has failed to successfully complete its intended movement. A means shall be provided to display other special, or error conditions detected by the microprocessor.

b) Every field connection input or output shall have a dedicated LED such that no voltmeter or other test equipment is required to see when and input or output is active.

29) Parking Floor Function:

a) Parking Floor: Elevator car shall be capable of parking on a designated floor after a predetermined time period. Any landing may be the parking floor. The car will go to the parking floor when it is free of call demand. A Parking Delay Timer will cause a free car to wait for a short time before parking. The timer shall be adjustable, with a value between 0.0 minutes (no delay) and 6.0 minutes.

30) Out of Service Timer

a) An out of service timer (T. O. S.) shall be provided to take the car out of service if the car is delayed in leaving the landing while calls exist in the system.

31) Programmable Car Fan and Light Timer:

a) Controls shall be provided that will de-energize ventilation fans and lighting systems when the elevator is stopped, unoccupied and with its doors closed for over 15 minutes.

32) High or Low Speed Inspection

a) A selection shall be provided on the controller to select high or low speed during access or inspection operation as long as contract speed does not exceed 150 feet per minute.

33) Door Operation

a) Door protection timers shall be provided for both opening and closing directions to protect the door motor and help prevent the car from getting stuck at a landing. The door open protection timer shall cease attempting to open the door after a predetermined time if the doors are prevented from reaching the open position. In the event that the door closing attempt fails to make up the door locks after a predetermined time, the door close protection timer shall reopen the doors for a short time. If, after a predetermined number of attempts, the doors cannot successfully be closed, the doors shall be opened, and the car removed from service.

b) A minimum of four different door standing open times shall be provided. A car call time value shall predominate when only a car call is canceled. A hall call time value shall predominate whenever a hall call is canceled. In the event of a door reopen caused by the safety edge, photo eye, etc., a separate short door time value shall predominate. A separate door standing open time shall be available for lobby return.

c) If the doors are prevented from closing for longer than a predetermined time, door nudging operation shall cause the doors to move at slow speed in the closed direction. A buzzer shall sound during nudging operation.

34) Door Pre-opening

a) When selected, this option shall start to open the doors when the car is in final leveling, 3" (76.2 mm) from the floor. If pre-opening is not selected, the doors shall remain closed until the car is at the floor, at which time the doors shall commence opening.

35) Car and Hall Call Registration

a) Car and hall call registration and lamp acknowledgment shall be by means of a single wire per call, in addition to the ground and the power bus. Systems that register the call with one wire and light the call acknowledgment lamp with a separate wire can be accommodated.

b) The user shall be able to register car calls via the on-board LCD display and keypad.

36) Emergency Power Operation

a) Emergency power in the building is sized to power the elevator.

37) Fire Service Operation

a) Fire Phase I emergency recall operation, alternate level Phase I emergency recall operation and Phase II emergency in-car operation shall be provided according to latest applicable edition of ASME A17.1 and current Jurisdictional Statutes, Rules & requirements.

38) Independent Service

a) Independent service operation shall be provided in such a way that actuation of a key switch in the car operating panel will cancel any existing car calls, and hold the doors open at the landing. The car will then respond only to car calls. Car and hoistway doors will only close with constant pressure on a car call pushbutton or door close button. While on independent service, hall arrival lanterns or jamb mounted arrival lanterns shall be inoperative.

39) Leveling

a) The car shall be equipped with two-way leveling to automatically bring the car level at any landing, within the required range of leveling accuracy, with any load up to full load.

40) Test Switch

a) A controller test switch shall be provided. In the test position, this switch shall allow independent operation of the elevator with the door open function deactivated for purposes of adjusting or testing the elevator. The elevator shall not respond to hall calls and shall not interfere with any other car in a duplex or group installation.

41) Inspection

a) To enhance safety, an inspection switch, enable switch, and an up/down toggle switch shall be provided in the controller and on the car top to place the elevator on inspection operation and allow the user to move the car. Activation of the car top inspection switch shall render the controller inspection switch inoperative.

42) Uncanceled Call Bypass

a) A timer shall be provided to limit the amount of time a car is held at a floor due to a defective hall call or car call, including stuck pushbuttons. Call demand at another floor shall cause the car, after a predetermined time, to ignore the defective call and continue to provide service in the building.

43) Anti-nuisance (Photo Eye)

a) The controller shall cancel all remaining car calls, if a user-determined number of car calls are answered without the computer detecting a change in the photo eye input (indicating that no one is passing through the car door).

44) Load Weighers

a) Load weighing devices shall be installed to provide signals to the controller for various load monitoring and dispatching operations.

b) By identifying the load (light, heavy or overload), the system can activate anti-nuisance car call cancellation, loaded car hall call bypass, or overload.

45) Absolute Floor Encoding

a) The controller shall include absolute floor encoding, which upon power up, shall move the car to the closest floor to identify the position of the elevator.

46) Landing/Positioning System Information

a) The landing/positioning system shall use a Gray code, magnetically permanent encoded tape and two, independent sensor heads in a single housing for absolute position control under all powered conditions. The tape shall provide a unique code for every 1mm of travel. A third, independent system shall provide speed feedback directly from the hoist motor. The system shall continuously compare inputs from the three independent systems to assure accuracy and safety.

47) Service Enhancements

a) The manufacturer shall make software updates for controller and/or group control available via Internet download, email attachment, or physical EEPROM shipment. Internet downloads and email attachment deliveries require an optional, hand-held user interface to facilitate software transfer from the user's PC to the elevator or group.

48) Pit Float Switch Operation:

a) Once the pit float switch is activated, the elevator will return to landing 3 (floor label 3), cycle the doors and shutdown the car. Normal operation will be restored once the pit float switch is deactivated.

b) Pit Float Switch Operation cannot impede Emergency Firefighters Service Operation.

c) Pit Float Switch Operation shall be Primary to Fire Service to protect passengers from being dispatched to a flooded landing upon activation of Phase I Emergency Operation as well as protect operation of Phase II Emergency Operation.

49) Hand-held User Interface

a) A hand-held user interface with all the functionality of the on-board LCD display and keypad shall be available. The hand-held interface shall allow the user system access via any system CAN Bus connection in the controller, from the car top, or in the car (if a CAN connection has been made available here).

b) The hand-held interface shall connect to a standard PC, allowing system software updates to be delivered to the PC via Internet download or email attachment, transferred to the hand-held and uploaded to the elevator or group controller.

2.4 EQUIPMENT: HOISTWAY

A) **Platform:** Existing frame shall be retained. Underside of the platform shall be verified and maintained structurally sound and fireproof by the Contractor.

1) Existing platform guards (aprons) shall be removed.

2) New Platform Guards (Aprons) shall be installed. The entrance side of the platform of each elevator shall be provided with a smooth metal guard plate of not less than 1.5 mm (0.059 in.) thick steel, or material of equivalent strength and stiffness, adequately reinforced and braced to the car platform. The guard plate shall extend not less than the full width of the widest hoistway door opening. The guard plate shall have a straight vertical face, extending below the floor surface of the platform no less than 1 220 mm (48 in.) with the lower portion of the guard bent back at an angle of not less than 60 degrees nor more than 75 degrees from the horizontal.

B) **Sling**: Existing steel stiles affixed to a steel crosshead and bolstered with bracing members to remove strain from the car enclosure shall be retained.

C) **Guide Rails**: Retain and reutilize with no alterations. Elevators with roller guides shall have the guide rails thoroughly cleaned and retained dry without lubrication. Existing car guide rails shall be verified as properly fastened to the building with steel brackets verified in alignment, secure to wall and brackets with surface planed smooth. Existing car guide rails shall be cleaned and aligned as necessary for the proper performance of the elevators.

D) **Roller Type Guides:**

1) **Elevator Car:** Existing guides on top and bottom of cars shall be replaced with new roller guide complete assemblies which shall have a minimum of three tires each, shall be mounted on top and bottom of the car and counterweight frame and be held in contact with the guide rail by adjustable devices. Car roller guides shall be ELSCO Model B, or equal. Properly adjusted for smooth operation.

