



REQUEST FOR PROPOSAL

RFP 2023-17

Bay County Buildings & Grounds
Elevator Replacement

JIM BARCIA
BAY COUNTY EXECUTIVE

REQUEST FOR PROPOSAL – THIS IS NOT AN ORDER OR OFFER

IF FOR ANY REASON YOU CANNOT RESPOND TO THIS PROPOSAL, PLEASE RETURN THE NON-BIDDERS FEEDBACK FORM TO ENSURE THAT YOUR FIRM MAY BE RETAINED ON OUR BIDDER LIST

DATE OF REQUEST	SEPTEMBER 8, 2023
REFERENCE PROPOSAL NUMBER	RFP 2023-17
MANDATORY SITE VISITS	SEPTEMBER 18, 2023, 9:00 A.M.
LOCATION:	BAY COUNTY BUILDING 515 CENTER AVE. BAY CITY, MI 48708
DEADLINE FOR VENDOR QUESTIONS	SEPTEMBER 29, 2023 5:00 PM
RESPONSES DUE FROM COUNTY	OCTOBER 6, 2023 5:00 PM
PROPOSED DATE/TIME REQUIRED	OCTOBER 20, 2023 1:00 PM
PROPOSAL SUBMITTAL	BAY COUNTY FINANCE DEPT. PURCHASING DIVISION BAY COUNTY BUILDING 515 CENTER AVENUE. 7 TH FLOOR BAY CITY, MI 48708-5128
MARK PROPOSAL	“BAY COUNTY BUILDING ELEVATOR REPLACEMENT - DELIVER TO PURCHASING IMMEDIATELY”

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INTRODUCTION:

The County of Bay (County) is requesting proposals from a qualified firm to provide and replace the two (2) elevators located in the County Building at 515 Center Ave., Bay City, MI 48708.

The purpose of the replacement project is to improve safety and service reliability and ensure that the replacement elevators are compliant with all code requirements.

The fire panel system at the Bay County Building will also be replaced at this time. The contractor chosen to replace the elevators will need to work with the chosen fire panel replacement vendor.

SCOPE OF WORK:

- The Technical Specifications for this project are found under **“Exhibit 1”**.
 - This is a “TURN-KEY” project with the Elevator Contractor designated the “PRIME CONTRACTOR” for all related and non-related work specified and required unless specifically excluded or referenced to be done by others.

- The Maintenance Agreement and Specifications are found under **“Exhibit 2”**.
 - Maintenance coverages specified include a total of two (2) elevators for “INTERIM,” “GUARANTEE” and “AFTER RESTORATION” services on the basis of a single vendor providing both the capital improvement and service personnel.

EXISTING MACHINE DETAILS:

Background	North Elevator/South Elevator
Car Type	Gearless
Machine	C33876 & C33878
Manufacturer	Otis
Year Installed	1930’s
Capacity	3000lbs per vertical vehicle
Stops	9
Rise	100’

SITE VISIT:

Bidder must be present at the **MANDATORY WALK-THROUGH** at the facility on **SEPTEMBER 18, 2023, at 10:00 AM.** to submit a Bid for this project. Failure to attend the walk-through may result in the rejection of your bid.

SCORING:

Scoring for this bid will be based on the following:

- Price
- Project Implementation
- Maintenance
- Company Background
- References

Firms receiving **80%** of the total available points will be invited to discuss the implementation plan and services. Meetings may be provided via the use of the Microsoft Teams online meeting platform. Selected vendors will be notified of the time, final agenda, and length of presentation.

LAYOUT AND CONTENTS OF BID PACKET; SUBMISSION MUST BE IN THIS ORDER. ALL ATTACHMENTS PROVIDED.

- Proposal Cover Sheet
- Bidder's Check List
- Certification – Attachment A
- Proposal Form - Attachment B
- Pricing – Attachment C
- Company Background – Attachment D
- References – Attachment E

GENERAL INFORMATION:

1. **CHANGES TO RFP:** All additions, corrections or changes to the solicitation documents will be made in the form of a written Change Form signed by Purchasing Agent, Frances Moore, only. Firms shall not rely upon interpretations, corrections, or changes made in any other manner, whether by telephone or in person. Additions, corrections, and changes shall not be binding unless made by such a written, signed Change Form. All written, signed Change Forms issued shall become part of the Agreement documents. Change Forms will be sent to all known potential firms by e-mail.
2. **CONTACT INFORMATION:** To receive future communications related to this RFP, possible firms are asked to immediately send contact information by email to Frances Moore, Bay County Purchasing Agent, at purchasing@baycounty.net; failure to do so may limit your ability to submit a complete, competitive proposal.
3. **RIGHT TO WITHDRAW BIDS:** By submitting a Proposal in response to this RFP, Firm agrees to be bound by this RFP's terms and conditions. Proposals may be withdrawn by the Firm without penalty at any time before notification that the Firm's Proposal has been selected. However, if the Firm withdraws after selection of its Proposal but before executing the Contract for any reason ("Late Withdrawal"), Firm shall pay liquidated damages to the County in an amount equal to five percent (5%) of the amount of the Proposal ("Liquidated Damages"). The County and Firm intend these Liquidated Damages to constitute compensation and not a penalty. The parties acknowledge and agree that the harm caused to the County by such a Late Withdrawal of a Proposal would

be impossible or very difficult to accurately estimate at the time of the Late Withdrawal and that the Liquidated Damages are a reasonable estimate of the anticipated or actual harm that might arise from such a Late Withdrawal. Firm's payment of the Liquidated Damages shall be Firm's sole liability and entire obligation and County's exclusive remedy for Late Withdrawal of Firm's Proposal.

4. RFP, PROPOSALS AND ACCEPTANCE DO NOT OBLIGATE: The parties agree that they will not consider either distribution of this RFP or receipt of Proposals by the County or even notification of Proposal acceptance by the County as an obligation or commitment by the County to enter into a contractual agreement. Rather, the parties understand that the County will have no binding obligation until it signs the Contract approved by its legal counsel.
5. TAX-EXEMPT STATUS: The County is a tax-exempt entity. A tax-exempt form will be provided to the successful firm.
6. FOIA: All bids are confidential until the listed bid opening time and date; however, as a public entity, the County is subject to the Michigan Freedom of Information Act (FOIA). Information contained in the proposals may be subject to FOIA requests.
7. INSURANCE: The Firm shall purchase and maintain insurance sufficient to protect it from any and all claims which may arise out of or result from the Firm's services related to this RFP and any resultant contract, whether such service be by the Firm individually or by anyone directly or indirectly employed by Firm, or by anyone for whose acts Firm may be liable, including independent contractors. Insurance policies purchased and maintained shall include, but are not limited to, the following:
 - a. Workers' compensation insurance for claims under Michigan's Workers' Compensation Act or other similar employee benefit act of any other state applicable to an employee in the minimum amount as specified by statute;
 - b. Employer's liability insurance, in conjunction with workers' compensation insurance, for claims for damages because of bodily injury, occupational sickness or disease or death of an employee when workers' compensation may not be an exclusive remedy, subject to a limit of liability of not less than \$100,000 each incident;
 - c. Motor vehicle liability insurance required by Michigan law including no-fault coverage for claims arising from ownership, maintenance or use of a motor vehicle with liability limits of not less than \$1,000,000 per occurrence. Coverage shall include all owned vehicles, all non-owned vehicles, and all hired vehicles.
 - d. Commercial General Liability insurance for claims for damages because of bodily injury or death of any person, other than the Firm's employees, or damage to tangible property of others, including loss of use, which provides coverage for contractual liability, with a limit of not less than \$1,000,000 each occurrence and a mandatory \$2,000,000 annual aggregate.

Insurance required shall be in force until acceptance by the County of the entire completed work, and shall be written for not less than any limits of liability specified above. Certificates of insurance, acceptable to the County, shall be provided to the County's Department of Corporation Counsel no less than ten (10) working days prior to commencement of the project.

All coverage shall be with insurance carriers licensed and admitted to do business in Michigan, and are subject to the approval of the County.

All Certificates of Insurance and duplicate policies shall contain the following clauses:

1. "It is understood and agreed that thirty (30) days advance written notice of cancellation, non-renewal, reduction and/or material change in coverage will be mailed to Bay County's Department of Corporation Counsel, 515 Center Avenue, Suite 402, Bay City, MI 48708"; and
 2. "It is understood and agreed that the following are listed as additional insureds: The County of Bay, including all elected and appointed officials, all employees and volunteers, all boards, commissions, departments and/or authorities and their board members, employees and volunteers."
8. **NON-DISCRIMINATION:** In the performance of the proposal and resultant contract, firm agrees not to discriminate against or grant preferential treatment to any individual or group on the basis of race, sex, color, ethnicity, or national origin in the operation of public employment, public education, or public contracting. Firm shall not discriminate against any employee or applicant for employment to be employed in the submission of this Proposal or in performance of the duties necessitated by an award of the proposed contract with respect to his or her hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment, because of his or her race, color, religion, national origin, ancestry, gender, height, weight, marital status, age, except where a requirement as to age is based on a bona fide occupational qualification, or disability that is unrelated to the individual's ability to perform the duties of a particular job or position. Any breach of this provision will be regarded as a material breach of the contract.
9. **COST OF DEVELOPING PROPOSAL:** The Firm shall be responsible for all costs incurred in the development and submission of its Proposal.
10. **QUESTIONS:** All questions about this RFP must be received by **September 29, 2023**, 5:00 p.m. in writing, via email, to:

Frances Moore
Purchasing Agent
purchasing@baycounty.net

Every attempt to answer your inquiries will be made, however Bay County reserves the right to not answer any questions received after the **September 29, 2023**, due date.

Responses to any inquiries will be issued in one (1) Addendum no later than **October 6, 2023**, and will be sent to all known firms.

Correspondence or inquiries made directly from firms regarding their proposals are to be directed to those County employees designated above for appropriate review and response. In addition, the person listed above will issue all valid responses and changes to this RFP. Contact with other County staff or County Board Commissioner could be reason for disqualification.

Any significant explanation desired by a firm regarding the meaning or interpretation of the Request for Proposals must be requested with sufficient time allowed for a reply to reach all prospective firms to submit their proposals. Any information given to a prospective firm concerning the Request for Proposal will be furnished to all prospective firms as an amendment or addendum to the Request for Proposal if such information would be of significance to uninformed firms. The County shall make the sole determination as to the significance to uninformed firms.

11. **RESPONSIBILITY:** Firms are solely responsible for ensuring their bid is received by the Bay County Purchasing Agent in accordance with the solicitation requirements, before the date and time specified in this Request, and at the place specified.

Bay County Purchasing shall not be responsible for any delays in mail or by common carrier or mistaken delivery. Delivery of proposal shall be made to Bay County Purchasing, Bay County Building, 7th Floor, Bay City, MI 48708.

Deliveries made before the due date and time but to the wrong office will be considered non-responsive unless re-delivery is made to the office specified before the due date and time specified in this request.

12. **PROPOSAL DELIVERY:** Proposals must be returned no later than **October 20, 2023 @ 1:00 P.M.** in a sealed envelope clearly marked **“BAY COUNTY ELEVATOR REPLACEMENT - DELIVER TO PURCHASING IMMEDIATELY.”** Please provide six (6) printed copies of the submission. The submissions may be hand delivered or sent by mail to Bay County Purchasing Office, Bay County Building, 7th Floor, Bay City, Michigan 48708.

The County will not accept proposals sent by FAX machine or E-mail.

13. **PROPOSAL OPENING:** There will be a public proposal opening immediately following the deadline to receive proposals in the Bay County Finance Department conference room located in the Bay County Building, 7th Floor, 515 Center Avenue, Bay City, Michigan. All firms are invited to attend and hear the proposals read.
14. **PROPOSAL REJECTION/ACCEPTANCE:** The County reserves the right to accept or reject any or all proposals, to waive any irregularities and to make the final determination as to the best low qualified proposal.

15. PROPOSAL AWARD: In the event the proposal is awarded directly by the Finance Officer, a Notice of Intent to Award will be used to notify all firms of her intent to award the proposal to the Firm providing the best value to the County.
16. CONTRACT: The County's award of any proposal is subject to and conditioned upon execution of a formal agreement for products and services between the successful firm and the County. In submitting a proposal, the firm acknowledges that the contents of the RFP will become incorporated within any formal agreement. This RFP does not include every term and provision which shall be included in the formal agreement. In the event that the firm fails to execute the formal agreement within 14 days of its presentment by the County, the County may reject the selected firm, and proceed to accept another qualified proposal, or reject all proposals.

A copy of a firm's suggested terms and conditions may be submitted with firm's Proposal, however, neither the County's acceptance of any proposal nor award of any contract pursuant to this RFP shall be construed as any definitive acceptance by the County of Firm's suggested terms and conditions. In the event of a conflict in terms, the order of precedence to resolve the conflict will be as follows: Michigan State law, the terms and conditions of the signed contract, the terms and conditions of the RFP, and last, the Firm's Proposal.

17. DISPUTES: In the event a firm disagrees with the recommendation of the Bay County Finance Officer concerning this award, the firm may obtain a Bid Protest Form from the Purchasing Office. This form must be completed and returned to Frances Moore, Bay County Purchasing Agent, Bay County Purchasing Division, 7th Floor, Bay County Building, 515 Center Avenue, Bay City, MI 48708-5128, **within ten (10) working days from the date of the notice of intent to award.**

ADA ASSISTANCE:

The County of Bay will provide necessary and reasonable auxiliary aids and services, such as signers for the hearing impaired and audio tapes of printed materials being considered, to individuals with disabilities upon two days' notice to the County of Bay. Individuals with disabilities requiring auxiliary aids or services should contact the County of Bay by writing or calling:

Amber Davis-Johnson
Corporation Counsel
Bay County Building
515 Center Ave. 4th Floor
Bay City, MI 48708-5128
(989) 895-4098
(989) 895-4049 TDD

Frances Moore, Purchasing Agent
Bay County Finance Department
Purchasing Division
Bay County Building
515 Center Ave. 7th Floor
Bay City, MI 48708
purchasing@baycounty.net

**THIS QUALIFICATION PROCESS WILL BE CONDUCTED IN CONFORMITY WITH THE
BAY COUNTY PURCHASING POLICY AS FOUND ON THE BAY COUNTY WEBSITE**

www.baycounty-mi.gov

DIVISION 14

SECTION 1421 23

TECHNICAL SPECIFICATIONS FOR

TWO (2) ELEVATORS

AT

515 CENTER AVENUE, SUITE 403

BAY CITY, MI

DATE: August 9, 2023

VDA No. 69240/PL

DIVISION 14 – CONVEYING SYSTEMS

14 00 00 Conveying Equipment

14 21 00 – Traction Elevators

14 21 23 – Electric Traction Passenger Elevators

PART 1 - GENERAL

1.1 SUMMARY AND DEFINITIONS

A. Related Documents

1. Division 01 - Supplementary General Conditions
2. 14 01 20 - Elevator Maintenance - Full Coverage Contract / Specifications
3. Bay County Request for proposal with supplemental terms and conditions

B. Intent

1. This section includes:
 - a. Full modernization of two (2) Electric traction passenger elevators

C. The following outlines the scope of work covered in this Section:

1. Comprehensive “turn-key” modernization of two (2) 3,000 lbs. capacity traction passenger elevators operating at 400 fpm. Unit IDs – PE1 and PE2.
2. Completion of related work identified herein Item 1.5.A.
3. This is a "TURN-KEY" project with the Elevator Contractor designated the "PRIME CONTRACTOR" for all related and non-related work specified and required unless specifically excluded or referenced to be done by others.

As this is a “Turn-Key” project, with the Elevator Contractor being the “Prime” Contractor, it is the Elevator Contractor’s responsibility to perform a detailed survey of the existing jobsite conditions to determine applicability and detailed scope for related work completion.

The Elevator Contractor is required to retain the services of trade sub-contractors that are either experienced in working as subcontractors on elevator modernization projects or that have relevant experience on similar projects. The trade sub-contractors shall be required to complete a detailed survey of related work / building conditions at this location(s) alongside the Elevator Contractor as a requirement to provide cost proposals for the related scope of work. At a minimum, trade sub-contractors that are required to be included on the Elevator Contractors project team should include:

Electrical Contractor

Mechanical Contractor

Fire / Life Safety Contractor

Card Reader Security Contractor:

The Elevator Contractor is required to identify in their proposal the Trade sub-contractors utilized to compile their cost estimates included in their Base Bid.

It is the intent of this specification that the Elevator Contractor include in their Base Bid the cost to complete all elevator and related work that will be required to return each of the units to public use with no Code violations or punch-list items identified by the local Authority Having Jurisdiction (AHJ) as remaining to be completed. This includes the purchase of Card readers for the cards and lobbies of Basement, Parking and Main Landing Floors. As such, the items Identified in Section 1.5.A of the Technical Specifications are intended to be as accurate a listing as can be compiled at the time of preparation of these documents.

However, should other related building work items be necessary to be completed to meet the requirements of the AHJ for issuance of permanent elevator operating certificates / permits, it will be the responsibility of the Elevator Contractor to complete the additional items under the scope of their Base Bid amount, with no additional costs to the Owner.

4. Related equipment shall be designed, constructed, installed and adjusted to produce the highest results with respect to smooth, quiet, convenient and efficient operation, durability, economy of maintenance, and the highest standard of safety.
5. It is not the intent of these specifications to detail the construction and design of all parts of the equipment, but it is expected that the type, materials, design, quality of work and

construction of each part shall be adequate for the service required, durable, properly coordinated with all other parts, and in accordance with the best commercial standards applicable and of the highest commercial efficiency possible.

6. Electric and magnetic circuits and related parts shall be of proper size, design and material to avoid heating and arcing, and all other objectionable effects which may reduce the efficiency of operation, economy of maintenance and/or net-useful life of the apparatus.
7. Minimum requirements for design, materials, etc., are for certain parts of the equipment. Equivalent requirements approved by the Consultant shall apply to such parts as are of special design, construction or material and to which the specified requirements are not directly applicable. These minimum requirements as a whole shall be considered as establishing proportionate general minimum standards for all parts of the equipment.
8. The Consultant may permit variations from the requirement of these specifications to permit use of the Contractor's standard equipment, provided such standard equipment is in every way adequate for the intended use and meets the full intent of these specifications. All such variations proposed by the manufacturer shall be called to the attention of the Consultant and shall only be made if approved in writing prior to the award of the contract.
9. General requirements for design, materials and construction are intended primarily to apply to the heavy-duty and important parts of the equipment specifically mentioned and to other parts of similar duty and importance. Less important and light-duty parts may be of the standard design, materials and construction provided that, in the opinion of the Consultant, such standards are in accordance with the best commercial practice and are fully adequate for the purpose of use. All such variations shall be made only on the Consultant's written approval.
10. All equipment and component parts installed, supplied or provided under this contract shall be manufactured and distributed by a third-party, non-installer company servicing the vertical transportation industry.
 - a. Apparatus shall conform to the design and construction standards referenced herein and shall be rated the best commercial grade suitable for this application.
 - b. Equipment and component systems shall not employ any experimental devices or proprietary designs that could hamper and/or otherwise prohibit subsequent maintenance repairs or adjustments by all qualified contractors.
 - c. Manufacturers of the apparatus shall provide technical support and parts replacements for their equipment and component systems for a minimum of twenty (20) years and issue such guarantee of support to the purchaser with written certification naming the final Owner of their product(s) to ensure the apparatus or systems remain maintainable regardless of who may be selected for future service.
11. All equipment provided shall be factory and field tested with a history of design reliability and net-useful life established.
 - a. Contractor must be able to demonstrate the apparatus to be installed has been used successfully in a substantially similar manner under comparable conditions.

- b. If the apparatus proposed differs substantially in construction, material composition, design, size, capacity, duty or other such rating from the equipment previously used for the same purpose by the manufacturer, the Consultant may reject the apparatus or require the vendor test and demonstrate the adequacy and suitability for this particular situation. Any necessary tests shall be performed at the sole expense of the Contractor with no prior guarantee of acceptance after the testing procedure.
- 12. The Contractor shall not use as part of the permanent equipment any experimental devices, proprietary design, components, construction of materials which have not been fully tried out in at least substantially similar or under comparable service, except as may be especially approved by the Consultant. If any important equipment or devices to be used on this installation differ substantially in construction, materials, design, size, capacity or duty from corresponding items previously used for the same purpose by the manufacturer, they shall pass such tests as the Consultant may require to fully show their adequacy and suitability. These tests shall be in addition to tests herein specified and shall be made at the expense of the Contractor.
 - 13. Certain design limitations, tests, etc., are herein specified as a partial check of the adequacy of design, construction and materials used. These requirements do not cover all features necessary to ensure satisfactory and approved operation, etc., of the equipment.
 - 14. It is understood, the entire system shall be designed, fabricated, modified and/or upgraded in full compliance with applicable local laws and code standards. The absence of a particular item or requirement shall not relieve the Contractor of the full and sole responsibility for such equipment, features and/or procedures.
 - 15. With the exception of only those items specifically identified as being performed by others, the Specifications are intended to include all engineering, material, labor, testing, and inspections needed to achieve work specified by the Contract Documents. Inasmuch as it is understood that any incidental work necessary to complete the project is also covered by the Specifications, bidders are cautioned to familiarize themselves with the existing job site conditions. Additional charges for material or labor shall not be permitted subsequent to execution of the Contract.
 - 16. Bidders must report discrepancies or ambiguities occurring in the Specifications to the Consultant for resolution prior to the bidding deadline, otherwise the Specifications shall be deemed acceptable in their existing form.

D. Termination of Existing Agreement(s)

- 1. By submitting a bid, the existing maintenance provider agrees that any service contract(s) in effect shall be terminated by the Owner should the project be awarded to another vendor upon thirty (30) day written notice to the Contractor by the Owner.
 - a. The contract(s) shall be terminated with no penalty to the Owner or Contractor.
 - b. Owner will be responsible for money owed the Contractor for services provided and work performed up until the date of cancellation.

E. Abbreviations and Symbols

1. The following abbreviations, Associations, Institutions, and Societies may appear in the Project Manual or Contract Documents:

ADA	Americans with Disabilities Act
AHJ	Authority Having Jurisdiction
AIA	American Institute of Architects
ANSI	American National Standards Institute
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
AWS	American Welding Society
IBC	International Building Code
IEEE	Institute of Electrical and Electronics Engineers
NEC	National Electrical Code
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Agency
OSHA	Occupational Safety and Health Act

F. Codes and Ordinances / Regulatory Agencies

1. Work specified by the Contract Documents shall be performed in compliance with applicable Federal, State, and municipal codes and ordinances in effect at the time of Contract execution. Regulations of the Authority Having Jurisdiction shall be fulfilled by the Contractor and Subcontractors. The entire installation, when completed, shall conform with all applicable regulations set forth in the latest editions of:
 - a. Local and/or State laws applicable for logistical area of project work.
 - b. Building Code applicable to the AHJ.
 - c. Elevator Code applicable to the AHJ.
 - d. Safety Code for Elevators and Escalators, ASME A17.1 and all supplements as modified and adopted by the AHJ.
 - e. Safety Code for Elevators and Escalators, A17.1S supplement to A17.1 as modified and adopted by the AHJ for Machine Room Less installations (MRL).
 - f. Guide for Inspection of Elevators, Escalators, and Moving Walks, ASME A17.2.

- g. Safety Code for Existing Elevators and Escalators, ASME A17.3 as modified and adopted by the AHJ.
 - h. Guide for emergency evacuation of passengers from elevators, ASME A17.4.
 - i. National Electrical Code (ANSI/NFPA 70).
 - j. American with Disabilities Act - Accessibility Guidelines for Building and Facilities and/or A117.1 Accessibility as may be applicable to the AHJ.
 - k. ASME A17.5/CSA-B44.1 - Elevator and escalator electrical equipment.
 - l. ECC (Energy Conservation Code) as may be applicable to the AHJ.
2. The Contractor shall advise the Owner's Representative of pending code changes that could be applicable to this project and provide quotations for compliance with related costs.

G. Reference Standards

1. AISC - Specification for the Design, Fabrication and Erection of Structural Steel for Buildings.
2. ANSI/AWS D1.1 - Structural Welding Code, Steel.
3. ANSI/NFPA 80 - Fire Doors and Windows.
4. ANSI/UL 10B - Fire Tests of Door Assemblies.

H. Definitions

1. Defective Work: Operation or control system failure, including excessive malfunctions; performances below specified ratings; excessive wear; unusual deterioration or aging of materials or finishes; unsafe conditions; need for excessive maintenance; abnormal noise or vibration; and similar unusual, unexpected, and unsatisfactory conditions.
2. Provide: Where used in this document, provide shall mean to install new device, apparatus, system, equipment or feature as specified in this document.
3. Definitions in ASME A17.1 as amended or modified by the AHJ apply to work of this Section.

1.2 PERMITS AND SUBMITTALS

A. Permits

1. Prior to commencing work specified by the Contract Documents, the Contractor shall, at its own expense, obtain all permits or variances as may be required by the AHJ and provide satisfactory evidence of having obtained said permits and variances to both the Owner's Representative and Consultant.
2. File necessary drawings for approval of all Authorities Having Jurisdiction.
3. The Elevator Contractor shall undertake the necessary review and search procedure to identify open applications and/or outstanding violations for this property; and close-out such applications and/or expunge such violations relative to the project scope as required for final acceptance by the AHJ.

4. Outstanding applications and violations must be indicated on the request for permit filing for this procedure to ensure such applications and/or violations are dismissed accordingly.
- B. All relative costs shall be included in the base bid proposal with the understanding that corrective actions are covered under the specified scope of work.
- C. Submittals
1. Prior to beginning the work, the Contractor shall submit and have approved copies of , shop drawings and standard cuts. These items shall include:
 - a. A plan view of the machine room showing location of new equipment.
 - b. Machine assembly, controller, door equipment, signal fixtures Door panels, car and counterweight guides, travel cable, and cab enclosures/ interiors being renovated/replaced.
 - c. All specified additional accessories.
 2. The Consultant and the Owner’s Representative shall pass on the submittals with reasonable promptness and the Contractor shall be responsible to ensure that there will be no delay in their work or that of any other trade involved.
 3. Approved filing and submittal requirements must be completed before equipment and related materials are ordered.
 4. Copies of Department of Buildings’ permits and/or governing authority’s documents will be posted at the job site with copies issued to the Owner’s Agent, Owner’s Representative and Consultant.
 5. Samples of wood, metal, plastic, paint or other architectural finish material applicable to this project shall be submitted for approval by the Owner’s designee.
 6. It shall be understood that approval of the drawings and cuts by Owner’s designee, Architect and/or Consultant shall be for general arrangement only and does not include measurements which are the Contractor’s responsibility or approval of variations from the contract documents required by the AHJ.
 7. The Contractor shall prepare a record log and maintain all submittals, shop drawings, catalog cuts and samples.
- D. Measurements and Drawings
1. Measurements included with the bidding material shall be for the convenience of the bidders only and full responsibility for detailed dimensions lies with the Contractor.
 2. In the execution of the work on the job, the Contractor shall verify all dimensions with the actual conditions.
 3. Where the work of the Elevator Contractor is to join other trades, the shop drawings shall show the actual dimensions and the method of joining the work of the various trades.
- E. Substitutions

1. Requests for substitutions will be considered under the following time limitations and situations:
 - a. Not less than ten (10) calendar days before bids are due.
 - b. Work or equipment specified becomes unavailable through unforeseen events such as strikes, loss of manufacturer's plant through fire, flood or bankruptcy.
2. Requested substitutions will be reviewed and adjudged. Failure of the Owner to raise objection shall not constitute a waiver of any of the requirements of the Contract Documents.
3. Request for substitutions shall include complete data with drawings and samples as required, including the following:
 - a. Quality Comparison - Proposed substitution versus the specified product.
 - b. Changes required in other work because of the substitution.
 - c. Effect on the construction schedule.
 - d. Cost Data - Resulting from the proposed substitution versus the specified product. The Contractor shall certify that the cost data presented is complete and includes all related costs under this Contract.
 - e. Safety Comparison – Proposed substitution shall provide equivalent or greater safety, with certification data provided where relevant.
4. When proposing a substitution, the Contractor represents that:
 - a. They have investigated the proposed substitution and have determined that it is equal to or better than the product specified.
 - b. They will guarantee the substitution in the same manner as the product specified.
 - c. They will coordinate and make other changes as required in the work as a result of the substitution.
 - d. They waive all claims for additional costs as a result of the substitution, with the exception of those identified above under "cost data".
5. The Owner will be sole judge of the acceptability of the proposed substitution.
6. The Owner and Consultant will have authority to approve or reject substitutions or to change the specified standards of quality. However, neither this authority to act under this provision nor any decision made in good faith, either to exercise or not to exercise this authority, shall give rise to any duty or responsibility of the Owner to the Contractor, any Subcontractor, any Sub-Subcontractor, any of their agents or employees or any other persons performing the work or offering to perform the work.

F. Changes in Scope and Extra Work

1. The Owner may at any time make changes in the specifications, plans and drawings, omit work, and require additional work to be performed by the Contractor.

