

Date: October 17, 2023

To: Honorable Chairman Oliver G. Gilbert, III
and Members, Board of County Commissioners

From: Daniella Levine Cava
Mayor



Agenda Item No. 8(P)(1)

Resolution No. R-925-23

Subject: Recommendation for Approval to Reject All Proposals and Award a Designated Purchase for Modernization, Maintenance, and Repair Services for Conveyance Equipment; and Authorizing the Use of Charter County Transportation Surtax Funds for Such Purpose

Summary

This item is for the rejection of all proposals received in response to a competitive Request for Proposals (RFP) and award of a designated purchase contract for the purchase of modernization, maintenance, and repair services for conveyance equipment for the Department of Transportation and Public Works (DTPW). The contract will provide for the modernization, maintenance, and repair of conveyance equipment located at the following Metrorail stations: Civic Center, Dadeland North, Dadeland South, Government Center, and Tri-Rail. Through this contract, DTPW will be able to access services necessary to ensure that the conveyance equipment is compliant with the Florida Elevator Safety Code (Code) requirements and the Americans with Disabilities Act (ADA) and remains in good operational condition for daily usage by patrons. Some of the benefits of modernizing this equipment include increasing durability and reliability, improving fire and life safety features, decreasing waiting times, and reducing energy consumption, operational costs, and troubleshooting time.

The requested allocation includes the modernization of 27 conveyance units across various Metrorail stations. The modernization of this equipment is critical for DTPW as it ensures the transit system is available to all patrons by reducing the downtime of conveyance equipment. Most of the conveyance equipment under this contract are exposed to harsh environmental conditions which contributes to an accelerated deterioration. This competitive solicitation is being presented as a designated purchase to ensure that the equipment is modernized and in good working condition to remain in compliance with the Code and ADA, and in anticipation of the Code being updated in January 2024, which may result in additional modernization scope under this contract.

Recommendation

It is recommended that the Board of County Commissioners (Board) approve this request to reject all proposals received in response to the solicitation and award of a designated purchase, *Contract No. RFP-02030, Modernization, Maintenance, and Repair Services for Conveyance Equipment*, to Schindler Elevator Corporation (Schindler) for DTPW. Approval of a designated purchase, by a two-thirds vote of the Board members present, is being requested pursuant to Section 2-8.1(b)(3) of the Miami-Dade County Code to authorize a five-year contract with one, five-year option to renew in the cumulative amount of \$28,008,986.

This item is placed for Board review pursuant to Miami-Dade County Code Section 29-124(f). The Board may only consider this item if the Citizens' Independent Transportation Trust (CITT) has forwarded a recommendation to the Board. If the CITT has not forwarded a recommendation and 45 days have not elapsed since the issuance of this recommendation, a withdrawal of this item will be requested. This item will be presented to the CITT as an informational item as People's Transportation Plan (PTP) funds may be used for the modernization portion of the work. Modernizations planned and budgeted through the PTP will be individually presented to the CITT prior to issuance of a notice to proceed.

A waiver of the competitive bidding process is recommended. The County could have rejected and resolicited; however, resoliciting would cause unnecessary delays in the modernization of this equipment which is critical for the department to continue operating in a safe manner while maintaining equipment in compliance with the Code and ADA.

Further competition is not practicable at this time as resoliciting these services will impact the timely completion of modernization projects to ensure that the equipment is in good working condition, to remain in compliance with the Code and ADA. It should also be noted that a new Code will become effective in January 2024, which will require additional modernization of the County's conveyance equipment to be compliant. This award is being presented as a designated purchase as both proposals received in response to the RFP were deemed non-responsive by the CAO. Accordingly, it is in the County's best interest to award this designated purchase contract pursuant to Section 2-8.1(b)(3) of the County Code to ensure the County's conveyance equipment is compliant with the Code and ADA.

Background

An RFP was issued under full and open competition on December 20, 2021. Upon the closing date of March 14, 2022, the County received two proposals, including one from a local firm. Upon review of the proposals, potential responsiveness issues were identified for both proposers. On May 3, 2022, both proposals were sent to the County Attorney's Office (CAO) for a responsiveness review and were deemed non-responsive by the CAO on August 30, 2022, due to exceptions taken by the proposers (see attached). It was determined by SPD and DTPW that it was in the best interest of the County to move forward with the evaluation of both proposals. A kick-off meeting with the Competitive Selection Committee was held on November 2, 2022. Following a substitution and a removal of selection committee members on December 15, 2022, the evaluation meeting was held on January 9, 2023, where the CSC evaluated, scored, and recommended negotiations with the highest ranked proposer, Schindler. Pursuant to I.O. 3-34, three variances in one of the CSC member's scores were identified that exceeded 33% of the average score awarded by all committee members. The variances were addressed during the evaluation meeting, and the final scores remained the same.

A total of 15 negotiation meetings, inclusive of five strategy sessions, and two site visits were held beginning in March 2023 and ending in July 2023, where equipment was examined, the scope was further refined, terms and conditions were finalized, a schedule was agreed upon, and pricing was negotiated. Through negotiations, staff was able to leverage volume and ensure best value and consistency with the rates established for countywide services.

Market research conducted revealed a limited number of vendors that can provide major modernization services for the subject conveyance equipment. The major providers identified were Kone Elevator & Escalators, Otis Elevator Company, Schindler, and TK Elevator Corporation. No Small Business Enterprise (SBE) firms certified under the applicable commodities codes were identified. Modernization projects specifications have been developed to include non-proprietary equipment requirements to ensure availability of vendors that are able to maintain and repair the subject equipment in the future.

Scope

The scope of this item is countywide in nature.

Fiscal Impact/Funding Source

The fiscal impact for the five-year term is \$23,121,386. Should the County choose to exercise, at its sole discretion, the one, five-year option to renew term, the estimated cumulative value will be \$28,008,986. Of the requested allocation, \$19,291,824 of People's Transportation Plan (PTP) Surtax Funds will be allocated for one-time modernization services for all conveyance equipment under this contract.

Department	Allocation	Funding Source	Contract Manager
DTPW	\$28,008,986	PTP, DTPW Operating	Josiel Ferrer-Diaz
Total	\$28,008,986		

Track Record/Monitor

Vanessa Stroman of the Strategic Procurement Department (SPD) is the Procurement Contracting Manager.

Delegated Authority

If this item is approved, the County Mayor or County Mayor's designee will have the authority to exercise all provisions of the contract, including any renewal, cancellation, or extension provisions, pursuant to Section 2-8.1 of the County Code and Implementing Order 3-38.

Vendor Recommended for Award

Pursuant to Resolution No. R-477-18, the highest-ranked proposer is recommended in accordance with the method of award per the solicitation and is non-local.

Vendor	Principal Address	Local Address	Number of Employee Residents	Principal
			1) Miami-Dade 2) Percentage*	
Schindler Elevator Corporation	20 Whippany Road Morristown, NJ	None	27	Ray Bisson
			15%	

*Provided pursuant to Resolution No. R-1011-15. Percentage of employee residents is the percentage of vendor's employees who reside in Miami-Dade County as compared to the vendor's total workforce.

Vendor Not Recommended for Award

Vendor	Local Address	Reason for Not Recommending
TK Elevator Corporation	Yes	Evaluation Scores/Ranking

Due Diligence

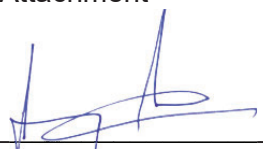
Pursuant to Resolution No. R-187-12, due diligence was conducted in accordance with SPD's Procurement Guidelines to determine vendor responsibility, including verifying corporate status and that there are no performance and compliance issues through various vendor responsibility lists and a keyword internet search. The lists that were referenced included convicted vendors, debarred vendors, delinquent contractors, suspended vendors, and federal excluded parties.

The County is working with Schindler to address issues with conveyance equipment reliability and down time. This effort includes addressing the modernization and upgrade needs for the equipment that may be beyond its useful life or is damaged due to exposure to the elements or heavy use.

Applicability of Ordinances and Contract Measures

- The two percent User Access Program applies where permitted by the funding source.
- The Small Business Enterprise measures did not apply.
- The Local Preference applied to the solicitation.
- The Living Wage Ordinance does not apply.
- The Responsible Wages and Benefits Ordinance applies.

Attachment


Jimmy Morales
Chief Operations Officer

Memorandum



Date: August 30, 2022

To: Saba Musleh
Procurement Contracting Officer III
Internal Services Department

From: Miguel A. Gonzalez, 
Assistant County Attorney

Subject: RFP No. 02030 – Modernization, Maintenance, and Repair Services for Conveyance Equipment (the “RFP”)

I am in receipt of a request for responsiveness determination regarding proposals received from Schindler Elevator Corporation (“Schindler”) and TK Elevator North America (“TKE”) in response to the Solicitation. I have relied on the information contained in your request, the materials accompanying the request, and our conversations regarding this matter.

Your request raises numerous issues for responsiveness determinations. However, this memorandum addresses only some of the issues raised as they are sufficient to determine that the proposals received from Schindler and TKE are both non-responsive; the issues raised in your request but not addressed in this memorandum have not been evaluated and may constitute additional bases for a non-responsiveness determination.

For the reasons set forth below, the proposals received from Schindler and TKE are not responsive.

Schindler

The RFP required to provide pricing that was “inclusive of labor, equipment, overhead and profit, and any other cost to the Proposer.” *See* RFP at Section 3.2.1. Further, in its “Scope of Services” section, the RFP made clear that the intent of the solicitation to provide for an “all-inclusive maintenance and repair contract; all costs shall be included in the fees unless specifically excluded.” *Id.* at Attachment A, Section 2.0.

Among other documents attached to its response to the RFP, Schindler included a document titled “Exceptions to the Terms of Solicitation.” This document provided a listing of scope that was included in Schindler’s pricing in relation to “electrical work,” “general contracting work” and “additional work”; the same document also specified that certain matters were excluded from the proposal, including “any existing code violations beyond the scope of this proposal.” *See generally* BidSync at 49. Schindler indicated that “any work not specifically identified below will be provided as an additional change notice.” *Id.* Each of these exclusions relate to work that is base work under the RFP.

This renders Schindler's proposal non-responsive. By redefining the scope of work from "all-inclusive," to including only those matters specifically identified by Schindler, Schindler deprived the County of assurance that a contract would be entered into and performed in accordance with the requirements of the RFP. *See Glatstein v. City of Miami*, 399 So. 2d 1005, 1007-08 (Fla. 3d DCA 1981); *Harry Pepper & Assocs., Inc. v. City of Cape Coral*, 352 So. 2d 1190, 1192 (Fla. 2d DCA 1977) (citing *Wester v. Belote*, 138 So. 721, 723-24 (Fla. 1931)).

TKE

TKE's bid was accompanied by a list of "Standard Bid Clarifications" that indicated in its opening paragraph that the "Standard Bid Clarifications *shall be made a part of this bid and any subsequent Agreement issued pursuant to an award thereof*, and in the event of conflict with other articles, terms, conditions or contract documents, these Standard Bid Clarifications shall prevail." *See BidSync* at 92 (emphasis supplied). This document, which is not presented as a list of negotiable terms, includes various terms that conflict with the basic requirements of the RFP.

For instance, the RFP provided for an initial term of 5 years, with one option to renew for an additional 5-year term, which was to be exercised at the County's sole discretion. *See RFP* at Section 1.1. In contrast, the "Standard Bid Clarifications" provides that "[t]his agreement is effective for five (5) years starting date of signed acceptance and is non-cancelable." *See BidSync* at 92. The same document further provided that the agreement would "be automatically renewed for successive five (5) year periods, unless either party timely serves written notice upon the other party of its intention to cancel at least ninety (90) days before the end of the initial five (5) year period, or ninety (90) days before the end of any subsequent five (5) year renewal period." *Id.*

The same "Standard Bid Clarifications" document included numerous other exceptions to the RFP's terms that render TKE's proposal non-responsive. For example, the TKE document provides that TKE's "standard owner's manual shall suffice in lieu of any maintenance, or any other, manual(s) required in the bid specifications." *Id.* Further, as with the Schindler proposal, the TKE proposal included numerous exclusions from the base scope of services. *Id.* at 93-94. In addition, TKE's document provided that "[u]pon award, [TKE] will complete a comprehensive survey of each escalator with 'work by others' [sic] vendors to get formal quote on the pricing. If overall cost is under the allowance included, a deductive change notice shall be provided. If cost exceeds allowance included, a change notice shall be provided."

As presented, TKE's proposal deprives the County of assurances regarding the (1) length of term of an agreement, (2) scope of work included, and (3) price offered. Each of these exceptions renders the TKE proposal non-responsive, because the County is deprived of assurance that a contract will be entered into in accordance with the requirements of the RFP. *See Glatstein*, 399 So. 2d at 1007-08.



MEMORANDUM

(Revised)

TO: Honorable Chairman Oliver G. Gilbert, III
and Members, Board of County Commissioners

DATE: October 17, 2023

FROM: 
Gen Bonzon-Keenan
County Attorney

SUBJECT: Agenda Item No. 8(P)(1)

Please note any items checked.

- ☐ "3-Day Rule" for committees applicable if raised
- ☐ 6 weeks required between first reading and public hearing
- ☐ 4 weeks notification to municipal officials required prior to public hearing
- ☐ Decreases revenues or increases expenditures without balancing budget
- ☐ Budget required
- ☐ Statement of fiscal impact required
- ☐ Statement of social equity required
- ☐ Ordinance creating a new board requires detailed County Mayor's report for public hearing
- ☐ No committee review
- ☒ Applicable legislation requires more than a majority vote (i.e., 2/3's present ☒, 2/3 membership ☐, 3/5's ☐, unanimous ☐, CDMP 7 vote requirement per 2-116.1(3)(h) or (4)(c) ☐, CDMP 2/3 vote requirement per 2-116.1(3)(h) or (4)(c) ☐, or CDMP 9 vote requirement per 2-116.1(4)(c)(2) ☐ to approve
- ☐ Current information regarding funding source, index code and available balance, and available capacity (if debt is contemplated) required

Approved _____ Mayor
Veto _____
Override _____

Agenda Item No. 8(P)(1)
10-17-23

RESOLUTION NO. R-925-23

RESOLUTION AUTHORIZING REJECTION OF ALL PROPOSALS RECEIVED IN RESPONSE TO A COMPETITIVE REQUEST FOR PROPOSALS AND DESIGNATED PURCHASE PURSUANT TO SECTION 2-8.1(B)(3) OF THE COUNTY CODE BY A TWO-THIRDS VOTE OF THE BOARD MEMBERS PRESENT; AUTHORIZING AWARD OF CONTRACT NO. RFP-02030 IN AN AMOUNT NOT TO EXCEED \$28,008,986.00 FOR THE INITIAL FIVE-YEAR TERM AND ONE, FIVE-YEAR OPTION TO RENEW FOR THE PURCHASE OF MODERNIZATION, MAINTENANCE, AND REPAIR SERVICES FOR CONVEYANCE EQUIPMENT FOR THE DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS; AUTHORIZING THE USE OF \$19,291,824.00 OF CHARTER COUNTY TRANSPORTATION SURTAX FUNDS FOR THIS PROJECT WHICH WAS ADDED TO THE PEOPLE'S TRANSPORTATION PLAN IN OCTOBER 2003; AND AUTHORIZING THE COUNTY MAYOR OR COUNTY MAYOR'S DESIGNEE TO EXECUTE SAME FOR AND ON BEHALF OF MIAMI-DADE COUNTY AND TO EXERCISE ALL PROVISIONS OF THE CONTRACT, INCLUDING ANY RENEWAL, CANCELLATION AND EXTENSION PROVISIONS PURSUANT TO SECTION 2-8.1 OF THE CODE OF MIAMI-DADE COUNTY, FLORIDA AND IMPLEMENTING ORDER 3-38

WHEREAS, this Board desires to accomplish the purposes outlined in the accompanying memorandum, a copy of which is incorporated herein by reference,

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF MIAMI-DADE COUNTY, FLORIDA, that:

Section 1. This Board finds it is in the best interest of Miami-Dade County to reject all proposals received and award Contract No. RFP-02030 to Schindler Elevator Corporation as a designated purchase, in substantially the form attached and made a part hereof, for the purchase of modernization, maintenance, and repair services for conveyance equipment in a total amount not

to exceed \$28,008,986.00 for the initial five-year term and one, five-year option to renew for the Department of Transportation and Public Works, pursuant to section 2-8.1(b)(3) of the Code of Miami-Dade County, by a two-thirds vote of the Board members present.

Section 2. This Board authorizes the use of \$19,291,824.00 of Charter County Transportation Surtax Funds for the Department of Transportation and Public Works included in the FY23 Adopted Capital Budget and FY22-26 Five-Year Implementation Plan of the People's Transportation Plan and which was added to the People's Transportation Plan in October 2003.

Section 3. This Board authorizes the County Mayor or County Mayor's designee to exercise all provisions of the contract, including any renewal, cancellation and extension provisions pursuant to section 2-8.1 of the Code of Miami-Dade County, Florida and Implementing Order 3-38.

The foregoing resolution was offered by Commissioner **Eileen Higgins**, who moved its adoption. The motion was seconded by Commissioner **Kevin Marino Cabrera** and upon being put to a vote, the vote was as follows:

	Oliver G. Gilbert, III, Chairman	aye	
	Anthony Rodríguez, Vice Chairman	absent	
Marleine Bastien	aye	Juan Carlos Bermudez	aye
Kevin Marino Cabrera	aye	Sen. René García	aye
Roberto J. Gonzalez	aye	Keon Hardemon	aye
Danielle Cohen Higgins	aye	Eileen Higgins	aye
Kionne L. McGhee	aye	Raquel A. Regalado	aye
Micky Steinberg	aye		

The Chairperson thereupon declared this resolution duly passed and adopted this 17th day of October, 2023. This resolution shall become effective upon the earlier of (1) 10 days after the date of its adoption unless vetoed by the County Mayor, and if vetoed, shall become effective only upon an override by this Board, or (2) approval by the County Mayor of this resolution and the filing of this approval with the Clerk of the Board.



MIAMI-DADE COUNTY, FLORIDA
BY ITS BOARD OF
COUNTY COMMISSIONERS

JUAN FERNANDEZ-BARQUIN, CLERK

By: Basia Pruna
Deputy Clerk

Approved by County Attorney as
to form and legal sufficiency.

MAG

Miguel A. Gonzalez

Miami-Dade County, FL

Contract No. RFP-02030

Modernization, Maintenance, and Repair Services for Conveyance Equipment
Contract No. RFP-02030

THIS AGREEMENT for the provision of modernization, maintenance, and repair services for conveyance equipment, made and entered into as of this _____ day of _____ by and between Schindler Elevator Corporation, a corporation organized and existing under the laws of the State of Delaware, having its principal office at 20 Whippany Road, Morristown, NJ (the "Contractor"), and Miami-Dade County, a political subdivision of the State of Florida, having its principal office at 111 NW 1st Street, Miami, Florida 33128 (the "County") (collectively, the "Parties").

WITNESSETH:

WHEREAS, the Contractor has offered to provide modernization, maintenance, and repair services for conveyance equipment, on a non-exclusive basis, that shall conform to the Scope of Services (Appendix A), Miami-Dade County's Request for Proposal ("RFP") No. 02030 and all associated addenda and attachments, and the requirements of this Agreement; and

WHEREAS, the Contractor has submitted a written proposal dated March 10, 2022 (the "Contractor's Proposal") which is incorporated herein by reference; and

WHEREAS, the County desires to procure from the Contractor such modernization, maintenance, and repair services for the County, in accordance with the terms and conditions of this Agreement;

NOW, THEREFORE, in consideration of the mutual covenants and agreements herein contained, the Parties hereto agree as follows:

ARTICLE 1. DEFINITIONS

The following words and expressions used in this Agreement shall be construed as follows, except when it is clear from the context that another meaning is intended:

- a) The words "Article" or "Articles" to mean the terms and conditions delineated in this Agreement.
- b) The words "Certified Elevator Technician", "Certified Elevator Inspector", or Technician to mean a natural person authorized by the State of Florida, Department of Business & Professional Regulation to construct, install, maintain, or repair Conveyance Equipment.
- c) The word "Contract" or "Agreement" to mean collectively the (i) Articles, (ii) Scope of Services, (iii) Price Schedule, (iv) all other appendices and attachments hereto, and (v) all amendments issued hereto, and Contractor's Proposal.
- d) The words "Contract Manager" to mean the Chief Procurement Officer, Strategic Procurement Department, or the duly authorized representative designated to manage the Contract.
- e) The word "Contractor" to mean Schindler Elevator Corporation and its permitted successors.
- f) The words "Conveyance Equipment" to mean any of the following: elevators, escalators, dumbwaiters, , moving walks, conveyors, people movers, wheelchair lifts, and all related equipment.
- g) The word "Days" to mean calendar days.
- h) The word "Deliverables" to mean all documentation and any items of any nature submitted by the Contractor to the Project Manager for review and approval pursuant to the terms of this Agreement.
- i) The words "Developed Works" to mean all rights, title, and interest in and to certain inventions, ideas, designs and methods, specifications and other documentation related thereto developed by the Contractor and its Subcontractors specifically for the County.

- j) The words "Force Majeure" mean the occurrence of any of the following events that solely and directly causes the Party claiming Force Majeure to be unable to comply with, all of its obligations under this Agreement: (a) act of the public enemy, quarantine restriction, wars, insurrection, hostilities, acts of terrorism, riots, or revolutions or civil commotions; (b) strikes, lockouts, labor disputes (c) freight embargoes, wide-spread and significant shortages of fuel, power, labor, materials or parts for which there is no other alternative; (d) national or local emergencies; (e) epidemic, fire, wind, hurricanes, earthquake, unusually severe weather, or flood; (f) any act of God; or (g) any court orders, injunctions, temporary restraining orders, or other legal decisions directly and materially affecting, limiting, restricting or prohibiting performance under the Contract. No condition existing on the Effective Date of the Agreement shall constitute the basis for an assertion of Force Majeure by the Contractor. In addition, to obtain relief under the Force Majeure provision of the Agreement, the Contractor shall be required to notify the County in writing within fifteen (15) days of the commencement of the Force Majeure event. To the extent the Contractor alleges that an event of Force Majeure prevents it from performing all of its obligations under this Contract, the County shall be excused from making payment to the Contractor during the period of the Contractor's non-performance on the basis of an alleged Force Majeure.
- k) The words "Licensed Software" to mean the software component(s) provided pursuant to the Contract.
- l) The word "Modernization" to mean the replacement or upgrading of the controller and other critical parts in order to integrate new technology improve performance, and meet the latest adopted safety codes and industry standards.
- m) The words "Notice to Proceed" to mean a written authorization issued by the County authorizing the Contractor to commence Work under this agreement.
- n) The word "Preventative Maintenance" or "Maintenance" to mean scheduled, routine services as described by Appendix B, Technical Specifications" of this agreement and The Contractor's developed Maintenance Control Program.
- o) The words "Project Manager" to mean the County Mayor or the duly authorized representative designated to manage the Project.
- p) The words "Scope of Services" to mean the document appended hereto as Appendix A, which details the Work to be performed by the Contractor.
- q) The words "Service" or "Services" to mean the provision of conveyance equipment modernization, maintenance, and repair services in accordance with the Scope of Services.
- r) The word "Subcontractor" or "Subconsultant" to mean any person, entity, firm, or corporation, other than the employees of the Contractor, who furnishes labor and/or materials, in connection with the Work, whether directly or indirectly, on behalf and/or under the direction of the Contractor and whether or not in privity of Contract with the Contractor.
- s) The word "Work" to mean all matters and things required to be done by the Contractor in accordance with the provisions of this Contract.

ARTICLE 2. ORDER OF PRECEDENCE

If there is a conflict between or among the provisions of this Agreement, the order of precedence is as follows: 1) Articles 1 through 50 2) Appendix A, 3) Appendix B, 4) Attachments A-M and 1-5, and 4) Miami-Dade County's RFP No. 02030 and any associated addenda and attachments thereof, and 5) the Contractor's Proposal.

ARTICLE 3. RULES OF INTERPRETATION

- a) References to a specified Article, section or schedule shall be construed as reference to that specified Article, or section of, or schedule to this Agreement unless otherwise indicated.
- b) Reference to any agreement or other instrument shall be deemed to include such agreement or other instrument as such agreement or other instrument may, from time to time, be modified, amended, supplemented, or restated in accordance with its terms.

Miami-Dade County, FL

Contract No. RFP-02030

- c) The terms "hereof", "herein", "hereinafter", "hereby", "herewith", "hereto", and "hereunder" shall be deemed to refer to this Agreement.
- d) The terms "directed", "required", "permitted", "ordered", "designated", "selected", "prescribed" or words of like import to mean respectively, the direction, requirement, permission, order, designation, selection or prescription of the Project Manager.
- e) The terms "approved", "acceptable", "satisfactory", "equal", "necessary", or words of like import to mean respectively, approved by, or acceptable or satisfactory to, equal or necessary in the opinion of the Project Manager.
- f) The titles, headings, captions, and arrangements used in these Terms and Conditions are for convenience only and shall not be deemed to limit, amplify, or modify the terms of this Contract, nor affect the meaning thereof.

ARTICLE 4. NATURE OF THE AGREEMENT

- a) This Agreement incorporates and includes all prior negotiations, correspondence, conversations, agreements, and understandings applicable to the matters contained in this Agreement. The Parties agree that there are no commitments, agreements, or understandings concerning the subject matter of this Agreement that are not contained in this Agreement, and that this Agreement contains the entire agreement between the Parties as to all matters contained herein. Accordingly, it is agreed that no deviation from the terms hereof shall be predicated upon any prior representations or agreements, whether oral or written. It is further agreed that any oral representations or modifications concerning this Agreement shall be of no force or effect, and that this Agreement may be modified, altered, or amended only by a written amendment duly executed by the Parties hereto or their authorized representatives.
- b) The Contractor shall provide the services set forth in the Scope of Services and render full and prompt cooperation with the County in all aspects of the Work performed hereunder.
- c) The Contractor acknowledges that this Agreement requires the performance of all things necessary for or incidental to the effective and complete performance of all Work under this Contract. All things not expressly mentioned in this Agreement but necessary to carrying out its intent are required by this Agreement, and the Contractor shall perform the same as though they were specifically mentioned, described, and delineated.
- d) The Contractor shall furnish all labor, materials, tools, supplies, and other items required to perform the Work necessary for the completion of this Contract. All Work shall be accomplished at the direction of and to the satisfaction of the Project Manager.
- e) The Contractor acknowledges that the County shall make all policy decisions regarding the Scope of Services. The Contractor agrees to provide input on policy issues in the form of recommendations. The Contractor shall implement all changes in providing services hereunder as a result of a policy change implemented by the County. The Contractor agrees to act in an expeditious and fiscally sound manner in providing the County with input regarding the time and cost to implement said changes and in executing the activities required to implement said changes.

ARTICLE 5. CONTRACT TERM

The Contract shall become effective on the date of the issuance of the Notice to Proceed by the County, and shall continue through the last day of the sixtieth (60) month, thereafter. The County, at its sole discretion, may renew this Contract for an additional five (5) year period. The County may extend this Contract for up to an additional one hundred-eighty (180) calendar days beyond the current Contract period and will notify the Contractor in writing of the extension. This Contract may be extended beyond the initial one hundred-eighty (180) calendar day extension period by mutual agreement between the County and the Contractor, upon approval by the Board of County Commissioners (the "Board").

ARTICLE 6. NOTICE REQUIREMENTS

All notices required or permitted under this Agreement shall be in writing and shall be deemed sufficiently served if delivered by: (i) Registered or Certified Mail, with return receipt requested; (ii) personally by a by courier service; (iii) Federal Express Corporation or other nationally recognized carrier to be delivered overnight; or (iv) via facsimile or e-mail (if provided below) with delivery of hard copy pursuant to (i), (ii), or (iii) in this paragraph. The addresses for such notice are as follows:

Miami-Dade County, FL

Contract No. RFP-02030

(1) To the County

a) to the Project Manager:

Miami-Dade County
Attention: Nick Ortiz
Phone: 305-375-3912
E-mail: Nicolas.ortiz@miamidade.gov

and

b) to the Contract Manager:

Miami-Dade County
Strategic Procurement Department
Attention: Chief Procurement Officer
111 NW 1st Street, Suite 1300
Miami, FL 33128-1974
Phone: (305) 375-4900
Email: cpo@miamidade.gov

(2) To the Contractor

Attention: Douglas Kai
Phone: 901-232-0898
E-mail: douglas.kai@schindler.com

Either party may at any time designate a different address and/or contact person by giving notice as provided above to the other party. Such notices shall be deemed given upon receipt by the addressee.

ARTICLE 7. PAYMENT FOR SERVICES/AMOUNT OBLIGATED

The Contractor warrants that it has reviewed the County's requirements and has asked such questions and conducted such other inquiries as the Contractor deemed necessary in order to determine the price the Contractor will charge to provide the Work to be performed under this Contract. The compensation for all Work/Services performed under this Contract, including all costs associated with such Work, shall be paid in accordance with Appendix B. The County shall have no obligation to pay the Contractor any additional sum in excess of this amount, except for a change and/or modification to the Contract, which is approved and executed in writing by the County and the Contractor.

All Work undertaken by the Contractor before County's approval of this Contract shall be at the Contractor's risk and expense.

With respect to travel costs and travel-related expenses, the Contractor agrees to adhere to Section 112.061 of the Florida Statutes as they pertain to out-of-pocket expenses, including employee lodging, transportation, per diem, and all miscellaneous cost and fees. The County shall not be liable for any such expenses that have not been approved in advance, in writing, by the County.

ARTICLE 8. PRICING

The County may consider a price adjustment to the prices on Attachment 2, Monthly Fee Schedule. The County's decision to grant or deny a price adjustment may be based on the following criteria, including, but not limited to, the County's ability to pay increased prices or the County's satisfaction with the Contractor's performance (even if the Contractor disputes the County's reasons for dissatisfaction

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with the Contractor's performance). Regardless of the County's ability to pay, or the Contractor's performance under this Agreement, the Contractor shall not be entitled to rely upon or expect price adjustments under this Article in exchange for its continued performance under this Agreement. Any price adjustments granted by the County, in its sole, exclusive, and unlimited discretion, shall become effective on the anniversary of the contract effective date of the year in which the price adjustment is granted. To the extent the County agrees to grant a price adjustment, the annual price adjustment will be calculated as a weighted average of (a) the material component – computed as the increase or decrease in the latest available Producer Price Index – Industry Data for Elevator and Moving Stairway Manufacturing published by the Bureau of Labor Statistics of the United States Department of Labor for {Month} of such year, as compared with such index for {Month} of the previous contract year; and (b) the labor component – computed as the increase or decrease in the Mechanic labor rate published by the Elevator Contractors of America, Inc. (E.C.A.) for international Union of Elevator Constructors, Local #71, Miami, Florida for such year, as compared with the labor rate used for the previous year. The weighting of the material component shall be fifteen percent (15%) of the annual price adjustment and the labor component shall be eighty-five percent (85%) of the annual adjustment. By way of example only and assuming the target weighting, if the material component for any year increases by four percent (4%) and the labor component increases by two percent (2%) then the annual price adjustment for such year shall be two and three-tenths percent (2.3%) computed as $((.04 \times .15) + (.02 \times .85) = .023)$. If the aforementioned calculation yields a price adjustment of greater than five percent (5%), the County will grant the Contractor a price adjustment of five percent (5%). For avoidance of doubt, price adjustments shall not exceed five percent (5%).

The County will use the PPI data from three (3) months prior to the contract effective date as the month for calculating material rate adjustment above, for the first adjustment, and, for each subsequent adjustment, the PPI data in effect on the anniversary of the prior adjustment. For avoidance of doubt, if the Contract becomes effective in the month of July, the County will use the PPI data for the month of April of any given year, to calculate the PPI rate adjustment mentioned above.

The PPI Index for the month of April 2023 will serve as a floor for the calculations above. Negative adjustment to the material component mentioned above will only be calculated to the extent the material component does not go below the PPI levels for the month of April 2023. In the event that a PPI for any given year is under the PPI of April 2023 (208.038), the PPI level of April 2023 will be used as the base month for calculations.

ARTICLE 9. METHOD AND TIMES OF PAYMENT

The Contractor may bill the County periodically, but not more than once per month, upon invoices certified by the Contractor pursuant to Attachments 1 and 2. All invoices shall be taken from the books of account kept by the Contractor, shall be supported by copies of payroll distribution, receipt bills or other documents reasonably required by the County, shall show the County's contract number, and shall have a unique invoice number assigned by the Contractor. It is the policy of Miami-Dade County that payment for all purchases by County agencies and the Public Health Trust (the "Trust"), shall be made in a timely manner and that interest payments be made on late payments. All firms, including Small Business Enterprises, providing goods and services to the County, shall receive payment to maintain sufficient cash flow. In accordance with Section 218.74 of the Florida Statutes, and Section 2-8.1.4 of the Code of Miami-Dade County (the "Code"), the time at which payment shall be due from the County or Trust shall be forty-five (45) calendar days from receipt of a proper invoice. Billings from prime contractors under services and goods contracts with the County or Trust, that are Small Business Enterprise contract set-aside, bid preference or contain a subcontractor goal, shall be promptly reviewed and payment made by the County or Trust on those amounts not under dispute within fourteen (14) calendar days of receipt of such billing by the County or the Trust pursuant to Sections 2-8.1.1.1.1 and 2-8.1.1.1.2 of the Code. All payments due from the County or Trust, and not made within the time specified by this section shall bear interest from thirty (30) days after the due date at the rate of one percent (1%) per month on the unpaid balance. Further, proceedings to resolve disputes for payment of obligations shall be concluded by final written decision of the County Mayor, or his or her designee(s), not later than sixty (60) days after the date on which the proper invoice was received by the County or Trust.

In accordance with Miami-Dade County Implementing Order No. 3-9, Accounts Receivable Adjustments, if money is owed by the Contractor to the County, whether under this Contract or for any other purpose, the County reserves the right to retain such amount from payment due by County to the Contractor under this Contract. Such retained amount shall be applied to the amount owed by the Contractor to the County. The Contractor shall have no further claim to such retained amounts which shall be deemed full accord and satisfaction of the amount due by the County to the Contractor for the applicable payment due herein.

Invoices and associated back-up documentation shall be submitted electronically or in hard copy format by the Contractor to the County

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as follows:

- Electronic submission (preferred) to invsubp@miamidade.gov; or
- Hard copy format mailed to:
Miami-Dade County, Finance Shared Services
111 NW 1st Street, 26 Floor
Miami, Florida 33128

Bill to: Department of Transportation and Public Works

 Attention:

The County may at any time designate a different address and/or contact person by giving written notice to the other party.

ARTICLE 10. DEDUCTIONS

The following deductions are being applied rather than penalties as a method of payment for incomplete/subpar service:

- COVERED REPAIRS:** If the Contractor fails to provide Covered Repairs services as defined by this Contract for any Unit(s), the County will not pay for Covered Repairs on Attachment 2, Monthly Fee Schedule, for that/those Unit(s) for the month(s) during which Covered Repairs were not performed.
- SERVICE CALLS:** If the Contractor fails to respond to Service Calls as defined by this contract for any Unit(s), the County will deduct from the amount delineated for Service Calls on Attachment 2, Monthly Fee Schedule, for that/those unit(s) for the subject month(s), based on the following schedule:
 - Up to one (1) hour late response: 50% Deduction from the service call amount for the affected unit(s).
 - More than one (1) hour late response: 100% Deduction from the service call amount for the affected unit(s).

Note: if a Service Call is placed due to an entrapment, Contractor shall respond within one (1) hour of being notified, regardless of the day or the time of the day. If the Contractor fails to respond within one (1) hour of being notified, a 100% deduction from the service call amount for the affected unit(s) will be deducted for the subject month(s).

- PREVENTATIVE MAINTENANCE:** If the Contractor fails to complete **ALL** Preventative Maintenance tasks delineated in the MCP, or fails to submit the MCP checklist that has been signed by the applicable County Staff as described under Article 9, "Method and Times of Payment", for any Unit(s), the County will not pay Preventative Maintenance fee on Attachment 2 for that/those specific Unit(s) during the month(s) in which the MCP was not completed. For clarity, partial performance of the MCP task list will result in the County not paying the Preventative Maintenance fee. All MCP tasks shall be completed in order for the Contractor to receive payment of the Preventative Maintenance fee. The County will accept electronic time tickets in lieu of a signed MCP checklist for invoice verification purposes only.

Notwithstanding anything to the contrary, no deductions will be taken by the County for units affected by force majeure events, excusable delays, failure of the County to timely give approval, failure of third parties (not retained by Contractor) to complete any required affiliated work.

ARTICLE 11. CONTRACT ENFORCEMENT

Both Parties agree that failure to complete the Modernization work or any other Repairs may subject the Contractor to liquidated damages in the amount of \$500 for each and every calendar day the Work remains incomplete. For example, if the Contractor and the County agree that a repair is to be completed in Three (3) days, from the date of the acceptance of a proposal, and such repair gets completed in Five (5) days; then the County may impose \$1000 (\$500 X 2) as liquidated damages. As compensation due to the County for loss of use and for additional costs incurred by the County due to such non-completion of the Work, the County shall have the right to deduct

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said liquidated damages from any amount due, or that may become due to the Contractor under this Agreement, or to invoice the Contractor for such damages if the costs incurred exceed the amount due to the Contractor. Contractor understands and agrees that it would be difficult or impossible to determine with precision the amount of damages incurred by the County for the Contractor's lack of performance or delays in repairs; therefore, both parties agree that the liquidated damages under this agreement do not constitute a penalty but rather a fair and reasonable estimation of the County's damages for delays.

ARTICLE 12. EXCUSABLE DELAY

- A. Upon providing the County notice and reasonably full particulars of an event of Force Majeure in writing, the Contractor shall not be liable for any delay or failure to perform to the extent caused by such event of Force Majeure. In such circumstances, the County may, at its option, elect to cancel or reschedule the portion of any order subject to such delay by providing to the Contractor prompt written notice of its election, provided that, such cancellation or rescheduling shall apply only to that portion of the order affected by the foregoing circumstances and the balance of the order shall continue in full force and effect.
- B. The Contractor shall not be liable for any delay or failure to perform the Work in the event that the Contractor is actually and necessarily delayed in the progress of the Work as a result of the act, neglect or failure of the County, another County contractor, a utility, governmental entity, or local agency (which act, neglect or failure occurs for reasons outside of the Contractor's control), hereinafter referred to as "Excusable Delay." In case of an Excusable Delay, the County will extend the contractual Work Completion Date of the Work proportionate to the delay (hereinafter "Extension of Time"). The Contractor shall submit a request for such an extension immediately after the time when Contractor knows or should reasonably have known the cause for which it may claim an Extension of Time, including the expected duration of the delay and its effect on the completion and milestone dates of the delayed part of the Work.
- C. Notwithstanding anything to the contrary, delays in obtaining materials, including delays because of the age and availability of materials, and labor are an excusable delay. Contractor will ensure that best efforts are made into finding alternative sources for obtaining equivalent materials, and providing such proof to the County.

ARTICLE 13. INDEMNIFICATION AND INSURANCE

The Contractor shall indemnify and hold harmless the County and its officers, employees, agents and instrumentalities from any and all liability, losses or damages, including attorneys' fees and costs of defense, which the County or its officers, employees, agents or instrumentalities may incur as a result of claims, demands, suits, causes of actions or proceedings of any kind or nature arising out of, relating to or resulting from the negligent performance of this Agreement by the Contractor or its employees, agents, servants, partners principals or Subcontractors. The Contractor shall pay all claims and losses in connection therewith and shall investigate and defend all claims, suits or actions of any kind or nature in the name of the County, where applicable, including appellate proceedings, and shall pay all costs, judgments, and attorney's fees which may issue thereon. The Contractor expressly understands and agrees that any insurance protection required by this Agreement or otherwise provided by the Contractor shall in no way limit the responsibility to indemnify, keep and save harmless and defend the County or its officers, employees, agents, and instrumentalities as herein provided.

Upon County's notification, the Contractor shall furnish to the Strategic Procurement Department, certificate(s) of insurance that indicate that insurance coverage has been obtained, which meets the requirements as outlined below:

1. Worker's Compensation Insurance for all employees of the Contractor as required by Chapter 440, Florida Statutes.
2. Commercial General Liability Insurance in an amount not less than \$2,000,000 per occurrence, and \$4,000,000 in the aggregate, not to exclude Products and Completed Operations. Miami-Dade County must be shown as an additional insured with respect to this coverage.
3. Automobile Liability Insurance covering all owned, non-owned, and hired vehicles used in connection with the Services, in an amount not less than \$1,000,000 combined single limit per occurrence for bodily injury and property damage.
4. Professional Liability Insurance in an amount not less than \$1,000,000 per claim.

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***Excess/Umbrella Liability may be used to supplement minimum liability coverage requirements. Follow form basis is required if providing Excess Liability.**

All insurance policies required above shall be issued by companies authorized to do business under the laws of the State of Florida, with the following qualifications:

The company must be rated no less than "A-" as to management, and no less than "Class VII" as to financial strength, by Best's Insurance Guide, published by A.M. Best Company, Oldwick, New Jersey, or its equivalent, subject to the approval of the County Risk Management Division.

OR

The company must hold a valid Florida Certificate of Authority as shown in the latest "List of All Insurance Companies Authorized or Approved to Do Business in Florida", issued by the State of Florida Department of Financial Services and are a member of the Florida Guaranty Fund.

The mailing address of Miami-Dade County as the certificate holder must appear on the certificate of insurance as follows:

**Miami-Dade County
111 NW 1st Street
Suite 2340
Miami, Florida 33128-1974**

Compliance with the foregoing requirements shall not relieve the Contractor of this liability and obligation under this section or under any other section in this Agreement.

Award of this Contract is contingent upon the receipt of the insurance documents, as required, within ten (10) business days. If the certificate of insurance is received within the specified timeframe but not in the manner prescribed in this Agreement, the Contractor shall have an additional five business days to submit a corrected certificate to the County. If the Contractor fails to submit the required insurance documents in the manner prescribed in this Agreement within fifteen (15) business days, the Contractor shall be in default of the contractual terms and conditions and award of the Contract may be rescinded, unless such timeframe for submission has been extended by the County.

The Contractor shall assure that the certificate of insurance required in conjunction with this section remain in full force for the term of the Contract, including any renewal or extension periods that may be exercised by the County. If the certificate of insurance is scheduled to expire during the term of the Contract, the Contractor shall submit new or renewed certificate of insurance to the County before such expiration. If expired certificate of insurance is/are not replaced or renewed to cover the Contract period, the County may suspend the Contract until the new or renewed certificate is/are received by the County in the manner prescribed herein. If such suspension exceeds thirty (30) calendar days, the County may, at its sole discretion, terminate the Contract for cause and the Contractor shall be responsible for all direct and indirect costs associated with such termination.

ARTICLE 14. MANNER OF PERFORMANCE

- a) The Contractor shall provide the Work described herein in a competent and professional manner satisfactory to the County in accordance with the terms and conditions of this Agreement. The County shall be entitled to a satisfactory performance of all Work described herein and to full and prompt cooperation by the Contractor in all aspects of the Work. At the request of the County, the Contractor shall promptly remove from the Project any Contractor's employee, Subcontractor, or any other person performing Work hereunder. The Contractor agrees that such removal of any of its employees does not require the termination or demotion of any employee by the Contractor.
- b) The Contractor agrees to defend, hold harmless and indemnify the County and shall be liable and responsible for all claims, suits, actions, damages, and costs (including attorneys' fees and court costs) made against the County, occurring on account of, arising from or in connection with the removal and replacement of any Contractor's personnel performing Services hereunder at the behest of the County. Removal and replacement of any Contractor's personnel as used in this Article shall not require

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the termination and/or demotion of such Contractor's personnel.

- c) The Contractor always agrees that it will employ, maintain, and assign to the performance of the Work a sufficient number of competent and qualified professionals and other personnel to meet the requirements to which reference is hereinafter made. The Contractor agrees to adjust its personnel staffing levels or to replace any its personnel if so, directed upon reasonable request from the County, should the County make a determination, in its sole discretion, that said personnel staffing is inappropriate or that any individual is not performing in a manner consistent with the requirements for such a position.
- d) The Contractor warrants and represents that its personnel have the proper skill, training, background, knowledge, experience, rights, authorizations, integrity, character, and licenses as necessary to perform the Work described herein, in a competent and professional manner.
- e) The Contractor shall always cooperate with the County and coordinate its respective work efforts to maintain the progress most effectively and efficiently in performing the Work.
- f) The Contractor shall comply with all provisions of all federal, state, and local laws, statutes, ordinances, and regulations that are applicable to the performance of this Agreement.

ARTICLE 15. EMPLOYEES OF THE CONTRACTOR

All employees of the Contractor shall be, at all times, employees of the Contractor under its sole direction and not employees or agents of the County. The Contractor shall supply competent employees. Miami-Dade County may require the Contractor to remove an employee it deems careless, incompetent, insubordinate or otherwise objectionable and whose continued employment on County property is not in the best interest of the County. Each employee shall have and wear proper identification.

ARTICLE 16. INDEPENDENT CONTRACTOR RELATIONSHIP

The Contractor is, and shall be, in the performance of all Work and activities under this Agreement, an independent contractor, and not an employee, agent or servant of the County. All persons engaged in any of the Work performed or Services provided pursuant to this Agreement shall always, and in all places, be subject to the Contractor's sole direction, supervision, and control. The Contractor shall exercise control over the means and manner in which it and its employees perform the Work, and in all respects the Contractor's relationship and the relationship of its employees to the County shall be that of an independent contractor and not as employees and agents of the County.

The Contractor does not have the power or authority to bind the County in any promise, agreement, or representation other than specifically provided for in this Agreement.

ARTICLE 17. DISPUTE RESOLUTION PROCEDURE

- a) The Contractor hereby acknowledges that the Project Manager will determine in the first instance all questions of any nature whatsoever arising out of, under, or in connection with, or in any way related to or on account of, this Agreement including without limitations: questions as to the value, acceptability and fitness of the Services; questions as to either party's fulfillment of its obligations under the Contract; negligence, fraud or misrepresentation before or subsequent to acceptance of the Contractor's Proposal; questions as to the interpretation of the Scope of Services; and claims for damages, compensation and losses.
- b) The Contractor shall be bound by all determinations or orders and shall promptly comply with every order of the Project Manager, including the withdrawal or modification of any previous order and regardless of whether the Contractor agrees with the Project Manager's determination or order. Where orders are given orally, they will be issued in writing by the Project Manager as soon thereafter as is practicable.
- c) The Contractor must, in the final instance, seek to resolve every difference concerning the Agreement with the Project Manager. In the event that the Contractor and the Project Manager are unable to resolve their difference, the Contractor may initiate a dispute in accordance with the procedures set forth in this Article. **Exhaustion of these procedures shall be a condition**

precedent to any lawsuit permitted hereunder.

- d) In the event of such dispute, the Parties authorize the County Mayor or designee, who may not be the Project Manager or anyone associated with this Project, acting personally, to decide all questions arising out of, under, or in connection with, or in any way related to or on account of the Agreement (including but not limited to claims in the nature of breach of contract, fraud or misrepresentation arising either before or subsequent to execution hereof) and the decision of each with respect to matters within the County Mayor's purview as set forth above shall be conclusive, final and binding on the Parties. Any such dispute shall be brought, if at all, before the County Mayor within ten (10) days of the occurrence, event or act out of which the dispute arises.
- e) The County Mayor may base this decision on such assistance as may be desirable, including advice of experts, but in any event shall base the decision on an independent and objective determination of whether Contractor's performance or any Deliverable meets the requirements of this Agreement and any specifications with respect thereto set forth herein. The effect of any decision shall not be impaired or waived by any negotiations or settlements or offers made in connection with the dispute, whether or not the County Mayor participated therein, or by any prior decision of others, which prior decision shall be deemed subject to review, or by any termination or cancellation of the Agreement. All such disputes shall be submitted in writing by the Contractor to the County Mayor for a decision, together with all evidence and other pertinent information regarding such questions, in order that a fair and impartial decision may be made. Whenever the County Mayor is entitled to exercise discretion or judgement or to make a determination or form an opinion pursuant to the provisions of this Article, such action shall be fair and impartial when exercised or taken. The County Mayor, as appropriate, shall render a decision in writing and deliver a copy of the same to the Contractor. Except as such remedies may be limited or waived elsewhere in the Agreement, Contractor reserves the right to pursue any remedies available under law after exhausting the provisions of this Article.
- f) This Article will survive the termination or expiration of this Agreement.

ARTICLE 18. MUTUAL OBLIGATIONS

- a) This Agreement, including attachments and appendices to the Agreement, shall constitute the entire Agreement between the Parties with respect hereto and supersedes all previous communications and representations or agreements, whether written or oral, with respect to the subject matter hereto unless acknowledged in writing by the duly authorized representatives of the Parties.
- b) Nothing in this Agreement shall be construed for the benefit, intended or otherwise, of any third party that is not a parent or subsidiary of a party or otherwise related (by virtue of ownership control or statutory control) to a party.
- c) In those situations where this Agreement imposes an indemnity obligation on the Contractor, the County may, at its expense, elect to participate in the defense if the County should so choose. Furthermore, the County may at its own expense defend or settle any such claims if the Contractor fails to diligently defend such claims, and thereafter seek indemnity for such defense or settlement costs from the Contractor.

ARTICLE 19. QUALITY ASSURANCE/QUALITY ASSURANCE RECORD KEEPING

The Contractor shall maintain, and shall require that its Subcontractors and suppliers maintain, complete and accurate records to substantiate compliance with the requirements set forth in the Agreement. The Contractor and its Subcontractors and suppliers shall retain such records, and all other documents relevant to the Work furnished under this Agreement for a period of three years from the expiration date of this Agreement and any extension thereof.

ARTICLE 20. AUDITS

The County, or its duly authorized representatives and governmental agencies, shall until the expiration of three years after the expiration of this Agreement and any extension thereof, have access to and the right to examine and reproduce any of the Contractor's books, documents, papers and records and of its Subcontractors and suppliers which apply to all matters of the County. Such records shall subsequently conform to Generally Accepted Accounting Principles requirements, as applicable, and shall only address those transactions related to this Agreement.

Pursuant to Section 2-481 of the Code, the Contractor will grant access to the Commission Auditor to all financial and performance related records, property, and equipment purchased in whole or in part with government funds within five business days of the Commission Auditor's request. The Contractor agrees to maintain an accounting system that provides accounting records that are supported with adequate documentation, and adequate procedures for determining the allowability and allocability of costs.

ARTICLE 21. SUBSTITUTION OF PERSONNEL

In the event the Contractor needs to substitute personnel for the key personnel identified by the Contractor's Proposal, the Contractor must notify the County in writing and request written approval for the substitution at least ten (10) business days prior to effecting such substitution. However, such substitution shall not become effective until the County has approved said substitution.

ARTICLE 22. CONSENT OF THE COUNTY REQUIRED FOR ASSIGNMENT

The Contractor shall not assign, transfer, convey or otherwise dispose of this Agreement, including its rights, title, or interest in or to the same or any part thereof without the prior written consent of the County.

ARTICLE 23. SUBCONTRACTUAL RELATIONS

- a) If the Contractor causes any part of this Agreement to be performed by a Subcontractor, the provisions of this Contract will apply to such Subcontractor and its officers, agents and employees in all respects as if it and they were employees of the Contractor; and the Contractor will not be in any manner thereby discharged from its obligations and liabilities hereunder, but will be liable hereunder for all acts, omissions, and negligence of the Subcontractor, its officers, agents, and employees, as if they were employees of the Contractor. The Services performed by the Subcontractor will be subject to the provisions hereof as if performed directly by the Contractor.
- b) The Contractor, before making any subcontract for any portion of the Work, will state in writing to the County the name of the proposed Subcontractor, the portion of the Work which the Subcontractor is to do, the place of business of such Subcontractor, and such other information as the County may require. The County will have the right to require the Contractor not to award any subcontract to a person, firm or corporation disapproved by the County.
- c) Before entering into any subcontract hereunder, the Contractor will inform the Subcontractor fully and completely of all provisions and requirements of this Agreement relating either directly or indirectly to the Work to be performed. Such Work performed by such Subcontractor will strictly comply with the requirements of this Contract.
- d) In order to qualify as a Subcontractor satisfactory to the County, in addition to the other requirements herein provided, the Subcontractor must be prepared to prove to the satisfaction of the County that it has the necessary facilities, skill and experience, and ample financial resources to perform the Work in a satisfactory manner. To be considered skilled and experienced, the Subcontractor must show to the satisfaction of the County that it has satisfactorily performed Work of the same general type which is required to be performed under this Agreement.
- e) The County shall have the right to withdraw its consent to a subcontract if it appears to the County that the Subcontractor will delay, prevent, or otherwise impair the performance of the Contractor's obligations under this Agreement. All Subcontractors are required to protect the confidentiality of the County's and County's proprietary and confidential information. Contractor shall furnish to the County copies of all subcontracts between Contractor and Subcontractors and suppliers hereunder. Within each such subcontract, there shall be a clause for the benefit of the County in the event the County finds the Contractor in breach of this Contract, permitting the County to request completion by the Subcontractor of its performance obligations under the subcontract. The clause shall include an option for the County to pay the Subcontractor directly for the performance by such Subcontractor. Notwithstanding, the foregoing shall neither convey nor imply any obligation or liability on the part of the County to any Subcontractor hereunder as more fully described herein.

ARTICLE 24. ASSUMPTION, PARAMETERS, PROJECTIONS, ESTIMATES AND EXPLANATIONS

The Contractor understands and agrees that any assumptions, parameters, projections, estimates, and explanations presented by the County were provided to the Contractor for evaluation purposes only. However, since these assumptions, parameters, projections,

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estimates, and explanations represent predictions of future events the County makes no representations or guarantees; and the County shall not be responsible for the accuracy of the assumptions presented; and the County shall not be responsible for conclusions to be drawn therefrom; and any assumptions, parameters, projections, estimates and explanations shall not form the basis of any claim by the Contractor. The Contractor accepts all risk associated with using this information.

ARTICLE 25. SEVERABILITY

If this Agreement contains any provision found to be unlawful, the same shall be deemed to be of no effect and shall be deemed stricken from this Agreement without affecting the binding force of this Agreement as it shall remain after omitting such provision.

ARTICLE 26. TERMINATION AND SUSPENSION OF WORK

- a) This Agreement may be terminated for cause by the County for reasons including, but not limited to, (i) the Contractor commits an Event of Default (as defined below in Article 27) and fails to cure said Event of Default (as delineated below in Article 28), or (ii) Contractor attempts to meet its contractual obligations with the County through fraud, misrepresentation, or material misstatement.
- b) This Agreement may also be terminated for convenience by the County. Termination for convenience is effective on the termination date stated in the written notice provided by the County.
- c) If County terminates this Agreement for cause under Article 26(a) above, the County may, in its sole discretion, also terminate or cancel any other contract(s) that such individual or corporation or other entity has with the County and that such individual, corporation or other entity shall pay all direct or indirect costs associated with such termination or cancellation, including attorneys' fees.
- d) The foregoing notwithstanding, if the Contractors attempts to meet its contractual obligations with the County through fraud, misrepresentation, or material misstatement, the Contractor may be debarred from County contracting in accordance with the County debarment procedures. The Contractor may be subject to debarment for failure to perform and all other reasons set forth in Section 10-38 of the Code.
- e) In the event that the County exercises its right to terminate this Agreement, the Contractor shall, upon receipt of such notice, unless otherwise directed by the County:
 - i. stop Work on the date specified in the notice (the "Effective Termination Date");
 - ii. take such action as may be necessary for the protection and preservation of the County's materials and property;
 - iii. cancel orders;
 - iv. assign to the County and deliver to any location designated by the County any non-cancelable orders for Deliverables that are not capable of use except in the performance of this Agreement and has been specifically developed for the sole purpose of this Agreement and not incorporated in the Services;
 - v. take no action which will increase the amounts payable by the County under this Agreement; and
 - vi. reimburse the County a proration of the fees paid annually based on the remaining months of the term per the compensation listed in Attachments 1 and 2.
- f) In the event that the County exercises its right to terminate this Agreement, the Contractor will be compensated as stated in the payment Articles herein for the:
 - i. portion of the Services completed in accordance with the Agreement up to the Effective Termination Date; and
 - ii. non-cancelable Deliverables that are not capable of use except in the performance of this Agreement and has been

specifically developed for the sole purpose of this Agreement, but not incorporated in the Services.

- g) All compensation pursuant to this Article are subject to audit.
- h) In the event the Contractor fails to cure an Event of Default timely, the County may terminate this Agreement, and the County or its designated representatives may immediately take possession of all applicable equipment, materials, products, documentation, reports, and data.
- i) Covered Repairs in excess of \$10,000 combined labor and material, will be amortized over the period of four months from the notice to terminate, in the event that the contract is terminated for convenience by the County. Contractor will be required to provide time ticket and material invoice evidence of repairs.

ARTICLE 27. EVENT OF DEFAULT

- a) An Event of Default is a material breach of this Agreement by the Contractor, and includes but is not limited to the following:
 - i. the Contractor has not delivered Deliverables and/or Services on a timely basis;
 - ii. the Contractor has refused or failed to supply enough properly skilled staff personnel;
 - iii. the Contractor has failed to make prompt payment to Subcontractors or suppliers for any Services;
 - iv. the Contractor has become insolvent (other than as interdicted by the bankruptcy laws), or has assigned the proceeds received for the benefit of the Contractor's creditors, or the Contractor has taken advantage of any insolvency statute or debtor/creditor law or if the Contractor's affairs have been put in the hands of a receiver;
 - v. the Contractor has failed to obtain the approval of the County where required by this Agreement;
 - vi. the Contractor has failed to provide "adequate assurances" as required under subsection b below;
 - vii. the Contractor has failed in the representation of any warranties stated herein; or
 - viii. the Contractor fails to comply with Article 42.
- b) When, in the opinion of the County, reasonable grounds for uncertainty exist with respect to the Contractor's ability to perform the Work or any portion thereof, the County may request that the Contractor, within the timeframe set forth in the County's request, provide adequate assurances to the County, in writing, of the Contractor's ability to perform in accordance with the terms of this Agreement. Until the County receives such assurances, the County may request an adjustment to the compensation received by the Contractor for portions of the Work which the Contractor has not performed. In the event that the Contractor fails to provide to the County the requested assurances within the prescribed timeframe, the County may:
 - i. treat such failure as a repudiation and/or material breach of this Agreement; and
 - ii. resort to any remedy for breach provided herein or at law, including but not limited to, taking over the performance of the Work or any part thereof either by itself or through others.

ARTICLE 28. NOTICE OF DEFAULT - OPPORTUNITY TO CURE

If an Event of Default occurs in the determination of the County, the County shall notify the Contractor (the "Default Notice"), specifying the basis for such default, and advising the Contractor that such default must be cured immediately, or this Agreement with the County may be terminated. Notwithstanding, the County may, in its sole discretion, allow the Contractor to rectify the default to the County's reasonable satisfaction within a thirty (30) day period. The County may grant an additional period of such duration as the County shall deem appropriate without waiver of any of the County's rights hereunder, so long as the Contractor has commenced curing such default and is effectuating a cure with diligence and continuity during such thirty (30) day period or any other period which the County prescribes.