2) **Counterweight Assembly**: Existing guides on top and bottom of counterweight assembly shall be replaced with new roller guide complete assemblies which shall have a minimum of three tires each, shall be mounted on top and bottom of the counterweight frame and be held in contact with the guide rail by adjustable devices. Counterweight roller guides shall be ELSCO Model D, or equal. Properly adjusted for smooth operation.

E) **Car Top Guard Railing:** A standard railing conforming to ASME A17.1 shall be provided on the outside perimeter of the car enclosure top on all sides where the perpendicular distance between the edges of the car enclosure top and the adjacent hoistway enclosure exceeds 300 mm (12 in.) horizontal clearance and on sides where there is no hoistway enclosure.

1) If clearances require the standard railing to be located more than 100 mm (4 in.) from the edge of the outside perimeter of the car enclosure top, the top of the car enclosure outside of the railing shall be clearly marked.

2) The marking shall consist of alternating 100 mm (4 in.) diagonal red and white stripes. The forces specified in ASME A17.1 shall not deflect the railing beyond the perimeter of the car top.

3) There shall be a minimum of 100 mm (4 in.) horizontal clearance between the top rail and intermediate rail of the standard railing and fixed equipment passed or approached by the standard railing as the car moves throughout the hoistway to ensure protection from shearing hazards.

F) **Buffers**: Retain existing buffers. Buffer data plates shall be maintained or replaced for compliance with ASME A17.1 Safety Code for Elevators and Escalators. All buffers shall be cleaned and painted. Verify the spring buffer(s) comply with the stroke and load requirements of the ASME A17.1 Safety Code for Elevators and Escalators. Buffer data plates shall be maintained or replaced for compliance with ASME A17.1 Safety Code for Elevators and Escalators.

G) **Automatic Terminal Limits:** Replace Automatic slow down and final limit switches. Place electric limit switches in the hoistway near the terminal landings. Limit switches shall be designed to cut off the electric current, slow down and stop the car if it runs beyond either terminal landing.

H) **Automatic Self-Leveling:** Provide elevator car with a self-leveling feature to automatically bring the car to the floor landings and correct for over-travel or under-travel. Self-leveling shall, within its zone, be automatic and independent of the operating device. The car shall be maintained level to less than ¼ inch with the landing irrespective of its load.

I) **Traveling Cable:** Existing traveling cable shall be removed and replaced with new traveling cable.

1) Traveling cable shall terminate at numbered terminal blocks in car and machine room.

2) Traveling cable shall be provided with a separate shielded circuit for communication system and hang to obtain proper size of loop. Traveling cable outer covering will be of fire resistant and meet UL standard testing.

3) Traveling cable will be hung free of all contact from hoistway or car equipment and shall be provided with 10 percent spare conductors for each car.

J) **Hoistway & Machine Room Wiring:** Provide all new wiring throughout the elevator machine room and hoistway, adequately sized and constructed for the proper operation of the equipment.

1) Multi-conductor type wiring for light and signal circuits shall be used in the elevator hoistway. All conductors will be copper and the minimum size of conductors, excluding those which form an integral part of control devices, shall be No. 14 for lighting circuits and No. 18 for operating, control, and signal circuits. All wiring will be installed in accordance with applicable NEC and latest applicable edition of ASME A17.1 codes. Hoistway door interlock wiring will be replaced with new SF-2 high heat resistance wiring and shall include a grounding conductor. All other new wiring will have flame retarding and moisture resistant outer covering.

2) Equipment grounding shall be provided. The equipment grounding conductor shall be run with the circuit conductors and shall be a copper conductor. Ground all conductors, supports, controller enclosure, and other non-current conducting metal enclosures for electrical equipment in accordance with NEC. The ground wires shall be solid or stranded; insulated, covered, or bare copper, sized as required by NEC, and shall be colored green if #6 AWG or smaller, and have green tape or adhesive marking if #4 AWG or larger.

3) Retain and reutilize to the maximum extent possible all ducts and conduit in machine room and hoistway. Install new ducts and conduit as required.

4) Hoistway travel cable and associated wiring shall be coordinated with controller manufacture for wiring configuration requirements to match all controller wiring color coded and numbered diagrams for installation.

K) **Pit Stop Switch:** Provide new pit stop switch as required by latest applicable edition of ASME A17.1 code.

L) **Pit Light:** Pit lighting to be verified by Electrical Contractor as meeting minimum 10 ft-c requirement or additional pit lighting will be installed by electrical contractor as detailed in the Electrical Requirements section of this specification.

M) **Pit & Hoistway Cleanup:** The hoistway surfaces and pit area shall be thoroughly cleaned to remove all excessive dust and debris from hoistway surfaces and pit area with proper disposal from property of all waste products from work under this specification.

N) **Pit Ladder**: Verify that pit ladder is compliant with current edition of A17.1 Safety Code for Elevators and Escalators. If compliant, retain and reutilize existing pit ladder. If pit ladder is not in compliance with current A17.1 code, provide new pit ladder as required by latest applicable edition of ASME A17.1 code.

1) Pit ladder shall be positioned so that means to unlock the access door from inside the pit shall be located not more than 1 825 mm (72 in.) vertically above a rung, cleat, or step. The minimum distance from the top rung, cleat, or step to the top of the pit ladder or handhold shall not be less than 1 200 mm (48 in.). With the door in the closed position, in a plane not more than 1 000 mm (39 in.) horizontally from a rung, cleat, or step of the pit ladder.

O) **Pit Float Switch:**

1) Install pit float switch in conformance with ASCE 24. Pit float switch shall prevent the elevator from descending below Base Flood Elevation (BFE) during flood conditions.

2) Once the pit float switch is activated, the elevator will return to landing above the BFE, cycle the doors and shutdown the car. Normal operation will be restored once the pit float switch is deactivated.

3) Pit Float Switch Operation cannot impede Emergency Firefighters Service Operation.

4) Pit Float Switch Operation shall be Primary to Fire Service to protect passengers from being dispatched to a flooded landing upon activation of Phase I Emergency Operation as well as protect operation of Phase II Emergency Operation.

P) **Hoistway Door Equipment:**

1) **Hoistway Entrances:** Existing hoistway entrance assembly consisting of the elevator entrance frame, head jamb & strike jamb and door sills shall be retained and reutilized. Verify and adjust as required to maintain all door gaps less than 3/8 inch in accordance with latest applicable edition of ASME A17.1 code.

2) **Hoistway Doors:** Existing hoistway shall be retained and reutilized.

a) Refurbish as required and replace all parts necessary to deliver doors in as new condition. Verify and adjust as required to maintain all door gaps less than 3/8 inch in accordance with latest applicable edition of ASME A17.1 code.

b) Hoistway doors that cannot be adjusted to maintain the door gaps to less than 3/8 inch shall be replaced with new door panels. Bidders are cautioned to verify the capability of all hoistway doors to be properly adjusted to maintain code required clearances and gaps as no request for any change order will be approved for this purpose. It is the

Elevator Contractors responsibility to verify this prior to submission of a bid on this project.

3) **Door Header Assembly:** Replace existing hoistway door header assemblies with new galvanized steel hoistway door header assemblies. Hanger/track supports to be formed of zinc coated steel, 10-gauge minimum thickness, extending the full travel of the door(s) and securely anchored to the unit frame, adjacent wall, or beam above.

4) **Hoistway Door Sill and Sill Support:** Existing hoistway door sills and supports shall be retained and reutilized.

5) **Interlocks:** All existing interlocks shall be replaced with new interlocks.

   a) Equip each hoistway entrance with an approved type interlock (GAL or pre-approved equal) tested as required by code including SF-2 wiring and grounding. Interlock to be GAL Interlock, or pre-approved equal.

   b) Interlock shall be designed to prevent operation of the car away from the landing until the doors are locked in the closed position as defined by code and shall prevent opening the doors at any landing from the corridor side unless the car is at rest at that landing or is in the leveling zone and stopping at that landing.