- a. Each such addition or deletion to the Contract shall require the Owner and the Contractor to negotiate a mutually acceptable adjustment in the contract price, and, for the Contractor to issue a change order describing the nature of the change and the amount of price adjustment.
- b. The Contractor shall make no additions, changes, alterations or omissions or perform extra work except on written authorization of the Owner.
- c. Each change order shall be executed by the Contractor, Owner, and the Consultant.

G. Keys

1. Upon the initial acceptance of work specified by the Contract Documents on each unit, the Contractor shall deliver to the Owner, six (6) keys for each general key-operated device that is provided under these specifications in accordance with ASME A17.1, Part 8 standards as may be adopted and modified by the AHJ.
2. All other keying of access or operation of equipment shall be provided in accordance with ASME A17.1 Part 8 as may be adopted and modified by the AHJ.

H. Diagnostic Tools

1. Prior to seeking final acceptance of the project, the Contractor shall deliver to the Owner any specialized tools required to perform diagnostic evaluations, adjustments, and/or programming changes on any microprocessor-based control equipment installed by the Contractor. All such tools shall become the property of the Owner.
 - a. Owner's diagnostic tools shall be configured to perform all levels of diagnostics, systems adjustment and software program changes which are available to the Contractor.
 - b. Owner's diagnostic tools that require periodic re-calibration and/or re-initiation shall be performed by the Contractor at no additional cost to the Owner for a period equal to the term of the maintenance agreement from the date of final acceptance of the project.
 - c. The Contractor shall provide a temporary replacement, at no additional cost to the Owner, during those intervals in which the Owner might find it necessary to surrender a diagnostic tool for re-calibration, re-initiation or repair.
2. Contractor shall deliver to the Owner, printed instructions, access codes, passwords or other proprietary information necessary to interface with the microprocessor-control equipment.

I. Service Support Requirements

1. Software / Firmware Updates
 - a. During the life of the equipment and subject to the term of the maintenance agreement, where revisions to firmware and/or software are issued by the control manufacturer or manufacturer of solid state and microprocessor-based subsystems

subsequent to the beneficial use of the equipment, updates shall be provided so that the installation and spare circuit boards are current with respect to software and firmware versions.

J. Wiring Diagrams, Operating Manuals and Maintenance Data

1. Deliver to the Owner two (2) identical volumes of printed information organized into neatly bound manuals prior to seeking final acceptance of the project.
2. The manuals shall also be submitted in electronic format on non-volatile media, incorporating raw 'CAD' and/or Acrobat 'PDF' file formats. Electronic manuals shall be properly indexed, bookmarked, and searchable.
3. Manuals, as well as electronic copies, shall contain the following:
 - a. Step-by-step adjusting, programming and troubleshooting procedures that pertain to the solid-state microprocessor-control and motor drive equipment.
 - b. Passwords or identification codes required to gain access to each software program in order to perform diagnostics or program changes.
 - c. A composite listing of the individual settings chosen for variable software parameters stored in the software programs of both the motion and dispatch controllers.
 - d. Method of control and operation.
4. Provide two (2) sets of "AS INSTALLED" straight-line wiring diagrams in both hard and electronic format in accordance with the following requirements:
 - a. Displaying name and symbol of each relay, switch or other electrical component utilized including identification of each wiring terminal.
 - b. Electrical circuits depicted shall include all those which are hard wired in both the machine room and hoistway.
 - c. Supplemental wiring changes performed in the field shall be incorporated into the diagrams in order to accurately replicate the completed installation.
5. Furnish two (2) sets of bound instructions and recommendations for maintenance, with special reference to lubrication and lubricants along with the full Maintenance Control Program as required Part 8 of ASME A17.1.
6. Manuals or photographs showing controller replacement parts with part numbers listed.

K. Training

1. Prior to seeking final acceptance of the project, the Contractor shall conduct a training program on-site with building personnel selected by the Owner.
2. The focus of the session shall include:
 - a. Instructions on proper safety procedures and who to contact for the purpose of assisting passengers that may become entrapped inside an elevator car.
 - b. Explain each control feature and its correct sequence of operation.

3. Control features covered shall include but not be limited to:
 - a. Independent Service Operation.
 - b. Emergency Fire Recall Operation - Phase I.
 - c. Emergency In-car Operation - Phase II.
 - d. Emergency Power Operation.
 - e. Emergency Communications Equipment.
 - f. Interactive Systems Management.
 - g. Remote Monitoring/Controls.

L. Patents

1. Patent licenses which may be required to perform work specified by the Contract Documents shall be obtained by the Contractor at its own expense.
2. The Contractor agrees to defend and save harmless the Owner, Consultant and agents, servants, and employees thereof from any liability resulting from the manufacture or use of any patented invention, process or article of appliance in performing work specified in the Contract Documents.

M. Advertising

1. Advertising privileges shall be retained by the Owner.
2. It shall be the responsibility of the Contractor to keep the job site free of posters, signs, and/or decorations.
3. Contractor's logo shall not appear on faceplates or entrance sills without the approval of the Owner.

1.3 QUALITY ASSURANCE

A. Materials and Quality of Work

1. All materials are to be new and of the best quality of the kind specified.
2. Installation of such materials shall be accomplished in a neat manner and be of the highest quality.
 - a. Should the Contractor receive written notification from the Owner stating the presence of inferior, improper, or unsound materials or quality of installation, the Contractor shall, within twenty-four (24) hours, remove such work or materials and make good all other work or materials damaged.
 - b. Should the Owner permit said work or materials to remain, the Owner shall be allowed the difference in value or shall, at its election, have the right to have said work or materials repaired or replaced as well as the damage caused thereby, at the expense of the Contractor, at any time within one (1) year after the completion of the work; and neither payment made to the Contractor, nor any other acts of the Owner shall be construed as evidence of acceptance and waiver.

B. Electrical Design Requirements (General)

1. The following typical requirements shall apply to all parts of the work and are supplementary to other requirements noted under the respective headings.
 - a. The design and construction of the motors shall conform to the requirements of these specifications and to the ASME Standards for Rotating Electrical Machinery with revisions issued to the first day when the work of this Contract was advertised.
 - 1) Motors shall operate successfully under all loads and speeds and during acceleration and deceleration.
 - 2) Motors shall be designed for quiet operation without excessive heat.
 - 3) Insulation on motor coils and windings and on all insulated switch, relay, brake and other coils shall conform to the requirements of minimum Class "F" insulation, as defined in ANSI Standards for Rotating Electrical Machinery. All motors shall be impregnated twice.
 - 4) Switches, relays, etc., on controller, starter and signal panels and similar items on other parts of the equipment shall be the latest improved type for the condition of use. They shall function properly in full accordance with the requirements of the machines controlled and with the specified operating requirements of the elevator. Any of these parts showing wear or other injurious effects during the guarantee period to the extent that abnormal maintenance is required or indicated shall be replaced with proper and adequate parts by the Contractor.
 - 5) Contacts in elevator motor circuits which are intended to be opened by governors or other safety devices shall be copper to carbon or other approved non-fusing type.
 - 6) Where required, controllers and other component parts of the installation shall be labeled in accordance with the latest codes and standards as adopted and/or otherwise modified by the AHJ.
 - 7) Electrical equipment, motors, controllers, etc., installed under this contract shall have necessary CSA/US or UL/US listing as may be required by the AHJ. Equipment shall be labeled or tagged accordingly.

C. Energy Conservation Code

1. The Contractor shall comply with the requirements set forth in the Energy Conservation Code as may be applicable to the AHJ.
2. Except for equipment or systems under the purview of other disciplines, elevator equipment provided by the Contractor requiring compliance shall include, but not be limited to:
 - a. Energy efficiencies of gearless motors
 - b. Absorption of regenerated power for elevators

- c. Energy efficiencies of car interior lighting and ventilation
- d. Automatic operation of car interior lighting and ventilation through the individual car controller

D. Materials, Painting and Finishes

- 1. Two (2) coats of rust inhibiting machinery enamel shall be applied to exposed ferrous metal surfaces in the pit that do not have a galvanized, anodized, baked enamel, or special architectural finishes.
- 2. Two (2) coats of rust inhibiting enamel paint to the machinery located within the machine room and secondary level (where applicable) as well as to the machine room floors.
- 3. Architectural metal surfaces of bronze or similar non-ferrous materials which are specified to be refinished, re clad and/or provided new, shall be sufficiently clear coated so as to resist tarnishing during normal usage for a period of not less than twelve (12) months after final acceptance by the Owner.
- 4. Identify all equipment including buffers, crosshead, safety plank, machine, controller, drive, governor, disconnect switch, etc., by four inch (4") high numerals which shall contrast with the background to which it is applied. The identification shall be either decalcomania or stencil type.
- 5. Paint or provide decal-type floor designation not less than six (6) inches high on hoistway doors (hoistway side), fascias and/or walls as required by Code at intervals not exceeding seven feet (7'). The color of paint used shall contrast with the color of the surface to which it is applied.

E. Accessibility Requirements

- 1. Locate the alarm button and emergency stop switch at thirty-five inches (35"), and floor and control buttons not more than forty-eight inches (48") above the finished floor. The alarm button shall illuminate when pressed for visual acknowledgement to user.
- 2. Provide raised markings in the panel to the left of the car call and other control buttons. Letters and numbers shall be a minimum of 5/8" and raised .03" and shall be in contrasting color to the call buttons and cover plate.
- 3. The centerline of new hall push button shall be forty-two inches (42") above the finished floor.
- 4. The hall arrival lanterns provided shall sound once for the "up" direction and twice for the "down" direction. Design and locate fixtures per Federal standards.
- 5. Provide floor designations at each entrance on both sides of jamb at a height of sixty inches (60") above the floor.
- 6. Provide an audible signal within the elevator to tell passenger that the car is stopping or passing a floor served by the elevator.
- 7. Provide a verbal annunciator to announce the floor at which the elevator is stopping where required by the AHJ.
- 8. Provide signal control timing for passenger entry/exit transitions per Federal and/or Local standards.
- 9. Ensure sill-to-sill running clearances do not exceed 1-1/4" at all landings served.

10. Provide visual call acknowledgment signal for car emergency intercommunication device.

F. Qualifications

1. The work shall be performed by a company specialized in the business of manufacturing, installing and servicing conveying systems of the type and character required by these specifications with a minimum of ten (10) years of experience.
2. Prior written acceptance is required for manufacturers other than those listed, before quoting this project. Requests for acceptance will not be considered unless they are submitted before bid date and are accompanied by the following information:
 - a. List of five (3) similar installations having exact equipment being proposed for this project arranged to show name of project, system description and date of completed installation. The list shall include the names, position and resumes of the construction team and field supervisor of the installations.
 - b. Complete literature, performance and technical data describing the proposed equipment. Include the names, position and resumes of the proposed construction team and field supervisor.
 - c. List of ten (5) service accounts by building name, building manager or owner, including phone numbers.
 - d. Location of closest service office from which conveying system will be maintained.
 - e. Location of closest parts inventory for this installation.
 - f. List of the names, positions and resumes of the construction teams and field supervisor for the installation.

G. Structural, Mechanical and Electrical Design Parameters

1. The mechanical and electrical systems and the building structure have been designed for the following design loads:
 - a. Structural Loads:
 - 1) The pit, machine room and rail loads.
2. Power supply: 240-3PH-60Hz (EE to verify)
3. After the award, if the type of equipment provided requires structure, mechanical and electrical system changes and/or revisions, the Elevator Contractor shall be responsible for all additional design and construction costs.
4. Electrical equipment, motors, controllers, etc., installed under this contract shall have necessary CSA/US or UL listing as may be required by the AHJ. Equipment shall be labeled or tagged accordingly.

1.4 DELIVERY / STORAGE / HANDLING / COORDINATION

A. Delivery and Storage of Material and Tools

1. Comply with the requirements of Division 01.
2. Delivery, Storage and Handling:
 - a. Deliver materials to the site ready for use in the accepted manufacturer's original and unopened containers and packaging, bearing labels as to type of material, brand name and manufacturer's name. Delivered materials shall be identical to accepted samples.
 - b. Store materials under cover in a dry and clean location, off the ground.
 - c. Remove delivered materials which are damaged or otherwise not suitable for installation from the job site and replace with acceptable materials.
3. The Owner shall bear no responsibility for the materials, equipment or tools of the Contractor and shall not be liable for any loss thereof or damage thereto.
4. The Contractor shall confine storage of materials on the job site to the limits and locations designated by the Owner and shall not unnecessarily encumber the premises or overload any portion with materials to a greater extent than the structural design load of the Facility.
5. Contractor to note work is being performed within an occupied building. Split shipments (as required) are to be provided at no additional cost. All deliveries are to occur between 5am and 5pm.

B. Work with Other Trades / Coordination

1. Coordinate installation of sleeves, block outs, equipment with integral anchors, and other items that are embedded in concrete or masonry for the applicable equipment. Furnish templates, sleeves, equipment with integral anchors, and installation instructions and deliver to Project site in time for installation.
2. Coordinate sequence of installation with other work to avoid delaying the Work.
3. Coordinate locations and dimensions of other work relating to the equipment scheduled for installation including pit ladders, sumps, and floor drains in pits; entrance subsills; machine beams; and electrical service, electrical outlets, lights, and switches in pits and machine rooms, secondary levels, overhead sheave rooms and hoistways as it relates to the specific equipment.

C. Removal of Rubbish and Existing Equipment

1. On a scheduled basis approved by ownership, the Contractor shall remove all rubbish generated in performing work specified in the Contract Documents from the job site.
2. Any component of the existing elevator plant that is not reused under the scope of work specified in the Contract Documents shall become property of the Contractor and, as such, shall be removed from the premises at the Contractor's sole expense.

3. The Contractor agrees to dispose of the aforementioned equipment and rubbish in accordance with any and all applicable Federal, State, and municipal environmental regulations, and further accepts all liability that may result from handling and/or disposing of said material.

D. Protection of Work and Property

1. The Contractor shall continuously maintain adequate protection of all their work from damage and shall protect the Owner's property from injury or loss arising out of this contract.
2. The Contractor shall make good any such damages, injury or loss, except such as may be directly caused by agents or employees of the Owner.
3. The Contractor shall provide all barricades required to protect open hoistways or shafts per OSHA regulations. Such protection shall include any necessary guards or other barricades for employee protections during and after the modernization procedure.

1.5 RELATED WORK

A. Work by Elevator Contractor Included in the Base Bid

1. The following requirements shall be applicable based on prevailing conditions at the site of work and/or mandated modifications for code compliance.
 - a. Reuse and modify as needed, the existing power supplies. Install locking provisions for circuit breakers as per code. If existing disconnects are not capable of being locked in the open (OFF) position, new main line and/or auxiliary disconnect switches shall be provided.
 - b. Provide auxiliary power feeds with required distribution load center (circuit breaker panel) for intercommunication, CCTV systems, cab lighting or other specialty devices existing or to be provided by the Elevator Contractor.
 - 1) Voltage shall be 110-VAC with one (1) 15-Amp circuit breaker or fuse for lighting of each individual elevator car enclosure.
 - 2) Circuit breakers and/or fused disconnects shall be lockable in the "OFF" position in accordance with applicable code.
 - c. Installation of new main line power feed with related disconnect switch designed and located per local law requirements.
 - d. Provide remote/auxiliary disconnects where new or existing disconnect switches are not in line-of-sight of the controller.
 - e. Installation of new electrical conduit and power feeders between the load side of existing and new main line disconnect switches and new elevator control equipment.
 - f. Provide hoist rope guards at the car and counterweight drop side of the hoisting machine sheave to prevent accidental contact with the hoisting ropes. The guard

shall extend from the point where the hoisting ropes penetrate the machine room floor slab to a point beyond where the ropes contact the traction and deflector sheaves. The guards shall be constructed so as to conceal pinch-points between ropes and sheave grooves.

- g. The top surface of any setback or projection in the hoistway that measures two inches (2") or more in width shall be beveled at an angle of not less than seventy-five (75) degrees from horizontal. Each bevel plate shall be constructed from prime painted 14-gauge cold-rolled steel and installed so as to conform with ASME A17.1 elevator safety code as modified by, and/or in addition to codes and standards accepted by the AHJ.
- h. Provide each machine room, secondary space and pit with a self-closing, self-locking access door. Locking means shall be spring-type arranged to permit the doors to be opened from the inside without a key.
- i. Installation of new permanent lighting fixtures with protective guards and 110-volt duplex GFI receptacles inside the machine room. Illumination shall be no less than thirty (30) foot-candles at floor level. A light control switch shall be provided immediately adjacent to the machine room entrance door. Provide necessary receptacles as required to supply power to auxiliary elevator equipment and/or remotely located monitors.
- j. If elimination of secondary machinery space is not possible, provide machinery spaces of the secondary level directly below the machine room with permanent lighting fixtures fitted with protective guards and a duplex GFI receptacle. Illumination shall be no less than nineteen (19) foot-candles at floor level. A light control switch must be provided immediately adjacent to the secondary level entrance door/ladder in accordance with code. If elimination of secondary spaces is possible, include all provisions required by AHJ to abandon secondary space.
- k. Provide each elevator pit with a 110-volt GFI duplex receptacle and a permanent lighting fixture equipped with protective guard. Illumination shall be no less than ten (10) foot-candles at pit floor level. A light control switch must be provided and so positioned as to be readily accessible from the pit entrance door or ladder.
- l. Provide the following signage, plates and tags:
 - 1) Provide each walk-in pit entrance door with a sign reading "Danger Elevator Pit" or the equivalent thereof. Letters shall be not less than two inches (2") high.
 - 2) In addition to 1) above, walk-in pits with pit door stop switches shall be provided with a sign that reads "WARNING – Opening the Pit Door Will Stop the Elevator".
 - 3) Provide access doors to each electrical control room, secondary or machinery space with signs that read "ELEVATOR MACHINE ROOM". Letters shall be not less than two inches (2") high.
 - 4) Provide all required manufacturer data plates and installation-specific tags and signs of the types and styles containing information as required by applicable Codes and Standards as adopted and/or modified by the AHJ.

- m. Where the pit extends more than three (3) feet below the sill of the pit access door, provide a permanent fixed metal ladder. Existing walk-in pits are to be made code compliant to the latest Michigan Code. This work is to be included in the Elevator Contractors scope.
 - 1) Ladder shall extend no less than forty-eight inches (48") above the sill of the access door. Handgrips shall extend from the ladder to a point no less than forty-eight inches (48") above the sill of the access door where the ladder does not comply.
 - 2) The rungs shall be a minimum of sixteen inches (16") wide. Where prevailing conditions prevent a sixteen inch (16") wide rung, the rung may be reduced to no less than nine inches (9").
 - 3) The rungs shall be spaced twelve inches (12") on center.
 - 4) A clear distance of no less than 4-1/2" from the centerline of the rungs and handgrips to the nearest permanent object in back of the ladder shall be provided.
 - a) Where prevailing conditions prohibit the installation of the required ladder as specified above, the Elevator Contractor shall coordinate requirements necessary for compliance with the Authority Having Jurisdiction.
- n. Provide a standard railing conforming to Code on the outside perimeter of the car top on all sides where the perpendicular distance between the edges of the car top and the adjacent hoistway enclosure exceeds 300 mm (12 in.) horizontal clearance or as otherwise required by the Authority Having Jurisdiction.
- o. Provide necessary patching, repairing and installation of masonry and/or dry wall for smooth and legal elevator hoistways.
- p. Provide any required repair of smoke holes with subway grating covers in the machine rooms and/or secondary levels where applicable. All smoke ventilation provisions, including duct work, dampers, fans, fire control interfaces, in accordance with local codes, shall be reviewed for proper operation.
- q. Installation of, or confirmation that existing HVAC provisions inside the machine room are capable of to maintain ambient temperature and humidity levels that are within the range specified by the microprocessor-control equipment manufacturers.
- r. Subsequent to the contract execution, the Contractor shall perform the following procedures and engineering tasks relative to balance loading of system and cab work included under base specification requirements and alternative/optional upgrades:
 - 1) Perform balance load testing to determine existing conditions and requirements applicable to new/modified equipment.
 - 2) Provide data for Purchaser and/or their agents to evaluate any limitations that may be placed on design/finish options due to prevailing conditions or total suspended loading.

- s. Subsequent to the contract execution, the Contractor shall perform a Violation search and review of all open Applications in conjunction with the filing procedure. Subsequently, any and all outstanding Violations and/or open Applications shall be indicated on the Request for Permit; and such outstanding Violations shall be expunged, and open Applications closed out as part of this filing procedure.
 - 1) If requirements and/or work necessary to satisfy outstanding Violation or Applications are not included in the contracted scope of work, the Elevator Contractor shall prepare an itemized listing with relative extra costs to cure the condition(s) and expunge and/or close out the Violation or Application for the Owners' and Consultants' review/approval prior to executing such work procedures.
- t. Where sprinkler fire protective systems are provided inside any elevator hoistway, machine room or associated machinery space, provisions shall be made for the disconnecting of the main line power supply from the affected elevator prior to activation in accordance with local code. This means of disconnect shall be manually reset in accordance with code.
- u. Installation of emergency power control interface provisions to signal the elevator control apparatus of a transfer from normal (utility) power to the building emergency (generator) power supply. Also, provide additional control interface to give advanced notification to the elevator control apparatus that the power source will transfer from emergency (generator) power to normal (utility) power. Interfacing contacts shall be wired to an electrical junction box located inside each machine room for connection to the elevator control equipment by the Elevator Contractor. Coordinate the type of interface required for the specific elevator control apparatus with the Elevator Contractor.
 - 1) On the line side of each main line disconnect switch, provide some means to absorb power that may be regenerated by the elevator hoist motor during emergency power operation.
 - 2) Normal Power/Emergency Power Control Signals consisting of two (2) dry contacts provided by others to function as follows:
 - a) One (1) dry contact normally open to make when Normal Power is available. (Logic state of dry contact is to be confirmed by the Manufacturer of the Elevator Control Equipment).
 - b) One (1) dry contact normally open to make when emergency power is available. (Logic state of dry contact is to be confirmed by the Manufacturer of the Elevator Control Equipment).
- v. Provide a class "ABC" fire extinguisher in electrical machinery and control spaces. Locate the extinguisher in close proximity to the access door.

- w. Repair, secure, replace, seal or remove existing skylights or windows, located at the top of elevator hoistway(s) and/or in machine room(s) to avoid damage to elevator systems due to rain, debris, etc., which may enter through or fall from the skylight.
- x. Provide necessary telephone wiring with connection to local telephone service for remote elevator monitoring and/or two-way voice emergency communications systems.
 - 1) Terminate the telephone wiring in junction boxes or standard phone jack terminals in the machine room.
 - 2) Coordinate the quantity and termination method of individual phone connections with the Elevator Contractor.
 - 3) Identify each phone line for connection by the Elevator Contractor to the appropriate elevator device(s).
 - 4) Telephone wiring, where required by applicable codes, shall be installed in conduit.
- y. Sumps in pits where provided, shall be covered. The cover shall be level with the pit floor so as not to produce a tripping hazard.
- z. Provide Ethernet connection terminals in elevator machine rooms and location of elevator monitoring system.

1.6 WARRANTY / MAINTENANCE SERVICES

A. Contract Close-Out, Guarantee and Warranties

1. The Contractor agrees to certify that work performed in accordance with the Contract Documents shall remain free of defects in materials and quality of work for a period of one (1) year after final acceptance of the completed project, or acceptance thereof by beneficial use on a unit-by-unit basis, whichever occurs first.
2. The sole duty of the Contractor under this warranty is to correct any non-conformance or defect and all damages caused by such defect without any additional cost to the Owner and within fifteen (15) days of notification.
3. The express warranty contained herein is in lieu of all other warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose.
4. In the event the Contractor fails to fulfill its obligations defined herein, the Owner shall have the express right to perform the Contractor's obligations and to charge the Contractor the cost of such performance or deduct an equal amount from any monies due the Contractor.

B. Maintenance Coverage

1. The following maintenance coverage apply:
 - a. Interim Maintenance

- 1) Provide full protective maintenance services and equipment coverage for duration of the modernization project to maintain a minimum of one (1) operational elevator for the duration of the modernization project / until final acceptance of the finished project.
- 2) Interim full comprehensive maintenance services shall be provided in accordance with Section 14 01 20, Owner's Form of Agreement issued with the modernization documents for subsequent services.
- 3) Costs related to interim maintenance shall be included in the base bid quotation and itemized on the bid form.

b. Guarantee Maintenance

- 1) Provide full comprehensive preventative maintenance services for a period of One (1) / Year (12) months after the final completion and acceptance of the project.
- 2) Guarantee maintenance and related services shall be provided in accordance with Section 14 01 20, Owner's Form of Agreement issued with the modernization documents for subsequent services.
- 3) Costs related to guarantee maintenance shall be included in the base bid quotation

c. Long-Term Maintenance

- 1) Long-term full comprehensive maintenance and related services shall be provided in accordance with Section 14 01 20, Owner's Form of Agreement issued with the modernization documents for subsequent services.
- 2) Costs related to long-term maintenance shall be indicated on the bid form in the space provided.

1.7 AUXILIARY SYSTEMS / TESTING PROCEDURES

1.8 ALTERNATES AND VALUE ENGINEERING:

The following alternatives are elective upgrades which constitute changes to the base scope of work specified. Pricing for each alternate upgrade is requested from the bidder with costs indicated in the appropriate space in the Request for Proposal (RFP). Contractor shall take into consideration, as part of the alternative pricing, alternate work that is required either in lieu of, or in addition to, work specified in the base scope and shall not duplicate costs.

A. Contractor's Value Engineering Options

1. This alternative is provided for individual contractors to propose optional equipment or otherwise offer cost saving suggestions that will provide the same desired results or further enhance the safety, durability or performance of the elevator systems.

2. Each suggestion must be fully detailed on the contractor's own letterhead with the associated price change specified on the form of proposal provided.

1.9 ALTERNATES / ALLOWANCES

A. Alternates

1. State the amount to be deducted from the base bid to retain and refurbish the existing cab doors in lieu of replacing with new
2. State the amount to be deducted from the base bid to eliminate the BMIS system.
3. State the amount to be deducted from the base bid to remove the fire command center panel from the base bid.

B. Allowances

1. Carry the following allowances:
 - a. Cab Interior Remodeling: \$20,000 material allowance per cab
2. The above allowances are exclusive of any handling charge, applicable sales and/or use taxes. Wiring, installation, and coordination of allowance items shall be included in the base contract.

PART 2 - PRODUCTS

2.1 GENERAL DESCRIPTION

2.2 Traction Elevator

A. 515 Center Avenue, Bay City, MI 48708 US - Traction Elevator PE1-PE2

- | | |
|--------------------|-----------------------------|
| 1. Quantity | Two (2) |
| 2. Type | Traction Elevator Passenger |
| 3. Capacity (lbs) | 3,000lb |
| 4. Speed (fpm) | 400 fpm |
| 5. Travel in Feet | 96' 3" verify in field |
| a. Roping\Hoisting | New |
| b. Roping\Governor | New |

c.	Roping\Compensating	Replace
d.	Roping/Ropes	2:1
6.	Compensation Sheave	Replace if required
7.	Compensation	
a.	Compensation Ropes	Replace if required
8.	Number of Landings	Nine (9)
9.	Number of Openings	Nine (9)
10.	Front Openings	Nine (9)
11.	Rear Openings	None
12.	Side Openings	None
13.	Operation	Automatic Group Duplex Operation
14.	Controller	Group Dispatcher
15.	Firefighter's Service	New per AHJ requirements
a.	Comments	To be installed per the requirements of the AHJ at the time the Modernization Permit is obtained from the authority
16.	Machine Room, Secondary, Pit Lighting, and GFI	Include per current code
17.	Machine Type	Gearless
18.	Power Drive	VVVF AC Motor Drive
19.	Machine Location	Overhead
20.	Governor	New
21.	Car Platform / Frame / Safety	Car Frame (Reuse); Car Platform (Reuse)
22.	Counterweight	Counterweight Assembly (Reuse)
23.	Guide Rails	Refurbish
24.	Guides	Refurbish and replace all rollers

25.	Buffers	Retain and refurbish(Car and Counterweight)
26.	Buffer Ladder / Platform	Not Applicable
27.	Car Door Type	
	a. Front Door	New Stainless Steel #4 -Two (2) Speed Side Opening
28.	Car Door Size	
	a. Front Door	42" wide x 84" depth
29.	Hoistway Door	Retain and refurbish
30.	Hoistway Door Size	42" wide x 84" depth
31.	Master Door Operator	New
32.	Hoistway Entrance Sills	Retain and refurbish
33.	Sill Finish	Cast
34.	Hoistway Entrances	Retain and refurbish
35.	Tracks / Hangers / Interlocks / Closers	New Tracks / Hangers / Closers / Related Equipment
36.	Emergency Exits / Top and Side	Retain and modify as required for code compliance
37.	Power Supply	240V-3-60
38.	Electrical Conduit / Wiring / Traveling Cable	Provide new wiring and traveling cable. Replace conduit, as necessary.
39.	CCTV	Include Provisions
40.	Card Reader	Include Provisions
41.	Number of Push Button Risers	One (1)
42.	Inconspicuous Riser	None
43.	Car Operating Fixtures	Replace/Provide New
44.	Emergency Communication	Replace/Provide New

45.	Door Reopening Device	Replace/Provide New
46.	Emergency Cab Lighting	Replace/Provide New
47.	Car Ventilation	Replace/Provide New
48.	Elevator Cab Enclosure	Retain/Refurbish
49.	Car Doors	Replace/Provide New car doors
50.	Car Flooring	Retain
51.	Car Sill	Retain and refurbish
52.	Platform Size	Retain

2.3 MANUFACTURERS

A. Pre-Approved Equipment Manufacturers

1. The following manufacturer's equipment and materials have been pre-approved for use on this project.
2. Other equipment not specifically mentioned shall be considered for approval on an individual basis
 - a. Controller - GAL (GALaxy), Motion Control Engineering, Elevator Controls Corporation, Elevator Systems, Inc.
 - b. Tracks, Hangers, Interlocks and Door Operators - G.A.L., ECI.
 - c. Fixtures - G.A.L., Adams, EPCO, Monitor, E-Motive USA, C.E. Electronics, Innovation, PTL, MAD, National.
 - d. Door Protective Device - Janus, Adams, G.A.L., T.L. Jones, Tri-Tronics.
 - e. Cabs and Entrances/Entrance Door Panels - Accurate Elevator Door Corp, CEC Elevator Cab, EDI/ECI, Elite Elevator Cab, National Cab & Door, Tyler, Velis, Gunderlin, Premier, Prestige, Regency, Columbia Elevator Products, United Cabs.
 - f. Machines - Hollister-Whitney, Titan, Imperial, Torin.
 - g. Motors - Imperial Electric, General Electric, Baldor, Reuland Electric.
 - h. SCR Power Drives - MagneTek DSD 412, MagneTek 'Quattro', MCE System 12, KEB.
 - i. VVVF Power Drives - Mitsubishi, MagneTek, Yaskawa, TorqMax.
 - j. VVVF Emergency Power Systems - MCE, Reynolds & Reynolds Electronics.
 - k. Guide Rails - AFD Industries, Savera, Monteferro.
 - l. Electrical Traveling Cables - Draka, James Monroe.
 - m. Guide Shoes/Rollers - ELSCO, G.A.L.
 - n. Wire Ropes - Paulsen, Bethlehem, Wayland, Draka.
 - o. Intercommunications/Telephones - Webb Electronics, K-Tec, Ring, Wurtec, Janus, approved equal.