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The Default Notice shall specify the date the Contractor shall discontinue the Work upon the Effective Termination Date.

ARTICLE 29. REMEDIES IN THE EVENT OF DEFAULT

If an Event of Default occurs, whether or not the County elects to terminate this Agreement as a result thereof, the Contractor shall be liable for all damages resulting from the default, irrespective of whether the County elects to terminate the Agreement, including but not limited to:

- a) lost revenues;
- b) the difference between the cost associated with procuring Services hereunder and the amount actually expended by the County for re-procurement of Services, including procurement and administrative costs; and
- c) such other direct damages.

The Contractor shall also remain liable for any liabilities and claims related to the Contractor's default. The County may also bring any suit or proceeding for specific performance or for an injunction.

ARTICLE 30. PATENT AND COPYRIGHT INDEMNIFICATION

- a) The Contractor shall not infringe on any copyrights, trademarks, service marks, trade secrets, patent rights, other intellectual property rights or any other third-party proprietary rights in the performance of the Work.
- b) The Contractor warrants that all Deliverables furnished hereunder, including but not limited to equipment, programs, documentation, software, analyses, applications, methods, ways, processes, and the like, do not infringe upon or violate any copyrights, trademarks, service marks, trade secrets, patent rights, other intellectual property rights or any other third party proprietary rights.
- c) The Contractor shall be liable and responsible for any and all claims made against the County for infringement of patents, copyrights, service marks, trade secrets or any other third party proprietary rights, by the use or supplying of any programs, documentation, software, analyses, applications, methods, ways, processes, and the like, in the course of performance or completion of, or in any way connected with, the Work, or the County's continued use of the Deliverables furnished hereunder. Accordingly, the Contractor at its own expense, including the payment of attorney's fees, shall indemnify, and hold harmless the County and defend any action brought against the County with respect to any claim, demand, cause of action, debt, or liability.
- d) In the event any Deliverable or anything provided to the County hereunder, or portion thereof is held to constitute an infringement and its use is or may be enjoined, the Contractor shall have the obligation to, at the County's option to (i) modify, or require that the applicable Subcontractor or supplier modify, the alleged infringing item(s) at its own expense, without impairing in any respect the functionality or performance of the item(s), or (ii) procure for the County, at the Contractor's expense, the rights provided under this Agreement to use the item(s).
- e) The Contractor shall be solely responsible for determining and informing the County whether a prospective supplier or Subcontractor is a party to any litigation involving patent or copyright infringement, service mark, trademark, violation, or proprietary rights claims or is subject to any injunction which may prohibit it from providing any Deliverable hereunder. The Contractor shall enter into agreements with all suppliers and Subcontractors at the Contractor's own risk. The County may reject any Deliverable that it believes to be the subject of any such litigation or injunction, or if, in the County's judgment, use thereof would delay the Work or be unlawful.

ARTICLE 31. CONFIDENTIALITY

- a) All Developed Works and other materials, data, transactions of all forms, financial information, documentation, inventions, designs and methods obtained from the County in connection with the Services performed under this Agreement, made or developed by the Contractor or its Subcontractors in the course of the performance of such Services, or the results of such Services, or for which the County holds the proprietary rights, constitute Confidential Information and may not, without the prior

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written consent of the County, be used by the Contractor or its employees, agents, Subcontractors or suppliers for any purpose other than for the benefit of the County, unless required by law. In addition to the foregoing, all County employee information and County financial information shall be considered Confidential Information and shall be subject to all the requirements stated herein. Neither the Contractor nor its employees, agents, Subcontractors, or suppliers may sell, transfer, publish, disclose, display, license or otherwise make available to others any part of such Confidential Information without the prior written consent of the County. Additionally, the Contractor expressly agrees to be bound by and to defend, indemnify and hold harmless the County, and their officers and employees from the breach of any federal, state, or local law in regard to the privacy of individuals.

- b) The Contractor shall advise each of its employees, agents, Subcontractors, and suppliers who may be exposed to such Confidential Information of their obligation to keep such information confidential and shall promptly advise the County in writing if it learns of any unauthorized use or disclosure of the Confidential Information by any of its employees or agents, or Subcontractor's or supplier's employees, present or former. In addition, the Contractor agrees to cooperate fully and provide any assistance necessary to ensure the confidentiality of the Confidential Information.
- c) In the event of a breach of this Article damages may not be an adequate remedy and the County shall be entitled to injunctive relief to restrain any such breach or threatened breach. Unless otherwise requested by the County, upon the completion of the Services performed hereunder, the Contractor shall immediately turn over to the County all such Confidential Information existing in tangible form, and no copies thereof shall be retained by the Contractor or its employees, agents, Subcontractors, or suppliers without the prior written consent of the County. A certificate evidencing compliance with this provision and signed by an officer of the Contractor shall accompany such materials.

ARTICLE 32. PROPRIETARY INFORMATION

As a political subdivision of the State of Florida, Miami-Dade County is subject to the stipulations of the public records laws of the State of Florida (the "Public Records Law").

The Contractor acknowledges that all computer software in the County's possession may constitute or contain information or materials which the County has agreed to protect as proprietary information from disclosure or unauthorized use and may also constitute or contain information or materials which the County has developed at its own expense, the disclosure of which could harm the County's proprietary interest therein.

During the term of the Contract, the Contractor will not use directly or indirectly for itself or for others, or publish or disclose to any third party, or remove from the County's property, any computer programs, data compilations, or other software which the County has developed, has used, or is using, is holding for use, or which are otherwise in the possession of the County (the "Computer Software"). All third-party license agreements must also be honored by the Contractor and its employees, except as authorized by the County and, if the Computer Software has been leased or purchased by the County, all hired party license agreements must also be honored by the contractors' employees with the approval of the lessor or Contractors thereof. This includes mainframe, minis, telecommunications, personal computers, and all information technology software.

The Contractor will report to the County any information discovered or which is disclosed to the Contractor which may relate to the improper use, publication, disclosure, or removal from the County's property of any information technology software and hardware and will take such steps as are within the Contractor's authority to prevent improper use, disclosure, or removal.

ARTICLE 33. PROPRIETARY RIGHTS

- a) The Contractor hereby acknowledges and agrees that the County retains all rights, title and interests in and to all materials, data, documentation and copies thereof furnished by the County to the Contractor hereunder or furnished by the Contractor to the County and/or created by the Contractor for delivery to the County, even if unfinished or in process, as a result of the Services the Contractor performs in connection with this Agreement, including all copyright and other proprietary rights therein, which the Contractor as well as its employees, agents, Subcontractors and suppliers may use only in connection with the performance of Services under this Agreement. The Contractor shall not, without the prior written consent of the County, use such documentation on any other project in which the Contractor or its employees, agents, Subcontractors, or suppliers are or may become engaged. Submission or distribution by the Contractor to meet official regulatory requirements or for other purposes in

connection with the performance of Services under this Agreement shall not be construed as publication in derogation of the County's copyrights or other proprietary rights.

- b) All Developed Works shall become the property of the County.
- c) Accordingly, neither the Contractor nor its employees, agents, Subcontractors, or suppliers shall have any proprietary interest in such Developed Works. The Developed Works may not be utilized, reproduced, or distributed by or on behalf of the Contractor, or any employee, agent, Subcontractor or supplier thereof, without the prior written consent of the County, except as required for the Contractor's performance hereunder.
- d) Except as otherwise provided in subsections a, b, and c above, or elsewhere herein, the Contractor and its Subcontractors and suppliers hereunder shall retain all proprietary rights in and to all Licensed Software provided hereunder, that have not been customized to satisfy the performance criteria set forth in the Scope of Services. Notwithstanding the foregoing, the Contractor hereby grants, and shall require that its Subcontractors and suppliers grant, if the County so desires, a perpetual, irrevocable and unrestricted right and license to use, duplicate, disclose and/or permit any other person(s) or entity(ies) to use all such Licensed Software and the associated specifications, technical data and other Documentation for the operations of the County or entities controlling, controlled by, under common control with, or affiliated with the County, or organizations which may hereafter be formed by or become affiliated with the County. Such license specifically includes, but is not limited to, the right of the County to use and/or disclose, in whole or in part, the technical documentation and Licensed Software, including source code provided hereunder, to any person or entity outside the County for such person's or entity's use in furnishing any and/or all of the Deliverables provided hereunder exclusively for the County or entities controlling, controlled by, under common control with, or affiliated with the County, or organizations which may hereafter be formed by or become affiliated with the County. No such License Software, specifications, data, documentation, or related information shall be deemed to have been given in confidence and any statement or legend to the contrary shall be void and of no effect.

ARTICLE 34. SUPPLIER/VENDOR REGISTRATION/CONFLICT OF INTEREST

- a) **Supplier/Vendor Registration**
The Contractor shall be a registered vendor with the County – Strategic Procurement Department, for the duration of this Agreement. In becoming a registered vendor with Miami-Dade County, the vendor's Federal Employer Identification Number (FEIN) must be provided, via submission of Form W-9 and 147c Letter, as required by the Internal Revenue Service (IRS). If no FEIN exists, the Social Security Number of the owner must be provided as the legal entity identifier. This number becomes Contractor's "County Vendor Number." To comply with Section 119.071(5) of the Florida Statutes relating to the collection of an individual's Social Security Number, be aware that the County requests the Social Security Number for the following purposes:

- **Identification of individual account records**
- **Payments to individual/Contractor for goods and services provided to Miami-Dade County**
- **Tax reporting purposes**
- **Provision of unique identifier in the vendor database used for searching and sorting departmental records**

The Contractor confirms its commitment to comply with the vendor registration requirements and the associated affidavits available in **INFORMS** at <https://supplier.miamidade.gov>.

- b) **Conflict of Interest and Code of Ethics**
Sections 2-11.1 (c) and (d) of the Code require that any County official, agency/board member or employee, or any member of his or her immediate family who, through a firm, corporation, partnership or business entity, has a financial interest, direct or indirect, with Miami-Dade County or any person or agency acting for Miami-Dade County, competing or applying for a contract, must first obtain and submit a written conflict of interest opinion from the County's Ethics Commission prior to the official, agency/board member or employee, or his or her immediate family member entering into any contract or transacting any business with Miami-Dade County or any person or agency acting for Miami-Dade County. Any such contract or business transaction entered in violation of these subsections, as amended, shall be rendered voidable. All County officials, autonomous personnel, quasi-judicial personnel, advisory personnel, and employees wishing to do business with the County are hereby

advised they must comply with the applicable provisions of Section 2-11.1 of the Conflict of Interest and Code of Ethics Ordinance.

ARTICLE 35. INSPECTOR GENERAL REVIEWS

Independent Private Sector Inspector General Reviews

Pursuant to Miami-Dade County Administrative Order No. 3-20, the County has the right to retain the services of an Independent Private Sector Inspector General (the "IPSIG"), whenever the County deems it appropriate to do so. Upon written notice from the County, the Contractor shall make available to the IPSIG retained by the County, all requested records and documentation pertaining to this Agreement for inspection and reproduction. The County shall be responsible for the payment of these IPSIG services, and under no circumstance shall the Contractor's prices and any changes thereto approved by the County, be inclusive of any charges relating to these IPSIG services. The terms of this provision apply to the Contractor, its officers, agents, employees, Subcontractors, and assignees. Nothing contained in this provision shall impair any independent right of the County to conduct an audit or investigate the operations, activities, and performance of the Contractor in connection with this Agreement. The terms of this Article shall not impose any liability on the County by the Contractor or any third party.

Miami-Dade County Inspector General Review

According to Section 2-1076 of the Code, Miami-Dade County has established the Office of the Inspector General which may, on a random basis, perform audits on all County contracts, throughout the duration of said contracts. The cost of the audit for this Contract shall be one quarter of one percent (0.25%) of the total Contract amount which cost shall be included in the total Contract amount. The audit cost will be deducted by the County from progress payments to the Contractor. The audit cost shall also be included in all change orders and all Contract renewals and extensions.

Exception: The above application of one quarter of one percent (0.25%) fee assessment shall not apply to the following contracts: (a) IPSIG contracts; (b) contracts for legal services; (c) contracts for financial advisory services; (d) auditing contracts; (e) facility rentals and lease agreements; (f) concessions and other rental agreements; (g) insurance contracts; (h) revenue-generating contracts; (i) contracts where an IPSIG is assigned at the time the contract is approved by the Board; (j) professional service agreements under \$1,000; (k) management agreements; (l) small purchase orders as defined in Miami-Dade County Implementing Order No. 3-38; (m) federal, state and local government-funded grants; and (n) interlocal agreements. ***Notwithstanding the foregoing, the Miami-Dade County Board of County Commissioners may authorize the inclusion of the fee assessment of one quarter of one percent (0.25%) in any exempted contract at the time of award.***

Nothing contained above shall in any way limit the powers of the Inspector General to perform audits on all County contracts including, but not limited to, those contracts specifically exempted above. The Miami-Dade County Inspector General is authorized and empowered to review past, present, and proposed County and Trust contracts, transactions, accounts, records, and programs. In addition, the Inspector General has the power to subpoena witnesses, administer oaths, require the production of records, and monitor existing projects and programs. Monitoring of an existing project or program may include a report concerning whether the project is on time, within budget and in conformance with plans, specifications, and applicable law. The Inspector General is empowered to analyze the necessity of and reasonableness of proposed change orders to the Contract. The Inspector General is empowered to retain the services of IPSIGs to audit, investigate, monitor, oversee, inspect, and review operations, activities, performance and procurement process, including but not limited to project design, specifications, proposal submittals, activities of the Contractor, its officers, agents and employees, lobbyists, County staff and elected officials to ensure compliance with contract specifications and to detect fraud and corruption.

Upon written notice to the Contractor from the Inspector General or IPSIG retained by the Inspector General, the Contractor shall make all requested records and documents available to the Inspector General or IPSIG for inspection and copying. The Inspector General and IPSIG shall have the right to inspect and copy all documents and records in the Contractor's possession, custody or control which, in the Inspector General's or IPSIG's sole judgment, pertain to performance of the Contract, including, but not limited to original estimate files, change order estimate files, worksheets, proposals and agreements form and which successful and unsuccessful Subcontractors and suppliers, all project-related correspondence, memoranda, instructions, financial documents, construction documents, proposal and contract documents, back-charge documents, all documents and records which involve cash, trade or volume discounts, insurance proceeds, rebates, or dividends received, payroll and personnel records, and supporting documentation for the aforesaid documents and records.

ARTICLE 36. FEDERAL, STATE, AND LOCAL COMPLIANCE REQUIREMENTS

As applicable, Contractor shall comply, subject to applicable professional standards, with the provisions of all applicable federal, state and the County orders, statutes, ordinances, rules and regulations which may pertain to the Services required under this Agreement, including, but not limited to:

- a) Equal Employment Opportunity clause provided under 41 C.F.R. Part 60-1.3 in accordance with Executive Order 11246, "Equal Employment Opportunity", as amended by Executive Order 11375, and, implementing regulations at 41 C.F.R. Part 60.
- b) Miami-Dade County Small Business Enterprises Development Participation Provisions.
- c) The Clean Air Act of 1955, as amended, (42 U.S.C. §§ 7401-7671q.) and the Federal Water Pollution Control Act (33 U.S.C. §§ 1251-1387), as amended.
- d) The Davis-Bacon Act, as amended (40 U.S.C. §3141-3144 and 3146-3148) as supplemented by the Department of Labor regulations (29 C.F.R. Part 5).
- e) The Copeland "Anti-Kickback" Act (40 U.S.C. § 3145) as supplemented by the Department of Labor regulations (29 C.F.R. Part 2).
- f) Section 2-11.1 of the Code of Miami-Dade County, "Conflict of Interest and Code of Ethics Ordinance".
- g) Section 10-38 of the Code of Miami-Dade County, "Debarment of Contractors from County Work".
- h) Section 11A-60 - 11A-67 of the Code of Miami-Dade County, "Domestic Leave".
- i) Section 21-255 of the Code of Miami-Dade County, prohibiting the presentation, maintenance, or prosecution of false or fraudulent claims against Miami-Dade County.
- j) The Equal Pay Act of 1963, as amended (29 U.S.C. § 206(d)).
- k) The prohibitions against discrimination on the basis of age under the Age Discrimination Act of 1975 (42 U.S.C. §§ 6101-07) and regulations issued pursuant thereto (24 C.F.R. Part 146).
- l) Section 448.07 of the Florida Statutes "Wage Rate Discrimination Based on Sex Prohibited".
- m) Chapter 11A of the Code of Miami-Dade County (§ 11A-1 *et seq.*) "Discrimination".
- n) Chapter 22 of the Code of Miami-Dade County (§ 22-1 *et seq.*) "Wage Theft".
- o) Any other laws prohibiting wage rate discrimination based on sex.
- p) Chapter 8A, Article XIX, of the Code of Miami-Dade County (§ 8A-400 *et seq.*) "Business Regulations".
- q) Byrd Anti-Lobbying Amendment (31 U.S.C. § 1352).
- r) Executive Order 12549 "Debarment and Suspension", which stipulates that no contract(s) are "to be awarded at any tier or to any party which is debarred or suspended or is otherwise excluded from or ineligible for participation in Federal assistance programs".
- s) Florida Statute Chapter 399.
- t) Florida Building Code
- u) ASME A17.1 Safety Code for Elevators and Escalators.
- v) ASME A17.2 Guide for Inspection of Elevators and Escalators.
- w) ASME A17.3 Safety Code for Existing Elevators.
- x) ASME A17.6 Standard for Elevator Suspension, Compensation, and Governor Systems.

- y) ASME A17.7 Performance-based Safety Code for Elevators and Escalators.
- z) ADAAG, Americans with Disabilities Act Accessibility Guidelines.
- aa) NFPA 70, National Electrical Code.
- bb) NFPA 80, Fire Doors and Windows.
- cc) ANSI/UL 10B, Fire Tests of Door Assemblies.
- dd) NFPA 72, National Fire Alarm Code.
- ee) NFPA 101 Florida Edition.
- ff) Elevator Industry Field Employees' Safety Handbook.
- gg) Miami-Dade Transit Construction Safety Manual.
- hh) Department of Transportation and Public Works Adjacent Construction Manual
- ii) Safety standards as issued by the Occupational Safety and Health Administration (OSHA), the National Institute of Occupational Safety Hazards (NIOSH), and the National Fire Protection Association (NFPA).
- jj) The Federal "Right to Know" Regulation implemented by OSHA and the Florida "Right-to-Know" Law which require employers to inform their employees of any toxic substances to which they may be exposed in the workplace, and to provide training in safe handling practices and emergency procedures. It also requires notification to local fire departments of the location and characteristics of all toxic substances regularly present in the workplace.

Pursuant to Resolution No. R-1072-17, by entering into this Contract, the Contractor is certifying that the Contractor is in compliance with, and will continue to comply with, the provisions of items "j" through "o" above.

The Contractor shall hold all licenses and/or certifications, obtain and pay for all permits and/or inspections, and comply with all laws, ordinances, regulations and building code requirements applicable to the work required herein. Damages, penalties, and/or fines imposed on the County or Contractor for failure to obtain and maintain required licenses, certifications, permits and/or inspections shall be borne by the Contractor. The Project Manager shall verify the certification(s), license(s), and permit(s) for the Contractor prior to authorizing Work and as needed.

Notwithstanding any other provision of this Agreement, Contractor shall not be required pursuant to this Agreement to take any action or abstain from taking any action if such action or abstention would, in the good faith determination of the Contractor, constitute a violation of any law or regulation to which Contractor is subject, including but not limited to laws and regulations requiring that Contractor conduct its operations in a safe and sound manner.

ARTICLE 37. NONDISCRIMINATION

During the performance of this Contract, Contractor agrees to not discriminate unlawfully against any employee or applicant for employment on the basis of race, color, religion, ancestry, national origin, sex, pregnancy, age, disability, marital status, familial status, sexual orientation, gender identity or gender expression, status as victim of domestic violence, dating violence or stalking, or veteran status, and on housing related contracts the source of income, and will take affirmative action to ensure that employees and applicants are afforded equal employment opportunities without discrimination. Such action shall be taken with reference to, but not limited to recruitment, employment, termination, rates of pay or other forms of compensation, and selection for training or retraining, including apprenticeship and on the job training.

By entering into this Contract, the Contractor attests that it is not in violation of the Americans with Disabilities Act of 1990 (and related Acts) or Miami-Dade County Resolution No. R-385-95. If the Contractor or any owner, subsidiary or other firm affiliated with or related to the Contractor is found by the responsible enforcement agency or the County to be in violation of the Act or the Resolution, such violation shall render this Contract void. This Contract shall be void if the Contractor submits a false affidavit pursuant to this Resolution or the Contractor violates the Act or the Resolution during the term of this Contract, even if the Contractor was not in violation at the time

it submitted its affidavit.

ARTICLE 38. CONFLICT OF INTEREST

The Contractor represents that:

- a) No officer, director, employee, agent, or other consultant of the County or a member of the immediate family or household of the aforesaid has directly or indirectly received or been promised any form of benefit, payment, or compensation, whether tangible or intangible, in connection with the award of this Agreement.
- b) There are no undisclosed persons or entities interested with the Contractor in this Agreement. This Agreement is entered into by the Contractor without any connection with any other entity or person making a proposal for the same purpose, and without collusion, fraud or conflict of interest. No elected or appointed officer or official, director, employee, agent, or other consultant of the County, or of the State of Florida (including elected and appointed members of the legislative and executive branches of government), or a member of the immediate family or household of any of the aforesaid:
 - i) is interested on behalf of or through the Contractor directly or indirectly in any manner whatsoever in the execution or the performance of this Agreement, or in the Services, Deliverables or Work, to which this Agreement relates or in any portion of the revenues; or
 - ii) is an employee, agent, advisor, or consultant to the Contractor or to the best of the Contractor's knowledge any Subcontractor or supplier to the Contractor.
- c) Neither the Contractor nor any officer, director, employee, agency, parent, subsidiary, or affiliate of the Contractor shall have an interest which is in conflict with the Contractor's faithful performance of its obligation under this Agreement; provided that the County, in its sole discretion, may consent in writing to such a relationship, provided the Contractor provides the County with a written notice, in advance, which identifies all the individuals and entities involved and sets forth in detail the nature of the relationship and why it is in the County's best interest to consent to such relationship.
- d) The provisions of this Article are supplemental to, not in lieu of, all applicable laws with respect to conflict of interest. In the event there is a difference between the standards applicable under this Agreement and those provided by statute, the stricter standard shall apply.
- e) In the event Contractor has no prior knowledge of a conflict of interest as set forth above and acquires information which may indicate that there may be an actual or apparent violation of any of the above, Contractor shall promptly bring such information to the attention of the Project Manager. Contractor shall thereafter cooperate with the County's review and investigation of such information and comply with the instructions Contractor receives from the Project Manager regarding remedying the situation.

ARTICLE 39. PRESS RELEASE OR OTHER PUBLIC COMMUNICATION

Under no circumstances shall the Contractor without the express written consent of the County:

- a) Issue or permit to be issued any press release, advertisement or literature of any kind which refers to the County, or the Work being performed hereunder, unless the Contractor first obtains the written approval of the County. Such approval may be withheld if for any reason the County believes that the publication of such information would be harmful to the public interest or is in any way undesirable; and
- b) Communicate in any way with any contractor, department, board, agency, commission or other organization or any person whether governmental or private in connection with the Work to be performed hereunder except upon prior written approval and instruction of the County; and
- c) Except as may be required by law, the Contractor and its employees, agents, Subcontractors, and suppliers will not represent, directly or indirectly, that any Work, Deliverables or Services provided by the Contractor or such parties has been approved or endorsed by the County.

ARTICLE 40. BANKRUPTCY

The County may terminate this Contract, if, during the term of any contract the Contractor has with the County, the Contractor becomes involved as a debtor in a bankruptcy proceeding, or becomes involved in a reorganization, dissolution, or liquidation proceeding, or if a

trustee or receiver is appointed over all or a substantial portion of the property of the Contractor under federal bankruptcy law or any state insolvency law.

ARTICLE 41. GOVERNING LAW

This Contract, including appendices, and all matters relating to this Contract (whether in contract, statute, tort (such as negligence), or otherwise) shall be governed by, and construed in accordance with, the laws of the State of Florida. Venue shall be in Miami-Dade County.

ARTICLE 42. COUNTY USER ACCESS PROGRAM (UAP)

a) User Access Fee

Pursuant to Section 2-8.10 of the Code, this Contract is subject to a user access fee under the County User Access Program ("UAP") in the amount of two percent (2%). All sales resulting from this Contract, or any contract resulting from the solicitation referenced on the first page of this Contract, and the utilization of the County Contract price and the terms and conditions identified herein, are subject to the two percent (2%) UAP. This fee applies to all Contract usage whether by County Departments or by any other governmental, quasi-governmental or not-for-profit entity.

The Contractor providing goods or services under this Contract shall invoice the Contract price and shall accept as payment thereof the Contract price less the 2% UAP as full and complete payment for the goods and/or services specified on the invoice. The County shall retain the 2% UAP for use by the County to help defray the cost of the procurement program. Contractor participation in this invoice reduction portion of the UAP is mandatory.

b) Joint Purchase

Only those entities that have been approved by the County for participation in the County's Joint Purchase and Entity Revenue Sharing Agreement are eligible to utilize or receive County Contract pricing and terms and conditions. The County will provide to approved entities a UAP Participant Validation Number. The Contractor must obtain the participation number from the entity prior to filling any order placed pursuant to this Section. Contractor participation in this joint purchase portion of the UAP, however, is voluntary. The Contractor shall notify the ordering entity, in writing, within three business days of receipt of an order, of a decision to decline the order.

For all ordering entities located outside the geographical boundaries of Miami-Dade County, the Contractor shall be entitled to ship goods on an "FOB Destination, Prepaid and Charged Back" basis. This allowance shall only be made when expressly authorized by a representative of the ordering entity prior to shipping the goods.

The County shall have no liability to the Contractor for the cost of any purchase made by an ordering entity under the UAP and shall not be deemed to be a party thereto. All orders shall be placed directly by the ordering entity with the Contractor and shall be paid by the ordering entity less the 2% UAP.

c) Contractor Compliance

If a Contractor fails to comply with this Article, that Contractor may be considered in default by the County in accordance with Article 27 of this Contract.

ARTICLE 43. INTEREST OF MEMBERS, OFFICERS OR EMPLOYEES AND FORMER MEMBERS, OFFICERS OR EMPLOYEES

No member, officer, or employee of the County, no member of the governing body of the locality in which the Project is situated, no member of the governing body in which the County was activated, and no other public official of such locality or localities who exercises any functions or responsibilities with respect to the project, shall, during his or her tenure, or for one year thereafter, have any interest, direct or indirect, in this Contract or the proceeds thereof.

ARTICLE 44. LIENS

The Contractor is prohibited from placing a lien on County Property. This prohibition shall apply to all Subcontractors.

ARTICLE 45. FIRST SOURCE HIRING REFERRAL PROGRAM

Pursuant to Section 2-2113 of the Code, for all contracts for goods and services, the Contractor, prior to hiring to fill each vacancy arising under a County contract shall (1) first notify Career Source South Florida ("CSSF"), the designated Referral Agency, of the vacancy and list the vacancy with CSSF according to the Code, and (2) make good faith efforts as determined by the County to fill a minimum of fifty percent (50%) of its employment needs under the County contract through the CSSF. If no suitable candidates can be employed after a Referral Period of three to five days, the Contractor is free to fill its vacancies from other sources. Contractor will be required to provide quarterly reports to the CSSF indicating the name and number of employees hired in the previous quarter, or why referred candidates were rejected. Sanctions for non-compliance shall include, but not be limited to: (i) suspension of Contract until Contractor performs obligations, if appropriate; (ii) default and/or termination; and (iii) payment of \$1,500/employee, or the value of the wages that would have been earned given the noncompliance, whichever is less. Registration procedures and additional information regarding the First Source Hiring Referral Program are available at <https://iapps.careersourcesfl.com/firstsource/>.

ARTICLE 46. PUBLIC RECORDS AND CONTRACTS FOR SERVICES PERFORMED ON BEHALF OF MIAMI-DADE COUNTY

The Contractor shall comply with the Public Records Laws, including by not limited to, (1) keeping and maintaining all public records that ordinarily and necessarily would be required by the County in order to perform the service; (2) providing the public with access to public records on the same terms and conditions that the County would provide the records and at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes, or as otherwise provided by law; (3) ensuring that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law; and (4) meeting all requirements for retaining public records and transferring, at no cost, to the County all public records in possession of the Contractor upon termination of the Contract and destroying any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements upon such transfer. In addition, all records stored electronically must be provided to the County in a format that is compatible with the information technology systems of the County. Failure to meet any of these provisions or to comply with Florida's Public Records Laws as applicable shall be a material breach of this Agreement and shall be enforced in accordance with the terms and conditions of the Agreement.

IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT (305) 375-5773, ISD-VSS@MIAMIDADE.GOV, 111 NW 1st STREET, SUITE 1300, MIAMI, FLORIDA 33128.

ARTICLE 47. RESPONSIBLE WAGES

Pursuant to Section 2-11.16 of the County Code, responsible wages applies to competitively bid County contracts in excess of \$100,000 for the construction of public buildings or public works, whether on publicly-owned or privately-owned land. Responsible Wages also apply to privately-funded construction of buildings, whether privately-owned or publicly-owned, located on County-owned land where the construction cost is equal to or greater than \$1 million. The provisions of Section 2-11.16 of the County Code stipulates that for construction contracts valued greater than \$100,000, all laborers and mechanics employed or working upon a project will be paid the full amount of wages and fringe benefits (or cash equivalent thereof) computed at rates not less than those contained in the wage determination in effect at the time the work is performed, regardless of any contractual relationship which may be alleged to.

ARTICLE 48. VERIFICATION OF EMPLOYMENT ELIGIBILITY (E-VERIFY)

By entering into this Contract, the Contractor and its Subcontractors are jointly and severally obligated to comply with the provisions of Section 448.095, Florida Statutes, as amended, titled "Employment Eligibility." The Contractor affirms that (a) it has registered and uses the U.S. Department of Homeland Security's E-Verify system to verify the work authorization status of all new employees of the Contractor; (b) it has required all Subcontractors to this Contract to register and use the E-Verify system to verify the work authorization status of all new employees of the Subcontractor; (c) it has an affidavit from all Subcontractors to this Contract attesting that the Subcontractor does not employ, contract with, or subcontract with, unauthorized aliens; and (d) it shall maintain copies of any such affidavits for duration of the Contract. Registration information is available at: <http://www.uscis.gov/e-verify>

If County has a good faith belief that Contractor has knowingly violated Section 448.09(1), Florida Statutes, then County shall terminate this contract in accordance with Section 448.095(5)(c), Florida Statutes. In the event of such termination the Contractor agrees and

acknowledges that it may not be awarded a public contract for at least one (1) year from the date of such termination and that Contractor shall be liable for any additional costs incurred by the County because of such termination.

In addition, if County has a good faith belief that a Subcontractor has knowingly violated any provisions of Sections 448.09(1) or 448.095, Florida Statutes, but Contractor has otherwise complied with its requirements under those statutes, then Contractor agrees that it shall terminate its contract with the Subcontractor upon receipt of notice from the County of such violation by Subcontractor in accordance with Section 448.095(5)(c), Florida Statutes.

Any challenge to termination under this provision must be filed in the Circuit or County Court by the County, Contractor, or Subcontractor no later than twenty (20) calendar days after the date of contract termination.

ARTICLE 49. SPECIAL REQUIREMENTS

A. Routine maintenance requiring a shutdown shall not be performed during peak transit hours, as follows:

- 6:30 a.m. to 9:30 a.m.
- 4:00 p.m. to 7:00 p.m.

B. If Conveyance Equipment is shut down for routine maintenance during non-peak hours, the Technician shall assist handicapped passengers in gaining access via the Conveyance Equipment, to the extent that such access is deemed safe.

C. If routine maintenance requires the shutdown of Conveyance Equipment, whereby the Conveyance Equipment will be rendered unusable for handicap access, County contact persons, a list of which will be provided to the Contractor following the Contract Date, shall be notified by a phone call or email prior to the shutdown.

ARTICLE 50. SURVIVAL

The Parties acknowledge that any of the obligations in this Agreement will survive the term, termination, and cancellation hereof. Accordingly, the respective obligations of the Contractor and the County under this Agreement, which by nature would continue beyond the termination, cancellation, or expiration thereof, shall survive termination, cancellation or expiration hereof.

IN WITNESS WHEREOF, the Parties have executed this Agreement effective as of the last date that the Agreement is executed below,

Contractor

Miami-Dade County

By: DocuSigned by:
Phil Harty
BA2C9D5B08B4A6...

Name: Phil Harty

Title: Senior Vice President

Date: 7/21/2023

Attest: Desirae Horn
Corporate Secretary/Notary Public

7/24/23

By: _____
for

Name: Daniella Levine Cava

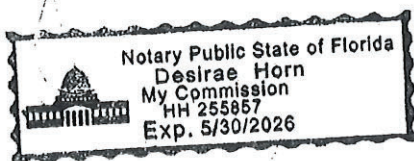
Title: Mayor

Date: _____

Attest: _____
Juan Fernandez-Barquin
Clerk of the Court and Comptroller

Corporate Seal/Notary Seal

Approved as to form
and legal sufficiency



Assistant County Attorney

APPENDIX A – SCOPE OF SERVICES

1.0 INTENT

To provide all labor, material, equipment, tools, parts, overhead, travel time, and any other cost to the Contractor necessary for the performance of modernization, preventative maintenance, repairs, and inspections. This is an all-inclusive maintenance and repair contract; all costs shall be included in the fees unless specifically excluded.

1.1 LICENSING

The Contractor and its applicable employees shall hold, and maintain for the term of this contract, the following qualifications:

- A. The Contractor's mechanics and/or technicians shall hold certificate(s) of competency as certified elevator technician(s) or as certified elevator inspector(s), issued by the State of Florida's Department of Business and Professional Regulation; as required by Florida Statute Chapter 399 as amended from time to time.
- B. The Contractor shall remain in compliance with Miami-Dade County Code, Section 10-3(B) by ensuring that it holds a valid registration for elevator maintenance services Work issued by the State of Florida, Bureau of Elevator Safety, qualifying the Contractor to perform the Work required by this contract.

1.2 IDENTIFIED MODERNIZATION

The County has identified the Conveyance Equipment under this agreement as equipment that is in need of Modernization. The Contractor is to provide Modernization to the subject equipment in accordance with the specifications (Attachments C, D, E, F, G, H, I, J, K, L, & M). Modernizations services shall include materials, labor, and services necessary for the complete modernization, including dismantling and removal of parts of existing designated equipment. Scope of work includes manufacturing, furnishing, installing, testing, placing in service, furnishing warranty during the first year of operation and providing maintenance for One (1) year free of extra charges as well as any other miscellaneous service necessary for the replacement of the existing Conveyance Equipment. Please note that the One (1) year maintenance that is free of extra charges provided after the Modernization of the Equipment will include all the terms, conditions, and services provided under this solicitation and the resulting agreement. For avoidance of doubt, the County will not pay for Covered Repairs, Service Calls, and Preventive Maintenance costs for the first year following the completion of modernization.

1.3 CHANGE PROPOSALS

If after the Modernization work commences, the Contractor believes that it will exceed the amount or time agreed upon initially, due to Unforeseeable Site Conditions; the Contractor must notify the County of the Unforeseeable Site Conditions and provide the County with a detailed change proposal to address such conditions. The County will verify the Contractor's change proposal and may approve or reject such proposal at the County's sole discretion.

1.4 COVERED SERVICES

The Contractor will be paid a fixed monthly fee for services defined as "Covered Services" by this section. For Clarity, the Contractor will be paid a fixed monthly fee for this service regardless of the amount of repairs, or number of service calls for that period. The Covered Services monthly fee shall be inclusive of all material, labor, travel time, and equipment that is required to provide the services. The County will suspend payment of Covered Services during the periods of Modernization and warranty and will resume payment upon expiration of warranty period. Compensation for Covered Services will be made in accordance with the amounts agreed upon on Attachment 2, Monthly Fee Schedule. In the event that the County requests and authorizes any of the covered services during other than normal business hours (Monday through Friday 8:00 AM – 5:00 PM); the County will compensate the Contractor for the labor component only using the Covered Service Rate (After Hours).

A. Covered Repairs:

Covered repairs are the repairs of conveyance equipment that are specified in Appendix B, Technical Specifications. The Contractor will be compensated for covered repairs based on the fixed amount agreed upon on Attachment 2, Monthly Fee Schedule, and will not receive additional compensation for the completion of any covered repairs. Once covered repairs are identified the County and

the Contractor will establish an agreed upon schedule of completion.

B. Service Calls:

The Contractor shall respond to service calls twenty-four (24) hours per day, seven (7) days a week. During regular working hours, Monday through Friday 8:00 AM to 5:00 PM, the service call response time shall be within one (1) hour after telephonic, verbal, or electronic notification by the County. During other than regular working hours, the service call response time shall be within two (2) hours after notification by the County. The amount agreed upon on Attachment 2, Monthly Fee Schedule, is inclusive of unlimited number of service calls available to the County.

1.5 MONTHLY PREVENTATIVE MAINTENANCE

A. Maintenance Control Program

A written Maintenance Control Program (MCP) shall be submitted by the Contractor, within one (1) month of contract award, as a guideline to maintain equipment in compliance with Section 8.6 of the American Society of Mechanical Engineers (ASME) A17.1 Safety Code for Elevator and Escalators (the Code) and all other applicable laws for each unit. The County will review the Contractor's MCP submittal and will provide a written response within 45 calendar days. The County may require the Contractor to attend a meeting(s) in order to reach a MCP that is Code compliant. The County, at its sole discretion, may terminate the Contract if the Contractor is unable to provide a MCP that is acceptable to the County within three (3) months of the receipt of the notice to proceed. The Contractor may, at the County's sole discretion, be required to participate in a County standardized MCP software program, at no additional cost to the County. Contractor shall submit, with each monthly invoice, a record of the completion of all maintenance tasks as required by this contract, signed by the applicable County Staff, detailing all the preventative maintenance that has been performed during the service period for each unit. Until an agreed upon MCP is in place, the Contractor will be responsible for the performance of preventative maintenance in accordance with the minimums as delineated in the Code.

B. Preventative Maintenance

The Contractor shall perform the monthly preventative maintenance tasks in accordance with the MCP as described in this section. The Contractor's failure to complete the monthly preventative maintenance tasks, for any number of Conveyance Equipment, will result in the County not paying the monthly fee(s) associated with those unit(s) and/or assessing deductions per Article 10 of the contract. Repeated failures of completing the monthly preventative maintenance tasks may result in the County terminating the contract and assessing damages. The County will compensate the Contractor for this service in accordance with Attachment 2, Monthly Fee Schedule. Prices agreed upon on Attachment 2, Monthly Fee Schedule must be inclusive of all labor, material, travel time, and equipment that is necessary to maintain the Conveyance Equipment in accordance with the requirements of this Agreement.

C. Dormant Service

In the event that any Conveyance Equipment becomes dormant, the County may request at its sole discretion, that the Contractor follow a modified MCP reflecting a reduced schedule of Preventative Maintenance and/or Covered Services on a Unit-by-Unit basis. The County shall determine the reduced services at the time of the request. Commensurate with the reduction in services, a reduced fee schedule shall also be submitted by the Contractor for County review and approval.

In the event that the County requests and authorizes the performance of any of the preventative maintenance services during other than normal business hours (Monday through Friday 8:00 AM – 5:00 PM); the County will compensate the Contractor for the labor component only using the Covered Service Rate (After Hours).

1.6 STANDBY SERVICES

The County may request, at its sole discretion, and the Contractor shall provide standby services to include, an on-site Technician able to perform minor repairs on Conveyance Equipment. Contractor is to bill the County in accordance with the hourly rates established on Attachment 2, Monthly Fee Schedule.

1.7 FUTURE MODERNIZATION

The County reserves the right to modernize any Conveyance Equipment under this contract. At any time that Conveyance Equipment is identified for modernization, the County may in its sole discretion, competitively advertise the modernization and remove the Conveyance Equipment from the contract. In the event, the County chooses to modernize equipment under this contract, the County

shall provide the Contractor with the modernization specifications and request a proposal for such Modernizations from the Contractor. Such proposal shall include at a minimum, the price proposal, timeframe, schedule, and detailed scope of work. The County reserves the right to negotiate any proposal submitted for modernization services. Failure to meet the agreed upon schedule for Modernization work may result in the County assessing liquidated damages as delineated in Article 11, Contract Enforcement, of this Agreement.

1.8 ADDITIONAL SERVICES

The Contractor is entitled to the payment of its labor and material for all Work not associated with Section 1.2, "Identified Modernization", Section 1.4 "Covered Services," or Section 1.5 "Monthly Preventative Maintenance." All rates defined by this paragraph shall be fully loaded, including labor, equipment, overhead and profit, travel time, and any other cost to the Contractor. For the purpose of this Agreement, "Additional Services" are defined as follows:

- A. Maintenance of cabs, including wall panels, floor, finish of handrails; cab and hoistway door panels, frames, sills; steel guide rail replacement; heat and smoke sensors; power feeder switches, their wiring and fusing; hydraulic cylinder and piping, if located underground; removal and/or refinishing of balustrades and trim moldings of escalators. If repair, and/or replacement, and/or refinishing of any of the above items are necessitated due to the act or omission of the Contractor, such cost shall be borne by the Contractor, at no cost to the County. The Contractor shall be obligated to advise the County within 24 hours from the discovery of any condition which may adversely affect the above equipment, the correction of which is not within the Contractor's control.
- B. Repair or replacement that is necessitated by reason of negligence, accident, or misuse of equipment and apparatus including door entrance, cars, fixtures or due to any other causes beyond the Contractor's control; installation of new attachments or features on the conveyance equipment that are non-existent on the date of this contract; modification to or modernization of existing equipment not otherwise included; or perform tests recommended or directed by insurance companies, state, municipal or other governmental authorities, which are either unscheduled at that time by the Contractor or not required by this contract.

Compensation for Additional Services, as defined by this Article, shall be calculated as follows:

- 1. Labor Rates for Additional Services: when preparing a proposal for services under this article, Contractors shall use the hourly labor rates for Additional Services as agreed upon on Attachment 2, Monthly Fee Schedule.
- 2. Material Rates for Additional Services: when preparing a proposal for services under this article, Contractors shall use the actual parts and material costs, as evident by invoices, plus a mark-up that shall not exceed Twenty Percent (20%).
- 3. Subcontracted Work: when preparing a proposal for services that are performed by subcontracted vendors, Contractors shall use the actual costs, as evident by invoices, plus a mark-up that shall not exceed Twenty Percent (20%).

The Contractor is required to prepare and submit to the County an estimate for labor, material, and equipment required in advance of the commencement Work. Upon the written approval of the County Facility Manager, the total amount of the Contractor's estimate, as approved by the County in writing, shall remain firm and fixed for the scope of Work. In no event will the Contractor be due additional compensation in excess of the approved amount unless a change to site conditions, or scope of work, is identified by the Contractor and is verified by the County. Upon the discovery of a differing site condition, the Contractor shall promptly notify the County's Facility Manager. The County will issue a written determine of entitlement for additional compensation.

1.9 ADDITION OF CONVEYANCE EQUIPMENT

The County reserves the right to add any number of Conveyance Equipment to the agreement, at the County's sole discretion, by soliciting a price quote from the Contractor.

1.10 DELETION OF CONVEYANCE EQUIPMENT

The County reserves the right to delete any number of Conveyance Equipment from this contract, at the County's sole discretion, by issuing a written notification to the Contractor 14 calendar days in advance of such deletion.

1.11 WORK ACCEPTANCE

Completed Repairs and Modernization Work will be surveyed by an authorized representative of the County. This survey shall be performed to determine acceptance of Work, appropriate invoicing, and warranty conditions.

1.12 WARRANTY

All Material, except where recycled content is specifically requested, supplied by the Contractor in conjunction with this contract shall be new and warranted. In the event any of the material supplied to the County by the Contractor is found to be defective or does not conform to specifications, the County reserves the right to (1) cancel the order and return such Material to the Contractor, or (2) require the Contractor to replace the Material at the Contractor's expense.

- a. In addition to all other warranties that may be supplied by the Contractor, the Contractor shall warrant its Parts/Work against faulty labor and/or defective material for a minimum period of one (1) year after the date of acceptance of the labor, materials and/or equipment by the County. This warranty requirement shall remain in force for the full one (1) year period; regardless of whether the Contractor is under contract with the County at the time of defect. Any payment by the County on behalf of the goods or services received from the Contractor does not constitute a waiver of these warranty provisions.
- b. The Contractor shall be responsible for promptly correcting any deficiency, at no cost to the County, within forty-eight (48) hours after the County notifies the Contractor of such deficiency in writing. If the Contractor fails to honor the warranty and/or fails to correct or replace the defective Work or items within the period specified, the County may, at its discretion, notify the Contractor, in writing, that the Contractor may be debarred as a County Bidder and/or subject to contractual default if the corrections or replacements are not completed to the satisfaction of the County forty-eight (48) hours of receipt of the notice. If the Contractor fails to satisfy the warranty within the period specified in the notice, the County may (a) place the Contractor in default of its contract, and/or (b) procure the products or services from another Contractor and charge the Contractor for any additional costs that are incurred by the County for this Work or items; either through a credit memorandum or through invoicing.
- c. Warranty Service Period (For Modernization Only):

This includes furnishing warranty during the first year of operation and providing maintenance for One (1) year free of extra charges as well as any other miscellaneous service necessary for the replacement of the existing Conveyance Equipment. Please note that the One (1) year maintenance that is free of extra charges provided after the Modernization of the Equipment will include all the terms, conditions, and services provided under the contract. For avoidance of doubt, the County will not pay for Covered Repairs, Service Calls, and Preventative Maintenance costs for the first year following the completion of modernization.

APPENDIX B – TECHNICAL SPECIFICATIONS

I. ON-SITE DOCUMENTATION

On-Site Documentation, as referenced in the Maintenance Control Program (MCP) and as specified in ASME A17.1, shall be written and permanently kept on-site in the machine room, machinery space, control room, control space, or in the means necessary for test in hard copy for each unit for elevator personnel. The documentation specified in ASME A17.1 8.6.1.2.2(d) shall be on-site and available to the specified personnel. The On-Site Documentation shall include the following specified documents:

- A. Up-to-date wiring diagrams detailing circuits of all electrical protective devices and critical operating circuits.
- B. Procedures for inspections and tests not described in ASME A17.2 and procedures or methods required for elevator personnel to perform maintenance, repairs, replacements, and adjustments, as follows:
 - 1. All procedures specifically identified in the Code as required to be written (e.g., check out procedure for leveling; check out procedure for overspeed valve; and check out procedure for reversal stop switch, etc.)
 - 2. Unique maintenance procedures or methods required for inspection, tests, and replacement of SIL rated E/E/PES electrical protective devices and circuits.
 - 3. Unique maintenance procedures or methods required for inspection, tests, and replacement of equipment applied under alternative arrangements shall be provided by the manufacturer or installer.
 - 4. Unique maintenance procedures or unique methods required for inspection and test of equipment specified in an ASME A17.7/CSA B44.7, Code Compliance Document (CCD).
- C. Written checkout procedures must be prepared:
 - 1. To demonstrate E/E/PES function as intended.
 - 2. For elevator leveling speed with open doors.
 - 3. For hydraulic elevator overspeed.
 - 4. For escalator reversal stopping device.
 - 5. For escalator handrail retarding force.
- D. Additional Written procedures must be prepared for the following:
 - 1. Authorized persons and emergency personnel elevators evacuation procedures shall be available on-site.
 - 2. Car and hoistway transparent enclosures cleaning by authorized persons.

II. MAINTENANCE AND REPAIR SERVICES (GENERAL STANDARDS)

- A. The Contractor shall regularly and systematically examine each unit of elevator and/or escalator equipment, its component parts and operation in accordance with the minimum maintenance approved checklist; and, as conditions warrant, adjust, lubricate, clean, repair or replace such parts and mechanisms as necessary to render full maintenance care and keep the elevator and/or escalator equipment in proper and safe operating condition. Extra care shall be taken to look for any cracked, defective, or worn parts.
- B. The Contractor shall maintain all elevators and/or escalators under this contract in first-class operating condition to comply with all requirements of ASME A17.1, and, Inspector's Manual, A17.2, and all other applicable laws, regulations, ordinances, codes, etc. Contractor shall also maintain all the requirements of American with Disabilities Act pertaining to elevators and other contracted equipment. In order to conduct routine annual code compliance inspections by the authority having jurisdiction, necessary manpower shall be provided when requested.
- C. The Contractor shall maintain the original efficiency, safety and rated speeds of the Conveyance Equipment including full running speed, acceleration, deceleration, landing and leveling and floor-to-floor time including door opening and closing time where power door operation exists, all per manufacturer's specifications and/or by code requirements. Additionally, the Contractor shall maintain vibration and noise levels within acceptable industry standards for each piece of equipment.
- D. The Contractor shall; clean, adjust, repair and/or replace, including, but not limited to: parts of the machine, brakes, motors, generators, controllers, selectors, signal panels, operating switches and devices in the hoistway, door and gate operators, door protective and monitoring system, car frame, safeties, governors and tension frames, buffers, counterweights,

compensators, platforms, wiring, valve unit, pumping unit, plunger, packing, external gearing, drive chain, handrail, handrail drive chain, handrail brush guards, handrail guides and rollers, alignment devices, steps, step treads, step wheels, step chains, step axle bushings, step tracks, comb and floor plates, upper drive, upper drive hearings, tension sprockets and bearings, upper and lower Newell wheel bearings, start/direction switch, skirt switches, brake switch, underspeed/overspeed switch, drive, belt/drive chain, step up-thrust switch, push button assembly, drive unit reducer or shaft, brake, track, turnaround, skirt panel, deck, glass, belt or drive chain, comb plates(s) controller, conduits, wiring, annunciator panel, indicators and key stop switch relay, handrail return switch, step demarcation lights, lighting receptacles, lubrication system, etc.

- E. Component parts to be used in repairing or replacing the foregoing items of equipment include, but are not limited to: worms, gears, thrust bearings, roller or ball bearings, sleeve bearings, pins, brake linings, generator and motor windings, commutators, armatures brush holders, slow down and limit switches, direction switches, leveling switches, load-weighting devices, interlocks, locks and contacts, resistors, rectifiers, springs, magnet frames, segments, brushes, conductor cables, tapes, chains, tubes, condensers, timers, capacitors and shunts, printed circuits, solid state electronic cards, valves, valve units, pistons, solenoids, pumps, hydraulic packing, drive belts/timing belts, underspeed/overspeed switches, direction switches, revolution counters, car top lights and light guards, steps and step assembly components, step chains, step links, rollers, wheels, handrails, balustrades, comb plates, etc.
- F. Adjustments to the electric circuits and the sequence of operation of the components shall be in accordance with the engineering tolerance established by the manufacturer of the equipment and the maintenance of mechanical clearances in accordance with the manufacturer's engineering standard tolerance.
- G. Contractor shall keep the guide rails clean and properly lubricated. When roller-type guides are involved, rail lubricant shall not be used. Periodically tighten rail bracket and fishplate bolts on critical elevators, re-alignment of guide rails if necessary.
- H. At least once per year or more, as required to prevent the build-up of lint and dirt, the Contractor shall brush lint and dirt from the guide rails, overhead beams and sheaves, counterweight frames, car tops, bottom of platforms, pit equipment, machine-room floor and hoist way door hangers and tracks; on escalators and moving walks, remove half of steps and interior side panels and thoroughly clean interior, including, but not limited to, drip pans, steps, truss, and all moving components, etc.
- I. Suspension means shall be replaced as required to maintain an adequate factor of safety, in accordance with the Elevator Safety Code. The Contractor shall maintain equal tension between individual wire suspension ropes in each set of suspension ropes and lubricate wire suspension ropes in accordance with wire rope. Rust or rouge will not be tolerated for wire ropes on this equipment. If noted on any inspection, the Contractor shall remedy the condition permanently within thirty (30) days from written notice. Wire ropes must be replaced prior to wear below minimums required by ASME A17.1, ASME A17.2 and ASME A17.6.
- J. At a frequency specified in the MCP, the Contractor shall examine all safety devices and governors and make annual safety tests; also make inspections and safety tests as required by the applicable ASME A17.1, Safety Code for Elevators and Escalators, to include five (5) year full load and full speed tests.

The Contractor shall conduct monthly tests of elevator firefighter service Phase I and II, if so equipped. Maintain log of tests and results as specified in Paragraph 3.8 (C), and as required by State Law.

- K. Keep the exterior of the machine and all other parts of the equipment subject to rust, (including, but not limited to; rails, brackets, controller cabinets, duct, carton, toe guards, pit equipment, counterweights, etc.) except where otherwise noted, painted and presentable at all times. The motor windings and controller coils are to be treated with insulating compound to maintain the insulation as required by equipment manufacturers' and industry standards.
- L. Contractor shall maintain the conveyance signal system, devices and fixtures, fixture cover plates, and all finishes. Signal system equipment includes the elevator intercommunication systems, signal buttons, direction indicator lights, position indicators, hall lanterns, mechanical lanterns, mechanical and electrical dials, signal bells, buzzers, and gongs.
- M. Contractor shall maintain all operating accessories of cab and hoist way doors and gates and keep them in proper adjustment, including, but not limited to; fans, key switches, emergency car lights, batteries and hoist way door unlocking devices. The Contractor shall also tighten bolts to maintain secure fastening of the handrails of elevator cabs, in accordance with the MCP.

- N. The Contractor shall furnish as-built wiring diagrams provided by the manufacturer, and two sets of the latest up-dated wiring diagrams designated by the manufacturer specifically for the job and unit to be maintained and noted on each page as such. No wiring diagrams will be accepted unless the name of the building or manufacturer's corresponding contract number appears on them. Two sets of wiring diagrams must be furnished for each group of elevators, one (1) set may be a copy if it is clear, legible, complete, and of the same size as those furnished by the manufacturer. If there is more than one (1) group of elevators in the building, then two (2) sets are to be furnished to each group with each set of diagrams properly showing the manufacturer's designations for each corresponding group.

The Contractor must present proof that the wiring diagrams have been ordered within 30 days after the contract award and must have possession of same within 60 days. One set of wiring diagrams to be kept in the machine room. The remaining set is for the ISD Office of Elevator Safety files. Both sets are to be submitted to the Office of Elevator Safety for affixation of a County stamp, ten (10) days prior to installation. Contractor(s) not adhering to the above specifications will be considered in default of the contract.

- O. In the event that job conditions require variations or adjustments to the wiring diagram, the Contractor shall obtain certification from the manufacturer indicating there is no compromise to safety circuits or efficiency of the operation. (See Note # 2 below.) In addition, the Contractor shall notify the County of these changes and shall provide as-built drawings in a timely manner. The drawings are the property of the County and will be kept in the machine room and the ISD Office of Elevator Safety files, at all times.

Note 1: As-built diagrams and any appendix reflecting changes thereto do not necessarily represent the current circuitry.

Note 2: Failure to provide above certification shall be considered default of the contract.

- P. For Hydraulic Elevators, in addition to the foregoing, the Contractor shall furnish all labor, materials and equipment necessary to keep the hydraulic pumping equipment in top working order; including, but not limited to: inspection of the system noting controller operation, adjustment, repair or replacement of electrical circuitry, oil levels, hydraulic lines, pump operating frequency, pit cylinder condition, keeping the pit and all drip pans free of oil accumulation, dirt, and debris.
- Q. The Contractor must have in-house capabilities to produce, via a microcomputer based traffic analyzer a report indicating the location and duration of traffic demand for elevators in a given group of elevators and a quality of service report monitoring service delays and equipment functions and/or malfunctions. As a part of this contract, the County reserves the right to request that a Traffic Analysis be performed on any piece of equipment. A complete data set provided on digital media and a full written report of actual conditions are to be submitted to the Office of Elevator Safety.
- R. All lubricants, chemicals and other industrial discard shall be disposed of as per laws, requirements, standards and rules established by the Environmental Protection Agency, the Miami-Dade County Regulatory and Economic Resources Department, and/or any other local, state or national authority/institution.

III. MONTHLY MINIMUM TASKS (PREVENTATIVE MAINTENANCE)

Contractor shall perform all the monthly minimum preventative maintenance tasks per the requirements of ASME A17.1, Section 8.6, and the agreed upon Maintenance Control Program (MCP).

IV. MEASUREMENT OF PERFORMANCE

- A. Reliability: Each individual elevator and escalator shall be capable of reliable operation, meeting the following modes of operation and loading criteria:
1. 90% of full load capacity for peak periods for one (1) hour duration, twice daily.
 2. Availability of not less than 98% for each escalator, and 99% for each elevator. (Availability is defined as the total period of normal operational time the elevator is available for use over a time period in (1) above.)
- B. Mean Time Between Failures (MTBF): Each escalator and elevator shall be maintained in a manner to achieve the highest mean time between failures possible, utilizing the most advanced maintenance method and equipment available.
1. $MTBF = T = \text{Actual Operating hours} / F = \text{Number of failures in actual operating time}$.
 2. Failures shall be determined exclusive of shutdowns due to vandalism, overloading, and activation of safety devices by external cause.

V. CLEAN DOWN REQUIREMENTS

- A. The Contractor shall replace all worn or broken parts at the time of a clean down. With respect to escalators and moving walks, Contractor shall do so prior to re-installing the escalator steps or moving walk pallets and prior to seeking the contractually required post-clean down inspection.
- B. Upon completion of any required unit clean down, Contractor shall immediately notify the Office of Elevator Safety that said unit's annual clean down has been completed and an inspection is required.
- C. Upon Contractor's receipt of or access to the clean down inspection report, Contractor shall promptly cure any deficiencies and code violations noted in the report, including, without limitation, promptly replacing any worn or broken parts noted in same.
- D. Regarding escalators and moving walk clean downs, to effectuate proper cleaning, Contractor shall remove a minimum of 50% of the escalator steps and moving walk pallets or a higher percentage (up to 100%) as may be required to facilitate proper cleaning of the unit.
- E. The County retained Qualified Elevator Inspector, "QEI" shall have final say regarding unit cleanliness and re the percentage of steps or pallets that need to be removed.

VI. SEMI-ANNUAL AUDIT AND REQUIRED ANNUAL VENDOR SUPERVISOR CONDUCTED UNIT SURVEYS

Using a survey form provided by the Office of Elevator Safety, which may, at the County's sole discretion, include hard copies and/or electronic formats (with electronic submission requirements) submitted to the applicable County Personnel, Contractor shall conduct semi-annual unit surveys of all Conveyance Equipment, one of which must be conducted by qualified elevator personnel familiar with the subject contract requirements and specifications, which surveys must identify any observed Code violations and contract deficiencies. The QEI-conducted survey must be conducted at the months of January and July of each year this contract is in effect.