6) **Hoistway Door Components:** Existing Door Hangers, Sheaves, and Tracks shall be replaced with all new components. Provide sheave type two-point galvanized suspension hangers and galvanized tracks for each hoistway sliding door, product GAL, or preapproved equal as detailed below:

   a) Sheaves: Polyurethane tires with ball bearings properly sealed to retain grease.

   b) Hangers: Provide an adjustable slide to accommodate the up thrust of the doors.

   c) Tracks: Drawn steel shapes, smooth surface and shaped to conform to the hanger sheaves.

   d) Door hangers, sheaves, interlocks, and tracks shall be manufactured by GAL, OEM replacement or preapproved equal.

   e) All hoistway door closers shall be replaced with new closers.

   f) Replace all door gibs including all required primary and secondary door retainers on all replacement doors.

7) **Entrance Markings:** Replace all hoistway entrance markings and door jamb plates at each floor.

   a) Jamb Braille: All elevator hoistway entrances shall have raised and Braille floor designations provided on both jambs. The centerline of the characters shall be 60 in (1525 mm) above finish floor. Entrance jambs shall be marked with new 4” x 4” stainless steel plates having raised floor markings with Braille adjacent. Such characters shall be 2 in (50 mm) high and shall comply with ICC/ANSI A117.1.

   b) Main Entry Level: A raised star shall be provided on both jambs at the main entry level.

   c) **Car Identification:** In conformance with A17.1 Part 2.29, in buildings with more than one elevator, each elevator in the building shall be assigned a unique alphabetical or numerical identification. The elevator identification alphanumeric designation shall be

a minimum of 75 mm (3 in.) in height, painted on, engraved, or securely attached to the to or on every elevator entrance at the designated level.

Q) **Hoistway Floor Numbers**: After painting has been completed, the hoistways shall have floor numbers, not less than 100 mm (4 in.) in height, painted on the hoistway side of the enclosure or hoistway doors.

R) **Floor Designations**: Floor designations shall be as listed in Elevator System Description, Number of Stops and Openings section of this specification.

S) **Sight Guards**: Sight guards, if required, to reduce the opening between the leading edge of the hoistway door and the car door to maintain code required clearances, will be finished to match door panels. All existing sight guards will be inspected to ensure structural integrity, proper contour, and secure attachment to the hoistway door panels.

T) **Escutcheon Tubes**: Hoistway doors that do not have escutcheon tubes installed shall have escutcheon holes fitted with new escutcheon tubes to match existing OEM escutcheon tubes.

U) **Door Bumpers**: Provide and install new rubber door bumpers on all hoistway door jambs and on car door jamb. Bumpers shall be installed at top and bottom of door jambs.

V) **Painting Inside Hoistway**: All painting on this project must be performed in conformance with Part 1.6 of this specification.

1) After removal of all old hardware and components for the hoistway as detailed above all existing components shall have all rust thoroughly removed and treated as detailed below.

2) Remove rust, clean, degrease and paint any existing parts or components for a like new condition, including but not limited to the door panel surfaces, door track assemblies and door frame surfaces inside the hoistway.

3) After painting has been completed, the hoistways shall have floor numbers, not less than 100 mm (4 inch) in height, painted on the hoistway side of the enclosure or hoistway doors.

2.5 DOOR OPERATION

A) **New Door Operator:** Provide elevator with a new complete door operator assembly at the front and rear. Door operator to be a closed loop motor driven heavy-duty operator GAL MOVFR or pre-approved equal.

1) Door operator shall be a closed loop, microprocessor-based system. The door operator will facilitate smooth operation under varying environmental influences such as, temperature, wind, friction, and component variation. The processor will monitor the door's actual position and velocity compared to its desired position and velocity. If variations are detected in the profile the command will be automatically corrected. The Closed Loop Door Operator control system shall not require machine room door control equipment.

2) Door operation to comply with A17.1 requirements for Restricted Opening of Hoistway or Car doors of passenger elevator.

3) Door Operator shall be provided with adjustable parameters, at a minimum, for the following:

a) Adjustable Parameters in the closing cycle for high speed, final speed, nudging speed, acceleration, deceleration, and slow speed torque.

b) Adjustable parameter for stall reversal – automatic reversal if the door meets an obstruction.

c) Adjustable parameter for door reversal – to accomplish a quick but smooth reversal.

4) Door noise not to exceed 58 dBA.

5) Door control to open doors automatically when car arrives at a landing in response to a normal hall or car call.

6) Install door operator data plate as per A17.1 Safety Code for Elevators and Escalators and provide all door closing speed times to ensure code conformance to Kinetic Energy limitations of latest applicable edition of ASME A17.1 code.

7) Door operator must be mounted so completely isolated from the car top. Mounting to car stiles by brackets as configured by GAL will be accepted for isolation.

B) **Door Zone Lock:** Install new door zone lock system with door operation to comply with the latest applicable edition of ASME A17.1 requirements for restricted opening of car doors of passenger elevator.

1) Door zone lock system shall be GAL LWZ-2 clutch and combination zone locking system, OEM or pre-approved equal.

2) When the car is outside the unlocking zone, the car doors shall be so arranged that when in the closed position they shall be restricted from opening more than 100 mm (4 inch) from inside the car.

3) Car doors shall be openable from outside the car without the use of a special tool(s).

4) Car doors shall be openable from within the car when the car is within the unlocking zone.

C) **New Door Protection Device:** Door protection shall be a 3D infrared light screen type with a minimum of 154 light beams. The beams shall project across the car opening detecting the presence of a passenger or object. If door movement is obstructed, the doors shall immediately reopen. A mechanical reopening device shall not be acceptable.

1) The light screen is to be totally immune to ambient light, including strobes, fluorescent, and direct sunlight (100,000 lux). Maximum allowable installed misalignment shall be plus or minus 30 degrees @ 3 feet. The receiver and light array cables shall be hi-flex robotic grade, a minimum of 15 feet in length, connector on each end, and interchangeable when connected to the power supply.

2) Light beam and receiver arrays to operate independent of the power supply, allowing the use of any 18 – 25Vdc supply, and provide a continuously short-circuit protected NPN transistor output. The arrays shall incorporate Automatic Dynamic Gain Sensitivity Adjustment to compensate for severe misalignment, condensation, damaged or contaminated lenses, and provide automatic on-the-fly dynamic adjustment as the doors open and close.

3) The power supply shall be dual voltage input (120-240Vac, 50/60Hz), provide LED indicators for power applied and relay operation, simulator test button for beam break, and push-to-test button for manual operation of master control relay. Nudge feature to be field installable in standard power supply with accessory relay to operate in either the delayed nudge mode or redundant mode, switch selectable. Nudge feature also to incorporate buzzer with enable/disable switch, and delay timer adjustable from 5 to 45 seconds for nudge operation.

4) Provide nylon fasteners, which attach to array studs for mounting array to jam of side parting door. Molded tool for attaching fasteners to be included.

5) All configurations shall meet or exceed ADA requirements, be CE certified, and UL/cUL listed. Door protection will be per these specifications and be manufactured by Janus Elevator Products Inc. Model "Panachrome 3D" including green and red illuminating visual warning signals to warn users of door movement. The device shall illuminate GREEN when opening, RED when closing and flash RED a couple of seconds prior to closing. The safety edge shall be capable of projecting light beams across the entire opening and the 3D portion will project beams on a 45 deg angle out into the hoistway. The 3D protection zone should move with the doors, so that if a person or object enters the zone after the doors have begun to close, the doors shall stop, and then reverse to reopen. The doors shall remain open until the expiration of an adjustable time interval (3D Timeout option only) and then close automatically.

D) **Nudging Operation:** The doors shall remain open as long as the electronic detector senses the presence of a passenger or object in the door opening. If door movement is obstructed for a field programmable time, a buzzer will sound, and the doors will close at reduced speed. If the infra-red door protection system detects a person or object while closing, the doors will stop and resume closing after the obstruction has been removed.