- p. Compensation Chains - Draka or approved equal.
 - q. Compensation Chain Guides - Draka super sway-less or approved equal.
3. Original Equipment Manufacturers may substitute their own branded equipment subject to the following:
- a. All requirements of the specifications are met regarding performance, appearance, serviceability and support.
 - b. A full stock of all regular and critical replacement parts required for this project are maintained at a facility within fifty (50) miles of the project site.
 - 1) Any parts not stocked at the above referenced facility shall be identified with the location of the nearest source and shall be available for next-day delivery upon demand.
 - c. All parts and software shall be made available for purchase to a qualified elevator maintenance firm with one (1) business day delivery without direct Owner involvement.
 - 1) Provide details of parts supply facility and a list of current parts pricing for all major components required for the installation.
 - d. All specialized tools, equipment, software, and passwords, required to maintain, repair, adjust the operation, and perform code mandated inspections are provided to the Owner as part of the base installation.
 - 1) Updates to these items shall be available via the parts supply facility referenced above.
 - e. Technical support of the product(s) shall be available to the Owner's elevator service provider.
 - f. Voluntary Alternates for Manufacturers Equipment will be reviewed only if Base Bid equipment is also submitted.

2.4 CONTROL FEATURES / OPERATION

A. Motion Control

1. Smooth stepless acceleration and deceleration of the elevator car shall be provided in either direction of travel during both single and multiple floor runs.
2. Use digital logic to calculate optimum acceleration and deceleration patterns during each run.
3. Acceleration, deceleration, jerk, maximum velocity, leveling accuracy and elapsed flight time, for a typical elevator one (1) floor run, shall not exceed values as further specified.

B. Automatic Group Duplex / Selective Collective Operation

1. Provide duplex selective collective operation with the two (2) cars arranged to operate from a single riser of hall push buttons.
2. When there is no demand for elevator service, park one car at the Lobby Floor and the other shall be a "free car", parking at the floor last served.
 - a. Park both cars with doors closed.
 - b. The "free car" shall normally respond to any registered hall call except:
 - 1) A hall call registered at the Lobby Floor shall be answered by the car parked at the Lobby Floor.
 - 2) A hall call registered below the Lobby Floor shall be answered by the car parked at the Lobby Floor.
3. When the car parked at the Lobby Floor responds to a registered call for a floor above the Lobby Floor, the "free car" shall be dispatched automatically to the Lobby Floor and shall become the assigned Lobby Floor parking car.
4. When the "free car" is responding to registered calls, the Lobby Floor parking car shall automatically dispatch from the Lobby Floor under any of the following conditions:
 - a. Registration of hall call below the "free car" while it is traveling in the up direction.
 - b. Registration of hall call above the "free car" while it is traveling in the down direction.
 - c. Inability of the "free car" to move in response to a registered hall call within a predetermined time.
5. When both cars are responding to registered car and hall calls, the first car to complete its calls shall become the assigned Lobby Floor parking car and shall be dispatched automatically to the Lobby Floor.
6. If either car is removed from service, the other car shall respond to all registered hall calls and its own car calls.
7. When a car arrives at its last stop and reverses direction of travel, all previously registered car calls shall be automatically cancelled.
8. When a car has responded to the highest or lowest call, and hall calls are registered for the opposite direction, the car shall reverse direction automatically and respond to those registered calls.
9. When a car arrives at a landing where both up and down hall calls are registered, it will answer the call in the direction of travel.
 - a. If no car call is registered, the car shall be assigned to respond to call registered for the opposite direction. The car doors shall immediately close and re-open to respond to the call in the opposite direction.
 - b. Hall lantern operation shall always correspond to direction of service.

10. When an empty car reverses direction at a landing with no hall calls, the doors shall not open, and the hall lantern shall not operate.
11. If a car has no car calls registered and arrives at a floor where both up and down hall calls have been registered, the car shall respond to the hall call corresponding to the direction of car travel.
12. If, after making its stop, a car call is not registered and no other hall calls exist ahead of the car corresponding to its original direction of travel, the doors shall close and immediately reopen in response to the hall call for the opposite direction.
13. The car shall maintain its original direction at each stop until the doors are fully closed to permit a passenger to register a car call before the car reverses its direction of travel.
14. In the event that any car is delayed for more than a predetermined time interval after it received a start signal, the system shall automatically permit the remaining car in the two (2) car group to respond to signals and be dispatched in the specified manner.
15. Coincident calls: The dispatching system shall be designed with a twenty (20) second parameter whereby an elevator with a car call will receive priority to answer a corresponding corridor call if it can do so within twenty (20) seconds. If it cannot answer the call within the prescribed time, the first available car shall be assigned. A continuous reassessment of calls shall be made, with the processor having the capability of reassessing five (5) times per second.
16. In the event the supervisory control system should malfunction so that neither elevator is assigned calls within a predetermined interval and in accordance with the conditions of the operating strategy in effect, the system shall automatically assume a back-up mode of operation whereby the elevators shall be arranged to provide continuous service to each landing in a predetermined pattern without regard to actual corridor call demands.

C. Independent Service Operation

1. The car operating station shall be equipped with a key-operated switch labeled "IND SER".
2. Locate the switch in the locked service compartment.
3. When placed in the "on" position the following shall occur:
 - a. Group elevator - the elevator shall bypass corridor calls and travel directly to any floor chosen by registration of a car call. Hall calls shall remain registered for service by another elevator in the group.
 - b. Simplex elevator - existing hall call registrations shall extinguish, and hall buttons shall remain inoperative as an indication to passengers that there is no elevator service.
4. During Independent Service Operation, the elevator doors shall remain open at any landing until the door close or a car call push button is pressed and maintained until the doors are fully closed.
5. If more than one (1) car call is registered, all registered car calls shall extinguish when the elevator stops in response to the first call.

6. Fire Emergency Recall shall automatically override Independent Service Operation and engage Phase I - Fire Emergency Recall Operation following a period of approximately forty-five (45) seconds.

D. Inspection Service Operation

1. Provide a key operated switch in the main car operating panel locked service panel that, when turned to the 'ON' position, shall cause the elevator to be removed from service and placed in Inspection Service Operation.
2. Limited operation of the car shall be provided through pressing the Attendant Service up and down push buttons (if provided) or the highest or lowest car call push buttons (if up and down buttons are not provided) in the main car operating panel only.
3. The car shall move at a speed not to exceed 150 feet per minute (0.75 meters per second) as per code with both the hall and car door panels in the closed and locked position.
4. The Inspection Service switch shall be keyed differently than other typical keys used in the operation of the elevator. Keying shall be in accordance with Security Group Classifications as required by applicable code.
5. The top of the elevator car shall be equipped with a control for limited operation of the car during repairs, maintenance and inspection conducted in the hoistway. The transfer of control to the top of car operating device shall cause that device to be the sole means of control for the elevator.
 - a. Visual and audible indication shall be provided on the top of the car when Firefighters' Emergency Operation is initiated.
6. Power door operating equipment shall be rendered inoperative while the car is being operated in the Inspection Service mode with the exception of power closing of the door. The control system shall maintain closing power on the door while the elevator is moving under Inspection Service Operation.
7. The in-car Inspection Service switch shall be rendered ineffective when the top of car inspection control is activated.
8. Machine Room Inspection Operation and Inspection Operation with open door circuits shall be provided in accordance with A17.1 Safety Code, as modified and adopted, where required or allowed by the AHJ.

E. Hoistway Access Operation

1. Provisions shall be made to allow access to the hoistway through the use of hoistway access switches.
2. Operating the access switch shall permit the car to move at a speed not to exceed 150 feet per minute (0.75 meters per second) as per code with the hall and car doors in the open position to obtain access to the top of the car or climb-in pit.
3. The car shall automatically stop motion when the car top is level with the hoistway door sill for access to top of car.

4. The access key switch(es) shall be keyed differently than other typical keys used in the operation of the elevator. Keying shall be in accordance with Security Group Classifications as required by applicable code.
5. Access operation shall be disabled when top of car inspection operation is in effect.

F. Load Weighing Operation

1. A positive means shall be provided to continuously monitor the amount of load being transported by the elevator car.
2. The system shall be used to:
 - a. Preload static motor drives.
 - b. Activate control features that include:
 - 1) anti-nuisance operation.
 - 2) load dispatch operation.
 - 3) load dependent non-stop operation where applicable.
3. The anti-nuisance feature shall operate at loads not exceeding 200 lbs., whereas load dispatch and load non-stop shall be set to function at sixty-five percent (65%) of the rated loading capacity for the initial set up and adjustment procedure.

G. Anti-Nuisance Operation

1. In the event car loading is not commensurate with the number of car calls registered, all car calls shall be canceled.
 - a. The system shall monitor the door protection device to determine if passenger transfer has occurred.
 - b. If after the third (3rd) stop a passenger transfer has not occurred, the system shall cancel all remaining registered car calls and respond to assigned hall call demand.
 - c. The number of calls registered with no passenger transfer that will trigger anti-nuisance shall be adjustable and initially set to three (3) calls.

H. Sequential Transformer Connection Operation

1. Provide the means for controlling the sequence of connecting the motor drive step-up, step-down or isolation transformers to the main power feeders to minimize the cumulative effects of instantaneous half-cycle inrush currents.
 - a. Contactors shall be provided to connect the primary side of the transformer to the main line power feeders.
 - b. When power is applied to the main line feeder, an internal timer shall time the operation of the contactor.

- 1) Timers within a group of elevators will be set such that there is a minimum of three (3) seconds between individual contactor operation.
- c. The number of transformers that may be connected simultaneously is contingent on the power available from the building and overcurrent protective devices. Coordinate requirements with Building Management and/or Owner's Representative.
- d. Provisions for group-to-group sequencing shall be included in the base design of the sequential connection controllers where necessary.
 - 1) Timer settings between groups, powered by a common feeder, shall be set so that transformers are connected to the feeder one at a time.
- e. All elevator controls may be provided with Sequential Transformer Contactors, however, the minimum number of units required shall be equal to the total number of elevators on a single feeder minus one.

I. Firefighters' Emergency Operation

1. Firefighters Service Operation and devices shall meet applicable code requirements of the AHJ.
2. Contractor shall be responsible for compliance in all aspects of Firefighters Service including, but not limited to the mode of operation, initiation of operation, operating control and signaling devices as well as fixture engraving including operating instructions applicable to and where required by the AHJ.

J. Emergency Power Operation New Sequential Control

1. Provisions shall be included in the new elevator control system whereby, immediately after transferring to the building emergency power system, all affected elevators shall automatically return the fire recall designated landing in progressive numerical sequence at normal operating speed.
 - a. Car and corridor calls shall become inoperative, and all previously registered calls shall be canceled.
 - b. As each car arrives at the designated landing, it shall park out of service with its door in the open position.
2. An illuminated signal marked "ELEVATOR EMERGENCY POWER" shall be provided in the elevator lobby at the designated landing to indicate that the normal power supply has failed, and the emergency power is in effect.
3. In the event an elevator fails to respond to a recall command within forty-five (45) seconds under Emergency Power Operation, that car shall be bypassed and the next car in the sequence shall be recalled.
4. Upon completion of the recall process, one or more elevators shall be automatically selected to run on the emergency power source.

5. Interlock all elevators to allow to operate the maximum number of elevators at a time.
6. An emergency power control panel shall be provided where indicated by the Owner containing an indicator light per elevator that becomes illuminated whenever a transfer to emergency power takes place.
 - a. Provide a key-operated override switch and a manual selector switch with a position indicator for each elevator.
 - b. Activating the key-operated override switch while on emergency power shall cancel the automatic recall sequence and allow positioning of the manual selector switch to select a car for operation.
 - c. Means shall be provided on or adjacent to the control panel to indicate that the elevator is at the designated level with the doors in the open position.

K. Floor Lockout Feature / Keyless - Card Reader Control / Wiring Provisions (New)

1. Wiring: Provide six (6) pair of 20-gauge two (2) flexible conductor low voltage cables with an overall braided shield in the traveling cable of all elevators for card reader interface.
 - a. The cables shall extend from the security interface terminal cabinet in the elevator machine room to behind the elevator return panel above the space allotted for the card reader.
 - b. Terminate the cable to dual screw barrier terminal strips on each end.
2. Card Reader Space: Allocate card reader space in each main car station as directed by the owner. Provide a flush Lexan lens and mounting provisions for the card reader unit which is provided by others.
3. Interface: For floor programmable card access control in all elevators, provide a pair of terminals for all floors such that application of a momentary dry (no voltage present) contact closure across those terminals by the security system shall enable the selection of the corresponding floor from the floor selector button in the elevator cab.
 - a. Locate the terminals inside an interface terminal cabinet in the elevator machine room.
 - b. Provide all relays required to interface the elevator control system to the momentary dry contact closures provided for under another section of these specifications.
 - c. If applicable, the card reader shall be operable and compatible with the issued card keys used building wide.
 - d. Coordinate system requirements with the manufacturer of the issued card key system.
4. Card Reader "Secure/Bypass" Switch: Provide separate card reader control bypass key switches for each elevator.
 - a. The bypass key switches shall be located in the car operating panel service cabinet.

- b. The bypass key switches shall be a maintained contact type key switch with the key removable in the secure or bypass position.
 - 1) When the key switch is in the secure position, the card reader control mode shall be initiated.
 - 2) When in the bypass position, the card reader control mode shall be bypassed and the elevator shall return to normal operation, permitting free access to any floor.
5. The card reader operation shall bypass floor cut-out switches.
6. Firefighters' Service Operation shall override Floor Lockout Feature.

L. Door Operation

1. Car and hoistway doors shall be arranged to operate in unison without excessive noise or slamming in either direction of travel.
 - a. Door opening speeds of two (2) feet per second shall be provided in conjunction with closing speeds of one (1) foot per second in accordance with governing code.
 - b. Door operation shall commence as the car stops level at the floor and the machine brake is applied. Pre-door opening shall not be permitted.
2. Where the hoistway door and the car door are mechanically coupled, the kinetic energy of the closing door system shall be based upon the sum of the hoistway and the car door weights, as well as all parts rigidly connected thereto, including the rotational inertia effects of the door operator and the connecting transmission to the door panels.
3. The force necessary to prevent closing of the car and hoistway door from rest shall not exceed thirty (30) lbf. This force shall be measured on the leading edge of the door with the door at any point between one-third and two-thirds of its travel.
4. Door open and door close time shall be measured between the moment car door operation in either direction begins and the instant at which that cycle is completed.
5. When responding to either a car or corridor call, the amount of time that the elevator door remains stationary in the open position shall be adjustable up to sixty (60) seconds.
 - a. Door open dwell time for a corridor call shall be separate of that for a car call, and in both cases, dwell time shall be canceled whenever the car door protection device is momentarily interrupted by passenger transfers, followed by a reduced door open dwell time of approximately one (1) second (adjustable) after the door protection device is cleared of obstructions.
6. The operation of the door protective device by interruption of one or more infrared light beams (dual or multi-beam non-contact) during the close cycle shall cause the immediate reversing of the doors to the full open position.
7. The door closing cycle shall be arranged so that, in the event the door protective devices become continually obstructed after the normal door open dwell time has expired and following a time interval of approximately thirty (30) seconds (adjustable), a warning

tone shall sound and the door closing cycle shall commence at reduced speed and torque per applicable Code requirements.

8. Each car operating station shall be provided with a “door open” and “door close” push button.
 - a. Pressure on the “door open” button shall cause doors in the full open position to remain so, and doors engaged in the close cycle to reverse direction and assume the full open position so long as pressure remains applied to the button.
 - b. The “door open” buttons shall also control the open cycle during Phase II - Emergency In-car Operation.
 - c. The “door close” push button shall function on Independent Service, Attendant Service and Phase II - Emergency In-car Operation as well as during normal automatic operations.
9. Repeated attempts by the power door operator to open or close the door at any landing shall be monitored by the control system.
 - a. In the event the door fails to cycle properly after a preset (adjustable) number of attempts, the car shall either travel to the next stop or remove itself from service, depending upon whether the malfunction is in the open or close cycle.
10. Each hoistway door shall be provided with an automatic self-closing mechanism arranged so that the door shall close and lock if the car should leave the landing while the hoistway door is unlocked.
11. Car doors shall be arranged to prevent their being manually opened from inside the car unless the elevator is positioned within a floor landing zone.

2.5 MACHINE ROOM / SECONDARY EQUIPMENT

A. Controller / Dispatcher

1. The elevators shall have generic microprocessor-based controller/dispatchers.
2. Digital logic shall calculate optimum acceleration, deceleration and velocity patterns for the car to follow during each run.
3. Closed-loop distance and velocity feedback shall monitor the actual performance of the elevator car with the desired speed profile.
4. System operating software shall be stored in non-volatile memory.
5. Elevator control relays, contactors, switches, capacitors, resistors, fuses, circuit breakers, overload relays, power supplies, electronic circuit boards, microprocessors, static motor drive units, wiring terminal blocks and related components shall be totally enclosed inside a free-standing metal cabinet with hinged access doors.
 - a. Provide natural or mechanical ventilation for the controller cabinets.
 - b. Equip the vent openings and exhaust fans with filters.

6. Mount equipment to moisture-resistant, noncombustible panels supported from the steel frame.
7. Provide "noise filter" between hoistway wiring and controller/dispatchers to eliminate interference.
8. Optically isolate communication cables between components.
9. Wiring: Wiring on the units, whether factory or field wiring, shall be done in neat order, and all connections shall be made to studs and/or terminals by means of grommets, solderless lugs or similar connections. All wiring shall be copper.
10. Terminal Blocks: Provide terminal blocks with identifying studs on units for connection of board wiring and external wiring.
11. Marking: Identifying symbols or letters shall be permanently marked on or adjacent to each device on the unit, and the marking shall be identical with marking used on the wiring diagrams. In addition to the identifying marks, the ampere rating shall be marked adjacent to all fuse holders.
12. A seventeen inch (17") flat-panel LCD monitor shall be provided inside the elevator machine room for diagnostic purposes. The monitor shall be permanently mounted in a cabinet, on a shelf immediately adjacent or attached to or in a control cabinet of at least one (1) car of a group. By means of graphic depiction, information available on the screen shall include:
 - a. An overview of car and corridor calls currently existing within the system.
 - b. Elevator operating status.
 - c. Elevator position, direction of travel and velocity.
 - d. The open/close status of elevator door.
 - e. The current operational status of each CPU input and output.
 - f. A sequential history of faults detected within the control system over the previous thirty (30) days.
13. In the event diagnostics and monitoring is accomplished via Field Service Tools, provide the required Field Service Tools with related control system appurtenances for diagnostic evaluations, system monitoring and field adjustments.
 - a. Provide instructions for proper use of such diagnostic tools and/or equipment with all coding and other operational requirements.
 - b. Maintain and calibrate the diagnostic tools and update the associated instructions and other related documents under the service agreement.
 - 1) Should the agreement be cancelled for any reason by either party, maintenance and updating of diagnostic tools shall be provided to the Owner at the Contractor's cost without the need to purchase or lease additional diagnostic devices, special tools or instructions from the original equipment provider.
 - 2) The Owner may request field and technical instructions be provided by the original installation contractor or manufacturer for proper servicing by other qualified elevator company personnel.

- 3) The established cost-plus profit, as previously specified, shall be applicable for the life of the system.
 - a) If the equipment for fault diagnosis is not completely self-contained within the controllers but requires a separate detachable device, that device shall be furnished to the Owner as part of this installation.
 - b) Such device shall be in possession of and become property of the Owner.

14. Microprocessor Documentation

- a. Provide and/or obtain complete information on systems' design, component parts, installation and/or modification procedures, adjusting procedures and associated computer conceptual logic circuitry and field connection.
- b. Provide microprocessor upgrading and/or modifications to programs that have been assigned to enhance the operation of the equipment for a period of ten (10) years after project approval.

B. Machine Beams

1. Provide support beams, angles, plates, bearing plates, blocking steel members to support machine, governors, dead end hitches, deflector and overhead sheaves.
2. Provide anchor bolts, templates and support beams for the machine.
3. Note the location of the structural machine beam supports and advise if the top of support is not adequate for the machine beams.
4. Fit each rope, cable and tape opening with three inch (3") high 16-gauge minimum galvanized guard.
5. Where 2:1 roping is specified, orientate machine beams front to back as shown on the design drawings.
 - a. Provide a "fixed" 2:1 car sheave between the crosshead channels
 - b. Locate hoist machine in a manner to eliminate any interference with the machine room wall, and to provide proper clearances around the machines.

C. Gearless Elevator Hoisting Machine

1. Provide a permanent magnet synchronous motor (PMSM) gearless traction machine, specially designed and manufactured for elevator service. The machine shall have high starting torque and low starting current, rated for 50⁰ C (90⁰ F) continuous operation, and a minimum of 240 starts per hour.
 - a. The traction driving sheave and brake drum shall be cast integral and bolted securely to the main armature shaft.
 - b. Securely mount the machine frame, including motor fields, bearing stands and brake on a heavy steel bedplate.
 - c. The armature shaft shall be supported in ball or roller type bearings.

- d. Minimum class “F” (or approved equal) insulation shall be used to ensure long-term reliability.
- e. The driving sheave shall be cast from the best grade of metal with a Brinell hardness of 215 to 230 and shall be machined with grooves, providing maximum traction with a minimum of rope and sheave wear.
 - 1) Roping requirements and type of steel rope used as suspension means shall be engineered by the contractor and manufacturer of the equipment for maximum life of ropes and sheave.
- f. Ensure that adequate ventilation of internal stator windings and rotating element is provided to prevent overheating with thermal overload protection. (Constant velocity fan for constant cooling.)
- g. Equip housing with eyebolt(s) for lifting.
- h. Provide the machine with an electro-mechanical brake.
 - 1) Brakes shall be drum or disk-type.
 - 2) The brake shall be spring applied and electrically released.
 - 3) Design the brake electro-magnet for quick release and application of the brake.
 - 4) The brake lining material shall be non-asbestos.
- i. Design the brake for quick release to provide smooth and gradual application of the brake shoes or pads.
 - 1) An emergency brake shall be an integral part of the machine design.
- j. Provide 14-gauge hoist cable guards at the car-drop and counterweight-drop side of the machine sheave.
 - 1) Guards shall cover cables from the point of slab penetration to the point where the hoist cables contact the sheave.
 - 2) Guards shall prevent access to cables at pinch points.
 - 3) Guards shall have no sharp edges.
 - 4) Guards shall be properly mounted to prevent vibration.
- k. If existing building conditions permit, provide a raised machine arrangement so that the deflector sheave is located above the machine room slab. Provide adequate steel blocking members to support the machine assembly.
 - 1) Provide service platforms, grating, handrails, ladders and required accessories to service and maintain the hoisting machines.
- l. If raising the machine is not possible, span the distance between the car and counterweight with an accurately grooved deflector sheave mounted in the secondary level.

- m. Provide a sheave guard to prevent hoisting rope from jumping off grooves and to prevent possible entrapment on both sides of the floor penetrations.
- n. Design and construct the hoisting machine based on passenger elevator cab enclosure weight as specified and as shown on the architectural drawings.

D. Deflector Sheave

- 1. Provide wire rope deflector sheave(s) with related apparatus and structural mounting supports.
 - a. Locate and size new sheave to maximize use of available clearances maintaining the present car and counterweight hitch drops.
 - b. New support bearings shall be of a roller type designed for a minimum of twice the total load calculation.
 - c. The sheaves shall be equipped with suitable lubrication devices.
 - d. The deflector sheave shall be provided with means to guard the hoist ropes, so they do not jump out of their respective grooves during a slack rope condition.
 - e. Required new mounting beams and structural supports shall be interfaced with existing building structures as may be modified under the terms of this contract for the new design rated loading where applicable.

E. Machine Brake

- 1. Provide an electro-mechanical brake.
 - a. Drum or disk-type brakes shall be spring applied and electrically released.
 - b. Design the brake electro-magnet for quick release and application of brake shoes.
 - c. Swivel type brake shoes shall be applied to the braking surface (pulley or disk).
 - d. The brake lining material shall be non-asbestos and shall be attached to two (2) cast iron shoes.
 - e. The brake pulley or disk shall act as the coupling between the drive motor shaft and the worm shaft.
- 2. The brake shall be designed and adjusted to safely hold 125% of rated full load capacity in accordance with applicable code.

F. VVVF AC Drive

- 1. Provide a solid-state, variable voltage, variable frequency (VVVF), 3-phase AC hoist motor drive system as part of the microprocessor-based equipment.
 - a. VVVF drive system shall be a low-noise, flux-vector inverter device.
 - b. Include a digital LED readout and touch-key pad to facilitate software parameter adjustments, monitor system operation and display fault codes.

2. The drive shall utilize a 3-phase, full wave rectifier and capacitor bank to provide direct current power for solid-state inversion.
3. The inverter shall utilize IGBT power semiconductors and duty cycle modulation fundamental frequency of not less than one kilohertz to synthesize 3-phase, variable voltage variable frequency output.
4. The system shall be designed and configured with the following countermeasures for noise generated by the pulse-width modulated (PWM) inverters.
 - a. Control of radiated noise via inverter and/or motor cables.
 - b. Conducted noise through power lines.
 - c. Induction noise and ground noise.
5. Inverter shall be encased in metal and independently grounded.
6. A noise filter for the input power line shall be provided to prevent penetration into radios, wireless equipment and smoke detectors.
7. A three percent (3%) three-phase line reactor shall be provided on the power system rated at the utility voltage input to the drive and sized for the rated drive current.
8. The drive shall:
 - a. Be configured as a complete digital drive system.
 - b. Be totally software configurable.
 - c. Interface with external equipment/signals via either discrete local I/O connections or high-speed Local Area Network (LAN).
 - d. Be located within the limits of the control cabinet (where system size allows) or separately mounted in an appropriate chassis with hinged swing-out doors with clearances equal to the cabinet width dimensions.
 - e. Provide programmable linear or S-curve acceleration.
 - f. Provide free run or programmable linear or S-curve deceleration.
 - g. Have controlled reversing.
9. Operating and Environmental Conditions:
 - a. Have a service factor of one (1.0).
 - b. Rated for continuous duty.
 - c. Humidity – ninety percent (90%) rated humidity non-condensing.
 - d. Cooling - forced air when required.
 - e. Digital display for:
 - 1) Running - output frequency, motor RPM, output current, voltage.
 - 2) Setting - Parameters values for setup and review.
 - 3) Trip - separate message for each trip, last thirty (30) trips to be retained in memory.
10. Protective Features:
 - a. Motor overspeed.

- b. Adjustable current limit.
- c. Isolated control circuitry.
- d. Digital display for fault conditions.
- e. Selectable automatic restart at momentary power loss.
- f. Manual restart.
- g. Over/Under Voltage.
- h. Line to line and line to ground faults.
- i. Over-temperature.

G. VVVF AC Drive-Regenerative Module

- 1. The system shall provide full regenerative capabilities to control overhauling motor speed and reduce hoist motor deceleration time by allowing overhaul power to be discharged back into the power lines.
 - a. The regenerative section may be an integral part of the drive, or a stand-alone unit mounted in a separate cabinet with proper ventilation as required by the manufacturer.