If the Contractor fails to perform the required survey and/or submit the written report of conditions in a timely manner (sixty days past due date), the County reserves the right to perform the survey with their personnel or to contract it to a third party consultant, the cost of which will be deducted from monies due to the Contractor under this contract, as determined by the Office of Elevator Safety.

VII. CONTRACTOR'S PERSONNEL

- A. All service Technicians shall be equipped with an individually signaled two-way radio, cellular telephone or other suitable two-way communication device while on duty. Each employee shall have and wear photo identification issued by the Contractor that identifies the name and license number of the Contractor.
- B. The Contractor shall maintain and use a separate and exclusive repair crew trained in elevator and escalator repairs. Generally, repairs shall be performed by repair crews, not by maintenance Technicians. All repairs shall be scheduled through the applicable County personnel.
- C. The Contractor shall maintain and use a separate and exclusive periodic test crew(s) properly trained and equipped to perform elevator and/or escalator periodic tests, such as escalator brake torque, side skirt index, elevator annual and five-year full load safety tests. Staffing of test crews shall be sufficient not to interrupt maintenance or testing at various other sites. Specially assigned crews shall not be diverted to other sites or departments except in case of emergency with the facility management's approval. Periodic tests shall generally be performed by test crews, not by maintenance Technicians. All periodic tests shall be scheduled through the facility management and shall be witnessed by a Florida Certified Elevator Inspector working for the authority having jurisdiction at Miami-Dade County.
- D. The Contractor shall provide, maintain and use a "lock box" system for each machine room. The County will provide a key to each machine room door lock for placement into the "lock box". All Contractor personnel are to possess keys (keyed alike) to the lock box to facilitate access to County equipment by all applicable Contractor personnel.

- E. The Contractor shall have access to Mechanical and Electrical Professional Engineering services in the event that a need for such services is identified by the County. This requirement can be met with either the Contractor's own staff or by subcontracting for this service. Mechanical and Electrical Professional Engineering services may be required to properly execute Modernizations or complex repairs, at no additional costs to the County.
- F. The County may require all employees of the Contractor to undergo a background check, suitable for access permission in risk subject facilities, such as the Airport, Seaport, County courthouses, police stations, State Attorney's office complex and the like, prior to receiving clearance to Work therein, as may be determined by the County. In order to avoid conflicts, any employee who knowingly cannot pass a background check of this nature, conducted by the County, will not be permitted in or on any County facility, as a representative of the Contractor. Employees who have been checked and cannot be permitted in those facilities will be brought to the attention of the official representative of the Contractor.

VIII. RECORDS MANAGEMENT

The Contractor shall submit in written format, documents identified by this Section no later than the 10th day of each month. To minimize paperwork, the County will accept the Contractor's reports via electronic media forms as long as the Contractor provides the County the necessary software to read and copy such data.

A. Service Receipts

The Contractor shall submit monthly (with their invoice) to the facility manager, a copy of the Technician's service receipt indicating the date, time and a detailed narrative description of the performed services, which narrative description shall relate to the work required by the Maintenance Control Program or whatever other relevant work order. These service receipts shall be signed by a responsible County employee at the time the Work is performed, and a copy of this service receipt or time ticket shall be given to the responsible County employee signing the document at the time of signing, for site records. Contractors using electronic media for company internal storage and transmittal of time shall provide a hard copy of the time ticket to the facility manager or designee, via email, at the completion of each day or service performed, as applicable.

In the event the Contractor cannot get the signature of a responsible County employee for an emergency call response and/or repairs, Contractor shall leave a copy of the service receipt in the machine room and/or complete log book provided by the County, and advise the project manager as soon as possible.

B. Monthly Logs

The Contractor shall provide County personnel with a monthly log, due by the 10th of each month, of all callbacks, repairs and minor adjustments made, in addition to the scheduled preventive maintenance Work. This log shall consist of the time the complaint was registered, the nature of the complaint, the correction of the problem and the amount of time required correcting the problem.

For hydraulic elevators, the logbook shall also be used to record all oil usage for each elevator. The record shall reflect all items required by code to be recorded, and shall include all oil stored on site, all oil recovered and the re-use or disposal of same, dates of each new transaction of oil usage (add, recover, dispose) and the name of the technician entering the information.

The Contractor shall provide the County personnel with a monthly log of all monthly tests of the firefighter service Phase I and II as required by Florida Statute 399, Florida Administrative Code 61C-5 and/or Florida Building Code, and as promulgated by American Society of Mechanical Engineers A17.1, supplements and addenda and A17.2.

At the County's discretion, the logbook may be maintained either in the machine room or other designated areas allowed by the code. The Contractor shall complete the log on each routine visit.

C. Check Chart

The Contractor shall maintain on the job site and have available for inspection at all times, a check chart indicating the service routine that has been performed on the most recent visit. Copies of check charts will be submitted to the Office of Elevator Safety on the anniversary of each contract year and at the time of conclusion of the contract. A copy may be required upon demand by the Office of Elevator Safety. A copy of this chart will be displayed in the Elevator Machine room or a specified location in the case of escalators. Check chart information may be stored and retained via electronic media,

provided that the County is provided with the necessary software to access and retrieve data for all time periods.

D. Safety Test Reports

The Contractor shall perform periodic safety tests on all elevators, moving walks, and other equipment included in the latest edition of American Society of Mechanical Engineers (ASME) A 17.1. Tests are to include all semi-annual, annual, and five (5) year safety, governor and buffer tests as specified. The Contractor shall perform monthly tests of the elevator portion of emergency power operation and firefighter service Phase I and II as required by ASME A17.1, supplements and addenda, and A17.2. In the case of five (5) Year safety tests, a written report conforming to ASME A17.1 and A 17.2 reflecting results of the test shall be submitted to the Office of Elevator Safety following the test for County records. For other tests a copy of a report for each test will be left in the elevator logbook. Documentation required by ASME A17.1 shall be provided in all cases, without exception.

E. Witnessing of Tests

The ASME A 17.1 and Florida Statutes Chapter 399 by adoption of ASME A 17.1, requires all periodic safety tests on elevator, escalator, moving walk, and other equipment, to be witnessed by a "Qualified Elevator Inspector" from the County. The Contractor shall provide a schedule of tests to be performed, to the authority having jurisdiction, the Miami-Dade County Internal Services Department's Office of Elevator Safety, prior to the tests being performed, so the authority may provide a witness.

F. Inspection/Audit

The County reserves the right to inspect any of the Contractor's local or regional facilities and records, for the purposes of insuring compliance with the requirements of this contract, at any time during normal working hours, by the Office of Elevator Safety or designee.

IX. TOOLS

Upon the request of the County, prior to the start of Work, the Contractor shall provide written evidence of their ability to execute efficient and timely repairs of the elevator and/or escalator equipment. Part of this evidence shall be a list of their inventory of special tools used in the maintenance and repair of the elevator and/or escalator equipment covered under this contract. A minimum list, in addition to the common tools of the elevator and/or escalator trade shall be provided. The Contractor shall complete a list of the tools that they have either on the service trucks or in their shop. Tools which they do not physically have must be reported where they are available for Technicians' use.

X. PARTS

- A. The Contractor shall furnish and maintain at the location of the equipment, a parts list. The parts list shall include the description and quantity of parts, as a minimum inventory for replacement, the original manufacturer's recommended stock of parts. Parts must be listed in each manufacturer's renewal parts book for each elevator and/or each escalator. These replacement parts shall be stored in a steel cabinet provided by the Contractor and located in the County's elevator machine room or other designated location. Contractor shall maintain an accurate and up-to-date inventory control record indicating the date and quantities of each charge-out and re-order of replacement parts. The Office of Elevator Safety will advise on the missing language, and their representative shall have access to both the inventory control records and the actual parts inventory at all times for the purpose of examining and insuring the Contractor's compliance. At the termination of the contract, the stock replacement parts and parts cabinet shall remain the property of the Contractor, and shall be removed from the site. The Office of Elevator Safety's designee shall have access to the Contractor's local facilities for purposes of verifying local inventory, at any time during normal working hours.
- B. It shall be the responsibility of the Contractor to supply original replacement parts or parts that have been approved as equal or of superior quality by the manufacturer to maintain basic feature functions as installed at no additional cost to the County. The County shall not be charged for replacement parts that are no longer production items or otherwise deemed obsolete. If a component or part fails and there is not an available OEM replacement, the Contractor shall replace the entire component or assembly at their sole expense, including the redesigned model assemblies. Replacements may include, but are not limited to, hydraulic valves, controllers, door operators, generators, timer, motors, etc.
- C. The Contractor, at the discretion of the County, shall maintain at the job site or their local facilities, a supply of major components and parts to include all motors and other components such as field coils, rotating elements, stators armatures

and bearings. The Contractor shall also maintain brake coils, bearings, packing seals, pumps, pump motors, printed circuit boards and solid state components for use as spare parts in emergency repairs. These spare parts and components shall be of the same voltage and electrical characteristics, size and metallic compound as was originally installed. A "Parts Lending" plan is an acceptable alternative and recommended as explained in the next paragraph.

The Contractor, if other than the original manufacturer of the Conveyance Equipment, agrees to provide a fully executed "Parts Lending Plan" which is an agreement between the Contractor and the Manufacturer to lend at once a needed replacement part from the spare parts inventory of the manufacturer, giving at the same time, the manufacturing order to replace that part to said inventory of the manufacturer.

- D. If a part or component fails and the Contractor does not have replacement in stock; The Contractor shall immediately have a spare-lending replacement or permanent replacement shipped via the most expeditious method, by no later than the following working day. If a component or part is identified as requiring replacement prior to failure, the Contractor shall have a spare-lending or permanent replacement on-site prior to commencement of repair to minimize down time.

XI. LUBRICANTS

The lubricants, including oils and grease, used shall comply with the specifications for lubricants recommended by the equipment manufacturer of the Conveyance Equipment. Rope lubricants shall conform to manufacturer's recommendation and ANSI/ASME Inspector's Manual A17.2. Lubricants shall be stored in proper containers. All spent lubricants and chemicals shall be disposed of in a proper, legal manner.

XII. JOBSITE

Under no circumstances shall County be liable for any damage done to equipment, parts, components and/or materials not yet installed and stored at any County facility. The Contractor is responsible for all un-installed equipment, parts, components and materials stored on the job site.

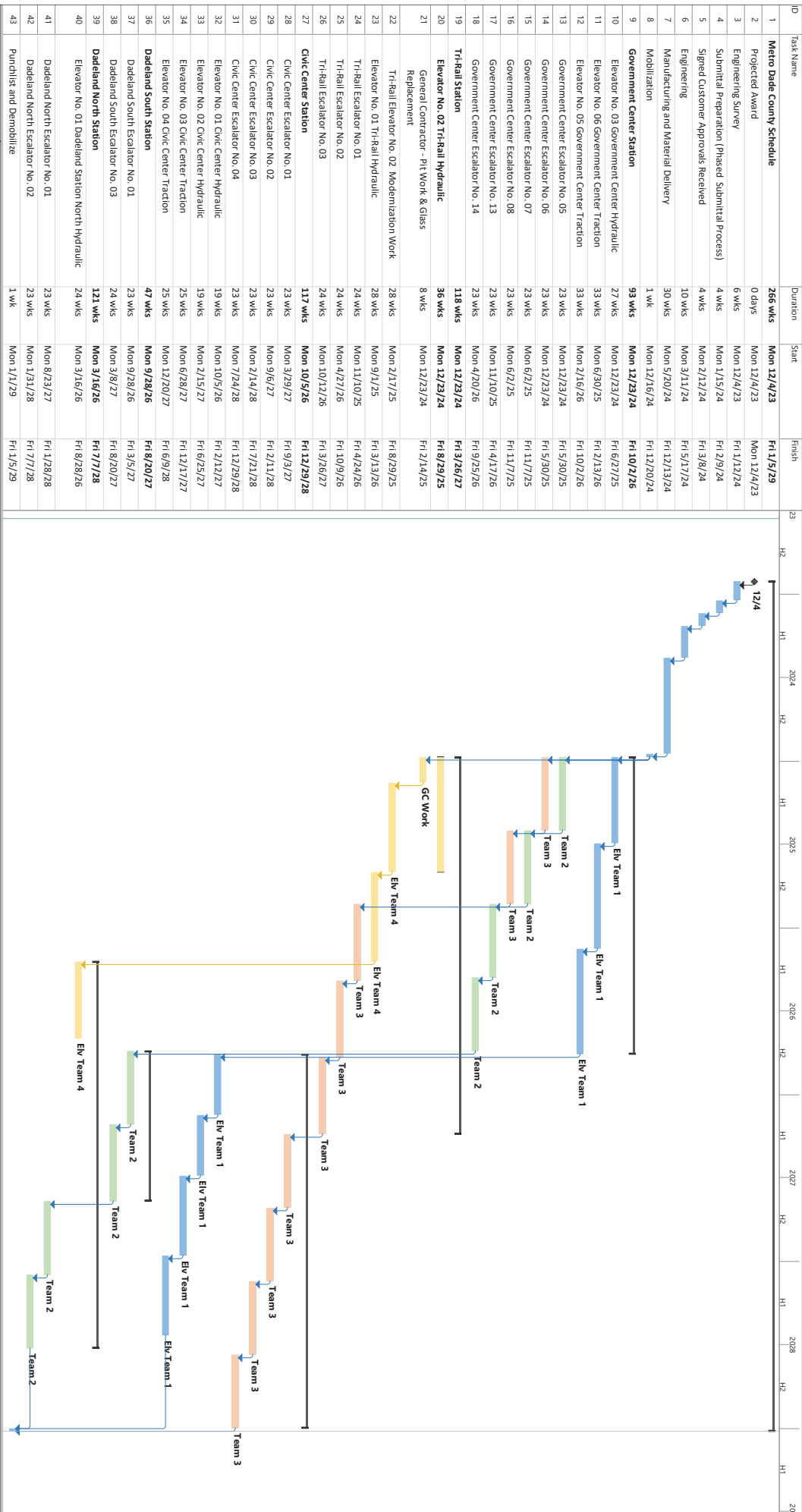
- A. There are some County's facilities that are prone to major flooding, due to design and/or location. Although the County will take every reasonable precaution to protect all equipment, parts, components, and materials storage by the Contractor, the Contractor shall be responsible of securing such items to avoid damages.
- B. Upon the issuance of a Hurricane Warning by the National Hurricane Center, the Contractor shall secure their work site(s), protect or remove from the site all un-installed equipment, parts, components and materials stored at any County facility.

XIII. NON-PROPRIETARY

The Conveyance Equipment, inclusive of any parts needed for modernization, shall be non-proprietary and shall conform to the requirements stipulated on attachment 3. Additionally, prior to the commencement of Modernization Work, the Contractor shall submit Attachment 3, Non-Proprietary Equipment Affidavit that must be notarized and fully executed. Following the completion of Work, the Contractor shall provide three (3) bound sets of printed instructions for use of any tool that may be necessary to perform diagnostic evaluations, systems adjustment and/or programmable software changes on any unit of the microprocessor based elevator control equipment. The Contractor shall provide access codes, passwords and other proprietary information that is necessary to interface with the microprocessor control equipment. In addition, the Contractor shall provide step by step adjusting, programming, and troubleshooting procedures that pertain to the microprocessor control equipment, and a composite listing of the individual settings chosen for the variable software parameters stored on the software programs of both motion and dispatch controllers.

RFP-02030

Attachment A - Modernization Schedule



Task

Split Milestone

Summary

Project Summary

Inactive Task

Inactive Milestone

Summary

Manual Task

Duration-only

Manual Summary Rollup

Manual Summary

Start-only

Finish-only

External Tasks

External Milestone

Deadline

Progress

Manual Progress

Team 1

Team 2

Team 3

Team 4

Team 5

Team 6

Team 7

Team 8



Attachment B – NEGOTIATED SCOPE CLARIFICATIONS

1. ESCALATOR SCOPE CLARIFICATIONS

- a. Removal of escalator anti-fall protection.
- b. Addition of general contracting work
 - I. Seal Gaps around all escalators
 - II. Cleaning of all escalator pits
 - III. Sump pump replacement/installation to 4 escalators as follows.
 - Civic Center Escalator #1 (SS#72598)
 - Civic Center Escalator #4 (SS#72601)
 - Dadeland North Escalator #1 (SS#72573)
 - Government Center Escalator #13 (SS#72590)
- c. Additional electrical work:
 - I. Surge protection to all escalators.
 - II. Escalator lighting pricing for all escalators, like for like replacement light fixtures.
 - III. 20 ft-c at each escalator landing platform.
- d. Added float switch, alarm, and check valves.
- e. Added two-part epoxy painting for all metal within the escalator truss.
- f. Additional labor needed to perform work listed above and general contractor standby labor.

2. ELEVATOR SCOPE CLARIFICATIONS

- a. Addition of electrical work:
 - I. surge protection to all elevators
 - II. Elevator lighting 20 ft-c at each landing
 - III. Like for like replacement light fixtures
- b. Addition of general contracting work:
 - I. Cleaning of all elevator pits
 - II. Waterproof of elevator pits



Attachment B – NEGOTIATED SCOPE CLARIFICATIONS

- Dadeland north elevator #1 (SS#72631)
 - Government Center Elevators #3,5,6 (SS#72640, 72638, 72639)
 - Tri-Rail elevators #1, 2 (SS#72565, 72560)
- III. Security gate for remote HVAC condenser, tile removal/installation, and concrete pour for HVAC lines (tiles to be provided by owner)
- Dadeland station north elevator #1 (SS#72631)
 - Civic Center elevators #3,4 (SS#72646,72647)
- c. Additional barricading work:
- I. Install plywood barricades at all hoistway door entrances.
 - II. Provide protection for floors in the barricaded area
 - III. Demolish sill extensions, repair flooring and replace with new stainless-steel extension.
- d. Additional car and hoistway sill and door work for all elevators:
- I. Change car sills from stainless steel to nickel silver for all elevators
 - II. Hoistway doors with vision panels, satin stainless steel cover with 316 core and swirl pattern door skins
 - III. Nickel silver hoistway door sills and sill supports
 - IV. Hoistway door headers, struts, fascia in 304 stainless steel
- e. Additional Cab Shell Enclosure and Interior Work:
- I. for Government Center Traction Elevators 5 & 6, Tri-Rail Hialeah Hydraulic Elevators 1 & 2.
 - II. Remove and Install New Car Sling, Platform, Fasteners, and Toe Guard in Stainless Steel 304 for All Four (4) Elevators
 - III. Remove and Install New Car Enclosure, Fully Shrouded
 - Car sill in nickel silver
 - Car doors with vision panels, satin stainless-steel cover with 316 core and swirl pattern door skins
 - Cab shell walls, transom in stainless steel with swirl finish to match existing
 - Custom ceiling, canopy in 316 stainless steel.



Attachment B – NEGOTIATED SCOPE CLARIFICATIONS

- IV. Remove and install new car safeties for government center traction elevators 5 & 6 only.
- f. Added for Tri-rail Hialeah hydraulic elevator 2 only
 - I. Replace 3 damaged hoist-way glass panels
 - II. Install steel platform on second landing for new elevator pit location
 - III. Create new opening for one NOA rated exterior machine room door to access lower pit area
 - IV. New concrete slab at ground level for entrance of lower pit area
 - V. Engineering & permitting
 - VI. Secondary pit switch and walk-in pit switch
- g. Emergency power operation for government center elevator 3, 5, and 6:
 - I. Signal wire to transfer switch only (connections by others)
 - II. Provide the 20 sec. delay in ATS as required
 - III. Includes elevator mechanic labor
 - IV. Only applicable to elevators 3, 5, 6 (SS#72640, 72638, and 72639)

3. ADDITIONAL CLARIFICATIONS

- a. Current scope was developed and negotiated under the ASNI A17.1-2016 Elevator Code. A change notice will be provided for additional scope of work in the event of the need to comply with a different elevator code.
- b. County will permit the Contactor to use the agreed upon spaces during negotiations for material storage or provide equivalent onsite locations.
- c. The following work is related to Government Center Elevators 5 and 6 (SS#72638, 72639), and Tri-rail Metrorail Elevators 1 and 2 (SS#72565, 72560)

I. Cab Shell Enclosure:

- The survey shows it as NEMA 1 rate shaft
- The external reinforcement shown on the face of the door panels is not included
- The intent is to match the cab design on site
- These cabs do not include the NEMA 4 rated cab ceiling lighting, exit switch, and exhaust fan
- All stainless steel is quoted as T316L with satin finish
- Unless noted otherwise: steel is cold rolled complying with A366; stainless steel sheet is type 302/304
- Transoms, returns, strikes, columns are 18 gauge reinforced with 18-gauge galvanized steel; door covers are 20 gauge

II. Car sling platform:

- A new Hollister Whitney 540A car safety shall be provided Government Center Traction Elevators 5 & 6
- A 24" x 84" stretcher will not fit in this elevator. A local code variance may be required, if applicable
- If the actual car weight differs from the crosshead data tag weight, then the difference must be less than or equal to 5% of the sum of the crosshead car weight plus capacity. If actual car weight exceeds the 5% allowed by code, then equipment will have to be checked and replaced per A17.1 Rule 8.7.2.15.2. There will be a change order provided should these conditions exist. If existing car weight is within the allowed 5% then any changes that impact the total car weight must be kept within the 5%.

4. TRACTION ELEVATOR CLARIFICATIONS

- a. Applies to Attachment C (Civic Center Elevators 3 & 4 SS72648-72649):

Attachment B – NEGOTIATED SCOPE CLARIFICATIONS

- I. Article 1.2 Related scope by others – Section B Item 19 – Shunt trip – Not Required
- II. Article 1.2 Related scope by others – Section B Item 20 - Provide conduit and data wiring – Elevators do not travel more than 70 feet.
- III. Article 1.2 Related scope by others – Section B Item 21– Provide Network connections. No knowledge of where main network connections will be located.
- IV. Article 1.2 Related scope by others – Section B Item 22. – Emergency Power. Emergency power only applies to Government Center Elevators 5 and 6 (SS#72638 and 72639).
- V. Article 1.2 Related scope by others – Section C – Emergency Generator. No emergency generator at time of survey.
- VI. Article 1.2 Related scope by others – Section F Item 1. – Phone Line. Contractor will provide phone line from existing box in the machine room to new controller only, conduit to telephone board not included.
- VII. Article 1.2 Related scope by others – Section G Item 4 – Stair well. Stair well already code compliant when site visit conducted.
- VIII. Article 1.2 Related scope by others – Section G Item 10 – Hoistway Venting. Hoistway does not penetrate the roof.
- IX. Article 1.2 Related scope by others – Section G Item 11 – Sump Pumps. No sump pumps existing at time of survey, not required for traction elevators.
- X. Article 1.2 Related scope by others – Section H Item 1-4 – Security Systems. Contractor does not have locations for security system control panels.
- XI. Article 1.2 Related scope by others – Section I. – Cutting and Patching. Contractor will only provide cutting and patching as required for Contractor specific work, Contractor shall not be responsible for other trades cutting and patching.

- XII. Contractor will not be responsible for existing trouble in the fire alarm panel. Austen will not work on panel until all troubles have been cleared.

5. HYDRAULIC ELEVATOR CLARIFICATIONS

- a. Applies to Attachment E – Civic Center Hydraulic Elevators 1, 2 (SS72646, 72647), Attachment F - Dadeland North Hydraulic Elevator 1 (SS72631), Attachment G – Government Center Hydraulic Elevator 3 (SS72640), and Attachment H – Tri-Rail Hydraulic Elevators 1, 2 (SS72565, 72560).
 - I. Article 1.2 Related scope by others – Section B Item 20 – Shunt trip. No sprinklers in machine room.
 - II. Article 1.2 Related scope by others – Section B Item 21 – Provide conduit and data wiring. Elevators do not travel more than 70 feet.
 - III. Article 1.2 Related scope by others – Section B Item 22 – Provide network connections. Contractor does not have knowledge of where main network connections will be located.
 - IV. Article 1.2 Related scope by others – Section B Item 23-24 – Emergency Power. With the exception of Government Center Elevator 3 (SS72640), Elevators are not connected to emergency power.
 - V. Article 1.2 Related scope by others – Section C – Emergency Generator. No Emergency Generator at time of survey.
 - VI. Article 1.2 Related scope by others – Section E – Fire Sprinkler.
 - VII. Article 1.2 Related scope by others – Section F Item 1. – Phone line. Contractor will provide phone line from existing box in the machine room to new controller only, conduit to telephone board not included.
 - VIII. Article 1.2 Related scope by others – Section G Item 4 – Stair well. Stair well already code compliant when site visit was conducted.
 - IX. Article 1.2 Related scope by others – Section G Item 10.2 – Hoistway Venting. Hoistway does not penetrate roof.

Attachment B – NEGOTIATED SCOPE CLARIFICATIONS

- X. Article 1.2 Related scope by others – Section H Item 1-4 – Security system. Contractor does not have locations for security system control panels.
- XI. Article 1.2 Related scope by others – Section I. – Cutting and patching. Contractor will only provide cutting and patching as required for Contractor specific work, Contractor shall not be responsible for other trades cutting and patching.
- XII. Contractor will not be responsible for existing trouble in the fire alarm panel. Contractor will not work on panel until all troubles have been cleared.

6. ESCALATOR CLARIFICATIONS

- a. Applicable to Attachment I -Civic Center Escalator 1- 4 (SS72598-72601), Attachment J – Dadeland North Escalator 1,2 (SS72573, 72574), Attachment K – Dadeland South Escalator 1,3 (SS72576, 72730), Attachment L – Government Center Escalator 5-8, 13,14 (SS72612-72615, 72590, 72591), Attachment M-Tri-Rail Escalator 1-3 (SS72562-72564)
 - I. Article 1.2 Related scope by others – Section A – HVAC
 - II. Article 1.2 Related scope by others – Section B – Fire Alarm. Fire alarm not included in escalator pits, exposed to environment.
 - III. Article 1.2 Related scope by others – Section C – Fire Sprinkler.
 - IV. Article 1.2 Related scope by others – Section E Item 6 – Sump pump. Sump pump exist only in Civic Center Escalator #1, Civic Center Escalator #4, Dadeland North Escalator #1, Government Center Escalator #13.
 - V. Contractor will provide damaged tile replacement but tile will be provided by County.
 - VI. Electrical pricing provided includes reusing existing main line feeders. New main line feeders not included.



Attachment B – NEGOTIATED SCOPE CLARIFICATIONS

7. WARRANTY CLARIFICATIONS

- a. Applicable to Attachment 5, Section 1.04 “Warranty Requirements”.
 - i. Notwithstanding anything to the contrary set forth herein, Contactor warrants that the work supplied hereunder will comply with the specifications and that there will be no defects in materials and workmanship for one year after completion of the work or acceptance thereof by beneficial use, whichever is earlier. The equipment furnished and installed under our Agreement requires maintenance service, such as periodic examinations, lubrication and adjustment by competent mechanics, specially trained to service said equipment. Our guarantee is not intended to take the place of this normal servicing of the equipment and it is not to be construed that we will provide maintenance service of this type, without charge, except as may be provided in our contract, or that we will correct, without charge, breakage, maladjustment or other issues arising out of maintenance provided by others. Contractor’s sole duty under the warranty is to correct the nonconformance or defect at Schindler’s expense within a reasonable time after the receipt of notice. THE EXPRESS WARRANTIES CONTAINED HEREIN ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Purchaser’s remedies hereunder are exclusive.

ATTACHMENT C

ELECTRIC TRACTION ELEVATORS SPECIFICATIONS (CIVIC CENTER METRORAIL STATION)

1.1 SUMMARY

- A. Modernization of Geared Electric Traction Passenger Elevators for the Miami-Dade County Department of Transportation and Public Works, Civic Center Metrorail Station. 1501 NW 12th AVE., Miami, FL 33136.
- B. Including all engineering, equipment, labor, machines, control systems, devices and accessories as required for safely operating the specified elevators.
 - 1. Commercial, standard geared electric traction passenger elevators.
 - a. Two (2) Passenger Elevators
 - 1) Two (2) Simplex Groups
 - 2) Elevator #3 - SS# 72648, Elevator #4 – SS# 72649
 - 2. Installation of all hoistway equipment.
 - 3. Elevator car and hoistway signal equipment.
 - 4. Operation and control systems.
 - 5. Accessibility provisions for physically disabled persons.
- C. Delivery, staging, and hoisting of new equipment.
- D. Materials and accessories as required for completing the elevator installations.
- E. Hoistway, pit and machine room barricades for safety as required.
- F. Required hoisting, hoisting permits and traffic coordination and/or permits with local jurisdictions and the State of Florida as required.
- G. Required permits and coordination and/or permits with local jurisdictions, Office of Elevator Safety and the State of Florida as required.

1.2 Related Scopes of Work by Others

- A. Machine room HVAC as required, to maintain temperature and humidity to between 55° F and 90° F with relative humidity of not more than 85% non-condensing.
 - 1. The elevator contractor shall provide actual calculations for total anticipated heat loads generated by all elevator machine room equipment.
 - 2. Machine room HVAC must be positioned as approved by the elevator contractor and consultant.
 - 3. There shall be no drain lines or condensation allowing water in the machine room.

4. HVAC system is required to have an electrical disconnect lockable in the off position with proper safety labels including identifying source of power and purpose.
 5. Remote systems shall have a proper thermostat inside the machine room.
 6. The air conditioning systems shall be additionally connected and powered by emergency generator power as required.
- B. Electrical Contractor shall furnish and install all electrical equipment for hoistway and machine room including HVAC, lighting, GFCI receptacles and electrical disconnects, as required by NFPA 70 National Electrical Code and ASME A17.1 Safety Code for Elevators and Escalators.
1. All Electrical work must be coordinated and scheduled with General Contractor, Elevator Contractor and Elevator Consultant.
 2. Elevators shall be removed from service while electrical trades are working in same or adjacent hoistways or machine rooms.
 3. Provide electrical service to main disconnect in elevator machine room; electrical power for elevator installation and testing; electrical service for machine room; machine room and pit receptacles with ground-fault current protection; lighting in machine room and pit; wiring for telephone service to machine room
 4. Install lockable disconnects with overcurrent protection for elevator main line power as per NEC.
 - a. Disconnect to be verified for appropriate size and type for power requirements of elevator equipment prior to installation.
 - b. Provide surge protection.
 5. Provide replacement electric wiring from disconnect switches to the new elevator controllers with feeder leads for connection to terminals by the elevator contractor, inclusive of a normal 120 VAC, 15 AMP supply at each controller.
 6. Minimum lighting in machine room and overhead hoistway equipment space shall be 19 ft-c.
 7. Minimum lighting in hoistway pit and top of car shall be shall be 10 ft-c.
 8. All electrical systems shall include proper earth grounding and bonding as required by elevator controller manufacturer and NEC.
 - a. Provide continuous earth ground to mainline disconnects and controllers.
 9. Provide lockable disconnect switches with overcurrent protection to air conditioner equipment installed in each machine room.
 10. Provide new GFCI receptacles in machine rooms and hoistways as required by NFPA 70 NEC.
 11. Provide a single non-GFCI receptacle for each sump in each elevator hoistway.

ELECTRIC TRACTION ELEVATORS

12. Provide and install pit, overhead hoistway equipment platform and machine room lighting as per NEC with enclosed and protected lamps.
 13. Pit receptacles, with GFCI protection shall be installed in NEMA 4 devices where placed within 4'-0" of pit floor.
 - a. All electrical equipment including conduit, fittings, junction boxes, portable cabling shall be NEMA 4 rated.
 - b. Care must be taken not to place equipment in line with elevator equipment.
 14. Provide and install lockable disconnect switch with overcurrent protection in each machine room for each elevator cab lighting system as per NEC.
 15. Provide and install new pit lighting switches and emergency stop switches.
 - a. Light switch shall be accessible from pit access door.
 - b. Emergency stop switches shall be installed approximately 18" above first floor landing adjacent to opening and located at side of each pit access door.
 16. All lighting fixtures in machine rooms, elevator cars and on top of car to be suitably guarded in accordance with ASME A17.1 Safety Code for Elevators and Escalators, clearance requirements and NFPA 70 NEC requirements for guarding.
 17. All disconnects shall be labeled according to NFPA 70 NEC including source of power, State of Florida Serial Numbers, Elevator Number and all required warning signs.
 18. Lighting shall be installed at roof top machine room access stair and door areas.
 19. Install shunt trip breakers outside of machine rooms for feeder to each mainline disconnect for removal of power by NFPA 70 NEC and NFPA 72 if installation of sprinklers in machine rooms or hoistways is required by the Florida Building Code.
 - a. Shunt trip shall be activated by heat detectors installed by others.
 20. Provide conduit and data wiring for elevator car two-way communication devices, remote monitoring, security systems, lobby phones and/or fire command center elevator status panel phones.
 21. Provide network connections for all required connections to the internet for remote monitoring, card readers, cameras and communication equipment requiring IP addresses.
 22. Provide conduit and control circuit wiring from controller to Automatic Transfer Switch for alternate emergency standby generator.
 23. Provide recommended amount of separate duplex receptacles per elevator as required for security equipment and cameras.
- C. Emergency generator configuration, installation, wiring including conduit to elevator controller, repair, transfer switches including elevator selector options, pre-signal wiring connections

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and/or testing with standby or emergency power systems shall be coordinated and completed by emergency generator service contractor.

1. Emergency generator personnel shall demonstrate system and tests at completion of each elevator for inspection as required by the Florida Building Code, Florida Statute 399 and ASME A17.1.
 2. Generator contractor shall provide contacts in automatic transfer switch for signals and transfer of power to elevator controllers when building is transferred to and from emergency standby power and normal power source.
- D. Fire Alarm including heat and smoke sensing devices as per NFPA 70 National Electrical Code and NFPA 72 National Fire Alarm Code.
1. Provide connections for fire recall devices to the elevator controllers in machine room.
 - a. For each elevator within the building, a minimum of three separate elevator control circuits shall be terminated at the designated elevator controller within each elevator machine room in accordance with NFPA 72.
 - b. Operation of the elevators shall be in accordance with Section 2.27 of ASME A17.1 Safety Code for Elevators and Escalators.
 - c. The smoke detectors or other automatic fire detection as permitted by NFPA 72, shall actuate the elevator control circuits as detailed in NFPA 72.
 2. Fire alarm contractor shall demonstrate at time of elevator inspection, compliance and testing of all alarm initiating devices as required by ASME A17.1 Safety Code for Elevators and Escalators, ASME A17.2 and NFPA 72 National Fire Alarm Code.
 3. Install heat detectors within 24" of sprinklers installed in machine rooms or hoistways including wiring and conduit to shunt trip breaker as installed by electrical contractor.
 - a. Heat detectors for sprinklers in pit shall activate Fire Recall.
 4. Installation of fire alarm system and devices shall conform to ASME A17.1 Safety Code for Elevators and Escalators and NFPA 72 including NFPA 70 NEC.
- E. Sprinklers: Any required sprinkler work must be coordinated with elevator contractor to insure non-interference with any elevator equipment and must be compliant with NFPA 13, NFPA 72 and the Florida Building Code.
1. If sprinkler head(s) are located in the machine room or hoistway, a heat detector shall be installed within 24" of each sprinkler in order to automatically disconnect the main line power supply to the affected elevator(s) upon or prior to the application of water, in accordance with ASME A17.1 Safety Code for Elevators and Escalators and NFPA 72 National Fire Alarm Code.
- F. Telephone and Data Lines:

1. A dedicated telephone line is required for each elevator.
 2. Provide dedicated telephone lines and wiring to elevator controllers for telephone system including all wiring in machine room shall be installed inside conduit as per NFPA 70 NEC.
 3. All emergency telephone devices shall include a minimum of 4 hours emergency backup power including power from emergency generator if supplied.
 4. Operating instructions shall be incorporated with or adjacent to the two-way voice communication (Lobby Phone) outside the car.
 5. Provide network data line for remote monitoring to each elevator controller.
- G. Building general construction conditions, cleaning and painting of miscellaneous surfaces: The elevator contractor shall not be responsible for all work as detailed in this section.
1. All construction, cleaning and painting other than equipment directly supplied by the elevator contractor shall be performed by others.
 2. Provide 2 hour fire rated machine room enclosure.
 3. Proper installation of 1 ½ hour “B-Label” door to machine room to include self-closing and self-locking requirements.
 - a. Machine room warning signs “Danger Authorized Personnel Only” shall be provided on each machine room door as required by NFPA 70 NEC.
 4. Provide metal stairway and access landing including guard rail to machine room for roof top and interior multi-level machine room access.
 - a. Stairway shall comply with the Florida Building Code and ASME A17.1.
 5. Provide Class ABC Fire Extinguisher in machine room permanently mounted and conveniently located to the access door as required by ASME A17.1 Safety Code for Elevators and Escalators.
 6. Provide protection of all pipes, wiring, conduit, duct and openings in machine rooms and hoistways to maintain a 2 hour fire rating.
 7. All foreign pipes, wiring or conduit not in use or directly related to the elevator system shall not be installed in machine rooms and hoistways.
 - a. Existing foreign piping, wiring and/or conduit not in use or directly related to elevator shall be removed or enclosed as required by code.
 8. All projections or recesses in walls of hoistway greater than 4” shall be beveled not less than 70 degrees with sheet metal not less than 16 gauge.
 9. All holes and openings in hoistway shall be patched and protected to maintain the fire rating of the enclosure including conduit, piping and other equipment passing through exterior walls.

10. Hoistway Venting:

a. Existing Interior Hoistways

- 1) Vents on exterior walls which are not pressurized and are not subject to require pressurization shall be provided with motorized dampers that are capable of being automatically closed during normal building operation and are interlocked to be opened by fire and smoke detection systems.
- 2) The damper shall power close under normal operation and spring open in the event of a power failure or fire alarm signal.
 - a) Provide a separate exterior vent assembly with a goose neck hood and stationary louvers at the exterior entrance of the hood to protect the interior motorized vent system and hoistway.
- 3) Provide a separate exterior vent assembly with a goose neck hood and stationary louvers at the exterior entrance of the hood to protect the interior vent system and hoistway.

b. Existing venting of the hoistway through the machine room shall be closed and protected to maintain the 2 hour fire rating enclosure.

11. Sumps and Sump Pumps: Elevators with Fire Service Operation shall have drains or sump pumps as required by ASME A17.1 Safety Code for Elevators and Escalators, including the Florida Building Code.

- a. The pump shall be manufactured by Stancor, or approved equal.
- b. The sump shall be a minimum of 18 inches in diameter and 24 inches inn depth.
- c. The sump cover shall be removable and flush to pit floor.
- d. The Sump pump shall have an output of 3000 gallons per hour at the head per elevator.
- e. The sump pump electrical cord shall be 6 foot or less.
- f. Provide monitoring with alarm located outside hoistway.

12. Clean and paint machine room finished walls and floors.

- a. All cleaning or painting work that produces any vapors or fumes shall be performed during normal business work hours or after normal business hours as requested by building manager or representative.
 - 1) Work of this nature must be scheduled and coordinated five (5) days prior to execution of work.
- b. The procedures proposed for the accomplishment of the work shall provide for safe conduct of the work, careful removal and disposition of materials specified to be

salvaged, protection of property, which is to remain undisturbed, and coordination with other work in progress.

- 1) The work plan shall include a Safety and Health plan describing procedures for handling monitoring, and disposition of Volatile Organic Compounds "VOCs" and other hazardous and toxic materials.
 - 2) The procedures shall include a detailed description of the methods and equipment to be used for each operation, and the sequence of operations.
- c. All paint products and application method must be approved prior to application by owner or owner's agent.
- 1) Paint products and application methods are to be equal or better than existing product applicable with matching color as approved by owner.
- d. All products of paint, thinners or cleaning agents must be approved prior to use for VOC's or any additional health concerns.
- e. Interior work zones having a volume of 1,000 cubic feet or less shall be ventilated at a minimum of 2 air exchanges per hour.
- 1) Ventilation in larger work zones shall be maintained by means of mechanical exhaust.
 - 2) Solvent vapors shall be exhausted outdoors, away from air intakes, building occupants and workers.
 - 3) Building air conditioning return air inlets in the work zone shall be temporarily sealed before start of work until the prepared surfaces have dried and are free of odor.
 - 4) Operators and personnel in the vicinity of paint removal processes involving chemicals or mechanical action (sanding or blasting) shall wear respirators.

H. Security system compliant with facility requirements

1. Coordinate installation of security in-car keypads or card readers and security cameras with building owner and the facility's subcontractor.
 2. Provide proper software and hardware for integration of security system with elevator controllers.
 3. Assure traveling cable includes the proper shielded, data and coaxial conductors.
 4. Provide power sources as required for security systems including in-car security cameras.
- I. Each contractor will be required to provide any cutting, patching including painting to match existing finishes of building.

1.3 CODE AND STANDARD REFERENCES

1. Comply with all current applicable state statutes, administrative rules, building codes and elevator codes at the project site required at the time of permitting, including but not limited to the following:
 - a. Florida Statutes 399
 - b. Florida Administrative Code 61C-5
 - c. Florida Building Code
 - d. ASME A17.1 Safety Code for Elevators and Escalators
 - e. ASME A17.2 Guide for Inspection of Elevators and Escalators
 - f. ASME A17.6 Standard for Elevator Suspension, Compensation, and Governor Systems
 - g. ADAAG, Americans with Disabilities Act Accessibility Guidelines
 - h. NFPA 13, Sprinkler Systems
 - i. NFPA 70, National Electrical Code
 - j. NFPA 80, Fire Doors and Windows
 - k. ANSI/UL 10B, Fire Tests of Door Assemblies
 - l. NFPA 72, National Fire Alarm Code
 - m. NFPA 101 Florida Edition
 - n. O.S.H.A. Requirements for construction
 - o. Elevator Industry Field Employees' Safety Handbook
 - p. Miami-Dade Transit Construction Safety Manual and Attachments
 - q. Miami-Dade County Department of Transportation and Public Works (DTPW) Adjacent Construction Manual

1.4 ELEVATOR SYSTEM DESCRIPTIONS

- A. Elevator System, General: Manufacturer's standard elevator systems.
 1. Unless otherwise indicated, manufacturers' standard components shall be used, as included in standard elevator systems and as required for complete system.
- B. Elevator Arrangement
 1. Elevator shall be numbered as viewed from lobby facing the elevators from left to right in main lobby with alpha-numeric designations.

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- a. Keep current elevator alpha-numeric designations.
 - 2. Specific requirements for the specific elevator or component shall be designated as such and shall not apply to other elevators in the building.
 - 3. Specifications for elevators include minimum requirements of all elevators and it shall be the responsibility of the contractor to complete all work to code compliance.
 - 4. Insert a different number for each group of elevators that share a group operation system
- C. Elevator System
- 1. Quantity:
 - a. Two (2) Simplex Elevator Groups
 - 1) Elevator #3 - SS# 72648
 - 2) Elevator #4 – SS# 72649
 - 2. Type: Commercial geared electric traction passenger.
 - 3. Machine Location:
 - a. Basement Machine - 2nd floor adjacent to hoistway mounted top landing
 - b. Hoistway overhead governors & deflector sheaves
 - 4. Number of Stops: Two (2)
 - 5. Number of Openings: Two (2) Front Entrance
 - 6. Travel rise: Field verify
 - 7. Rated Capacity: 3500lbs
 - 8. Rated Speed: 125FPM
 - 9. Car Enclosure: Retain existing inside car dimensions
 - 10. Entrance Dimensions and Type:
 - a. Two (2) Speed, Side Opening, field verify
 - 11. Main Power Supply: Existing 480 Volts + or - 5% of normal, 3 Phase, 60 Cycle with a separate equipment grounding conductor. Contractors shall field verify.
 - 12. Lighting Power Supply: 120 Volts, 1 Phase, 15 Amp, 60 Hz.
 - 13. Stopping Accuracy: $\pm 1/4"$ under any loading condition or direction of travel.
 - 14. Door operating equipment shall be labeled with maximum door speed so that Kinetic Energy shall not be above 7.37 ft-lbf. As measured by ASME A17.1 Safety Code for Elevators and Escalators.

15. Car Operation:

- a. Provide Simplex Selective Collective microprocessor-based controller for elevators #3 & 4, the operation shall be automatic by means of the car and hall buttons.

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

1.5 Submittals

A. Product data: Submit product data for the following:

- 1. Elevator car and hoistway fixtures.
- 2. Operation, control, and signal systems.
- 3. Drive, motor, machine and all major components of system.

B. Shop drawings:

- 1. Show equipment arrangement in the machine room, pit and hoistway.
 - a. Provide plans, elevations, sections and details of assembly, erection, anchorage, and equipment location as required.
- 2. Indicate elevator system capacities, sizes, performances, safety features, finishes and other pertinent information.
- 3. Show floors served, existing travel distances, maximum loads imposed on the building structure at points of support and all similar considerations of the elevator work.
- 4. Indicate electrical power requirements and branch circuit protection device recommendations and locations.

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

D. Operation and maintenance data. Include the following:

- 1. Operation and maintenance instructions.
- 2. Parts list, with recommended parts inventory.
- 3. Wiring diagrams for control system including any in field modifications.
- 4. Copy of field pull sheet wiring as built notes. Pull sheets to include wire numbers and colors.

1.6 QUALITY ASSURANCE

A. Elevator Contractor Qualifications:

1. Elevator Contractor shall provide pre-engineered elevator system components by manufacturer(s) regularly engaged in the manufacture of elevator systems.
 - a. Compliance with ASME A17.1 Safety Code for Elevators and Escalators, Florida Statutes, Chapter 399, Florida Administrative Code 61C-5, all applicable sections of the Florida Building Code, and additional requirements specified herein.
 - b. The elevator contractor shall have a documented, on-going quality assurance program.
 - c. Contractor shall have a mechanical or electrical engineer on staff for County critical elevators.
2. Installer Qualifications: The manufacturer or an authorized agent of the manufacturer with not less than ten years of satisfactory experience installing elevators equal in character and performance to the project elevators.
 - a. All mechanics employed to work onsite must have a valid Certificate of Competency issued by State of Florida Bureau of Elevator Safety.
 - b. There shall not be allowed onsite more than one helper or unlicensed assistant per onsite licensed mechanic.
3. Permits and Inspections: Apply, secure and pay for all required State of Florida, Miami-Dade County Office of Elevator Safety and all applicable building code permits, tests and fees as required by Florida Administrative Code 61C-5 for Alteration Permits, and local jurisdiction permits.
 - a. Elevator contractor is responsible for proper posting of all required licenses, permits and safety documentation.
4. Regulatory Requirements:
 - a. ASME A17.1-2016 or more stringent edition adopted by the State of Florida
 - b. Florida Building Code, latest edition adopted by the State of Florida
 - c. Current Florida Statute 399 and 553
 - d. NFPA 13 Standard for the Installation of Sprinkler Systems, latest edition adopted by the State of Florida
 - e. NFPA 70 National Electrical Code, latest edition adopted by the State of Florida
 - f. NFPA 72 National Fire Alarm Code, latest edition adopted by the State of Florida
 - g. Americans with Disabilities Act - Accessibility Guidelines (ADAAG)
 - 1) Florida Building Code: Accessibility, latest edition adopted by the State of Florida
 - h. Any changes or updates as required by Florida Building Code or Florida Statute 399 by time of permit application.

- i. Any and all onsite workmen and receiving of products to site are required to follow security and safety procedures as per Miami-Dade County Department of Transportation and Public Works policies and facility regulations including the Miami-Dade Transit Construction Safety Manual and Attachments and the Miami-Dade County Department of Transportation and Public Works (DTPW) Adjacent Construction Manual.
- 5. Miami-Dade County Department of Transportation and Public Works has designated the Miami-Dade County Office of Elevator Safety Elevator Contracts Administrator, as the elevator consultant on this project.
 - a. The Miami-Dade County Office of Elevator Safety Elevator Contracts Administrator, in accordance with ASME A17.1 Safety Code for Elevators and Escalators, Inspection and Test Requirements, may be present for and review all acceptance inspections for these elevators.
 - b. Elevator Installer in accordance with ASME A17.1 Safety Code for Elevators and Escalators, Inspection and Test Requirements, will schedule and coordinate all acceptance tests and arrange for inspection for all elevators with the Miami-Dade County Office of Elevator Safety.
 - c. Elevator contractor must notify the General Contractor, building owner and elevator consultant at least five (5) days prior to inspection advising of the date and time of all inspections and tests.
 - d. Elevator contractor shall be solely responsible for the application, securing, maintaining, completion and posting of elevator permits as per Florida Statute 399, the State of Florida Bureau of Elevator Safety /and Miami-Dade County.
 - 1) Delivery to the Owner upon completion and acceptance of elevator work, the certificate of operation.
- 6. Provide all signage as required by Florida Building Code, latest applicable edition of ASME A17.1 Safety Code for Elevators and Escalators, NFPA 70 National Electrical Code and NFPA 72 Fire Alarm Code to be posted in elevator lobbies, fire alarm panels, disconnects, machine rooms and machine room doors.
- 7. Execute and Notarize Non-Proprietary Equipment Affidavit attachment provided.
 - a. Provide letter of guarantee that any and all equipment installed shall be completely non-proprietary and shall not require the need for specialized testing or programming tools currently or in the future.
 - b. Future information for trouble shooting or adjusting shall be available to any licensed elevator maintenance contractor by the supplier of the control system at a reasonable cost comparable to cost of competitive parts within marketplace.

- c. Contractor shall provide complete schematics and wiring diagrams for control systems including information for change of program, on board diagnostics or mnemonics, or other on board switches or settings.
 - d. Any controller by a manufacturer other than specified must be approved prior to bid.
 - e. Letter stating agreement to the above compliance shall be signed by an officer of elevator contractor and shall be notarized.
 - f. Any equipment that is provided for installation which would require any specialized tool, devices, manuals, source codes, access codes, objects, passwords and/or software to input parameters, make adjustments, troubleshoot, perform diagnostics, perform testing functions or required for any other type of maintenance or repair function shall be included with the installation cost of this bid document and will become the property of the building owner.
 - 1) At the time of bid submission, this shall be identified as such on the bid document.
8. Elevator contractor is responsible for all protection both inside and outside of hoistway to all personnel inside or outside of hoistway areas.
- a. Includes providing and maintaining of protective barricades at hall entrances.
 - b. Screening of each hoistway during work
 - c. Protection from trip hazards due to storage, use of materials or drop cords.
9. Elevator contractor is to provide due care to protect building flooring and walls from excessive debris, dirt or damage due to workmen onsite.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver elevator materials, components and equipment in manufacturer's protective packaging.
- B. Protect and handle materials in accordance with manufacturer's recommendations to prevent damage, soiling, or deterioration.
- C. Elevator contractor shall be responsible for the material handling of all elevator equipment to site storage area.
 - 1. Elevator contractor will be responsible for keeping all stored materials inside storage area with lock and key.
- D. Locked and protected storage for elevator contractor's tools or materials at site is contractor's responsibility.

- E. Elevator equipment disassembled for replacement shall be stored in a dry, protected area for utilization as replacement parts, such as motor generators, drive machines and controllers, to maintain existing elevator(s) which are not yet in the modernization phase of the project.
- F. Elevator contractor shall be responsible for crane services for the placement of the equipment in the machine rooms.

1.8 PROJECT CONDITIONS

- A. Authorized elevator personnel only are responsible for temporary installed barrier panels as may be required during construction to protect the openings at elevators at each floor.
 - 1. Panels may be removed only while the authorized elevator personnel are to perform work in the immediate area of the unprotected opening.
 - 2. Authorized elevator personnel shall re-install all barriers as required to maintain the original solid and safe protection to the opening prior to leaving immediate work area of the opening.
- B. Security: Any and all onsite workmen and receiving of products to site are required to follow security and safety procedures as per OSHA and Miami-Dade County Department of Transportation and Public Works facility policies.
- C. Painting:
 - 1. Except as otherwise specified, paint all metal work provided by the elevator manufacturer and installer.
 - 2. Clean and paint machine room floors.
 - 3. Provide all ferrous metals installed in the hoistway shop primed with a rust inhibitive primer.
 - 4. Remove rust, clean, degrease and paint all installed parts or components accumulated during the construction phase.

1.9 Warranty

- A. The elevator contractor's acceptance is conditional on the understanding that their warranty covers defective material and workmanship.
 - 1. The warranty period shall extend to one (1) year from the date of completion or acceptance thereof by beneficial use; whichever is earlier, of each elevator.
 - 2. The warranty excludes ordinary wear and tear or improper use, vandalism, abuse, misuse, or neglect or any other causes beyond the control of the elevator contractor and this express warranty is in lieu of all other warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose.

3. Any defective condition or workmanship not mutually agreeable as satisfactory to building owner and elevator contractor shall be determined by the independent elevator consultant as final for the replacement, repair or continued use or product or part in question.
- B. Maintenance service consisting of a minimum of weekly examinations, adjustments and lubrication of the elevator equipment shall be provided by the elevator contractor for a period of twelve (12) months after the elevators have been turned over for the customer's use at no charge to the building owner.
1. This service shall not be subcontracted, but shall be performed by the elevator contractor.
 2. All work shall be performed by competent employees during normal working hours between 8:00AM to 5:00PM Monday through Friday and shall include emergency 24/7 callback service.
 3. All inspections and performance of periodic safety tests for witnessing by Miami-Dade County Office of Elevator Inspectors shall be included at no charge.
 4. This service shall not cover adjustments, repairs or replacement of parts due to negligence, misuse, abuse or accidents caused by persons other than the elevator contractor.
 5. Only genuine parts and supplies as used in the manufacture and installation of the original equipment shall be provided.
 - a. Obsolescence will not be allowed.
 6. Warranty maintenance service shall start upon completion of each elevator group or facility.
 - a. Warranty service starting date shall be after completion of punch-out lists and close-out documents as agreed with building management, consultant and contractor.
- C. If not currently on County maintenance contract services, provide interim monthly maintenance rates for equipment in service during the project prior to and after the installation phase, final acceptance for public utilization and warranty maintenance service.
1. The Contractor shall not invoice for monthly maintenance on equipment taken out of service for modernization or installation.
 2. Shall include all annual inspections and performance of periodic safety tests for witnessing by Miami-Dade County Office of Elevator Safety Tests during interim maintenance period.
 3. Unless identified in prior pre-maintenance survey and accepted in the agreement, obsolesce shall not be allowed.
 4. Include wiring diagrams for existing equipment.

5. Provide billable labor rates for helpers, mechanics and adjusters inclusive of standby services, minor and major repairs for other than normal working hours weekdays and Saturdays and Sundays and Holidays (overtime).
6. Include material cost and externally purchased subcontracted services mark-up not greater than 20% not covered in the warranty.
7. When building management requests the contractor to perform repairs or services including inspections and testing covered in the warranty during other than normal working hours, the contractor shall invoice the facility the difference between the overtime labor rate and the normal working hourly rate.

2.1 PRODUCTS

A. ACCEPTABLE MANUFACTURER

1. Only products and components produced or provided by manufacturer(s) regularly engaged in the manufacture of elevator products, and that complies with ASME A17.1 Safety Code for Elevators and Escalators, ASME A17.2, Florida Statutes, Chapter 399, Florida Administrative Code 61C-5, all applicable sections of the Florida Building Code in its entirety, and additional requirements specified herein are acceptable.
2. Basis-of-Design Product: Hollister-Whitney machines, G.A.L. GALaxy Controllers and door equipment, Innovation Industries Elevator fixtures and pushbuttons, or approved equals.
3. Acceptable Manufacturers
 - a. GAL/Hollister Whitney
 - b. Motion Control Engineering
 - c. Virginia Controls
 - d. Elevator Controls
 - e. Innovation Industries
 - f. MAD Elevator
 - g. SmarTork
 - h. Janus
 - i. IDEC Elevator Products

B. MATERIALS, GENERAL

1. Colors, patterns, and finishes: As selected by the Miami-Dade County Department of Transportation and Public Works from manufacturer's full range of standard colors, patterns, and finishes.
 - a. Steel:

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- 1) Shapes and bars: ASTM A 36
- 2) Sheet: ASTM A 366, cold-rolled steel sheet, commercial quality, Class 1, matte finish, stretcher leveled.
- 3) Finish: Factory-applied baked or powder coated enamel.

b. Stainless Steel:

- 1) Shapes and bars: ASTM A 276, Type 300 (18-8)
- 2) Tubing: ASTM A 269, Type 300 (18-8)

C. HOISTING EQUIPMENT

1. Car Sling and platform

a. Platform: Existing sling and frame shall be retained.

- 1) Inspect platform for integrity. If acceptable, retain existing platform.
 - a) Underside of the platform shall be verified for fire protection as required.
- 2) If replacement is required, utilize galvanized steel frame with Stainless Steel platform including stringers as manufactured by IDEC Elevator Products, Riviera Beach, FL, (954) 618-0770, or approved equal.
 - a) Engineered for application, load and tare.
- 3) Existing platform guards (aprons) shall be removed.
 - a) New Platform Guards (Aprons) shall be installed.
 - b) The entrance side of the platform of each elevator shall be provided with a smooth metal guard plate of not less than 1.5 mm (0.059 in.) thick steel, or material of equivalent strength and stiffness, adequately reinforced and braced to the car platform.
 - c) The guard plate shall extend not less than the full width of the widest hoistway door opening.
 - d) The guard plate shall have a straight vertical face, extending below the floor surface of the platform no less than 1220 mm (48 in.)

b. Compensation hitch (if Whisperflex compensation chain required)

c. All channel stiles, gussets, braces, cable hitch plates, sill cutouts engineered and code compliant for each application as required.

- 1) Inspect for integrity. If acceptable, retain equipment.

2. Platform isolation if required.

3. Car Enclosures: Inspect for integrity. If acceptable retain enclosure.
 - a. If replacement is required, utilize 14 gauge galvanized steel walls and dome, and glass panels be constructed of laminated glass that complies with the requirements of 16 CFR Part 1201, Sections 1201.1 and 1201.2; as manufactured by IDEC Elevator Products, Riviera Beach, FL, (954) 618-0770, or approved equal.
 - b. Provide code compliant emergency exit with safety switches.
4. Car Top Guard Railing: A standard railing conforming to ASME A17.1 Safety Code for Elevators and Escalators shall be provided 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.
 - a. Mounted a maximum of 4 inches from the outside perimeter of the car top enclosure.
 - 1) Car top enclosure outside of railing shall be clearly marked.
 - 2) Marking shall be alternating 100 mm (4 in.) diagonal red and white stripes.
 - b. Overhead clearance shall be sufficient to accommodate a 42 inch guard rail at the maximum upward movement with 4 inch clearance vertically and horizontally to any building structure and equipment.
 - c. If overhead clearance is not sufficient to accommodate a 42 inch guard rail with 4 inch clearance, provide collapsible guard rail per ASME A17.1-2016 requirements.
5. Guide Rails: Unlubricated steel, fastened to the building with steel brackets verified in alignment, secure to wall and brackets with surface planed smooth.
 - a. Guide rails shall be cleaned and aligned as necessary for the proper performance of the elevators.
 - b. Replace steadying plates
6. Car and Counterweight Guides: Replace roller guide assemblies.
 - a. Roller guide assemblies shall have a minimum of three tires each, mounted on top and bottom of the car and counterweight frame and be held in contact with the guide rail by adjustable devices.
7. Buffers:
 - a. Verify integrity of spring buffers and channels.
 - b. Replace if compromised
 - 1) Replacement buffers shall conform to the requirements of ASME A17.1 for the application.
 - c. Structurally intact spring buffers shall be retained, cleaned and painted.