2.6 CAR COMPONENTS

A) **Cab Enclosure & Interior :** Existing elevator cab enclosure shall be removed and replaced. Elevator Contractor shall provide and install new cab enclosure including but not limited to the following for a complete cab enclosure in conformance to all A17.1 Safety Code for Escalators and Moving Walks:

1) **Platform:** Platform shall be field verified by Elevator Contractor to be structurally sound to be retained. If platform is not structurally sound for retention, it shall be replaced by Elevator Contractor.

2) **Cab Shell:** New cab shell walls shall be provided and installed. New cab shell walls shall be constructed with 14 gauge galvaneal steel.

3) **Canopy:** New canopy shall be provided and installed. New canopy shall be constructed with 12 gauge galvaneal steel powder coated white. Canopy construction shall include sufficient stiffeners to increase rigidity in conformance to applicable A17.1 Safety Code requirements. Transom: Transom shall be provided and installed. Transom shall be constructed with 16 gauge satin (#4) stainless steel (Type 304).

4) **Fixed Front Return:** Fixed Front Return shall be provided and installed. Fixed Front Return shall be constructed of 16 gauge satin (#4) stainless steel (Type 304). Included punched hole for applied C.O.P. and MDF backing with aluminum mounting angles. All engraving and fixtures shall be in conformance with the CAR OPERATING PANEL requirements in this specification.

5) **Cab Walls:** Cab walls to be new stainless steel, 5WL Rigitex vandal-resistant finish. Each sidewall to be installed to contain minimum vertical centerline hairline seams.

6) **Cab Enclosure Vents:** Cab enclosure vents shall be provided for proper cab enclosure ventilation.

a) Base of each wall will be provided with a 6" cove base of #4 satin finish stainless steel with punched ventilation to align with the existing cab shell vents.

b) Cove base shall include 18 gauge brushed #4 finish stainless steel base with ventilation slots aligning with existing ventilation openings.

7) **Floor Finish:** Provide and install new cab flooring as detailed below:

a) Rubber Type Flooring: Furnish and install new commercial rubber flooring tiles Norament Rubberized style flooring manufactured by nora systems, Inc. **with final color and style selected by Building Representative** from standard Noramet Rubberized style and color selection, including installation of new underlayment.

8) **LED Car Lighting & Ceiling:** Furnish a new LED downlight ceiling faced with 20ga. satin (#4) stainless steel (Type 304).

a) Ceiling face to be divided into a minimum of six (6) sections separated by ¼" wide black painted reveals. Each section to contain an individual light fixture. Each fixture to be 2¾" diameter with a black trim bezel and three (3) LED bulbs (Tri-Fecta Fixtures) to comply with lighting requirements of A17.1 code or pre-approved equal. Heat range should be close to 2700 Kelvin.

b) For the luminaires in each elevator cab, not including signals and displays, the sum of the lumens divided by the sum of the watts shall not be less than 35 lumens per watt.

c) Edge to be painted black to match ceiling reveals. Included is a low voltage driver unit to be mounted on car top. Emergency escape hatch shall be incorporated into ceiling based on existing location of escape hatch in elevator canopy and shall have hairline joints in ceiling.

9) **Handrails:** Elevator car interior must have a support rail on back wall.

a) All support rails must be new 3/8" x 2" Flat bar Satin Finish Stainless Steel handrail, smooth and have no sharp edges, with Standoffs with threaded set pins on underside and Returned Ends. Handrail to stop prior to rear wall vertical flanking panels.

b) Support rails must be continuous and a minimum length of 42 inches (1067 mm) overall.

c) The inside surface of support rails must be 1½ inches (38 mm) clear of the car wall.

d) The distance from the top of the support rail to the finished car floor must be at least 31 inches (787 mm) and not more than 33 inches (838 mm).

e) Padded or tufted material or decorative materials such as wallpaper, vinyl, cloth or the like may not be used on support rails.

10) **Cab Interior Pads:** Furnish set of pads and hooks for interior of each elevator.

a) One (1) set of pads and hooks shall be provided for the interior of each elevator and the hooks installed in the elevator cab.

b) Type must be pre-approved by elevator consultant as manufactured by W.E. Palmer, or equal. Color to be selected from standard color selection provided to Owner by Elevator Contractor.

c) Elevator pads shall be turned over to the Building Owner and stored in the machine room of the elevator.

11) **Emergency Escape Hatch:** Provide and install new car top escape hatch assembly. Car top shall include emergency escape hatch, including safety switch and signage as required by ASME A17.1Safety Code for Elevators and Escalators.

   a) The top emergency exit cover shall open outward and shall be hinged or securely attached with a chain when in both the open and closed positions. If a chain is used, it shall be not more than 300 mm (12 inch) in length.

   b) The exit cover shall only open from the top of the car, where it shall open without the use of special tools.

12) **Car Top Guard Railing:** A standard railing conforming to ASME A17.1 shall be provided on the outside perimeter of the car enclosure top on all sides where the perpendicular distance between the edges of the car enclosure top and the adjacent hoistway enclosure exceeds 300 mm (12 in.) horizontal clearance and on sides where there is no hoistway enclosure.

   a) If clearances require the standard railing to be located more than 100 mm (4 in.) from the edge of the outside perimeter of the car enclosure top, the top of the car enclosure outside of the railing shall be clearly marked.

   b) The marking shall consist of alternating 100 mm (4 in.) diagonal red and white stripes. The forces specified in ASME A17.1 shall not deflect the railing beyond the perimeter of the car top.

13) **Car Steady Plates:** Existing car steady plates shall be replaced with new.

14) **Car Top Lighting:** The elevator shall be provided with lighting and a duplex receptacle fixture on the car top. The lighting shall consist of two (2) separate light sources. The lighting sources shall be permanently connected, fixed, or portable, or a combination thereof, to provide an illumination level of not less than 100 lx (10 fc) measured at the point of any elevator part or equipment, where maintenance or inspection is to be performed from the car top. All lighting shall be equipped with guards. The light switch shall be accessible from the landing when accessing the car top.

15) **Car Top Inspection Station:** Provide a new car top inspection station with an "emergency stop" switch and constant pressure "up-down" direction buttons to make the normal operating devices inoperative and give the inspector complete control of the elevator. Car top Inspection unit manufactured by Vator Accessories, Inc., (630) 876-8370, Nylube Products Company, LLC. (248) 852-6500, Monitor Controls, or equal. Mount the car top inspection station as required by ASME A17.1 Safety Code for Elevators and Escalators.

   a) When the elevator is on inspection operation or when the hoistway access switch has been enabled, a continuous audible signal, audible at the location where the operation is activated shall sound when the “FIRE RECALL” switch is in the “ON” position or when the fire alarm initiating device is activated to alert the operator of an emergency.

   b) Car Top Inspection Station must be approved by Consultant prior to Contractor ordering fixtures.

16) Cab Fan:

   a) Provide and install new 2 speed quiet run fan manufactured by Nylube securely mounted in ceiling. Fan shall be protected from access through cab ceiling.

   b) Ventilation fans in elevators that do not have their own air-conditioning system shall not consume more than 0.33 watts/cfm at the maximum speed of the fan.

c) Controls shall be provided that will de-energize ventilation fans and lighting systems when the elevator is stopped, unoccupied and with its doors closed for over 15 minutes.

17) All openings left from removal of current car devices, which are not re-clad, shall be covered with stainless steel: ASTM A 167, Type 300 stainless steel covers, No. 4 satin finish. All edges shall be finished in a manner that presents no sharp edges or corners.

B) **Car Entrances:**

1) **Cab Doors:** Replace & hang new cab door panels.

a) Provide new fire rated cab door panels mounted on existing car door hangers with new rubber door astragals.

b) New car door close contact switch shall be installed.

c) Finish for car door shall be ASTM A 167, Type 300 Stainless Steel Number 4 finish. Door shall be manufactured to include all mounting hardware requirements of the GAL door operating equipment. Door shall be manufactured by Gunderlin LTD or pre-approved equal by consultant.

d) Refurbish associated components as detailed below and replace all parts necessary to deliver doors in as new condition. Verify and adjust as required to maintain all door gaps in accordance with latest applicable edition of ASME A17.1 code.