H. Overspeed Governor

- 1. Provide a speed governor, located overhead, to operate the car safety.
 - a. Maintain the proper tension in the governor rope with a weighted tension sheave located in the pit.
 - 1) Springs used to develop the tension are not acceptable.
 - b. Provide rope grip jaws, designed to clamp the governor rope to actuate the car safety upon a predetermined overspeed downward.
 - 1) The centrifugal type governor shall trip and set rope jaws within sixty (60) degrees of governor sheave rotation after reaching rated tripping speed.
 - c. Design the governor rope tripping device so that no appreciable damage to or deformation of the governor rope shall result from the stopping action of the device in operating the car safety.
 - d. Provide an electrical governor overspeed protective device which shall remove power from the driving machine motor and brake before or at the application of the safety.
 - 1) The setting for the overspeed switch shall be as prescribed in the ASME A17.1 Safety Code.
 - 2) Locate and enclose the switch to ensure that excess lubrication will not enter the switch enclosure.

3) Overspeed switch shall operate in both direction of travel on systems employing a static power drive unit.

- e. Seal and tag the governor with the running speed, tripping speed and date last tested.
- f. Design the governor to prevent false tripping due to conditions caused by rope dynamics.
- g. If existing building conditions permit, configure new governors to be located within the machine room in lieu of secondary space.

I. Equipment Isolation

- 1. Provide sound reducing vibration isolation elements at all support points of elevator controller, solid-state motor drives, isolation transformers, reactance units, hoisting motors and machines.
- 2. The elements for controllers, solid-state motor drives and isolation transformers shall be similar to double deflection neoprene-in-shear mounts, as manufactured by Mason Industries, Type ND, with 0.35" static deflection under design load ratings.
- 3. Elements between the hoisting machine unitized base and machine support beams shall be similar to triple layer ribbed neoprene pads, separated by appropriate steel shims as manufactured by Mason Industries, Type W pads, at 50 durometer, loaded for 40 psi or approved equal.
- 4. All bolts through isolation elements, where necessary, are to incorporate resilient washers and bushings.
- 5. Isolation of existing hoisting machine and motor is contingent on the OEM design of the apparatus.
 - a. Existing isolation pads shall be replaced with new.

J. Sequential Transformer Contactor / Controller

- 1. Where step-up, step-down or isolation transformers are used, provide each elevator with an electrical disconnect panel located between the main line disconnect and the transformer.
- 2. The electrical disconnect panel shall have the following features:
 - a. A properly sized contactor to interrupt the main line wiring to the car transformer rated for a minimum of 500,000 operations.
 - b. An internal timer for contactor control adjustable from five (5) to thirty (30) seconds.
 - c. A push-activated emergency disconnect switch to deactivate the line contactor.
 - d. A timer bypass switch to manually bypass internal timer operation.
 - e. A jewel to indicate that the unit is active, and the contactor is engaged.
 - f. Terminals for external supervisory control to facilitate group to group sequencing as required.

3. Mount the components in a ventilated NEMA rated cabinet or in the controller.
4. Mount the sequence controller in close proximity to, or bundled with, the isolation transformer enclosure.
 - a. Where conditions allow, the contactor may be installed within the confines of the controller cabinet.
 - b. Timing and bypass circuitry shall be located within the cabinet and properly identified.

K. Overhead / and Governor Stop Switches

1. Provide a positive action stop switch at the following locations as required by applicable code:
 - a. Overhead machine/sheave space.
 - b. Secondary level.
2. The switch shall be arranged to prevent the application of power to the hoist motor and machine brake when placed in the “OFF” position.
 - a. Clearly identify the switch with permanent marking on the switch cover that indicates “RUN” and “STOP” positions.

L. Emergency Brake

1. Ascending Car Overspeed Protection Device
 - a. Provide a device designed to prevent an ascending elevator from striking the hoistway overhead structure.
 - b. The device shall decelerate the car with any load up to the rated capacity by applying an emergency brake.
 - 1) The device shall detect an ascending car overspeed condition of not greater than ten percent (10%) higher than the speed that the car governor is set to trip.
 - 2) The device, when activated, shall prevent operation of the car until the device is manually reset.
 - 3) The device shall meet the requirements of the ASME A17.1 Safety Code as may be modified by the AHJ.
2. Unintended Car Movement Protection Device
 - a. Provide a device to prevent unintended car movement away from the landing when the car and hoistway doors are not closed and locked.
 - 1) The device shall prevent such movement in the event of failure of:

- a) The electric driving machine motor.
 - b) The brake.
 - c) The machine shaft or shaft coupling.
 - d) Machine gearing.
 - e) Control system.
 - f) Any component upon which the speed of the car depends.
 - g) Suspension ropes and the drive sheave of the traction machine are excluded.
- 2) The device shall prevent operation of the car until the device is manually reset.
 - 3) The device shall meet the requirements of the ASME A17.1 Safety Code as may be modified by the AHJ.
3. Where the installation of the Emergency Brake involves the raising of existing hoisting machines or modifications to the machine room slab, the contractor shall provide necessary engineering data, structural review and drawings as part of the submittal process.

2.6 HOISTWAY EQUIPMENT

A. Guide Rails / Inserts / Brackets (Reuse)

- 1. Car and counterweight guide rails, fishplates, rail brackets, backing support and related attachments shall be inspected to determine if unfavorable conditions exist that diminish the structural integrity of any component.
 - a. In the event substandard conditions are disclosed by means of this inspection, the Contractor shall immediately inform the Consultant as to the exact nature of said problems and then undertake whatever repairs and/or replacements the Consultant may deem appropriate to remedy the situation.
- 2. Each stack of guide rails shall be individually examined to determine if excessive compression has occurred from building settlement.
 - a. In the event such conditions are found to exist, each affected stack shall be cut off enough to relieve pressure.
 - b. Jacking bolts shall be provided underneath each stack of both car and counterweight guide rails.
- 3. Each stack of guide rails shall be realigned so that total deviation from plumb in any direction does not exceed 1/8" over the entire length of the hoistway and that DBG measurements never vary more than .030".
- 4. As required, car guide rails joints shall be individually filled, filed and sanded in order to eliminate minor variations in adjoining machined surfaces.

B. Counterweight Assembly (Reuse)

1. The existing counterweight assembly shall be refurbished to as new condition and reused.
2. Individual counterweight frame members shall be inspected for any indication of damage and to determine if the overall assembly is twisted, racked, or otherwise distorted.
 - a. All fastenings between counterweight frame members shall be individually examined, tightened and if necessary renewed.
 - b. In case any of these conditions are found to exist, the Contractor shall immediately inform the Consultant about the exact nature of the problem and undertake whatever corrective action the Consultant may deem appropriate to remedy the situation.
3. The amount of filler weight placed within the counterweight frame shall be adjusted so the weight of the entire counterweight assembly is equal to that of the renovated elevator car, plus forty to forty-two percent (40-42%) of its rated loading capacity unless otherwise required by a manufacturer where new hoisting machinery is employed.
 - a. Filler weights shall be held securely in place at all times with tie rods passing through holes in both the weights and the counterweight frame with tie rods secured on each end with double lock nut and a cotter pin arrangement.

C. Roller Guides (Refurbish)

1. The existing roller guide assemblies shall be retained and rebuilt for new.
 - a. Replace all worn rollers, bearings, shafts, pivot pins, tensioning devices, shock absorbers and adjustment hardware.
 - b. Realign guide stands to frame mountings.
 - c. Reset roller tensioning in conjunction with static balancing of the car enclosure after cab or other apparatus are installed.
 - d. Replace roller guide assemblies as necessary to meet the performance criteria specified herein.
2. Contractor may provide new roller guide assemblies, of equal or greater quality, in lieu of rebuilding the existing, as part of the base bid subject to the approval of the Consultant. Costs associated with replacement shall also be included in the base bid cost.

D. Hoist Ropes

1. Pre-formed traction steel wire rope, specifically constructed for elevator applications, shall be provided for suspension of the elevator car and counterweight assembly.
 - a. Fastenings shall be accomplished by use of individual tapered rope sockets (wedge clamp) with adjustable shackles.

- b. General design requirements for rope shackles and the method of securing wire rope shall conform with ASME A17.1 elevator safety code as modified by, and/or in addition to codes and standards accepted by the AHJ.
 - 2. New rope shackles shall be provided.
 - 3. Provide anti-spinout as required by applicable code at all shackles where applicable.
 - 4. Coated steel belts with steel cords embedded in polyurethane case may be used in lieu of conventional steel hoist ropes subject to approval of the AHJ.
 - a. Belts shall be UL listed and non-combustible.
 - b. Belt monitoring device shall be provided
- E. Governor Rope (New)
- 1. Pre-formed wire rope specifically constructed for elevator applications, shall be provided for governor ropes.
 - a. Rope shall be traction steel or iron in accordance with OEM design requirements.
 - b. Rope diameter and method of fastening shall be in accordance with ASME A17.1 Safety Code as adopted and/or otherwise modified by the AHJ.
- F. Compensating Ropes (Conditional Reuse) To be determined by final product selection.
- 1. Existing wire compensation ropes shall be examined and evaluated for replacement.
 - a. All ropes demonstrating significant wear, dry lubrication cores or any deterioration, reducing the projected life to less than five (5) years, shall be renewed in conjunction with the modernization procedure.
 - 1) Necessary new pre-formed traction steel wire ropes, specifically constructed for elevator applications, shall be provided for compensating ropes.
 - 2) Ropes shall be of sufficient diameter and number so as to offset the unbalanced weight of hoist ropes and traveling ropes.
 - 2. Fastenings shall be accomplished by use of individual tapered rope sockets with adjustable shackles.
 - a. Where O.E.M. method of fastening does not employ shackles, duplicate the original design method.
 - b. Where shackles are required, general design requirements for rope shackles and the method of securing wire rope shall conform with ASME A17.1 Safety Code as adopted and/or otherwise modified by the AHJ.
 - 3. Provide anti-spinout as required by applicable code at all shackles.
- G. Electrical Conduit / Wiring / Traveling Cable (New)

1. Electrical wiring shall be provided.
 - a. All wiring shall be stranded copper conductors, manufactured in compliance with ANSI/ASTM B174-71 and UL 62 requirements, and polyvinyl chloride insulation complying with ETT requirements of UL 62 and Article 400 of the National Electric Code.
 - b. Electrical wiring provided for hoistway interlock shall be of a flame-retardant type, capable of withstanding temperatures of at least 392 degrees Fahrenheit. Conductors shall be Type SF or equivalent.
 - c. Each run of electrical conduit or duct shall contain no less than ten percent (10%) spare wires and, in any case, no fewer than two (2) spare wires.
 - d. Crimp-on type wire terminals shall be used where possible.

2. New traveling cable shall be provided.
 - a. Each traveling cable shall be provided with a flame- and water-resistant polyvinyl chloride jacket.
 - b. Electrical wiring shall consist of stranded copper conductors, manufactured in compliance with ANSI/ASTM B174-71 and UL 62 requirements, and polyvinyl chloride insulation complying with ETT requirements of UL 62 and Article 400 of the National Electric Code.
 - c. Each traveling cable shall contain no less than ten percent (10%) spare wires.
 - d. Traveling cable exceeding 100' in length shall be provided with a steel wire rope support strand from which the cable shall be suspended.
 - e. Traveling cable must be contained within an approved electrical conduit to within six feet (6') of the final suspension point in the hoistway.
 - f. Each traveling cable shall be arranged to provide no fewer than six (6) individually shielded pairs of 20-gauge wire and arranged to contain no less than one (1) coaxial cable for CCTV remote monitoring.
 - g. Traveling cable conductors that terminate at a hoistway center box shall be connected to stud blocks provided for that purpose.
 - 1) Each wiring terminal shall be clearly identified by its nomenclature as shown on the "as built" wiring diagrams and solderless, crimp-on type wire terminals shall be used where possible.
 - h. The attachment of a traveling cable to the underside of the elevator car shall be performed so that a minimum loop diameter of thirty times (30x) the cable diameter is provided.
 - i. Pre-hang the cables for at least twenty-four (24) hours with ends suitably weighted to eliminate twisting during operation.

3. Rigidly supported EMT conduit, flexible metal conduit and galvanized steel trough shall be utilized throughout the hoistway.

- a. Both EMT and flexible conduit shall be connected on either end by use of compression fittings and secured in place with metal clamps sized in accordance with the diameter of conduit utilized.
 - 1) Wire or plastic wire ty-raps shall not constitute an acceptable means of fastening.
- b. The use of flexible metal conduit shall be limited to runs not greater than three feet (3') in length.
- c. All abandoned or unused electrical conduit shall be removed from the hoistway.
- d. Existing conduit and wiring duct may be reused if suitable for the application.
 - 1) Reuse of existing conduit/duct shall be at the discretion of the Consultant.

H. Normal and Final Terminal Stopping Devices (New)

- 1. Provide normal terminal stopping devices to stop the car automatically from any speed obtained under normal operation within the top and bottom overtravel, independent of the operating devices, final terminal stopping device and the buffers.
- 2. Provide final terminal stopping devices to stop the car and counterweight automatically from the speed specified within the top clearance and bottom overtravel.
- 3. The terminal stopping devices shall have rollers with rubber or other approved composition tread to provide silent operation when actuated by the cam fixed to the top of the car.
 - a. Terminal stopping devices that are not mechanically operated (i.e.: magnetic proximity) shall be provided by the manufacturer of the control equipment, intended for use as a terminal limit, and designed for reliable operation in the hoistway environment.
- 4. Final terminal limits shall be pinned so as to prevent movement after final adjustment where required by the AHJ.

I. Top Terminal Limit Bypass Switch (New)

- 1. Provide new terminal limits at the current top terminal landing.
- 2. Provide new terminal limits at the lower terminal landing with a manually reset-type final limit.
- 3. Provide a key operated switch to by-pass the new top terminal stopping devices that functions only when the elevator is on top of car inspection.
 - a. Label the new key operated switch "Terminal By-Pass".
 - b. The key shall have two (2) positions "By-Pass" and "Normal".
- 4. Locate the switch in the hoistway in the vicinity of the terminal limits that will be by-passed through its operation.

5. The elevator shall not be able to be removed from top of car inspection until the By-Pass switch is in the “Normal” position.

J. Emergency Terminal Stopping Device

1. Provide necessary emergency terminal stopping devices where static motor control is used at speeds over 200 feet per minute.
 - a. Operation of the device shall be independent of the operation of the normal terminal stopping device.
 - b. Arrange the device to remove power from the driving machine motor and brake should the normal terminal stopping device fail to cause the car to slow down at the terminal as intended.

2.7 PIT EQUIPMENT

A. Car and Counterweight Buffer (Refurbish)

1. Existing car and counterweight buffers shall be reused. Subject to passing of all required testing per the AHJ.
 - a. Pit channels, related supports and fastenings shall be inspected for damage and to determine if the structural integrity of any component is diminished by the effects of rust or other unfavorable conditions.
 - 1) In the event defects are found, the Contractor shall immediately inform the Consultant and undertake whatever repair and/or replacement the Consultant may deem appropriate.
 - b. Surface rust shall be removed from all reused components.
 - c. Where hydraulic buffers are used:
 - 1) Buffer plunger shall be honed free of all surface rust and blemishes and provided with a protective coating of machinist bluing.
 - 2) The hydraulic fluid reservoir on each buffer shall be drained, flushed and refilled with fresh oil. The grade and amount of fluid added to each buffer shall conform to O.E.M. specification.
 - d. Provide a permanent buffer marking plate which indicates the manufacturer's name, identification number, rated impact speed and stroke.
 - e. Provide a permanent data plate in the vicinity of the counterweight buffer indicating the maximum designed counterweight runby in accordance with ASME A17.1 as may be modified by, and/or in addition to codes and standards accepted by the AHJ.

- f. The buffer shall undergo testing in accordance with ASME A17.1 Code as modified by, and/or in addition to codes and standards accepted by the AHJ.

B. Compensating Sheave Assembly (Refurbish)

1. The compensating sheave assembly shall be washed clean of accumulated grease and oil, then examined for any indication of bearing or bearing seal failure.
2. Bearings which are found to emit unusual noises, appreciable vibration, excessive heat, or other unfavorable characteristics during operation shall be replaced.
3. Defective grease retention seals shall be replaced as part of this scope of work.
4. Compensating sheave guide rails, supports and fastenings shall be inspected for damage and to determine if the structural integrity of any component is diminished by the effects of rust or other unfavorable conditions.
 - a. Where necessary, the Contractor shall undertake whatever repairs and/or replacements are necessary to remedy the situation.
5. Surface rust shall be removed from all reused components of the compensating sheave assembly prior to repainting.
6. The compensating sheave assembly shall be provided with manually reset electrical safety switches to trip prior to the sheave reaching the normal limit of its travel in either vertical direction.
 - a. When in the tripped position, the electrical safety switch shall remove power from the hoist motor and machine brake.
 - b. An existing electrical safety switch that meets the requirement set forth herein may be refurbished to as new condition and reused.
7. Where applicable, the existing compensating sheave tie-down shall be dismantled and inspected for any indication of damage or other unfavorable conditions that might interfere with their proper operation.
 - a. Where necessary, the Contractor shall undertake repairs and/or replacements to remedy the situation.
8. Tie-down shall be lubricated as necessary and set to O.E.M. specifications upon completion of repairs.

C. Governor Rope Tension Assembly (New)

1. Provide a new governor rope tension assembly.
 - a. Maintain the proper tension in the governor rope with a weighted tension sheave located in the pit.
 - 1) Springs used to develop the tension are not acceptable.

- b. The sheave shall be of proper diameter and set directly plumb with the governor rope drop to prevent the rope from pulling off of the sheave at an angle.
- c. Lubrication fittings shall be provided on the assembly.
- d. The assembly shall have necessary rope guards to prevent accidental contact of the rope/sheave by service personnel and to prevent the governor rope from jumping off of the sheave.

D. Pit Stop Switch (New)

1. Where a walk-in pit exists, each elevator shall be provided with a push/pull or toggle switch that is conspicuously numbered and designated “EMERGENCY STOP”.
 - a. The location of this stop switch shall be approximately forty-seven inches (47”) above the pit floor at the nearest point of pit entry from the access door.
 - b. This switch shall be arranged so as to prevent the application of power to the hoist motor and machine brake when placed in the “OFF” position.
2. Provide an electric contact safety switch for the pit access door if any equipment attached to the car extends within the space of the hoistway pit when the car is level at the bottom terminal landing.
 - a. Opening the pit access door shall cause the electric contact switch to stop the elevator by interrupting electric power to the driving machine and brake.
 - b. Provide a sign on the pit door “WARNING – OPENING OF PIT DOOR WILL STOP ELEVATOR” using lettering a minimum of two (2) inches high.
3. Existing stop and/or pit door switch conforming to the requirements set forth herein may be refurbished to as new condition and reused subject to approval of the Consultant.

2.8 HOISTWAY ENTRANCES

A. Hoistway Entrances (Refurbish)

1. Hoistway entrance sills, sill supports, entrance frames, headers and header supports shall be reused and refurbished.
 - a. Hoistway entrances that have become distorted or bent shall be straightened, plumbed, reset to the proper width dimension and reinforced, as necessary.
 - b. Provide 14-gauge steel fascia plates that extend at least the full width of the door and be secured at hanger support and sill with oval head machine screws.
 - 1) Reinforce fascia to allow not more than ½” of deflection.
 - 2) Provide fascia plates where the clearance between the edge of the loading side of the platform and the inside face of the hoistway enclosure exceeds the code allowed clearance.

- c. Provide 14-gauge steel toe guards that extend twelve inches (12") below any sill not protected by fascia.
 - 1) The toe guards shall extend the full width of the door and shall return to the hoistway wall at a fifteen (15) degree angle and be firmly fastened.
- d. Remove oil, dirt and impurities on new and existing apparatus and give a factory coat of rust inhibitive paint to all exposed surfaces of struts, hanger supports, covers, fascias, toe guards, dust covers and other ferrous metal.

B. Hoistway Entrance Door Panels (Refurbish)

- 1. Hoistway entrance door panels shall be reused and refurbished.
 - a. Provide each door panel with two (2) removable laminated plastic composition guides, arranged to run in existing sill grooves with a minimum clearance.
 - 1) The guide mounting shall permit their replacement without removing the door from the hangers.
 - 2) A steel wear indicator shall be enclosed in each guide.
 - b. Provide the meeting edge of center opening doors with necessary new continuous rubber astragal bumper strips.
 - 1) Astragal shall be relatively inconspicuous when the doors are closed.
 - 2) Provide rubber bumpers at the top and bottom of each section of door to stop them at their limit of travel in the opening direction.
- 2. In multi-speed door arrangements, provisions shall be made to interlock the individual panels so all panels close should the normal door panel relating means fail.
- 3. Provide a special key so that an authorized person can open any landing door when the car is elsewhere.
 - a. The key hole shall be not less than 3/8" in diameter and shall be fitted with a stainless steel or bronze ferrule to match related equipment.
 - b. Where applicable, plug the abandoned hoistway door access hole in each door panel, secured from the hoistway side of the door, finished to match existing or as otherwise directed by the Owner/Architect.
- 4. Where conditions warrant, or where otherwise required by code, equip all hoistway landing doors with one (1) piece full height non-vision wings of material and finish to match hall side of door panels.

C. Tracks / Hangers / Closers / Related Equipment (New)

- 1. New formed or extruded steel landing door hanger tracks shall be provided.

2. Each landing door panel shall be suspended from a pair of door hanger assemblies that are compatible with the hanger tracks.
 - a. Hanger assemblies shall be directly mounted to the door panel using 3/8" diameter or better hardware.
 - b. Solid steel blocks shall be used where job-site conditions dictate the use of spacers between hanger assemblies and the landing door panel.
 - c. Hanger assemblies shall be adjusted or shimmed so that door panels are suspended in a plumb manner with no more than 3/8" vertical clearance to the cab entrance threshold.
 - d. Upthrust rollers shall be adjusted for minimal operating clearance against the bottom edge of the hanger track.
 - e. Means shall be provided to prevent hangers from jumping the track.
 - f. Blocks shall be provided to prevent rollers from overrunning the end of the track.
3. Each set of multi-speed side slide landing doors shall be provided with a sill-mounted spring closing mechanism with necessary door panel relating hardware.
4. In multi-speed door arrangements, provisions shall be made to interlock the individual panels so all panels close should the normal door panel relating means fail.
5. Where applicable, each hoistway door interlock assembly shall be provided with an emergency release mechanism utilizing manufacturers' standard type access key at all landings served.
 - a. Drill each hoistway door to accommodate manufacturers standard lock release key and install escutcheon.
 - 1) Escutcheon shall be brushed stainless steel to match door panels where required.
 - 2) Aluminum shall be provided at all other typical floors.
6. Where multi-speed side slide door panels exist, provide a secondary interlocking device that will prevent separation of the panels should the sill closer or relating cable(s) fail.

D. Hoistway Door Bottom Guides / Safety Retainers (New)

1. The bottom of each side sliding type hoistway door panel shall be equipped with a minimum of two (2) guiding members.
 - a. Metal mounting angles shall be secured to the integral panel frame structure; and when conditions warrant, additional external metal support plates or angles shall be installed to ensure the integrity of the panel frame is not compromised.
 - b. Guides shall be manufactured of low friction non-metal material with sufficient strength to withstand forces placed on door panels per ASME A17.1 Standards.
 - c. Each guide assembly shall incorporate a steel wear indicator and be so designed to permit sliding member replacements without removal of door panel(s) from top hanger devices.

- d. Panels shall be hung with a maximum vertical clearance of 3/8 inch between top of sill and bottom of panel and the guide shall engage the sill groove by not less than 1/4 inch.
2. The bottom of each side sliding type hoistway door panel shall be equipped with a guiding member safety retainer to prevent displacement in the event of primary guide means failure.
 - a. A metal reinforcement (12 gauge stainless or galvanized steel) shall be installed between the two (2) primary guiding members (a.k.a. "Z" bracket).
 - b. The reinforcement shall be designed with a minimum length of eight (8) inches or the maximum possible length that will fit between the primary members and a minimum overall height of two and one-half (2.5) inches secured on the internal face of the door panel. (Hoistway side)
 - c. The retainer shall be set with the supplemental safety angle 3/8 inch into the corresponding sill groove; and be capable of preventing displacement of the panel no more than 3/4 inch with an applied force of 1125 lbf at right angles over an area twelve (12) inches x twelve (12) inches at the approximate center of the door panel.

2.9 CAR EQUIPMENT / FRAME

A. Car Frame (Refurbish)

1. The existing car frame assembly shall be refurbished to as new condition and reused.
2. Individual car frame members, platform isolation framework, door operator support structure, related bracing and hardware shall be inspected for any indication of damage or distortion.
 - a. Where damage is detected, the Contractor shall immediately inform the Consultant and then undertake corrective action deemed appropriate by the Consultant to remedy the condition.
3. Provide new elastomer isolation pads for all existing platforms where pads are presently installed.
4. The car frame, door operator support and related bracing shall be modified or reconfigured as necessary in order to accommodate new cab enclosure and/or master door operating equipment specified herein.
5. The elevator car shall undergo static balancing upon substantial completion of all work described in the project specifications and subsequent to any car interior refinishing or cab replacement work performed in conjunction with the project.
6. The 2:1 rope sheave shall be refurbished:
 - a. The sheave shall be washed clean of accumulated grease and oil.

- b. Bearings which are found worn or to emit unusual noises, appreciable vibration, excessive heat, or other unfavorable characteristics shall be replaced.
- c. Defective grease retention seals shall be replaced as needed.
- d. Provide means to ensure that hoist ropes cannot jump out of their respective grooves in case of a slack rope condition.

B. Car Platform (Refurbish)

- 1. The existing platform shall be modified to accommodate the new apparatus specified herein.
 - a. Where necessary, the underside of platform shall be refurbished and treated with fire-rated material.
 - b. Where necessary, provide a new safety access hole ring and cover assembly to match selected cab finishes.
 - c. At Contractor's option or when conditions warrant, provide a totally new platform in lieu of repairs, modifications and upgraded specified above.

C. Car Safety (Refurbish assuming all testing requirements of the AHJ are met)

- 1. Provide a governor actuated mechanical safety device mounted under the car platform and securely bolted to the car sling.
- 2. The car safety shall be sized for the capacity and speed noted herein.
 - a. When tripped, the safety mechanism shall engage the rails with sufficient force to stop a fully loaded car with an average rate of retardation within the limits given in A17.1 Safety Code as adopted and/or otherwise modified by the AHJ.
- 3. Install a car safety marking plate of corrosion resistant metal and, in addition to the data required by Code, indicate the manufacturer's name and manufacturer's catalog designation number for safety.
- 4. Make provisions to release the car safety. In no event shall the safety be released by downward motion of the car. Raising the car to reset the safety shall be allowed.
- 5. Provide an electrical safety plank switch that will interrupt the power to the hoist machine and apply the machine brakes when the safety is set.

D. Automatic Leveling / Releveling / Positioning Device (New)

- 1. Equip the elevator with a floor leveling device which shall automatically bring the car to a stop within 1/4" of any floor for which a stop has been initiated regardless of load or direction of travel.
- 2. This device shall also provide for releveling which shall be arranged to automatically return the elevator to the floor in the event the elevator should move below or above floor level in excess of 1/4".
- 3. This device shall be operative at all floors served and whether the hoistway or car door is open or closed provided there is no interruption of power to the elevator.

4. A positioning device shall be part of the controller microprocessor systems.
 - a. Position determination in the hoistway may be through fixed tape in the hoistway or by sensors fitted on each driving machine to encode and store car movement.
 - b. Design the mechanical features and electrical circuits to permit accurate control and rapid acceleration and retardation without discomfort.
5. Where there are consecutive floors/stops that are short stops, the system shall be capable of distinguishing between the two (2) landing zones without error.
6. All equipment and logic required for leveling system to properly function with short stops shall be included.

E. Top-of-Car Inspection Operating Station (New)

1. An inspection operating station shall be provided on top of the elevator car.
2. This station shall be installed so that the controls are plainly visible and readily accessible from the hoistway entrance without stepping on the car.
3. When the station is operational, all operating devices in the car shall be inoperative.
4. Provide the following control devices and features:
 - a. A push/pull or toggle switch designated “EMERGENCY STOP” shall be arranged so as to prevent the application of power to the hoist motor or machine brake when in the “off” position.
 - b. A toggle switch designated “INSPECTION” and “NORMAL” to activate the top of car Inspection Service Operation.
 - c. Push button designated “Up”, “Down” and “Enable” to operate the elevator on Inspection Service (the “Enable” button shall be arranged to operate in conjunction with either the “Up” or “Down” button).
 - d. An indicator light and warning buzzer that are subject to activation under Phase I - Fire Emergency Recall Operation.

F. Load Weighing Device (New)

1. Provide means to measure the load in the car within an accuracy of \pm four percent (4%) of the elevator capacity.
2. Provide one (1) of the following types of devices:
 - a. A device consisting of four (4) strain gauge load cells located at each corner of the car platform and supporting a free-floating car platform and cab with summing circuits to calculate the actual load under varying conditions of eccentric loading.
 - b. A strain gauge device located on the crosshead, arranged to measure the deflection of the crosshead and thus determine the load in the car.
 - c. A device consisting of four (4) strain gauge load cells, supporting the weight of the elevator machine with summing circuits to calculate the actual load under varying conditions of load.