- d. All buffers shall be cleaned and painted.
 - e. Buffer data plates shall be maintained or replaced for compliance with ASME A17.1
8. Install new AC Geared Hoisting Machine, Motor, Brake and Drive:
- a. Drive: The AC drive supplied shall be a Magnetek Quattro AC/PM regenerative drive, or approved equal.
 - 1) The drive shall be sized to provide sufficient capacity to handle the peak currents of the elevator and will operate with high efficiency.
 - 2) The drive regulator shall be a digital design and will use a digital hand held interface to adjust drive parameters.
 - a) The interface to the controller is a high speed serial bus and from hard wired enable, run and fault signals.
 - b) The high speed serial bus is used for the car speed profile, run interface confirmation and drive/motor status information.
 - 3) Isolation transformers and filters are provided as optional equipment to isolate the drive and the hoist motor from the line power.
 - a) Installation of the proper transformer and filter ensures that the harmonic distortion does not exceed the maximum amount as specified by IEEE 5.19.
 - 4) AC drives with resistors to absorb the overhauling load energy.
 - a) Fully regenerative to allow the over hauling loads to feedback power to the building's electrical system.
 - 5) The drive shall not create excessive audible noise in the elevator motor.
 - 6) The drive shall be a heavy-duty type, capable of delivering sufficient current required to accelerate the elevator to contract speed with rated load.
 - 7) The drive shall provide speed regulation appropriate to the motor type.
 - 8) A contactor shall be used to disconnect the hoist motor from the output of the drive unit each time the elevator stops.
 - a) This contactor shall be monitored and the elevator shall not start again if the contactor has not returned to the de-energized position when the elevator stops.
 - 9) An electro-mechanical switch shall open all power feed lines to the brake.
 - a) A single ground, short circuit or solid-state control failure shall not prevent the application of the brake.

- 10) The controller shall provide step less acceleration and deceleration and provide smooth operation at all speeds.
 - 11) The power control shall be arranged to continuously monitor the performance of the elevator in such a way that if the car speed exceeds 150 fpm during access, inspection or leveling, the car shall shut down immediately, requiring a reset operation.
- b. Hoist Motor: Reuland Electric Motors, or approved equal.
 - 1) Standard, open drip proof AC motor.
 - 2) Motor armature shall be dynamically balanced and supported by ball bearings of ample capacity.
 - 3) Hoisting Machine Motor shall be provided and will be specifically designed and rated for elevator duty with high starting torque and low starting current.
 - 4) The new motor will be fitted to the drive machine, adjusted, and aligned to run smooth and free of excessive vibration.
 - c. Hoist Machine: Hollister Whitney, or approved equal.
 - 1) Single worm geared traction type with motor, brake, gearing and driving sheave mounted in proper alignment on a steel bedplate.
 - 2) Worm shall be of hardened and ground steel, integral with the worm shaft, and have a ball or roller thrust bearing designed to take the end thrust of the worm in both directions.
 - 3) The ring gear shall be hobbled from a bronze rim, accurately fitted and bolted to the gear spider.
 - 4) Support sheave and gear spider by heavy duty ball or roller bearings.
 - 5) Provide roller and anti-friction metal bearings with adequate means of protection.
 - 6) Machine shall include an integral drip pan as supplied and installed by the original equipment manufacturer at the time of manufacture.
9. Brake: Brake assembly shall be spring applied electric disc brake, held open by an electro-magnet actuated by the controller and designed to make smooth, positive stops.
 - a. Brake shall be designed to automatically apply in event of interruption of power supply from any cause.
 - b. Control of the operation of the brake shall be all digital.
 - c. The setting and lifting of the brake shall be software based and all electronic.
 - d. All adjustments and setup of the brake shall be made using a PC interface.

- e. Contactors or resistors shall not be use in the actuation of the brake.
- 10. Sheaves and Cable Guards: New machine primary, secondary and overhead drive sheaves including cable guards shall be provided as engineered by manufacturer and required by ASME A17.1 Safety Code for Elevators and Escalators for each elevator application.
- 11. Counterweight: Counterbalance each elevator for smooth and economical operation by cast iron or steel plate weights contained in a structural steel frame.
 - a. Counterweight shall equal the complete elevator car weight and approximately 40 percent of the specified load for 1:1 and 2:1 applications.
 - b. If additional weights are required, the contractor shall provide weights and adjust for proper balance as a part of this specification and contract.
- 12. Suspension and Governor Ropes: New suspension and governor ropes with traction steel hoist ropes of size and number to ensure proper wearing qualities, engineered for manufacturer's requirements and compliant with ASME A17.1.
 - a. Governor ropes shall be iron or steel.
 - b. All suspension means shall be installed so that shackles do not make contact and include anti-rotation devices.
 - c. All required labels shall be affixed after installation.
 - d. All ropes are to be tensioned equally.
- 13. Car Safety:
 - a. Retain existing descending car safeties.
 - b. Car safeties to be reconditioned as required for engagement by the centrifugal speed governor to apply stopping distances as required by ASME A17.1.
 - c. Additional switches and ascending car safeties as required ASME A17.1 shall be included.
 - d. Car safeties shall be cleaned and checked for operation.
 - e. Verify safeties operate as required by ASME A17.1.
- 14. Centrifugal Speed Governor: The centrifugal speed governor by Hollister-Whitney, or approved equal, shall be replaced as required to cut off power to the motor and apply the brake whenever the governor indicates the car has excessive speed.
 - a. Engineered and compliant with A17.1 for each elevator application.
 - b. Provide new governor tail sheave.
- 15. Automatic Terminal Limits:
 - a. Provide new electric terminal limits switches.

- b. Place electric limit switches in the hoistway near the terminal landings.
 - c. Limit switches shall be designed to cut off the electric current and stop the car if it runs beyond either terminal landing.
16. Automatic Self-Leveling:
- a. Provide each elevator car with a new self-leveling feature to automatically bring the car to the floor landings and correct for over travel or under travel.
 - b. Self-leveling shall, within its zone, be automatic and independent of the operating device.
 - c. The car shall be maintained level to less than 1/4" with the landing irrespective of its load.
17. Ascending Car Protection: Ascending car safety "RopeGripper" as manufactured by Hollister Whitney, or approved equal, shall be installed as per the requirements of ASME A17.1 Safety Code for Elevators and Escalators.
18. Hoist Rope Compensation: If engineering for project requires compensation to balance the weight of the hoist ropes moving from the car to the counterweight side of the hoist machine as the car travels up and down the hoistway, provide Whisperflex Compensation by Draka or approved equal.
19. Load Weighing Devices: Provide load weighing device for 1:1 roping.
- a. The equipment shall be installed to provide signals to the controller for various load monitoring and dispatching operations.
20. Traveling Cable:
- a. Traveling cables shall terminate at numbered terminal blocks in car and machine room.
 - b. Traveling cable shall be provided with separate shielded circuit wiring for communication system with coax and data cables for building security.
 - 1) Coordinate requirements with security equipment installation contractor
 - c. Traveling cable shall be hung to obtain proper size of loop.
 - d. Traveling cable shall be hung free of all contact from hoistway or car equipment.
 - e. Traveling cable outer covering shall be of fire resistant and meet UL standard testing.
 - f. Traveling cable shall be provided with 20 percent spare conductors for each car.
21. Hoistway & Machine Room Wiring:
- a. Provide and install new wiring throughout the elevator machine room and hoistway.

- b. All wiring shall be installed in accordance with applicable NEC and latest applicable edition of ASME A17.1 codes.
 - c. Hoistway door interlock wiring shall be SF-2 high heat resistance wiring.
 - 1) All other new wiring shall have flame retarding and moisture resistant outer covering.
 - d. Retain and reutilize to the maximum extent possible all ducts and conduit in machine room and hoistway.
 - 1) Install new ducts and conduit as required.
 - e. Hoistway travel cable and associated wiring shall be coordinated with controller manufacturer for wiring configuration requirements to match all controller wiring color coded and numbered diagrams for installation.
22. Equipment grounding shall be provided.
- a. The equipment grounding conductor will be run with the circuit conductors and shall be a copper conductor.
 - b. Ground all conductors, supports, controller enclosure, and other non-current conducting metal enclosures for electrical equipment in accordance with NEC.
 - c. The ground wires shall be solid or stranded; insulated, covered, or bare copper, sized as required by NEC.
 - 1) Individually covered or insulated equipment grounding conductors shall have a continuous outer finish that is either green or green with one or more yellow stripes.
 - 2) An insulated or covered conductor larger than 6 AWG shall be permitted, at the time of installation, to be permanently identified as an equipment grounding conductor with green marking at each end and at every point where the conductor is accessible.
23. Pit Ladder: Pit ladder shall be compliant with latest applicable edition of ASME A17.1 code.
24. Pit Stop Switch: Provide and install new pit stop switch as required by latest applicable edition of ASME A17.1 code.
25. Pit Light: Provide and install pit lighting as required by NEC and ASME A17.1. Installed by electrical contractor.
26. Pit Flood Switch: Install pit flood switch assembly.

2.2 HOISTWAY ENTRANCES

- A. Interlocks: Equip each hoistway entrance with new approved type interlock, G.A.L. or approved equal.

1. Tested as required by code.
 2. Including SF-2 wiring and grounding as required by the manufacturer.
 3. Interlock shall be designed to prevent operation of the car away from the landing until the doors are locked in the closed position as defined by code and shall prevent opening the doors at any landing from the corridor side unless the car is at rest at that landing or is in the leveling zone and stopping at that landing.
- B. Door Hangers, Sheaves, and Tracks: Provide new G.A.L., or approved equal, sheave type two point yellow zinc weatherproof /galvanized suspension hangers and tracks for each hoistway sliding door.
1. Sheaves: Polyurethane tires with ball bearings properly sealed to retain grease.
 2. Hangers: Provide an adjustable slide to accommodate the up-thrust of the doors.
 3. Tracks: Drawn steel shapes, smooth surface and shaped to conform to the hanger sheaves.
- C. Hoistway and cab doors
1. Doors: Replace hoistway and cab doors.
 - a. New door close contact switch including zone locking device shall be installed.
 - b. Provide new fire rated hoistway doors and cab door for each elevator.
 - c. All hoistway and car door bottoms shall be reinforced.
 - d. Doors shall be manufactured of Stainless Steel by IDEC Elevator Products, Riviera Beach, FL, (954) 618-0770, or approved equal.
 - e. Doors shall be manufactured to include all mounting hardware requirements of the GAL door operating equipment or approved equal.
 2. Hall doors finish shall be Rigidized Steel with pattern 2WL or approved equal for vandalism protection.
 3. Cab door finish shall be Rigidized Steel with pattern 2WL or approved equal for vandalism protection.
 4. Provide new SEES Enforcer door gibs, or approved equal, on all hoistway and car doors.
 5. Provide fire tabs on all hoistway and car door panels on all hoistway and car door panels.
- D. Sight Guards: Replace. Provide new sight guards as required to reduce the opening between the leading edge of the hoistway door and the car door to maintain code required clearances.
- E. Entrance Frames: Verify integrity of entrance frames.
1. If entrance frames exhibit excessive corrosion, replace.

- a. Replace all existing frames with Rigidized Steel pattern 2WL, or approved equal.
- b. Cutting of old frames and walls not greater than 6" from existing frames for removal including installation of support sills by elevator contractor.
- c. Blocking of new frames, and all finish masonry patching shall be by others.
- d. Protective barriers provided and installed by elevator contractor.
- 2. If entrance frames are retained:
 - a. Clean and remove any corrosion.
 - b. If frames are excessively scratched and dented beyond repair
 - 1) Reclad with Rigidized Steel pattern 2WL, or approved equal.
- 3. Replace missing and/or damaged bumpers on strike jambs

F. Hoistway and car sills: Verify integrity

- 1. If condition of sills is acceptable
 - a. Retain
 - b. Clean and polish
- 2. If sills damaged beyond repair
 - a. Replace with polished nickel/silver sills
 - b. If cost effective, provide new hoistway aluminum "Sillskins" as manufactured by Archi-Tread, Inc., Kinnelon, NJ 07405, Phone: (973) 725-5738, or approved equal. (Optional)

G. Signage

- 1. Provide all entrance jamb Braille/Number/Tactile Stainless Steel signs as required by the Florida Building Code Accessibility Requirements
- 2. Provide the international symbol for emergency medical service (star of life) on both sides of hoistway door frame as required by code for each elevator with inside clearance for emergency ambulance stretcher.
- 3. Identification of equipment: Each elevator shall be provided with an alpha-numeric sign 3 inches in height on every elevator entrance at the designated landing.

2.3 DOOR OPERATION

- A. Door Operator: Provide a direct current motor driven heavy-duty operator GAL MOVFRW, or approved equal.
 - 1. Provide NEMA 4 conduit and fittings to maintain NEMA rating

- B. Provide G.A.L., or approved equal, door close contacts and switches.
- C. Provide G.A.L., or approved equal, yellow zinc weatherproof LWZ car door clutch
- D. Provide G.A.L. door Fault Monitors
- E. Provide G.A.L., or approved equal, car door zone restrictor.
- F. Closers: Provide SmarTork spirator door closers, or approved equal, manufactured by SmarTork, Inc., PO Box 1393, Boerne, Texas 78006, (866) 496-2355, contact@smartorkinc, www.smartorkinc.com.
- G. Door Protection (Door Safety Edge): Provide new door safety edge.
 - 1. New door safety edge shall be an infrared light curtain type with parallel or criss cross light beams. The beams shall project across the car opening detecting the presence of a passenger or object. If door movement is obstructed, the doors shall immediately reopen.
 - a. The light screen is to be totally immune to ambient light, including strobes, fluorescent, and direct sunlight (100,000 lux – 2D, 60,000 lux -3D).
 - b. Light beam and receiver arrays to operate independent of the power supply, allowing the use of any 18 – 25VDC.
 - c. The power supply shall be dual voltage input (120-240Vac, 50/60Hz)
 - d. Provide LED indicators for power applied and relay operation, simulator test button for beam break, and push-to-test button for manual operation of master control relay.
 - e. Nudge feature to be field installable in standard power supply with accessory relay to operate in either the delayed nudge mode or redundant mode, switch selectable. Nudge feature also to incorporate buzzer with enable/disable switch and delay timer adjustable for nudge operation.
 - 2. Provide Panachrome 3D Ultraslim NEMA 4 manufactured by Janus, or approved equal, door protection door reopening devices.
 - a. Red and green indicators highlight door movement to reduce door and equipment damage
 - b. 3D projection into lobby to detect passengers or equipment
 - c. 154 criss cross light beams
 - d. Water and Dust Resistant

2.4 CONTROL AND LANDING SYSTEM

- A. Elevator control system shall be GALaxy IV, produced by GAL Manufacturing, Bronx, NY or approved equal.
- B. The GALaxy IV traction elevator controller is a computer-based system that offers superior performance, flexibility and reliability. It has been designed to save time in installation and troubleshooting.
 - 1. Up to 8 car groups
 - 2. Up to 60 floors; Up to 120 openings
 - 3. Traction Closed-Loop Distance Feedback
 - 4. Geared up to 450 fpm
 - 5. AC Drive
 - a. The AC drive supplied shall be a Magnetek Quattro AC/PM regenerative drive, or approved equal.
 - b. Isolation transformers and filters are provided to isolate the drive and the hoist motor from the line power. Installation of the proper transformer and filter ensures that the harmonic distortion does not exceed the maximum amount as specified by IEEE 5.19.
 - c. AC drives with resistors to absorb the overhauling load energy.
 - d. Fully regenerative units shall be provided to allow the over hauling loads to feedback power to the building's electrical system.
 - 6. Microprocessor specifications:
 - a. Traction: 32 bit, 80586 CPU 133 MHz with built in floating point processor
 - 7. Controller Software
 - a. Program in Compact Flashcard
 - 8. Dispatching
 - a. No separate group controller – group functions are an integral part of the car controllers
 - b. ETA based algorithm
 - c. Up & Down Peak; Next Up
 - d. AI based parking algorithm (intelligent parking)
 - 9. I/O Structure:
 - a. Optically isolated

- b. Field replaceable
 - c. LED status indicators on all input and output devices
- 10. Serial Communication
 - a. Controller to Car / COP
 - 1) To reduce the number of wires in a traveling cable, GALaxy controllers use a CAN serial communication channel to the car to accept car calls and car input and output functions.
 - b. Serial Hall Riser (Optional)
 - 1) To reduce the number of hoistway wires, a serial CAN channel can be used for the hall call risers' wiring.
- 11. Built in Diagnostic / Programming Interface
 - a. LCD display provided on main CPU and safety processor boards
 - b. Access to all parameters and diagnostics without a laptop or special tool
- 12. Wire Labels
 - a. Controllers are wired using harnesses that are color coded. Individual wires are marked, along their length, with their name. Proper termination is applied for each wire.
- 13. Schematics
 - a. Controller schematics are printed in color to show the actual wire size and colors. Hoistway (including traveling cable) schematics show actual wire numbers, and point-to-point connections.
- 14. Job Program Transfer and Save
 - a. GALaxy has the ability to upload and download the program file, job configuration file, and adjustment parameters to and from a laptop or removable medium.
 - b. The job program file and configuration file is stored on compact flash medium and shall be removable from the controller to allow for easy update of the latest software version.
- 15. User Activated Test Procedures
 - a. The user interface has a built in, user activated, menu driven, buffer test procedure, over speed test procedure, and terminal limit test procedure.
- 16. Standard and Optional Features:
 - a. Built-in secure WiFi link
 - b. Access Operation

- c. Door Motor Protection Timer
- d. Field Adjustable Parameters (Door Times, Lobby, etc.)
- e. Fire Service Phase I
- f. Fire Service Phase I Alternate Return
- g. Fire Service Phase II
- h. Inspection Operation
- i. On Board Diagnostic LEDs
- j. On Board LCD Display Interface
- k. Two Motor Protection Timers
- l. Cross Assignment
- m. Cross Cancellation
- n. Emergency Power
- o. Inter-Group Emergency Power
- p. Lap Top Interface (GAL Com)
- q. Load Weighing Devices
- r. Motor Pre-Torque
- s. Remote Diagnostics
 - 1) GALileo
 - a) Remote Monitoring Capabilities are provide using the GALileo system to monitor each the bank of elevators.
 - b) For remote monitoring the system needs to be connected to the internet and programmed with an IP address.
 - c) All data collection, data storage and real - time monitoring is then provided by accessing the system with a web browser, no “special” software or licenses are required.
- t. Security / Card Readers / Lock Out
- u. Provide GFI duplex receptacle in controller

17. Selector System

- a. Primary Distance Feedback System
 - 1) The distance feedback loop is taken from a high resolution encoded driven by the hoist machine.

- 2) Distance feedback device shall have a minimum resolution of 3000 pulses per foot.

b. Tapeless Positioning System

- 1) The GALaxy controller can also be configured to use an absolute encoder, mounted on the live shaft of a governor as the secondary method of gathering position and speed information.
- 2) The absolute encoder provides accurate position information at all times, even immediately following a power up and therefore floor pre-sets are not required.
- 3) The controller uses the door zone magnet, mounted on the rails, to verify the elevator's level position to the floor.

2.5 Elevator Control, Signal Fixtures and Pushbuttons

A. All elevator control, signal fixtures and pushbuttons: Basis of Design

1. Innovation Industries, or approved equal, 3500 E. Main Street, Russellville, Arkansas 72802, (800) 843-1004.

B. Car Operating Panel

1. Bruiser Series, or approved equal, designed and manufactured for rugged strength and durability.
 - a. Finish: #4 brushed 304 Stainless Steel
2. Pushbuttons shall be PB 23
 - a. Finish: Copper metal finish for microbial safety protection
 - b. 1.312 inches diameter
 - c. Illuminated center jewel in red, amber, green, blue and white
 - d. Vandal resistant
 - e. Positive stop that seats on the faceplate and not a collar
 - f. Sanitary Protection: Provide touchless sensors adjacent to push buttons
3. Multi-volt LED illumination design
4. Buttons shall illuminate to indicate call has been registered for a floor destination.
5. The panel shall consist of a series of modules, key switches or approved buttons for optimum viewing and accessibility.
6. All engraving shall be on flush mounted hairline faceplates securely mounted to the aluminum backing plate.

7. All elevator car controls shall be compliant with the latest adopted edition of the Florida Building Code: Accessibility requirements for height and location reach ranges.
8. Provide a 2" electronic segmented digital position indicator mounted in the control panel for optimum viewing.
 - a. As the car travels, its position in the hoistway shall be indicated by the illumination of the alpha/numeric character corresponding to the landing which the elevator is stopped or passing.
 - b. On one side of digital numeric indicator in the car panel will also be a matching indicator with direction of travel.
9. Audible destination signal shall be a verbal audible voice annunciator announcing floor upon arrival.
10. Provide emergency lighting incorporated in Car Operating Panel
11. Emergency Communications System: Provide a two-way emergency communications device mounted in the car station panel.
 - a. Emergency communications device shall comply with Americans with Disabilities Act (ADA).
12. Special accessories in each car station panel:
 - a. Located in Locked Service Compartment Subpanel w/ Clear Certificate Window
 - 1) Light key switch.
 - 2) Fan key switch.
 - 3) Independent Operation Keyed Switch
 - 4) Inspection key switch (if required)
 - 5) Access Keyed Switch (if required)
 - 6) Emergency Light Test Button
 - 7) GFI duplex receptacle
 - b. Keyed stop switch
13. Fire Fighters Phase II Service:
 - a. The "FIRE OPERATION" switch, the "CALL CANCEL" button, the "STOP" switch, the door open button(s), the door close button(s), the additional visual signal, and the operating instructions shall be grouped together at the top of the main car operating panel behind a locked cover.
 - b. The firefighters' operation panel cover shall be openable by the same key that operates the "FIRE OPERATION" switch.

- 1) The cover shall be permitted to open automatically when the car is on Phase I Emergency Recall Operation and at the recall level.
 - 2) When the key is in the "FIRE OPERATION" switch, the cover shall not be capable of being closed. When closed, the cover shall be self-locking.
 - 3) The front of the cover shall contain the words "FIREFIGHTERS' OPERATION" in red letters at least 0.4 in. high.
- c. The designated fire key is: FEOK1
14. Car operating panels shall swing open with the hinged side closest to the sidewall.

C. HALL STATIONS

1. Bruiser Series NEMA 4X Florida Package, or approved equal, designed and manufactured for rugged strength and durability.
 - a. Finish: #4 brushed 316 Stainless Steel
 - b. Conformal coated electrical devices
 - c. Gasketed rough-in box
 - d. Self sealing screws
 - e. UL NEMA 4X rating
 - f. Provide NEMA 4 conduit and fittings to maintain NEMA rating
2. Pushbuttons shall be PB 46
 - a. Finish: Copper metal finish for microbial safety protection
 - b. 1.302 inches diameter
 - c. Illuminated center jewel in red, amber, green, blue and white
 - d. Vandal resistant
 - e. Sealed pushbutton with neoprene gasket
 - f. Positive stop that seats on the faceplate and not a collar
 - g. Sanitary Protection: Provide touchless sensors adjacent to push buttons
3. Multi-volt LED illumination design
4. Buttons shall illuminate to indicate call has been registered at that floor for the indicated direction.
5. Risers: Risers shall include 1 for elevator front
6. Installation shall be flush mount.

7. Each terminal station shall contain one illuminating push button and other applicable accessories including hoistway access switches.
8. Each intermediate station shall consist of two illuminating push buttons, one for the up direction and one for the down position.
9. Phase I firefighter's service key switch, with instructions, shall be incorporated into the hall station at the designated level.
 - a. Fire Service instructions as per ASME A17.1, shall be engraved in the main floor hall station panel.
10. Phone Line Verification
 - a. An audible signal will be provided with a lighted jewel signal labeled "ELEVATOR COMMUNICATIONS FAILURE" in red letters 5mm (.25in) in height activated when the telephone line is not functional.
 - b. The visual signal with a key switch to silence the audible signal shall be incorporated in the designated level hall station.
11. In case of fire, use stair signs shall be engraved into each hall station panel with exact signage as per the Florida Building Code.
12. Emergency Generator:
 - a. Emergency key (Regional Fire Key & Switch Required), operated selector switches, including lighted jewel indicators shall be provided at the main floor panel with proper engraved signage as required.
 - b. If an emergency key operated selector switch is not required, a lighted jewel indicator for emergency generator elevator power shall be provided with proper engraved signage as required.

D. HALL LANTERN AND POSITION INDICATOR

1. Directional Lanterns with Digital Position Indicators
2. Surface NEMA 4x Florida Package mounted above all elevator entrance(s)
 - a. Finish: #4 brushed 316 Stainless Steel 11GA Faceplate
 - b. Conformal coated electrical devices
 - c. Gasketed rough-in box
 - d. Self sealing screws
 - e. UL NEMA 4X rating
 - f. Provide NEMA 4 conduit and fittings to maintain NEMA rating
3. Directional arrows signal travel direction upon arrival at each landing

- a. Vandal Proof epoxy filled jewels
- b. At terminal landings, dual arrows in the same direction of travel
- 4. Digital Position Indicators signal car direction of travel and location in hoistway
 - a. 2 inch alpha-numeric display
 - b. UP/Down directional arrow display

2.6 CAR TOP INSPECTION STATION

- A. Provide a new car top inspection station with an "emergency stop" switch and constant pressure "up-down" direction buttons to make the normal operating devices inoperative and give the inspector complete control of the elevator.
 - 1. "Stop switch shall be permanently located on the car top and readily accessible to a person, while standing at the hoistway entrance normally used for access to the car top."
 - 2. A "transfer switch shall be located on the car top and shall be so designed as to prevent accidental transfer from the "INSPECTION" to "NORMAL" position."
 - 3. "A separate device of the continuous-pressure type labeled "ENABLE" shall be provided adjacent to the inspection operating devices."
 - 4. "Inspection operating devices shall become effective only when the "ENABLE" device is activated."
 - 5. Include lighting and a GFI duplex receptacle fixture on the car top.
 - a. "The lighting shall be permanently connected, fixed, or portable, or a combination thereof, to provide an illumination level of not less than 100 lx (10 fc) measured at the point of any elevator part or equipment, where maintenance or inspection is to be performed from the car top. All lighting shall be equipped with guards.
 - b. "The light switch shall be accessible from the landing when accessing the car top."
 - 6. Car Top Inspection device shall be compliant with the latest edition of ASME A17.1.

2.7 ELEVATOR CAB INTERIOR as manufactured and installed by IDEC Elevator Products, Riviera Beach, FL (954) 618-0770 or approved equal.

- A. Re-clad Front, Transom and Side Returns with Rigidized Steel pattern 2WL.
- B. Side and Rear Walls
 - 1. All wall to wall connections shall be Stainless Steel rounded radius corners for easier cleaning
 - 2. Rigidized Steel 2WL, or approved equal.

3. Glass panels constructed of laminated glass that complies with the requirements of 16 CFR Part 1201, Sections 1201.1 and 1201.2.
 - C. Handrails
 1. Furnish and install 3/8" x 2" solid Stainless Steel handrails on side and back walls
 - a. Handrail ends returning to walls
 - D. Ceiling
 1. Furnish and cover existing ceiling with plastic laminate
 - E. Lighting
 1. Furnish and install LED cove lighting at the top of the side walls
 - F. Flooring
 1. Aluminum Diamond Plate
 2. Tub design with rounded radius base for floor to wall connections
 - G. Ventilation
 1. Sanitary Protection: Provide sterilization and purification air intake fan distributed by ECS, Corporation, ecsparts.com, or approved equal, securely mounted in ceiling.
 - a. Fan shall include UV-C lamp and ion generator
 2. Provide auxiliary battery back-up ventilation fan for or observation elevator car enclosure.
 - H. Car top escape panels shall have switch assemblies including all wiring to install proper safety circuit as required by ASME A17.1
- 3.1 EXECUTION
- A. Examination:
 1. Coordinate all site conditions with General Contractor and other building trades.
 2. Inspect hoistway, hoistway openings, pits and machine room, as constructed.
 3. Verify all critical dimensions, and examine supporting structures and all other conditions under which elevator work is to be installed.
 4. Do not proceed with elevator installation until unsatisfactory conditions have been corrected in a manner acceptable to the installer.
 5. Commencement of installation constitutes acceptance of existing conditions and responsibility for satisfactory performance.

6. Elevator contractor shall coordinate crane services for placement of the equipment in the machine rooms with General Contractor.
- B. Elevator contractor shall be responsible for screening and protection of hoistway door openings and protection between elevators in hoistway.
- C. Signage:
1. The designated project manager and the owner's representative will approve all signage in order to maintain consistent appearance for entire elevator installation.
 2. All signage as required by Florida Building Code, ASME A17.1, NFPA 70 National Electrical Code and NFPA 72 Fire Alarm Code to be posted in elevator lobbies, fire alarm panels, disconnects, machine rooms and machine room doors.
- D. Installation:
1. Install elevator systems components and coordinate repairs of hoistway wall construction.
 2. Competent licensed elevator installation personnel in accordance with Florida Statute 399 and ASME A17.1 manufacturer's installation instructions and approved shop drawings shall perform work.
 3. Comply with the National Electrical Code for electrical work required during installation.
 4. Perform work with competent, skilled workmen under the direct control and supervision of the elevator manufacturer's experienced foreman.
 5. Supply in ample time for installation by other trades, inserts, anchors, bearing plates, brackets, supports, and bracing including all setting templates and diagrams for placement.
 6. Welded construction: Provide welded connections for installation of elevator work where bolted connections are not required for subsequent removal or for normal operation, adjustment, inspection, maintenance, and replacement of worn Parts.
 - a. Comply with AWS B2.1 Standard Welding Procedure and Performance Qualification.
 7. Coordination: Coordinate elevator work with the work of other trades, for proper time and sequence to avoid construction delays.
 - a. Use benchmarks, lines, and levels designated by the Contractor, to ensure dimensional coordination of the work.
 8. Install machinery, guides, controls, car and all equipment and accessories to provide a quiet, smoothly operating installation, free from side sway, oscillation or vibration.
 9. Sound isolation: Mount rotating and vibrating elevator equipment and components on vibration-absorption mounts, designed to effectively prevent the transmission of

vibrations to the structure, and eliminate sources of structure-borne noise from the elevator system.

10. Lubricate operating parts of system, including ropes, as recommended by the manufacturer.
11. Elevator contractor shall be required to install all data plates as required by ASME A17.1 on complete elevator system including alteration and original equipment.
 - a. All data plates shall be manufactured and printed with proper data for each elevator by CodeDataPlate.com or approved equal.

E. Field Quality Control:

1. Acceptance testing: Upon completion of the elevator modernization and before permitting use of elevator, perform acceptance tests as required by the State of Florida and recommended by Code and governing regulations or agencies.
 - a. Perform other tests, if any, as required by governing regulations or agencies.
2. Advise Owner, Elevator Consultant, and governing authorities in advance as required of dates and times tests are to be performed on the elevator.

F. Adjusting:

1. Make necessary adjustments of operating devices and equipment to ensure elevator operates smoothly and accurately.
2. The elevator contractor shall be required to perform and pass all required testing of all equipment as per ASME A17.1 and ASME A17.2.
3. Elevator contractor is to return at 30 days, 90 days and 180 days after final installation to examine and readjust rope tension and hoist machine as may be required for optimum performance.

G. Cleaning:

1. Before final acceptance, remove protection from finished surfaces and clean and polish surfaces in accordance with manufacturer's recommendations for type of material and finish provided.
2. For duration and/or completion of elevator work, remove tools, equipment, and surplus materials from site daily.
3. Clean equipment rooms and hoistway.
4. Remove trash and debris daily from premises.

H. Protection:

1. During all elevator work, or portion thereof, provide suitable protective coverings, barriers, devices, signs, or other such methods or procedures to protect elevator work from damage or deterioration.
 2. Protect all areas of work from public access or dangers including tripping or fall hazards.
 3. Maintain protective measures throughout remainder of construction period.
- I. Demonstration:
1. The elevator contractor shall make a final check of each elevator operation with the Owner or Owner's representative present prior to turning each elevator over for use.
 2. The elevator contractor shall demonstrate that control systems and operating devices are functioning properly.
 3. Instruct Owner's personnel in proper use, operations, and daily care or operation of elevators.
 4. Review emergency provisions, including emergency access and procedures to be followed at time of failure in operation and other building emergencies.
 5. Train Owner's personnel in normal procedures to be followed in checking for sources of operational failures or malfunctions.
 6. Make a final check of each elevator operation, with Owner's personnel present, immediately before date of substantial completion.
 7. Demonstrate that control systems and operating devices are functioning properly.
 8. Final Electrical Schematics and Drawings
- J. Elevator Consultant's Punch-out List Items:
1. Complete all of the consultant's punch-out list items as may be required.
 2. The elevator consultant shall provide a review and written punch list of deficiencies.
- The elevator consultant shall verify one time that the items from the punch list are completed after notice by the elevator contractor.

END OF SECTION

ATTACHMENT D

ELECTRIC TRACTION ELEVATORS SPECIFICATIONS (GOVERNMENT CENTER METRORAIL STATION)

1.1 SUMMARY

- A. Modernization of Geared to Gearless Electric Traction Passenger Elevators for the Miami-Dade County Department of Transportation and Public Works, Government Center Metrorail Station. 101 NW 1st ST., Miami, FL 33128.
- B. Including all engineering, equipment, labor, machines, control systems, devices and accessories as required for safely operating the specified elevators.
 - 1. Commercial, standard geared to gearless electric traction passenger elevators.
 - a. Two (2) Passenger Elevators
 - 1) Two (2) Simplex Groups
 - 2) Elevator #5 - SS# 72638, Elevator #6 – SS# 72639
 - 2. Installation of all hoistway equipment.
 - 3. Elevator car and hoistway signal equipment.
 - 4. Operation and control systems.
 - 5. Accessibility provisions for physically disabled persons.
- C. Delivery, staging, and hoisting of new equipment.
- D. Materials and accessories as required for completing the elevator installations.
- E. Hoistway, pit and machine room barricades for safety as required.
- F. Required hoisting, hoisting permits and traffic coordination and/or permits with local jurisdictions and the State of Florida as required.
- G. Required permits and coordination and/or permits with local jurisdictions, Office of Elevator Safety and the State of Florida as required

1.2 Related Scopes of Work by Others

- A. Machine room HVAC as required, to maintain temperature and humidity to between 55° F and 90° F with relative humidity of not more than 85% non-condensing.
 - 1. The elevator contractor shall provide actual calculations for total anticipated heat loads generated by all elevator machine room equipment.
 - 2. Machine room HVAC must be positioned as approved by the elevator contractor and consultant.
 - 3. There shall be no drain lines or condensation allowing water in the machine room.

4. HVAC system is required to have an electrical disconnect lockable in the off position with proper safety labels including identifying source of power and purpose.
 5. Remote systems shall have a proper thermostat inside the machine room.
 6. The air conditioning systems shall be additionally connected and powered by emergency generator power as required.
- B. Electrical Contractor shall furnish and install all electrical equipment for hoistway and machine room including HVAC, lighting, GFCI receptacles and electrical disconnects, as required by NFPA 70 National Electrical Code and ASME A17.1 Safety Code for Elevators and Escalators.
1. All Electrical work must be coordinated and scheduled with General Contractor, Elevator Contractor and Elevator Consultant.
 2. Elevators shall be removed from service while electrical trades are working in same or adjacent hoistways or machine rooms.
 3. Provide electrical service to main disconnect in elevator machine room; electrical power for elevator installation and testing; electrical service for machine room; machine room and pit receptacles with ground-fault current protection; lighting in machine room and pit; wiring for telephone service to machine room.
 4. Install lockable disconnects with overcurrent protection for elevator main line power as required by the NEC.
 - a. Disconnect to be verified for appropriate size and type for power requirements of elevator equipment prior to installation.
 - b. Provide surge protection.
 5. Provide replacement electric wiring from disconnect switches to the new elevator controllers with feeder leads for connection to terminals by the elevator contractor, inclusive of a normal 120 VAC, 15 AMP supply at each controller.
 6. Minimum lighting in machine room and overhead hoistway equipment space shall be 19 ft-c.
 7. Minimum lighting in hoistway pit and top of car shall be shall be 10 ft-c.
 8. All electrical systems shall include proper earth grounding and bonding as required by elevator controller manufacturer and NEC.
 - a. Provide continuous earth ground to mainline disconnects and controllers.
 9. Provide lockable disconnect switches with overcurrent protection to air conditioner equipment installed in each machine room.
 10. Provide new GFCI receptacles in machine rooms and hoistways as required by NFPA 70 NEC.
 11. Provide a single non-GFCI receptacle for each sump in elevator hoistway.

ELECTRIC TRACTION ELEVATORS

12. Provide and install pit lighting and machine room lighting as per NEC with enclosed and protected lamps.
 13. Pit receptacles, with GFCI protection shall be installed in NEMA 4 devices where placed within 4'-0" of pit floor.
 - a. All electrical equipment including conduit, fitting, junction boxes, portable cabling shall be NEMA 4 rated.
 - b. Care must be taken not to place equipment in line with elevator equipment.
 14. Provide and install lockable disconnect switch with overcurrent protection in each machine room for each elevator cab lighting system as per NEC.
 15. Provide and install new pit lighting switches and emergency stop switches.
 - a. Light switch shall be accessible from pit access door.
 - b. Emergency stop switches shall be installed approximately 18" above first floor landing adjacent to opening and located at side of each pit access door.
 16. All lighting fixtures in machine rooms, elevator cars and on top of car to be suitably guarded in accordance with ASME A17.1 Safety Code for Elevators and Escalators, clearance requirements and NFPA 70 NEC requirements for guarding.
 17. All disconnects shall be labeled according to NFPA 70 NEC including source of power, State of Florida Serial Numbers, Elevator Number and all required warning signs.
 18. Lighting shall be installed at roof top machine room access stair and door areas.
 19. Install shunt trip breakers for feeder to each mainline disconnect for removal of power by NFPA 70 NEC and NFPA 72 if installation of sprinklers in machine rooms or hoistways is required by the Florida Building Code.
 - a. Shunt trips shall be activated by heat detectors installed by others.
 20. Provide conduit and data wiring for elevator car two-way communication devices, remote monitoring, security systems, lobby phones and/or fire command center elevator status panel phones.
 21. Provide network connections for all required connections to the internet for remote monitoring, card readers, cameras and communication equipment requiring IP addresses.
 22. Provide conduit and control circuit wiring from controller to Automatic Transfer Switch for alternate emergency standby generator.
 23. Provide recommended amount of separate duplex receptacles per elevator as required for security equipment and cameras.
- C. Emergency generator configuration, installation, wiring including conduit to elevator controller, repair, transfer switches including elevator selector options, pre-signal wiring connections

ELECTRIC TRACTION ELEVATORS

and/or testing with standby or emergency power systems shall be coordinated and completed by emergency generator service contractor.

1. Emergency generator personnel shall demonstrate system and tests at completion of each elevator for inspection as required by the Florida Building Code, Florida Statute 399 and ASME A17.1.
 2. Generator contractor shall provide contacts in automatic transfer switch for signals and transfer of power to elevator controllers when building is transferred to and from emergency standby power and normal power source.
- D. Fire Alarm including heat and smoke sensing devices as per NFPA 70 National Electrical Code and NFPA 72 National Fire Alarm Code.
1. Provide connections for fire recall devices to the elevator controllers in machine room.
 - a. For each elevator within the building, a minimum of three separate elevator control circuits shall be terminated at the designated elevator controller within each elevator machine room in accordance with NFPA 72.
 - b. Operation of the elevators shall be in accordance with Section 2.27 of ASME A17.1 Safety Code for Elevators and Escalators.
 - c. The smoke detectors or other automatic fire detection as permitted by NFPA 72, shall actuate the elevator control circuits as detailed in NFPA 72.
 2. Fire alarm contractor shall demonstrate at time of elevator inspection, compliance and testing of all alarm initiating devices as required by ASME A17.1 Safety Code for Elevators and Escalators, ASME A17.2 and NFPA 72 National Fire Alarm Code.
 3. Install heat detectors within 24" of sprinklers installed in machine rooms or hoistways including wiring and conduit to shunt trip breaker as installed by electrical contractor.
 - a. Heat detectors for sprinklers in pit shall activate Fire Recall.
 4. Installation of fire alarm system and devices shall conform to ASME A17.1 Safety Code for Elevators and Escalators and NFPA 72 including NFPA 70 NEC.
- E. Sprinklers: Any required sprinkler work must be coordinated with elevator contractor to insure non-interference with any elevator equipment and must be compliant with NFPA 13, NFPA 72 and the Florida Building Code.
1. If sprinkler head(s) are located in the machine room or hoistway, it will be required to install a heat detector within 24" of each sprinkler in order to automatically disconnect the main line power supply to the affected elevator(s) upon or prior to the application of water, in accordance with ASME A17.1 Safety Code for Elevators and Escalators and NFPA 72 National Fire Alarm Code.
- F. Telephone and Data Lines:

1. A dedicated telephone line is required for each elevator.
 2. Provide dedicated telephone lines and wiring to elevator controllers for telephone system including all wiring in machine room shall be installed inside conduit as per NFPA 70 NEC.
 3. All emergency telephone devices shall include a minimum of 4 hours emergency backup power including power from emergency generator if supplied.
 4. Operating instructions shall be incorporated with or adjacent to the two-way voice communication (Lobby Phone) outside the car.
 5. Provide network data line for remote monitoring to each elevator controller.
- G. Building general construction conditions, cleaning and painting of miscellaneous surfaces: The elevator contractor shall not be responsible for all work as detailed in this section.
1. All construction, cleaning and painting other than equipment directly supplied by the elevator contractor shall be performed by others.
 2. Provide 2 hour fire rated machine room enclosure.
 3. Proper installation of 1 ½ hour “B-Label” door to machine room to include self-closing and self-locking requirements.
 - a. Machine room warning signs “Danger Authorized Personnel Only” shall be provided on each machine room door as required by NFPA 70 NEC.
 4. Provide metal stairway and access landing including guard rail to machine room for roof top and interior multi-level machine room access.
 - a. Stairway shall comply with the Florida Building Code and ASME A17.1.
 5. Provide Class ABC Fire Extinguisher in machine room permanently mounted and conveniently located to the access door as required by ASME A17.1 Safety Code for Elevators and Escalators.
 6. Provide protection of all pipes, wiring, conduit, duct and openings in machine rooms and hoistways to maintain a 2 hour fire rating.
 7. All foreign pipes, wiring or conduit not in use or directly related to the elevator system shall not be installed in machine rooms and hoistways.
 - a. Existing foreign piping, wiring and/or conduit not in use or directly related to elevator shall be removed or enclosed as required by code.
 8. All projections or recesses in walls of hoistway greater than 4” shall be beveled not less than 70 degrees with sheet metal not less than 16 gauge.
 9. All holes and openings in hoistway shall be patched and protected to maintain the fire rating of the enclosure including conduit, piping and other equipment passing through exterior walls.

10. Hoistway Venting:

a. Existing Interior Hoistways

- 1) Vents on exterior walls which are not pressure and are not subject to require pressurization shall be provided with motorized dampers that are capable of being automatically closed during normal building operation and are interlocked to be opened by fire and smoke detection systems.
- 2) The damper shall power close under normal operation and spring open in the event of a power failure or fire alarm signal.
 - a) Provide a separate exterior vent assembly with a goose neck hood and stationary louvers at the exterior entrance of the hood to protect the interior motorized vent system and hoistway.
- 3) Provide a separate exterior vent assembly with a goose neck hood and stationary louvers at the exterior entrance of the hood to protect the interior vent system and hoistway.

b. Existing venting of the hoistway through the machine room shall be closed and protected to maintain the 2 hour fire rating enclosure.

11. Sumps and Sump Pumps: Elevators with Fire Service Operation shall have drains or sump pumps as required by ASME A17.1 Safety Code for Elevators and Escalators, including the Florida Building Code.

- a. The pump shall be manufactured by Stancor, or approved equal.
- b. The sump shall be a minimum of 18 inches in diameter and 24 inches inn depth.
- c. The sump cover shall be removable and flush to pit floor.
- d. The Sump pump shall have an output of 3000 gallons per hour at the head per elevator.
- e. The sump pump electrical cord shall be 6 foot or less.
- f. Provide monitoring with alarm located outside hoistway.

12. Clean and paint machine room finished walls and floors.

- a. All cleaning or painting work that produces any vapors or fumes shall be performed during normal business work hours or after normal business hours as requested by building manager or representative.
 - 1) Work of this nature must be scheduled and coordinated five (5) days prior to execution of work.
- b. The procedures proposed for the accomplishment of the work shall provide for safe conduct of the work, careful removal and disposition of materials specified to be

salvaged, protection of property, which is to remain undisturbed, and coordination with other work in progress.

- 1) The work plan shall include a Safety and Health plan describing procedures for handling monitoring, and disposition of Volatile Organic Compounds "VOCs" and other hazardous and toxic materials.
 - 2) The procedures shall include a detailed description of the methods and equipment to be used for each operation, and the sequence of operations.
- c. All paint products and application method must be approved prior to application by owner or owner's agent.
- 1) Paint products and application methods are to be equal or better than existing product applicable with matching color as approved by owner.
- d. All products of paint, thinners or cleaning agents must be approved prior to use for VOC's or any additional health concerns.
- e. Interior work zones having a volume of 1,000 cubic feet or less shall be ventilated at a minimum of 2 air exchanges per hour.
- 1) Ventilation in larger work zones shall be maintained by means of mechanical exhaust.
 - 2) Solvent vapors shall be exhausted outdoors, away from air intakes, building occupants and workers.
 - 3) Building air conditioning return air inlets in the work zone shall be temporarily sealed before start of work until the prepared surfaces have dried and are free of odor.
 - 4) Operators and personnel in the vicinity of paint removal processes involving chemicals or mechanical action (sanding or blasting) shall wear respirators.

H. Security system compliant with facility requirements

1. Coordinate installation of security in-car keypads or card readers and security cameras with building owner and the facility's subcontractor.
 2. Provide proper software and hardware for integration of security system with elevator controllers.
 3. Assure traveling cable includes the proper shielded, data and coaxial conductors.
 4. Provide power sources as required for security systems including in-car security cameras.
- I. Each contractor will be required to provide any cutting, patching including painting to match existing finishes of building.

1.3 CODE AND STANDARD REFERENCES

1. Comply with all current applicable state statutes, administrative rules, building codes and elevator codes at the project site required at the time of permitting, including but not limited to the following:
 - a. Florida Statutes 399
 - b. Florida Administrative Code 61C-5
 - c. Florida Building Code
 - d. ASME A17.1 Safety Code for Elevators and Escalators
 - e. ASME A17.2 Guide for Inspection of Elevators and Escalators
 - f. ASME A17.6
 - g. ADAAG, Americans with Disabilities Act Accessibility Guidelines
 - h. NFPA 13, Sprinkler Systems
 - i. NFPA 70, National Electrical Code
 - j. NFPA 80, Fire Doors and Windows
 - k. ANSI/UL 10B, Fire Tests of Door Assemblies
 - l. NFPA 72, National Fire Alarm Code
 - m. NFPA 101 Florida Edition
 - n. O.S.H.A. Requirements for construction
 - o. Elevator Industry Field Employees' Safety Handbook
 - p. Miami-Dade Transit Construction Safety Manual and Attachments
 - q. Miami-Dade County Department of Transportation and Public Works (DTPW) Adjacent Construction Manual

1.4 ELEVATOR SYSTEM DESCRIPTIONS

- A. Elevator System, General: Manufacturer's standard elevator systems.
 1. Unless otherwise indicated, manufacturers' standard components shall be used, as included in standard elevator systems and as required for complete system.
- B. Elevator Arrangement
 1. Elevator shall be numbered as viewed from lobby facing the elevators from left to right in main lobby with alpha-numeric designations.
 - a. Keep current elevator alpha-numeric designations.

2. Specific requirements for the specific elevator or component shall be designated as such and shall not apply to other elevators in the building.
3. Specifications for elevators include minimum requirements of all elevators and it shall be the responsibility of the contractor to complete all work to code compliance.
4. Insert a different number for each group of elevators that share a group operation system

C. Elevator System

1. Quantity:
 - a. Two (2) Simplex Elevator Groups
 - b. Elevator #5 - SS# 72638
 - c. Elevator #6 – SS# 72639
2. Type: Commercial geared electric traction passenger.
 - a. Alter to 1:1 roped gearless
3. Machine Location:
 - a. Overhead machine room
4. Number of Stops: Two (2)
5. Number of Openings: Two (2) Front Entrance
6. Travel rise: Field verify
7. Rated Capacity: 3500lbs
8. Rated Speed: 125 FPM, field verify
9. Car Enclosure: Retain existing inside car dimensions
10. Entrance Dimensions and Type: Field verify
11. Main Power Supply: Existing 480 Volts + or - 5% of normal, 3 Phase, 60 Cycle with a separate equipment grounding conductor. Contractors shall field verify.
12. Lighting Power Supply: 120 Volts, 1 Phase, 15 Amp, 60 Hz.
13. Stopping Accuracy: $\pm 1/4"$ under any loading condition or direction of travel.
14. Door operating equipment shall be labeled with maximum door speed so that Kinetic Energy shall not be above 7.37 ft-lbf. As measured by ASME A17.1 Safety Code for Elevators and Escalators.
15. Car Operation:

- a. Provide a Simplex Selective Collective microprocessor-based controller for elevators #1 & 2, the operation shall be automatic by means of the car and hall buttons.
16. Provide microprocessor-based Simplex Selective Collective automatic operation control system, which utilizes on-board diagnostics for servicing, trouble-shooting, and adjusting without requiring the use of an outside service tool.

1.5 Submittals

- A. Product data: Submit product data for the following:
 1. Elevator car and hoistway fixtures.
 2. Operation, control, and signal systems.
 3. Drive, motor, machine and all major components of system.
- B. Shop drawings:
 1. Show equipment arrangement in the machine room, pit and hoistway.
 - a. Provide plans, elevations, sections and details of assembly, erection, anchorage, and equipment location as required.
 2. Indicate elevator system capacities, sizes, performances, safety features, finishes and other pertinent information.
 3. Show floors served, existing travel distances, maximum loads imposed on the building structure at points of support and all similar considerations of the elevator work.
 4. Indicate electrical power requirements and branch circuit protection device recommendations and locations.
- C. Certificates: Inspection and acceptance certificates of elevator system installation.
- D. Operation and maintenance data. Include the following:
 1. Operation and maintenance instructions.
 2. Parts list, with recommended parts inventory.
 3. Wiring diagrams for control system including any in field modifications.
 4. Copy of field pull sheet wiring as built notes. Pull sheets to include wire numbers and colors.

1.6 QUALITY ASSURANCE

- A. Elevator Contractor Qualifications:

1. Elevator Contractor shall provide pre-engineered elevator system components by manufacturer(s) regularly engaged in the manufacture of elevator systems.
 - a. Compliance with ASME A17.1 Safety Code for Elevators and Escalators, Florida Statutes, Chapter 399, Florida Administrative Code 61C-5, all applicable sections of the Florida Building Code, and additional requirements specified herein.
 - b. The elevator contractor shall have a documented, on-going quality assurance program.
 - c. Contractor shall have a mechanical or electrical engineer on staff for County critical elevators.
2. Installer Qualifications: The manufacturer or an authorized agent of the manufacturer with not less than ten years of satisfactory experience installing elevators equal in character and performance to the project elevators.
 - a. All mechanics employed to work onsite must have a valid Certificate of Competency issued by State of Florida Bureau of Elevator Safety.
 - b. There shall not be allowed onsite more than one helper or unlicensed assistant per onsite licensed mechanic.
3. Permits and Inspections: Apply, secure and pay for all required State of Florida and Miami-Dade County Office of Elevator Safety and all applicable building code permits, tests and fees as required by Florida Administrative Code 61C-5 for Alteration Permits, and local jurisdiction permits.
 - a. Elevator contractor is responsible for proper posting of all required licenses, permits and safety documentation.
4. Regulatory Requirements:
 - a. ASME A17.1-2016 or more stringent edition adopted by the State of Florida
 - b. Florida Building Code, latest edition adopted by the State of Florida
 - c. Current Florida Statute 399 and 553
 - d. NFPA 13 Standard for the Installation of Sprinkler Systems, latest edition adopted by the State of Florida
 - e. NFPA 70 National Electrical Code, latest edition adopted by the State of Florida
 - f. NFPA 72 National Fire Alarm Code, latest edition adopted by the State of Florida
 - g. Americans with Disabilities Act - Accessibility Guidelines (ADAAG)
 - h. Any changes or updates as required by Florida Building Code or Florida Statute 399 by time of permit application.
 - i. Any and all onsite workmen and receiving of products to site are required to follow security and safety procedures as per Miami-Dade County Department of

Transportation and Public Works policies and facility regulations including the Miami-Dade Transit Construction Safety Manual and Attachments and the Miami-Dade County Department of Transportation and Public Works (DTPW) Adjacent Construction Manual.

5. Miami-Dade County Department of Transportation and Public Works has designated the Miami-Dade County Office of Elevator Safety Elevator Contracts Administrator, as the elevator consultant on this project.
 - a. The Miami-Dade County Office of Elevator Safety Elevator Contracts Administrator, in accordance with ASME A17.1 Safety Code for Elevators and Escalators, Inspection and Test Requirements, may be present for and review all acceptance inspections for these elevators.
 - b. Elevator Installer in accordance with ASME A17.1 Safety Code for Elevators and Escalators, Inspection and Test Requirements, will schedule and coordinate all acceptance tests and arrange for inspection for all elevators with the Miami-Dade County Office of Elevator Safety.
 - c. Elevator contractor must notify the General Contractor, building owner and elevator consultant at least five (5) days prior to inspection advising of the date and time of all inspections and tests.
 - d. Elevator contractor shall be solely responsible for the application, securing, maintaining, completion and posting of elevator permits as per Florida Statute 399, the State of Florida Bureau of Elevator Safety /and Miami-Dade County.
 - 1) Delivery to the Owner upon completion and acceptance of elevator work, the certificate of operation.
6. Provide all signage as required by Florida Building Code, latest applicable edition of ASME A17.1 Safety Code for Elevators and Escalators, NFPA 70 National Electrical Code and NFPA 72 Fire Alarm Code to be posted in elevator lobbies, fire alarm panels, disconnects, machine rooms and machine room doors.
7. Execute and Notarize Non-Proprietary Equipment Affidavit attachment provided.
 - a. Provide letter of guarantee that any and all equipment installed shall be completely non-proprietary and shall not require the need for specialized testing or programming tools currently or in the future.
 - b. Future information for trouble shooting or adjusting shall be available to any licensed elevator maintenance contractor by the supplier of the control system at a reasonable cost comparable to cost of competitive parts within marketplace.
 - c. Contractor shall provide complete schematics and wiring diagrams for control systems including information for change of program, on board diagnostics or mnemonics, or other on board switches or settings.

- d. Any controller by a manufacturer other than specified must be approved prior to bid.
 - e. Letter stating agreement to the above compliance shall be signed by an officer of elevator contractor and shall be notarized.
 - f. Any equipment that is provided for installation which would require any specialized tool, devices, manuals, source codes, access codes, objects, passwords and/or software to input parameters, make adjustments, troubleshoot, perform diagnostics, perform testing functions or required for any other type of maintenance or repair function shall be included with the installation cost of this bid document and will become the property of the building owner.
 - 1) At the time of bid submission, this shall be identified as such on the bid document.
8. Elevator contractor is responsible for all protection both inside and outside of hoistway to all personnel inside or outside of hoistway areas.
- a. Includes providing and maintaining of protective barricades at hall entrances.
 - b. Screening of each hoistway during work
 - c. Protection from trip hazards due to storage, use of materials or drop cords.
9. Elevator contractor is to provide due care to protect building flooring and walls from excessive debris, dirt or damage due to workmen onsite.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver elevator materials, components and equipment in manufacturer's protective packaging.
- B. Protect and handle materials in accordance with manufacturer's recommendations to prevent damage, soiling, or deterioration.
- C. Elevator contractor shall be responsible for the material handling of all elevator equipment to site storage area.
 - 1. Elevator contractor will be responsible for keeping all stored materials inside storage area with lock and key.
- D. Locked and protected storage for elevator contractor's tools or materials at site is contractor's responsibility.
- E. Elevator equipment disassembled for replacement shall be stored in a dry, protected area for utilization as replacement parts, such as motor generators, drive machines and controllers, to maintain existing elevator(s) which are not yet in the modernization phase of the project.
- F. Elevator contractor shall be responsible for crane services for the placement of the equipment in the machine rooms.

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1.8 PROJECT CONDITIONS

- A. Authorized elevator personnel only are responsible for temporary installed barrier panels as may be required during construction to protect the openings at elevators at each floor.
 - 1. Panels may be removed only while the authorized elevator personnel are to perform work in the immediate area of the unprotected opening.
 - 2. Authorized elevator personnel shall re-install all barriers as required to maintain the original solid and safe protection to the opening prior to leaving immediate work area of the opening.
- B. Security: Any and all onsite workmen and receiving of products to site are required to follow security and safety procedures as per OSHA and 5. Miami-Dade County Department of Transportation and Public Works facility policies.
- C. Painting:
 - 1. Except as otherwise specified, paint all metal work provided by the elevator manufacturer and installer.
 - 2. Clean and paint machine room floors.
 - 3. Provide all ferrous metals installed in the hoistway shop primed with a rust inhibitive primer.
 - 4. Remove rust, clean, degrease and paint all installed parts or components accumulated during the construction phase.

1.9 Warranty

- A. The elevator contractor's acceptance is conditional on the understanding that their warranty covers defective material and workmanship.
 - 1. The warranty period shall extend to one (1) year from the date of completion or acceptance thereof by beneficial use; whichever is earlier, of each elevator.
 - 2. The warranty excludes ordinary wear and tear or improper use, vandalism, abuse, misuse, or neglect or any other causes beyond the control of the elevator contractor and this express warranty is in lieu of all other warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose.
 - 3. Any defective condition or workmanship not mutually agreeable as satisfactory to building owner and elevator contractor shall be determined by the independent elevator consultant as final for the replacement, repair or continued use or product or part in question.
- B. Maintenance service consisting of a minimum of weekly examinations, adjustments and lubrication of the elevator equipment shall be provided by the elevator contractor for a period

of twelve (12) months after the elevators have been turned over for the customer's use at no charge to the building owner.