2) **Car Door Hangers, Sheaves, and Tracks:** Existing door hangers, sheaves, tracks, door gibs including all required retainers shall be replaced with new components as detailed below:

a) Provide sheave type two-point galvanized suspension hangers and galvanized track for car sliding door, product GAL, or preapproved equal.

b) New components for all components shall be GAL or preapproved equal.

c) Sheaves: Polyurethane tires with ball bearings properly sealed to retain grease.

d) Hangers: Provide an adjustable slide to accommodate the up thrust of the doors.

e) Tracks: Drawn steel shapes, smooth surface and shaped to conform to the hanger sheaves.

C) **Car Door Guides:** New car door slide guides shall be installed with tabs installed per manufacture's design. Bottom slide guides as manufactured by GAL replacement or preapproved equal. Car door guides shall be matched to existing car door sill

D) **Car Operating Panel:** Provide new car operating stations as follows:

1) **Car Operating Station**: The car control station shall contain the devices required for specific operation mounted directly to an aluminum backing plate with a Stainless Steel # 4 brush finish applied faceplate. The panel shall consist of a series of modules, key switches or approved buttons for optimum viewing and accessibility. All engraving shall be on flush mounted hairline faceplates securely mounted to the aluminum backing plate.

a) The lowest section shall contain the "DOOR OPEN," "DOOR CLOSE," and car emergency signaling devices.

b) Intermediate section shall contain floor buttons, which illuminate when a call is registered and remain illuminated until the call is answered. Raised floor indications and handicap symbols shall be located immediately adjacent to the floor buttons.

c) Provide a lockable service compartment with recessed flush door. Door material and finish to match car station face plate or car return panel. Inside surface of door shall contain an integral flush window for displaying the elevator operating permit. Service cabinet shall contain all required and accessory key switches including independent service, fan switch, key stop switch, hoistway access and an emergency light test button in service cabinet.

d) The top section shall contain fire service features inside a locked cabinet in accordance with currently adopted edition of ASME A17.1, including operating instructions.

e) Swing of panel shall match car door configuration. Car operating panels shall swing open with the hinged side closest to the sidewall. Panel shall swing to open only to the open car side.

f) All car and hall fixtures by Innovation Industries, or equal. All pushbuttons to be tamper resistant, Innovation Industries PB 39, Flush Button with Illuminated Halo and Center Jewel or pre-approved equal. Halo to be Blue LED light source.

g) Car operating panels by Innovation Industries "Prestige Series" Stainless Steel # 4 brushed finish, or pre-approved equal. No adhesive type applied plates will be accepted at either car or hall stations. All fixtures shall have a Blue LED lighting source.

h) Car stations shall be pre-wired by the car station manufacture with terminal strip connection to control wiring.

i) All hall and car push button lamps shall include long life LED type lamps.

2) **Position Indicators**: Each car operating panel to include a 2-inch electronic segmented digital position indicator mounted in the control panel for optimum viewing. As the car travels, its position in the hoistway shall be indicated by the illumination of the alpha/numeric character corresponding to the landing which the elevator is stopped or passing. On one side of digital numeric indicator in the car panel will also be a matching indicator with direction of travel. Position Indicator shall have a Blue LED lighting source.

3) **Emergency Light**: Emergency lighting shall be incorporated into the car operating panel. Emergency light shall illuminate automatically upon loss of the building's normal power supply as required by latest edition of ASME A17.1.

4) **Emergency Communications System**: Provide a Kings III, Monitor Controls EMS G3, Wurtec S3, or approved equal, emergency communications device mounted in the car station panel. Emergency communications device shall comply with Americans with Disabilities Act (ADA) and with the currently adopted edition of ASME A17.1 Safety Code for Elevators and Escalators requirements.

5) **Special Accessories in Car Station Panel**:

a) Located in Service Compartment Subpanel w/ Clear Certificate Window, sized 6" x 9":

(1) Light key switch.

(2) Fan 2 speed key switch.

(3) Independent Operation Key Switch.

(4) Access Key Switch.

(5) Emergency Light Test Button.

(6) Keyed stop switch.

b) No applied plates.

c) Braille and engraving to include:

(1) Engraved Capacity and Identification Number of elevator.

(2) No Smoking sign shall be engraved on flush mounted hairline faceplate.

d) All push buttons and key switches as required for fire service operation.

6) **Fire Service Features**: Fire Fighters Service Key switch as required by the IBC including operations required by the currently adopted edition of ASME A17.1 Safety Code for Elevators and Escalators shall be engraved on a flush mounted hairline faceplate.

a) The "FIRE OPERATION" switch, the "CALL CANCEL" button, the "STOP" switch, the door open button(s), the door close button(s), the additional visual signal, and the operating instructions shall be grouped together at the top of the main car operating panel behind a locked cover.

b) The firefighters' operation panel cover shall be openable by the same key that operates the "FIRE OPERATION" switch. The cover shall be permitted to open automatically when the car is on Phase I Emergency Recall Operation and at the recall level. When the key is in the "FIRE OPERATION" switch, the cover shall not be capable of being closed. When closed, the cover shall be self-locking.

c) All buttons and switches shall be readily accessible, located not more than (72 inch) above the floor.

d) The front of the cover shall contain the words "FIREFIGHTERS' OPERATION" in red letters at least 0.4 in. high.

e) The designated fire key is Region 3: Nassau, Duval, Clay, St. John, Flagler, Putnam, Bradford, Union, Baker, Levy, Alachua, Gilchrist: Yale Key No. R-80833-2006-3;

7) All required Braille for buttons and other switches as required by the FBC & A17.1 shall be securely fastened to the aluminum backing plate or directly engraved.

8) Integral telephone including engraved directly into the car-operating panel ADA required telephone instructions.

9) There shall be NO ADHESIVE APPLIED PLATES, SIGNS or PANELS affixed to the car-operating panel or other locations inside or outside the elevator cab.

10) Phone Response Location shall be designated by Owner.

E) **Car Riding Lantern:** New tamper resistant, arrows thru engraved, clear epoxy filled, car-riding lanterns shall be installed in the elevator cab and located in the entrance jambs to replace the existing car riding lanterns.

1) The lantern bars, when illuminated, will indicate the intended direction of travel. The lanterns will illuminate, and a signal will sound when the car arrives at a floor where it will stop. The lanterns shall remain illuminated until the door(s) begin to close.

F) **Car Operating Station & Fixture Approval:** Car Operating Station & fixtures must be approved by consultant prior to contractor ordering fixtures.

2.7 FIRE COMMAND CENTER ELEVATOR PANEL

A) High-rise buildings having floors with human occupancy 75 feet or more above the lowest level for fire emergency vehicle access shall meet the requirements of the applicable Building Code Chapter 9, Fire Protection Systems, which includes a Fire Command Center as detailed in Section 911. The remote Elevator Panel of the Fire Command Center will be installed at a location verified by the Fire Marshal.

1) The new Fire Command Center Elevator Panel shall be located in the area around the main desk area on the "L" floor. Currently all security monitoring systems, emergency generator panels and fire alarm system panels are located at this desk area. Exact location will be determined as needed. This location may change after review of Fire Alarm System requirements by the Fire Marshal having jurisdiction.

B) The panel will include a Stainless Steel # 4 finished face plate for surface mounting to wall as manufactured by Monitor Controls or Innovation Industries. Additional Features and/or Operations for the Fire Command Center Elevator Panel shall include the following:

1) Elevator Master Station Phone, model SHW combined with the EMS5 system as manufactured by Electronic Micro Systems, or approved equal, with a phone line connection for public phone access and off-site communication, shall have direct line communication capability to each elevator car operating panel phone. The panel phone must include display indicating which car operating communication device is connected.

a) The communication means shall enable emergency personnel within the building to establish two-way voice communications to each car individually. Two-way voice communication shall be established without any intentional delay and shall not require intervention by a person within the car. The means shall override communications to outside of the building and comply with the following requirements:

b) Two-way voice communications, once established, shall be disconnected only when emergency personnel outside the car terminates the call.

c) Once the two-way voice communication has been established, the visual indication within the car shall illuminate. The visual indication shall be extinguished when the two-way communication is terminated.

d) Operating instructions shall be incorporated with or adjacent to the two-way voice communication outside the car.

e) Cutting and patching as may be required at the location of the lobby communication device is by Elevator Contractor.

f) Conduit, as required, from the machine room or from inside hoistway junction box(es) at the designated floor to elevator lobby phone panel at designated location as required.

g) Elevator contractor is responsible for all elevator related wiring to the lobby phone panel and/or elevator panel of the fire command center.