- d. A device to measure the tension in the elevator hoist ropes and thus determine the load in the car.
 3. Arrange that the output signal from the load weighing device be connected as an input to the signal and motor control systems to pre-torque of the hoisting machine motors where applicable.
 4. Provide audible and visual signals in connection with the load weighing device when used as an “overload” device.
- G. Car Enclosure Work Light / Receptacle (Refurbish/New)
1. The top and bottom of each car shall be provided with a permanent lighting fixture and 110-volt GFI receptacle.
 2. Light control switches shall be located for easy accessibility from the hoistway entrance.
 3. Where sufficient overhead clearance exists, the car top lighting fixture shall be extended no less than twenty-four inches (24”) above the crosshead member of the car frame.
 4. Light bulbs shall be guarded so as to prevent breakage or accidental contact.
- H. Master Door Power Operator System – VVVF/AC (New)
1. Provide a new heavy-duty master door operator on top of the elevator car enclosure for power opening and closing of the cab and hoistway entrance door panels.
 2. The operator may be of the pivot/lever or belted linear drive type.
 3. Operator shall utilize an alternating current motor, controlled by a variable voltage, variable frequency (VVVF) drive and a closed-loop control with programmable operating parameters.
 - a. System may incorporate an encoder feedback to monitor positions with a separate speed sensing device or an encoderless closed-loop VVVF-AC control to monitor motor parameters and vary power applied to compensate for load changes.
 4. The type of system shall be designated as a high-speed operator, designed for door panel opening at an average speed of two (2.0) feet per second and closing at approximately one (1.0) foot per second.
 - a. Reduce the closing speed as required to limit kinetic energy of closing doors to within values permitted by ASME A17.1 as may be adopted and/or modified by the AHJ.
 5. The door shall operate smoothly without a slam or abrupt motion in both the opening and closing cycle directions.
 - a. Provide controls to automatically compensate for load changes such as:
 - 1) Wind conditions (stack effect).
 - 2) Use of different weight door panels on multiple landings.

- 3) Other unique prevailing conditions that could cause variations in operational speeds.
 - b. Provide nudging to limit speed and torque in conjunction with door close signaling/closing and timing devices as permitted by ASME A17.1 as may be adopted and/or modified by the AHJ. Nudging shall be initiated by the signal control system and not from the door protective device.
 6. In case of interruption or failure of electric power from any cause, the door operating mechanism shall be so designed that it shall permit emergency manual operation of both the car and corridor doors only when the elevator is located in the floor landing unlocking zone.
 - a. The hoistway door shall continue to be self-locking and self-closing during emergency operation.
 - b. The door operator and/or car door panel shall be equipped with safety switches and electrical controls to prevent operation of the elevator with the door in the open position as per ASME A17.1 Code Standards.
 - c. Provide zone-lock devices as required by ASME A17.1 as may be adopted and/or otherwise modified by the AHJ.
 7. Construct all door operating levers of heavy steel or reinforced extruded aluminum members.
 8. Belts shall be designed for long life and operate noise free.
 9. All components shall be designed for stress and forces imposed on the related parts, linkages and fixed components during normal and emergency operation functions.
 - a. All pivot points, pulleys and motors shall have either ball or roller-type bearings, oilite bronze bushings or other non-metallic bushings of ample size.
 10. Provide operating data / data tag permanently attached to the operator as required by applicable code and standards.
- I. Car Door Hangers / Tracks / Gate Switch (New)
1. Provide sheave type two-point suspension hangers and track for each car door.
 - a. Sheaves shall be hardened steel, not less than 3-1/4 inches in diameter with sealed grease packed precision ball bearings.
 - b. The upthrust shall be taken by a roller mounted on the hanger and arranged to ride on the underside of the track.
 2. The track shall be of formed cold rolled steel or cold drawn steel and shall be rounded on the track surface to receive the hanger sheaves.
 - a. The track shall be removable and shall not be integral with the header.

3. Provide a gate switch that mounts directly to the car door track.
 - a. The gate switch shall prevent movement of the elevator until such time as it signals the control equipment that the car door has physically closed.

J. Car Door Gate Switch (New)

1. Provide a car door electrical safety (gate) switch that connects directly to the car door track.
 - a. The gate switch shall prevent movement of the elevator until such time as it signals the control equipment that the car door has physically closed.

K. Car Door Panels (New)

1. Provide New standard one inch (1”) thick, 14-gauge hollow metal flush construction panel(s), reinforced for power operation and insulated for sound deadening.
2. Paint the hoistway side of each panel black and face the cab side with 16-gauge sheet steel matching the existing returns or in selected material and finish as otherwise directed by Owner/Architect.
3. The panels shall have no binder angles and welds shall be continuous, ground smooth and invisible.
4. Drill and reinforce panels for installation of door operator hardware, door protective device, door gibs, etc.
 - a. Provide each door panel with two (2) removable laminated plastic composition guides, arranged to run in the sill grooves with minimum clearance.
 - b. The guide mounting shall permit their replacement without removing the door from the hangers.
5. Provide the meeting edge of center opening doors with necessary continuous rubber astragal bumper strips.
 - a. These strips shall be relatively inconspicuous when the doors are closed.

L. Door Reopening Device (New)

1. Provide a new infrared curtain door protection system.
2. The door shall be prevented from closing and reopen when closing if a person interrupts any one of the light rays.
3. The door shall start to close when the protection system is free of any obstruction.
4. The infrared curtain protective system shall provide:
 - a. Protective field not less than seventy-one inches (71”) above the sill.
 - b. Where a horizontal infrared light beam system is used:

- 1) A minimum of forty-seven (47) light beams.
 - 2) Accurately positioned infrared lights to conform to the requirements of the applicable handicapped code.
- c. Modular design to permit on board test operation and replacement of all circuit boards without removing the complete unit.
 - d. Controls to shut down the elevator when the unit fails to operate properly.
5. Existing infrared door protection systems, designed in accordance with the criteria specified herein, may be retained and refurbished for new subject to the Consultant's review and approval.

2.10 FINISH / MATERIALS / SIGNAGE

A. Material, Finishes and Painting

1. General

- a. Cold-rolled Sheet Steel Sections: ASTM A366, commercial steel, Type B
- b. Rolled Steel Floor Plate: ASTM A786
- c. Steel Supports and Reinforcement: ASTM A36
- d. Aluminum-alloy Rolled Tread Plate: ASTM B632
- e. Aluminum Plate: ASTM B209
- f. Stainless Steel: ASTM A167 Type 302, 304 or 316
- g. Stainless Steel Bars and Shapes: ASTM A276
- h. Stainless Steel Tubes: ASTM A269
- i. Aluminum Extrusions: ASTM B221
- j. Nickel Silver Extrusions: ASTM B155
- k. Bronze Sheet: ASTM B36(36M) alloy UNS No. C2800 (Muntz Metal)
- l. Structural Tubing: ASTM A500
- m. Bolts, Nuts and Washers: ASTM A325 and A490
- n. Laminated / Safety Tempered Glass: ANSI Z97.1

2. Finishes

a. Stainless Steel

- 1) Satin Finish: No. 4 satin, long grain.
- 2) Mirror Finish: No. 8 non-directional mirror polished.

b. Sheet Steel:

- 1) Shop Prime: Factory-applied baked on coat of mineral filler and primer.
- 2) Finish Paint: Two (2) coats of low sheen baked enamel, color as selected by the Architect.

- 3) Steel Equipment: Two (2) coats of manufacturer's standard rust-inhibiting paint to exposed ferrous metal surfaces in both the hoistway and pit that do not have galvanized, anodized, baked enamel, or special architectural finishes.

3. Painting

- a. Apply two (2) coats of paint to the machine room floor.
- b. Apply two (2) coats of clear lacquer to bronze or similar non-ferrous materials to prevent tarnishing during a period of not less than twelve (12) months after initial acceptance by the Owner or Agent.
- c. Identify all equipment including buffers, car apron, crosshead, safety plank, machine, controller, drive, governor, disconnect switch, etc., by four inch (4") high numerals which shall contrast with the background to which it is applied. The identification shall be either decalcomania or stencil type.
- d. Paint or provide decal-type floor designation not less than four (4) inches high on hoistway doors (hoistway side), fascias and/or walls as required by A17.1 as may be adopted and/or modified by the AHJ. The color of paint used shall contrast with the color of the surface to which it is applied.

B. Car Interior Finishes

1. Car interior finishes shall be as selected by Owner and/or Architect.
2. Contractor shall provide samples of finishes as required for approval prior to fabrication.
3. Refer to specifications for other design requirements where provided.
4. Special attention shall be given to flooring materials and suitability for intended duty.

2.11 FIXTURES / SIGNAL EQUIPMENT

A. General - Design and Finish

1. The design and location of the hall and car operating and signaling fixtures shall comply with the ADAAG and local requirements of the AHJ.
2. The operating fixtures shall be selected from the manufacturer's premium line of fixtures.
3. Signaling fixtures shall be coordinated to align with/conceal existing openings to avoid modifications to existing stone and molding within hall.
4. The layout of the fixtures including all associated signage and engraving shall be as approved by the Owner.
5. The buttons shall be as follows:
 - a. Stainless steel convex type as selected by the Owner from the manufacturer's premium line of push buttons.
 - b. The button shall have a collar indicator on the button with LED call registered light.

6. The faceplates shall be as follows:
 - a. Passenger Elevators
 - 1) Typical Floors: 1/8" thick flush mounted stainless-steel faceplate with No. 4 brushed finish.
7. Mount passenger elevator fixtures with concealed fasteners.
8. Where key-operated switch and or key operated cylinder locks are furnished in conjunction with any component of the installation, four (4) keys for each individual switch or lock shall be furnished, stamped or permanently tagged to indicate function.
9. All caution signs, pictographs, code mandated instructions and directives shall be engraved and filled with epoxy in code required colors.

B. Main Car Operating Panel (New)

1. Provide a new main car operating push button panel on the inside front return panel of the car
2. Car operating panel shall be flush mounted with swing type, one (1) piece faceplate with heavy-duty concealed hinges.
3. Mount all key switches that are required to operate and maintain the elevators. The push buttons shall become individually illuminated as they are pressed and shall extinguish as the calls are answered.
4. The operating panel shall include:
 - a. A call button for each floor served, located not more than forty-eight inches (48") above the cab floor.
 - b. "Door open" / "Door close" / buttons.
 - c. "Alarm" button, interfaced with emergency alarm. The alarm button shall illuminate when pressed.
 - d. "Emergency Stop" switch per local law located at thirty-five inches (35") above the cab floor.
 - e. Self-dialing, hands-free emergency communication system actuation button with call acknowledging feature and ASME A17.1. design provisions.
 - f. Three (3) position firefighter key operated switch, call cancel button and illuminated visual/audible signal system with mandated signage engraved per ASME A 17.1 Standards as modified by the AHJ.
5. Provide a locked service cabinet flush mounted and containing the key switches required to operate and maintain the elevator, including, but not limited to:
 - a. Independent service switch.
 - b. Light switch.
 - c. Fan switch.
 - d. G. F. I. duplex receptacle.
 - e. Emergency light test button and indicator.

- f. Inspection Service Operation key switch.
 - g. Port for hand-held service tool where applicable.
 - h. Card reader bi-pass key switch
6. Car operating panel shall incorporate:
- a. An integral (no separate faceplate) digital L.E.D. floor position indicator.
 - b. Emergency light fixture (without a separate faceplate) and black-filled engraved unit I.D. number or other nomenclature, as approved by Owner.
 - c. A “No Smoking” advisory.
7. Equip the main car operating panel with proximity card reader provisions to disconnect the corresponding floor push button.
- a. Security system shall be overridden by Phase II Firefighter’s Emergency Operations in accordance with code.
8. Post Inspection Certificate behind an opening in the car operating panel that is fitted with a flush-mounted clear Plexiglas without a frame.

C. Car Position Indicator (New)

1. The position of the car in the hoistway shall be indicated by the illumination of the position indicator numeral corresponding to the floor at which the car has stopped or is passing.
- a. Provide two-inch (2”) high, ten (10) segment LED type position indicator with direction arrows, integral with the car operating panel.
 - b. Provide Lexan cover lens with hidden support frame behind fixture plate to protect the indicator readout.
 - c. Provide audible floor passing signal per ADA standards where not provided by the elevator signal control.
 - d. Flush mount fixture with cover to match selected car front or car operating panel finish as directed by the Owner.
 - e. Provide cover plates to conceal existing car position indicator located within the car transom.

D. Voice Annunciator (New)

- 1. Provide a voice annunciator in each elevator.
- 2. The device features shall comply with the requirements of ADAAG and local accessibility requirements.
- 3. Coordinate size, shape and design with Designer and other trades.
- 4. The system shall include, but not limited to:
 - a. Solid state digital speech annunciator.

- b. A recording feature for customized messages.
 - c. Playback option.
 - d. Built-in voice amplifier.
 - e. Master volume control.
 - f. Audible indication for selected floor, floor status or position, direction of travel, floor stop, seismic operation, firefighter service and nudging.
5. Locate all associated equipment in a single, clearly labeled enclosure located either in the machine room and/or on car top.
- E. Corridor Push Button Station / Surface Mount / Existing Back-Boxes (New)
- 1. A riser of surface-mounted push button signal fixtures shall be provided on each landing.
 - 2. Each new signal fixture shall consist of:
 - a. An extended faceplate.
 - b. A wiring duct, internal to the faceplate, to facilitate wire run from the existing back-box to the new lower push buttons.
 - c. Up and down illuminating push buttons measuring 3/4" at their smallest dimension as selected by the Owner.
 - d. Provisions to fasten to the existing back-box and extend buttons to a height of forty-two inches (42") above the floor.
 - e. Installed both plumb and flush to the finished wall.
 - 3. Intermediate landings shall be provided with fixtures containing two (2) push buttons while terminal landings shall be provided with fixtures containing a single push button.
 - 4. Include firefighter key switch in the main lobby level station or other designated recall landing.
 - 5. Provide a digital floor position indicator with one inch (1") high numerals at all floors.
- F. Floor Position Indicator (New)
- 1. Remove existing floor position indicator and provide new digital LED type unit.
 - 2. The new plate shall completely cover the present cutout and provide two-inch (2") numerals located on center.
 - 3. Provide integral direction arrows that will indicate the direction in which the elevator is traveling.
- G. Hall Direction Lanterns (New)
- 1. Provide a visual and audible signal at each entrance to indicate the direction of travel and, where applicable, which car shall stop in response to the hall call.
 - a. Design the lantern with up and down indication at intermediate landings and a single indication at terminal landings.
 - b. Lanterns shall sound once for the up direction and twice for the down direction.

- 1) Provide an electronic chime with adjustable sound volume.
 - c. Provide adjustable signal time (three [3] to ten [10] seconds, with one [1] second increments) to notify passengers which car shall answer the hall call and preset per ADAAG notification standards.
2. Locate the lantern above the corridor entrance.
- H. Remote Monitoring System (EMIS) / Emergency Power Panel (New)
1. Provide a desk type interactive computer-based Elevator Management Information System (EMIS) with multi-display terminals for all traction elevators. The system shall include:
 - a. The desk type interactive computer-based Elevator Management Information System (EMIS) shall have:
 - 1) A desktop PC with the most current high-performance processor, Windows 7 (64-bit version), or later operating system.
 - 2) A twenty-three inch (23”) flat panel LED HD monitor.
 - 3) A color laser printer with 16 ppm B/W and 12 ppm color printing speed.
 - 4) A 104-key USB keyboard.
 2. Systems shall be located:
 - a. As directed by the Owner
 3. Design the system with split screen to display the information in graphic or tabular form as follows:
 - a. Graphic Status Display: Display of an elevation representation of every car in a group.
 - 1) Floor status.
 - 2) Group operational mode.
 - 3) Car status.
 - 4) Hall calls.
 - 5) Date and time, building and group identification.
 - b. The information indicated above (except for registered hall and car calls and floor security status) shall be displayed on screen simultaneously for each group connected to the EMIS for tabular format.
 - c. EMIS shall monitor various discrete signals from the elevator system and retain a log of up to the last 200 alarms/events.

- d. The system shall display current status on screen and, from the keyboard, shall allow modification of the security status of each car in the group, including car and hall call registration security lock-out.
4. The EMIS shall be capable of sending information to and receiving instructions from the building security computer (BMS).
5. The system shall provide the ability to use the keyboard to initiate and display interactive elevator operations, including but not limited to the following:
 - a. Display faults and events.
 - b. Display alarm messages.
 - c. Car and hall calls.
 - d. Modifications of some elevator parameters such as door times, etc.
 - e. Any other special operations.
 - f. Security car and hall push button locks shall be controlled on a per unit, per landing, per car or per group basis with fire control over-rides per code.
6. The system shall allow ability to view and print performance data for each group connected to the EMIS through the following screens:
 - a. Car operations screen showing the number of door operations, door reversals and car runs.
 - b. Car timing averages screen, showing averages for flight time, door opening and closing.
 - c. Hall calls screen shall show per group basis the number of hall calls in each direction broken down into the number answered in specified intervals.
 - d. Landing summary screen.
 - e. Any additional screens required.
7. The system shall provide the capability to view various reports generated from the data.
 - a. The following information for each group shall be shown in reports:
 - 1) Total number of hall calls (up/down).
 - 2) Average waiting times (up/down).
 - 3) Maximum wait and time at which it occurred.
 - 4) Number of car calls per car.
 - 5) Number of hall and car calls per landing (up/down).
 - 6) Average waiting time per landing.
 - 7) Histogram of registration times.
 - 8) For preset, adjustable time intervals for each car, a summary will be given of:
 - a) The number of door operations.
 - b) Car runs.
 - c) Averages of flight times and door times.

- 9) Record of every car and hall call registered.
 - 10) Record of all events and alarms.
8. Contractor shall be responsible for all wiring, conduit and network devices that may be necessary for a complete working installation.

I. Emergency Power Control Panel (New)

1. Provide the lobby console or other designated location with a control panel for emergency power operation as further specified.
 - a. An emergency power control panel provided at the designated location.
 - b. The panel shall contain:
 - 1) An indicator light that illuminates when a transfer to emergency power takes place.
 - 2) Indication that the elevators have arrived at the designated landing and have parked with the doors maintained in the open position.
 - 3) Key-operated override switch(es) and a manual selector switch(es) identified with positions for each elevator.
2. The control panel shall be engraved so as to identify the function of each control feature and device provided.
3. The Elevator Contractor shall provide all necessary electrical conduit and wiring between the elevator machine room(s), and the Emergency Power Control Panel.

2.12 CAR ENCLOSURES

A. Elevator Car Enclosure(s) and the Five Percent (5%) Rule:

1. In accordance with A17.1, Section 8.7, as adopted and/or modified by the AHJ, entitled “Alterations”, where a new or remodeled elevator car enclosure is included in the base scope of work, the Contractor shall, within thirty (30) days after execution of the contract, weigh the elevator, or one (1) elevator of each group of elevators included in the base scope of work, to determine the present deadweight of the platform/sling/cab assembly.
2. The Contractor shall, when necessary, weigh the interior materials of a single cab to better estimate the total existing weight of existing materials being removed as part of the alteration.
3. The Contractor shall make every effort to provide accurate weight measurements while taking into consideration all weights that may present themselves at the time the measurement is taken such as compensation, compensating sheave, hoist ropes and traveling cables that may affect the measurement of the assembly itself.
4. The Contractor shall evaluate the actual counterbalance percentage for each sample elevator to identify prevailing conditions.

5. Measurements of actual cab weight shall be compared to the original deadweight of the car as stamped on the crosshead data tag.
6. Where no data tag exists, the Contractor shall make every effort to determine the original weight of the platform/sling/cab through calculations based on the current weight of the counterweight assembly and the verified percent of full load counterbalance.
7. The amount of weight that may be added to the car, so as to remain within the limits of the "Five Percent (5%) Rule", shall be calculated based on the following:
 - a. $(\text{Original Deadweight} + \text{Capacity}) \times (0.05) = \text{Maximum Additional Weight Allowed}$
8. The Contractor shall document and notify the Owner and Consultant of the results of the measurements taken and what weight, if any, can be added or needs to be removed from the cab in order to maintain compliance with the Five Percent (5%) Rule.
9. The Contractor shall work diligently with the Owner and/or Owner's Representative and/or Architect as well as the manufacturer of the car enclosure to minimize additional weights of the new or remodeled car enclosure so as to maintain compliance with the Five Percent (5%) Rule.
10. Contractor shall be responsible for proper adjustment of the counterbalance of the system, including the static balance of the platform/sling/car enclosure, upon completion of the car interior work.
11. Costs associated with this work shall be included in the base modernization price.
12. Provide a new data tag on the crosshead of the elevator indicating the new deadweight, the current percent counterbalance and the date of the alteration.

B. Elevator Cab Remodel Allowance \$20,000 per elevator.

C. It is understood that if the selected manufacturer of the cab is not the same as the Elevator Supplier, all cab material will be constructed in a manner to accommodate the elevator manufacturer's associated equipment, such as operator, hangers, interlocks, etc., as purchased by the Owner or Owner's Agent.

1. The net allowance for the elevator cabs are to be exclusive of:
 - a. Handling charges.
 - b. Applicable sales and/or use taxes.
 - c. Car door hangers, interlocks, exit contact locks.
 - d. Platform, flooring, car door sill.
 - e. Car installation, operating equipment, and such items are to be included by the Elevator Supplier in the base contract.
2. The net allowance covering the elevator cars of a design and material as selected shall include:
 - a. Ventilation and lighting.
 - b. Doors.

- c. Base wainscoting.
 - d. Handrails.
 - e. Entrance columns.
 - f. Transoms as required.
 - g. Necessary cutouts.
 - h. All necessary cutouts and cab associated appurtenances that may be designed or required.
3. The Owner or Owner's authorized representative reserves the right to deduct the net allowances from the Elevator Contract and to purchase the elevator cabs separately.
 4. The Owner retains the right to assign this purchase to the Elevator Supplier for coordination and receive the necessary credits or make the installation by an authorized representative of the Architect and/or Owner.
 5. The contractor shall include all costs associated with coordination of cab-related work in the base modernization bid including static and dynamic balance of the system.

D. Elevator Cab Enclosure Fan (New)

1. Provide an exhaust type two (2) speed fan unit with cover grill, mounting accessories and necessary cab enclosure modifications.
 - a. Fan unit shall include self-lubricating motor with housing rubber mounted for sound vibration isolation.
2. Provide a key switch in the elevator cab enclosure for control of fan unit.
3. Provide necessary wiring and approved conduit to properly connect fan unit with power source and control key switch.

2.13 EMERGENCY LIGHTING / COMMUNICATIONS / SIGNALING

A. Battery Back Up Emergency Lighting Fixture and Alarm (New)

1. Provide a self-powered emergency light unit.
 - a. The light fixture shall contain a minimum of two (2) LED lamps. Flush mount the light fixture in the main car station. The fixture shall have a milk white lens.
2. Provide a car-mounted battery unit including solid-state charger and testing means enclosed in common metal container.
 - a. The battery shall be rechargeable nickel cadmium with a ten (10) year minimum life expectancy. Mount the power pack on the top of the car.
 - b. Provide a six-inch (6") diameter alarm bell mounted directly to the battery/charger unit and connected to sound when any alarm push button or stop switch in the car enclosure is operated.

- c. The bell shall be configured to operate from power supplied by the building emergency power generator. The bell shall produce a sound output of between 80-90 dBa (measured from a distance of ten feet [10']) mounted on top of the elevator car.
 - 1) Activation of this bell shall be controlled by the stop switch and alarm button in the car operating station.
 - 2) The alarm button shall illuminate when pressed.
 - 3. Where required by Code for the specific application, the unit shall provide mechanical ventilation for at least one (1) hour.
 - 4. The operation shall be completely automatic upon failure of normal power supply.
 - 5. Unit shall be connected to normal power supply for car lights and arranged to be energized at all times, so it automatically recharges battery after use.
- B. Emergency Voice Communication / Telephone (New)
- 1. A hands-free emergency voice communication system shall be furnished in each car mounted as an integral part of the car operating panel.
 - a. Necessary wires shall be included in the car traveling cable and shall consist of a minimum of one shielded pair of 20AWG conductors.
 - b. 120V power shall be provided to power the hands-free device.
 - 2. The telephone shall be equipped with an auto-dialer and illuminating indicator which shall illuminate when a call has been placed and begin to flash when the call has been answered.
 - a. Engraving shall be provided next to the indicator which says, "When lit help is on the way".
 - 3. In addition to the standard "Alarm" button, a separate activation button shall be provided on the car operating panel to initiate the emergency telephone and place a call.
 - a. The telephone must not shut off if the activating button is pushed more than once.
 - b. The telephone shall transmit a pre-recorded location message only when requested by the operator and be provided with an adjustable call time which can be extended on demand by the operator.
 - c. Once two-way communication has been established, voice prompts shall be provided which instruct the operator on how to activate these functions as well as alerting the operator when a call is being attempted from another elevator in the building.
 - 4. The system shall be compatible with ring-down equipment and PBX switchboards.
 - 5. The system shall be capable of serving as the audio output for an external voice annunciation system.

- a. Conversation levels shall measure 60 dbA or higher and measure 10 dbA above ambient noise levels.
 - b. Each device shall be provided with a self-diagnostic capability in order to automatically alert building personnel should an operational problem be detected.
6. The phone shall be able to:
- a. Receive incoming calls from any On-Site Rescue Station (when provided or required).
 - b. Receive incoming calls from other off-site locations via the public telephone system.
 - c. Acknowledge incoming calls and automatically establishing hands-free two-way communications.
 - 1) If no On-Site Rescue Station is provided, each hands-free device shall have built in line consolidation which will allow up to six (6) elevators to be called individually from outside the building over a single telephone line and up to eighty (80) elevators if an On-Site Rescue Station is provided.
7. The emergency elevator communication system shall require a maximum of one (1) telephone line.
- a. The system must provide line sharing capability to eliminate the need for a dedicated telephone line.
 - b. The line sharing function must ensure that the emergency telephones always receive dialing priority even if the line is in use and that the emergency telephones can be called into from an off-site location.
8. The system shall provide its own four-hour backup power supply in case of a loss of regular AC power.
9. The system must provide capability for building personnel to call into elevators and determine the charge state of any backup batteries provided for the emergency telephones.
10. Pushing the activation button in any of the elevator car stations will cause any on-site Rescue Station (where provided or required) or security telephone to ring.
- a. If the on-site call is not picked up within thirty (30) seconds, the call will be automatically forwarded to a twenty-four (24) hour off-site monitoring service.
 - b. The arrangements and costs of the off-site monitoring and telephone line shall be by others.
11. All connections from the junction box to the telephone system shall be done by the Elevator Contractor where existing provisions can be reused.

3.1 EXAMINATION

A. Inspection

1. Study the Contract Documents with regard to the work as specified and required so as to ensure its completeness.
2. Examine surface and conditions to which this work is to be attached or applied and notify the Owner in writing if conditions or surfaces are detrimental to the proper and expeditious installation of the work. Starting the work shall imply acceptance of the surfaces and conditions to perform the work as specified.
3. Verify, by measurements at the job site, dimensions affecting the work. Bring field dimensions which are at variance with those on the accepted shop drawings to the attention of the Owner. Obtain the decision regarding corrective measures before the start of fabrication of items affected.
4. Cooperate in the coordination and scheduling of the work of this section with the work of other sections so as not to delay job progress.

3.2 INSTALLATION / PROJECT PHASING

A. Installation

1. Modernize the elevators, using skilled personnel in strict accordance with the final accepted shop drawings and other submittals.
2. Comply with the code, manufacturer's instructions and recommendations.
3. Coordinate work with the work of other building functions for proper time and sequence to avoid delays and to ensure right-of-way of system. Use lines and levels to ensure dimensional coordination of the work.
4. Accurately and rigidly secure supporting elements within the shaftways to the encountered construction within the tolerance established.
5. Provide and install motor, switch, control, safety and maintenance and operating devices in strict accordance with the submitted wiring diagrams and applicable codes and regulations having jurisdiction.
6. Ensure sill-to-sill running clearances do not exceed 1-1/4" at all landings served.
7. Arrange door tracks and sheaves so that no metal-to-metal contact exists.
8. Reinforce hoistway fascias to allow not more than 1/2" of deflection.
9. Remove oil, dirt and impurities and give a factory coat of rust inhibitive paint to all exposed surfaces of struts, hanger supports, covers, fascias, toe guards, dust covers and other ferrous metal.
10. Prehang traveling cables for at least twenty-four (24) hours with ends suitably weighted to eliminate twisting after installation.

B. Transfer of Hall Button Risers

1. Transfer of the hall button riser(s) to the new signal control systems shall be performed on a not-to-interfere basis and shall not interrupt building operations or inconvenience building occupants.
2. Costs for this work in addition to associated expenses shall be included as part of the base bid pricing.