1. This service shall not be subcontracted, but shall be performed by the elevator contractor.
 2. All work shall be performed by competent employees during normal working hours between 8:00AM to 5:00PM Monday through Friday and shall include emergency 24/7 callback service.
 3. All inspections and performance of periodic safety tests for witnessing by Miami-Dade County Office of Elevator Inspectors shall be included at no charge.
 4. This service shall not cover adjustments, repairs or replacement of parts due to negligence, misuse, abuse or accidents caused by persons other than the elevator contractor.
 5. Only genuine parts and supplies as used in the manufacture and installation of the original equipment shall be provided.
 - a. Obsolescence will not be allowed.
 6. Warranty maintenance service shall start upon completion of each elevator group or facility.
 - a. Warranty service starting date shall be after completion of punch-out lists and close-out documents as agreed with building management, consultant and contractor.
- C. If not currently on County maintenance contract services, provide interim monthly maintenance rates for equipment in service during the project prior to and after the installation phase, final acceptance for public utilization and warranty maintenance service.
1. The Contractor shall not invoice for monthly maintenance on equipment taken out of service for modernization or installation.
 2. Shall include all annual inspections and performance of periodic safety tests for witnessing by Miami-Dade County Office of Elevator Safety Tests during interim maintenance period.
 3. Unless identified in prior pre-maintenance survey and accepted in the agreement, obsolesce shall not be allowed.
 4. Include wiring diagrams for existing equipment.
 5. Provide billable labor rates for helpers, mechanics and adjusters inclusive of standby services, minor and major repairs for other than normal working hours weekdays and Saturdays and Sundays and Holidays (overtime).
 6. Include material cost and externally purchased subcontracted services mark-up not greater than 20% not covered in the warranty.

7. When building management requests the contractor to perform repairs or services including inspections and testing covered in the warranty during other than normal working hours, the contractor shall invoice the facility the difference between the overtime labor rate and the normal working hourly rate.

2.1 PRODUCTS

A. ACCEPTABLE MANUFACTURER

1. Only products and components produced or provided by manufacturer(s) regularly engaged in the manufacture of elevator products, and that complies with ASME A17.1 Safety Code for Elevators and Escalators, ASME A17.2, Florida Statutes, Chapter 399, Florida Administrative Code 61C-5, all applicable sections of the Florida Building Code in its entirety, and additional requirements specified herein are acceptable.
2. Basis-of-Design Product: Hollister-Whitney machines, G.A.L. GALaxy Controllers and door equipment, Innovation Industries Elevator fixtures and pushbuttons, or approved equals.
3. Acceptable Manufacturers
 - a. GAL/Hollister Whitney
 - b. Motion Control Engineering
 - c. Virginia Controls
 - d. Elevator Controls
 - e. Innovation Industries
 - f. MAD Elevator
 - g. SmarTork
 - h. Janus
 - i. IDEC Elevator Products

B. MATERIALS, GENERAL

1. Colors, patterns, and finishes: As selected by the Project Name from manufacturer's full range of standard colors, patterns, and finishes.
 - a. Steel:
 - 1) Shapes and bars: ASTM A 36
 - 2) Sheet: ASTM A 366, cold-rolled steel sheet, commercial quality, Class 1, matte finish, stretcher leveled.
 - 3) Finish: Factory-applied baked or powder coated enamel.
 - b. Stainless Steel:

ELECTRIC TRACTION ELEVATORS

- 1) Shapes and bars: ASTM A 276, Type 300 (18-8)
- 2) Tubing: ASTM A 269, Type 300 (18-8)

C. HOISTING EQUIPMENT

1. Car Sling and platform
 - a. Platform: Existing sling and frame shall be retained.
 - 1) Inspect platform for integrity. If acceptable, retain existing platform.
 - a) Underside of the platform shall be verified for fire protection as required.
 - 2) If replacement is required, utilize galvanized steel frame with Stainless Steel platform including stringers as manufactured by IDEC Elevator Products, Riviera Beach, FL, (954) 618-0770, or approved equal.
 - a) Engineered for application, load and tare.
 - 3) Existing platform guards (aprons) shall be removed.
 - a) New Platform Guards (Aprons) shall be installed.
 - b) The entrance side of the platform of each elevator shall be provided with a smooth metal guard plate of not less than 1.5 mm (0.059 in.) thick steel, or material of equivalent strength and stiffness, adequately reinforced and braced to the car platform.
 - c) The guard plate shall extend not less than the full width of the widest hoistway door opening.
 - d) The guard plate shall have a straight vertical face, extending below the floor surface of the platform no less than 1220 mm (48 in.)
 - b. Compensation hitch (if Whisperflex compensation chain required)
 - c. All channel stiles, gussets, braces, cable hitch plates, sill cutouts engineered and code compliant for each application shall be retained or replaced as required.
 - 1) Inspect for integrity. If acceptable, retain equipment.
2. Platform isolation if required.
3. Car Enclosures: Inspect for integrity. If acceptable retain enclosure.
 - a. If replacement is required, utilize 14 gauge galvanized steel walls and dome, and glass panels be constructed of laminated glass that complies with the requirements of 16 CFR Part 1201, Sections 1201.1 and 1201.2; as manufactured by IDEC Elevator Products, Riviera Beach, FL, (954) 618-0770, or approved equal.
 - b. Provide code compliant emergency exit with safety switches.

4. Car Top Guard Railing: A standard railing conforming to ASME A17.1 Safety Code for Elevators and Escalators shall be provided 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.
 - a. Mounted a maximum of 4 inches from the outside perimeter of the car top enclosure.
 - 1) Car top enclosure outside of railing shall be clearly marked.
 - 2) Marking shall be alternating 100 mm (4 in.) diagonal red and white stripes.
 - b. Overhead clearance shall be sufficient to accommodate a 42 inch guard rail at the maximum upward movement with 4 inch clearance vertically and horizontally to any building structure and equipment.
 - c. If overhead clearance is not sufficient to accommodate a 42 inch guard rail with 4 inch clearance, provide collapsible guard rail per ASME A17.1-2016 requirements.
5. Guide Rails: Unlubricated steel, fastened to the building with steel brackets verified in alignment, secure to wall and brackets with surface planed smooth.
 - a. Guide rails shall be cleaned and aligned as necessary for the proper performance of the elevators.
 - b. Replace steadying plates
6. Car and Counterweight Guides: Replace roller guide assemblies.
 - a. Roller guide assemblies shall have a minimum of three tires each, mounted on top and bottom of the car and counterweight frame and be held in contact with the guide rail by adjustable devices.
7. Buffers:
 - a. Verify integrity of spring buffers and channels.
 - b. Replace if compromised
 - 1) Replacement buffers shall conform to the requirements of ASME A17.1 for the application.
 - c. Structurally intact spring buffers shall be retained, cleaned and painted.
 - d. All buffers shall be cleaned and painted.
 - e. Buffer data plates shall be maintained or replaced for compliance with ASME A17.1
8. Install new AC Gearless Hoisting Machine, Motor, Brake and Drive:
 - a. Drive: The AC drive supplied shall be a Magnetek Quattro AC/PM regenerative drive, or approved equal.

- 1) The drive shall be sized to provide sufficient capacity to handle the peak currents of the elevator and will operate with high efficiency.
- b. The drive regulator shall be a digital design and will use a digital hand held interface to adjust drive parameters.
 - 1) The interface to the controller is a high speed serial bus and from hard wired enable, run and fault signals.
 - 2) The high speed serial bus is used for the car speed profile, run interface confirmation and drive/motor status information.
- c. Isolation transformers and filters are provided as optional equipment to isolate the drive and the hoist motor from the line power.
 - 1) Installation of the proper transformer and filter ensures that the harmonic distortion does not exceed the maximum amount as specified by IEEE 5.19.
- d. AC drives with resistors to absorb the overhauling load energy.
 - 1) Fully regenerative to allow the over hauling loads to feedback power to the building's electrical system.
- e. The drive shall not create excessive audible noise in the elevator motor.
- f. The drive shall be a heavy-duty type, capable of delivering sufficient current required to accelerate the elevator to contract speed with rated load.
- g. The drive shall provide speed regulation appropriate to the motor type.
- h. A contactor shall be used to disconnect the hoist motor from the output of the drive unit each time the elevator stops.
 - 1) This contactor shall be monitored and the elevator shall not start again if the contactor has not returned to the de-energized position when the elevator stops.
- i. An electro-mechanical switch shall open all power feed lines to the brake.
 - 1) A single ground, short circuit or solid-state control failure shall not prevent the application of the brake.
- j. The controller shall provide step less acceleration and deceleration and provide smooth operation at all speeds.
- k. The power control shall be arranged to continuously monitor the performance of the elevator in such a way that if the car speed exceeds 150 fpm during access, inspection or leveling, the car shall shut down immediately, requiring a reset operation.
9. Hoist Motor/Machine: Hollister Whitney, or approved equal, Permanent Magnet synchronous motor with 28 or 40 poles for smooth, quiet and cool operation.

- a. Sealed maintenance free bearings.
 - b. Hoisting Machine Motor will be specifically designed and rated for elevator duty with high starting torque and low starting current.
 - c. Machine: Gearless traction type with motor, brake, and traction sheave mounted in proper alignment on a steel bedplate
 - d. Gearless traction type with motor, brake, and driving sheave mounted in proper alignment on a steel bedplate
10. Brake: Brake assembly shall be spring applied electric disc brake, held open by an electro-magnet actuated by the controller and designed to make smooth, positive stops.
- a. Brake shall be designed to automatically apply in event of interruption of power supply from any cause.
 - b. Control of the operation of the brake shall be all digital.
 - c. The setting and lifting of the brake shall be software based and all electronic.
 - d. All adjustments and setup of the brake shall be made using a PC interface.
 - e. Contactors or resistors shall not be use in the actuation of the brake.
11. Sheaves and Cable Guards: New machine traction, deflector and overhead sheaves including cable guards shall be provided as engineered by manufacturer and required by ASME A17.1 Safety Code for Elevators and Escalators for each elevator application.
12. Counterweight: Counterbalance each elevator for smooth and economical operation by cast iron or steel plate weights contained in a structural steel frame.
- a. Counterweight shall equal the complete elevator car weight and approximately 40 percent of the specified load for 1:1 and 50 percent of the specified load for 2:1 engineered for the application.
 - b. If additional weights are required, the contractor shall provide weights and adjust for proper balance as a part of this specification and contract.
13. Suspension and Governor Ropes: New suspension and governor ropes with traction steel hoist ropes of size and number to ensure proper wearing qualities, engineered for manufacturer's requirements and compliant with ASME A17.1.
- a. Suspension and governor ropes shall be sized with Imperial dimensional units.
 - b. Governor ropes shall be iron or traction steel.
 - c. All suspension means shall be installed so that shackles do not make contact and include anti-rotation devices.
 - d. All required labels shall be affixed after installation.
 - e. All ropes are to be tensioned equally.

14. Car Safety:
 - a. Provide descending Type B car safeties.
 - b. Car safeties to be engineered as required for engagement by the centrifugal speed governor to apply stopping distances as required by ASME A17.1.
 - c. Additional switches and ascending car safeties as required ASME A17.1 shall be included.
 - d. Car safeties shall be cleaned and checked for operation.
 - e. Car safeties shall be engineered and compliant with ASME A17.1 for each application.
15. Centrifugal Speed Governor: The centrifugal speed governor by Hollister-Whitney, or approved equal, shall be replaced as required to cut off power to the motor and apply the brake whenever the governor indicates the car has excessive speed.
 - a. Engineered and compliant with A17.1 for each elevator application.
 - b. Provide governor tail sheave.
16. Automatic Terminal Limits:
 - a. Provide electric terminal limits switches.
 - b. Place electric limit switches in the hoistway near the terminal landings.
 - c. Limit switches shall be designed to cut off the electric current and stop the car if it runs beyond either terminal landing.
17. Automatic Self-Leveling:
 - a. Provide each elevator car with a self-leveling feature to automatically bring the car to the floor landings and correct for over travel or under travel.
 - b. Self-leveling shall, within its zone, be automatic and independent of the operating device.
 - c. The car shall be maintained level to less than 1/4" with the landing irrespective of its load.
18. Ascending Car Protection: Ascending car safety "Rope Gripper" as manufactured by Hollister Whitney, or approved equal, shall be installed as per the requirements of ASME A17.1 Safety Code for Elevators and Escalators.
19. Hoist Rope Compensation: If engineering for project requires compensation to balance the weight of the hoist ropes moving from the car to the counterweight side of the hoist machine as the car travels up and down the hoistway, provide Whisperflex Compensation by Draka or approved equal.
20. Load Weighing Devices: Provide load weighing device for 1:1 roping.

- a. The equipment shall be installed to provide signals to the controller for various load monitoring and dispatching operations.
21. Traveling Cable:
- a. Traveling cables shall terminate at numbered terminal blocks in car and machine room.
 - b. Traveling cable shall be provided with separate shielded circuit wiring for communication system with coax and data cables for building security.
 - 1) Coordinate requirements with security equipment installation contractor
 - c. Traveling cable shall be hung to obtain proper size of loop.
 - d. Traveling cable shall be hung free of all contact from hoistway or car equipment.
 - e. Traveling cable outer covering shall be fire resistant and meet UL standard testing.
 - f. Traveling cable shall be provided with 20 percent spare conductors for each car.
22. Hoistway & Machine Room Wiring:
- a. Provide and install wiring throughout the elevator machine room and hoistway.
 - b. All wiring shall be installed in accordance with applicable NEC and latest applicable edition of ASME A17.1 codes.
 - c. Hoistway door interlock wiring shall be SF-2 high heat resistance wiring.
 - 1) Provide dedicated earth grounding conductor
 - d. All other new wiring shall have flame retarding and moisture resistant outer covering.
 - e. Retain and reutilize to the maximum extent possible all ducts and conduit in machine room and hoistway.
 - 1) Install new ducts and conduit as required.
 - f. Hoistway travel cable and associated wiring shall be coordinated with controller manufacturer for wiring configuration requirements to match all controller wiring color coded and numbered diagrams for installation.
23. Equipment grounding shall be provided.
- a. The equipment grounding conductor will be run with the circuit conductors and shall be a copper conductor.
 - b. Ground all conductors, supports, controller enclosure, and other non-current conducting metal enclosures for electrical equipment in accordance with NEC.
 - c. The ground wires shall be solid or stranded; insulated, covered, or bare copper, sized as required by NEC.

- 1) Individually covered or insulated equipment grounding conductors shall have a continuous outer finish that is either green or green with one or more yellow stripes.
 - 2) An insulated or covered conductor larger than 6 AWG shall be permitted, at the time of installation, to be permanently identified as an equipment grounding conductor with green marking at each end and at every point where the conductor is accessible.
24. Pit Ladder: Pit ladder shall be compliant with latest applicable edition of ASME A17.1 code.
 25. Pit Stop Switch: Provide and install new pit stop switch as required by latest applicable edition of ASME A17.1 code.
 26. Pit Light: Provide and install pit lighting as required by NEC and ASME A17.1. Installed by electrical contractor.
 27. Pit Flood Switch: Install pit flood switch assembly.

2.2 HOISTWAY ENTRANCES

- A. Interlocks: Equip each hoistway entrance with new approved type interlock, G.A.L. or approved equal.
 1. Tested as required by code
 2. Include SF-2 wiring and grounding as required by the manufacturer.
 3. Interlock shall be designed to prevent operation of the car away from the landing until the doors are locked in the closed position as defined by code and shall prevent opening the doors at any landing from the corridor side unless the car is at rest at that landing or is in the leveling zone and stopping at that landing.
- B. Door Hangers, Sheaves, and Tracks: Provide new G.A.L. or approved equal, sheave type two point yellow zinc weatherproof galvanized suspension hangers and tracks for each hoistway sliding door.
 1. Sheaves: Polyurethane tires with ball bearings properly sealed to retain grease.
 2. Hangers: Provide an adjustable slide to accommodate the up-thrust of the doors.
 3. Tracks: Drawn steel shapes, smooth surface and shaped to conform to the hanger sheaves.
- C. Hoistway and cab doors
 1. Doors: Replace hoistway and cab doors.
 - a. New door close contact switch including zone locking device shall be installed.

- b. Provide new fire rated hoistway doors and cab door for each elevator.
 - c. All hoistway and car door bottoms shall be reinforced.
 - d. Doors shall be manufactured of Stainless Steel by IDEC Elevator Products, Riviera Beach, FL, (954) 618-0770, or approved equal.
 - e. Doors shall be manufactured to include all mounting hardware requirements of the GAL door operating equipment or approved equal.
- 2. Hall doors finish shall be Rigidized Steel with pattern 2WL or approved equal for vandalism protection.
- 3. Cab door finish shall be Rigidized Steel with pattern 2WL or approved equal for vandalism protection.
- 4. Provide new SEES Enforcer door gibs, or approved equal, on all hoistway and car doors.
- 5. Provide fire tabs on all hoistway and car door panels on all hoistway and car door panels.
- D. Sight Guards: Replace. Provide new sight guards as required to reduce the opening between the leading edge of the hoistway door and the car door to maintain code required clearances.
- E. Entrance Frames: Verify integrity of entrance frames.
 - 1. If entrance frames exhibit excessive corrosion, replace.
 - a. Replace all existing frames with Rigidized Steel pattern 2WL, or approved equal.
 - b. Cutting of old frames and walls not greater than 6" from existing frames for removal including installation of support sills by elevator contractor.
 - c. Blocking of new frames, and all finish masonry patching shall be by others.
 - d. Protective barriers provided and installed by elevator contractor.
 - 2. If entrance frames are retained:
 - a. Clean and remove any corrosion.
 - b. If frames are excessively scratched and dented beyond repair
 - 1) Reclad with Rigidized Steel patter 2WL, or approved equal.
 - 3. Replace missing and/or damaged bumpers on strike jambs
- F. Hoistway and car sills: Verify integrity
 - 1. If condition of sills is acceptable
 - a. Retain
 - b. Clean and polish

2. If sills damaged beyond repair
 - a. Replace with polished nickel/silver sills
 - b. If cost effective, provide new hoistway aluminum "Sillskins" as manufactured by Archi-Tread, Inc., Kinnelon, NJ 07405, Phone: (973) 725-5738, or approved equal. (Optional)

G. Signage

1. Provide all entrance jamb Braille/Number/Tactile Stainless Steel signs as required by the Florida Building Code Accessibility Requirements
2. Provide the international symbol for emergency medical service (star of life) on both sides of hoistway door frame as required by code for each elevator with inside clearance for emergency ambulance stretcher.
3. Identification of equipment: Each elevator shall be provided with an alpha-numeric sign 3 inches in height on every elevator entrance at the designated landing.

2.3 DOOR OPERATION

- A. Door Operator: Provide a direct current motor driven heavy-duty operator GAL MOVFRW, or approved equal.
 1. Provide NEMA 4 conduit and fittings to maintain NEMA rating
- B. Provide G.A.L., or approved equal, door close contacts and switches.
- C. Provide G.A.L., or approved equal, yellow zinc weatherproof LWZ car door clutch
- D. Provide G.A.L. door Fault Monitors
- E. Provide G.A.L., or approved equal, car door zone restrictor.
- F. Closers: Provide SmarTork spirator door closers, or approved equal, manufactured by SmarTork, Inc., PO Box 1393, Boerne, Texas 78006, (866) 496-2355, contact@smartorkinc, www.smartorkinc.com.
- G. Door Protection (Door Safety Edge): Provide new door safety edge.
 1. New door safety edge shall be an infrared light curtain type with parallel or criss cross light beams. The beams shall project across the car opening detecting the presence of a passenger or object. If door movement is obstructed, the doors shall immediately reopen.
 - a. The light screen is to be totally immune to ambient light, including strobes, fluorescent, and direct sunlight (100,000 lux – 2D, 60,000 lux -3D).

- b. Light beam and receiver arrays to operate independent of the power supply, allowing the use of any 18 – 25VDC.
 - c. The power supply shall be dual voltage input (120-240Vac, 50/60Hz)
 - d. Provide LED indicators for power applied and relay operation, simulator test button for beam break, and push-to-test button for manual operation of master control relay.
 - e. Nudge feature to be field installable in standard power supply with accessory relay to operate in either the delayed nudge mode or redundant mode, switch selectable. Nudge feature also to incorporate buzzer with enable/disable switch and delay timer adjustable for nudge operation.
2. Provide Panachrome 3D Ultraslim NEMA 4 manufactured by Janus, or approved equal, door protection door reopening devices.
- a. Red and green indicators highlight door movement to reduce door and equipment damage
 - b. 3D projection into lobby to detect passengers or equipment
 - c. 154 criss cross light beams
 - d. Water and Dust Resistant

2.4 CONTROL AND LANDING SYSTEM

- A. Elevator control system shall be GALaxy IV, produced by GAL Manufacturing, Bronx, NY or approved equal.
- B. The GALaxy IV traction elevator controller is a computer-based system that offers superior performance, flexibility and reliability. It has been designed to save time in installation and troubleshooting.
- 1. Up to 8 car groups
 - 2. Up to 60 floors; Up to 120 openings
 - 3. Traction Closed-Loop Distance Feedback
 - 4. Gearless up to 1200 fpm
 - 5. AC Drive
 - a. The AC drive supplied shall be a Magnetek Quattro AC/PM regenerative drive, or approved equal.
 - b. Isolation transformers and filters are provided to isolate the drive and the hoist motor from the line power. Installation of the proper transformer and filter ensures that the harmonic distortion does not exceed the maximum amount as specified by IEEE 5.19.

- c. AC drives with resistors to absorb the overhauling load energy.
 - d. Fully regenerative units shall be provided to allow the overhauling loads to feedback power to the building's electrical system.
- 6. Microprocessor specifications:
 - a. Traction: 32 bit, 80586 CPU 133 MHz with built in floating point processor
- 7. Controller Software
 - a. Program in Compact Flashcard
- 8. Dispatching
 - a. No separate group controller – group functions are an integral part of the car controllers
 - b. ETA based algorithm
 - c. Up & Down Peak; Next Up
 - d. AI based parking algorithm (intelligent parking)
- 9. I/O Structure:
 - a. Optically isolated
 - b. Field replaceable
 - c. LED status indicators on all input and output devices
- 10. Serial Communication
 - a. Controller to Car / COP
 - 1) To reduce the number of wires in a traveling cable, GALaxy controllers use a CAN serial communication channel to the car to accept car calls and car input and output functions.
 - b. Serial Hall Riser (Optional)
 - 1) To reduce the number of hoistway wires, a serial CAN channel can be used for the hall call risers' wiring.
- 11. Built in Diagnostic / Programming Interface
 - a. LCD display provided on main CPU and safety processor boards
 - b. Access to all parameters and diagnostics without a laptop or special tool
- 12. Wire Labels

- a. Controllers are wired using harnesses that are color coded. Individual wires are marked, along their length, with their name. Proper termination is applied for each wire.
13. Schematics
- a. Controller schematics are printed in color to show the actual wire size and colors. Hoistway (including traveling cable) schematics show actual wire numbers, and point-to-point connections.
14. Job Program Transfer and Save
- a. GALaxy has the ability to upload and download the program file, job configuration file, and adjustment parameters to and from a laptop or removable medium. The job program file and configuration file is stored on compact flash medium and shall be removable from the controller to allow for easy update of the latest software version.
15. User Activated Test Procedures
- a. The user interface has a built in, user activated, menu driven, buffer test procedure, over speed test procedure, and terminal limit test procedure.
16. Standard and Optional Features:
- a. Built-in secure WiFi link
 - b. Access Operation
 - c. Door Motor Protection Timer
 - d. Field Adjustable Parameters (Door Times, Lobby, etc.)
 - e. Fire Service Phase I
 - f. Fire Service Phase I Alternate Return
 - g. Fire Service Phase II
 - h. Inspection Operation
 - i. On Board Diagnostic LEDs
 - j. On Board LCD Display Interface
 - k. Two Motor Protection Timers
 - l. Cross Assignment
 - m. Cross Cancellation
 - n. Emergency Power
 - o. Inter-Group Emergency Power

- p. Lap Top Interface (GAL Com)
- q. Load Weighing Devices
- r. Motor Pre-Torque
- s. Remote Diagnostics
 - 1) GALileo
 - a) Remote Monitoring Capabilities are provide using the GALileo system to monitor each the bank of elevators.
 - b) For remote monitoring the system needs to be connected to the internet and programmed with an IP address.
 - c) All data collection, data storage and real - time monitoring is then provided by accessing the system with a web browser, no “special” software or licenses are required.
- t. Security / Card Readers / Lock Out
- u. Provide GFI duplex receptacle in controller

17. Selector System

- a. Primary Distance Feedback System
 - 1) The distance feedback loop is taken from a high resolution encoded driven by the hoist machine.
 - 2) Distance feedback device shall have a minimum resolution of 3000 pulses per foot.
- b. Tapeless Positioning System
 - 1) The GALaxy controller can also be configured to use an absolute encoder, mounted on the live shaft of a governor as the secondary method of gathering position and speed information.
 - 2) The absolute encoder provides accurate position information at all times, even immediately following a power up and therefore floor pre-sets are not required.
 - 3) The controller uses the door zone magnet, mounted on the rails, to verify the elevator’s level position to the floor.

2.5 Elevator Control, Signal Fixtures and Pushbuttons

A. All elevator control, signal fixtures and pushbuttons: Basis of Design

- 1. Innovation Industries, or approved equal, 3500 E. Main Street, Russellville, Arkansas 72802, (800) 843-1004.

B. Car Operating Panel

1. Bruiser Series, or approved equal, designed and manufactured for rugged strength and durability.
 - a. Finish: #4 brushed 304 Stainless Steel
2. Pushbuttons shall be PB 23
 - a. Finish: Copper metal finish for microbial safety protection
 - b. 1.312 inches diameter
 - c. Illuminated center jewel in red, amber, green, blue and white
 - d. Vandal resistant
 - e. Positive stop that seats on the faceplate and not a collar
 - f. Sanitary Protection: Provide touchless sensors adjacent to push buttons
3. Multi-volt LED illumination design
4. Buttons shall illuminate to indicate call has been registered for a floor destination.
5. The panel shall consist of a series of modules, key switches or approved buttons for optimum viewing and accessibility.
6. All engraving shall be on flush mounted hairline faceplates securely mounted to the aluminum backing plate.
7. All elevator car controls shall be compliant with the latest adopted edition of the Florida Building Code: Accessibility requirements for height and location reach ranges.
8. Provide a 2" electronic segmented digital position indicator mounted in the control panel for optimum viewing.
 - a. As the car travels, its position in the hoistway shall be indicated by the illumination of the alpha/numeric character corresponding to the landing which the elevator is stopped or passing.
 - b. On one side of digital numeric indicator in the car panel will also be a matching indicator with direction of travel.
9. Audible destination signal shall be a verbal audible voice annunciator announcing floor arrival.
10. Provide emergency lighting incorporated in Car Operating Panel
11. Emergency Communications System: Provide a two-way emergency communications device mounted in the car station panel
 - a. Emergency communications device shall comply with Americans with Disabilities Act (ADA).

12. Special accessories in each car station panel:
 - a. Located in Locked Service Compartment Subpanel w/ Clear Certificate Window
 - 1) Light key switch.
 - 2) Fan key switch.
 - 3) Independent Operation Keyed Switch
 - 4) Inspection key switch (if required)
 - 5) Access Keyed Switch (if required)
 - 6) Emergency Light Test Button
 - 7) GFI duplex receptacle
 - b. Keyed stop switch
13. Fire Fighters Phase II Service:
 - a. The "FIRE OPERATION" switch, the "CALL CANCEL" button, the "STOP" switch, the door open button(s), the door close button(s), the additional visual signal, and the operating instructions shall be grouped together at the top of the main car operating panel behind a locked cover.
 - b. The firefighters' operation panel cover shall be openable by the same key that operates the "FIRE OPERATION" switch.
 - 1) The cover shall be permitted to open automatically when the car is on Phase I Emergency Recall Operation and at the recall level.
 - 2) When the key is in the "FIRE OPERATION" switch, the cover shall not be capable of being closed. When closed, the cover shall be self-locking.
 - 3) The front of the cover shall contain the words "FIREFIGHTERS' OPERATION" in red letters at least 0.4 in. high.
 - c. The designated fire key is: FEOK1
14. Car operating panels shall swing open with the hinged side closest to the sidewall.

C. HALL STATIONS

1. Bruiser Series NEMA 4X Florida Package, or approved equal, designed and manufactured for rugged strength and durability.
 - a. Finish: #4 brushed 316 Stainless Steel
 - b. Conformal coated electrical devices
 - c. Gasketed rough-in box
 - d. Self sealing screws

- e. UL NEMA 4X rating
 - f. Provide NEMA 4 conduit and fittings to maintain NEMA rating
2. Pushbuttons shall be PB 46
 - a. Finish: Copper metal finish for microbial safety protection
 - b. 1.302 inches diameter
 - c. Illuminated center jewel in red, amber, green, blue and white
 - d. Vandal resistant
 - e. Sealed pushbutton with neoprene gasket
 - f. Positive stop that seats on the faceplate and not a collar
 - g. Sanitary Protection: Provide touchless sensors adjacent to push buttons
 3. Multi-volt LED illumination design
 4. Buttons shall illuminate to indicate call has been registered at that floor for the indicated direction.
 5. Risers: Risers shall include 1 for elevator front
 6. Installation shall be flush mount.
 7. Each terminal station shall contain one illuminating push button and other applicable accessories including hoistway access switches.
 8. Each intermediate station shall consist of two illuminating push buttons, one for the up direction and one for the down position.
 9. Phase I firefighter's service key switch, with instructions, shall be incorporated into the hall station at the designated level.
 - a. Fire Service instructions as per ASME A17.1, shall be engraved in the main floor hall station panel.
 10. Phone Line Verification
 - a. An audible signal will be provided with a lighted jewel signal labeled "ELEVATOR COMMUNICATIONS FAILURE" in red letters 5mm (.25in) in height activated when the telephone line is not functional.
 - b. The visual signal with a key switch to silence the audible signal shall be incorporated in the designated level hall station.
 11. In case of fire, use stair signs shall be engraved into each hall station panel with exact signage as per the Florida Building Code.
 12. Emergency Generator:

- a. Emergency key (Regional Fire Key & Switch Required), operated selector switches, including lighted jewel indicators shall be provided at the main floor panel with proper engraved signage as required.
- b. If an emergency key operated selector switch is not required, a lighted jewel indicator for emergency generator elevator power shall be provided with proper engraved signage as required.

D. HALL LANTERN AND POSITION INDICATOR

- 1. Directional Lanterns with Digital Position Indicators
- 2. Surface NEMA 4x Florida Package mounted above all elevator entrance(s)
 - a. Finish: #4 brushed 316 Stainless Steel 11GA Faceplate
 - b. Conformal coated electrical devices
 - c. Gasketed rough-in box
 - d. Self sealing screws
 - e. UL NEMA 4X rating
 - f. Provide NEMA 4 conduit and fittings to maintain NEMA rating
- 3. Directional arrows signal travel direction upon arrival at each landing
 - a. Vandal Proof epoxy filled jewels
 - b. At terminal landings, dual arrows in the same direction of travel
- 4. Digital Position Indicators signal car direction of travel and location in hoistway
 - a. 2 inch alpha-numeric display
 - b. UP/Down directional arrow display

2.6 CAR TOP INSPECTION STATION

- A. Provide a new car top inspection station with an "emergency stop" switch and constant pressure "up-down" direction buttons to make the normal operating devices inoperative and give the inspector complete control of the elevator.
 - 1. "Stop switch shall be permanently located on the car top and readily accessible to a person, while standing at the hoistway entrance normally used for access to the car top."
 - 2. A "transfer switch shall be located on the car top and shall be so designed as to prevent accidental transfer from the "INSPECTION" to "NORMAL" position."
 - 3. "A separate device of the continuous-pressure type labeled "ENABLE" shall be provided adjacent to the inspection operating devices."

4. "Inspection operating devices shall become effective only when the "ENABLE" device is activated."
 5. Include lighting and a GFI duplex receptacle fixture on the car top.
 - a. "The lighting shall be permanently connected, fixed, or portable, or a combination thereof, to provide an illumination level of not less than 100 lx (10 fc) measured at the point of any elevator part or equipment, where maintenance or inspection is to be performed from the car top. All lighting shall be equipped with guards.
 - b. "The light switch shall be accessible from the landing when accessing the car top."
 6. Car Top Inspection device shall be compliant with the latest edition of ASME A17.1.
- 2.7 ELEVATOR CAB INTERIOR as manufactured and installed by IDEC Elevator Products, Riviera Beach, FL (954) 618-0770 or approved equal.
- A. Re-clad Front, Transom and Side Returns with Rigidized Steel pattern 2WL.
 - B. Side and Rear Walls
 1. All wall to wall connections shall be Stainless Steel rounded radius corners for easier cleaning
 2. Rigidized Steel 2WL, or approved equal.
 3. Glass panels constructed of laminated glass that complies with the requirements of 16 CFR Part 1201, Sections 1201.1 and 1201.2.
 - C. Handrails
 1. Furnish and install 3/8" x 2" solid Stainless Steel handrails on side and back walls
 - a. Handrail ends returning to walls
 - D. Ceiling
 1. Furnish and cover existing ceiling with plastic laminate
 - E. Lighting
 1. Furnish and install LED cove lighting at the top of the side walls
 - F. Flooring
 1. Aluminum Diamond Plate
 - G. Ventilation
 1. Sanitary Protection: Provide sterilization and purification air intake fan distributed by ECS, Corporation, ecsparts.com, or approved equal, securely mounted in ceiling.

- a. Fan shall include UV-C lamp and ion generator
 - 2. Provide auxiliary battery back-up ventilation fan for or observation elevator car enclosure.
 - H. Car top escape panels shall have switch assemblies including all wiring to install proper safety circuit as required by ASME A17.1
- 3.1 EXECUTION
- A. Examination:
 - 1. Coordinate all site conditions with General Contractor and other building trades.
 - 2. Inspect hoistway, hoistway openings, pits and machine room, as constructed.
 - 3. Verify all critical dimensions, and examine supporting structures and all other conditions under which elevator work is to be installed.
 - 4. Do not proceed with elevator installation until unsatisfactory conditions have been corrected in a manner acceptable to the installer.
 - 5. Commencement of installation constitutes acceptance of existing conditions and responsibility for satisfactory performance.
 - 6. Elevator contractor shall coordinate crane services for placement of the equipment in the machine rooms with General Contractor.
 - B. Elevator contractor shall be responsible for screening and protection of hoistway door openings and protection between elevators in hoistway.
 - C. Signage:
 - 1. The designated project manager and the owner's representative will approve all signage in order to maintain consistent appearance for entire elevator installation.
 - 2. All signage as required by Florida Building Code, ASME A17.1, NFPA 70 National Electrical Code and NFPA 72 Fire Alarm Code to be posted in elevator lobbies, fire alarm panels, disconnects, machine rooms and machine room doors.
 - D. Installation:
 - 1. Install elevator systems components and coordinate repairs of hoistway wall construction.
 - 2. Competent licensed elevator installation personnel in accordance with Florida Statute 399 and ASME A17.1 manufacturer's installation instructions and approved shop drawings shall perform work.
 - 3. Comply with the National Electrical Code for electrical work required during installation.

4. Perform work with competent, skilled workmen under the direct control and supervision of the elevator manufacturer's experienced foreman.
 5. Supply in ample time for installation by other trades, inserts, anchors, bearing plates, brackets, supports, and bracing including all setting templates and diagrams for placement.
 6. Welded construction: Provide welded connections for installation of elevator work where bolted connections are not required for subsequent removal or for normal operation, adjustment, inspection, maintenance, and replacement of worn Parts.
 - a. Comply with AWS B2.1 Standard Welding Procedure and Performance Qualification.
 7. Coordination: Coordinate elevator work with the work of other trades, for proper time and sequence to avoid construction delays.
 - a. Use benchmarks, lines, and levels designated by the Contractor, to ensure dimensional coordination of the work.
 8. Install machinery, guides, controls, car and all equipment and accessories to provide a quiet, smoothly operating installation, free from side sway, oscillation or vibration.
 9. Sound isolation: Mount rotating and vibrating elevator equipment and components on vibration-absorption mounts, designed to effectively prevent the transmission of vibrations to the structure, and eliminate sources of structure-borne noise from the elevator system.
 10. Lubricate operating parts of system, including ropes, as recommended by the manufacturer.
 11. Elevator contractor shall be required to install all data plates as required by ASME A17.1 on complete elevator system including alteration and original equipment.
 - a. All data plates shall be manufactured and printed with proper data for each elevator by CodeDataPlate.com or approved equal.
- E. Field Quality Control:
1. Acceptance testing: Upon completion of the elevator modernization and before permitting use of elevator, perform acceptance tests as required by the State of Florida and recommended by Code and governing regulations or agencies.
 - a. Perform other tests, if any, as required by governing regulations or agencies.
 2. Advise Owner, Elevator Consultant, and governing authorities in advance as required of dates and times tests are to be performed on the elevator.
- F. Adjusting:

1. Make necessary adjustments of operating devices and equipment to ensure elevator operates smoothly and accurately.
2. The elevator contractor shall be required to perform and pass all required testing of all equipment as per ASME A17.1 and ASME A17.2.
3. Elevator contractor is to return at 30 days, 90 days and 180 days after final installation to examine and readjust rope tension and hoist machine as may be required for optimum performance.

G. Cleaning:

1. Before final acceptance, remove protection from finished surfaces and clean and polish surfaces in accordance with manufacturer's recommendations for type of material and finish provided.
2. For duration and/or completion of elevator work, remove tools, equipment, and surplus materials from site daily.
3. Clean equipment rooms and hoistway.
4. Remove trash and debris daily from premises.

H. Protection:

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

I. Demonstration:

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

7. Demonstrate that control systems and operating devices are functioning properly.
 8. Final Electrical Schematics and Drawings
- J. Elevator Consultant's Punch-out List Items:
1. Complete all of the consultant's punch-out list items as may be required.
 2. The elevator consultant shall provide a review and written punch list of deficiencies.
 3. The elevator consultant shall verify one time that the items from the punch list are completed after notice by the elevator contractor.

END OF SECTION

ATTACHMENT E

HYDRAULIC ELEVATORS SPECIFICATIONS (CIVIC CENTER METRORAIL STATION)

1.1 SUMMARY

- A. Modernization of Hydraulic Passenger Elevators for the Miami-Dade County Department of Transportation and Public Works, Civic Center Metrorail Station. 1501 NW 12th AVE, Miami, FL 33136.
- B. Including all engineering, equipment, labor, machines, control systems, devices and accessories as required for safely operating the specified elevators.
 - 1. Commercial, hydraulic passenger elevators.
 - a. Two (2) Passenger Elevators
 - 1) Two (2) Simplex Groups
 - 2) Elevator #1 - SS# 72646, Elevator #2 – SS# 72647
 - 2. Installation of all hoistway equipment.
 - 3. Elevator car and hoistway signal equipment.
 - 4. Operation and control systems.
 - 5. Accessibility provisions for physically disabled persons.
- C. Delivery, staging, and hoisting of new equipment.
- D. Materials and accessories as required for completing the elevator installations.
- E. Hoistway, pit and machine room barricades for safety as required.
- F. Required hoisting, hoisting permits and traffic coordination and/or permits with local jurisdictions and the State of Florida as required.
- G. Required permits and coordination and/or permits with local jurisdictions, Office of Elevator Safety and the State of Florida as required.

1.2 Related Scopes of Work by Others - Including but not limited to the following

- A. Machine room HVAC as required, to maintain temperature and humidity to between 55° F and 90° F with relative humidity of not more than 85% non-condensing.
 - 1. The elevator contractor shall provide actual calculations for total anticipated heat loads generated by all elevator machine room equipment.
 - 2. Machine room HVAC must be positioned as approved by the elevator contractor and consultant.
 - 3. There shall be no drain lines or condensation allowing water in the machine room.

4. HVAC system is required to have an electrical disconnect lockable in the off position with proper safety labels including identifying source of power and purpose.
 5. Remote systems shall have a proper thermostat inside the machine room.
 6. The air conditioning systems shall be additionally connected and powered by emergency generator power as required.
- B. Electrical Contractor shall furnish and install all electrical equipment for hoistway and machine room including HVAC, lighting, GFCI receptacles and electrical disconnects, as required by NFPA 70 National Electrical Code and ASME A17.1 Safety Code for Elevators and Escalators.
1. All Electrical work must be coordinated and scheduled with General Contractor, Elevator Contractor and Elevator Consultant.
 2. Elevators shall be removed from service while electrical trades are working in same or adjacent hoistways or machine rooms.
 3. Provide electrical service to main disconnect in elevator machine room; electrical power for elevator installation and testing; electrical service for machine room; machine room and pit receptacles with ground-fault current protection; lighting in machine room and pit; wiring for telephone service to machine room.
 4. Install new lockable disconnects with overcurrent protection for elevator main line power as per NEC.
 - a. Disconnect to be verified for appropriate size and type for power requirements of elevator equipment prior to installation.
 - b. Elevator systems with auxiliary power lowering operation shall be provided with an auxiliary contact that is positively opened mechanically, and the opening shall not be solely dependent on springs.
 - 1) The contact shall cause the additional power source to be disconnected from its load when the disconnecting means is in the open position.
 - c. Provide surge protection.
 5. Provide replacement electric wiring from disconnect switches to the new elevator controllers with feeder leads for connection to terminals by the elevator contractor, inclusive of a normal 120 VAC, 15 AMP supply at each controller.
 6. Minimum lighting in machine room and overhead hoistway equipment space shall be 19 ft-c.
 7. Minimum lighting in hoistway pit and top of car shall be shall be 10 ft-c.
 8. All electrical systems shall include proper earth grounding and bonding as required by elevator manufacturer and NEC.
 - a. Provide continuous earth ground to mainline disconnects and controllers.

9. Provide lockable disconnect switches with overcurrent protection to air conditioner installed in each machine room.
10. Provide lockable disconnect switches with overcurrent protection to oil cooler for each elevator in machine room as per NEC.
11. Provide GFCI receptacles in machine rooms and hoistways as required by NFPA 70 NEC.
12. Provide a single non-GFCI receptacle for each sump in each elevator hoistway.
13. Provide and install pit lighting and machine room lighting as per NEC with enclosed and protected lamps.
14. Pit receptacles, with GFCI protection shall be installed in NEMA 4 devices where placed within 4'-0" of pit floor.
 - a. All electrical equipment including conduit, fitting, junction boxes, portable cabling shall be NEMA 4 rated.
 - b. Care must be taken not to place equipment in line with elevator equipment.
15. Provide and install lockable disconnect switch with overcurrent protection in each machine room for each elevator cab lighting system as per NEC.
16. Provide and install new pit lighting switches and emergency stop switches.
 - a. Light switch shall be accessible from pit access door.
 - b. Emergency stop switches shall be installed approximately 18" above first floor landing adjacent to opening and located at side of each pit access door.
17. All lighting fixtures in machine rooms, elevator cars and on top of car to be suitably guarded in accordance with ASME A17.1 Safety Code for Elevators and Escalators, clearance requirements and NFPA 70 NEC requirements for guarding.
18. All disconnects shall be labeled according to NFPA 70 NEC including source of power, State of Florida Serial Numbers, Elevator Number and all required warning signs.
19. Lighting shall be installed at roof top machine room access stair and door areas.
20. Install shunt trip breakers outside of machine rooms for feeder to each mainline disconnect for removal of power by NFPA 70 NEC and NFPA 72 if installation of sprinklers in machine rooms or hoistways is required by the Florida Building Code.
 - a. Shunt trip shall be activated by heat detectors installed by others.
21. Provide conduit and data wiring for elevator car two-way communication devices, remote monitoring, security systems, lobby phones and/or fire command center elevator status panel phones.
22. Provide network connections for all required connections to the internet for remote monitoring, card readers, cameras and communication equipment requiring IP addresses.

23. Provide conduit and control circuit wiring from controller to Automatic Transfer Switch for alternate emergency standby generator.
 24. Provide recommended amount of separate duplex receptacles per elevator as required for security equipment and cameras.
- C. Emergency generator configuration, installation, wiring including conduit to elevator controller, repair, transfer switches including elevator selector options, pre-signal wiring connections and/or testing with standby or emergency power systems shall be coordinated and completed by emergency generator service contractor.
1. Emergency generator personnel shall demonstrate system and tests at completion of each elevator for inspection as required by the Florida Building Code, Florida Statute 399 and ASME A17.1.
 2. Generator contractor shall provide contacts in automatic transfer switch for signals and transfer of power to elevator controllers when building is transferred to and from emergency standby power and normal power source.
- D. Fire Alarm including heat and smoke sensing devices as per NFPA 70 National Electrical Code and NFPA 72 National Fire Alarm Code.
1. Provide connections for fire recall devices to the elevator controllers in machine room.
 - a. For each elevator within the building, a minimum of three separate elevator control circuits shall be terminated at the designated elevator controller within each elevator machine room in accordance with NFPA 72.
 - b. Operation of the elevators shall be in accordance with Section 2.27 of ASME A17.1 Safety Code for Elevators and Escalators.
 - c. The smoke detectors or other automatic fire detection as permitted by NFPA 72, shall actuate the elevator control circuits as detailed in NFPA 72.
 2. Fire alarm contractor shall demonstrate at time of elevator inspection, compliance and testing of all alarm initiating devices as required by ASME A17.1 Safety Code for Elevators and Escalators, ASME A17.2 and NFPA 72 National Fire Alarm Code.
 3. Install heat detectors within 24" of sprinklers installed in machine rooms or hoistways including wiring and conduit to shunt trip breaker as installed by electrical contractor.
 - a. Heat detectors for sprinklers in pit shall activate Fire Recall.
 4. Installation of fire alarm system and devices shall conform to ASME A17.1 Safety Code for Elevators and Escalators and NFPA 72 including NFPA 70 NEC.
- E. Sprinklers: Any required sprinkler work must be coordinated with elevator contractor to insure non-interference with any elevator equipment and must be compliant with NFPA 13, NFPA 72 and the Florida Building Code.

1. If sprinkler head(s) are located in the machine room or hoistway, it will be required to install a heat detector within 24" of each sprinkler in order to automatically disconnect the main line power supply to the affected elevator(s) upon or prior to the application of water, in accordance with ASME A17.1 Safety Code for Elevators and Escalators and NFPA 72 National Fire Alarm Code.
- F. Telephone and Data Lines:
1. A dedicated telephone line is required for each elevator.
 2. Provide dedicated telephone lines and wiring to elevator controllers for telephone system including all wiring in machine room shall be installed inside conduit as per NFPA 70 NEC.
 3. All emergency telephone devices shall include a minimum of 4 hours emergency backup power including power from emergency generator if supplied.
 4. Provide network data line for remote monitoring of controller.
- G. Building general construction conditions, cleaning and painting of miscellaneous surfaces: The elevator contractor shall not be responsible for all work as detailed in this section.
1. All construction, cleaning and painting other than equipment directly supplied by the elevator contractor shall be performed by others.
 2. Provide 2 hour fire rated machine room enclosure.
 3. Proper installation of 1 ½ hour "B-Label" door to machine room to include self-closing and self-locking requirements.
 - a. Machine room warning signs "Danger Authorized Personnel Only" shall be provided on each machine room door as required by NFPA 70 NEC.
 4. Provide metal stairway and access landing including guard rail to machine room for roof top and interior multi-level machine room access.
 - a. Stairway shall comply with the Florida Building Code and ASME A17.1.
 5. Provide Class ABC Fire Extinguisher in machine room permanently mounted and conveniently located to the access door as required by ASME A17.1 Safety Code for Elevators and Escalators.
 6. Provide protection of all pipes, wiring, conduit, duct and openings in machine rooms and hoistways to maintain a 2 hour fire rating.
 7. All foreign pipes, wiring or conduit not in use or directly related to the elevator system shall not be installed in machine rooms and hoistways.
 - a. Existing foreign piping, wiring and/or conduit not in use or directly related to elevator shall be removed or enclosed as required by code.
 8. All projections or recesses in walls of hoistway greater than 4" shall be beveled not less than 70 degrees with sheet metal not less than 16 gauge.

9. All holes and openings in hoistway shall be patched and protected to maintain the fire rating of the enclosure including conduit, piping and other equipment passing through exterior walls.
10. Hoistway Venting:
 - a. Existing Interior Hoistways
 - 1) Vents on exterior walls which are not pressurized and are not subject to require pressurization shall be provided with motorized dampers that are capable of being automatically closed during normal building operation and are interlocked to be opened by fire and smoke detection systems.
 - 2) The damper shall power close under normal operation and spring open in the event of a power failure or fire alarm signal.
 - a) Provide a separate exterior vent assembly with a goose neck hood and stationary louvers at the exterior entrance of the hood to protect the interior motorized vent system and hoistway.
 - 3) Provide a separate exterior vent assembly with a goose neck hood and stationary louvers at the exterior entrance of the hood to protect the interior vent system and hoistway.
 - b. Existing venting of the hoistway through the machine room shall be closed and protected to maintain the 2 hour fire rating enclosure.
11. Sumps and Sump Pumps: Elevators with Fire Service Operation shall have drains or sump pumps as required by ASME A17.1 Safety Code for Elevators and Escalators, including the Florida Building Code.
 - a. The pump shall be manufactured by Stancor, or approved equal, as determined by the elevator consultant, and shall include oil monitoring.
 - b. The sump shall be a minimum of 18 inches in diameter and 24 inches in depth.
 - c. The sump cover shall be removable and flush to pit floor.
 - d. The Sump pump shall have an output of 3000 gallons per hour at the head per elevator.
 - e. The sump pump electrical cord shall be 6 foot or less.
 - f. Provide monitoring with alarm located outside hoistway.
12. Clean and paint machine room finished walls and floors.
 - a. All cleaning or painting work that produces any vapors or fumes shall be performed during normal business work hours or after normal business hours as requested by building manager or representative.
 - 1) Work of this nature must be scheduled and coordinated five (5) days prior to execution of work.

- b. The procedures proposed for the accomplishment of the work shall provide for safe conduct of the work, careful removal and disposition of materials specified to be salvaged, protection of property, which is to remain undisturbed, and coordination with other work in progress.
 - 1) The work plan shall include a Safety and Health plan describing procedures for handling monitoring, and disposition of Volatile Organic Compounds "VOCs" and other hazardous and toxic materials.
 - 2) The procedures shall include a detailed description of the methods and equipment to be used for each operation, and the sequence of operations.
- c. All paint products and application method must be approved prior to application by owner or owner's agent.
 - 1) Paint products and application methods are to be equal or better than existing product applicable with matching color as approved by owner.
- d. All products of paint, thinners or cleaning agents must be approved prior to use for VOC's or any additional health concerns.
- e. Interior work zones having a volume of 1,000 cubic feet or less shall be ventilated at a minimum of 2 air exchanges per hour.
 - 1) Ventilation in larger work zones shall be maintained by means of mechanical exhaust.
 - 2) Solvent vapors shall be exhausted outdoors, away from air intakes, building occupants and workers.
 - 3) Building air conditioning return air inlets in the work zone shall be temporarily sealed before start of work until the prepared surfaces have dried and are free of odor.
 - 4) Operators and personnel in the vicinity of paint removal processes involving chemicals or mechanical action (sanding or blasting) shall wear respirators.

H. Security system compliant with facility requirements

- 1. Coordinate installation of security in-car keypads or card readers and security cameras with building owner and the facility's subcontractor.
 - 2. Provide proper software and hardware for integration of security system with elevator controllers.
 - 3. Assure traveling cable includes the proper shielded, data and coaxial conductors.
 - 4. Provide power sources as required for security systems including in-car security cameras.
- I. Each contractor will be required to provide any cutting, patching including painting to match existing finishes of building.

1.3 CODE AND STANDARD REFERENCES

1. Comply with all current applicable state statutes, administrative rules, building codes and elevator codes at the project site required at the time of permitting, including but not limited to the following:
 - a. Florida Statutes 399
 - b. Florida Administrative Code 61C-5
 - c. Florida Building Code
 - d. ASME A17.1 Safety Code for Elevators and Escalators
 - e. ASME A17.2 Guide for Inspection of Elevators and Escalators
 - f. ADAAG, Americans with Disabilities Act Accessibility Guidelines
 - g. NFPA 13, Sprinkler Systems
 - h. NFPA 70, National Electrical Code
 - i. NFPA 80, Fire Doors and Windows
 - j. ANSI/UL 10B, Fire Tests of Door Assemblies
 - k. NFPA 72, National Fire Alarm Code
 - l. NFPA 101 Florida Edition
 - m. O.S.H.A. Requirements for construction
 - n. Elevator Industry Field Employees' Safety Handbook
 - o. Miami-Dade Transit Construction Safety Manual and Attachments
 - p. Miami-Dade County Department of Transportation and Public Works (DTPW) Adjacent Construction Manual

1.4 ELEVATOR SYSTEM DESCRIPTIONS

- A. Elevator System, General: Manufacturer's standard elevator systems.
 1. Unless otherwise indicated, manufacturers' standard components shall be used, as included in standard elevator systems and as required for complete system.
- B. Elevator Arrangement
 1. Elevator shall be numbered as viewed from lobby facing the elevators from left to right in main lobby with alpha-numeric designations.
 - a. Keep current elevator alpha-numeric designations.
 2. Specific requirements for the specific elevator or component shall be designated as such and shall not apply to other elevators in the building.

3. Specifications for elevators include minimum requirements of all elevators and it shall be the responsibility of the contractor to complete all work to code compliance.
4. Insert a different number for each group of elevators that share a group operation system

C. Elevator Systems

1. Passenger Elevators:
 - a. Quantity: Two (2) Simplex Groups
 - 1) Elevator #1 – SS# 72646
 - 2) Elevator #2 – SS# 72647
 - b. Type: Commercial holed in-ground hydraulic passenger.
 - c. Machine Location:
 - 1) Adjacent – First Floor, field verify
 - d. Number of Stops:
 - 1) Two (2)
 - e. Number of Openings:
 - 1) Two (2), One (1) Front Entrances, One (1) Rear Entrance, field verify.
 - f. Travel rise:
 - 1) Field verify
 - g. Rated Capacity:
 - 1) 3500lbs
 - h. Rated Speed:
 - 1) Field verify
 - i. Car Enclosure Inside Dimensions:
 - 1) Field verify
 - j. Entrance Dimensions and Type:
 - 1) Width 36 inches x Height 84 inches, Center Opening, field verify
2. Main Power Supply: Existing 240 Volts + or - 5% of normal, 3 Phase, 60 Cycle with a separate equipment grounding conductor. Contractors shall field verify.
3. Lighting Power Supply: 120 Volts, 1 Phase, 15 Amp, 60 Hz.
4. Stopping Accuracy: $\pm 1/4"$ under any loading condition or direction of travel.

5. Door operating equipment shall be labeled with maximum door speed so that Kinetic Energy shall not be above 7.37 ft-lbf. As measured by ASME A17.1 Safety Code for Elevators and Escalators.
6. Car Operation:
 - a. Provide a Simplex Selective Collective microprocessor-based controller for elevators #1 & #2, the operation shall be automatic by means of the car and hall buttons.
7. Provide microprocessor-based Simplex Selective Collective automatic operation control system, which utilizes on-board diagnostics for servicing, trouble-shooting, and adjusting without requiring the use of an outside service tool.

1.5 Submittals

- A. Product data: Submit product data for the following:
 1. Elevator car and hoistway fixtures.
 2. Operation, control, and signal systems.
 3. Drive, motor, machine and all major components of system.
- B. Shop drawings:
 1. Show equipment arrangement in the machine room, pit and hoistway. Provide plans, elevations, sections and details of assembly, erection, anchorage, and equipment location as required.
 2. Indicate elevator system capacities, sizes, performances, safety features, finishes and other pertinent information.
 3. Show floors served, existing travel distances, maximum loads imposed on the building structure at points of support and all similar considerations of the elevator work.
 4. Indicate electrical power requirements and branch circuit protection device recommendations and locations.
- C. Certificates: Inspection and acceptance certificates of elevator system installation.
- D. Operation and maintenance data. Include the following:
 1. Operation and maintenance instructions.
 2. Parts list, with recommended parts inventory.
 3. Wiring diagrams for control system including any in field modifications.
 4. Copy of field pull sheet wiring as built notes. Pull sheets to include wire numbers and colors.

1.6 QUALITY ASSURANCE

A. Elevator Contractor Qualifications:

1. Elevator Contractor shall provide pre-engineered elevator system components by manufacturer(s) regularly engaged in the manufacture of elevator systems.
 - a. Compliance with ASME A17.1 Safety Code for Elevators and Escalators, Florida Statutes, Chapter 399, Florida Administrative Code 61C-5, all applicable sections of the Florida Building Code, and additional requirements specified herein.
 - b. The elevator contractor shall have a documented, on-going quality assurance program.
 - c. Contractor shall have a mechanical or electrical engineer on staff for County critical elevators.
2. Installer Qualifications: The manufacturer or an authorized agent of the manufacturer with not less than ten years of satisfactory experience installing elevators equal in character and performance to the project elevators.
 - a. All mechanics employed to work onsite must have a valid Certificate of Competency issued by State of Florida Bureau of Elevator Safety.
 - b. There shall not be allowed onsite more than one helper or unlicensed assistant per onsite licensed mechanic.
3. Permits and Inspections: Apply, secure and pay for all required State of Florida and Miami-Dade County Office of Elevator Safety and applicable building code permits, tests and fees as required by Florida Administrative Code 61C-5 for Alteration Permits, and local jurisdiction permits.
 - a. Elevator contractor is responsible for proper posting of all required licenses, permits and safety documentation.
4. Regulatory Requirements:
 - a. ASME A17.1-2016 or more stringent edition adopted by the State of Florida
 - b. Florida Building Code, latest edition adopted by the State of Florida
 - c. Current Florida Statute 399 and 553
 - d. NFPA 13 Standard for the Installation of Sprinkler Systems, latest edition adopted by the State of Florida
 - e. NFPA 70 National Electrical Code, latest edition adopted by the State of Florida
 - f. NFPA 72 National Fire Alarm Code, latest edition adopted by the State of Florida
 - g. Americans with Disabilities Act - Accessibility Guidelines (ADAAG)
 - 1) Florida Building Code: Accessibility, latest edition adopted by the State of Florida

- h. Any changes or updates as required by Florida Building Code or Florida Statute 399 by time of permit application.
 - i. Any and all onsite workmen and receiving of products to site are required to follow security and safety procedures as per Miami-Dade County Department of Transportation and Public Works policies and facility regulations including the Miami-Dade Transit Construction Safety Manual and Attachments and the Miami-Dade County Department of Transportation and Public Works (DTPW) Adjacent Construction Manual.
5. Miami-Dade County Department of Transportation and Public Works has designated the Miami-Dade County Office of Elevator Safety Elevator Contracts Administrator, as the elevator consultant on this project.
- a. The Miami-Dade County Office of Elevator Safety Elevator Contracts Administrator, in accordance with ASME A17.1 Safety Code for Elevators and Escalators, Inspection and Test Requirements, may be present for and review all acceptance inspections for these elevators.
 - b. Elevator Installer in accordance with ASME A17.1 Safety Code for Elevators and Escalators, Inspection and Test Requirements, will schedule and coordinate all acceptance tests and arrange for inspection for all elevators with the Miami-Dade County Office of Elevator Safety.
 - c. Elevator contractor must notify the General Contractor, building owner and elevator consultant at least five (5) days prior to inspection advising of the date and time of all inspections and tests.
 - d. Elevator contractor shall be solely responsible for the application, securing, maintaining, completion and posting of elevator permits as per Florida Statute 399, the State of Florida Bureau of Elevator Safety /and Miami-Dade County.
 - 1) Delivery to the Owner upon completion and acceptance of elevator work, the certificate of operation.
6. All signage as required by Florida Building Code, latest applicable edition of ASME A17.1 Safety Code for Elevators and Escalators, NFPA 70 National Electrical Code and NFPA 72 Fire Alarm Code to be posted in elevator lobbies, fire alarm panels, disconnects, machine rooms and machine room doors.
7. Execute and Notarize Non-Proprietary Equipment Affidavit attachment provided.
- a. Provide letter of guarantee that any and all equipment installed shall be completely non-proprietary and shall not require the need for specialized testing or programming tools currently or in the future.
 - b. Future information for trouble shooting or adjusting shall be available to any licensed elevator maintenance contractor by the supplier of the control system at a reasonable cost comparable to cost of competitive parts within marketplace.