2) Digital Position Indicator with 1-inch display numerals including direction of travel indicator for each elevator.

3) Elevator emergency or standby power selector switch(es), and emergency generator status indicator for elevators including lighted jewel indicating power status with proper labeling in conformance with A17.1 & applicable Building Code.

a) A selector switch marked “ELEVATOR EMERGENCY POWER” in red lettering a minimum of 5 mm (0.25 in.) in height that is key operated shall be provided to permit the selection of the elevator(s) in each bank of elevators to operate on the emergency or standby power system. The key shall be Group 3 Emergency Operation Key or Florida Emergency Response Region as required. The selector switch positions shall be marked to correspond with the elevator identification number and a position marked “AUTO.”

b) An illuminated signal marked “ELEVATOR EMERGENCY POWER” shall be provided in the elevator lobby at the designated level to indicate that the normal power supply has failed, and the emergency or standby power is in effect for one or more of the cars in this group operation.

c) The transfer between the normal and the emergency or standby power system shall be automatic.

4) Fire Service Phase I Key Switch and Fire Service indicator lighted jewel matching main floor hall operating panel. Reset position shall not be incorporated in switch.

5) Engraved labeling for each elevator number and function. No applied plates or labels.

6) Car call key switch to lobby/egress floor of each elevator.

7) Lobby Park key switch for each elevator.

C) Fire Command Center Approval: Fire Command Center Elevator Panel must be approved by Consultant prior to Contractor ordering fixtures.

2.8 HALL FIXTURES

A) **Hall Stations – General:** New Hall Stations shall be flush mounted. Buttons shall illuminate to indicate call has been registered at that floor for the indicated direction. Faceplates shall be # 4 Brushed Stainless-Steel finish. Provide one set of risers.

1) All hall stations shall be flush mounted and of one (1) piece construction and contain all required switches and signage as required by this specification.

2) All switches, fixtures and pushbuttons shall be by Monitor Controls, Innovation Industries or pre-approved equal.

3) All push buttons to be tamper resistant Innovation Industries PB 39, Flush Button with Illuminated Halo and Center Jewel or pre-approved equal.

4) All Hall Stations shall be # 4 Brushed Stainless Steel.

5) In case of fire use stair signs shall be engraved into the hall station panel with exact signage as per A17.1 Code. No adhesive type applied signage plates will be accepted at this hall station.

6) All hall and car push button assemblies shall include long life LED type lamps.

7) Each terminal station shall contain one illuminating push button and other applicable accessories, including hoistway access switches as required by this specification.

8) Each intermediate station shall consist of two illuminating push buttons, one for the up direction and one for the down position.

9) Phase 1 Firefighter's Service key switch, with instructions, shall be incorporated into the hall station at the designated level. Fire Service instructions as per A17.1 Safety Code for Elevators and Escalators shall be engraved in the main floor hall station panel.

10) Local Telephone Line Status Monitoring: The telephone system for the elevators shall be compliant with the requirements of the A17.1, Requirement 2.27 and will include a verification means as required by the A17.1 code. If the verification means determines that the telephone line or equivalent means is not functional, an audible and illuminated visual signal shall be activated. A minimum of one visual and one audible signal shall be provided for each group of elevators controlled by a "FIRE RECALL" switch.

    a) A minimum of one visual and one audible signal shall be provided for each group of elevators controlled by a "FIRE RECALL" switch.

    b) Verification of the telephone line operability shall be automatically performed at least on a daily basis and shall not require activation of the two-way communications link(s).

    c) The visual signal shall be located at the designated landing in the vicinity of the "FIRE RECALL" switch, be visible to elevator user(s), be labeled "ELEVATOR COMMUNICATIONS FAILURE" in red letters a minimum of 5 mm (0.25 inch) high, illuminate intermittently and continue to illuminate intermittently until the telephone line or equivalent means is functional.

    d) The audible signal shall be 10 dBA minimum above ambient but shall not exceed 80 dBA measured at the designated landing "FIRE RECALL" switch, sound at least once every 30 s with a minimum duration of half a second and continue to sound until silenced by authorized personnel or the telephone line or equivalent means is functional.

    e) The means to silence the audible signal shall be accessible only to authorized personnel. The signal when silenced shall remain silent unless activated by the next verification.

11) **Emergency Power Sequencing Key Switch & Signal:** Emergency key operated selector switches including lighted jewel indicators shall be provided at the main floor panel with proper labels as required.

    a) An illuminated signal marked "ELEVATOR EMERGENCY POWER" shall be provided in the elevator lobby at the designated level to indicate that the normal power supply has failed, and the emergency or standby power is in effect for one or more of the cars in this group operation.

12) **Hoistway Access Switches:** New Hoistway Access Switches shall be provided and installed adjacent to the hoistway landing with which it is associated.

    a) The switch shall be installed a minimum of 1 200 mm (48 in.) and a maximum of 1 825 mm (72 in.) above the floor measured to the centerline of the switch, adjacent to or part of the hoistway entrance at the landing with which it is identified and shall be located on the wall outside of the hoistway within 300mm (12 in.) of the entrance frame or on the hoistway entrance frame or jamb.

    b) The switch shall be labeled "ACCESS" and shall be a three-position switch, labeled "UP," "OFF," and "DOWN" (in that order), with the "OFF" position as the center position. The switch shall be rotated clockwise to go from the "UP" to "OFF" to "DOWN" positions.

c) The switch shall be of the continuous pressure spring-return type and shall be operated by a cylinder-type lock having not less than a five-pin or five disk combination, with the key removable only when the switch is in the "OFF" position.

d) The key shall be Group 1 Security.

B) **Hall Position Indicators**: Provide new hall position indicators as follows:

1) New 2-inch electronic segmented digital position indicators shall be provided and mounted in a module for optimum viewing above each elevator at the existing location at the landing designated "LL". Digital characters to correspond to the floors as listed in the Elevator System Description, Part 1.7 of this specification. The digital display shall be Blue LED.

2) As the car travels, its position in the hoistway shall be indicated by the illumination of the alpha/numeric character corresponding to the landing which the elevator is stopped or passing.

3) Position indicator shall have car-directional lanterns located on both sides of the position indicator with one for up direction travel and a second for the down direction travel. The up-direction indicator will illuminate in green and the down indicator will illuminate in red color. The lantern bars, when illuminated, will indicate the intended direction of travel. The lantern will illuminate, and a signal will sound when the car arrives at a floor where it will stop. The lantern shall remain illuminated until the door(s) begin to close.

C) **Lobby Phone:** The elevator travel is (60 ft) which requires a two-way voice communication means within the building to be provided.

1) The means shall enable emergency personnel within the building to establish two-way voice communications to each car individually. Two-way voice communication shall be established without any intentional delay and shall not require intervention by a person within the car. The means shall override communications to outside of the building and comply with the following requirements:

a) Two-way voice communications, once established, shall be disconnected only when emergency personnel outside the car terminates the call.

b) Once the two-way voice communication has been established, the visual indication within the car shall illuminate. The visual indication shall be extinguished when the two-way communication is terminated.

c) Operating instructions shall be incorporated with or adjacent to the two-way voice communication outside the car.

d) Cutting and patching as may be required at the location of the lobby communication device is by Elevator Contractor.

e) Conduit, as required, from the machine room or from inside hoistway junction box(es) at the designated floor to elevator lobby phone panel at designated location as required.

f) Elevator contractor is responsible for all elevator related wiring to the lobby phone panel and/or elevator panel of the fire command center.