3.3 FIELD QUALITY CONTROL

A. Inspection and Testing

1. Upon completion of each work phase or individual elevator specified herein, the Contractor shall, at its own expense, arrange and assist with inspection and testing as may be required by the A.H.J. in order to secure a Certificate of Operation.

B. Substantial Completion

1. The work shall be deemed "Substantially Complete" for an individual unit or group of units when, in the opinion of the Consultant, the unit is complete, such that there are no material and substantial variations from the Contract Documents, and the unit is fit for its intended purpose.
2. Governing authority testing shall be completed and approved in conjunction with inspection for operation of the unit; a certificate of operation or other required documentation issued; and remaining items mandated for final acceptance completion are limited to minor punch list work not incorporating any life safety deficiencies.
3. The issuance of a substantial completion notification shall not relieve the Contractor from its obligations hereunder to complete the work.
4. Final completion cannot be achieved until all deliverables, including but not limited to training, spare parts, manuals, and other documentation requirements, have been completed.

C. Contractor's Superintendent

1. The Contractor shall assign a competent project superintendent during the work progress and any necessary assistant, all satisfactory to the Owner. The superintendent shall represent the Contractor and all instructions given to him shall be as binding as if given to the Contractor.

3.4 PROTECTION / CLEANING

A. Protection and Cleaning

1. Adequately protect surfaces against accumulation of paint, mortar, mastic and disfiguration or discoloration and damage during shipment and installation.

2. Upon completion, remove protection from finished surfaces and thoroughly clean and polish surfaces with due regard to the type of material. Work shall be free from discoloration, scratches, dents and other surface defects.
3. The finished installation shall be free of defects.
4. Before final completion and acceptance, repair and/or replace defective work, to the satisfaction of the Owner, at no additional cost.
5. Remove tools, equipment and surplus materials from the site.

B. Barricades and Hoistway Screening

1. The Contractor shall provide barricades where necessary in order to maintain adequate protection of areas in which work specified by the Contract Documents is being performed, including open hoistway entrances. Fabrication and erection as all barricades shall be in compliance with applicable OSHA regulations.
2. As required, the Contractor shall provide temporary wire mesh screening in the hoistway and of any elevator undergoing work specified in the Contract Documents. This screening shall be installed in such a manner as to completely segregate the hoistway from that of adjacent elevators. Screening shall be constructed from .041" diameter wire in a pattern that rejects passage of a one-inch (1") diameter ball.

3.5 DEMONSTRATION

A. Performance and Operating Requirements

1. Passenger elevators shall be adjusted to meet the following performance requirements:
 - a. Speed: within \pm three percent (3%) in both directions of travel under any loading condition.
 - b. Leveling: within $\pm 1/4$ " as measured between the car entrance threshold and the landing sill on any given floor under any loading condition.
 - c. Typical Floor-to-Floor Time: (Recorded from the doors start to close on one (1) floor until they are 3/4 open at the next floor) under various loading conditions.

Group Passenger Elevators	4.4 seconds.
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d. Door Operating Times

Door Type	Opening	Closing
Two (2) speed side opening	2.4 sec.	3.7 sec.

- e. Door dwell time for hall calls: 4.0 sec with Advance lantern signals.
- f. Door dwell time for hall calls: 5.0 sec without Advance lantern signals.
- g. Door dwell time for car calls: 3.0 seconds.

- h. Reduced non-interference dwell time: 1.0 seconds.
- 2. Maintain the following ride quality requirements for the passenger elevators:
 - a. Where pit permits, extend bottom roller guides by not less than one-half the distance from the centerline of the upper roller guides to the platform.
 - b. Noise levels inside the car shall not exceed the following:
 - 1) Car at rest with doors closed and fan off - 40 dba.
 - 2) Car at rest with doors closed, fan running - 55 dba.
 - 3) Car running at high speed, fan off - 50 dba.
 - 4) Door in operation - 60 dba.
 - c. Vertical and horizontal accelerations shall not exceed 14 milli-g.
 - 1) The accelerometer used for this testing shall be capable of measuring and recording acceleration to nearest 0.01 m/s² (1 milli-g) in the range of 0-2 m/s² over a frequency range from 0-80 Hz with ISO 8041 filter weights applied. Accelerometer should provide contact with the floor similar to foot pressure, 60 kPA (8.7psi).
 - d. The amplitude of acceleration and deceleration shall not exceed 2.6 - 2.8 ft./sec² for geared and MRL traction, and 3.5 - 4 ft./sec² for gearless traction elevators.
 - e. The maximum jerk rate shall be 1.5 to 2.0 times the acceleration and deceleration.
 - f. The maximum velocity which the elevator achieves in either direction of travel while operating under load conditions that vary between empty car and full rated load shall be within ± three percent (3%) of the rated speed.

B. Acceptance Testing

- 1. Comply with the requirements of Division 01.
- 2. The Contractor shall provide at least five (5) days prior written notice to the Owner and Consultant regarding the exact date on which work specified in the Contract Documents will reach completion on any single unit of vertical transportation equipment.
- 3. In addition to conducting whatever testing procedures may be required by local inspecting authorities in order to gain approval of the completed work, and before seeking approval of said work by the Owner, the Contractor shall perform certain other tests in the presence of the Consultant.
- 4. The Contractor shall provide test instruments, test weights, and qualified field labor as required to safely operate the unit under load conditions that vary from empty to full rated load and, in so doing, to successfully demonstrate compliance with applicable performance standards set forth in the project specifications with regard to:
 - a. Operation of safety devices.
 - b. Sustained high-speed velocity of the elevator in either direction of travel.
 - c. Brake-to-brake running time and floor-to-floor time between adjacent floors.

- d. Floor leveling accuracy.
 - e. Door opening/closing and dwell times.
 - f. Ride quality inside the elevator car.
 - g. Communication system.
 - h. Load settings at which anti-nuisance, load dispatch, and load non-stop features are activated.
5. Upon completion of work specified in the Contract Documents on the last car in any group of elevators, and in conjunction with the aforementioned testing procedures, the Contractor shall carry out additional testing of group dispatch/supervisory control features in the presence of the Consultant.
6. The Contractor shall provide test instruments and qualified field labor as required to successfully demonstrate:
- a. The back-up operating mode for group dispatch failure.
 - b. Simulated and actual emergency power operation.
 - c. Firefighter, attendant and independent service operations.
 - d. Restricted access security features and card reader controls.
 - e. Zoning operations and floor parking assignments.
 - f. Up/down peak operation.
7. Upon completion of the modernization of each individual elevator, emergency power testing shall be conducted by the Building Management after normal business hours and/or weekends.
8. After hour tests of systems such as emergency generators, fire service, and security systems shall be conducted at no extra cost to the Owner.

END OF SPECIFICATION

SECTION 14 01 20

**OWNERS FORM OF VERTICAL TRANSPORTATION
MAINTENANCE AGREEMENT AND SPECIFICATIONS**

FOR FULL COVERAGE

ON

TWO (2) ELEVATORS

AT

515 CENTER AVENUE, SUITE 403

BAY CITY, MI

DATE: August 9, 2023

VDA NO.: 69240/PL

Elevator Contractor: _____

DIVISION 14 – CONVEYING EQUIPMENT

14 00 00 Conveying Equipment

14 01 00 Maintenance of Conveying Equipment

14 01 20 – Maintenance of Elevators – Full Coverage Agreement and Specifications

_____ (hereinafter called the Contractor) shall furnish services to Bay County (hereinafter called the “Owner” OR “Owner's Representative”) equipment located at 515 Center Avenue, Suite 403, Bay City, MI:

- Two (2) Overhead Gearless Traction Passenger elevators

PART 4 - GENERAL CONDITIONS

4.1 AGREEMENT INTENT

- A. The purpose of this agreement is to state and define the terms and conditions under which the Contractor shall provide full comprehensive maintenance and repair services for the vertical transportation systems identified, and the terms and conditions under which the “Owner” shall compensate the Contractor for such services rendered.
- B. It is the intent of this Agreement to ensure all requirements, procedures, tests, inspections, service practices, component repairs, equipment renewals, system adjustments, filing procedures and recording documentation as referenced, mandated or otherwise implied herein are all inclusive, and to guarantee to the “Owner” that the absence or omission of a particular item of work, service or procedure shall not alleviate the Contractor of the sole responsibility to provide such labor, expertise, materials, equipment, services or other procedures applicable to the Agreement and practical requirements unless same is specifically excluded; or prorated herein.
- C. Minimum standards and requirements for services to be rendered shall be performed in accordance with the O.E.M specifications, Maintenance Control Program, and relative time periods. Where there is no specific requirement for a preventive maintenance procedure, the original equipment manufacturer (O.E.M.) standard shall be employed unless there is no relative documentation available. The absence of both a contract requirement herein and the O.E.M. design standard shall cause the contractor to engage the services of a qualified engineer to formulate the relative standards and incorporate same as an addendum to this agreement with the Professionals' Seal and Stamp.

4.2 DEFINITIONS OF TERMS

- A. The term “Owner” as used herein, refers to the person, organization, corporation or other entity representing building ownership and the relative responsibilities under this Agreement.
- B. The term “Owner's Representative” or references of similar import, as used herein, refers to any outside agent hired or retained by the Owner(s) for the purpose of providing management services that has been deemed a legal representative of the Owner(s) or any person designated by the Owner(s) as the legal representative of the Owner(s) for the purpose of coordinating and purchasing this Agreement.
- C. The term “Authority,” “Governing Authority (GA)”, “Authority Having Jurisdiction (AHJ),” or references of similar import, as used herein, shall mean the local government agency responsible for enforcement of vertical transportation safety codes and local laws or their designated representative, private inspection agency, consultant or other licensed designee.
- D. The term “Contractor,” “Elevator Contractor” or “Vendor” as used herein, refers to any persons, partners, firm, corporation or officer(s) of such companies having an agreement with the “Owner” OR “Owner's Representative” to furnish qualified labor and materials for the execution of the services and maintenance work described herein.
- E. The term “Subcontractor,” as used herein, refers to any persons, partners, firm or corporation having materials and/or labor for the execution of the work herein described.
- F. The term “Consultant,” as used herein, refers to VDA.
- G. The term “Agreement,” “Contract” or “Contract Documents,” as used herein, consists of this specific document, pages 1 to 33 and any alternates, addenda, or substitutions as may be referenced under Exhibits or Riders approved by the parties for the final execution of the Agreement.

4.3 ABBREVIATIONS AND SYMBOLS

- A. Abbreviations for associations, institutions, societies, reference documents and/or governing agencies, which may appear in this Contract Document, shall mean the following:

ADA	Americans With Disabilities Act
AIA	American Institute of Architects
ANSI	American National Standards Institute
ASME	American Society of Mechanical Engineers
BOCA	Building Officials and Code Administrators International, Inc. (Basic National Building Code)
A.H.J.	Authority Having Jurisdiction

G.A.	Governing Agency
NEC	National Electrical Code
OSHA	Occupational Safety and Health Administration

4.4 AGREEMENT COVERAGE

- A. The entire vertical transportation system(s) shall be maintained as hereinafter described, in accordance with the following detailed terms. Trained employees of the Contractor will use all reasonable care to keep the systems in proper adjustment and in safe operating condition, in accordance with all applicable codes, ordinances and regulations.
- B. With the exception of only those items specifically identified as being performed by others, the specifications are intended to include all engineering, material, labor, testing, and inspections needed to achieve work specified by the contract. Inasmuch as it is understood that any incidental work necessary to execute the Agreement is also covered by the Contract specifications, the Contractor is cautioned to familiarize himself with the existing equipment and job site conditions. Additional charges for material or labor shall not be permitted subsequent to execution of the Contractual Agreement for work, services or procedures covered herein.
- C. Maintenance coverage shall include, but is not limited to, preventive services, call-back services, inspection and testing services, repair and/or direct replacement component renewal procedures, and housekeeping.

4.5 HOURS OF WORK

- A. All scheduled work shall be performed during regular working hours of the regular working days of the elevator trade, 8:00 A.M. to 4:30 P.M., Monday through Friday, except union designated holidays. Contractor to provide a list of Union designated holidays.
- B. Scheduled repairs and/or other major adjustment procedures necessitating removal of a piece of equipment from service for an extended period of time must be scheduled through the “Owner” OR “Owner's Representative”.
 - 1. Owner retains the right to have such work completed during overtime hours with the understanding that the Contractor shall pay for the regular labor portion and the “Owner” OR “Owner's Representative” obligation is the extra premium labor costs only.
 - 2. Callback services shall be provided twenty-four (24) hours per day, seven (7) days per week including weekends and holidays as further specified herein.
- C. Travel time for all billable callback services shall be capped at one (1) hour (roundtrip) per callback.

4.6 SOLE RESPONSIBILITY

- A. The maintenance work shall be performed only by Qualified Technicians and Mechanics directly employed and supervised by the Contractor, who are experienced and skilled in maintaining vertical transportation units similar to

those to be maintained under this Contract and shall not be assigned or transferred to any agent or subcontractor without the express consent of the “Owner” OR “Owner's Representative”.

B. It is mutually agreed that the Contractor shall not be under any obligation hereunder to make any repairs or replacements except those incidental to the normal operation of the machinery, and that the Contractor is not required under this Contract to make repairs or replacements necessitated by reason of malicious damage, fire, including non-elevator component electrical fire, which are the result of causes beyond Contractor's control. All repairs, if necessitated by this paragraph, will be performed at the fees indicated in Exhibit A.

1. It is mutually agreed that the Contractor shall make any and all repairs or replacements damaged by Contractor's improper repair, negligent or willful acts or omissions at Contractor's expense.

4.7 SERVICE/REPAIR TIMEFRAME

A. Any service or repair that requires a single technician or team shall be performed within ten (10) working days excluding weekends and/or holidays. If part(s) needed are not in stock, or are special order, the date the Contractor receives the part(s) will be the start of the ten (10) day requirement for completion of the service or repair(s). Confirmation for receiving parts/materials can be requested by the Elevator Contractor, Owner, Vendor, “Owner” OR “Owner's Representative”, Consultant, or manufacturer.

1. Should the “Owner” OR “Owner's Representative” request the work be performed on weekends and/or holidays, the “Owner” OR “Owner's Representative” shall only pay the overtime premium portion of the service or repair(s).

4.8 COMPENSATION

A. Payment for services rendered shall be made on a monthly basis, within thirty (30) days of the end of each billing period. In addition, “Owner” OR “Owner's Representative” shall pay any tax imposed upon the Contractor by existing or future law, as due in conjunction with the services rendered or purchase of materials used to provide the services. No additional travel and/or sundries fees will be permitted.

1. Payment for callback services shall be included in the fixed monthly lump sum price for services rendered twenty-four (24) hours per day, seven (7) days per week, without extra charge to the “Owner” OR “Owner's Representative”.

2. Exception to the above statement is as follows regarding payment for after-hours work:

- a. Any calls placed to the Contractor on or before 4:00 p.m. Monday through Friday, with the exception of a Legal Holiday for the International Union of Elevator Constructor's (IUEC), and not answered until after 4:30 p.m. will not be charged to the Owner.
- b. Calls not answered after hours which result in the elevator being shut down for extended periods of time may result in the Owner withholding monthly payment until such instances are discussed between the two (2) parties.

- c. Payments for monthly service will be based on compliance with the entire maintenance Agreement herein including the following:
 - 1) Monthly maintenance records must be updated and kept on site in the Code required Monthly PM Check Chart.
 - 2) All site visits, regardless of their nature shall result in the Contractor's employees leaving onsite a time ticket of work performed in such an area designated by the Owner.

4.9 BREAKDOWN, MALFUNCTION OR DAMAGE

- A. Immediately upon the Contractor's discovery of any damage or signs of disrepair, mechanical breakdown or malfunction of, or cracks or breaks in any item to be repaired hereunder, they shall advise the "Owner" OR "Owner's Representative" and the Contractor shall place such "Out of Order", or warning signs as are appropriate with necessary barricades or other required protection as directed by the "Owner" OR "Owner's Representative". Such signs will be furnished by the Contractor upon request of the Owner and shall remain in place until necessary repairs are completed.

4.10 TRASH REMOVAL

- A. The Contractor shall arrange to dispose of all liquid and solid refuse produced under this agreement in a lawful, safe, and efficient and anti-pollutant manner subject to the prior approval of the "Owner" OR "Owner's Representative" at no cost to the Owner.
- B. The Contractor shall remove daily from the building, all garbage, debris, and other waste materials (whether solid or liquid) arising out of or in connection with its operations hereunder, and any such garbage, debris and other waste materials not immediately removed shall be temporarily stored in a clean and sanitary condition, approved by the "Owner" OR "Owner's Representative", in suitable garbage and waste receptacles, also approved by the "Owner" OR "Owner's Representative" and shall be kept covered except when filling or emptying them. The Contractor shall exercise care in removing such garbage, debris, and other waste materials from the building. The manner of such storage and removal shall always be subject in all respects to the continual approval of the Owner. No equipment or facilities of the Owner shall be used in such removal unless with its prior consent in writing. No such garbage, debris or other waste materials shall be permitted to be thrown, discharged, or disposed into or upon the streets bounding the Site of Work.

4.11 GRATUITIES/LOST AND FOUND

- A. No personnel employed in performing the Work shall solicit or accept gratuities, for any reason whatsoever, from passengers, tenants, customers, or other persons at the Site of the Work. Any articles found by such employees at the Site of the Work shall be immediately turned over to the office of the "Owner" OR "Owner's Representative". The Contractor shall instruct their employees (and shall cause any Subcontractor's to instruct their employees) in the provision of this numbered clause.

4.12 LABOR ACTIONS

- A. Whenever any labor strike, slowdown, work stoppage, picketing or other labor action which might interfere with the performance of the Contract, occurs at the Site of the Work as a result of the Contractor's (or its Subcontractor's) utilization of particular means, methods or manpower to perform the Work required by this Contract, the Contractor shall pursue all remedies which are appropriate and available to him to avoid such interference including, but not limited to the utilization of supervisory and other non-union employees trained in the proper maintenance and repair of the equipment.

4.13 USE OF PATENTED MATERIALS

- A. The right to use all patented material, composition of matter, manufacturers, apparatus, or appliances required in connection with this Contract shall be obtained by the Contractor without separate or additional compensation.
- B. The Contractor shall indemnify the Owner and their agents against and save them harmless from all loss and expense incurred in the defense, settlement or satisfaction of any claims in the nature of patent infringement arising out of or in connection with the Owner's use, in accordance with the preceding paragraph of this numbered clause, of such patentable subject matter or patented material, manufacturer's and/or their composition of matter, apparatus or appliances. If requested by the Owner, and if notified promptly in writing of any such claim, the Contractor shall conduct all negotiations with respect to and defend such claims without expense to the Owner.

4.14 GENERAL OBLIGATIONS

- A. Except with the prior written approval of the Owner, or as specifically authorized or required elsewhere herein, the Contractor shall not erect, maintain, or display any signs, posters, or advertising at the Site of the Work. Interior signs affecting public safety and security shall be in accordance with guidelines established by the Owner and shall be subject to the approval of the "Owner" OR "Owner's Representative".
- B. In order to effectuate the policy of the Owner, the Contractor shall comply with all provisions of federal, state, municipal, local and departmental laws, ordinances, rules, regulations and orders which affect the Contract and the performance thereof, except where stricter requirements are contained in these Specifications, in which event the latter requirements shall apply. The Contractor shall apply for any permits, licenses, or variances in the name of or on behalf of the Owner, where required by law or by the immediately preceding sentence shall obtain express written approval from the Governing Authority.
- C. The Contractor shall provide qualified labor or other assistance on behalf of the Owner for work performed by other trades, professionals, inspectors, and "Owner" OR "Owner's Representative" personnel when conditions warrant or upon request of the Owner. The "Owner" OR "Owner's Representative" shall approve all requests for the Contractor's labor assistance and, when applicable, shall approve requests for additional compensation by the Contractor under "Extra Work" provisions included herein.

4.15 COMMUNICATION

- A. CUSTOMER REPRESENTATIVE: A representative of the Contractor will be available to discuss with “Owner” OR “Owner’s Representative” the elevator needs in the areas of modernization, traffic handling ability, recommendations and requirements of Government Authorities, proper use, and care of the Units.
- B. REPORTS: Contractor shall provide detailed reports of the previous months activities including details by unit of all callbacks, repairs, testing, preventive maintenance along with dates, reason for car out of service, time taken out of service, task performed (PM, callback, repair, etc.), resolution to any problems, time placed back in service, total time out of service and a listing of all credits to be issued as a result of non-compliance with the requirements of this specification.

4.16 SUBSEQUENT EQUIPMENT MODERNIZATIONS/ALTERATIONS/UPGRADINGS

- A. Full comprehensive service and repair coverage shall be included under the terms of this Agreement when equipment and/or component systems represented herein are modified or upgraded.
- B. Such changes in equipment necessitating continuing full maintenance coverage may be initiated by the Owner under a separate voluntary extra cost upgrading Agreement with or without this Contractor’s permission or direct authorization and involvement before the work is performed.
- C. Modernized or otherwise upgraded systems and parts thereof shall automatically be included under the terms of this full comprehensive Agreement, whether such components are specifically identified or not, without extra cost to the Owner.

4.17 NOTICE BY AUTHORITY OR COMPANY TO REPAIR OR REPLACE

- A. The Contractor shall comply with all written recommendations of the governing authority or independent inspectors, consultants and insurance carriers employed by the Owner. However, Contractor is not required under this Contract to install new attachments or parts different from those now constituting the equipment, as recommended or directed by insurance companies, Government Authorities, or otherwise.

4.18 RECORD KEEPING

- A. A complete permanent record of inspections, maintenance, lubrication and callback service, including a Maintenance Control Program (MCP) shall be kept in the machine room or other designated location at the site of work, per the requirements of ASME A17.1 and the local AHJ. These records are to be available to “Owner” OR “Owner’s Representative” at all times. The records shall indicate the reason the mechanic was in the building, arrival and departure time, the work performed, etc., and these records will be property of the Owner. Record keeping requirements shall include Contractor assigned maintenance personnel and scheduled preventive maintenance procedures, inspections, tests, and third party assisted examinations. Records shall be kept on site for the life of the Contract. Upon request, a copy of the records shall be provided to the Owner. The Contractor will

interface with and utilize the Owners web-based maintenance software and shall maintain up to date records of all activities related to the elevators. The Owner will provide all necessary system training.

4.19 RECORD DRAWINGS

- A. Contractor shall provide and maintain two (2) complete sets of updated electrical wiring diagrams and control schematic drawings on file with the building and they are to become the property of the Owner for each group and/or individual system.

4.20 REPORTS BY CONTRACTOR

- A. The Contractor shall, at any time during the term of this Contract, upon written request of the “Owner” OR “Owner's Representative”, render a report of inspections, repairs or replacements made by the Contractor at the premises herein, itemized as to parts installed or services performed, and supply samples of lubricants, compounds, or other materials employed.
 - 1. Contractor shall prepare and issue all required forms and/or reports relative to examinations, tests and inspections as specified herein.

4.21 PRICE ADJUSTMENT

- A. Labor Contracts and Overtime:
 - 1. It is further understood and agreed that the Contractor shall furnish to the Owner in duplicate, a copy of their current labor contract and any subsequent labor contracts effective during the term of this Contract pertaining to his elevator maintenance personnel, and the Contractor further agrees to furnish any additional information concerning overtime charges to the Owner at any time upon request.
- B. The Contractor shall be entitled to a review of their labor and material costs for the purpose of adjusting the maintenance fee thirty (30) days prior to the annual renewal date of this Agreement each year.
- C. Upon submission of proof, satisfactory to the Owner, that the Contractor's actual labor and/or material costs for performance of service have changed, the monthly price for service coverage shall be adjusted in an amount equal to the established variance based on the following formula:
 - 1. Eighty percent (80%) of the current fee shall be used to represent the labor portion of the contract.
 - 2. Twenty percent (20%) of the current fee shall be used to represent the material portion of the contract.
- D. The current labor portion of the contract shall be increased or decreased by the percentage of increase or decrease of the current straight-time hourly rate for a mechanic, compared with same rate used for the previous year's labor portion of the agreement.
 - 1. The initial base labor cost amount is _____. This represents the cost of the maintenance mechanic's hourly wage with associated cost fringe benefits. (No additional overhead or profit.)

- E. The current materials portion of the contract shall be adjusted based on the established monthly difference in the “Producer Commodity Prices for Wholesale Metals and Metal Products Index” as published by the United States Department of Labor, Bureau of Labor Statistics during the month within such adjustment occurs for comparison.
 - 1. Using _____, 20____ as the base month, the material factor is _____.
- F. Annual adjustments shall be effective the first day of the new Contract year and shall remain unchanged for the next twelve (12) months.
- G. Notwithstanding anything to the contrary, the maximum annual increase shall not be more than _____ percent (____%) of the total contracted payment for the preceding Contract year.

4.22 INSURANCE COVERAGE, HOLD HARMLESS AND INDEMNIFICATION

- A. The Contractor shall not commence work under this Contract until it has been agreed to and obtained the following minimum insurance coverage:
 - 1. The Contractor hereby agrees, to the fullest extent permitted by law, to assume the entire responsibility and liability for the defense of and to pay and indemnify the Owner, their agent and employees against any loss, cost expense, liability or damage and will hold each of them harmless from and pay any loss, cost, expense, liability or damage (including without limitation, judgment, attorney's fees, court costs and the cost of appellate proceedings) which the Owner incurs because of sickness, injury to or death of any person or on account of damage to or destruction of property, including loss of use thereof, or any other claim arising out of, in connection with, or as a consequence of the performance of the services or the furnishing of the equipment and supplies and/or any acts or omissions of the Contractor or any of its officers, directors, employees, agents, subcontractors, or anyone directly or indirectly employed by the Contractor for whom it may be liable as it relates to the scope of this Contract.
 - 2. The Contractor shall, before the commencement of any provisions of any services, file certificates, showing existence of such insurance with the Owner, and such insurance shall be subject to the Owner's approval as to the adequacy of protection and compliance with this Contract, and the satisfactory character of the Insurer. Such insurance shall be placed with Licensed and Admitted carriers who write insurance and do business in the State of MI. Licensed for Surplus is not acceptable.
 - 3. The Owner agrees to give the Contractor notice within a reasonable time (Sunday and holidays excluded) of any accidents, alterations, or changes affecting the equipment covered by this contract and of any change of Ownership. It is understood and agreed that the Contractor will notify the Owner immediately when any equipment becomes unsafe or operates in a manner which might cause injury to anyone using said equipment and it is further understood and agreed that the Contractor will immediately remove any equipment from service when the equipment becomes unsafe or operates in a manner which might cause injury to anyone using said equipment.
 - 4. The Contractor agrees to maintain such insurance as will fully protect the Contractor, Agent, and the Owner of the building from any and all claims under worker’s compensation act or employers’ liability laws, and from any and all other claims of whatsoever kind of nature for damage to property or for bodily injury, including death to anyone whomsoever, that may arise from the operations of the Contractor.

5. Prior to the commencement of operations, Contractor will purchase and maintain the following minimum insurance as will protect it, the "Owner" OR "Owner's Representative" from any claim which may arise out of a result of Contractors operations under this service Contract whether such operation shall be by the Contractor, its employees or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable:
 - a. Contractor shall purchase and maintain insurance sufficient to protect it from any and all claims which may arise out of or result from this Agreement. Insurance policies purchased and maintained shall include, but are not limited to, the following:
 - 1) Worker's compensation insurance for claims under Michigan's Workers' Compensation Act or other similar employee benefit act of any other state applicable to an employee in the minimum amount as specified by statute;
 - 2) Employer's liability insurance, in conjunction with workers' compensation insurance, for claims for damages because of bodily injury, occupational sickness or disease or death of an employee when workers' compensation may not be an exclusive remedy, subject to a limit of liability of not less than \$100,000 each incident;
 - 3) Motor vehicle liability insurance required by Michigan law including no-fault coverage for claims arising from ownership, maintenance or use of a motor vehicle with liability limits of not less than \$1,000,000 per occurrence. Coverage shall include all owned vehicles, all non-owned vehicles, and all hired vehicles; and
 - 4) Commercial General Liability insurance for claims for damages because of bodily injury or death of any person, other than Contractor's employees, or damage to tangible property of others, including loss of use, which provides coverage for contractual liability, with a limit of not less than \$1,000,000 each occurrence and a mandatory \$2,000,000 annual aggregate.
 - 5) Professional Liability: The Contractor shall procure and maintain during the life of this Agreement Professional Liability Insurance in an amount not less than \$1,000,000 per occurrence and aggregate. If this policy is a claims made form, then the Contractor shall be required to keep the policy in force, or purchase "tail" coverage, for a minimum of three (3) years after the termination of this Agreement.
 - B. Insurance required shall be in force until acceptance by the County of the entire completed work and shall be written for not less than any limits of liability specified above. Certificates of insurance, acceptable to the County, shall be provided to the County's Department of Corporation Counsel within the first week of commencement of the project.
 - C. All coverage shall be with insurance carriers licensed and admitted to do business in Michigan and are subject to the approval of the County.
 - D. The foregoing insurance policies shall be primary to any other insurance which may be carried by the Owner and shall name Owner as additional insured with a specific policy endorsement as follows:
 - The County of Bay, including all elected and appointed officials, all employees and volunteers, all boards, commissions, departments and/or authorities and their board members, employees and volunteers.