- c. Contractor shall provide complete schematics and wiring diagrams for control systems including information for change of program, on board diagnostics or mnemonics, or other on board switches or settings.
 - d. Any controller by a manufacturer other than specified must be approved prior to bid.
 - e. Letter stating agreement to the above compliance shall be signed by an officer of elevator contractor and shall be notarized.
 - f. Any equipment that is provided for installation which would require any specialized tool, devices, manuals, source codes, access codes, objects, passwords and/or software to input parameters, make adjustments, troubleshoot, perform diagnostics, perform testing functions or required for any other type of maintenance or repair function shall be included with the installation cost of this bid document and will become the property of the building owner.
 - 1) At the time of bid submission, this shall be identified as such on the bid document.
8. Elevator contractor is responsible for all protection both inside and outside of hoistway to all personnel inside or outside of hoistway areas.
- a. Includes providing and maintaining of protective barricades at hall entrances.
 - b. Screening of each hoistway during work
 - c. Protection from trip hazards due to storage, use of materials or drop cords.
9. Elevator contractor is to provide due care to protect building flooring and walls from excessive debris, dirt or damage due to workmen onsite.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver elevator materials, components and equipment in manufacturer's protective packaging.
- B. Protect and handle materials in accordance with manufacturer's recommendations to prevent damage, soiling, or deterioration.
- C. Elevator contractor shall be responsible for the material handling of all elevator equipment to site storage area.
 - 1. Elevator contractor will be responsible for keeping all stored materials inside storage area with lock and key.
- D. Locked and protected storage for elevator contractor's tools or materials at site is contractor's responsibility.
- E. Elevator equipment disassembled for replacement shall be stored in a dry, protected area for utilization as replacement parts, such as pump motors, drive machines and controllers, to maintain existing elevator(s) which are not yet in the modernization phase of the project.

- F. Elevator contractor shall be responsible for crane services for the placement of the equipment in the machine rooms.

1.8 PROJECT CONDITIONS

- A. Authorized elevator personnel only are responsible for temporary installed barrier panels as may be required during construction to protect the openings at elevators at each floor.
 - 1. Panels may be removed only while the authorized elevator personnel are to perform work in the immediate area of the unprotected opening.
 - 2. Authorized elevator personnel shall re-install all barriers as required to maintain the original solid and safe protection to the opening prior to leaving immediate work area of the opening.
- B. Security: Any and all onsite workmen and receiving of products to site are required to follow security and safety procedures as per OSHA and Miami-Dade County Department of Transportation and Public Works facility policies.
- C. Painting:
 - 1. Except as otherwise specified, paint all metal work provided by the elevator manufacturer and installer.
 - 2. Clean and paint machine room floors.
 - 3. Provide all ferrous metals installed in the hoistway shop primed with a rust inhibitive primer.
 - 4. Remove rust, clean, degrease and paint all installed parts or components accumulated during the construction phase.

1.9 Warranty

- A. The elevator contractor's acceptance is conditional on the understanding that their warranty covers defective material and workmanship.
 - 1. The warranty period shall extend to one (1) year from the date of completion or acceptance thereof by beneficial use; whichever is earlier, of each elevator.
 - 2. The warranty excludes ordinary wear and tear or improper use, vandalism, abuse, misuse, or neglect or any other causes beyond the control of the elevator contractor and this express warranty is in lieu of all other warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose.
 - 3. Any defective condition or workmanship not mutually agreeable as satisfactory to building owner and elevator contractor shall be determined by the independent elevator consultant as final for the replacement, repair or continued use or product or part in question.

- B. Maintenance service consisting of a minimum of bi-weekly examinations, adjustments and lubrication of the elevator equipment shall be provided by the elevator contractor for a period of twelve (12) months after the elevators have been turned over for the customer's use.
1. This service shall not be subcontracted, but shall be performed by the elevator contractor.
 2. All work shall be performed by competent employees during normal working hours between 8:00AM to 5:00PM Monday through Friday and shall include emergency 24/7 callback service.
 3. All inspections and performance of periodic safety tests for witnessing by Miami-Dade County Office of Elevator Inspectors shall be included at no charge.
 4. This service shall not cover adjustments, repairs or replacement of parts due to negligence, misuse, abuse or accidents caused by persons other than the elevator contractor.
 5. Only genuine parts and supplies as used in the manufacture and installation of the original equipment shall be provided.
 - a. Obsolescence will not be allowed.
 6. Warranty maintenance service shall start upon completion of each elevator group or facility.
 - a. Warranty service starting date shall be after completion of punch-out lists and close-out documents as agreed with building management, consultant and contractor.
- C. If not currently on County maintenance contract services, provide interim monthly maintenance rates for equipment in service during the project prior to and after the installation phase, final acceptance for public utilization and warranty maintenance service.
1. The Contractor shall not invoice for monthly maintenance on equipment taken out of service for modernization or installation.
 2. Shall include all annual inspections and performance of periodic safety tests for witnessing by Miami-Dade County Office of Elevator Safety Tests during interim maintenance period.
 3. Unless identified in prior pre-maintenance survey and accepted in the agreement, obsolesce shall not be allowed.
 4. Include wiring diagrams for existing equipment.
 5. Provide billable labor rates for helpers, mechanics and adjusters inclusive of standby services, minor and major repairs for other than normal working hours weekdays and Saturdays and Sundays and Holidays (overtime).
 6. Include material cost and externally purchased subcontracted services mark-up not greater than 20% not covered in the warranty.

7. When building management requests the contractor to perform repairs or services including inspections and testing covered in the warranty during other than normal working hours, the contractor shall invoice the facility the difference between the overtime labor rate and the normal working hourly rate.

2.1 PRODUCTS

A. ACCEPTABLE MANUFACTURER

1. Only products and components produced or provided by manufacturer(s) regularly engaged in the manufacture of elevator products, and that complies with ASME A17.1 Safety Code for Elevators and Escalators, ASME A17.2, Florida Statutes, Chapter 399, Florida Administrative Code 61C-5, all applicable sections of the Florida Building Code in its entirety, and additional requirements specified herein are acceptable.
2. Basis-of-Design Product: MEI – Total Elevator Solutions, G.A.L. GALaxy Controllers and door equipment, Innovation Industries Elevator fixtures and pushbuttons, or approved equals.
 - a. Acceptable Manufacturers
 - 1) GAL/Hollister Whitney
 - 2) Motion Control Engineering
 - 3) Virginia Controls
 - 4) Elevator Controls
 - 5) Innovation Industries
 - 6) MAD Elevator
 - 7) SmarTork
 - 8) Janus
 - 9) Maxton
 - 10) Elevator Equipment Corp.
 - 11) MEI
 - 12) IDEC Elevator Products

B. MATERIALS, GENERAL

1. Colors, patterns, and finishes: As selected by the Miami-Dade County Department of Transportation and Public Works from manufacturer's full range of standard colors, patterns, and finishes.
 - a. Steel:
 - 1) Shapes and bars: ASTM A 36

- 2) Sheet: ASTM A 366, cold-rolled steel sheet, commercial quality, Class 1, matte finish, stretcher leveled.
- 3) Finish: Factory-applied baked or powder coated enamel.

b. Stainless Steel:

- 1) Shapes and bars: ASTM A 276, Type 300 (18-8)
- 2) Tubing: ASTM A 269, Type 300 (18-8)

C. HOISTING EQUIPMENT

1. Car Sling and platform

a. Platform: Existing sling and frame shall be retained.

- 1) Inspect platform for integrity. If acceptable, retain existing platform.
 - a) Underside of the platform shall be verified for fire protection as required.
- 2) If replacement is required, utilize galvanized steel frame with Stainless Steel platform including stringers as manufactured by IDEC Elevator Products, Riviera Beach, FL, (954) 618-0770, or approved equal.
 - a) Engineered for application, load and tare
- 3) Existing platform guards (aprons) shall be removed.
 - a) New Platform Guards (Aprons) shall be installed.
 - b) The entrance side of the platform of each elevator shall be provided with a smooth metal guard plate of not less than 1.5 mm (0.059 in.) thick steel, or material of equivalent strength and stiffness, adequately reinforced and braced to the car platform.
 - c) The guard plate shall extend not less than the full width of the widest hoistway door opening.
 - d) The guard plate shall have a straight vertical face, extending below the floor surface of the platform no less than 525 mm (21 in.).

b. All channel stiles, gussets, braces, cable hitch plates, sill cutouts engineered and code compliant for each application as required.

- 1) Inspect for integrity. If acceptable, retain equipment.

c. Platform isolation if required.

2. Car Enclosures: Inspect for integrity. If acceptable retain enclosure.

- a. If replacement is required, utilize 14 gauge galvanized steel walls and dome, and glass panels be constructed of laminated glass that complies with the requirements

of 16 CFR Part 1201, Sections 1201.1 and 1201.2; as manufactured by IDEC Elevator Products, Riviera Beach, FL, (954) 618-0770, or approved equal.

- b. Provide code compliant emergency exit with safety switches.
3. Car Top Guard Railing: A standard railing conforming to ASME A17.1 Safety Code for Elevators and Escalators shall be provided 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.
- a. Mounted a maximum of 4 inches from the outside perimeter of the car top enclosure.
 - 1) Car top enclosure outside of railing shall be clearly marked
 - 2) Marking shall be alternating 100 mm (4 in.) diagonal red and white stripes.
 - b. Overhead clearance shall be sufficient to accommodate a 42 inch guard rail at the maximum upward movement with 4 inch clearance vertically and horizontally to any building structure and equipment.
 - c. If overhead clearance is not sufficient to accommodate a 42 inch guard rail with 4 inch clearance, provide collapsible guard rail per ASME A17.1-2016 requirements
4. Guide Rails: Existing guide rails shall be retained dry unlubricated steel, fastened to the building with steel brackets verified in alignment, secure to wall and brackets with surface planed smooth.
- a. Guide rails shall be cleaned and aligned as necessary for the proper performance of the elevators.
 - b. Replace steadying plates
5. Car Guides:
- a. Replace swivel slide type guides with roller guide assemblies, mounted on top and bottom of the car held in contact with the guide rail by adjustable devices.
6. Buffers: Inspect for integrity of existing spring buffers engineered and code compliant for each application.
- a. If acceptable, retain existing buffers.
 - 1) Existing buffers shall be cleaned and painted.
 - b. Replace if compromised
 - 1) Replacement buffers shall conform to the requirements of ASME A17.1 for the application.
 - c. Buffer data plates shall be maintained or replaced for code compliance with ASME 171.1.
7. Oil line: Inspect for integrity. If acceptable retain existing oil supply piping.

- a. Schedule 40 ASTM A-53 Grade B pipe shall be installed between the pumping unit and the cylinder.
 - b. Oil line fittings shall be grooved type.
 - c. Shut-off valves shall be provided in machine room.
 - d. Oil line shall be supported with an adequate number of support stands.
 - 1) Stands shall be anchored to the floor or wall and adjustable in height.
 - 2) Isolation clamps shall secure the oil line to the stand around the full 360 degree circumference.
8. Pumping unit tank: Replace
- a. The storage tank shall be constructed of steel and shall be provided with a removable cover containing a removable oil dip stick.
 - b. The pump and submersible motor shall be mounted on reinforced isolation.
 - c. The control valve shall be mounted in the discharge line above the oil level and easily accessible from the top of the tank.
9. Pumping unit: Replace
- a. The motor shall be of the submersible alternating current, squirrel cage induction type and shall be of a design adapted to electro-hydraulic requirements.
 - b. The pump shall be a positive displacement screw type to give smooth operation and shall be designed and manufactured for elevator service.
10. Pumping unit control valve, replace.
- a. Designed and manufactured by Maxton Manufacturing Company, or approved equal.
 - b. The control valve shall be manifold with up, down and check valve sections.
 - c. A control section including solenoid valves will direct the main valve and control up and down starting, transition from full speed to leveling speed, up and down stops, pressure relief and manual lowering.
 - d. Down speed and up and down leveling shall be controlled at the main valve sections.
 - e. All of these functions shall be fully adjustable for maximum smoothness and to meet contract conditions.
 - f. The manual lowering feature will permit lowering the elevator at slow speed in the event of power failure or for adjusting purposes.
11. A MEI Silencer air-bladder muffler, or approved equal, shall be provided at the control valve discharge.

12. Replace existing hydraulic fluid throughout the system including removing all debris and waste oil from old system and proper disposal from property of all waste product.
 13. Oil cooler:
 - a. Heat rejection of 18,000 BTU/hr, based on ambient temperature 40 degrees F cooler than oil out.
 - b. Mounted adjacent to pumping unit storage tank.
 - c. Single fan radiator
 - d. Adjustable thermostat control
 - e. Isolated radiator mounts
 - f. 10 micron easily changeable filter
 - g. Restriction sight glass with bypass in case of plugged filter
 - h. Hard wired 115 VAC 20 amp on separate circuit with overcurrent lockable disconnect.
 14. Provide solid state soft start starter sized as appropriate for pump motor.
- D. Automatic Terminal Limits:
1. Provide new electric terminal limits switches.
 2. Place electric limit switches in the hoistway near the terminal landings.
 3. Limit switches shall be designed to cut off the electric current and stop the car if it runs beyond either terminal landing.
- E. Automatic Self-Leveling:
1. Provide each elevator car with a self-leveling feature to automatically bring the car to the floor landings and correct for over travel or under travel.
 2. Self-leveling shall, within its zone, be automatic and independent of the operating device.
 3. The car shall be maintained level to less than 1/4" with the landing irrespective of its load.
- F. Traveling Cable:
1. Traveling cables shall terminate at numbered terminal blocks in car and machine room.
 2. Traveling cable shall be provided with separate shielded circuit wiring for communication system with coax and data cables for building security.
 - a. Coordinate requirements with security equipment installation contractor
 3. Traveling cable shall be hung to obtain proper size of loop.
 4. Traveling cable shall be hung free of all contact from hoistway or car equipment.

5. Traveling cable outer covering shall be of fire resistant and meet UL standard testing.
 6. Traveling cable shall be provided with 20 percent spare conductors for each car.
- G. Hoistway & Machine Room Wiring:
1. Provide and install wiring throughout the elevator machine room and hoistway.
 2. All wiring shall be installed in accordance with applicable NEC and latest applicable edition of ASME A17.1 codes.
 3. Hoistway door interlock wiring shall be SF-2 high heat resistance wiring.
 - a. All other new wiring shall have flame retarding and moisture resistant outer covering.
 4. Equipment grounding shall be provided.
 - a. The equipment grounding conductor will be run with the circuit conductors and shall be a copper conductor.
 - b. Ground all conductors, supports, controller enclosure, and other non-current conducting metal enclosures for electrical equipment in accordance with NEC.
 - c. The ground wires shall be solid or stranded; insulated, covered, or bare copper, sized as required by NEC.
 - 1) Individually covered or insulated equipment grounding conductors shall have a continuous outer finish that is either green or green with one or more yellow stripes.
 - 2) An insulated or covered conductor larger than 6 AWG shall be permitted, at the time of installation, to be permanently identified as an equipment grounding conductor with green marking at each end and at every point where the conductor is accessible.
 5. Hoistway travel cable and associated wiring shall be coordinated with controller manufacturer for wiring configuration requirements to match all controller wiring color coded and numbered diagrams for installation.
 6. Retain and reutilize to the maximum extent possible all ducts and conduit in machine room and hoistway.
 - a. Install new ducts and conduit as required.
- H. Pit Ladder: Pit ladder shall be compliant with latest applicable edition of ASME A17.1 code.
- I. Pit Stop Switch: Provide and install pit stop switch as required by latest applicable edition of ASME A17.1 code.
- J. Pit Light: Provide and install pit lighting as required by NEC and ASME A17.1. Installed by electrical contractor.

- K. Pit Flood Switch: Install pit flood switch assembly.

2.2 HOISTWAY ENTRANCES

A. Interlocks: Replace

1. Equip each hoistway entrance with an approved type interlock, G.A.L. or approved equal.
 - a. Tested as required by code
 - b. Including SF-2 wiring and grounding.
 - c. Interlock shall be designed to prevent operation of the car away from the landing until the doors are locked in the closed position as defined by code and shall prevent opening the doors at any landing from the corridor side unless the car is at rest at that landing or is in the leveling zone and stopping at that landing.

B. Door Hangers, Sheaves, and Tracks: Replace

1. Provide new G.A.L., or approved equal, sheave type two point yellow zinc weatherproof /galvanized suspension hangers and tracks for each hoistway sliding door.
2. Sheaves: Polyurethane tires with ball bearings properly sealed to retain grease.
3. Hangers: Provide an adjustable slide to accommodate the up-thrust of the doors.
4. Tracks: Drawn steel shapes, smooth surface and shaped to conform to the hanger sheaves.

C. Hoistway and Cab Doors:

1. Doors: Replace hoistway and cab doors.
 - a. New door close contact switch including zone locking device shall be installed.
 - b. Provide new fire rated hoistway doors and cab door for each elevator.
 - c. All hoistway and car door bottoms shall be reinforced.
 - d. Doors shall be manufactured of Stainless Steel by IDEC Elevator Products, Riviera Beach, FL, (954) 618-0770, or approved equal.
 - e. Doors shall be manufactured to include all mounting hardware requirements of the GAL door operating equipment or approved equal.
2. Hall doors finish shall be Rigidized Steel with pattern 2WL for vandalism protection.
3. Cab door finish shall be Rigidized Steel with pattern 2WL for vandalism protection.
4. Provide new SEES Enforcer door gibs, or approved equal, on all hoistway and car doors.
5. Provide fire tabs on all hoistway and car door panels

- D. Sight Guards: Replace as required. Provide sight guards as required to reduce the opening between the leading edge of the hoistway door and the car door to maintain code required clearances.
- E. Entrance Frames: Verify integrity of entrance frames.
 - 1. If entrance frames exhibit excessive corrosion, replace.
 - a. Replace all existing frames with Rigidized Steel pattern 2WL, or approved equal.
 - b. Cutting of old frames and walls not greater than 6" from existing frames for removal including installation of support sills by elevator contractor.
 - c. Blocking of new frames, and all finish masonry patching shall be by others.
 - d. Protective barriers provided and installed by elevator contractor.
 - 2. If entrance frames are retained:
 - a. Clean and remove any corrosion.
 - b. If frames are excessively scratched and dented beyond repair.
 - 1) Reclad with Rigidized Steel pattern 2WL, or approved equal.
 - 3. Replace missing and/or damaged bumpers on strike jambs
- F. Hoistway and car sills: Verify integrity
 - 1. If condition of sills is acceptable
 - a. Retain
 - b. Clean and polish
 - 2. If sills damaged beyond repair
 - a. Replace with polished nickel/silver sills
 - b. If cost effective, provide new hoistway aluminum "Sillskins" as manufactured by Archi-Tread, Inc., Kinnelon, NJ 07405, Phone: (973) 725-5738, or approved equal. (Optional)
- G. Signage:
 - 1. Provide all entrance jamb Braille/Number/Tactile Stainless Steel signs as required by the Florida Building Code Accessibility Requirements
 - 2. Provide the international symbol for emergency medical service (star of life) on both sides of hoistway door frame as required by code for each elevator with inside clearance for emergency ambulance stretcher.
 - 3. Identification of equipment: Each elevator shall be provided with an alpha-numeric sign 3 inches in height on every elevator entrance at the designated landing.

2.3 DOOR OPERATION

- A. Door Operator: Provide a direct current motor driven heavy-duty operator GAL MOVFRW, or approved equal.
 - 1. Provide NEMA 4 conduit and fittings to maintain NEMA rating
- B. Provide G.A.L., or approved equal, door close contacts and switches.
- C. Provide G.A.L., or approved equal, yellow zinc weatherproof LWZ car door clutch
- D. Provide G.A.L. door Fault Monitors or approved equal
- E. Provide G.A.L., or approved equal, car door zone restrictor.
- F. Closers: Provide SmarTork spirator door closers, or approved equal, manufactured by SmarTork, Inc., PO Box 1393, Boerne, Texas 78006, (866) 496-2355, contact@smartorkinc.com, www.smartorkinc.com.
- G. Door Protection (Door Safety Edge): Provide new door safety edge.
 - 1. New door safety edge shall be an infrared light curtain type with parallel or criss cross light beams. The beams shall project across the car opening detecting the presence of a passenger or object. If door movement is obstructed, the doors shall immediately reopen.
 - a. The light screen is to be totally immune to ambient light, including strobes, fluorescent, and direct sunlight (100,000 lux – 2D /60,000 lux -3D).
 - b. Light beam and receiver arrays to operate independent of the power supply, allowing the use of any 18 – 25VDC.
 - c. The power supply shall be dual voltage input (120-240Vac, 50/60Hz)
 - d. Provide LED indicators for power applied and relay operation, simulator test button for beam break, and push-to-test button for manual operation of master control relay.
 - e. Nudge feature to be field installable in standard power supply with accessory relay to operate in either the delayed nudge mode or redundant mode, switch selectable. Nudge feature also to incorporate buzzer with enable/disable switch and delay timer adjustable for nudge operation.
 - 2. Provide Panachrome 3D ultraslim manufactured by Janus, or approved equal, door protection door reopening devices.
 - a. Red and green indicators highlight door movement to reduce door and equipment damage
 - b. 3D projection into lobby to detect passengers or equipment

- c. 154 criss cross light beams
- d. Water and Dust Resistant

2.4 CONTROL AND LANDING SYSTEM

- A. Elevator control system shall be GALaxy IV, produced by GAL Manufacturing, Bronx, NY or approved equal.
- B. The GALaxy IV elevator controller is a computer-based system that offers superior performance, flexibility and reliability. It has been designed to save time in installation and troubleshooting.
 - 1. Passenger Elevators
 - a. Two (2) Simplex Selective Collective Automatic Operation car group
 - 1) Two (2) Openings, One (1) Front, One (1) Rear Entrances
 - 2. Hydraulic application
- C. Provide Solid State Soft Starter for pump motor assembly
 - 1. Starter to have built in reverse phase sensor with diagnostic monitoring.
- D. Microprocessor specifications:
 - 1. Hydraulic: 32 bit, 80586 CPU 133 MHz with built in floating point processor
- E. Controller Software
 - 1. Program in Compact Flashcard
- F. Dispatching
 - 1. No separate group controller – group functions are an integral part of the car controllers
 - 2. ETA based algorithm
 - 3. Up & Down Peak; Next Up
 - 4. AI based parking algorithm (intelligent parking)
- G. I/O Structure:
 - 1. Optically isolated
 - 2. Field replaceable
 - 3. LED status indicators on all input and output devices
- H. Serial Communication
 - 1. Controller to Car / COP

- a. To reduce the number of wires in a traveling cable, GALaxy controllers use a CAN serial communication channel to the car to accept car calls and car input and output functions.
- 2. Serial Hall Riser (Optional)
 - a. To reduce the number of hoistway wires, a serial CAN channel can be used for the hall call risers' wiring.
- I. Built in Diagnostic / Programming Interface
 - 1. LCD display provided on main CPU and safety processor boards
 - 2. Access to all parameters and diagnostics without a laptop or special tool
- J. Wire Labels
 - 1. Controllers are wired using harnesses that are color coded. Individual wires are marked, along their length, with their name. Proper termination is applied for each wire.
- K. Schematics
 - 1. Controller schematics are printed in color to show the actual wire size and colors. Hoistway (including traveling cable) schematics show actual wire numbers, and point-to-point connections.
- L. Job Program Transfer and Save
 - 1. GALaxy has the ability to upload and download the program file, job configuration file, and adjustment parameters to and from a laptop or removable medium. The job program file and configuration file is stored on compact flash medium and shall be removable from the controller to allow for easy update of the latest software version.
- M. User Activated Test Procedures
 - 1. The user interface has a built in, user activated, menu driven, buffer test procedure, over speed test procedure, and terminal limit test procedure.
- N. Standard and Optional Features:
 - 1. Built-in secure WiFi link
 - 2. Access Operation
 - 3. Door Motor Protection Timer
 - 4. Field Adjustable Parameters (Door Times, Lobby, etc.)
 - 5. Fire Service Phase I
 - 6. Fire Service Phase I Alternate Return
 - 7. Fire Service Phase II

8. Inspection Operation
9. On Board Diagnostic LEDs
10. On Board LCD Display Interface
11. Two Motor Protection Timers
12. Cross Assignment
13. Cross Cancellation
14. Emergency Power
15. Inter-Group Emergency Power
16. Auxiliary Battery Lowering
17. Lap Top Interface (GAL Com)
18. Remote Diagnostics
 - a. GALileo
 - 1) Remote Monitoring Capabilities are provided using the GALileo system to monitor each the bank of elevators.
 - 2) For remote monitoring the system needs to be connected to the internet and programmed with an IP address.
 - 3) All data collection, data storage and real - time monitoring is then provided by accessing the system with a web browser, no “special” software or licenses are required.
19. Security / Card Readers / Lock Out
20. Provide GFI duplex receptacle in controller

O. Selector System

1. Selector with Stainless Steel tape

2.5 Elevator Control, Signal Fixtures and Pushbuttons

A. All elevator control, signal fixtures and pushbuttons: Basis of Design

1. Innovation Industries, or approved equal, 3500 E. Main Street, Russellville, Arkansas 72802, (800) 843-1004.

B. Car Operating Panel

1. Bruiser Series, or approved equal, designed and manufactured for rugged strength and durability.
 - a. Finish: #4 brushed 304 Stainless Steel

2. Pushbuttons shall be PB 23
 - a. Finish: Copper metal finish for microbial safety protection
 - b. 1.312 inches diameter
 - c. Illuminated center jewel in red, amber, green, blue and white
 - d. Vandal resistant
 - e. Positive stop that seats on the faceplate and not a collar
 - f. Sanitary Protection: Provide touchless sensors adjacent to push buttons.
3. Multi-volt LED illumination design
4. Buttons shall illuminate to indicate call has been registered for a floor destination.
5. The panel shall consist of a series of modules, key switches or approved buttons for optimum viewing and accessibility.
6. All engraving shall be on flush mounted hairline faceplates securely mounted to the aluminum backing plate.
7. All elevator car controls shall be compliant with the latest adopted edition of the Florida Building Code: Accessibility requirements for height and location reach ranges.
8. Provide a 2" electronic segmented digital position indicator mounted in the control panel for optimum viewing.
 - a. As the car travels, its position in the hoistway shall be indicated by the illumination of the alpha/numeric character corresponding to the landing which the elevator is stopped or passing.
 - b. On one side of digital numeric indicator in the car panel will also be a matching indicator with direction of travel.
9. Audible destination signal announcing floor arrival.
10. Provide emergency lighting incorporated in Car Operating Panel.
11. Emergency Communications System: Provide a two-way emergency communications device mounted in the car station panel.
 - a. Emergency communications device shall comply with Americans with Disabilities Act (ADA).
12. Special accessories in each car station panel:
 - a. Located in Locked Service Compartment Subpanel w/ Clear Certificate Window
 - 1) Light key switch.
 - 2) Fan key switch.
 - 3) Independent Operation Keyed Switch

- 4) Inspection key switch (if required)
 - 5) Access Keyed Switch (if required)
 - 6) Emergency Light Test Button
 - 7) GFI duplex receptacle
 - b. Keyed stop switch
13. Fire Fighters Phase II Service:
- a. The "FIRE OPERATION" switch, the "CALL CANCEL" button, the "STOP" switch, the door open button(s), the door close button(s), the additional visual signal, and the operating instructions shall be grouped together at the top of the main car operating panel behind a locked cover.
 - b. The firefighters' operation panel cover shall be openable by the same key that operates the "FIRE OPERATION" switch.
 - 1) The cover shall be permitted to open automatically when the car is on Phase I Emergency Recall Operation and at the recall level.
 - 2) When the key is in the "FIRE OPERATION" switch, the cover shall not be capable of being closed.
 - 3) When closed, the cover shall be self-locking.
 - 4) The front of the cover shall contain the words "FIREFIGHTERS' OPERATION" in red letters at least 0.4 in. high.
 - c. The designated fire key is: FEOK1
14. Car operating panels shall swing open with the hinged side closest to the sidewall.

C. HALL STATIONS

- 1. Bruiser Series NEMA 4X Florida Package, or approved equal, designed and manufactured for rugged strength and durability.
 - a. Finish: #4 brushed 316 Stainless Steel
 - b. Conformal coated electrical devices
 - c. Gasketed rough-in box
 - d. Self sealing screws
 - e. UL NEMA 4X rating
 - f. Provide NEMA 4 conduit and fittings to maintain NEMA rating
- 2. Pushbuttons shall be PB 46
 - a. Finish: Copper metal finish for microbial safety protection

- b. 1.302 inches diameter
 - c. Illuminated center jewel in red, amber, green, blue and white
 - d. Vandal resistant
 - e. Sealed pushbutton with neoprene gasket
 - f. Positive stop that seats on the faceplate and not a collar
 - g. Sanitary Protection: Provide touchless sensors adjacent to push buttons.
3. Multi-volt LED illumination design
 4. Buttons shall illuminate to indicate call has been registered at that floor for the indicated direction.
 5. Risers: Risers shall include 1 for elevator front
 6. Installation shall be flush mount.
 7. Each terminal station shall contain one illuminating push button and other applicable accessories including hoistway access switches.
 8. Each intermediate station shall consist of two illuminating push buttons, one for the up direction and one for the down position.
 9. Phase I firefighter's service key switch, with instructions, shall be incorporated into the hall station at the designated level.
 - a. Fire Service instructions as per ASME A17.1, shall be engraved in the main floor hall station panel.
 10. Phone Line Verification
 - a. An audible signal will be provided with a lighted jewel signal labeled "ELEVATOR COMMUNICATIONS FAILURE" in red letters 5mm (.25in) in height activated when the telephone line is not functional.
 - b. The visual signal with a key switch to silence the audible signal shall be incorporated in the designated level hall station.
 11. In case of fire, use stair signs shall be engraved into each hall station panel with exact signage as per the Florida Building Code.
 12. Emergency Generator:
 - a. Emergency key (Regional Fire Key & Switch Required), operated selector switches, including lighted jewel indicators shall be provided at the main floor panel with proper engraved signage as required.
 - b. If an emergency key operated selector switch is not required, a lighted jewel indicator for emergency generator elevator power shall be provided with proper engraved signage as required

D. HALL LANTERN AND POSITION INDICATOR

1. Directional Lanterns with Digital Position Indicators
2. Surface NEMA 4x Florida Package mounted above all elevator entrances
 - a. Finish: #4 brushed 316 Stainless Steel 11GA Faceplate
 - b. Conformal coated electrical devices
 - c. Gasketed rough-in box
 - d. Self sealing screws
 - e. UL NEMA 4X rating
 - f. Provide NEMA 4 conduit and fittings to maintain NEMA rating
3. Directional arrows signal travel direction upon arrival at each landing
 - a. Vandal Proof epoxy filled jewels
 - b. At terminal landings, dual arrows in the same direction of travel
4. Digital Position Indicators signal car direction of travel and location in hoistway
 - a. 2 inch alpha-numeric display
 - b. UP/Down directional arrow display

2.6 CAR TOP INSPECTION STATION

- A. Provide car top inspection stations with an "emergency stop" switch and constant pressure "up-down" direction buttons to make the normal operating devices inoperative and give the inspector complete control of the elevator.
1. "Stop switch shall be permanently located on the car top and readily accessible to a person, while standing at the hoistway entrance normally used for access to the car top."
 2. A "transfer switch shall be located on the car top and shall be so designed as to prevent accidental transfer from the "INSPECTION" to "NORMAL" position."
 3. "A separate device of the continuous-pressure type labeled "ENABLE" shall be provided adjacent to the inspection operating devices."
 4. "Inspection operating devices shall become effective only when the "ENABLE" device is activated."
 5. Include lighting and a GFI duplex receptacle fixture on the car top.
 - a. "The lighting shall be permanently connected, fixed, or portable, or a combination thereof, to provide an illumination level of not less than 100 lx (10 fc) measured at the point of any elevator part or equipment, where maintenance or inspection is to be performed from the car top. All lighting shall be equipped with guards. The light switch shall be accessible from the landing when accessing the car top."

- 6. Car Top Inspection device shall be compliant with the latest edition of ASME A17.1.
- 2.7 ELEVATOR CAB INTERIOR as manufactured and installed by IDEC Elevator Products, Riviera Beach, FL (954) 618-0770 or approved equal.
 - A. Re-clad Front, Transom and Side Returns with Rigidized Steel pattern 2WL.
 - B. Side and Rear Walls
 - 1. All wall to wall connections shall be Stainless Steel rounded radius corners for easier cleaning
 - 2. Rigidized Steel 2WL, or approved equal.
 - 3. Glass panels constructed of laminated glass that complies with the requirements of 16 CFR Part 1201, Sections 1201.1 and 1201.2.
 - C. Handrails
 - 1. Furnish and install 3/8" x 2" solid Stainless Steel handrails on side and back walls
 - a. Handrail ends returning to walls
 - D. Ceiling
 - 1. Furnish and cover ceiling with plastic laminate
 - E. Lighting
 - 1. Furnish and install LED cove lighting at the top of the side walls
 - F. Flooring
 - 1. Aluminum Diamond Plate
 - 2. Tub design with rounded radius base for floor to wall connections.
 - G. Ventilation
 - 1. Sanitary Protection: Provide sterilization and purification air intake fan distributed by ECS, Corporation, ecsparts.com, or approved equal, securely mounted in ceiling.
 - a. Fan shall include UV-C lamp and ion generator
 - 2. Provide auxiliary battery back-up ventilation fan for or observation elevator car enclosure.
 - H. Car top escape panels shall have switch assemblies including all wiring to install proper safety circuit as required by ASME A17.1
- 3.1 EXECUTION
 - A. Examination:

1. Coordinate all site conditions with General Contractor and other building trades.
 2. Inspect hoistway, hoistway openings, pits and machine room, as constructed.
 3. Verify all critical dimensions, and examine supporting structures and all other conditions under which elevator work is to be installed.
 4. Do not proceed with elevator installation until unsatisfactory conditions have been corrected in a manner acceptable to the installer.
 5. Commencement of installation constitutes acceptance of existing conditions and responsibility for satisfactory performance.
 6. Elevator contractor shall coordinate crane services for placement of the equipment in the machine rooms with General Contractor.
- B. Elevator contractor shall be responsible for screening and protection of hoistway door openings and protection between elevators in hoistway.
- C. Signage:
1. The designated project manager and the owner's representative will approve all signage in order to maintain consistent appearance for entire elevator installation.
 2. All signage as required by Florida Building Code, ASME A17.1, NFPA 70 National Electrical Code and NFPA 72 Fire Alarm Code to be posted in elevator lobbies, fire alarm panels, disconnects, machine rooms and machine room doors.
- D. Installation:
1. Install elevator systems components and coordinate repairs of hoistway wall construction.
 2. Competent licensed elevator installation personnel in accordance with Florida Statute 399 and ASME A17.1 manufacturer's installation instructions and approved shop drawings shall perform work.
 3. Comply with the National Electrical Code for electrical work required during installation.
 4. Perform work with competent, skilled workmen under the direct control and supervision of the elevator manufacturer's experienced foreman.
 5. Supply in ample time for installation by other trades, inserts, anchors, bearing plates, brackets, supports, and bracing including all setting templates and diagrams for placement.
 6. Welded construction: Provide welded connections for installation of elevator work where bolted connections are not required for subsequent removal or for normal operation, adjustment, inspection, maintenance, and replacement of worn Parts.
 - a. Comply with AWS B2.1 Standard Welding Procedure and Performance Qualification.

7. Coordination: Coordinate elevator work with the work of other trades, for proper time and sequence to avoid construction delays.
 - a. Use benchmarks, lines, and levels designated by the Contractor, to ensure dimensional coordination of the work.
 8. Install machinery, guides, controls, car and all equipment and accessories to provide a quiet, smoothly operating installation, free from side sway, oscillation or vibration.
 9. Sound isolation: Mount rotating and vibrating elevator equipment and components on vibration-absorption mounts, designed to effectively prevent the transmission of vibrations to the structure, and eliminate sources of structure-borne noise from the elevator system.
 10. Lubricate operating parts of system, including ropes, as recommended by the manufacturer.
 11. Elevator contractor shall be required to install all data plates as required by ASME A17.1 on complete elevator system including alteration and original equipment.
 - a. All data plates shall be manufactured and printed with proper data for each elevator by CodeDataPlate.com or approved equal.
- E. Field Quality Control:
1. Acceptance testing: Upon completion of the elevator modernization and before permitting use of elevator, perform acceptance tests as required by the State of Florida and recommended by Code and governing regulations or agencies.
 - a. Perform other tests, if any, as required by governing regulations or agencies.
 2. Advise Owner, Elevator Consultant, and governing authorities in advance as required of dates and times tests are to be performed on the elevator.
- F. Adjusting:
1. Make necessary adjustments of operating devices and equipment to ensure elevator operates smoothly and accurately.
 2. The elevator contractor shall be required to perform and pass all required testing of all equipment as per ASME A17.1 and ASME A17.2.
 3. Elevator contractor is to return at 30 days, 90 days and 180 days after final installation to examine and re-adjust equipment as may be required for optimum performance.
- G. Cleaning:
1. Before final acceptance, remove protection from finished surfaces and clean and polish surfaces in accordance with manufacturer's recommendations for type of material and finish provided.

2. For duration and/or completion of elevator work, remove tools, equipment, and surplus materials from site daily.
3. Clean equipment rooms and hoistway.
4. Remove trash and debris daily from premises.

H. Protection:

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

I. Demonstration:

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

J. Elevator Consultant's Punch-out List Items:

1. Complete all of the consultant's punch-out list items as may be required.
2. The elevator consultant shall provide a review and written punch list of deficiencies.
3. The elevator consultant shall verify one time that the items from the punch list are completed after notice by the elevator contractor.

END OF SECTION

ATTACHMENT F

HYDRAULIC ELEVATORS SPECIFICATIONS (DADELAND NORTH METRORAIL STATION)

1.1 SUMMARY

- A. Modernization of Hydraulic Passenger Elevators for the Miami-Dade County Department of Transportation and Public Works, Dadeland North Metrorail Station. 8320 S. Dixie HWY, Miami, FL 33143.
- B. Including all engineering, equipment, labor, machines, control systems, devices and accessories as required for safely operating the specified elevators.
 - 1. Commercial, hydraulic passenger elevators.
 - a. One (1) Passenger Elevator
 - 1) One (1) Simplex Group
 - 2) SS# 72631
 - 2. Installation of all hoistway equipment.
 - 3. Elevator car and hoistway signal equipment.
 - 4. Operation and control systems.
 - 5. Accessibility provisions for physically disabled persons.
- C. Delivery, staging, and hoisting of new equipment.
- D. Materials and accessories as required for completing the elevator installations.
- E. Hoistway, pit and machine room barricades for safety as required.
- F. Required hoisting, hoisting permits and traffic coordination and/or permits with local jurisdictions and the State of Florida as required.
- G. Required permits and coordination and/or permits with local jurisdictions, Office of Elevator Safety and the State of Florida as required.

1.2 Related Scopes of Work by Others - Including but not limited to the following

- A. Machine room HVAC as required, to maintain temperature and humidity to between 55° F and 90° F with relative humidity of not more than 85% non-condensing.
 - 1. The elevator contractor shall provide actual calculations for total anticipated heat loads generated by all elevator machine room equipment.
 - 2. Machine room HVAC must be positioned as approved by the elevator contractor and consultant.
 - 3. There shall be no drain lines or condensation allowing water in the machine room.

4. HVAC system is required to have an electrical disconnect lockable in the off position with proper safety labels including identifying source of power and purpose.
 5. Remote systems shall have a proper thermostat inside the machine room.
 6. The air conditioning systems shall be additionally connected and powered by emergency generator power as required.
- B. Electrical Contractor shall furnish and install all electrical equipment for hoistway and machine room including HVAC, lighting, GFCI receptacles and electrical disconnects, as required by NFPA 70 National Electrical Code and ASME A17.1 Safety Code for Elevators and Escalators.
1. All Electrical work must be coordinated and scheduled with General Contractor, Elevator Contractor and Elevator Consultant.
 2. Elevators shall be removed from service while electrical trades are working in same or adjacent hoistways or machine rooms.
 3. Provide electrical service to main disconnect in elevator machine room; electrical power for elevator installation and testing; electrical service for machine room; machine room and pit receptacles with ground-fault current protection; lighting in machine room and pit; wiring for telephone service to machine room.
 4. Install new lockable disconnects with overcurrent protection for elevator main line power as per NEC.
 - a. Disconnect to be verified for appropriate size and type for power requirements of elevator equipment prior to installation.
 - b. Elevator systems with auxiliary power lowering operation shall be provided with an auxiliary contact that is positively opened mechanically, and the opening shall not be solely dependent on springs.
 - 1) The contact shall cause the additional power source to be disconnected from its load when the disconnecting means is in the open position.
 - c. Provide surge protection.
 5. Provide replacement electric wiring from disconnect switches to the new elevator controllers with feeder leads for connection to terminals by the elevator contractor, inclusive of a normal 120 VAC, 15 AMP supply at each controller.
 6. Minimum lighting in machine room and overhead hoistway equipment space shall be 19 ft-c.
 7. Minimum lighting in hoistway pit and top of car shall be shall be 10 ft-c.
 8. All electrical systems shall include proper earth grounding and bonding as required by elevator manufacturer and NEC.

- a. Provide continuous earth ground to mainline disconnects and controllers.
- 9. Provide lockable disconnect switches with overcurrent protection to air conditioner installed in each machine room.
- 10. Provide lockable disconnect switches with overcurrent protection to oil cooler for each elevator in machine room as per NEC.
- 11. Provide GFCI receptacles in machine rooms and hoistways as required by NFPA 70 NEC.
- 12. Provide a single non-GFCI receptacle for each sump in each elevator hoistway.
- 13. Provide and install pit lighting and machine room lighting as per NEC with enclosed and protected lamps.
- 14. Pit receptacles, with GFCI protection shall be installed in NEMA 4 devices where placed within 4'-0" of pit floor.
 - a. All electrical equipment including conduit, fitting, junction boxes, portable cabling shall be NEMA 4 rated.
 - b. Care must be taken not to place equipment in line with elevator equipment.
- 15. Provide and install lockable disconnect switch with overcurrent protection in each machine room for each elevator cab lighting system as per NEC.
- 16. Provide and install new pit lighting switches and emergency stop switches.
 - a. Light switch shall be accessible from pit access door.
 - b. Emergency stop switches shall be installed approximately 18" above first floor landing adjacent to opening and located at side of each pit access door.
- 17. All lighting fixtures in machine rooms, elevator cars and on top of car to be suitably guarded in accordance with ASME A17.1 Safety Code for Elevators and Escalators, clearance requirements and NFPA 70 NEC requirements for guarding.
- 18. All disconnects shall be labeled according to NFPA 70 NEC including source of power, State of Florida Serial Numbers, Elevator Number and all required warning signs.
- 19. Lighting shall be installed at roof top machine room access stair and door areas.
- 20. Install shunt trip breakers outside of machine rooms for feeder to each mainline disconnect for removal of power by NFPA 70 NEC and NFPA 72 if installation of sprinklers in machine rooms or hoistways is required by the Florida Building Code.
 - a. Shunt trip shall be activated by heat detectors installed by others.
- 21. Provide conduit and data wiring for elevator car two-way communication devices, remote monitoring, security systems, lobby phones and/or fire command center elevator status panel phones.

22. Provide network connections for all required connections to the internet for remote monitoring, card readers, cameras and communication equipment requiring IP addresses.
 23. Provide conduit and control circuit wiring from controller to Automatic Transfer Switch for alternate emergency standby generator.
 24. Provide recommended amount of separate duplex receptacles per elevator as required for security equipment and cameras.
- C. Emergency generator configuration, installation, wiring including conduit to elevator controller, repair, transfer switches including elevator selector options, pre-signal wiring connections and/or testing with standby or emergency power systems shall be coordinated and completed by emergency generator service contractor.
1. Emergency generator personnel shall demonstrate system and tests at completion of each elevator for inspection as required by the Florida Building Code, Florida Statute 399 and ASME A17.1.
 2. Generator contractor shall provide contacts in automatic transfer switch for signals and transfer of power to elevator controllers when building is transferred to and from emergency standby power and normal power source.
- D. Fire Alarm including heat and smoke sensing devices as per NFPA 70 National Electrical Code and NFPA 72 National Fire Alarm Code.
1. Provide connections for fire recall devices to the elevator controllers in machine room.
 - a. For each elevator within the building, a minimum of three separate elevator control circuits shall be terminated at the designated elevator controller within each elevator machine room in accordance with NFPA 72.
 - b. Operation of the elevators shall be in accordance with Section 2.27 of ASME A17.1 Safety Code for Elevators and Escalators.
 - c. The smoke detectors or other automatic fire detection as permitted by NFPA 72, shall actuate the elevator control circuits as detailed in NFPA 72.
 2. Fire alarm contractor shall demonstrate at time of elevator inspection, compliance and testing of all alarm initiating devices as required by ASME A17.1 Safety Code for Elevators and Escalators, ASME A17.2 and NFPA 72 National Fire Alarm Code.
 3. Install heat detectors within 24" of sprinklers installed in machine rooms or hoistways including wiring and conduit to shunt trip breaker as installed by electrical contractor.
 - a. Heat detectors for sprinklers in pit shall activate Fire Recall.
 4. Installation of fire alarm system and devices shall conform to ASME A17.1 Safety Code for Elevators and Escalators and NFPA 72 including NFPA 70 NEC.

- E. Sprinklers: Any required sprinkler work must be coordinated with elevator contractor to insure non-interference with any elevator equipment and must be compliant with NFPA 13, NFPA 72 and the Florida Building Code.
1. If sprinkler head(s) are located in the machine room or hoistway, it will be required to install a heat detector within 24" of each sprinkler in order to automatically disconnect the main line power supply to the affected elevator(s) upon or prior to the application of water, in accordance with ASME A17.1 Safety Code for Elevators and Escalators and NFPA 72 National Fire Alarm Code.
- F. Telephone and Data Lines:
1. A dedicated telephone line is required for each elevator.
 2. Provide dedicated telephone lines and wiring to elevator controllers for telephone system including all wiring in machine room shall be installed inside conduit as per NFPA 70 NEC.
 3. All emergency telephone devices shall include a minimum of 4 hours emergency backup power including power from emergency generator if supplied.
 4. Provide network data line for remote monitoring of controller.
- G. Building general construction conditions, cleaning and painting of miscellaneous surfaces: The elevator contractor shall not be responsible for all work as detailed in this section.
1. All construction, cleaning and painting other than equipment directly supplied by the elevator contractor shall be performed by others.
 2. Provide 2 hour fire rated machine room enclosure.
 3. Proper installation of 1 ½ hour "B-Label" door to machine room to include self-closing and self-locking requirements.
 - a. Machine room warning signs "Danger Authorized Personnel Only" shall be provided on each machine room door as required by NFPA 70 NEC.
 4. Provide metal stairway and access landing including guard rail to machine room for roof top and interior multi-level machine room access.
 - a. Stairway shall comply with the Florida Building Code and ASME A17.1.
 5. Provide Class ABC Fire Extinguisher in machine room permanently mounted and conveniently located to the access door as required by ASME A17.1 Safety Code for Elevators and Escalators.
 6. Provide protection of all pipes, wiring, conduit, duct and openings in machine rooms and hoistways to maintain a 2 hour fire rating.

7. All foreign pipes, wiring or conduit not in use or directly related to the elevator system shall not be installed in machine rooms and hoistways.
 - a. Existing foreign piping, wiring and/or conduit not in use or directly related to elevator shall be removed or enclosed as required by code.
8. All projections or recesses in walls of hoistway greater than 4" shall be beveled not less than 70 degrees with sheet metal not less than 16 gauge.
9. All holes and openings in hoistway shall be patched and protected to maintain the fire rating of the enclosure including conduit, piping and other equipment passing through exterior walls.
10. Hoistway Venting:
 - a. Existing Interior Hoistways
 - 1) Vents on exterior walls which are not pressurized and are not subject to require pressurization shall be provided with motorized dampers that are capable of being automatically closed during normal building operation and are interlocked to be opened by fire and smoke detection systems.
 - 2) The damper shall power close under normal operation and spring open in the event of a power failure or fire alarm signal.
 - a) Provide a separate exterior vent assembly with a goose neck hood and stationary louvers at the exterior entrance of the hood to protect the interior motorized vent system and hoistway.
 - 3) Provide a separate exterior vent assembly with a goose neck hood and stationary louvers at the exterior entrance of the hood to protect the interior vent system and hoistway.
 - b. Existing venting of the hoistway through the machine room shall be closed and protected to maintain the 2 hour fire rating enclosure.
11. Sumps and Sump Pumps: Elevators with Fire Service Operation shall have drains or sump pumps as required by ASME A17.1 Safety Code for Elevators and Escalators, including the Florida Building Code.
 - a. The pump shall be manufactured by Stancor, or approved equal, as determined by the elevator consultant, and shall include oil monitoring .
 - b. The sump shall be a minimum of 18 inches in diameter and 24 inches in depth.
 - c. The sump cover shall be removable and flush to pit floor.
 - d. The Sump pump shall have an output of 3000 gallons per hour at the head per elevator.

- e. The sump pump electrical cord shall be 6 foot or less.
 - f. Provide monitoring with alarm located outside hoistway.
12. Clean and paint machine room finished walls and floors.
- a. All cleaning or painting work that produces any vapors or fumes shall be performed during normal business work hours or after normal business hours as requested by building manager or representative.
 - 1) Work of this nature must be scheduled and coordinated five (5) days prior to execution of work.
 - b. The procedures proposed for the accomplishment of the work shall provide for safe conduct of the work, careful removal and disposition of materials specified to be salvaged, protection of property, which is to remain undisturbed, and coordination with other work in progress.
 - 1) The work plan shall include a Safety and Health plan describing procedures for handling monitoring, and disposition of Volatile Organic Compounds "VOCs" and other hazardous and toxic materials.
 - 2) The procedures shall include a detailed description of the methods and equipment to be used for each operation, and the sequence of operations.
 - c. All paint products and application method must be approved prior to application by owner or owner's agent.
 - 1) Paint products and application methods are to be equal or better than existing product applicable with matching color as approved by owner.
 - d. All products of paint, thinners or cleaning agents must be approved prior to use for VOC's or any additional health concerns.
 - e. Interior work zones having a volume of 1,000 cubic feet or less shall be ventilated at a minimum of 2 air exchanges per hour.
 - 1) Ventilation in larger work zones shall be maintained by means of mechanical exhaust.
 - 2) Solvent vapors shall be exhausted outdoors, away from air intakes, building occupants and workers.
 - 3) Building air conditioning return air inlets in the work zone shall be temporarily sealed before start of work until the prepared surfaces have dried and are free of odor.
 - 4) Operators and personnel in the vicinity of paint removal processes involving chemicals or mechanical action (sanding or blasting) shall wear respirators.

- H. Security system compliant with current facility requirements
 - 1. Coordinate installation of security in-car keypads or card readers and security cameras with building owner and the facility's subcontractor.
 - 2. Provide proper software and hardware for integration of security system with elevator controllers.
 - 3. Assure traveling cable includes the proper shielded, data and coaxial conductors.
 - 4. Provide power sources as required for security systems including in-car security cameras.
- I. Each contractor will be required to provide any cutting, patching including painting to match existing finishes of building.

1.3 CODE AND STANDARD REFERENCES

- 1. Comply with all current applicable state statutes, administrative rules, building codes and elevator codes at the project site required at the time of permitting, including but not limited to the following:
 - a. Florida Statutes 399
 - b. Florida Administrative Code 61C-5
 - c. Florida Building Code
 - d. ASME A17.1 Safety Code for Elevators and Escalators
 - e. ASME A17.2 Guide for Inspection of Elevators and Escalators
 - f. ADAAG, Americans with Disabilities Act Accessibility Guidelines
 - g. NFPA 13, Sprinkler Systems
 - h. NFPA 70, National Electrical Code
 - i. NFPA 80, Fire Doors and Windows
 - j. ANSI/UL 10B, Fire Tests of Door Assemblies
 - k. NFPA 72, National Fire Alarm Code
 - l. NFPA 101 Florida Edition
 - m. O.S.H.A. Requirements for construction
 - n. Elevator Industry Field Employees' Safety Handbook
 - o. Miami-Dade Transit Construction Safety Manual and Attachments
 - p. Miami-Dade County Department of Transportation and Public Works (DTPW) Adjacent Construction Manual

1.4 ELEVATOR SYSTEM DESCRIPTIONS

A. Elevator System, General: Manufacturer's standard elevator systems.

1. Unless otherwise indicated, manufacturers' standard components shall be used, as included in standard elevator systems and as required for complete system.

B. Elevator Arrangement

1. Elevator shall be numbered as viewed from lobby facing the elevators from left to right in main lobby with alpha-numeric designations.
 - a. Keep current elevator alpha-numeric designations.
2. Specific requirements for the specific elevator or component shall be designated as such and shall not apply to other elevators in the building.
3. Specifications for elevators include minimum requirements of all elevators and it shall be the responsibility of the contractor to complete all work to code compliance.
4. Insert a different number for each group of elevators that share a group operation system

C. Elevator Systems

1. Passenger Elevators:
 - a. Quantity: One (1) Simplex Group
 - 1) Designated as Elevator #1
 - 2) SS# 72631
 - b. Type: Commercial holed in-ground hydraulic passenger.
 - c. Machine Location:
 - 1) Basement, field verify.
 - d. Number of Stops:
 - 1) Two (2)
 - e. Number of Openings:
 - 1) Two (2), One (1) Front Entrances, One (1) Rear Entrance, field verify.
 - f. Travel rise:
 - 1) Field verify
 - g. Rated Capacity:
 - 1) 3500lbs

- h. Rated Speed:
 - 1) Field verify
- i. Car Enclosure Inside Dimensions:
 - 1) Field verify
- j. Entrance Dimensions and Type:
 - 1) Width 36 inches x Height 84 inches, Center Opening, field verify
- 2. Main Power Supply: Existing 240 Volts + or - 5% of normal, 3 Phase, 60 Cycle with a separate equipment grounding conductor. Contractors shall field verify.
- 3. Lighting Power Supply: 120 Volts, 1 Phase, 15 Amp, 60 Hz.
- 4. Stopping Accuracy: $\pm 1/4"$ under any loading condition or direction of travel.
- 5. Door operating equipment shall be labeled with maximum door speed so that Kinetic Energy shall not be above 7.37 ft-lbf. As measured by ASME A17.1-2016 Safety Code for Elevators and Escalators.
- 6. Car Operation:
 - a. Provide a Simplex Selective Collective microprocessor-based controller for elevators #1, the operation shall be automatic by means of the car and hall buttons.
- 7. Provide microprocessor-based Simplex Selective Collective automatic operation control system, which utilizes on-board diagnostics for servicing, trouble-shooting, and adjusting without requiring the use of an outside service tool.

1.5 Submittals

- A. Product data: Submit product data for the following:
 - 1. Elevator car and hoistway fixtures.
 - 2. Operation, control, and signal systems.
 - 3. Drive, motor, machine and all major components of system.
- B. Shop drawings:
 - 1. Show equipment arrangement in the machine room, pit and hoistway. Provide plans, elevations, sections and details of assembly, erection, anchorage, and equipment location as required.
 - 2. Indicate elevator system capacities, sizes, performances, safety features, finishes and other pertinent information.

3. Show floors served, existing travel distances, maximum loads imposed on the building structure at points of support and all similar considerations of the elevator work.
 4. Indicate electrical power requirements and branch circuit protection device recommendations and locations.
- C. Certificates: Inspection and acceptance certificates of elevator system installation.
- D. Operation and maintenance data. Include the following:
1. Operation and maintenance instructions.
 2. Parts list, with recommended parts inventory.
 3. Wiring diagrams for control system including any in field modifications.
 4. Copy of field pull sheet wiring as built notes. Pull sheets to include wire numbers and colors.

1.6 QUALITY ASSURANCE

- A. Elevator Contractor Qualifications:
1. Elevator Contractor shall provide pre-engineered elevator system components by manufacturer(s) regularly engaged in the manufacture of elevator systems.
 - a. Compliance with ASME A17.1 Safety Code for Elevators and Escalators, Florida Statutes, Chapter 399, Florida Administrative Code 61C-5, all applicable sections of the Florida Building Code, and additional requirements specified herein.
 - b. The elevator contractor shall have a documented, on-going quality assurance program.
 - c. Contractor shall have a mechanical or electrical engineer on staff for County critical elevators.
 2. Installer Qualifications: The manufacturer or an authorized agent of the manufacturer with not less than ten years of satisfactory experience installing elevators equal in character and performance to the project elevators.
 - a. All mechanics employed to work onsite must have a valid Certificate of Competency issued by State of Florida Bureau of Elevator Safety.
 - b. There shall not be allowed onsite more than one helper or unlicensed assistant per onsite licensed mechanic.
 3. Permits and Inspections: Apply, secure and pay for all required State of Florida and Miami-Dade County Office of Elevator Safety and applicable building code permits, tests

and fees as required by Florida Administrative Code 61C-5 for Alteration Permits, and local jurisdiction permits.

- a. Elevator contractor is responsible for proper posting of all required licenses, permits and safety documentation.