D) **Hall Fixtures Approval**: Hall fixtures listed above must be approved prior to ordering fixtures by Contractor.

3 EXECUTION

2) **CONTRACTOR RESPONSIBILITY**

A) **Contractor Responsibility:** The Contractor shall be responsible to the Owner for the acts, omissions and negligence of the Contractor's employees, Subcontractors and their agents or employees, and other persons or entities performing portions of the Work for or on behalf of the Contractor or any of its Subcontractors. In no event shall Contractor be liable for consequential damages.

B) **Examinations:**

1) Before starting elevator modernization, inspect hoistway, hoistway openings, pits and machine room, as constructed, verify all critical dimensions, and examine supporting structures and all other conditions under which elevator work is to be installed. Do not proceed with elevator modernization until unsatisfactory conditions have been corrected in a manner acceptable to the installer.

2) Modernization constitutes acceptance of existing conditions and responsibility for satisfactory performance.

C) **Crane Services:** Elevator Contractor shall coordinate crane services, if required, for the removal the existing equipment from the machine rooms and placement of the new equipment in the machine rooms with building owner's representative.

D) **Scheduling:** Only one (1) elevator at a time will be turned over to the elevator contractor for modernization work. The subsequent elevator(s) will only be turned over for modernization work upon completion of all modernization work on the first elevator, including successful completion of all required inspections and tests.

E) **Signage:**

1) J. Wayne Reitz Student Union Representative and the Board, in accordance with the General Materials section of this specification, will approve all signage in order to maintain consistent appearance for entire elevator installation.

2) All signage as required by current edition of the applicable Building Code, A17.1 Safety Code for Elevators and Escalators, NFPA 70 National Electrical Code and NFPA 72 Fire Alarm Code to be posted in elevator lobbies, fire alarm panels, disconnects, machine rooms and machine room doors.

3) All existing signage will be replaced in conformance to the Current edition of the applicable Building Code, A17.1 Safety Code for Elevators and Escalators, NFPA 70 National Electrical Code and NFPA 72 Fire Alarm Code requirements as a part of this specification.

F) **Installation:**

1) Install elevator systems components and coordinate repairs of hoistway wall construction.

2) Competent licensed elevator installation personnel in accordance with Jurisdictional Statutes, Rules & requirements and A17.1 Safety Code for Elevators and Escalators, manufacturer’s installation instructions and approved shop drawings shall perform work.

3) Comply with the NFPA 70 National Electrical Code for electrical work required during installation.

4) Perform work with competent, skilled workmen under the direct control and supervision of the Elevator Contractor's experienced foreman.

5) Supply in ample time for installation by other trades, inserts, anchors, bearing plates, brackets, supports, and bracing including all setting templates and diagrams for placement.

6) Welded construction: Provide welded connections for installation of elevator work where bolted connections are not required for subsequent removal or for normal operation, adjustment, inspection, maintenance, and replacement of worn Parts. Comply with AWS B2.1 Standard Welding Procedure and Performance Qualification.

7) Coordination: Coordinate elevator work with the work of other trades, for proper time and sequence to avoid construction delays. Use benchmarks, lines, and levels designated by the Contractor, to ensure dimensional coordination of the work.

8) Install machinery, guides, controls, car and all equipment and accessories to provide a quiet, smoothly operating installation, free from side sway, oscillation, or vibration.

9) Sound isolation: Mount rotating and vibrating elevator equipment and components on vibration-absorption mounts, designed to effectively prevent the transmission of vibrations to the structure, and eliminate sources of structure-borne noise from the elevator system.

10) Lubricate operating parts of system, including ropes, as recommended by the manufacturer.

G) **Data Plates, Tags & Signs:** Elevator Contractor shall be required to install all data plates as required by A17.1 Safety Code for Elevators and Escalators on complete elevator system including alteration and original equipment.

1) **All existing alteration code data plates must have the associated information retained with new alteration data plates being provided including the applicable information about the alteration code reference requirements and alteration code edition.**

2) All data plates shall be manufactured and printed with proper data for each elevator by CodeDataPlate.com or approved equal.

3) No ink-based markers shall be used for any data plates, tags, or signs. All data plates, tags & miscellaneous signage shall be of such material and construction that the letters and figures stamped, etched, cast, or otherwise applied to the face shall remain permanently and readily legible.

H) **Field Quality Control:** The Elevator Contractor shall perform pre-testing of all required acceptance tests of the elevator system(s) prior to the scheduled Alteration Acceptance Testing and Inspection. The Elevator Contractor shall ensure the installation conforms to all applicable safety codes and contract requirements.

I) **Acceptance Testing & Inspection:**

1) **Acceptance Testing:** Upon completion of the elevator modernization perform and satisfactorily complete all acceptance tests as required by the State of FL, AHJ (Authority Having Jurisdiction) and required by all applicable codes and governing regulations. Perform other tests, if any, as required by governing regulations or agencies.

2) Advise Owner, Elevator Consultant, and governing authorities in advance as required of dates and times tests are to be performed on the elevator.

3) **Acceptance Inspection:** J. Wayne Reitz Student Union has designated Liberty Elevator Experts, as their consultant on this project.

a) The Elevator Contractor shall be responsible, in accordance with A17.1 Safety Code for Elevators and Escalators for all acceptance inspections for this elevator.

b) Elevator Installer in accordance with A17.1 Safety Code for Elevators and Escalators, Inspection and Test Requirements will perform all acceptance tests for this elevator.

c) Elevator Contractor must notify building owner and elevator consultant 5 days prior to inspection advising of the date and time of all inspections and tests.

d) Elevator inspector other than Jurisdictional Authority inspectors must be approved prior to inspection date by consultant.

e) **Alteration Acceptance Inspection Report:** At the conclusion of the alteration inspection of the elevator(s) the inspector shall provide a completed DBPR Form HR 5023-003 with signatures executed on the form.

J) **Keys for Elevator Key Switches:** Provide a minimum of two (2) keys per cylinder used on all key switches for a single elevator. If there is more than one elevator, two (2) additional keys per cylinder will be required for each additional elevator. Each numbered set of keys shall be identified with their function on a labeled plastic tag with a split ring for each numbered set.

K) **Adjusting:**

1) Make necessary adjustments of operating devices and equipment to ensure elevator operates smoothly and accurately.

2) The Elevator Contractor shall be required to perform and pass all required testing of all equipment as per A17.1 Safety Code for Elevators and Escalators and ASME A17.2.

3) Elevator Contractor is to return at 30 days, 90 days and 180 days after final installation to examine and readjust rope tension and hoist machine as may be required for optimum performance.

L) **Cleaning:**

1) Contractor shall keep the premises and surrounding areas free from accumulation of waste materials or rubbish caused by its operations. Upon completion of the Work, the Contractor shall remove all waste materials and Contractor's equipment and surplus materials. Contractor shall police the work area daily and any common area used by the Contractor each day and shall remove trash and debris from the work area and common area. Any trash that is stored on the common area shall be protected from wind so as to prevent trash being blown around the common area.

2) Contractor shall ensure that no hazardous conditions exist as a result of any Work, including the removal of nails in the parking area and walkway.

3) Contractor shall store all materials, supplies and equipment in a neat and orderly manner and dispersed to minimize fire hazards. The unloading of materials, supplies, or equipment in the roadways or landscaped areas by vehicles, cranes or forklifts shall be coordinated at least 24 hours in advance with the Owner.

4) Before final acceptance, remove protection from finished surfaces and clean and polish surfaces in accordance with manufacturer's recommendations for type of material and finish provided.

5) For duration and/or completion of elevator work, remove tools, equipment, and surplus materials from site daily.

6) Clean equipment rooms and hoistway.

7) Remove trash and debris daily from premises.

M) **Protection:**

1) During all elevator work, or portion thereof, provide suitable protective coverings, barriers, devices, signs, or other such methods or procedures to protect elevator work from damage or deterioration. Protect all areas of work from public access or dangers including tripping or fall hazards. Maintain protective measures throughout remainder of construction period.