➤ VDA, Inc.

- E. Certificates of Insurance evidencing such coverage shall be filed with the Owner prior to the commencement of the contract and renewal of insurance certificates shall be furnished prior to the expiration of any coverage herein.
1. All Certificates of Insurance and duplicate policies shall contain the following clauses:
 - a. “It is understood and agreed that thirty (30) days advance written notice of cancellation, non-renewal, reduction and/or material change in coverage will be mailed to Bay County’s Department of Corporation Counsel, 515 Center Avenue, Suite 402, Bay City, MI 48708”;
- F. The policies shall contain a provision giving Owners at least thirty (30) day prior written notice of any change or cancellation of such insurance, in the event of cancellation of Non-Payment of Premium, in which ten (10) day notice will be provided. This notice will be included on the Certificate of Insurance.
- G. All insurance must be with a licensed and Admitted (licensed for Surplus Lines is not acceptable) insurance carrier with and maintain no less than, A.M. Best’s rating of “A-, size VII” and shall be acceptable insurance carriers subject to the discretion of Owner.
- H. The Contractor agrees that the required insurance is not intended to limit the Contractor’s liability in the event the Contractor is deemed to be negligent in causing bodily injury or property damage during the course of its operation.
- I. The Contractor will, at its own expense, maintain physical damage insurance in the amounts and against the perils desired by the Contractor on all property owned or rented by the Contractor. The Contractor hereby waives its rights of recovery against the Owner for any damage or loss to property of any kind which is owned or rented by Contractor or for which the Contractor is liable.

4.23 CANCELLATION

- A. The “Owner” OR “Owner's Representative” shall have the right to cancel this Contract upon at least thirty (30) days prior written notice to the Contractor of its election to do so without penalty for the following:
1. Elective upgrading of apparatus awarded to another vendor.
 2. Substandard services and/or poor maintenance practices as confirmed by the Consultant or other qualified professional.
 3. Failure to comply with governing authority directives and/or citations.
 4. Cost analysis completed prior to expiration date.
- B. For the purposes of this maintenance Agreement if the Owner finds fault in the Contractor’s performance, the Owner shall notify the Contractor citing the examples of default and this communication will be presented via certified mail. The Owner will then allow the Contractor thirty (30) days from the date of receipt of the certified letter for the Contractor to reasonably cure said defaults.
- C. In addition to the rights provided in paragraph “A” hereunder, the “Owner” OR “Owner's Representative” shall have the right to cancel this Contract immediately, upon the occurrence of any of the following contingencies:

bankruptcy of the Owner or Contractor, mortgage foreclosure, condemnation, destruction, or transfer or conveyance of Title to the premises in which the subject equipment is located or the premises in which the subject equipment is located is rendered unusable in the opinion of the “Owner” OR “Owner's Representative”.

- D. Cancellation of this Agreement prior to the expiration date shall entitle the Contractor to payment for services rendered up to and including the date of cancellation; and the “Owner” OR “Owner's Representative” shall not be responsible for any expenses or subsequent costs that may be incurred by the Contractor as a result of an early cancellation or standard Contract Agreement expiration.

4.24 NOTICES

- A. All notices to be given under the Contract shall be in writing and addressed to the party to be notified, postage prepaid, by registered or certified mail, return receipt requested, or by delivering the same in person to such party. All notices shall be deemed to have been given as of the date of delivery indicated on the return receipt or date of failure to deliver by reason of changed address of which no notice was given or refusal to accept delivery, or when personally delivered. Any party or person to whom notices are to be sent or given pursuant to the Contract may, by notice to all such other parties or persons mentioned herein, change its address for the giving of notices, provided, however, that a notice of change of address shall be deemed effective only when received by the addressee. Notices to be given hereunder shall be sent or delivered to:

Contractor:

“Owner” OR “Owner's Representative”:

Bay County Michigan

515 Center Avenue,

Bay City, Michigan 48708

4.25 PAYMENT/TERMS

- A. This service will be furnished from [TBD] for the period of Five (5) years. All replacement parts, repairs, adjustments and associated services, as specified herein, shall be supplied, installed, performed and conducted at the Contractor's sole cost and expense unless otherwise specified herein.
1. Automatic Renewal:
 - a. The "Owner" OR "Owner's Representative" shall have the right to renew this Agreement on a year-to-year basis upon expiration of the initial Contract period. All terms, conditions and provisions shall remain intact.
 - b. There will be no automatic Renewal unless "Owner" OR "Owner's Representative" authorizes in writing or as outlined below to prevent lapse in service coverage.
 2. The "Owner" OR "Owner's Representative" agrees to pay the Contractor on a monthly basis, the fee of _____ Dollars (\$_____) during the term of this Agreement, subject to price adjustments as specified herein.
 - a. Monthly invoices shall indicate the base monthly portions of the Contract amount due under the Agreement for maintenance services.
 - b. Any state or local tax charges, which may be applicable, are not included in the monthly fee indicated and shall be itemized on the monthly billing invoice statement accordingly.
 - c. Extraordinary work and/or other work, as approved by the "Owner" OR "Owner's Representative", shall be invoiced separately upon completion and acceptance of the work or other services performed.
 3. In order to prevent any lapse in service coverage, this Agreement shall automatically renew on a month-to-month basis upon expiration of the initial Contract period. All terms, conditions and provisions shall remain intact. Either party may provide thirty (30) day written notice to cancel the contract during the month-to-month period.

4.26 NON-PAYMENT

- A. The "Owner" OR "Owner's Representative" may have the Contractor's work and systems' performance operations checked monthly to ensure the Contractor is performing in accordance with this Contract. If the work requirements are not maintained, the "Owner" OR "Owner's Representative" will retain the monthly payment to the Contractor until the Consultant verifies that the work and/or operating performance is back to standard. If three (3) consecutive months of substandard maintenance is noted, the Owner has the right to immediately cancel the Contract without notice to the Contractor.
- B. The Consultant, "Owner" OR "Owner's Representative" may withhold approval for payment on any request to such extent as may be necessary to protect the Owner from loss on account of:
1. Negligence on the part of the Contractor to execute the work properly or failure to perform any provisions of the Contract. The Owner, after three (3) days written notice and/or email to the Contractor, may, without prejudice to any other remedy, make good such deficiencies and may deduct the cost of remedy from the maintenance Contract.

2. Claims filed or reasonable evidence indicating probable filing of claims due to the Contractor's failure to perform.
3. Failure of Contractor to make payments properly to subcontractors for material and labor used to fulfill contractual requirements.
4. Damage to the building and/or equipment as a result of work performed or another subcontractor's failure to perform.

4.27 ERRORS AND OMISSIONS

- A. Contractor shall notify the "Owner" OR "Owner's Representative" and Consultant in writing regarding any necessary services, coverage or items which may have been omitted from the maintenance Contract specifications and any irregularities, discrepancies or duplications that could affect the full comprehensive intent of the Agreement.
 1. Any duplication of work or coverage is specified as a means of demonstrating the contract requirements, but such duplication if any, is not intended to expand coverage or increase requirements for such work or services and such duplication shall not increase costs or provide justification for extra or additional charge to the "Owner" OR "Owner's Representative".

4.28 LABOR LAWS

- A. The Contractor performing work under this contract shall comply with applicable provisions of all federal, state, and local labor laws.

4.29 BACKGROUND CHECKS

- A. The Contractor agrees to submit to background checks, as required by the Owner, for any of their employees who are assigned to work on this project, or in the building, at any time at the Owner's expense.

4.30 ASSIGNMENTS

- A. Neither party to the Contract shall assign the Contract or sublet it as a whole without the written consent of the other, nor shall the Elevator Contractor assign any payment due them or to become due to them hereunder without the previous written consent of the Owner.

4.31 FORCE MAJEURE

- A. Neither party shall be liable by reason of any failure or delay in the performance of its obligations due to strikes, lockouts, riots, fires, explosions, acts of God, war, governmental action or any other cause which is beyond the reasonable control of such parties. The performance of such party shall be excused for such reasonable time as may be required to resume performance following cessation of such cause.

4.32 CONTRACTOR'S LICENSE

- A. If required by law, Contractor certifies that it is licensed in the state, municipality, and/or local jurisdiction where the property is located to perform the elevator maintenance services pursuant to this Agreement, and that the license will be maintained current and valid for the Initial Term and any renewal term of this Agreement.

4.33 WAIVER

- A. A waiver by either party of any term or condition of this Agreement in any instance shall not be deemed or construed as a waiver of such term or condition for the future, or of any subsequent breach thereof. All remedies and rights of the parties contained in this Agreement shall be cumulative.

4.34 ATTORNEYS' FEES

- A. In the event litigation be commenced by either party hereto against the other in connection with the enforcement of any provision of this Agreement, the losing party shall pay all court costs and shall pay to the prevailing party all expenses incurred by the prevailing party in litigation, including attorneys' fees in a reasonable amount to be determined by the court. The amount so allowed as attorneys' fees shall be taxed to the losing party as costs of the suit, unless prohibited by law.

4.35 LIMITATION OF LIABILITY

- A. It is expressly understood and agreed by the Parties that "Owner" OR "Owner's Representative", its parent, subsidiaries and/or affiliates shall not be liable or responsible in any way for any loss of or damage or injury to any equipment as referred to in this Agreement or other personal property belonging to Contractor or any personnel of Contractor while in any area of the building; nor shall "Owner" OR "Owner's Representative", its parent, subsidiaries and/or affiliates be liable for any injury suffered by any personnel of Contractor while on or in the Owner's property. Personnel of Contractor shall make all necessary arrangements for the safety and security of such equipment and other personal property at all times.

4.36 AGREEMENT DESIGN

- A. It is agreed that this Agreement and any attachment and/or exhibits are contractual in nature and voluntarily entered into by both Parties as their free act and deed, acting in their individual judgment without reliance upon any statement or representation of the other party. This Agreement, any attachments and exhibits constitute the entire understanding, oral or written, between the Parties, and supersedes any and all prior discussions and/or agreement between the Parties. The parties agree that any alteration to any exhibits, attachments or addenda noted therein or herein, and attached hereto shall be null and void, unless made in writing by mutual agreement of Customer and Contractor. The Parties agree to execute whatever additional documents are deemed reasonably necessary to effectuate this transaction.

- B. Both parties have participated in the preparation of this Agreement and have been afforded the opportunity to have this Agreement reviewed by legal counsel and/or other consultants of their choice. It is agreed that the normal rule of construction against the drafter shall not apply to the provisions of this Agreement.

4.37 SEVERABILITY AND REFORMATION

- A. This Agreement is binding upon the Parties, their respective successors, assigns and legal representatives. If a Court, having competent jurisdiction, determines that one or more of the provisions is invalid or unenforceable, the Court will have the right to modify same to the minimum extent necessary to make it valid and enforceable, with the rest of this Agreement remaining unaffected by such conclusion or reformation.

4.38 SURVIVABILITY

- A. The parties agree that it would cause an undetermined amount of damages to the other party if either fails to comply with any terms and conditions governing the handling of each other's confidential and proprietary information, or the representations, warranties and indemnifications agreed to under this Agreement and/or hereunder, all of which shall survive any early termination or expiration of this Agreement, and shall remain in full force and effect for the later of a period of one (1) year from the date of termination or expiration of this Agreement, or the date the information is returned to whoever disclosed such information, after the date of termination or expiration of this Agreement.

PART 5 - PRODUCTS AND SERVICES

5.1 SCHEDULED PREVENTIVE MAINTENANCE LABOR

- A. Contractor shall provide scheduled systematic examinations, adjustments, cleaning and lubrication of all machinery, machinery spaces, hoistways and pits. The Contractor shall include a minimum of four (4) hours per month, [OR] Two (2) hour(s) per unit on site that is to be dedicated to routine preventive maintenance.
- B. If for any reason the "Owner" OR "Owner's Representative" notifies the Contractor that maintenance services are not allowed/required for any said month(s), the Contractor shall not be penalized for not performing their required hours for that period.

5.2 MAINTENANCE OF ELEVATORS, PLATFORM LIFT'S, VERTICAL RECIPROCATING CONVEYORS, CARTVEYORS AND PLATFORMS EQUIPMENT COVERAGE

- A. At no additional cost to Owner, Contractor shall provide full comprehensive repair, replacement, adjustment, and related service coverage for all component systems including spare or replacement parts unless specifically excluded herein. Failure to provide a particular component, service or other procedure does not limit Contractor's obligation or liability to provide the necessary work or service.

1. Contractor shall perform complete maintenance of the elevators (escalators/moving walks/dumbwaiters/lifts) to ensure they may be operated safely in accordance with performance standards and other criteria specified in this agreement twenty-four (24) hours per day, seven (7) days per week except for scheduled preventative maintenance and safety test procedures approved by Owner.
- B. Contractor shall furnish all materials, labor, supplies, parts, equipment barricades, warning signs, semi-permanent structures, or other apparatus necessary or proper for and incidental to maintenance procedures.
- C. Contractor shall be responsible for clearing and paying for any violations and fines related to the Equipment.
- D. Contractor shall be responsible for keeping the exterior of the machinery and any other parts of the equipment free from rust.
- E. The following list of equipment is provided as a means to establish the full comprehensive intent of this Agreement. Coverage shall include all associated parts, apparatus and procedures whether specifically defined or not and shall include the necessary hoisting, rigging or other procedures required for execution of the repair, replacement, adjustment, and service of equipment covered under this Agreement.
 1. Automatic door systems, power operated door systems and manual door/gate systems complete
 - a. Power operator and engagement linkages.
 - b. Car door top track, hangers, and hanger roller assemblies.
 - c. Car doors, eccentrics, stops, bumpers and related operating mechanisms for multiple speed or multiple panel doors and gates.
 - d. Car gates, bottom guides, retainers, fire stops, gibs, entrance sills and threshold plates, gate handles and protection guards.
 - e. Electrical safety switches and activation mechanisms, door protective and/or reversing devices, and power door operators.
 - f. Electromechanical safety interlock assemblies, related operating mechanisms, clutch, or other master system engaging devices, linkages, zoned locking devices, and self-closing devices.
 2. Car frame, platform, and car safety devices complete
 - a. Crosshead, stiles, cab steadiers, cab isolation pads, hitch plates, anti-spin devices, tie rods, supports and related structures.
 - b. Car guides, car rollers, shoes, stands, spindles, gibs, rollers and tensioning devices.
 - c. Sub-platform, under car platform fireproofing, car sills with support cradles, load weighing devices, top/side exit access operating/safety hardware and electrical switches.
 - d. Car fans, blowers, and cab ventilation systems.
 3. Hoisting machinery, and rotating power drives with mounting supports and beams, raised platforms and weighted foundations and structures complete
 - a. Geared traction and winding drum units, gearless traction, and related systems complete.

- b. Worms, gears, shafts, couplings, drive sheaves, deflector sheaves, 2:1 sheaves, bearings, support/mounting apparatus, brake assembly, rotating elements and all associated castings, guards, retainers, and hardware.
 - c. Integral and free-standing brake units, drums, discs, pulleys, shoes, linings, pads, pins, sleeves, plungers, coils, caps, adjustment devices and hardware complete.
 - d. AC and DC motors, motor generators, rotating regulators and exciters; armatures, field coils, pole pieces, interpoles, commutators, brush riggings, brush holders, carbon brushes, stator windings, fan or other ventilation mechanisms, bearings, bushings, shafts, caps, packings, seals, junction boxes, leads, connectors and related wiring.
4. Controls, selectors, solid state power drives, encoding devices, transformers with related wiring, conduit, and circuitry complete
- a. Relays, contactors, switches, capacitors, resistors, fuses, circuit breakers, overloads, power supplies, regulators, tach generators, arc shields, shunts, holders, and hardware.
 - b. Circuit boards, transmitters, encoders, transducers, transformers, rectifiers, transistors, solid state switching devices, insulators, timing devices, suppressors, and computer apparatus.
 - c. Filters, fans, blowers, control cabinet air conditioning, wiring, studs, terminal blocks, plug connectors, CRTs or other diagnostic devices, keyboards, and printers.
 - d. Cabinets, frames, isolation pads, isolation transformers, chokes, diagnostic tools, status indicators, solid state, and hard wire circuitry.
 - e. Verify operation of firefighters' service monthly and Emergency evacuation systems annually.
 - f. Verify operation of battery lowering and/or battery rescue devices semi-annually and replace batteries when required.
5. Car and counterweight safety systems
- a. Overspeed governors and electromechanical safety devices, wire ropes/coated steel belts and tensioning devices with related hitch and connection apparatus complete.
 - b. Car and counterweight safety devices, drums, rods, linkages, clamps, and hardware.
 - c. Rope grippers and similar apparatus used for compliance with ASME A17.1 Rule 2.19.
 - d. Coated steel belt testing equipment, if applicable.
6. Hoistway and pit equipment
- a. Guide rails, fishplates, brackets, inserts and related hardware to include jack bolts or other special mechanisms for mounting and alignment.
 - b. Wire ropes/coated steel belts, chains and cables with guards used for suspension, compensation, safety, and selector encoding with related hitch and connection hardware complete.
 - c. Corridor entrance top track and hanger rollers, toe guards, fascia, dust covers, sills, stops, bumpers, eccentrics, retainers, and bottom guides.
 - d. Overhead machine room, secondary and 2:1 wire rope sheaves, dead-end hitches, rope shackles/wedges, shafts, bearings, bushings, seals, mounting supports, lubrication devices, guards, and hardware complete.

- e. Electrical wiring and conduit, electrical traveling cables, electrical limits, slow-downs, activating cams, switches, vanes, inductors, tapes, readers, leveling and encoding systems complete with all related hardware and wiring.
 - f. Compensation sheaves, shafts, frames, guides, switches, rollers, cams, guards, “S” hooks, guidance systems, safety chains, and all related hardware.
 - g. Counterweight assemblies, guides, rollers, retainers, stands, strike plates, safeties, and hitch devices.
 - h. Car and counterweight buffers, stands, strikes, blocking, ladders and platforms, extension devices, mounting hardware, and appurtenances.
 - i. Pit safety switches, cable tensioning devices, access ladders, light switches, lighting assemblies, bulbs, and guards.
 - j. Hoistway signage.
7. Operating and signal fixtures with electrical wiring
- a. Car operating panels, push buttons, stop switches, audible signals, engraved signage, keyed or other control switches, visual signals, jewels, and indicators with electrical wiring.
 - b. Car position indicators, riding lanterns, signal annunciators, visual and audible signals complete.
 - c. Corridor push button stations, hall lanterns, hall position indicators, keyed switches, access controls, electrical wiring, and traveling cables complete.
 - d. Emergency lighting systems, emergency communication devices, ventilation equipment, and signal systems complete including batteries.
 - e. Corridor and lobby fixtures with remote controls and operational monitoring devices, starter panels, emergency power selectors, telltale panels, location indicators, security controls and monitors.
 - f. Remote monitoring systems, controls, monitors, printers, and related apparatus.
8. Inspect all lighting associated with the vertical transportation systems, including, but not limited to pit lights, equipment room lights, shaftway lights, floor indication lights, car and hall station push button lights, interior and exterior direction lights, arrow lights, signal lantern lights, underfloor lights, cab, entrance and roof lights. Relamp as needed.
9. Component Exclusions:
- a. The following vertical transportation system components are excluded for normal wear and tear repairs or replacements:
 - b. Car enclosures (including removable panels, suspended ceilings, lighting fixtures (lamps are included), light diffusers, floor coverings, entrance thresholds, trim and car panel doors). Hoistway enclosures, entrance frames and door panels.
 - c. Machine room power disconnect switches together with fuses, power wiring located before the means of primary disconnect, power fuses or circuit breakers located in the primary means of disconnect, elevator machine/control room general lighting and ventilation. Cab, Pit and shaftway lighting fixtures and wiring (lamps are included). Support structures for machine beams or other apparatus normally provided by others and not subject to preventative maintenance procedures by the Elevator Contractor, machine/control room or other equipment access doors with associated locks, closers, and labeling.

NOTE: Any items not specifically excluded will be covered under this agreement.

5.3 CLEANING

- A. The Contractor shall, during the course of all examinations, remove and discard immediately all accumulated dirt and debris from the car top(s) and pit area(s). Prior to each annual anniversary date of this Agreement, Contractor shall thoroughly clean down the entire hoistway of all accumulated dirt, grease, dust, and debris each year.

5.4 PAINTING

- A. The Contractor shall keep the exterior of the machinery and any other parts of the equipment subject to rust properly painted, identified and presentable at all times. Motor windings and controller coils shall be periodically treated with proper insulating compound per O.E.M. recommendations or otherwise as needed. The machine/control room floor will be painted when both parties determine that the floor is in poor condition. The machine/control room floor shall be painted annually, when required, with a good quality deck enamel.

5.5 INSPECTIONS / TESTS

- A. The Contractor shall conduct safety, efficiency and maintained conditions surveys, inspections and tests as follows:
 1. Semi-Annual quality control evaluations by a qualified supervisor to ensure and confirm the services and procedures as specified herein are properly executed relative to maintenance and performance standards for the systems serviced.
 2. Mandated inspections and testing in accordance with the latest ASME A17.1 standards and inspections and tests as required by the AHJ.
 3. Payment of all relative fees per the AHJ shall be by the Owner.
 4. As required, the Contractor shall correct noted deficiencies in addition to preparation and filing of appropriate Affirmation of Correction(s) within the stipulated timeframe as required by the AHJ. Applicable fees associated with this filing shall be covered under the terms of the Agreement.
 5. Where required work necessary to resolve aforementioned deficiencies is not covered under the terms of this Agreement, Contractor shall submit proposals in a timely fashion in an effort to meet applicable correction deadlines within five (5) business days on critical items otherwise, within fourteen (14) business days in an effort to meet applicable correction deadlines.
 - a. Proposals shall indicate the material and labor costs in addition to anticipated time of completion from approval of proposal(s) by Owner.
 6. Provide independent testing of Fire Emergency Operating Systems and/or Emergency Power System tests in accordance with local law requirements and ASME A17.1 standards.
 7. The Owner retains the right to have these tests performed on a not-to-interfere basis at any hour of the day and any day of the week; and the cost for overtime work be limited to the premium labor portion for work performed on an overtime basis.
 8. Contractor shall conduct tests and maintain records of ASME code-required safety tests, fireman's service tests, telephone/intercom tests, and emergency power tests on site.

- B. The Contractor shall conduct testing procedures in accordance with the applicable ASME A17.1 standards at intervals specified or provided in ASME A17.1 , and per local code requirements in place at commencement of Contract, complete and execute all governing authority filing procedures including payment of all associated fees or other charges where mandated by local authorities, and forward confirmation of all authority required filings to the “Owner” OR “Owner's Representative” within ten (10) working days of the date the test procedure was completed. Any fines incurred for failure to complete required testing, complete testing per mandated schedules, or for filing irregularities will be paid by the Contractor.
1. Annual Electric Traction Elevator Safety Test
 - a. Contractor shall perform an Annual Electric Traction Elevator Safety Test conforming to the requirements contained in ASME A17.1 Category 1, Inspection and Test Requirements on all Traction Elevators covered by this Contract, and as required by the AHJ.
 2. Five Year Full Load Safety Test
 - a. Contractor shall perform a Five-Year Safety Test conforming to the requirements contained in ASME A17.1 Category 5, Inspection and Test Requirements on all Traction Elevators covered by this contract.
- C. The Owner may engage the services of a third-party qualified and certified agency for the sole purpose of mandated inspections of the equipment per local code authority requirements. The Contractor shall conform to the third-party agency schedule and provide qualified labor to assist in these inspections (including assistance in gaining access to hoistways, pits and machine rooms) at no additional charge to Owner.
- D. The contractor shall pay any additional permit fees for Overtime Testing unless required by the “Owner” OR “Owner's Representative”. The contractor shall submit to the Owner official confirmation of receipt from the Department of Public Safety, or local AHJ of all required paperwork and fees. Permit fees are to be included in the maintenance fee.
- E. The Contractor shall be responsible for the payment of any fines or retesting fees and all applicable labor should an inspection failure be as a result of any component or system covered under this Maintenance Agreement. Should an inspection failure be the result of both a component or system covered under this Contract and a related building system that is the responsibility of the Owner, the cost of re-inspection shall be proportionally split between the Contractor and Owner.
1. The Contractor shall file for and obtain any abatement necessary should any violation noted by an inspector be found to be cited in error with the applicable code.
 2. It shall be the Contractor's responsibility to contact the “Owner” OR “Owner's Representative” to establish mutually convenient dates for the performance of the inspections and tests. Where possible, these inspections and tests shall be scheduled so as to coincide with the Contractor's regular maintenance inspections on a "not to interfere" basis.
 3. Any deficiencies discovered as a result of the inspections and testing, whether witnessed by an “Owner” OR “Owner's Representative” or not, shall be characterized as follows:

- a. Condition I - "Immediate"
- b. Condition II - "Priority"
- c. Condition III - "Routine"

- 1) Condition I - "Immediate" shall be utilized for life safety or other immediate deficiencies that adversely affect normal, safe operations and mandate removal of the unit from service at the time of testing. Upon the occurrence of the aforementioned, the Contractor shall notify the Owner verbally and provide a written confirmation prior to 10:00 AM on the next regular business day. Work required to correct such deficiencies not covered under this Agreement shall be proposed immediately and, upon approval and completion, notification given to the Owner to witness the re-inspection procedure.
- 2) Condition II - "Priority" shall be utilized for those deficiencies which could become life threatening or further impair the safe operation of vertical transportation systems. Condition II "Priority" deficiency classifications shall be applied to units and/or conditions that will create critical service interruptions. Required repairs, replacements and adjustments not covered under this Agreement shall be proposed for corrective actions and re-inspection within forty-eight (48) hours of recording the deficiency. The "Owner" OR "Owner's Representative" will approve the extra work proposals and coordinate this mandated work based on the severity of the reported condition and building operations.
- 3) Condition III - "Routine" shall be utilized for deficiencies that may be addressed as soon as possible. Such conditions and/or deficiencies shall not be considered as safety infractions or conditions that will otherwise cause unscheduled removal from service of units or create conditions that will hamper regular building operations. The Contractor shall issue itemized proposals for recommended extra work procedures not covered under this Agreement shall within two (2) weeks of recording the deficiency.

4. When repairs, adjustments or other equipment replacements are instituted over an extended time period, the Contractor shall update reports and ensure outstanding deficiencies are indicated on any new inspection or test procedures that may be undertaken prior to the satisfactory completion of work previously specified.
5. The "Owner" OR "Owner's Representative" shall retain the right to witness all re-inspection and/or test procedures as required to expunge the outstanding deficiencies.

5.6 CALLBACK SERVICE (24 HOURS, 7 DAYS PER WEEK)

- A. Provide emergency callback service which consists of promptly dispatching qualified employees in response to requests from the "Owner" OR "Owner's Representative", by telephone or otherwise, for emergency adjustment or minor repairs on any day of the week, at any hour, day or night. If repairs cannot be made immediately, the mechanic shall notify the "Owner" OR "Owner's Representative" as to the reason why and provide supplemental information regarding the restoration of services.
 1. Callback service in response to passenger entrapments shall be provided within one-half (1/2) hour during regular working hours and within one (1) hour during overtime periods.

2. Callback services for out-of-service units that have been secured by the "Owner" OR "Owner's Representative" shall be provided within one (1) hour during regular working hours and within two (2) hours between 6:00 a.m. and 8:00 a.m. and 4:30 p.m. and 6:30 p.m. Monday through Friday, except holidays.
3. Callback services for out-of-service units that have been secured by the "Owner" OR "Owner's Representative" shall be provided within three (3) hours at all other times not specified above in "1" or "2."
4. Callback services for non-essential system malfunctions that do not constitute an operational or other safety condition shall be provided during normal working hours of regular working days within four (4) hours of the request for service.

5.7 OWNER'S RIGHT TO MONITOR CONTRACTOR SERVICE AND PERSONNEL

- A. In addition to the Contractor's management and supervision of services specified herein, the Owner shall retain the right to monitor the actions of the Contractor and services rendered.
- B. The Owner may employ direct labor for management supervision or indirect outside consultants, inspectors, engineers or other qualified personnel to monitor the maintenance services provided by the Contractor with the understanding that such actions do not limit the Contractor's responsibilities for management of services or supervision of personnel.
- C. When conditions warrant, in the opinion of the "Owner" OR "Owner's Representative", the Contractor shall provide the necessary labor and/or materials, at no additional cost, to assist the "Owner" OR "Owner's Representative" to evaluate the services rendered, work performed, and equipment conditions.
- D. There shall be no extra charge to the Owner for normal coordination of services, scheduling procedures, reporting requirements, or other service management and supervision mandated under the terms of this Contract to include assistance labor as specified above when assigned personnel are removed from normal duties without replacement by additional personnel for such assistance to the Owner.
- E. In the event the Contractor changes assigned management or supervisory personnel, the Owner shall retain the right to interview and evaluate all new personnel assigned for direct or indirect management and supervision of this Contract work.
- F. In the event the Contractor union affiliated personnel fail to perform their duties satisfactory to the Owner or display an attitude that is not conducive to good relationships or proper servicing of the elevator systems, the Owner may request a position reassignment based on submission of substantial evidence that such Contractor employee is not serving the best interests of the building and/or the Contractor in performing services specified herein. The Contractor shall honor said request within twenty-four (24) hours of notification and provide labor satisfactory to the Owner.
- G. The Owner reserves the right to purchase related vertical transportation system services, attachments or other appurtenances not covered under the terms of this Contract from other than the Maintenance Contractor. The Contractor shall cooperate and assist the Owner in coordination of such projects or acts to insure safe and adequate vertical transportation is provided. When conditions warrant, in the opinion of the Owner, the Contractor shall provide technical assistance to the Owner upon request.