4. Regulatory Requirements:

- a. ASME A17.1-2016 or more stringent edition adopted by the State of Florida
- b. Florida Building Code, latest edition adopted by the State of Florida
- c. Current Florida Statute 399 and 553
- d. NFPA 13 Standard for the Installation of Sprinkler Systems, latest edition adopted by the State of Florida
- e. NFPA 70 National Electrical Code, latest edition adopted by the State of Florida
- f. NFPA 72 National Fire Alarm Code, latest edition adopted by the State of Florida
- g. Americans with Disabilities Act - Accessibility Guidelines (ADAAG)
 - 1) Florida Building Code: Accessibility, latest edition adopted by the State of Florida
- h. Any changes or updates as required by Florida Building Code or Florida Statute 399 by time of permit application.
- i. Any and all onsite workmen and receiving of products to site are required to follow security and safety procedures as per Miami-Dade County Department of Transportation and Public Works policies and facility regulations including the Miami-Dade Transit Construction Safety Manual and Attachments and the Miami-Dade County Department of Transportation and Public Works (DTPW) Adjacent Construction Manual.

5. Miami-Dade County Department of Transportation and Public Works has designated the Miami-Dade County Office of Elevator Safety Elevator Contracts Administrator, as the elevator consultant on this project.

- a. The Miami-Dade County Office of Elevator Safety Elevator Contracts Administrator, in accordance with ASME A17.1 Safety Code for Elevators and Escalators, Inspection and Test Requirements, may be present for and review all acceptance inspections for these elevators.
- b. Elevator Installer in accordance with ASME A17.1 Safety Code for Elevators and Escalators, Inspection and Test Requirements, will schedule and coordinate all acceptance tests and arrange for inspection for all elevators with the Miami-Dade County Office of Elevator Safety.

- c. Elevator contractor must notify the General Contractor, building owner and elevator consultant at least five (5) days prior to inspection advising of the date and time of all inspections and tests.
 - d. Elevator contractor shall be solely responsible for the application, securing, maintaining, completion and posting of elevator permits as per Florida Statute 399, the State of Florida Bureau of Elevator Safety /and Miami-Dade County.
 - 1) Delivery to the Owner upon completion and acceptance of elevator work, the certificate of operation.
- 6. All signage as required by Florida Building Code, latest applicable edition of ASME A17.1 Safety Code for Elevators and Escalators, NFPA 70 National Electrical Code and NFPA 72 Fire Alarm Code to be posted in elevator lobbies, fire alarm panels, disconnects, machine rooms and machine room doors.
- 7. Execute and Notarize Non-Proprietary Equipment Affidavit attachment provided.
 - a. Provide letter of guarantee that any and all equipment installed shall be completely non-proprietary and shall not require the need for specialized testing or programming tools currently or in the future.
 - b. Future information for trouble shooting or adjusting shall be available to any licensed elevator maintenance contractor by the supplier of the control system at a reasonable cost comparable to cost of competitive parts within marketplace.
 - c. Contractor shall provide complete schematics and wiring diagrams for control systems including information for change of program, on board diagnostics or mnemonics, or other on board switches or settings.
 - d. Any controller by a manufacturer other than specified must be approved prior to bid.
 - e. Letter stating agreement to the above compliance shall be signed by an officer of elevator contractor and shall be notarized.
 - f. Any equipment that is provided for installation which would require any specialized tool, devices, manuals, source codes, access codes, objects, passwords and/or software to input parameters, make adjustments, troubleshoot, perform diagnostics, perform testing functions or required for any other type of maintenance or repair function shall be included with the installation cost of this bid document and will become the property of the building owner.
 - 1) At the time of bid submission, this shall be identified as such on the bid document.
- 8. Elevator contractor is responsible for all protection both inside and outside of hoistway to all personnel inside or outside of hoistway areas.

- a. Includes providing and maintaining of protective barricades at hall entrances.
 - b. Screening of each hoistway during work
 - c. Protection from trip hazards due to storage, use of materials or drop cords.
9. Elevator contractor is to provide due care to protect building flooring and walls from excessive debris, dirt or damage due to workmen onsite.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver elevator materials, components and equipment in manufacturer's protective packaging.
- B. Protect and handle materials in accordance with manufacturer's recommendations to prevent damage, soiling, or deterioration.
- C. Elevator contractor shall be responsible for the material handling of all elevator equipment to site storage area.
 - 1. Elevator contractor will be responsible for keeping all stored materials inside storage area with lock and key.
- D. Locked and protected storage for elevator contractor's tools or materials at site is contractor's responsibility.
- E. Elevator equipment disassembled for replacement shall be stored in a dry, protected area for utilization as replacement parts, such as pump motors, drive machines and controllers, to maintain existing elevator(s) which are not yet in the modernization phase of the project.
- F. Elevator contractor shall be responsible for crane services for the placement of the equipment in the machine rooms.

1.8 PROJECT CONDITIONS

- A. Authorized elevator personnel only are responsible for temporary installed barrier panels as may be required during construction to protect the openings at elevators at each floor.
 - 1. Panels may be removed only while the authorized elevator personnel are to perform work in the immediate area of the unprotected opening.
 - 2. Authorized elevator personnel shall re-install all barriers as required to maintain the original solid and safe protection to the opening prior to leaving immediate work area of the opening.
- B. Security: Any and all onsite workmen and receiving of products to site are required to follow security and safety procedures as per OSHA and Miami-Dade County Department of Transportation and Public Works facility policies.

C. Painting:

1. Except as otherwise specified, paint all metal work provided by the elevator manufacturer and installer.
2. Clean and paint machine room floors.
3. Provide all ferrous metals installed in the hoistway shop primed with a rust inhibitive primer.
4. Remove rust, clean, degrease and paint all installed parts or components accumulated during the construction phase.

1.9 Warranty

A. The elevator contractor's acceptance is conditional on the understanding that their warranty covers defective material and workmanship.

1. The warranty period shall extend to one (1) year from the date of completion or acceptance thereof by beneficial use; whichever is earlier, of each elevator.
2. The warranty excludes ordinary wear and tear or improper use, vandalism, abuse, misuse, or neglect or any other causes beyond the control of the elevator contractor and this express warranty is in lieu of all other warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose.
3. Any defective condition or workmanship not mutually agreeable as satisfactory to building owner and elevator contractor shall be determined by the independent elevator consultant as final for the replacement, repair or continued use or product or part in question.

B. Maintenance service consisting of a minimum of bi-weekly examinations, adjustments and lubrication of the elevator equipment shall be provided by the elevator contractor for a period of twelve (12) months after the elevators have been turned over for the customer's use.

1. This service shall not be subcontracted, but shall be performed by the elevator contractor.
2. All work shall be performed by competent employees during normal working hours between 8:00AM to 5:00PM Monday through Friday and shall include emergency 24/7 callback service.
3. All inspections and performance of periodic safety tests for witnessing by Miami-Dade County Office of Elevator Inspectors shall be included at no charge.
4. This service shall not cover adjustments, repairs or replacement of parts due to negligence, misuse, abuse or accidents caused by persons other than the elevator contractor.

5. Only genuine parts and supplies as used in the manufacture and installation of the original equipment shall be provided.
 - a. Obsolescence will not be allowed.
 6. Warranty maintenance service shall start upon completion of each elevator group or facility.
 - a. Warranty service starting date shall be after completion of punch-out lists and close-out documents as agreed with building management, consultant and contractor.
- C. If not currently on County maintenance contract services, provide interim monthly maintenance rates for equipment in service during the project prior to and after the installation phase, final acceptance for public utilization and warranty maintenance service.
1. The Contractor shall not invoice for monthly maintenance on equipment taken out of service for modernization or installation.
 2. Shall include all annual inspections and performance of periodic safety tests for witnessing by Miami-Dade County Office of Elevator Safety Tests during interim maintenance period.
 3. Unless identified in prior pre-maintenance survey and accepted in the agreement, obsolesce shall not be allowed.
 4. Include wiring diagrams for existing equipment.
 5. Provide billable labor rates for helpers, mechanics and adjusters inclusive of standby services, minor and major repairs for other than normal working hours weekdays and Saturdays and Sundays and Holidays (overtime).
 6. Include material cost and externally purchased subcontracted services mark-up not greater than 20% not covered in the warranty.
 7. When building management requests the contractor to perform repairs or services including inspections and testing covered in the warranty during other than normal working hours, the contractor shall invoice the facility the difference between the overtime labor rate and the normal working hourly rate.

2.1 PRODUCTS

A. ACCEPTABLE MANUFACTURER

1. Only products and components produced or provided by manufacturer(s) regularly engaged in the manufacture of elevator products, and that complies with ASME A17.1 Safety Code for Elevators and Escalators, ASME A17.2, Florida Statutes, Chapter 399,

Florida Administrative Code 61C-5, all applicable sections of the Florida Building Code in its entirety, and additional requirements specified herein are acceptable.

2. Basis-of-Design Product: MEI – Total Elevator Solutions, G.A.L. GALaxy Controllers and door equipment, Innovation Industries Elevator fixtures and pushbuttons, or approved equals.
 - a. Acceptable Manufacturers
 - 1) GAL/Hollister Whitney
 - 2) Motion Control Engineering
 - 3) Virginia Controls
 - 4) Elevator Controls
 - 5) Innovation Industries
 - 6) MAD Elevator
 - 7) SmarTork
 - 8) Janus
 - 9) Maxton
 - 10) Elevator Equipment Corp.
 - 11) MEI
 - 12) IDEC Elevator Products

B. MATERIALS, GENERAL

1. Colors, patterns, and finishes: As selected by the Miami-Dade County Department of Transportation and Public Works from manufacturer's full range of standard colors, patterns, and finishes.
 - a. Steel:
 - 1) Shapes and bars: ASTM A 36
 - 2) Sheet: ASTM A 366, cold-rolled steel sheet, commercial quality, Class 1, matte finish, stretcher leveled.
 - 3) Finish: Factory-applied baked or powder coated enamel.
 - b. Stainless Steel:
 - 1) Shapes and bars: ASTM A 276, Type 300 (18-8)
 - 2) Tubing: ASTM A 269, Type 300 (18-8)

C. HOISTING EQUIPMENT

1. Car Sling and platform

a. Platform: Existing sling and frame shall be retained.

1) Inspect platform for integrity. If acceptable, retain existing platform.

a) Underside of the platform shall be verified for fire protection as required.

2) If replacement is required, utilize galvanized steel frame with Stainless Steel platform including stringers as manufactured by IDEC Elevator Products, Riviera Beach, FL, (954) 618-0770, or approved equal.

a) Engineered for application, load and tare

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

a) New Platform Guards (Aprons) shall be installed.

b) The entrance side of the platform of each elevator shall be provided with a smooth metal guard plate of not less than 1.5 mm (0.059 in.) thick steel, or material of equivalent strength and stiffness, adequately reinforced and braced to the car platform.

c) The guard plate shall extend not less than the full width of the widest hoistway door opening.

d) The guard plate shall have a straight vertical face, extending below the floor surface of the platform no less than 525 mm (21 in.).

b. All channel stiles, gussets, braces, cable hitch plates, sill cutouts engineered and code compliant for each application as required.

1) Inspect for integrity. If acceptable, retain equipment.

c. Platform isolation if required.

2. Car Enclosures: Inspect for integrity. If acceptable retain enclosure.

a. If replacement is required, utilize 14 gauge galvanized steel walls and dome, and glass panels be constructed of laminated glass that complies with the requirements of 16 CFR Part 1201, Sections 1201.1 and 1201.2; as manufactured by IDEC Elevator Products, Riviera Beach, FL, (954) 618-0770, or approved equal.

b. Provide code compliant emergency exit with safety switches.

3. Car Top Guard Railing: A standard railing conforming to ASME A17.1 Safety Code for Elevators and Escalators shall be provided 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.

- a. Mounted a maximum of 4 inches from the outside perimeter of the car top enclosure.
 - 1) Car top enclosure outside of railing shall be clearly marked
 - 2) Marking shall be alternating 100 mm (4 in.) diagonal red and white stripes.
 - b. Overhead clearance shall be sufficient to accommodate a 42 inch guard rail at the maximum upward movement with 4 inch clearance vertically and horizontally to any building structure and equipment.
 - c. If overhead clearance is not sufficient to accommodate a 42 inch guard rail with 4 inch clearance, provide collapsible guard rail per ASME A17.1-2016 requirements
4. Guide Rails: Existing guide rails shall be retained dry unlubricated steel, fastened to the building with steel brackets verified in alignment, secure to wall and brackets with surface planed smooth.
- a. Guide rails shall be cleaned and aligned as necessary for the proper performance of the elevators.
 - b. Replace steadying plates
5. Car Guides:
- a. Replace swivel slide type guides with roller guide assemblies, mounted on top and bottom of the car held in contact with the guide rail by adjustable devices.
6. Buffers: Inspect for integrity of existing spring buffers engineered and code compliant for each application. If acceptable, retain existing buffers.
- a. If acceptable, retain existing buffers.
 - 1) Existing buffers shall be cleaned and painted.
 - b. Replace if compromised
 - 1) Replacement buffers shall conform to the requirements of ASME A17.1 for the application.
 - c. Buffer data plates shall be maintained or replaced for code compliance with ASME 171.1.
7. Oil line: Inspect for integrity. If acceptable retain existing oil supply piping.
- a. Schedule 40 ASTM A-53 Grade B pipe shall be installed between the pumping unit and the cylinder.

- b. Oil line fittings shall be grooved type.
 - c. Shut-off valves shall be provided in machine room.
 - d. Oil line shall be supported with an adequate number of support stands.
 - 1) Stands shall be anchored to the floor or wall and adjustable in height.
 - 2) Isolation clamps shall secure the oil line to the stand around the full 360 degree circumference.
8. Pumping unit tank: Replace
- a. The storage tank shall be constructed of steel and shall be provided with a removable cover containing a removable oil dip stick.
 - b. The pump and submersible motor shall be mounted on reinforced isolation.
 - c. The control valve shall be mounted in the discharge line above the oil level and easily accessible from the top of the tank.
9. Pumping unit: Replace
- a. The motor shall be of the submersible alternating current, squirrel cage induction type and shall be of a design adapted to electro-hydraulic requirements.
 - b. The pump shall be a positive displacement screw type to give smooth operation and shall be designed and manufactured for elevator service.
10. Pumping unit control valve, replace.
- a. Designed and manufactured by Maxton Manufacturing Company, or approved equal.
 - b. The control valve shall be manifold with up, down and check valve sections.
 - c. A control section including solenoid valves will direct the main valve and control up and down starting, transition from full speed to leveling speed, up and down stops, pressure relief and manual lowering.
 - d. Down speed and up and down leveling shall be controlled at the main valve sections.
 - e. All of these functions shall be fully adjustable for maximum smoothness and to meet contract conditions.
 - f. The manual lowering feature will permit lowering the elevator at slow speed in the event of power failure or for adjusting purposes.
11. A MEI Silencer air-bladder muffler, or approved equal, shall be provided at the control valve discharge.

12. Replace existing hydraulic fluid throughout the system including removing all debris and waste oil from old system and proper disposal from property of all waste product.
 13. Oil cooler:
 - a. Heat rejection of 18,000 BTU/hr, based on ambient temperature 40 degrees F cooler than oil out.
 - b. Mounted adjacent to pumping unit storage tank.
 - c. Single fan radiator
 - d. Adjustable thermostat control
 - e. Isolated radiator mounts
 - f. 10 micron easily changeable filter
 - g. Restriction sight glass with bypass in case of plugged filter
 - h. Hard wired 115 VAC 20 amp on separate circuit with overcurrent lockable disconnect.
 14. Provide solid state soft start starter sized as appropriate for pump motor.
- D. Automatic Terminal Limits:
1. Provide new electric terminal limits switches.
 2. Place electric limit switches in the hoistway near the terminal landings.
 3. Limit switches shall be designed to cut off the electric current and stop the car if it runs beyond either terminal landing.
- E. Automatic Self-Leveling:
1. Provide each elevator car with a self-leveling feature to automatically bring the car to the floor landings and correct for over travel or under travel.
 2. Self-leveling shall, within its zone, be automatic and independent of the operating device.
 3. The car shall be maintained level to less than 1/4" with the landing irrespective of its load.
- F. Traveling Cable:
1. Traveling cables shall terminate at numbered terminal blocks in car and machine room.
 2. Traveling cable shall be provided with separate shielded circuit wiring for communication system with coax and data cables for building security.
 - a. Coordinate requirements with security equipment installation contractor

3. Traveling cable shall be hung to obtain proper size of loop.
4. Traveling cable shall be hung free of all contact from hoistway or car equipment.
5. Traveling cable outer covering shall be of fire resistant and meet UL standard testing.
6. Traveling cable shall be provided with 20 percent spare conductors for each car.

G. Hoistway & Machine Room Wiring:

1. Provide and install wiring throughout the elevator machine room and hoistway.
2. All wiring shall be installed in accordance with applicable NEC and latest applicable edition of ASME A17.1 codes.
3. Hoistway door interlock wiring shall be SF-2 high heat resistance wiring.
 - a. All other new wiring shall have flame retarding and moisture resistant outer covering.
4. Equipment grounding shall be provided.
 - a. The equipment grounding conductor will be run with the circuit conductors and shall be a copper conductor.
 - b. Ground all conductors, supports, controller enclosure, and other non-current conducting metal enclosures for electrical equipment in accordance with NEC.
 - c. The ground wires shall be solid or stranded; insulated, covered, or bare copper, sized as required by NEC.
 - 1) Individually covered or insulated equipment grounding conductors shall have a continuous outer finish that is either green or green with one or more yellow stripes.
 - 2) An insulated or covered conductor larger than 6 AWG shall be permitted, at the time of installation, to be permanently identified as an equipment grounding conductor with green marking at each end and at every point where the conductor is accessible.
5. Hoistway travel cable and associated wiring shall be coordinated with controller manufacturer for wiring configuration requirements to match all controller wiring color coded and numbered diagrams for installation.
6. Retain and reutilize to the maximum extent possible all ducts and conduit in machine room and hoistway.
 - a. Install new ducts and conduit as required.

H. Pit Ladder: Pit ladder shall be compliant with latest applicable edition of ASME A17.1 code.

- I. Pit Stop Switch: Provide and install pit stop switch as required by latest applicable edition of ASME A17.1 code.
- J. Pit Light: Provide and install pit lighting as required by NEC and ASME A17.1. Installed by electrical contractor.
- K. Pit Flood Switch: Install pit flood switch assembly.

2.2 HOISTWAY ENTRANCES

A. Interlocks: Replace

- 1. Equip each hoistway entrance with an approved type interlock, G.A.L. or approved equal.
 - a. Tested as required by code
 - b. Including SF-2 wiring and grounding.
 - c. Interlock shall be designed to prevent operation of the car away from the landing until the doors are locked in the closed position as defined by code and shall prevent opening the doors at any landing from the corridor side unless the car is at rest at that landing or is in the leveling zone and stopping at that landing.

B. Door Hangers, Sheaves, and Tracks: Replace

- 1. Provide new G.A.L., or approved equal, sheave type two point yellow zinc weatherproof /galvanized suspension hangers and tracks for each hoistway sliding door.
- 2. Sheaves: Polyurethane tires with ball bearings properly sealed to retain grease.
- 3. Hangers: Provide an adjustable slide to accommodate the up-thrust of the doors.
- 4. Tracks: Drawn steel shapes, smooth surface and shaped to conform to the hanger sheaves.

C. Hoistway and Cab Doors: Replace

- 1. Doors: Replace hoistway and cab doors.
 - a. New door close contact switch including zone locking device shall be installed.
 - b. Provide new fire rated hoistway doors and cab door for each elevator.
 - c. All hoistway and car door bottoms shall be reinforced.
 - d. Doors shall be manufactured of Stainless Steel by IDEC Elevator Products, Riviera Beach, FL, (954) 618-0770, or approved equal.
 - e. Doors shall be manufactured to include all mounting hardware requirements of the GAL door operating equipment or approved equal.

2. Hall doors finish shall be Rigidized Steel with pattern 2WL for vandalism protection.
 3. Cab door finish shall be Rigidized Steel with pattern 2WL for vandalism protection.
 4. Provide new SEES Enforcer door gibs, or approved equal, on all hoistway and car doors.
 5. Provide fire tabs on all hoistway and car door panels
- D. Sight Guards: Replace as required. Provide sight guards as required to reduce the opening between the leading edge of the hoistway door and the car door to maintain code required clearances.
- E. Entrance Frames: Verify integrity of entrance frames.
1. If entrance frames exhibit excessive corrosion, replace.
 - a. Replace all existing frames with Rigidized Steel pattern 2WL, or approved equal.
 - b. Cutting of old frames and walls not greater than 6" from existing frames for removal including installation of support sills by elevator contractor.
 - c. Blocking of new frames, and all finish masonry patching shall be by others.
 - d. Protective barriers provided and installed by elevator contractor.
 2. If entrance frames are retained:
 - a. Clean and remove any corrosion.
 - b. If frames are excessively scratched and dented beyond repair.
 - 1) Reclad with Rigidized Steel pattern 2WL, or approved equal.
 3. Replace missing and/or damaged bumpers on strike jambs
- F. Hoistway and car sills: Verify integrity
1. If condition of sills is acceptable
 - a. Retain
 - b. Clean and polish
 2. If sills damaged beyond repair
 - a. Replace with polished nickel/silver sills
 - b. If cost effective, provide new hoistway aluminum "Sillskins" as manufactured by Archi-Tread, Inc., Kinnelon, NJ 07405, Phone: (973) 725-5738, or approved equal. (Optional)
- G. Signage:

1. Provide all entrance jamb Braille/Number/Tactile Stainless Steel signs as required by the Florida Building Code Accessibility Requirements
2. Provide the international symbol for emergency medical service (star of life) on both sides of hoistway door frame as required by code for each elevator with inside clearance for emergency ambulance stretcher.
3. Identification of equipment: Each elevator shall be provided with an alpha-numeric sign 3 inches in height on every elevator entrance at the designated landing.

2.3 DOOR OPERATION

- A. Door Operator: Provide a direct current motor driven heavy-duty operator GAL MOVFRW, or approved equal.
 1. Provide NEMA 4 conduit and fittings to maintain NEMA rating
- B. Provide G.A.L., or approved equal, door close contacts and switches.
- C. Provide G.A.L., or approved equal, yellow zinc weatherproof LWZ car door clutch
- D. Provide G.A.L. door Fault Monitors or approved equal
- E. Provide G.A.L., or approved equal, car door zone restrictor.
- F. Closers: Provide SmarTork spirator door closers, or approved equal, manufactured by SmarTork, Inc., PO Box 1393, Boerne, Texas 78006, (866) 496-2355, contact@smartorkinc, www.smartorkinc.com.
- G. Door Protection (Door Safety Edge): Provide new door safety edge.
 1. New door safety edge shall be an infrared light curtain type with parallel or criss cross light beams. The beams shall project across the car opening detecting the presence of a passenger or object. If door movement is obstructed, the doors shall immediately reopen.
 - a. The light screen is to be totally immune to ambient light, including strobes, fluorescent, and direct sunlight (100,000 lux – 2D /60,000 lux -3D).
 - b. Light beam and receiver arrays to operate independent of the power supply, allowing the use of any 18 – 25VDC.
 - c. The power supply shall be dual voltage input (120-240Vac, 50/60Hz)
 - d. Provide LED indicators for power applied and relay operation, simulator test button for beam break, and push-to-test button for manual operation of master control relay.

- e. Nudge feature to be field installable in standard power supply with accessory relay to operate in either the delayed nudge mode or redundant mode, switch selectable. Nudge feature also to incorporate buzzer with enable/disable switch and delay timer adjustable for nudge operation.
- 2. Provide Panachrome 3D ultraslim manufactured by Janus, or approved equal, door protection door reopening devices.
 - a. Red and green indicators highlight door movement to reduce door and equipment damage
 - b. 3D projection into lobby to detect passengers or equipment
 - c. 154 criss cross light beams
 - d. Water and Dust Resistant

2.4 CONTROL AND LANDING SYSTEM

- A. Elevator control system shall be GALaxy IV, produced by GAL Manufacturing, Bronx, NY or approved equal.
- B. The GALaxy IV elevator controller is a computer-based system that offers superior performance, flexibility and reliability. It has been designed to save time in installation and troubleshooting.
 - 1. Passenger Elevators
 - a. One (1) Simplex Selective Collective Automatic Operation car group
 - 1) Two (2) Openings, One (1) Front, One (1) Rear Entrances
 - 2. Hydraulic application
- C. Provide Solid State Soft Starter for pump motor assembly
 - 1. Starter to have built in reverse phase sensor with diagnostic monitoring.
- D. Microprocessor specifications:
 - 1. Hydraulic: 32 bit, 80586 CPU 133 MHz with built in floating point processor
- E. Controller Software
 - 1. Program in Compact Flashcard
- F. Dispatching
 - 1. No separate group controller – group functions are an integral part of the car controllers
 - 2. ETA based algorithm

3. Up & Down Peak; Next Up
 4. AI based parking algorithm (intelligent parking)
- G. I/O Structure:
1. Optically isolated
 2. Field replaceable
 3. LED status indicators on all input and output devices
- H. Serial Communication
1. Controller to Car / COP
 - a. To reduce the number of wires in a traveling cable, GALaxy controllers use a CAN serial communication channel to the car to accept car calls and car input and output functions.
 2. Serial Hall Riser (Optional)
 - a. To reduce the number of hoistway wires, a serial CAN channel can be used for the hall call risers' wiring.
- I. Built in Diagnostic / Programming Interface
1. LCD display provided on main CPU and safety processor boards
 2. Access to all parameters and diagnostics without a laptop or special tool
- J. Wire Labels
1. Controllers are wired using harnesses that are color coded. Individual wires are marked, along their length, with their name. Proper termination is applied for each wire.
- K. Schematics
1. Controller schematics are printed in color to show the actual wire size and colors. Hoistway (including traveling cable) schematics show actual wire numbers, and point-to-point connections.
- L. Job Program Transfer and Save
1. GALaxy has the ability to upload and download the program file, job configuration file, and adjustment parameters to and from a laptop or removable medium. The job program file and configuration file is stored on compact flash medium and shall be removable from the controller to allow for easy update of the latest software version.
- M. User Activated Test Procedures

1. The user interface has a built in, user activated, menu driven, buffer test procedure, over speed test procedure, and terminal limit test procedure.

N. Standard and Optional Features:

1. Built-in secure WiFi link
2. Access Operation
3. Door Motor Protection Timer
4. Field Adjustable Parameters (Door Times, Lobby, etc.)
5. Fire Service Phase I
6. Fire Service Phase I Alternate Return
7. Fire Service Phase II
8. Inspection Operation
9. On Board Diagnostic LEDs
10. On Board LCD Display Interface
11. Two Motor Protection Timers
12. Cross Assignment
13. Cross Cancellation
14. Emergency Power
15. Inter-Group Emergency Power
16. Auxiliary Battery Lowering
17. Lap Top Interface (GAL Com)
18. Remote Diagnostics
 - a. GALileo
 - 1) Remote Monitoring Capabilities are provided using the GALileo system to monitor each the bank of elevators.
 - 2) For remote monitoring the system needs to be connected to the internet and programmed with an IP address.
 - 3) All data collection, data storage and real - time monitoring is then provided by accessing the system with a web browser, no “special” software or licenses are required.

- 19. Security / Card Readers / Lock Out
- 20. Provide GFI duplex receptacle in controller
- O. Selector System
 - 1. Selector with Stainless Steel tape
- 2.5 Elevator Control, Signal Fixtures and Pushbuttons
 - A. All elevator control, signal fixtures and pushbuttons: Basis of Design
 - 1. Innovation Industries, or approved equal, 3500 E. Main Street, Russellville, Arkansas 72802, (800) 843-1004.
 - B. Car Operating Panel
 - 1. Bruiser Series, or approved equal, designed and manufactured for rugged strength and durability.
 - a. Finish: #4 brushed 304 Stainless Steel
 - 2. Pushbuttons shall be PB 23
 - a. Finish: Copper metal finish for microbial safety protection
 - b. 1.312 inches diameter
 - c. Illuminated center jewel in red, amber, green, blue and white
 - d. Vandal resistant
 - e. Positive stop that seats on the faceplate and not a collar
 - f. Sanitary Protection: Provide touchless sensors adjacent to push buttons.
 - 3. Multi-volt LED illumination design
 - 4. Buttons shall illuminate to indicate call has been registered for a floor destination.
 - 5. The panel shall consist of a series of modules, key switches or approved buttons for optimum viewing and accessibility.
 - 6. All engraving shall be on flush mounted hairline faceplates securely mounted to the aluminum backing plate.
 - 7. All elevator car controls shall be compliant with the latest adopted edition of the Florida Building Code: Accessibility requirements for height and location reach ranges.
 - 8. Provide a 2" electronic segmented digital position indicator mounted in the control panel for optimum viewing.

- a. As the car travels, its position in the hoistway shall be indicated by the illumination of the alpha/numeric character corresponding to the landing which the elevator is stopped or passing.
 - b. On one side of digital numeric indicator in the car panel will also be a matching indicator with direction of travel.
- 9. Audible destination signal announcing floor arrival.
- 10. Provide emergency lighting incorporated in Car Operating Panel
- 11. Emergency Communications System: Provide a two-way emergency communications device mounted in the car station panel.
 - a. Emergency communications device shall comply with Americans with Disabilities Act (ADA).
- 12. Special accessories in each car station panel:
 - a. Located in Locked Service Compartment Subpanel w/ Clear Certificate Window
 - 1) Light key switch.
 - 2) Fan key switch.
 - 3) Independent Operation Keyed Switch
 - 4) Inspection key switch (if required)
 - 5) Access Keyed Switch (if required)
 - 6) Emergency Light Test Button
 - 7) GFI duplex receptacle
 - b. Keyed stop switch
- 13. Fire Fighters Phase II Service:
 - a. The "FIRE OPERATION" switch, the "CALL CANCEL" button, the "STOP" switch, the door open button(s), the door close button(s), the additional visual signal, and the operating instructions shall be grouped together at the top of the main car operating panel behind a locked cover.
 - b. The firefighters' operation panel cover shall be openable by the same key that operates the "FIRE OPERATION" switch.
 - 1) The cover shall be permitted to open automatically when the car is on Phase I Emergency Recall Operation and at the recall level.
 - 2) When the key is in the "FIRE OPERATION" switch, the cover shall not be capable of being closed.

- 3) When closed, the cover shall be self-locking.
- 4) The front of the cover shall contain the words "FIREFIGHTERS' OPERATION" in red letters at least 0.4 in. high.
- c. The designated fire key is: FEOK1
- 14. Car operating panels shall swing open with the hinged side closest to the sidewall.

C. HALL STATIONS

- 1. Bruiser Series NEMA 4X Florida Package, or approved equal, designed and manufactured for rugged strength and durability.
 - a. Finish: #4 brushed 316 Stainless Steel
 - b. Conformal coated electrical devices
 - c. Gasketed rough-in box
 - d. Self sealing screws
 - e. UL NEMA4X rating
 - f. Provide NEMA 4 conduit and fittings to maintain NEMA rating
- 2. Pushbuttons shall be PB 46
 - a. Finish: Copper metal finish for microbial safety protection
 - b. 1.302 inches diameter
 - c. Illuminated center jewel in red, amber, green, blue and white
 - d. Vandal resistant
 - e. Sealed pushbutton with neoprene gasket
 - f. Positive stop that seats on the faceplate and not a collar
 - g. Sanitary Protection: Provide touchless sensors adjacent to push buttons.
- 3. Multi-volt LED illumination design
- 4. Buttons shall illuminate to indicate call has been registered at that floor for the indicated direction.
- 5. Risers: Risers shall include 1 for elevator front
- 6. Installation shall be flush surface mount.
- 7. Each terminal station shall contain one illuminating push button and other applicable accessories including hoistway access switches.

8. Each intermediate station shall consist of two illuminating push buttons, one for the up direction and one for the down position.
9. Phase I firefighter's service key switch, with instructions, shall be incorporated into the hall station at the designated level.
 - a. Fire Service instructions as per ASME A17.1, shall be engraved in the main floor hall station panel.
10. Phone Line Verification
 - a. An audible signal will be provided with a lighted jewel signal labeled "ELEVATOR COMMUNICATIONS FAILURE" in red letters 5mm (.25in) in height activated when the telephone line is not functional.
 - b. The visual signal with a key switch to silence the audible signal shall be incorporated in the designated level hall station.
11. In case of fire, use stair signs shall be engraved into each hall station panel with exact signage as per the Florida Building Code.
12. Emergency Generator:
 - a. Emergency key (Regional Fire Key & Switch Required), operated selector switches, including lighted jewel indicators shall be provided at the main floor panel with proper engraved signage as required.
 - b. If an emergency key operated selector switch is not required, a lighted jewel indicator for emergency generator elevator power shall be provided with proper engraved signage as required

D. HALL LANTERN AND POSITION INDICATOR

1. Directional Lanterns with Digital Position Indicators
2. Surface NEMA 4x Florida Package mounted above all elevator entrances
 - a. Finish: #4 brushed 316 Stainless Steel 11GA Faceplate
 - b. Conformal coated electrical devices
 - c. Gasketed rough-in box
 - d. Self sealing screws
 - e. UL NEMA 4X rating
 - f. Provide NEMA 4 conduit and fittings to maintain NEMA rating
3. Directional arrows signal travel direction upon arrival at each landing
 - a. Vandal Proof epoxy filled jewels

- b. At terminal landings, dual arrows in the same direction of travel
- 4. Digital Position Indicators signal car direction of travel and location in hoistway
 - a. 2 inch alpha-numeric display
 - b. UP/Down directional arrow display

2.6 CAR TOP INSPECTION STATION

- A. Provide car top inspection stations with an "emergency stop" switch and constant pressure "up-down" direction buttons to make the normal operating devices inoperative and give the inspector complete control of the elevator.
 - 1. "Stop switch shall be permanently located on the car top and readily accessible to a person, while standing at the hoistway entrance normally used for access to the car top."
 - 2. A "transfer switch shall be located on the car top and shall be so designed as to prevent accidental transfer from the "INSPECTION" to "NORMAL" position."
 - 3. "A separate device of the continuous-pressure type labeled "ENABLE" shall be provided adjacent to the inspection operating devices."
 - 4. "Inspection operating devices shall become effective only when the "ENABLE" device is activated."
 - 5. Include lighting and a GFI duplex receptacle fixture on the car top.
 - a. "The lighting shall be permanently connected, fixed, or portable, or a combination thereof, to provide an illumination level of not less than 100 lx (10 fc) measured at the point of any elevator part or equipment, where maintenance or inspection is to be performed from the car top. All lighting shall be equipped with guards. The light switch shall be accessible from the landing when accessing the car top."
 - 6. Car Top Inspection device shall be compliant with the latest edition of ASME A17.1.

2.7 ELEVATOR CAB INTERIOR as manufactured and installed by IDEC Elevator Products, Riviera Beach, FL (954) 618-0770 or approved equal.

- A. Re-clad Front, Transom and Side Returns with Rigidized Steel pattern 2WL.
- B. Side and Rear Walls
 - 1. All wall to wall connections shall be Stainless Steel rounded radius corners for easier cleaning
 - 2. Rigidized Steel 2WL, or approved equal.
 - 3. Glass panels constructed of laminated glass that complies with the requirements of 16 CFR Part 1201, Sections 1201.1 and 1201.2.

C. Handrails

1. Furnish and install 3/8" x 2" solid Stainless Steel handrails on side and back walls
2. Handrail ends returning to walls

D. Ceiling

1. Furnish and cover ceiling with plastic laminate

E. Lighting

1. Furnish and install LED cove lighting at the top of the side walls

F. Flooring

1. Aluminum Diamond Plate
2. Tub design with rounded radius base for floor to wall connections.

G. Ventilation

1. Sanitary Protection: Provide sterilization and purification air intake fan distributed by ECS, Corporation, ecsparts.com, or approved equal, securely mounted in ceiling.
 - a. Fan shall include UV-C lamp and ion generator
2. Provide auxiliary battery back-up ventilation fan for or observation elevator car enclosure.

H. Car top escape panels shall have switch assemblies including all wiring to install proper safety circuit as required by ASME A17.1

3.1 EXECUTION

A. Examination:

1. Coordinate all site conditions with General Contractor and other building trades.
2. Inspect hoistway, hoistway openings, pits and machine room, as constructed.
3. Verify all critical dimensions, and examine supporting structures and all other conditions under which elevator work is to be installed.
4. Do not proceed with elevator installation until unsatisfactory conditions have been corrected in a manner acceptable to the installer.
5. Commencement of installation constitutes acceptance of existing conditions and responsibility for satisfactory performance.
6. Elevator contractor shall coordinate crane services for placement of the equipment in the machine rooms with General Contractor.

- B. Elevator contractor shall be responsible for screening and protection of hoistway door openings and protection between elevators in hoistway.
- C. Signage:
 - 1. The designated project manager and the owner's representative will approve all signage in order to maintain consistent appearance for entire elevator installation.
 - 2. All signage as required by Florida Building Code, ASME A17.1, NFPA 70 National Electrical Code and NFPA 72 Fire Alarm Code to be posted in elevator lobbies, fire alarm panels, disconnects, machine rooms and machine room doors.
- D. Installation:
 - 1. Install elevator systems components and coordinate repairs of hoistway wall construction.
 - 2. Competent licensed elevator installation personnel in accordance with Florida Statute 399 and ASME A17.1 manufacturer's installation instructions and approved shop drawings shall perform work.
 - 3. Comply with the National Electrical Code for electrical work required during installation.
 - 4. Perform work with competent, skilled workmen under the direct control and supervision of the elevator manufacturer's experienced foreman.
 - 5. Supply in ample time for installation by other trades, inserts, anchors, bearing plates, brackets, supports, and bracing including all setting templates and diagrams for placement.
 - 6. Welded construction: Provide welded connections for installation of elevator work where bolted connections are not required for subsequent removal or for normal operation, adjustment, inspection, maintenance, and replacement of worn Parts.
 - a. Comply with AWS B2.1 Standard Welding Procedure and Performance Qualification.
 - 7. Coordination: Coordinate elevator work with the work of other trades, for proper time and sequence to avoid construction delays.
 - a. Use benchmarks, lines, and levels designated by the Contractor, to ensure dimensional coordination of the work.
 - 8. Install machinery, guides, controls, car and all equipment and accessories to provide a quiet, smoothly operating installation, free from side sway, oscillation or vibration.
 - 9. Sound isolation: Mount rotating and vibrating elevator equipment and components on vibration-absorption mounts, designed to effectively prevent the transmission of

vibrations to the structure, and eliminate sources of structure-borne noise from the elevator system.

10. Lubricate operating parts of system, including ropes, as recommended by the manufacturer.
11. Elevator contractor shall be required to install all data plates as required by ASME A17.1 on complete elevator system including alteration and original equipment.
 - a. All data plates shall be manufactured and printed with proper data for each elevator by CodeDataPlate.com or approved equal.

E. Field Quality Control:

1. Acceptance testing: Upon completion of the elevator modernization and before permitting use of elevator, perform acceptance tests as required by the State of Florida and recommended by Code and governing regulations or agencies.
 - a. Perform other tests, if any, as required by governing regulations or agencies.
2. Advise Owner, Elevator Consultant, and governing authorities in advance as required of dates and times tests are to be performed on the elevator.

F. Adjusting:

1. Make necessary adjustments of operating devices and equipment to ensure elevator operates smoothly and accurately.
2. The elevator contractor shall be required to perform and pass all required testing of all equipment as per ASME A17.1 and ASME A17.2.
3. Elevator contractor is to return at 30 days, 90 days and 180 days after final installation to examine and re-adjust equipment as may be required for optimum performance.

G. Cleaning:

1. Before final acceptance, remove protection from finished surfaces and clean and polish surfaces in accordance with manufacturer's recommendations for type of material and finish provided.
2. For duration and/or completion of elevator work, remove tools, equipment, and surplus materials from site daily.
3. Clean equipment rooms and hoistway.
4. Remove trash and debris daily from premises.

H. Protection:

1. During all elevator work, or portion thereof, provide suitable protective coverings, barriers, devices, signs, or other such methods or procedures to protect elevator work from damage or deterioration.
 - a. Protect all areas of work from public access or dangers including tripping or fall hazards.
 - b. Maintain protective measures throughout remainder of construction period.
- I. Demonstration:
 1. The elevator contractor shall make a final check of each elevator operation with the Owner or Owner's representative present prior to turning each elevator over for use.
 - a. The elevator contractor shall demonstrate that control systems and operating devices are functioning properly.
 2. Instruct Owner's personnel in proper use, operations, and daily care or operation of elevators.
 3. Review emergency provisions, including emergency access and procedures to be followed at time of failure in operation and other building emergencies.
 4. Train Owner's personnel in normal procedures to be followed in checking for sources of operational failures or malfunctions.
 5. Make a final check of each elevator operation, with Owner's personnel present, immediately before date of substantial completion.
 6. Demonstrate that control systems and operating devices are functioning properly.
 7. Final Electrical Schematics and Drawings
- J. Elevator Consultant's Punch-out List Items:
 1. Complete all of the consultant's punch-out list items as may be required.
 2. The elevator consultant shall provide a review and written punch list of deficiencies.
 3. The elevator consultant shall verify one time that the items from the punch list are completed after notice by the elevator contractor.

END OF SECTION

ATTACHMENT G

HYDRAULIC ELEVATORS SPECIFICATIONS (GOVERNMENT CENTER METRORAIL STATION)

1.1 SUMMARY

- A. Modernization of Hydraulic Passenger Elevators for the Miami-Dade County Department of Transportation and Public Works, Government Center Metrorail Station. 101 NW 1st ST., Miami, FL 33128.
- B. Including all engineering, equipment, labor, machines, control systems, devices and accessories as required for safely operating the specified elevators.
 - 1. Commercial, hydraulic passenger elevators.
 - a. One (1) Passenger Elevators
 - 1) One (1) Simplex Groups
 - 2) Elevator #3 - SS# 72640
 - 2. Installation of all hoistway equipment.
 - 3. Elevator car and hoistway signal equipment.
 - 4. Operation and control systems.
 - 5. Accessibility provisions for physically disabled persons.
- C. Delivery, staging, and hoisting of new equipment.
- D. Materials and accessories as required for completing the elevator installations.
- E. Hoistway, pit and machine room barricades for safety as required.
- F. Required hoisting, hoisting permits and traffic coordination and/or permits with local jurisdictions and the State of Florida as required.
- G. Required permits and coordination and/or permits with local jurisdictions, Office of Elevator Safety and the State of Florida as required.

1.2 Related Scopes of Work by Others - Including but not limited to the following

- A. Machine room HVAC as required, to maintain temperature and humidity to between 55° F and 90° F with relative humidity of not more than 85% non-condensing.
 - 1. The elevator contractor shall provide actual calculations for total anticipated heat loads generated by all elevator machine room equipment.
 - 2. Machine room HVAC must be positioned as approved by the elevator contractor and consultant.
 - 3. There shall be no drain lines or condensation allowing water in the machine room.

4. HVAC system is required to have an electrical disconnect lockable in the off position with proper safety labels including identifying source of power and purpose.
 5. Remote systems shall have a proper thermostat inside the machine room.
 6. The air conditioning systems shall be additionally connected and powered by emergency generator power as required.
- B. Electrical Contractor shall furnish and install all electrical equipment for hoistway and machine room including HVAC, lighting, GFCI receptacles and electrical disconnects, as required by NFPA 70 National Electrical Code and ASME A17.1 Safety Code for Elevators and Escalators.
1. All Electrical work must be coordinated and scheduled with General Contractor, Elevator Contractor and Elevator Consultant.
 2. Elevators shall be removed from service while electrical trades are working in same or adjacent hoistways or machine rooms.
 3. Provide electrical service to main disconnect in elevator machine room; electrical power for elevator installation and testing; electrical service for machine room; machine room and pit receptacles with ground-fault current protection; lighting in machine room and pit; wiring for telephone service to machine room.
 4. Install new lockable disconnects with overcurrent protection for elevator main line power as per NEC.
 - a. Disconnect to be verified for appropriate size and type for power requirements of elevator equipment prior to installation.
 - b. Elevator systems with auxiliary power lowering operation shall be provided with an auxiliary contact that is positively opened mechanically, and the opening shall not be solely dependent on springs.
 - 1) The contact shall cause the additional power source to be disconnected from its load when the disconnecting means is in the open position.
 - c. Provide surge protection.
 5. Provide replacement electric wiring from disconnect switches to the new elevator controllers with feeder leads for connection to terminals by the elevator contractor, inclusive of a normal 120 VAC, 15 AMP supply at each controller.
 6. Minimum lighting in machine room and overhead hoistway equipment space shall be 19 ft-c.
 7. Minimum lighting in hoistway pit and top of car shall be shall be 10 ft-c.
 8. All electrical systems shall include proper earth grounding and bonding as required by elevator manufacturer and NEC.
 - a. Provide continuous earth ground to mainline disconnects and controllers.

9. Provide lockable disconnect switches with overcurrent protection to air conditioner installed in each machine room.
10. Provide lockable disconnect switches with overcurrent protection to oil cooler for each elevator in machine room as per NEC.
11. Provide GFCI receptacles in machine rooms and hoistways as required by NFPA 70 NEC.
12. Provide a single non-GFCI receptacle for each sump in each elevator hoistway.
13. Provide and install pit lighting and machine room lighting as per NEC with enclosed and protected lamps.
14. Pit receptacles, with GFCI protection shall be installed in NEMA 4 devices where placed within 4'-0" of pit floor.
 - a. All electrical equipment including conduit, fitting, junction boxes, portable cabling shall be NEMA 4 rated.
 - b. Care must be taken not to place equipment in line with elevator equipment.
15. Provide and install lockable disconnect switch with overcurrent protection in each machine room for each elevator cab lighting system as per NEC.
16. Provide and install new pit lighting switches and emergency stop switches.
 - a. Light switch shall be accessible from pit access door.
 - b. Emergency stop switches shall be installed approximately 18" above first floor landing adjacent to opening and located at side of each pit access door.
17. All lighting fixtures in machine rooms, elevator cars and on top of car to be suitably guarded in accordance with ASME A17.1 Safety Code for Elevators and Escalators, clearance requirements and NFPA 70 NEC requirements for guarding.
18. All disconnects shall be labeled according to NFPA 70 NEC including source of power, State of Florida Serial Numbers, Elevator Number and all required warning signs.
19. Lighting shall be installed at roof top machine room access stair and door areas.
20. Install shunt trip breakers outside of machine rooms for feeder to each mainline disconnect for removal of power by NFPA 70 NEC and NFPA 72 if installation of sprinklers in machine rooms or hoistways is required by the Florida Building Code.
 - a. Shunt trip shall be activated by heat detectors installed by others.
21. Provide conduit and data wiring for elevator car two-way communication devices, remote monitoring, security systems, lobby phones and/or fire command center elevator status panel phones.
22. Provide network connections for all required connections to the internet for remote monitoring, card readers, cameras and communication equipment requiring IP addresses.

23. Provide conduit and control circuit wiring from controller to Automatic Transfer Switch for alternate emergency standby generator.
 24. Provide recommended amount of separate duplex receptacles per elevator as required for security equipment and cameras.
- C. Emergency generator configuration, installation, wiring including conduit to elevator controller, repair, transfer switches including elevator selector options, pre-signal wiring connections and/or testing with standby or emergency power systems shall be coordinated and completed by emergency generator service contractor.
1. Emergency generator personnel shall demonstrate system and tests at completion of each elevator for inspection as required by the Florida Building Code, Florida Statute 399 and ASME A17.1.
 2. Generator contractor shall provide contacts in automatic transfer switch for signals and transfer of power to elevator controllers when building is transferred to and from emergency standby power and normal power source.
- D. Fire Alarm including heat and smoke sensing devices as per NFPA 70 National Electrical Code and NFPA 72 National Fire Alarm Code.
1. Provide connections for fire recall devices to the elevator controllers in machine room.
 - a. For each elevator within the building, a minimum of three separate elevator control circuits shall be terminated at the designated elevator controller within each elevator machine room in accordance with NFPA 72.
 - b. Operation of the elevators shall be in accordance with Section 2.27 of ASME A17.1 Safety Code for Elevators and Escalators.
 - c. The smoke detectors or other automatic fire detection as permitted by NFPA 72, shall actuate the elevator control circuits as detailed in NFPA 72.
 2. Fire alarm contractor shall demonstrate at time of elevator inspection, compliance and testing of all alarm initiating devices as required by ASME A17.1 Safety Code for Elevators and Escalators, ASME A17.2 and NFPA 72 National Fire Alarm Code.
 3. Install heat detectors within 24" of sprinklers installed in machine rooms or hoistways including wiring and conduit to shunt trip breaker as installed by electrical contractor.
 - a. Heat detectors for sprinklers in pit shall activate Fire Recall.
 4. Installation of fire alarm system and devices shall conform to ASME A17.1 Safety Code for Elevators and Escalators and NFPA 72 including NFPA 70 NEC.
- E. Sprinklers: Any required sprinkler work must be coordinated with elevator contractor to insure non-interference with any elevator equipment and must be compliant with NFPA 13, NFPA 72 and the Florida Building Code.

1. If sprinkler head(s) are located in the machine room or hoistway, it will be required to install a heat detector within 24" of each sprinkler in order to automatically disconnect the main line power supply to the affected elevator(s) upon or prior to the application of water, in accordance with ASME A17.1 Safety Code for Elevators and Escalators and NFPA 72 National Fire Alarm Code.
- F. Telephone and Data Lines:
1. A dedicated telephone line is required for each elevator.
 2. Provide dedicated telephone lines and wiring to elevator controllers for telephone system including all wiring in machine room shall be installed inside conduit as per NFPA 70 NEC.
 3. All emergency telephone devices shall include a minimum of 4 hours emergency backup power including power from emergency generator if supplied.
 4. Provide network data line for remote monitoring of controller.
- G. Building general construction conditions, cleaning and painting of miscellaneous surfaces: The elevator contractor shall not be responsible for all work as detailed in this section.
1. All construction, cleaning and painting other than equipment directly supplied by the elevator contractor shall be performed by others.
 2. Provide 2 hour fire rated machine room enclosure.
 3. Proper installation of 1 ½ hour "B-Label" door to machine room to include self-closing and self-locking requirements.
 - a. Machine room warning signs "Danger Authorized Personnel Only" shall be provided on each machine room door as required by NFPA 70 NEC.
 4. Provide metal stairway and access landing including guard rail to machine room for roof top and interior multi-level machine room access.
 - a. Stairway shall comply with the Florida Building Code and ASME A17.1.
 5. Provide Class ABC Fire Extinguisher in machine room permanently mounted and conveniently located to the access door as required by ASME A17.1 Safety Code for Elevators and Escalators.
 6. Provide protection of all pipes, wiring, conduit, duct and openings in machine rooms and hoistways to maintain a 2 hour fire rating.
 7. All foreign pipes, wiring or conduit not in use or directly related to the elevator system shall not be installed in machine rooms and hoistways.
 - a. Existing foreign piping, wiring and/or conduit not in use or directly related to elevator shall be removed or enclosed as required by code.
 8. All projections or recesses in walls of hoistway greater than 4" shall be beveled not less than 70 degrees with sheet metal not less than 16 gauge.

9. All holes and openings in hoistway shall be patched and protected to maintain the fire rating of the enclosure including conduit, piping and other equipment passing through exterior walls.
10. Hoistway Venting:
 - a. Existing Interior Hoistways
 - 1) Vents on exterior walls which are not pressurized and are not subject to require pressurization shall be provided with motorized dampers that are capable of being automatically closed during normal building operation and are interlocked to be opened by fire and smoke detection systems.
 - 2) The damper shall power close under normal operation and spring open in the event of a power failure or fire alarm signal.
 - a) Provide a separate exterior vent assembly with a goose neck hood and stationary louvers at the exterior entrance of the hood to protect the interior motorized vent system and hoistway.
 - 3) Provide a separate exterior vent assembly with a goose neck hood and stationary louvers at the exterior entrance of the hood to protect the interior vent system and hoistway.
 - b. Existing venting of the hoistway through the machine room shall be closed and protected to maintain the 2 hour fire rating enclosure.
11. Sumps and Sump Pumps: Elevators with Fire Service Operation shall have drains or sump pumps as required by ASME A17.1 Safety Code for Elevators and Escalators, including the Florida Building Code.
 - a. The pump shall be manufactured by Stancor, or approved equal, as determined by the elevator consultant, and shall include oil monitoring .
 - b. The sump shall be a minimum of 18 inches in diameter and 24 inches in depth.
 - c. The sump cover shall be removable and flush to pit floor.
 - d. The Sump pump shall have an output of 3000 gallons per hour at the head per elevator.
 - e. The sump pump electrical cord shall be 6 foot or less.
 - f. Provide monitoring with alarm located outside hoistway.
12. Clean and paint machine room finished walls and floors.
 - a. All cleaning or painting work that produces any vapors or fumes shall be performed during normal business work hours or after normal business hours as requested by building manager or representative.
 - 1) Work of this nature must be scheduled and coordinated five (5) days prior to execution of work.

- b. The procedures proposed for the accomplishment of the work shall provide for safe conduct of the work, careful removal and disposition of materials specified to be salvaged, protection of property, which is to remain undisturbed, and coordination with other work in progress.
 - 1) The work plan shall include a Safety and Health plan describing procedures for handling monitoring, and disposition of Volatile Organic Compounds "VOCs" and other hazardous and toxic materials.
 - 2) The procedures shall include a detailed description of the methods and equipment to be used for each operation, and the sequence of operations.
- c. All paint products and application method must be approved prior to application by owner or owner's agent.
 - 1) Paint products and application methods are to be equal or better than existing product applicable with matching color as approved by owner.
- d. All products of paint, thinners or cleaning agents must be approved prior to use for VOC's or any additional health concerns.
- e. Interior work zones having a volume of 1,000 cubic feet or less shall be ventilated at a minimum of 2 air exchanges per hour.
 - 1) Ventilation in larger work zones shall be maintained by means of mechanical exhaust.
 - 2) Solvent vapors shall be exhausted outdoors, away from air intakes, building occupants and workers.
 - 3) Building air conditioning return air inlets in the work zone shall be temporarily sealed before start of work until the prepared surfaces have dried and are free of odor.
 - 4) Operators and personnel in the vicinity of paint removal processes involving chemicals or mechanical action (sanding or blasting) shall wear respirators.

H. Security system compliant with facility requirements

- 1. Coordinate installation of security in-car keypads or card readers and security cameras with building owner and the facility's subcontractor.
 - 2. Provide proper software and hardware for integration of security system with elevator controllers.
 - 3. Assure traveling cable includes the proper shielded, data and coaxial conductors.
 - 4. Provide power sources as required for security systems including in-car security cameras.
- I. Each contractor will be required to provide any cutting, patching including painting to match existing finishes of building.

1.3 CODE AND STANDARD REFERENCES

1. Comply with all current applicable state statutes, administrative rules, building codes and elevator codes at the project site required at the time of permitting, including but not limited to the following:
 - a. Florida Statutes 399
 - b. Florida Administrative Code 61C-5
 - c. Florida Building Code
 - d. ASME A17.1 Safety Code for Elevators and Escalators
 - e. ASME A17.2 Guide for Inspection of Elevators and Escalators
 - f. ADAAG, Americans with Disabilities Act Accessibility Guidelines
 - g. NFPA 13, Sprinkler Systems
 - h. NFPA 70, National Electrical Code
 - i. NFPA 80, Fire Doors and Windows
 - j. ANSI/UL 10B, Fire Tests of Door Assemblies
 - k. NFPA 72, National Fire Alarm Code
 - l. NFPA 101 Florida Edition
 - m. O.S.H.A. Requirements for construction
 - n. Elevator Industry Field Employees' Safety Handbook
 - o. Miami-Dade Transit Construction Safety Manual and Attachments
 - p. Miami-Dade County Department of Transportation and Public Works (DTPW) Adjacent Construction Manual

1.4 ELEVATOR SYSTEM DESCRIPTIONS

- A. Elevator System, General: Manufacturer's standard elevator systems.
 1. Unless otherwise indicated, manufacturers' standard components shall be used, as included in standard elevator systems and as required for complete system.
- B. Elevator Arrangement
 1. Elevator shall be numbered as viewed from lobby facing the elevators from left to right in main lobby with alpha-numeric designations.
 - a. Keep current elevator alpha-numeric designations.
 2. Specific requirements for the specific elevator or component shall be designated as such and shall not apply to other elevators in the building.

3. Specifications for elevators include minimum requirements of all elevators and it shall be the responsibility of the contractor to complete all work to code compliance.
4. Insert a different number for each group of elevators that share a group operation system

C. Elevator Systems

1. Passenger Elevators:
 - a. Quantity: One (1) Simplex Groups
 - 1) Elevator #3 – SS# 72640
 - b. Type: Commercial holed in-ground hydraulic passenger.
 - c. Machine Location:
 - 1) Adjacent – First Floor, field verify
 - d. Number of Stops:
 - 1) Three (3)
 - e. Number of Openings:
 - 1) Three (3), Front & Rear Entrances, field verify
 - f. Travel rise:
 - 1) Field verify
 - g. Rated Capacity:
 - 1) 3500lbs
 - h. Rated Speed:
 - 1) Field verify
 - i. Car Enclosure Inside Dimensions:
 - 1) Field verify
 - j. Entrance Dimensions and Type:
 - 1) Width 36 inches x Height 84 inches, Center Opening, field verify
2. Main Power Supply: Existing 240 Volts + or - 5% of normal, 3 Phase, 60 Cycle with a separate equipment grounding conductor. Contractors shall field verify.
3. Lighting Power Supply: 120 Volts, 1 Phase, 15 Amp, 60 Hz.
4. Stopping Accuracy: $\pm 1/4"$ under any loading condition or direction of travel.

5. Door operating equipment shall be labeled with maximum door speed so that Kinetic Energy shall not be above 7.37 ft-lbf. As measured by ASME A17.1-2016 Safety Code for Elevators and Escalators.
6. Car Operation:
 - a. Provide a Simplex Selective Collective microprocessor-based controller for elevators #1, the operation shall be automatic by means of the car and hall buttons.
7. Provide microprocessor-based Simplex Selective Collective automatic operation control system, which utilizes on-board diagnostics for servicing, trouble-shooting, and adjusting without requiring the use of an outside service tool.

1.5 Submittals

- A. Product data: Submit product data for the following:
 1. Elevator car and hoistway fixtures.
 2. Operation, control, and signal systems.
 3. Drive, motor, machine and all major components of system.
- B. Shop drawings:
 1. Show equipment arrangement in the machine room, pit and hoistway. Provide plans, elevations, sections and details of assembly, erection, anchorage, and equipment location as required.
 2. Indicate elevator system capacities, sizes, performances, safety features, finishes and other pertinent information.
 3. Show floors served, existing travel distances, maximum loads imposed on the building structure at points of support and all similar considerations of the elevator work.
 4. Indicate electrical power requirements and branch circuit protection device recommendations and locations.
- C. Certificates: Inspection and acceptance certificates of elevator system installation.
- D. Operation and maintenance data. Include the following:
 1. Operation and maintenance instructions.
 2. Parts list, with recommended parts inventory.
 3. Wiring diagrams for control system including any in field modifications.
 4. Copy of field pull sheet wiring as built notes. Pull sheets to include wire numbers and colors.