N) **Demonstration:**

1) The Elevator Contractor shall make a final check of each elevator operation with the Owner or Owner's representative present prior to turning each elevator over for use. The Elevator Contractor shall demonstrate that control systems and operating devices are functioning properly.
2) Instruct Owner's personnel in proper use, operations, and daily care or operation of elevator. Review emergency provisions, including emergency access and procedures to be followed at time of failure in operation and other building emergencies.
3) Train Owner's personnel in normal procedures to be followed in checking for sources of operational failures or malfunctions.
4) Make a final check of each elevator operation, with Owner's personnel present, immediately before date of substantial completion.
5) Demonstrate that control systems and operating devices are functioning properly.
6) Final Electrical Schematics and Drawings
7) Maintenance Requirements.

O) **Elevator Consultant's Punch-Out List Items**:

1) Complete all of the consultant's punch-out list items as may be required. The elevator consultant shall provide a review and written punch list of deficiencies. The elevator consultant shall verify one time that the items from the punch list are completed after notice by the Elevator Contractor. If the work is not complete and the consultant is required to make return visits, the Elevator Contractor shall be charged for consultant at a rate of $175.00 per hour including travel time for any additional return visits, reviews or work of any type.

4 TERMS of PAYMENT

A) **Payment Schedule:**

1) Based upon applications for payment submitted to OWNER by CONTRACTOR, as accepted and approved by Owner, Owner shall make progress payment on account of the Contract Sum to Contractor based on the Work completed to date. Upon completion of a portion of the Work as described above, Contractor shall submit to Owner's Representative a sworn and certified progress payment affidavit which recites that all laborers, material suppliers and subcontractors dealing with the Contractor have been paid in full up through the date of the affidavit and partial releases of lien from Contractor and any lienors serving a notice to the Owner prior to payment and evidence of proof of payment of any indebtedness incurred with a respect to the Work of Contractor, as may be required by the Owner and evidence that all Work has been performed as required pursuant to the Contact Documents up to the time of the request for payment.

2) Progress Payments for the modernization work shall be made in accordance with this Paragraph, in the following manner for the elevator that is modernized.

   a) 20% of contract sum is due upon signed acceptance and upon compliance with the relevant conditions precedent detailed in the Conditions Precedent to Payment paragraph, which shall include, but not be limited to, receipt by Owner of Contractor's Certificate of Insurance and signed contract.

   b) 20% of the contract sum is due upon the arrival of the materials to the site and approval of the Owner's Representative of the materials.

   c) 60% of the contract sum is due upon completion of the elevator, including satisfactory completion of alteration acceptance testing and inspection of elevator.

   d) A Retainage of Ten Percent (10%) shall be withheld from all payments until completion of all work in accordance with the Owner Representative of this Contract paragraph. Final payment shall be payable within thirty (30) days from completion and upon delivery of Written Warranty(s), releases of all liens from Contractor, all Subcontractors, Laborers and Material Suppliers and Final Contractor's Affidavit

3) All progress payments shall be made payable jointly to Contractor and Subcontractors and suppliers or Subcontractors in the event a lien or liens have been filed by a Subcontractor against the Owner.

4) Prior to issuance of any payments, the Work shall be inspected by Owner or the Owner's Representative. In addition, as Contractor is fully responsible for meeting the requirements of the manufacturers' warranties, Contractor shall be responsible for obtaining inspections by the manufacturers' representatives, if required, and delivering, along with his application for payment and supporting documentation, signed statements from the manufacturers verifying that the manufacturers will issue written warranties for the Work performed for which payment is being made. If fully satisfied with the documentation submitted, the Owner's Representative shall issue a certificate of authorization of payment to the Owner within fifteen (15) business days of receipt of the application for payment and supporting documentation. Upon receipt of the certificate of authorization of payment, the Owner shall issue payment to Contractor within fifteen (15) business days.

5) The Owner's Representative shall have sole reasonable discretion as to approval of work and progress payments. The Owner's Representative shall timely review each application for payment and submit its Certificate of Payment to the Owner authorizing payment for all work performed and accepted by the Owner's Representative and materials on site as of the date of the application, reduced solely by the Representative's estimate of the cost to cure defective work (regarding which the Contractor has received Notice) performed by the Contractor. The Owner's Representative shall have the right to disapprove payment if in his reasonable judgment Work does not conform to the Contract Documents, the quality and progress of the work is not satisfactory, or as further provided in the Conditions Precedent to Payment paragraph hereof.

B) **Conditions Precedent to Payment:**

1) As a condition precedent to receiving payment Contractor shall furnish:

   a) The Certificates of Insurance described in the Special Provisions, Insurance Requirements section of this contract.

   b) An Affidavit reciting that all sums for labor, materials and services incurred as of the date of the payment requisition have been paid in full.

c) A sworn Release and Waiver of Lien to the extent of all payments requisitioned to date shall be furnished by Contractor and any Subcontractors, Laborers or Material suppliers.

d) Satisfactory final inspection by the Owner's Representative and delivery of Final Contractor's Affidavit shall occur prior to final payment.

e) Contractor agrees that Owner may pay unpaid Subcontractors, Laborers and Material Suppliers directly after ten (10) days written notice to Contractor if any sum remains unpaid at that time, or in the event of any lien filed in connection with such amounts unpaid, including attorneys' fees and other costs necessary to satisfy such lien unless Contractor advised Owner in writing of a reasonable basis for objection to payment within the ten (10) day period. Such amounts paid will be deducted from the amounts due Contractor.

C) **Owner's Representative of This Contract:**

1) The Owner's Representatives shall be designated by Owner. The Owner's Representatives will provide general administration during performance of the work and until final payment is due.

a) The Owner's Representatives shall at all times have access to the work wherever it is in preparation and progress.

b) The Owner's Representatives shall have the authority to reject work which does not conform to the contract documents and work specifications.

c) Based upon the Owner's Representatives' observations of the work and Contractor's applications for payment, the Owner's Representatives will determine the amounts owing to Contractor as described in Terms of Payment section of this contract.

D) Final Payment:

1) The Owner shall make or authorize final payment equal to ten (10%) percent of the Contract Sum to be made within thirty (30) days after completion of the Work, provided the Contract be then fully performed and Contractor has complied with the other requirements set forth in this section.

2) Final payment shall not be due until the Contractor has delivered to the Owner a complete release of all liens and releases or waivers of lien from all lienors who have served a notice to owner to Owner arising out of this Contract, a final Contractor's affidavit pursuant to Section 713.06(3)(d)(1), Florida Statutes and a final Certificate of Inspection issued by the appropriate governmental authority(ies). In addition, final payment shall not be due until satisfactory final inspection and Contractor has delivered to Owner fully executed warranties in the Owner's name from all subcontractors and material and equipment manufacturers who have supplied labor, materials or equipment to the property under a contract with Contractor to the extent that such warranties are customarily supplied by any such subcontractors, material and equipment manufacturers.

3) Payment shall not become due until Contractor has delivered to the Owner a complete release of all liens arising out of this Contract or receipts in full covering all labor, materials and equipment for which a lien could be filed. Upon receipt of the release of liens from the Contractor, the Owner shall deliver payment to the Contractor.

4) Owner may, for reasonable cause, make or authorize to be made all or any portion of any of the Final Payment by check payable jointly to the order of Contractor and any lienor giving

timely notice. Payments shall be made directly to lienor by Owner unless Contractor has prior written notice and opportunity to resolve any disputes. If Contractor wishes to bond off or to contest any liens, and does not bond off the liens, Owner will escrow the applicable funds until the dispute is resolved and deduct said payment from the sum due Contractor. In the event there are no claims which exceed the final payment amount, no payment shall be made until Contractor deposits the amount of any such deficiency with Owner.

5) The making of Final Payment shall not constitute a waiver of any claims by the Owner.

E) **Claims and Disputes:**

1) The parties shall endeavor to work together to resolve any disputes which may arise out of this Contract, but in the event a resolution cannot be reached, the parties reserve the right to litigate this matter in a court of competent jurisdiction located in the county where the work is to be performed. In no event shall Contractor be liable for consequential damages.

END OF SECTION