5.8 CONFIDENTIALITY

- A. The Owner may provide information to enable Contractor to render services hereunder, or Contractor may learn information about property or develop such information from Owner. Contractors agrees:
1. To treat, and to obligate Contractor's employees, subcontractors, and suppliers to treat as confidential all such information whether or not identified by Owner as confidential.
 2. Not to disclose and such information or make available any reports, recommendations and/or conclusions which Contractor may make on behalf of Owner to any person, firm or corporation or use the same in any manner, whatsoever, without first obtaining Owner's written approval, except to the extent necessary in connection with performing services or when required by law.
 3. Contractor shall not, in the course of performance of this Agreement, or thereafter, use or permit the use of Owner's name or the name of any affiliate of Owner, or the name, address or any picture or likeness of or reference to the property in any advertising, promotional or other materials prepared by or on behalf of Contractor without the prior written approval of Owner.

5.9 SECURITY

- A. Contractor and Contractor's personnel shall comply with all security regulations and requirements of Owner and Owner's tenants.
- B. Contractor and Contractor's personnel shall submit to security background checks as required.

5.10 OBSOLESCENCE

- A. For the purpose of this contractual contingency, Component Obsolescence shall be defined as the inability to purchase and/or otherwise repair, rebuild or refurbish parts of the system no longer produced by the original equipment manufacturer or a third-party after-market supplier in the same form, fit and/or function. Claims of component obsolescence shall not be allowed when replacement parts, components or assemblies of equivalent design and functionality are available in the market.
1. The exception to the above shall be the full warranty and replacement of any controller drive(s), proprietary or non-proprietary which shall be replaced at no cost to the Owner, if for any reason the drive(s) is no longer manufactured, but can still be obtained or repaired, either through the original manufacturing company or a third-party provider. If the drive(s) are no longer manufactured and no longer available through the original manufacturing company or a third-party provider and cannot be repaired, the drive(s) will then be considered obsolete, and the Owner shall be responsible for thirty percent (30%) of the cost of the drive(s) but shall not be charged any labor costs.
- B. In the event of component obsolescence as defined in paragraph A above, the condition shall be reported to the Owner with the following information:
1. Alternative equipment or component parts renewal options for restoration of the system due to obsolescence.
 2. Procurement and installation time for restoration of system service.

3. Any local law or safety code requirements that will be triggered by the alternative equipment or component renewal (i.e., including filing, tests and approvals).
 4. Certification by the manufacturer of the replacement parts that the parts meet or exceed the original equipment design intent including, but not limited to, durability, reliability, maintainability, longevity and safety.
- C. Payment for obsolescence work shall be based on the extra cost to the contractor only.
1. Labor cost over and above the time necessary for standard equipment and component renewal or repair procedures.
 - a. Contractual hourly rate schedule as provided under Exhibit "A" shall be used to compute the extraordinary labor charge if applicable.
 - b. Thirty percent (30%) of the actual material cost deemed obsolete (with no mark-up) will be paid to the contractor by the Owner.
 - c. If the part is custom makeable, in the same form, fit and function, the Owner will pay up to forty percent (40%) of the cost of that part. The Owner shall not be responsible for labor cost associated with this repair or fabrication.
 - d. At Owner's option, a lump sum extra cost price may be employed in lieu of time and material as indicated above.
 2. Subsequent to the Owners authorization to proceed with an alternative obsolescence repair and approval of the relative extra cost, if any, the contractor shall immediately perform such work and restore operating services.
- A. All non-elective changes or modifications necessitated due to obsolescence, parts unavailability or the Contractor's inability to maintain these systems in accordance with the Contract specifications shall be fully covered under this Agreement regardless of application, method or cost assignment for the life of the Contract.

5.11 SCHEDULED SERVICE PROCEDURES

- A. Maintenance requirements, in addition to scheduled and emergency repairs, renewals and testing, shall include but are not limited to:
1. Examination of wire ropes and/or coated steel belts to maintain proper tensioning and legal bottom clearances on a monthly basis for shortening and adjusting ropes as required and performance of all re-shackling procedures per ASME A17.1 and/or ASME A17.6 standards and local laws in conjunction with maintenance of related slack cable devices, machine limits or other safety equipment.
 2. Examination, repair, and replacement of all electrical wiring, traveling cables, conduits, connections, and related apparatus extending from the main line power supply switch in the machine/control room or other power supplies in hoistways.
 3. Maintenance of pit, hoistway, and machine/control room lighting to include re-lamping, wiring, and switch controls.

4. Mandated inspections and relative labor requirements for third party examinations and/or test procedures as approved by the "Owner" OR "Owner's Representative".
5. Testing to identify lost motion between the main motor, shaft, and drive sheave will be conducted on an annual basis and will proceed as follows:
 - a. An original equipment encoder is mounted on the motor shaft. The shaft is coupled to the sheave and drum arrangement at the opposite end. If the output of the existing encoder is monitored and power applied to the rotor while the sheave and drum are held stationary by the brake, lost motion can be identified.
 - b. Dither board (or equivalent): a device giving a visual signal of motor encoder pulses. This device is inserted on the circuitry between the motor and the digital signal processor.
 - c. Apply current to motor shaft in both directions and monitor encoder pulses.
 - d. Zero pulses on the application of torque are expected. This expectation was validated by testing machines that have been repaired. The detection of any encoder signals is taken to indicate relative motion and signal the need for repair.

PART 6 - EXECUTION AND SUPPLEMENTAL REQUIREMENTS

6.1 PERFORMANCE TIMES, LEVELING AND CONTRACT SPEED

- A. The control system shall be maintained to provide smooth acceleration and retardation. Contractor must maintain elevators in accordance with the original equipment manufacturer's (O.E.M.) design performance specifications (including floor-to-floor times, door timing, rated speed, group supervisory system, etc.). The door close pressure must never exceed thirty (30) foot-pounds. The following performance schedule shall be adhered to:
 1. Contract Speed: The contract speed shall be provided for up direction travel with full-capacity load in the elevator car. The speed in either direction under any loading condition shall not vary more than three percent (3%) of the contract speed on traction equipment and ten percent (10%) on hydraulic equipment.
 2. In accordance with the ASME A17.1 Code, the elevators shall be maintained and adjusted to safely lower, stop and hold the car with a load of 125% of the rated capacity.
 3. Leveling Accuracy: The elevator shall be adjusted to provide accurate leveling within one-quarter inch (1/4") \pm of the floor level without releveling regardless of load.
 4. Door Operating Times per OEM and industry standards:
 5. Floor to Floor Time (Flight Time) for PE1 and PE2..... 4.4 seconds
- B. Maintain the following ride quality requirements for the passenger elevators:
 1. Vertical and horizontal accelerations shall not exceed 14 milli-g
 - a. The accelerometer used for this testing shall be capable of measuring and recording acceleration to nearest 0.01 m/s² (1 milli-g) in the range of 0-2 m/s² over a frequency range from 0-80 Hz with ISO 8041 filter weights applied. Accelerometer should provide contact with the floor similar to foot pressure, 60 kPA (8.7psi).

2. Amplitude of acceleration and deceleration shall not exceed 4.0 ft/sec².
3. A sustained jerk shall not be more than twice the acceleration.
4. The rate of change in the acceleration/deceleration rate shall not be greater than 8.0 ft/sec³.

6.2 PARTS INVENTORY AND WIRING DIAGRAMS

- A. The Contractor shall maintain an inventory of spare parts at the site of the work for scheduled preventive maintenance procedures and common callback service repairs. Such parts shall include but are not limited to contacts, coils, solid-state boards, relays, resistors, timing devices, computer devices, interlock safety switch and linkage parts, bottom guides, door closers, fuses, bulbs, car guides and an assortment of hardware. Contractor shall provide the Owner an inventory of the part inventory within ninety (90) days of signing this contract. Parts cabinets shall be provided by the Contractor.
- B. Additional parts or other equipment required for maintenance and repair of the systems may be stored at the Contractor's facilities with the understanding that delivery of same for emergency procedures must be made within four (4) hours to the job site. Other materials and equipment normally not stocked by the Contractor locally must be available within twenty-four (24) hours for delivery to the job site from remote facilities and/or Supplier Contractor's responsible to the Contractor for stocking the materials or equipment. Once materials/part/s are on site (and not considered a major repair requiring two [2] men) the Contractor shall have personnel installing components within twenty-four (24) hours of receiving material. For major repairs, requiring a two (2) man crew, the Contractor must contact the Owner immediately and get authorization for additional time, if needed, but be completed within no more than five (5) business days.
- C. The Contractor shall maintain and continually update wiring diagrams and control schematics to ensure "as built" documents remain on site and the property of the "Owner" OR "Owner's Representative" per the Maintenance Agreement.

6.3 MATERIALS AND WORKMANSHIP

- A. All materials and parts are to be new and of the best quality available. Installation of such materials shall be accomplished in a neat workmanlike manner. In case the Contractor should receive written notification from the Owner stating the presence of inferior, improper, or unsound materials or workmanship, the Contractor shall, within twenty-four (24) hours proceed to remove such work or materials and make good all other work or materials damaged thereby. If the Owner permits said work or materials to remain, the Owner shall be allowed the difference in value or shall, at its election, have the right to have said work or materials repaired or replaced as well as the damage caused thereby, at the expense of the Contractor, at any time during the Contract term; and neither payments made to the Contractor, nor any other acts of the Owner shall be construed as evidence of acceptance and waiver.

6.4 EQUAL OPPORTUNITY

A. The Contractor shall maintain policies of employment as follows:

1. The Contractor and all Subcontractors shall not discriminate against any employee or applicant for employment because of actual or perceived race, creed, color, religion, national origin, ancestry, alienage or citizenship status, age, disability or handicap, sex marital status, familial status, veteran status, sexual orientation, arrest record or any other characteristic protected by applicable federal, state and local laws. The Contractor shall take affirmative action to insure that applicants are employed, and that employees are treated during employment without regard to their actual or perceived race, creed, color, religion, national origin, ancestry, alienage or citizenship status, age, disability or handicap, sex marital status, familial status, veteran status, sexual orientation, arrest record or any other characteristic protected by applicable federal, state and local laws. Such action shall include, but not be limited to, the following: Employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the policies of non-discrimination.
2. The Contractor and all Subcontractors shall, in all solicitations or advertisements for employees placed by them or on their behalf, state that all qualified applicants will receive consideration for employment without regard to actual or perceived race, creed, color, religion, national origin, ancestry, alienage or citizenship status, age, disability or handicap, sex marital status, familial status, veteran status, sexual orientation, arrest record or any other characteristic protected by applicable federal, state, and local laws.

B. EEO EMPLOYMENT PRACTICES AND COMPLIANCE

1. The parties hereto agree to voluntarily comply with the basic tenants of the Equal Employment Opportunity Requirements of Executive Order 11246, as amended by Executive Order 11375, Title VII of the Civil Rights Restoration Act of 1964, as amended, applicable state Fair Employment Practices Acts, and any other federal or state laws pertaining to equal employment opportunity, and that they will not discriminate against any employee or applicant for employment on the basis of actual or perceived race, creed, color, religion, national origin, ancestry, alienage or citizenship status, age, disability or handicap, sex marital status, familial status, veteran status, sexual orientation, arrest record or any other characteristic protected by applicable federal, state and local laws in matters pertaining to recruitment, hiring, training, upgrading, transfer, compensation or termination. In addition, Contractor agrees to indemnify and hold harmless Owner, its parent, affiliates, employees, agents, representatives, and any of its or their officers, directors, employees, agents, successors, or assigns, harmless from all loss, cost or expense, including reasonable attorneys' fees for any violation by Contractor, its employees, agents, representatives, or assigns of the rules and regulations set forth and enforced by the Immigration and Naturalization Services pursuant to the Immigration and Nationality Act, as well as the Illegal Immigration Reform and Immigrant Responsibility Act which obligation to indemnify shall survive the expiration or termination of this Agreement.
2. Contractor agrees to maintain comprehensive records of all services performed under this Agreement. These records will be available for inspection by "Owner" OR "Owner's Representative" at any time during regular business hours and upon forty-eight (48) hours written notice.

6.5 PROTECTION OF WORK AND PROPERTY

- A. The Contractor shall continuously maintain adequate protection of all their work from damage and shall protect the Owner's property from injury or loss arising out of this contract. The Contractor shall make good any such damages, injury or loss, except such as may be directly caused by agents or employees of the Owner. The Contractor shall provide all barricades required to protect open hoistways or shafts per OSHA regulations. Such protection shall include any necessary guards or other barricades for employee protections during and after the maintenance procedure.

6.6 REPRESENTATION

- A. Contractor represents that it will (i) perform elevator maintenance services under this Agreement in accordance with acceptable industry professional and ethical standards, (ii) not proceed with performance of various aspects of the Services, unless pre-authorized ("Pre-approved Services") by the "Owner" OR "Owner's Representative" at the property, (iii) conduct any handling of "Owner" OR "Owner's Representative" Confidential Information in accordance with acceptable industry professional and ethical standards, (iv) not represent to any third party that it has authority to sign, endorse or represent a contractual relationship with or in "Owner" OR "Owner's Representative" name, or enter into any agreement on behalf of "Owner" OR "Owner's Representative" in connection herewith (unless expressly pre-authorized in writing by "Owner" OR "Owner's Representative"), (v) safeguard the physical security of "Owner" OR "Owner's Representative" Confidential Information if it has access to or possession of such information, (vi) ensure that only "Authorized Representatives" of this Agreement, will have access to any of "Owner" OR "Owner's Representative" Confidential Information while rendering the Services, and that it will not be copied, or disseminated to anyone other than the "Owner" OR "Owner's Representative", and (vii) ensure that all of its employees, representatives, agents or assigns will not solicit any of "Owner" OR "Owner's Representative" employees for any purpose. The Parties agree that any alteration to any of the Addenda, Riders, or Exhibits hereto shall be null and void, unless made in writing by mutual consent of the Parties. The obligations of Contractor set forth herein shall remain in full force and effect for the later of a period of one (1) year from the date of termination or expiration of this Agreement, or the date the Confidential Information is returned to whomever disclosed such information, after the date of termination or expiration of this Agreement.

6.7 VIOLATIONS

- A. In the event that a summons or notification of violation or other process is issued to "Owner" OR "Owner's Representative" by or on behalf of a governmental authority or its agents having jurisdiction over the building for violation of any law, code, ordinance, rule or regulation pertaining to the maintenance, repair or replacements of the Owner's vertical transportation system and/or its component parts or conditions pertaining thereto, which are the responsibility of the contractor to maintain, repair or replace under the Contract, the contractor agrees to indemnify and hold Owner, its officers, agents, servants and employees harmless from and against Owner, and contractor agrees that it will, at its own cost and expense, answer such process and defend Owner before any administrative tribunal or court having jurisdiction over the matter and shall comply with and pay any judgment, award or fines imposed, and contractor shall timely correct and cure any violation condition and certify correction/cure of such condition(s) to the adjudicating body and/or issuing governmental authority, as may be required, and shall timely

prepare and file the necessary certification, affidavit and supporting proof necessary to obtain removal, correction, discharge, or dismissal of the violation on the agent records.

6.8 CHANGES IN SCOPE

- A. The “Owner” OR “Owner's Representative” may at any time, by written order, make changes within the general scope of this Contract in the work and service to be performed. If any such cases cause an increase or decrease in the Contractor’s cost of, or the time required for, the performance of this Agreement, an equitable adjustment shall be made, and the Contract modified in writing accordingly. If the “Owner” OR “Owner's Representative” and Contractor fail to agree upon the adjustment to be made, the “Owner” OR “Owner's Representative” reserves the right to solicit bids from other vendors for the performance of the additional work.

- B. When the “Owner” OR “Owner's Representative” removes one or more elevators named in this Contract from service in order to perform work on such elevators that is outside the scope of this Contract, the monthly payments due the Contractor and the minimum maintenance hours required to be provided by the Contractor will be reduced accordingly. The Contractor shall be notified, in writing, by letter or Contract change order, at least three (3) full working days in advance of the elevator(s) being removed from, or returned to, service. If the elevator(s) is to be removed from service for thirty (30) consecutive calendar days or less, the “Owner” OR “Owner's Representative” may negotiate an equitable adjustment with the Contractor and make the necessary adjustments on the monthly invoice authorizing payment. If the elevator(s) is to be removed from service for more than thirty (30) consecutive calendar days, the “Owner” OR “Owner's Representative” may issue a modification to the Contract and negotiate an equitable adjustment in the Contract price in accordance with this Section. The period for reducing payments will begin on the effective date specified in the notice and will continue through the day before the elevator(s) is returned to covered service.

In witness whereof, the parties hereto have executed this Agreement on the day and year written below.

CONTRACTOR: _____

BY: _____

TITLE: _____

“OWNER” : Bay County Michigan

BY: _____

TITLE: _____

DATE: This _____ day of _____ 20 _____

WITNESS _____

Exhibit “A” attached and made a part of this Agreement.

Exhibit “B” attached and made a part of this Agreement.

EXHIBIT "A"

SCHEDULE OF INITIAL BASE HOURLY RATES FOR CONTRACTOR'S PERSONNEL

VDA No. 69240	Contractors Hourly Base Cost including Fringe Benefits	Overhead and Profit Percentage	Straight Time Rate Hourly Selling Price	Premium Time Rate	*1.5 or 1.7 Hourly Selling Price (Specify)	**Double Time Rate Hourly Selling Price
Maintenance Mechanic						
Repair Mechanic						
Modernization Mechanic						
Helper						
Foreman/Adjuster						
Other						

*Hours and Days of the Week that the Rate applies: _____

**Hours and Days of the Week that the Rate applies: _____

EXHIBIT "B"

CONTRACTOR'S SCHEDULE OF UNIT PRICES

TYPE OF UNIT	BUILDING ELEVATOR (DESIGNATION)	(1) MONTHLY MAINTENANCE CHARGE EACH	(2) NUMBER OF UNITS	TOTAL MONTHLY PRICE (1) x (2)	TOTAL ANNUAL PRICE (1) x (2) x 12 MONTHS
OH Gearless Traction	PE1		One (1)		
OH Gearless Traction	PE2		One (1)		
TOTAL MONTHLY PRICE FOR () UNITS				\$	
TOTAL FIRST YEAR ANNUAL PRICE FOR () UNITS					\$

**SEE ATTACHED
REQUIRED DOCUMENTATION**

NON-BIDDERS FEEDBACK FORM

Bid #: 2023-17

If you are not submitting a bid for this Bid, please indicate the reason(s) by checking off one or more items below and email this form to purchasing@baycounty.net.

- _____ Unable to bid at this time but would like to receive future bid requests.
- _____ Service(s) or material(s) not provided by our firm.
- _____ Service(s) or material(s) we offer do not fully meet all the requirements specified.
- _____ We cannot meet the timetable required.
- _____ Insufficient time allowed for preparation and submission of bid.
- _____ Specifications not clearly understood or applicable as follows: (ex. too vague, too rigid, etc.)
- _____ Other: _____

Please remove our name from your bidders list for

- _____ This commodity group
- _____ These item(s) or material(s)
- _____ All bids

Signature: _____

Print Name: _____

Title: _____

Company Name: _____

Company Address: _____

Email: _____

Phone: _____ Date: _____

Bid Response Cover Sheet

ALL BIDS MUST INCLUDE THIS COVER SHEET (OR THIS SHEET REPRODUCED ON LETTERHEAD) AS A COVER SHEET OR PAGE ONE (1) OF THE BID

TO: County of Bay
515 Center Ave, 7th Floor
Bay City, MI 48708

FROM: _____

Company Name

an individual,

a corporation

(Please mark appropriate box),

Duly organized under the laws of the state of: _____

Year Firm Established _____

Years in Business: _____

The undersigned, having carefully read and considered the Request for Proposal (RFP) for the Bay County Elevator Replacement, does hereby offer to perform such services on behalf of the County in the manner described and subject to the terms and conditions set forth in the attached Bid, including, by reference here, the County's RFP document. Bids must be signed by an official authorized to bind the provider to its provisions for at least a period of 90 days.

BY: _____

(Signature of authorized representative)

(Please Print Name and Title)

PRINCIPAL OFFICE ADDRESS:

Street Address: _____

City: _____

County: _____

State _____

Zip Code: _____

Telephone: _____

Fax: _____

Email: _____

TIN #: _____

Unique Entity ID (UEI)#: _____

**BAY COUNTY
PURCHASING DIVISION
BIDDERS CHECK LIST**

YES NO

- | | | |
|---|-------|-------|
| 1. I have read ALL the instructions and specifications. | _____ | _____ |
| 2. I have read and acknowledge the information contained in the "General Information" section of the Bid | _____ | _____ |
| 3. I have filled in ALL the required documentation. | _____ | _____ |
| 4. I have provided all required information per the guidelines specified within the bid document. | _____ | _____ |
| 5. I am an officer of the company. | _____ | _____ |
| 6. I have the authority to obligate my company. | _____ | _____ |
| 7. I am returning the signed ORIGINAL and specified number of copies required per the bid document | _____ | _____ |
| 8. I have organized and labeled the bid per instruction. | _____ | _____ |
| 9. I have retained a copy of the submission. | _____ | _____ |
| 10. I have properly labeled the external envelope. | _____ | _____ |
| 11. If successful, the "Insurance Requirement Certificate" from an insurance company licensed to do business in the State of Michigan will be provided within ten working days after Notification of the award. | _____ | _____ |
| 12. I have provided the necessary information for the person responsible for follow-up. | _____ | _____ |

Signature: _____

Print Name: _____

Title: _____

Company Name: _____

Company Address: _____

Phone Number: _____ Fax Number: _____

E-mail Address: _____

Date: _____

CERTIFICATION

The individual signing below certifies:

1. They are fully authorized to submit this bid, including all assurances, understanding and representations contained within it which shall be enforceable as specified.
2. The individual has been duly authorized to act as the official representative of the firm, to provide additional information as required and, if selected, to consummate the transaction subject to additional, reasonable standard terms and conditions presented by County.
3. This proposal was developed solely by the Firm indicated below and was prepared without any collusion with any competing firm or County employee.
4. The content of this proposal has not and will not knowingly be disclosed to any competing or potentially competing firm prior to the proposal opening date, time, and location indicated.
5. No action to persuade any person, partnership, or corporation to submit or withhold a bid has been made.

Signature: _____

Print Name: _____

Title: _____

Company Name: _____

Company Address: _____

Phone Number: _____

Fax Number: _____

E-mail Address: _____

Date: _____

FORM OF PROPOSAL

The Contractor _____, confirms the specification has been carefully examined and a survey of the prevailing conditions has been performed at 515 Center Ave., in Bay City, Michigan.

1) The undersigned proposes to furnish all labor, material and fees required for the project execution at 515 Center Ave. in Bay City, MI in accordance with specifications, for the contract prices specified below.

- No exceptions or clarifications taken
- See attachment for exceptions/clarifications

2) Under no circumstances shall the Contractor submit his own proposal without bidding the project specifications. A Contractor's Value Engineering Alternate is provided for optional equipment proposals and/or implementation methods other than the design specification requirements.

3) The bid includes addenda number: _____

Signature: _____

Print Name: _____

Title: _____

Company Name: _____

Company Address: _____

Phone Number: _____

Fax Number: _____

E-mail Address: _____

Date: _____

PRICING

- 1) The base lump sum for turnkey modernization of two (2) elevators \$ _____
- 2) The base lump sum bid for monthly maintenance services for two (2) elevators. \$ _____
- 3) Unit pricing included in the base bid item "C" quotation:
 - a) PE1 \$ _____
 - b) PE2 \$ _____
- 4) Related work *included* in the base bid item "C" above:
 - a) Electrical \$ _____
 - b) Electrical Sub Contractor \$ _____
 - c) Mechanical \$ _____
 - d) Mechanical Sub Contractor \$ _____
 - e) Fire/Life Safety \$ _____
 - f) Fire/Life Safety Sub Contractor \$ _____
 - g) Sub Contractor \$ _____
- 5) Allowances *included* in the base bid above:
 - _____ \$ _____
 - _____ \$ _____
 - _____ \$ _____
 - _____ \$ _____

PROJECT IMPLEMENTATION TIMELINES

- 1) Proposed Guaranteed Scheduling for Project Implementation:
 - a) Lead time after contract award and selection item confirmations before start of work: _____ weeks
 - b) PE1 out-of-service time: _____ weeks
 - c) PE2 out-of-service time: _____ weeks

MAINTENANCE

- 1) Interim monthly maintenance price (**not included in base lump sum**) prior to start of work and during modernization work implementation:
 - a) \$ _____ (____ Elevators) (months included per elevator before and during modernization)
- 2) Guarantee monthly maintenance price (**included in base lump sum**) after completion and final acceptance of units for the first 12-month period:
 - a) \$ _____ (____ Elevators)

- 3) Long-term monthly maintenance price (**owners' option**) for five (5) years after guarantee period:
 - a) \$ _____ (_____ Elevators)
- 4) Monthly deduct for units out of service for modernization:
 - a) \$ _____ (Per Elevator)
- 5) Cost for Performance, Labor, and Material Payment Bond:
 - a) \$ _____

ALTERNATE PRICE QUOTATION

Note: the following price quotes are submitted a plus or minus (+ or-) the base price proposals indicated. Duplicated procedures, materials, and/or equipment must be adjusted to specify the variance in cost only.

Contractor's Value Engineering Options:

	\$ _____
	\$ _____

**SCHEDULE OF INITIAL BASE HOURLY RATES FOR CONTRACTOR'S PERSONNEL
(MODERNIZATION)**

VDA No. 69240	Straight Time Hourly Rate*	Premium Time Rate**	Overtime Hourly Rate		
Maintenance Mechanic					
Helper					
Modernization Mechanic					
Team					
Foreman Adjuster					
Other _____					

**SCHEDULE OF INITIAL BASE HOURLY RATES FOR CONTRACTOR'S PERSONNEL
(SERVICE)**

VDA No. 69240	Straight Time Hourly Rate*	Premium Time Rate**	Overtime Hourly Rate		
Maintenance Mechanic					
Helper					
Modernization Mechanic					
Team					
Foreman Adjuster					
Other _____					

*Hours and days of the week that the rate applies: _____

**Hours and days of the week that the rates apply: _____

Submit with one (1) signed copy of the Owner's Form of Full Coverage Maintenance Agreement.

The undersigned hereby certifies that he/she is able to furnish labor that can work in harmony with any other elements of labor employed or that me be employed in the building.

Signature: _____

Print Name: _____

Title: _____

Company Name: _____

Company Address: _____

Phone Number: _____

Fax Number: _____

E-mail Address: _____

Date: _____

COMPANY BACKGROUND

Firm Name: _____

Address: _____

Phone: _____

Type of company:

_____ Corporation

_____ Partnership

_____ Sole Proprietorship

_____ Other

Type of elevator work in which you specialize

(Check one)

_____ New Installation

_____ Renovation/Alteration

_____ Maintenance

List all principals/officers with their titles and years of experience with this firm:

Name: _____

Title: _____

Years of experience: _____

Name: _____

Title: _____

Years of experience: _____

Name: _____

Title: _____

Years of experience: _____

Proposed Project Manager and Superintendent with years of experience:

Project Manager: _____

Experience: _____

Superintendent: _____

Experience: _____

Number of employees: _____

Number of maintenance mechanics: _____

Number of installation mechanics: _____

Number of maintenance mechanics familiar with these types of elevators: _____

REFERENCES

List information for similar **modernization** projects started or completed within the last twelve (12) months in the same logistical area.

Project: _____
Owner: _____
Contact Person: _____ Phone Number: _____
Scope of work: _____
Contract Amount: \$ _____

Project: _____
Owner: _____
Contact Person: _____ Phone Number: _____
Scope of work: _____
Contract Amount: \$ _____

List a minimum of two (2) additional similar **modernization** projects completed within the last four (4) years With contact names, telephone numbers, date of completion and other pertinent information in the same logistical area

Project: _____
Owner: _____
Contact Person: _____ Phone Number: _____
Scope of work: _____
Contract Amount: \$ _____ Completion Date: _____

Project: _____
Owner: _____
Contact Person: _____ Phone Number: _____
Scope of work: _____
Contract Amount: \$ _____ Completion Date: _____

REFERENCES MAINTENANCE

List maintenance service references for similar groups of elevator systems currently serviced by your company under a full comprehensive maintenance program in the same logistical area.

Provide building address, contact name, and telephone numbers. List number of elevator units in each contract.

Building Location: _____

Contact Person: _____

Phone Number: _____

Number of elevator units: _____

Building Location: _____

Contact Person: _____

Phone Number: _____

Number of elevator units: _____

Building Location: _____

Contact Person: _____

Phone Number: _____

Number of elevator units: _____