1.6 QUALITY ASSURANCE

A. Elevator Contractor Qualifications:

1. Elevator Contractor shall provide pre-engineered elevator system components by manufacturer(s) regularly engaged in the manufacture of elevator systems.
 - a. Compliance with ASME A17.1 Safety Code for Elevators and Escalators, Florida Statutes, Chapter 399, Florida Administrative Code 61C-5, all applicable sections of the Florida Building Code, and additional requirements specified herein.
 - b. The elevator contractor shall have a documented, on-going quality assurance program.
 - c. Contractor shall have a mechanical or electrical engineer on staff for County critical elevators.
2. Installer Qualifications: The manufacturer or an authorized agent of the manufacturer with not less than ten years of satisfactory experience installing elevators equal in character and performance to the project elevators.
 - a. All mechanics employed to work onsite must have a valid Certificate of Competency issued by State of Florida Bureau of Elevator Safety.
 - b. There shall not be allowed onsite more than one helper or unlicensed assistant per onsite licensed mechanic.
3. Permits and Inspections: Apply, secure and pay for all required State of Florida and Miami-Dade County Office of Elevator Safety and applicable building code permits, tests and fees as required by Florida Administrative Code 61C-5 for Alteration Permits, and local jurisdiction permits.
 - a. Elevator contractor is responsible for proper posting of all required licenses, permits and safety documentation.
4. Regulatory Requirements:
 - a. ASME A17.1-2016 or more stringent edition adopted by the State of Florida
 - b. Florida Building Code, latest edition adopted by the State of Florida
 - c. Current Florida Statute 399 and 553
 - d. NFPA 13 Standard for the Installation of Sprinkler Systems, latest edition adopted by the State of Florida
 - e. NFPA 70 National Electrical Code, latest edition adopted by the State of Florida
 - f. NFPA 72 National Fire Alarm Code, latest edition adopted by the State of Florida
 - g. Americans with Disabilities Act - Accessibility Guidelines (ADAAG)
 - 1) Florida Building Code: Accessibility, latest edition adopted by the State of Florida

- h. Any changes or updates as required by Florida Building Code or Florida Statute 399 by time of permit application.
 - i. Any and all onsite workmen and receiving of products to site are required to follow security and safety procedures as per Miami-Dade County Department of Transportation and Public Works policies and facility regulations including the Miami-Dade Transit Construction Safety Manual and Attachments and the Miami-Dade County Department of Transportation and Public Works (DTPW) Adjacent Construction Manual.
5. Miami-Dade County Department of Transportation and Public Works has designated the Miami-Dade County Office of Elevator Safety Elevator Contracts Administrator, as the elevator consultant on this project.
- a. The Miami-Dade County Office of Elevator Safety Elevator Contracts Administrator, in accordance with ASME A17.1 Safety Code for Elevators and Escalators, Inspection and Test Requirements, may be present for and review all acceptance inspections for these elevators.
 - b. Elevator Installer in accordance with ASME A17.1 Safety Code for Elevators and Escalators, Inspection and Test Requirements, will schedule and coordinate all acceptance tests and arrange for inspection for all elevators with the Miami-Dade County Office of Elevator Safety.
 - c. Elevator contractor must notify the General Contractor, building owner and elevator consultant at least five (5) days prior to inspection advising of the date and time of all inspections and tests.
 - d. Elevator contractor shall be solely responsible for the application, securing, maintaining, completion and posting of elevator permits as per Florida Statute 399, the State of Florida Bureau of Elevator Safety /and Miami-Dade County.
 - 1) Delivery to the Owner upon completion and acceptance of elevator work, the certificate of operation.
6. All signage as required by Florida Building Code, latest applicable edition of ASME A17.1 Safety Code for Elevators and Escalators, NFPA 70 National Electrical Code and NFPA 72 Fire Alarm Code to be posted in elevator lobbies, fire alarm panels, disconnects, machine rooms and machine room doors.
7. Execute and Notarize Non-Proprietary Equipment Affidavit attachment provided.
- a. Provide letter of guarantee that any and all equipment installed shall be completely non-proprietary and shall not require the need for specialized testing or programming tools currently or in the future.
 - b. Future information for trouble shooting or adjusting shall be available to any licensed elevator maintenance contractor by the supplier of the control system at a reasonable cost comparable to cost of competitive parts within marketplace.

- c. Contractor shall provide complete schematics and wiring diagrams for control systems including information for change of program, on board diagnostics or mnemonics, or other on board switches or settings.
 - d. Any controller by a manufacturer other than specified must be approved prior to bid.
 - e. Letter stating agreement to the above compliance shall be signed by an officer of elevator contractor and shall be notarized.
 - f. Any equipment that is provided for installation which would require any specialized tool, devices, manuals, source codes, access codes, objects, passwords and/or software to input parameters, make adjustments, troubleshoot, perform diagnostics, perform testing functions or required for any other type of maintenance or repair function shall be included with the installation cost of this bid document and will become the property of the building owner.
 - 1) At the time of bid submission, this shall be identified as such on the bid document.
8. Elevator contractor is responsible for all protection both inside and outside of hoistway to all personnel inside or outside of hoistway areas.
- a. Includes providing and maintaining of protective barricades at hall entrances.
 - b. Screening of each hoistway during work
 - c. Protection from trip hazards due to storage, use of materials or drop cords.
9. Elevator contractor is to provide due care to protect building flooring and walls from excessive debris, dirt or damage due to workmen onsite.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver elevator materials, components and equipment in manufacturer's protective packaging.
- B. Protect and handle materials in accordance with manufacturer's recommendations to prevent damage, soiling, or deterioration.
- C. Elevator contractor shall be responsible for the material handling of all elevator equipment to site storage area.
 - 1. Elevator contractor will be responsible for keeping all stored materials inside storage area with lock and key.
- D. Locked and protected storage for elevator contractor's tools or materials at site is contractor's responsibility.
- E. Elevator equipment disassembled for replacement shall be stored in a dry, protected area for utilization as replacement parts, such as pump motors, drive machines and controllers, to maintain existing elevator(s) which are not yet in the modernization phase of the project.

- F. Elevator contractor shall be responsible for crane services for the placement of the equipment in the machine rooms.

1.8 PROJECT CONDITIONS

- A. Authorized elevator personnel only are responsible for temporary installed barrier panels as may be required during construction to protect the openings at elevators at each floor.
 - 1. Panels may be removed only while the authorized elevator personnel are to perform work in the immediate area of the unprotected opening.
 - 2. Authorized elevator personnel shall re-install all barriers as required to maintain the original solid and safe protection to the opening prior to leaving immediate work area of the opening.
- B. Security: Any and all onsite workmen and receiving of products to site are required to follow security and safety procedures as per OSHA and Miami-Dade County Department of Transportation and Public Works facility policies.
- C. Painting:
 - 1. Except as otherwise specified, paint all metal work provided by the elevator manufacturer and installer.
 - 2. Clean and paint machine room floors.
 - 3. Provide all ferrous metals installed in the hoistway shop primed with a rust inhibitive primer.
 - 4. Remove rust, clean, degrease and paint all installed parts or components accumulated during the construction phase.

1.9 Warranty

- A. The elevator contractor's acceptance is conditional on the understanding that their warranty covers defective material and workmanship.
 - 1. The warranty period shall extend to one (1) year from the date of completion or acceptance thereof by beneficial use; whichever is earlier, of each elevator.
 - 2. The warranty excludes ordinary wear and tear or improper use, vandalism, abuse, misuse, or neglect or any other causes beyond the control of the elevator contractor and this express warranty is in lieu of all other warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose.
 - 3. Any defective condition or workmanship not mutually agreeable as satisfactory to building owner and elevator contractor shall be determined by the independent elevator consultant as final for the replacement, repair or continued use or product or part in question.

- B. Maintenance service consisting of a minimum of bi-weekly examinations, adjustments and lubrication of the elevator equipment shall be provided by the elevator contractor for a period of twelve (12) months after the elevators have been turned over for the customer's use.
1. This service shall not be subcontracted, but shall be performed by the elevator contractor.
 2. All work shall be performed by competent employees during normal working hours between 8:00AM to 5:00PM Monday through Friday and shall include emergency 24/7 callback service.
 3. All inspections and performance of periodic safety tests for witnessing by Miami-Dade County Office of Elevator Inspectors shall be included at no charge.
 4. This service shall not cover adjustments, repairs or replacement of parts due to negligence, misuse, abuse or accidents caused by persons other than the elevator contractor.
 5. Only genuine parts and supplies as used in the manufacture and installation of the original equipment shall be provided.
 - a. Obsolescence will not be allowed.
 6. Warranty maintenance service shall start upon completion of each elevator group or facility.
 - a. Warranty service starting date shall be after completion of punch-out lists and close-out documents as agreed with building management, consultant and contractor.
- C. If not currently on County maintenance contract services, provide interim monthly maintenance rates for equipment in service during the project prior to and after the installation phase, final acceptance for public utilization and warranty maintenance service.
1. The Contractor shall not invoice for monthly maintenance on equipment taken out of service for modernization or installation.
 2. Shall include all annual inspections and performance of periodic safety tests for witnessing by Miami-Dade County Office of Elevator Safety Tests during interim maintenance period.
 3. Unless identified in prior pre-maintenance survey and accepted in the agreement, obsolesce shall not be allowed.
 4. Include wiring diagrams for existing equipment.
 5. Provide billable labor rates for helpers, mechanics and adjusters inclusive of standby services, minor and major repairs for other than normal working hours weekdays and Saturdays and Sundays and Holidays (overtime).
 6. Include material cost and externally purchased subcontracted services mark-up not greater than 20% not covered in the warranty.

7. When building management requests the contractor to perform repairs or services including inspections and testing covered in the warranty during other than normal working hours, the contractor shall invoice the facility the difference between the overtime labor rate and the normal working hourly rate.

2.1 PRODUCTS

A. ACCEPTABLE MANUFACTURER

1. Only products and components produced or provided by manufacturer(s) regularly engaged in the manufacture of elevator products, and that complies with ASME A17.1 Safety Code for Elevators and Escalators, ASME A17.2, Florida Statutes, Chapter 399, Florida Administrative Code 61C-5, all applicable sections of the Florida Building Code in its entirety, and additional requirements specified herein are acceptable.
2. Basis-of-Design Product: MEI – Total Elevator Solutions, G.A.L. GALaxy Controllers and door equipment, Innovation Industries Elevator fixtures and pushbuttons, or approved equals.
 - a. Acceptable Manufacturers
 - 1) GAL/Hollister Whitney
 - 2) Motion Control Engineering
 - 3) Virginia Controls
 - 4) Elevator Controls
 - 5) Innovation Industries
 - 6) MAD Elevator
 - 7) SmarTork
 - 8) Janus
 - 9) Maxton
 - 10) Elevator Equipment Corp.
 - 11) MEI
 - 12) IDEC Elevator Products

B. MATERIALS, GENERAL

1. Colors, patterns, and finishes: As selected by the Miami-Dade County Department of Transportation and Public Works from manufacturer's full range of standard colors, patterns, and finishes.
 - a. Steel:
 - 1) Shapes and bars: ASTM A 36

- 2) Sheet: ASTM A 366, cold-rolled steel sheet, commercial quality, Class 1, matte finish, stretcher leveled.
- 3) Finish: Factory-applied baked or powder coated enamel.

b. Stainless Steel:

- 1) Shapes and bars: ASTM A 276, Type 300 (18-8)
- 2) Tubing: ASTM A 269, Type 300 (18-8)

C. HOISTING EQUIPMENT

1. Car Sling and platform

a. Platform: Existing sling and frame shall be retained.

- 1) Inspect platform for integrity. If acceptable, retain existing platform.
 - a) Underside of the platform shall be verified for fire protection as required.
- 2) If replacement is required, utilize galvanized steel frame with Stainless Steel platform including stringers as manufactured by IDEC Elevator Products, Riviera Beach, FL, (954) 618-0770, or approved equal.
 - a) Engineered for application, load and tare
- 3) Existing platform guards (aprons) shall be removed.
 - a) New Platform Guards (Aprons) shall be installed.
 - b) The entrance side of the platform of each elevator shall be provided with a smooth metal guard plate of not less than 1.5 mm (0.059 in.) thick steel, or material of equivalent strength and stiffness, adequately reinforced and braced to the car platform.
 - c) The guard plate shall extend not less than the full width of the widest hoistway door opening.
 - d) The guard plate shall have a straight vertical face, extending below the floor surface of the platform no less than 525 mm (21 in.).

b. All channel stiles, gussets, braces, cable hitch plates, sill cutouts engineered and code compliant for each application as required.

- 1) Inspect for integrity. If acceptable, retain equipment.

c. Platform isolation if required.

2. Car Enclosures: Inspect for integrity. If acceptable retain enclosure.

- a. If replacement is required, utilize 14 gauge galvanized steel walls and dome as manufactured by IDEC Elevator Products, Riviera Beach, FL, (954) 618-0770, or approved equal.
 - b. Provide code compliant emergency exit with safety switches.
- 3. Car Top Guard Railing: A standard railing conforming to ASME A17.1 Safety Code for Elevators and Escalators shall be provided 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.
 - a. Mounted a maximum of 4 inches from the outside perimeter of the car top enclosure.
 - 1) Car top enclosure outside of railing shall be clearly marked
 - 2) Marking shall be alternating 100 mm (4 in.) diagonal red and white stripes.
 - b. Overhead clearance shall be sufficient to accommodate a 42 inch guard rail at the maximum upward movement with 4 inch clearance vertically and horizontally to any building structure and equipment.
 - c. If overhead clearance is not sufficient to accommodate a 42 inch guard rail with 4 inch clearance, provide collapsible guard rail per ASME A17.1-2016 requirements
- 4. Guide Rails: Existing guide rails shall be retained dry unlubricated steel, fastened to the building with steel brackets verified in alignment, secure to wall and brackets with surface planed smooth.
 - a. Guide rails shall be cleaned and aligned as necessary for the proper performance of the elevators.
 - b. Replace steadying plates
- 5. Car Guides:
 - a. Replace swivel slide type guides with roller guide assemblies, mounted on top and bottom of the car held in contact with the guide rail by adjustable devices.
- 6. Buffers: Inspect for integrity of existing spring buffers engineered and code compliant for each application.
 - a. If acceptable, retain existing buffers.
 - 1) Existing buffers shall be cleaned and painted.
 - b. Replace if compromised
 - 1) Replacement buffers shall conform to the requirements of ASME A17.1 for the application.
 - c. Buffer data plates shall be maintained or replaced for code compliance with ASME 171.1.

7. Oil line: Inspect for integrity. If acceptable retain existing oil supply piping.
 - a. Schedule 40 ASTM A-53 Grade B pipe shall be installed between the pumping unit and the cylinder.
 - b. Oil line fittings shall be grooved type.
 - c. Shut-off valves shall be provided in machine room.
 - d. Oil line shall be supported with an adequate number of support stands.
 - 1) Stands shall be anchored to the floor or wall and adjustable in height.
 - 2) Isolation clamps shall secure the oil line to the stand around the full 360 degree circumference.
8. Pumping unit tank: Replace
 - a. The storage tank shall be constructed of steel and shall be provided with a removable cover containing a removable oil dip stick.
 - b. The pump and submersible motor shall be mounted on reinforced isolation.
 - c. The control valve shall be mounted in the discharge line above the oil level and easily accessible from the top of the tank.
9. Pumping unit: Replace
 - a. The motor shall be of the submersible alternating current, squirrel cage induction type and shall be of a design adapted to electro-hydraulic requirements.
 - b. The pump shall be a positive displacement screw type to give smooth operation and shall be designed and manufactured for elevator service.
10. Pumping unit control valve, replace.
 - a. Designed and manufactured by Maxton Manufacturing Company, or approved equal.
 - b. The control valve shall be manifold with up, down and check valve sections.
 - c. A control section including solenoid valves will direct the main valve and control up and down starting, transition from full speed to leveling speed, up and down stops, pressure relief and manual lowering.
 - d. Down speed and up and down leveling shall be controlled at the main valve sections.
 - e. All of these functions shall be fully adjustable for maximum smoothness and to meet contract conditions.
 - f. The manual lowering feature will permit lowering the elevator at slow speed in the event of power failure or for adjusting purposes.

11. A MEI Silencer air-bladder muffler, or approved equal, shall be provided at the control valve discharge.
 12. Replace existing hydraulic fluid throughout the system including removing all debris and waste oil from old system and proper disposal from property of all waste product.
 13. Oil cooler:
 - a. Heat rejection of 18,000 BTU/hr, based on ambient temperature 40 degrees F cooler than oil out.
 - b. Mounted adjacent to pumping unit storage tank.
 - c. Single fan radiator
 - d. Adjustable thermostat control
 - e. Isolated radiator mounts
 - f. 10 micron easily changeable filter
 - g. Restriction sight glass with bypass in case of plugged filter
 - h. Hard wired 115 VAC 20 amp on separate circuit with overcurrent lockable disconnect.
 14. Provide solid state soft start starter sized as appropriate for pump motor.
- D. Automatic Terminal Limits:
1. Provide new electric terminal limits switches.
 2. Place electric limit switches in the hoistway near the terminal landings.
 3. Limit switches shall be designed to cut off the electric current and stop the car if it runs beyond either terminal landing.
- E. Automatic Self-Leveling:
1. Provide each elevator car with a self-leveling feature to automatically bring the car to the floor landings and correct for over travel or under travel.
 2. Self-leveling shall, within its zone, be automatic and independent of the operating device.
 3. The car shall be maintained level to less than 1/4" with the landing irrespective of its load.
- F. Traveling Cable:
1. Traveling cables shall terminate at numbered terminal blocks in car and machine room.
 2. Traveling cable shall be provided with separate shielded circuit wiring for communication system with coax and data cables for building security.
 - a. Coordinate requirements with security equipment installation contractor

3. Traveling cable shall be hung to obtain proper size of loop.
4. Traveling cable shall be hung free of all contact from hoistway or car equipment.
5. Traveling cable outer covering shall be of fire resistant and meet UL standard testing.
6. Traveling cable shall be provided with 20 percent spare conductors for each car.

G. Hoistway & Machine Room Wiring:

1. Provide and install wiring throughout the elevator machine room and hoistway.
2. All wiring shall be installed in accordance with applicable NEC and latest applicable edition of ASME A17.1 codes.
3. Hoistway door interlock wiring shall be SF-2 high heat resistance wiring.
 - a. All other new wiring shall have flame retarding and moisture resistant outer covering.
4. Equipment grounding shall be provided.
 - a. The equipment grounding conductor will be run with the circuit conductors and shall be a copper conductor.
 - b. Ground all conductors, supports, controller enclosure, and other non-current conducting metal enclosures for electrical equipment in accordance with NEC.
 - c. The ground wires shall be solid or stranded; insulated, covered, or bare copper, sized as required by NEC.
 - 1) Individually covered or insulated equipment grounding conductors shall have a continuous outer finish that is either green or green with one or more yellow stripes.
 - 2) An insulated or covered conductor larger than 6 AWG shall be permitted, at the time of installation, to be permanently identified as an equipment grounding conductor with green marking at each end and at every point where the conductor is accessible.
5. Hoistway travel cable and associated wiring shall be coordinated with controller manufacturer for wiring configuration requirements to match all controller wiring color coded and numbered diagrams for installation.
6. Retain and reutilize to the maximum extent possible all ducts and conduit in machine room and hoistway.
 - a. Install new ducts and conduit as required.

H. Pit Ladder: Pit ladder shall be compliant with latest applicable edition of ASME A17.1 code.

I. Pit Stop Switch: Provide and install pit stop switch as required by latest applicable edition of ASME A17.1 code.

- J. Pit Light: Provide and install pit lighting as required by NEC and ASME A17.1. Installed by electrical contractor.
- K. Pit Flood Switch: Install pit flood switch assembly.

2.2 HOISTWAY ENTRANCES

A. Interlocks: Replace

- 1. Equip each hoistway entrance with an approved type interlock, G.A.L. or approved equal.
 - a. Tested as required by code including SF-2 wiring and grounding.
 - b. Interlock shall be designed to prevent operation of the car away from the landing until the doors are locked in the closed position as defined by code and shall prevent opening the doors at any landing from the corridor side unless the car is at rest at that landing or is in the leveling zone and stopping at that landing.

B. Door Hangers, Sheaves, and Tracks: Replace

- 1. Provide new G.A.L., or approved equal, sheave type two point yellow zinc weatherproof /galvanized suspension hangers and tracks for each hoistway sliding door.
- 2. Sheaves: Polyurethane tires with ball bearings properly sealed to retain grease.
- 3. Hangers: Provide an adjustable slide to accommodate the up-thrust of the doors.
- 4. Tracks: Drawn steel shapes, smooth surface and shaped to conform to the hanger sheaves.

C. Hoistway and Cab Doors:

- 1. Doors: Replace hoistway and cab doors.
 - a. New door close contact switch including zone locking device shall be installed.
 - b. Provide new fire rated hoistway doors and cab door for each elevator.
 - c. All hoistway and car door bottoms shall be reinforced.
 - d. Doors shall be manufactured of Stainless Steel by IDEC Elevator Products, Riviera Beach, FL, (954) 618-0770, or approved equal.
 - e. Doors shall be manufactured to include all mounting hardware requirements of the GAL door operating equipment or approved equal.
- 2. Hall doors finish shall be Rigidized Steel with pattern 2WL for vandalism protection.
- 3. Cab door finish shall be Rigidized Steel with pattern 2WL for vandalism protection.
- 4. Provide new SEES Enforcer door gibs, or approved equal, on all hoistway and car doors.
- 5. Provide fire tabs on all hoistway and car door panels on all hoistway and car door panels.

- D. Sight Guards: Replace as required. Provide sight guards as required to reduce the opening between the leading edge of the hoistway door and the car door to maintain code required clearances.
- E. Entrance Frames: Verify integrity of entrance frames.
 - 1. If entrance frames exhibit excessive corrosion, replace.
 - a. Replace all existing frames with Rigidized Steel pattern 2WL, or approved equal.
 - b. Cutting of old frames and walls not greater than 6" from existing frames for removal including installation of support sills by elevator contractor.
 - c. Blocking of new frames, and all finish masonry patching shall be by others.
 - d. Protective barriers provided and installed by elevator contractor.
 - 2. If entrance frames are retained:
 - a. Clean and remove any corrosion.
 - b. If frames are excessively scratched and dented beyond repair.
 - 1) Reclad with Rigidized Steel pattern 2WL, or approved equal.
 - 3. Replace missing and/or damaged bumpers on strike jambs
- F. Hoistway and car sills: Verify integrity
 - 1. If condition of sills is acceptable
 - a. Retain
 - b. Clean and polish
 - 2. If sills damaged beyond repair
 - a. Replace with polished nickel/silver sills
 - b. If cost effective, provide new hoistway aluminum "Sillskins" as manufactured by Archi-Tread, Inc., Kinnelon, NJ 07405, Phone: (973) 725-5738, or approved equal. (Optional)
- G. ain
- H. Signage:
 - 1. Provide all entrance jamb Braille/Number/Tactile Stainless Steel signs as required by the Florida Building Code Accessibility Requirements
 - 2. Provide the international symbol for emergency medical service (star of life) on both sides of hoistway door frame as required by code for each elevator with inside clearance for emergency ambulance stretcher.

3. Identification of equipment: Each elevator shall be provided with an alpha-numeric sign 3 inches in height on every elevator entrance at the designated landing.

2.3 DOOR OPERATION

- A. Door Operator: Provide a direct current motor driven heavy-duty operator GAL MOVFRW, or approved equal.
 1. Provide NEMA 4 conduit and fittings to maintain NEMA rating
- B. Provide G.A.L., or approved equal, door close contacts and switches.
- C. Provide G.A.L., or approved equal, yellow zinc weatherproof LWZ car door clutch
- D. Provide G.A.L. door Fault Monitors or approved equal
- E. Provide G.A.L., or approved equal, car door zone restrictor.
- F. Closers: Provide SmarTork spirator door closers, or approved equal, manufactured by SmarTork, Inc., PO Box 1393, Boerne, Texas 78006, (866) 496-2355, contact@smartorkinc.com, www.smartorkinc.com.
- G. Door Protection (Door Safety Edge): Provide new door safety edge.
 1. New door safety edge shall be an infrared light curtain type with parallel or criss cross light beams. The beams shall project across the car opening detecting the presence of a passenger or object. If door movement is obstructed, the doors shall immediately reopen.
 - a. The light screen is to be totally immune to ambient light, including strobes, fluorescent, and direct sunlight (100,000 lux – 2D /60,000 lux -3D).
 - b. Light beam and receiver arrays to operate independent of the power supply, allowing the use of any 18 – 25VDC.
 - c. The power supply shall be dual voltage input (120-240Vac, 50/60Hz)
 - d. Provide LED indicators for power applied and relay operation, simulator test button for beam break, and push-to-test button for manual operation of master control relay.
 - e. Nudge feature to be field installable in standard power supply with accessory relay to operate in either the delayed nudge mode or redundant mode, switch selectable. Nudge feature also to incorporate buzzer with enable/disable switch and delay timer adjustable for nudge operation.
 2. Provide Panachrome 3D ultraslim manufactured by Janus, or approved equal, door protection door reopening devices.
 - a. Red and green indicators highlight door movement to reduce door and equipment damage

- b. 3D projection into lobby to detect passengers or equipment
- c. 154 criss cross light beams
- d. Water and Dust Resistant

2.4 CONTROL AND LANDING SYSTEM

- A. Elevator control system shall be GALaxy IV, produced by GAL Manufacturing, Bronx, NY or approved equal.
- B. The GALaxy IV elevator controller is a computer-based system that offers superior performance, flexibility and reliability. It has been designed to save time in installation and troubleshooting.
 - 1. Passenger Elevators
 - a. Two (2) Simplex Selective Collective Automatic Operation car group
 - 1) Two (2) Openings, One (1) Front, One (1) Rear Entrances
 - 2. Hydraulic application
- C. Provide Solid State Soft Starter for pump motor assembly
 - 1. Starter to have built in reverse phase sensor with diagnostic monitoring.
- D. Microprocessor specifications:
 - 1. Hydraulic: 32 bit, 80586 CPU 133 MHz with built in floating point processor
- E. Controller Software
 - 1. Program in Compact Flashcard
- F. Dispatching
 - 1. No separate group controller – group functions are an integral part of the car controllers
 - 2. ETA based algorithm
 - 3. Up & Down Peak; Next Up
 - 4. AI based parking algorithm (intelligent parking)
- G. I/O Structure:
 - 1. Optically isolated
 - 2. Field replaceable
 - 3. LED status indicators on all input and output devices
- H. Serial Communication

1. Controller to Car / COP
 - a. To reduce the number of wires in a traveling cable, GALaxy controllers use a CAN serial communication channel to the car to accept car calls and car input and output functions.
2. Serial Hall Riser (Optional)
 - a. To reduce the number of hoistway wires, a serial CAN channel can be used for the hall call risers' wiring.
- I. Built in Diagnostic / Programming Interface
 1. LCD display provided on main CPU and safety processor boards
 2. Access to all parameters and diagnostics without a laptop or special tool
- J. Wire Labels
 1. Controllers are wired using harnesses that are color coded. Individual wires are marked, along their length, with their name. Proper termination is applied for each wire.
- K. Schematics
 1. Controller schematics are printed in color to show the actual wire size and colors. Hoistway (including traveling cable) schematics show actual wire numbers, and point-to-point connections.
- L. Job Program Transfer and Save
 1. GALaxy has the ability to upload and download the program file, job configuration file, and adjustment parameters to and from a laptop or removable medium. The job program file and configuration file is stored on compact flash medium and shall be removable from the controller to allow for easy update of the latest software version.
- M. User Activated Test Procedures
 1. The user interface has a built in, user activated, menu driven, buffer test procedure, over speed test procedure, and terminal limit test procedure.
- N. Standard and Optional Features:
 1. Built-in secure WiFi link
 2. Access Operation
 3. Door Motor Protection Timer
 4. Field Adjustable Parameters (Door Times, Lobby, etc.)
 5. Fire Service Phase I
 6. Fire Service Phase I Alternate Return

7. Fire Service Phase II
8. Inspection Operation
9. On Board Diagnostic LEDs
10. On Board LCD Display Interface
11. Two Motor Protection Timers
12. Cross Assignment
13. Cross Cancellation
14. Emergency Power
15. Inter-Group Emergency Power
16. Auxiliary Battery Lowering
17. Lap Top Interface (GAL Com)
18. Remote Diagnostics
 - a. GALileo
 - 1) Remote Monitoring Capabilities are provided using the GALileo system to monitor each the bank of elevators.
 - 2) For remote monitoring the system needs to be connected to the internet and programmed with an IP address.
 - 3) All data collection, data storage and real - time monitoring is then provided by accessing the system with a web browser, no “special” software or licenses are required.
19. Security / Card Readers / Lock Out
20. Provide GFI duplex receptacle in controller

O. Selector System

1. Selector with Stainless Steel tape

2.5 Elevator Control, Signal Fixtures and Pushbuttons

A. All elevator control, signal fixtures and pushbuttons: Basis of Design

1. Innovation Industries, or approved equal, 3500 E. Main Street, Russellville, Arkansas 72802, (800) 843-1004.

B. Car Operating Panel (Main Front)

1. Bruiser Series, or approved equal, designed and manufactured for rugged strength and durability.

- a. Finish: #4 brushed 304 Stainless Steel
2. Pushbuttons shall be PB 23
 - a. Finish: Copper metal finish for microbial safety protection
 - b. 1.312 inches diameter
 - c. Illuminated center jewel in red, amber, green, blue and white
 - d. Vandal resistant
 - e. Positive stop that seats on the faceplate and not a collar
 - f. Sanitary Protection: Provide touchless sensors adjacent to push buttons.
3. Multi-volt LED illumination design
4. Buttons shall illuminate to indicate call has been registered for a floor destination.
5. The panel shall consist of a series of modules, key switches or approved buttons for optimum viewing and accessibility.
6. All engraving shall be on flush mounted hairline faceplates securely mounted to the aluminum backing plate.
7. All elevator car controls shall be compliant with the latest adopted edition of the Florida Building Code: Accessibility requirements for height and location reach ranges.
8. Provide a 2" electronic segmented digital position indicator mounted in the control panel for optimum viewing.
 - a. As the car travels, its position in the hoistway shall be indicated by the illumination of the alpha/numeric character corresponding to the landing which the elevator is stopped or passing.
 - b. On one side of digital numeric indicator in the car panel will also be a matching indicator with direction of travel.
9. Audible destination signal announcing floor arrival.
10. Provide emergency lighting incorporated in Car Operating Panel
11. Emergency Communications System: Provide a two-way emergency communications device mounted in the car station panel.
 - a. Emergency communications device shall comply with Americans with Disabilities Act (ADA).
12. Special accessories in each car station panel:
 - a. Located in Locked Service Compartment Subpanel w/ Clear Certificate Window
 - 1) Light key switch.
 - 2) Fan key switch.

- 3) Independent Operation Keyed Switch
 - 4) Inspection key switch (if required)
 - 5) Access Keyed Switch (if required)
 - 6) Emergency Light Test Button
 - 7) GFI duplex receptacle
 - b. Keyed stop switch
13. Fire Fighters Phase II Service:
- a. The "FIRE OPERATION" switch, the "CALL CANCEL" button, the "STOP" switch, the door open button(s), the door close button(s), the additional visual signal, and the operating instructions shall be grouped together at the top of the main car operating panel behind a locked cover.
 - b. The firefighters' operation panel cover shall be openable by the same key that operates the "FIRE OPERATION" switch.
 - 1) The cover shall be permitted to open automatically when the car is on Phase I Emergency Recall Operation and at the recall level.
 - 2) When the key is in the "FIRE OPERATION" switch, the cover shall not be capable of being closed.
 - 3) When closed, the cover shall be self-locking.
 - 4) The front of the cover shall contain the words "FIREFIGHTERS' OPERATION" in red letters at least 0.4 in. high.
 - c. The designated fire key is: FEOK1
14. Car operating panels shall swing open with the hinged side closest to the sidewall.

C. HALL STATIONS

- 1. Bruiser Series NEMA 4X Florida Package, or approved equal, designed and manufactured for rugged strength and durability.
 - a. Finish: #4 brushed 316 Stainless Steel
 - b. Conformal coated electrical devices
 - c. Gasketed rough-in box
 - d. Self sealing screws
 - e. UL NEMA4X rating
 - f. Provide NEMA 4 conduit and fittings to maintain NEMA rating
- 2. Pushbuttons shall be PB 46

- a. Finish: Copper metal finish for microbial safety protection
 - b. 1.302 inches diameter
 - c. Illuminated center jewel in red, amber, green, blue and white
 - d. Vandal resistant
 - e. Sealed pushbutton with neoprene gasket
 - f. Positive stop that seats on the faceplate and not a collar
 - g. Sanitary Protection: Provide touchless sensors adjacent to push buttons.
3. Multi-volt LED illumination design
 4. Buttons shall illuminate to indicate call has been registered at that floor for the indicated direction.
 5. Risers: Risers shall include 1 for elevator front
 6. Installation shall be flush surface mount.
 7. Each terminal station shall contain one illuminating push button and other applicable accessories including hoistway access switches.
 8. Each intermediate station shall consist of two illuminating push buttons, one for the up direction and one for the down position.
 9. Phase I firefighter's service key switch, with instructions, shall be incorporated into the hall station at the designated level.
 - a. Fire Service instructions as per ASME A17.1, shall be engraved in the main floor hall station panel.
 10. Phone Line Verification
 - a. An audible signal will be provided with a lighted jewel signal labeled "ELEVATOR COMMUNICATIONS FAILURE" in red letters 5mm (.25in) in height activated when the telephone line is not functional.
 - b. The visual signal with a key switch to silence the audible signal shall be incorporated in the designated level hall station.
 11. In case of fire, use stair signs shall be engraved into each hall station panel with exact signage as per the Florida Building Code.
 12. Emergency Generator:
 - a. Emergency key (Regional Fire Key & Switch Required), operated selector switches, including lighted jewel indicators shall be provided at the main floor panel with proper engraved signage as required.

- b. If an emergency key operated selector switch is not required, a lighted jewel indicator for emergency generator elevator power shall be provided with proper engraved signage as required

D. HALL LANTERN AND POSITION INDICATOR

1. Directional Lanterns with Digital Position Indicators
2. Surface NEMA 4x Florida Package mounted above all elevator entrances
 - a. Finish: #4 brushed 316 Stainless Steel 11GA Faceplate
 - b. Conformal coated electrical devices
 - c. Gasketed rough-in box
 - d. Self sealing screws
 - e. UL NEMA4X rating
 - f. Provide NEMA 4 conduit and fittings to maintain NEMA rating
3. Directional arrows signal travel direction upon arrival at each landing
 - a. Vandal Proof epoxy filled jewels
 - b. At terminal landings, dual arrows in the same direction of travel
4. Digital Position Indicators signal car direction of travel and location in hoistway
 - a. 2 inch alpha-numeric display
 - b. UP/Down directional arrow display

2.6 CAR TOP INSPECTION STATION

- A. Provide car top inspection stations with an "emergency stop" switch and constant pressure "up-down" direction buttons to make the normal operating devices inoperative and give the inspector complete control of the elevator.
1. "Stop switch shall be permanently located on the car top and readily accessible to a person, while standing at the hoistway entrance normally used for access to the car top."
 2. A "transfer switch shall be located on the car top and shall be so designed as to prevent accidental transfer from the "INSPECTION" to "NORMAL" position."
 3. "A separate device of the continuous-pressure type labeled "ENABLE" shall be provided adjacent to the inspection operating devices."
 4. "Inspection operating devices shall become effective only when the "ENABLE" device is activated."
 5. Include lighting and a GFI duplex receptacle fixture on the car top.

- a. "The lighting shall be permanently connected, fixed, or portable, or a combination thereof, to provide an illumination level of not less than 100 lx (10 fc) measured at the point of any elevator part or equipment, where maintenance or inspection is to be performed from the car top. All lighting shall be equipped with guards. The light switch shall be accessible from the landing when accessing the car top."
 - 6. Car Top Inspection device shall be compliant with the latest edition of ASME A17.1.
- 2.7 ELEVATOR CAB INTERIOR as manufactured and installed by IDEC Elevator Products, Riviera Beach, FL (954) 618-0770 or approved equal.
- A. Re-clad Front, Transom and Side Returns with Rigidized Steel pattern 2WL.
 - B. Side and Rear Walls
 - 1. All wall to wall connections shall be Stainless Steel rounded radius corners for easier cleaning
 - 2. Rigidized Steel 2WL, or approved equal.
 - 3. Glass panels constructed of laminated glass that complies with the requirements of 16 CFR Part 1201, Sections 1201.1 and 1201.2.
 - C. Handrails
 - 1. Furnish and install 3/8" x 2" solid Stainless Steel handrails on side and back walls
 - 2. Handrail ends returning to walls
 - D. Ceiling
 - 1. Furnish and cover ceiling with plastic laminate
 - E. Lighting
 - 1. Furnish and install LED cove lighting at the top of the side walls
 - F. Flooring
 - 1. Aluminum Diamond Plate
 - 2. Tub design with rounded radius base for floor to wall connections.
 - G. Ventilation
 - 1. Sanitary Protection: Provide sterilization and purification air intake fan distributed by ECS, Corporation, ecsparts.com, or approved equal, securely mounted in ceiling.
 - a. Fan shall include UV-C lamp and ion generator
 - 2. Provide auxiliary battery back-up ventilation fan for or observation elevator car enclosure.

- H. Car top escape panels shall have switch assemblies including all wiring to install proper safety circuit as required by ASME A17.1

3.1 EXECUTION

A. Examination:

1. Coordinate all site conditions with General Contractor and other building trades.
2. Inspect hoistway, hoistway openings, pits and machine room, as constructed.
3. Verify all critical dimensions, and examine supporting structures and all other conditions under which elevator work is to be installed.
4. Do not proceed with elevator installation until unsatisfactory conditions have been corrected in a manner acceptable to the installer.
5. Commencement of installation constitutes acceptance of existing conditions and responsibility for satisfactory performance.
6. Elevator contractor shall coordinate crane services for placement of the equipment in the machine rooms with General Contractor.

- B. Elevator contractor shall be responsible for screening and protection of hoistway door openings and protection between elevators in hoistway.

C. Signage:

1. The designated project manager and the owner's representative will approve all signage in order to maintain consistent appearance for entire elevator installation.
2. All signage as required by Florida Building Code, ASME A17.1, NFPA 70 National Electrical Code and NFPA 72 Fire Alarm Code to be posted in elevator lobbies, fire alarm panels, disconnects, machine rooms and machine room doors.

D. Installation:

1. Install elevator systems components and coordinate repairs of hoistway wall construction.
2. Competent licensed elevator installation personnel in accordance with Florida Statute 399 and ASME A17.1 manufacturer's installation instructions and approved shop drawings shall perform work.
3. Comply with the National Electrical Code for electrical work required during installation.
4. Perform work with competent, skilled workmen under the direct control and supervision of the elevator manufacturer's experienced foreman.
5. Supply in ample time for installation by other trades, inserts, anchors, bearing plates, brackets, supports, and bracing including all setting templates and diagrams for placement.

6. Welded construction: Provide welded connections for installation of elevator work where bolted connections are not required for subsequent removal or for normal operation, adjustment, inspection, maintenance, and replacement of worn Parts.
 - a. Comply with AWS B2.1 Standard Welding Procedure and Performance Qualification.
 7. Coordination: Coordinate elevator work with the work of other trades, for proper time and sequence to avoid construction delays.
 - a. Use benchmarks, lines, and levels designated by the Contractor, to ensure dimensional coordination of the work.
 8. Install machinery, guides, controls, car and all equipment and accessories to provide a quiet, smoothly operating installation, free from side sway, oscillation or vibration.
 9. Sound isolation: Mount rotating and vibrating elevator equipment and components on vibration-absorption mounts, designed to effectively prevent the transmission of vibrations to the structure, and eliminate sources of structure-borne noise from the elevator system.
 10. Lubricate operating parts of system, including ropes, as recommended by the manufacturer.
 11. Elevator contractor shall be required to install all data plates as required by ASME A17.1 on complete elevator system including alteration and original equipment.
 - a. All data plates shall be manufactured and printed with proper data for each elevator by CodeDataPlate.com or approved equal.
- E. Field Quality Control:
1. Acceptance testing: Upon completion of the elevator modernization and before permitting use of elevator, perform acceptance tests as required by the State of Florida and recommended by Code and governing regulations or agencies.
 - a. Perform other tests, if any, as required by governing regulations or agencies.
 2. Advise Owner, Elevator Consultant, and governing authorities in advance as required of dates and times tests are to be performed on the elevator.
- F. Adjusting:
1. Make necessary adjustments of operating devices and equipment to ensure elevator operates smoothly and accurately.
 2. The elevator contractor shall be required to perform and pass all required testing of all equipment as per ASME A17.1 and ASME A17.2.
 3. Elevator contractor is to return at 30 days, 90 days and 180 days after final installation to examine and re-adjust equipment as may be required for optimum performance.

G. Cleaning:

1. Before final acceptance, remove protection from finished surfaces and clean and polish surfaces in accordance with manufacturer's recommendations for type of material and finish provided.
2. For duration and/or completion of elevator work, remove tools, equipment, and surplus materials from site daily.
3. Clean equipment rooms and hoistway.
4. Remove trash and debris daily from premises.

H. Protection:

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

I. Demonstration:

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

J. Elevator Consultant's Punch-out List Items:

1. Complete all of the consultant's punch-out list items as may be required.
2. The elevator consultant shall provide a review and written punch list of deficiencies.

3. The elevator consultant shall verify one time that the items from the punch list are completed after notice by the elevator contractor.

END OF SECTION

ATTACHMENT H

HYDRAULIC ELEVATORS SPECIFICATIONS (TRI-RAIL METRORAIL STATION)

1.1 SUMMARY

- A. Modernization of Hydraulic Passenger Elevators for the Miami-Dade County Department of Transit and Public Works, Tri-Rail Metrorail Station. 1125 E 25th ST., Hialeah, FL 33147.
- B. Including all engineering, equipment, labor, machines, control systems, devices and accessories as required for safely operating the specified elevators.
 - 1. Commercial, hydraulic passenger elevators.
 - a. Two (2) Passenger Elevators
 - 1) Two (2) Simplex Groups
 - 2) Elevator #1 - SS# 72565, Elevator #2 – SS# 72560
 - 2. Installation of all hoistway equipment.
 - 3. Elevator car and hoistway signal equipment.
 - 4. Operation and control systems.
 - 5. Accessibility provisions for physically disabled persons.
- C. Delivery, staging, and hoisting of new equipment.
- D. Materials and accessories as required for completing the elevator installations.
- E. Hoistway, pit and machine room barricades for safety as required.
- F. Required hoisting, hoisting permits and traffic coordination and/or permits with local jurisdictions and the State of Florida as required.
- G. Required permits and coordination and/or permits with local jurisdictions, Office of Elevator Safety and the State of Florida as required.

1.2 Related Scopes of Work by Others - Including but not limited to the following

- A. Machine room HVAC as required, to maintain temperature and humidity to between 55° F and 90° F with relative humidity of not more than 85% non-condensing.
 - 1. The elevator contractor shall provide actual calculations for total anticipated heat loads generated by all elevator machine room equipment.
 - 2. Machine room HVAC must be positioned as approved by the elevator contractor and consultant.
 - 3. There shall be no drain lines or condensation allowing water in the machine room.
 - 4. HVAC system is required to have an electrical disconnect lockable in the off position with proper safety labels including identifying source of power and purpose.

5. Remote systems shall have a proper thermostat inside the machine room.
 6. The air conditioning systems shall be additionally connected and powered by emergency generator power as required.
- B. Electrical Contractor shall furnish and install all electrical equipment for hoistway and machine room including HVAC, lighting, GFCI receptacles and electrical disconnects, as required by NFPA 70 National Electrical Code and ASME A17.1 Safety Code for Elevators and Escalators.
1. All Electrical work must be coordinated and scheduled with General Contractor, Elevator Contractor and Elevator Consultant.
 2. Elevators shall be removed from service while electrical trades are working in same or adjacent hoistways or machine rooms.
 3. Provide electrical service to main disconnect in elevator machine room; electrical power for elevator installation and testing; electrical service for machine room; machine room and pit receptacles with ground-fault current protection; lighting in machine room and pit; wiring for telephone service to machine room.
 4. Install new lockable disconnects with overcurrent protection for elevator main line power as per NEC.
 - a. Disconnect to be verified for appropriate size and type for power requirements of elevator equipment prior to installation.
 - b. Elevator systems with auxiliary power lowering operation shall be provided with an auxiliary contact that is positively opened mechanically, and the opening shall not be solely dependent on springs.
 - 1) The contact shall cause the additional power source to be disconnected from its load when the disconnecting means is in the open position.
 - c. Provide surge protection.
 5. Provide replacement electric wiring from disconnect switches to the new elevator controllers with feeder leads for connection to terminals by the elevator contractor, inclusive of a normal 120 VAC, 15 AMP supply at each controller.
 6. Minimum lighting in machine room and overhead hoistway equipment space shall be 19 ft-c.
 7. Minimum lighting in hoistway pit and top of car shall be 10 ft-c.
 8. All electrical systems shall include proper earth grounding and bonding as required by elevator manufacturer and NEC.
 - a. Provide continuous earth ground to mainline disconnects and controllers.
 9. Provide lockable disconnect switches with overcurrent protection to air conditioner installed in each machine room.

10. Provide lockable disconnect switches with overcurrent protection to oil cooler for each elevator in machine room as per NEC.
11. Provide GFCI receptacles in machine rooms and hoistways as required by NFPA 70 NEC.
12. Provide a single non-GFCI receptacle for each sump in each elevator hoistway.
13. Provide and install pit lighting and machine room lighting as per NEC with enclosed and protected lamps.
14. Pit receptacles, with GFCI protection shall be installed in NEMA 4 devices where placed within 4'-0" of pit floor.
 - a. All electrical equipment including conduit, fitting, junction boxes, portable cabling shall be NEMA 4 rated.
 - b. Care must be taken not to place equipment in line with elevator equipment.
15. Provide and install lockable disconnect switch with overcurrent protection in each machine room for each elevator cab lighting system as per NEC.
16. Provide and install new pit lighting switches and emergency stop switches.
 - a. Light switch shall be accessible from pit access door.
 - b. Emergency stop switches shall be installed approximately 18" above first floor landing adjacent to opening and located at side of each pit access door.
17. All lighting fixtures in machine rooms, elevator cars and on top of car to be suitably guarded in accordance with ASME A17.1 Safety Code for Elevators and Escalators, clearance requirements and NFPA 70 NEC requirements for guarding.
18. All disconnects shall be labeled according to NFPA 70 NEC including source of power, State of Florida Serial Numbers, Elevator Number and all required warning signs.
19. Lighting shall be installed at roof top machine room access stair and door areas.
20. Install shunt trip breakers outside of machine rooms for feeder to each mainline disconnect for removal of power by NFPA 70 NEC and NFPA 72 if installation of sprinklers in machine rooms or hoistways is required by the Florida Building Code.
 - a. Shunt trip shall be activated by heat detectors installed by others.
21. Provide conduit and data wiring for elevator car two-way communication devices, remote monitoring, security systems, lobby phones and/or fire command center elevator status panel phones.
22. Provide network connections for all required connections to the internet for remote monitoring, card readers, cameras and communication equipment requiring IP addresses.
23. Provide conduit and control circuit wiring from controller to Automatic Transfer Switch for alternate emergency standby generator.

24. Provide recommended amount of separate duplex receptacles per elevator as required for security equipment and cameras.
- C. Emergency generator configuration, installation, wiring including conduit to elevator controller, repair, transfer switches including elevator selector options, pre-signal wiring connections and/or testing with standby or emergency power systems shall be coordinated and completed by emergency generator service contractor.
1. Emergency generator personnel shall demonstrate system and tests at completion of each elevator for inspection as required by the Florida Building Code, Florida Statute 399 and ASME A17.1.
 2. Generator contractor shall provide contacts in automatic transfer switch for signals and transfer of power to elevator controllers when building is transferred to and from emergency standby power and normal power source.
- D. Fire Alarm including heat and smoke sensing devices as per NFPA 70 National Electrical Code and NFPA 72 National Fire Alarm Code.
1. Provide connections for fire recall devices to the elevator controllers in machine room.
 - a. For each elevator within the building, a minimum of three separate elevator control circuits shall be terminated at the designated elevator controller within each elevator machine room in accordance with NFPA 72.
 - b. Operation of the elevators shall be in accordance with Section 2.27 of ASME A17.1 Safety Code for Elevators and Escalators.
 - c. The smoke detectors or other automatic fire detection as permitted by NFPA 72, shall actuate the elevator control circuits as detailed in NFPA 72.
 2. Fire alarm contractor shall demonstrate at time of elevator inspection, compliance and testing of all alarm initiating devices as required by ASME A17.1 Safety Code for Elevators and Escalators, ASME A17.2 and NFPA 72 National Fire Alarm Code.
 3. Install heat detectors within 24" of sprinklers installed in machine rooms or hoistways including wiring and conduit to shunt trip breaker as installed by electrical contractor.
 - a. Heat detectors for sprinklers in pit shall activate Fire Recall.
 4. Installation of fire alarm system and devices shall conform to ASME A17.1 Safety Code for Elevators and Escalators and NFPA 72 including NFPA 70 NEC.
- E. Sprinklers: Any required sprinkler work must be coordinated with elevator contractor to insure non-interference with any elevator equipment and must be compliant with NFPA 13, NFPA 72 and the Florida Building Code.
1. If sprinkler head(s) are located in the machine room or hoistway, it will be required to install a heat detector within 24" of each sprinkler in order to automatically disconnect the main line power supply to the affected elevator(s) upon or prior to the application of

water, in accordance with ASME A17.1 Safety Code for Elevators and Escalators and NFPA 72 National Fire Alarm Code.

F. Telephone and Data Lines:

1. A dedicated telephone line is required for each elevator.
2. Provide dedicated telephone lines and wiring to elevator controllers for telephone system including all wiring in machine room shall be installed inside conduit as per NFPA 70 NEC.
3. All emergency telephone devices shall include a minimum of 4 hours emergency backup power including power from emergency generator if supplied.
4. Provide network data line for remote monitoring of controller.

G. Building general construction conditions, cleaning and painting of miscellaneous surfaces: The elevator contractor shall not be responsible for all work as detailed in this section.

1. All construction, cleaning and painting other than equipment directly supplied by the elevator contractor shall be performed by others.
2. Provide 2 hour fire rated machine room enclosure.
3. Proper installation of 1 ½ hour “B-Label” door to machine room to include self-closing and self-locking requirements.
 - a. Machine room warning signs “Danger Authorized Personnel Only” shall be provided on each machine room door as required by NFPA 70 NEC.
4. Provide metal stairway and access landing including guard rail to machine room for roof top and interior multi-level machine room access.
 - a. Stairway shall comply with the Florida Building Code and ASME A17.1.
5. Provide Class ABC Fire Extinguisher in machine room permanently mounted and conveniently located to the access door as required by ASME A17.1 Safety Code for Elevators and Escalators.
6. Provide protection of all pipes, wiring, conduit, duct and openings in machine rooms and hoistways to maintain a 2 hour fire rating.
7. All foreign pipes, wiring or conduit not in use or directly related to the elevator system shall not be installed in machine rooms and hoistways.
 - a. Existing foreign piping, wiring and/or conduit not in use or directly related to elevator shall be removed or enclosed as required by code.
8. All projections or recesses in walls of hoistway greater than 4” shall be beveled not less than 70 degrees with sheet metal not less than 16 gauge.
9. All holes and openings in hoistway shall be patched and protected to maintain the fire rating of the enclosure including conduit, piping and other equipment passing through exterior walls.

10. Hoistway Venting:
 - a. Existing Interior Hoistways
 - 1) Vents on exterior walls which are not pressurized and are not subject to require pressurization shall be provided with motorized dampers that are capable of being automatically closed during normal building operation and are interlocked to be opened by fire and smoke detection systems.
 - 2) The damper shall power close under normal operation and spring open in the event of a power failure or fire alarm signal.
 - a) Provide a separate exterior vent assembly with a goose neck hood and stationary louvers at the exterior entrance of the hood to protect the interior motorized vent system and hoistway.
 - 3) Provide a separate exterior vent assembly with a goose neck hood and stationary louvers at the exterior entrance of the hood to protect the interior vent system and hoistway.
 - b. Existing venting of the hoistway through the machine room shall be closed and protected to maintain the 2 hour fire rating enclosure.
11. Sumps and Sump Pumps: Elevators with Fire Service Operation shall have drains or sump pumps as required by ASME A17.1 Safety Code for Elevators and Escalators, including the Florida Building Code.
 - a. The pump shall be manufactured by Stancor, or approved equal, as determined by the elevator consultant, and shall include oil monitoring .
 - b. The sump shall be a minimum of 18 inches in diameter and 24 inches in depth.
 - c. The sump cover shall be removable and flush to pit floor.
 - d. The Sump pump shall have an output of 3000 gallons per hour at the head per elevator.
 - e. The sump pump electrical cord shall be 6 foot or less
 - f. Provide monitoring with alarm located outside hoistway..
12. Clean and paint machine room finished walls and floors.
 - a. All cleaning or painting work that produces any vapors or fumes shall be performed during normal business work hours or after normal business hours as requested by building manager or representative.
 - 1) Work of this nature must be scheduled and coordinated five (5) days prior to execution of work.
 - b. The procedures proposed for the accomplishment of the work shall provide for safe conduct of the work, careful removal and disposition of materials specified to be

salvaged, protection of property, which is to remain undisturbed, and coordination with other work in progress.

- 1) The work plan shall include a Safety and Health plan describing procedures for handling monitoring, and disposition of Volatile Organic Compounds "VOCs" and other hazardous and toxic materials.
 - 2) The procedures shall include a detailed description of the methods and equipment to be used for each operation, and the sequence of operations.
 - c. All paint products and application method must be approved prior to application by owner or owner's agent.
 - 1) Paint products and application methods are to be equal or better than existing product applicable with matching color as approved by owner.
 - d. All products of paint, thinners or cleaning agents must be approved prior to use for VOC's or any additional health concerns.
 - e. Interior work zones having a volume of 1,000 cubic feet or less shall be ventilated at a minimum of 2 air exchanges per hour.
 - 1) Ventilation in larger work zones shall be maintained by means of mechanical exhaust.
 - 2) Solvent vapors shall be exhausted outdoors, away from air intakes, building occupants and workers.
 - 3) Building air conditioning return air inlets in the work zone shall be temporarily sealed before start of work until the prepared surfaces have dried and are free of odor.
 - 4) Operators and personnel in the vicinity of paint removal processes involving chemicals or mechanical action (sanding or blasting) shall wear respirators.
- H. Security system compliant with current facility requirements
1. Coordinate installation of security in-car keypads or card readers and security cameras with building owner and the facility's subcontractor.
 2. Provide proper software and hardware for integration of security system with elevator controllers.
 3. Assure traveling cable includes the proper shielded, data and coaxial conductors.
 4. Provide power sources as required for security systems including in-car security cameras.
- I. Each contractor will be required to provide any cutting, patching including painting to match existing finishes of building.

1.3 CODE AND STANDARD REFERENCES

1. Comply with all current applicable state statutes, administrative rules, building codes and elevator codes at the project site required at the time of permitting, including but not limited to the following:
 - a. Florida Statutes 399
 - b. Florida Administrative Code 61C-5
 - c. Florida Building Code
 - d. ASME A17.1 Safety Code for Elevators and Escalators
 - e. ASME A17.2 Guide for Inspection of Elevators and Escalators
 - f. ADAAG, Americans with Disabilities Act Accessibility Guidelines
 - g. NFPA 13, Sprinkler Systems
 - h. NFPA 70, National Electrical Code
 - i. NFPA 80, Fire Doors and Windows
 - j. ANSI/UL 10B, Fire Tests of Door Assemblies
 - k. NFPA 72, National Fire Alarm Code
 - l. NFPA 101 Florida Edition
 - m. O.S.H.A. Requirements for construction
 - n. Elevator Industry Field Employees' Safety Handbook
 - o. Miami-Dade Transit Construction Safety Manual and Attachments
 - p. Miami-Dade County Department of Transportation and Public Works (DTPW) Adjacent Construction Manual

1.4 ELEVATOR SYSTEM DESCRIPTIONS

- A. Elevator System, General: Manufacturer's standard elevator systems.
 1. Unless otherwise indicated, manufacturers' standard components shall be used, as included in standard elevator systems and as required for complete system.
- B. Elevator Arrangement
 1. Elevator shall be numbered as viewed from lobby facing the elevators from left to right in main lobby with alpha-numeric designations.
 - a. Keep current elevator alpha-numeric designations.
 2. Specific requirements for the specific elevator or component shall be designated as such and shall not apply to other elevators in the building.

3. Specifications for elevators include minimum requirements of all elevators and it shall be the responsibility of the contractor to complete all work to code compliance.
4. Insert a different number for each group of elevators that share a group operation system

C. Elevator Systems

1. Passenger Elevators:
 - a. Quantity: Two (2) Simplex Groups
 - 1) Elevator #1 – SS# 72565
 - 2) Elevator #2 – SS# 72560
 - b. Type: Commercial holed in-ground hydraulic passenger.
 - c. Machine Location:
 - 1) Adjacent – First Floor, field verify
 - d. Number of Stops:
 - 1) Three (3)
 - e. Number of Openings:
 - 1) Three (3), Front & Rear Entrances, field verify
 - f. Travel rise:
 - 1) Field verify
 - g. Rated Capacity:
 - 1) 3500lbs
 - h. Rated Speed:
 - 1) Field verify
 - i. Car Enclosure Inside Dimensions:
 - 1) Field verify
 - j. Entrance Dimensions and Type:
 - 1) Width 36 inches x Height 84 inches, Center Opening, field verify
2. Main Power Supply: Existing 240 Volts + or - 5% of normal, 3 Phase, 60 Cycle with a separate equipment grounding conductor. Contractors shall field verify.
3. Lighting Power Supply: 120 Volts, 1 Phase, 15 Amp, 60 Hz.
4. Stopping Accuracy: $\pm 1/4"$ under any loading condition or direction of travel.

5. Door operating equipment shall be labeled with maximum door speed so that Kinetic Energy shall not be above 7.37 ft-lbf. As measured by ASME A17.1 Safety Code for Elevators and Escalators.
6. Car Operation:
 - a. Provide a Simplex Selective Collective microprocessor-based controller for elevators #1, the operation shall be automatic by means of the car and hall buttons..
7. Provide microprocessor-based Simplex Selective Collective automatic operation control system, which utilizes on-board diagnostics for servicing, trouble-shooting, and adjusting without requiring the use of an outside service tool.

1.5 Submittals

- A. Product data: Submit product data for the following:
 1. Elevator car and hoistway fixtures.
 2. Operation, control, and signal systems.
 3. Drive, motor, machine and all major components of system.
- B. Shop drawings:
 1. Show equipment arrangement in the machine room, pit and hoistway. Provide plans, elevations, sections and details of assembly, erection, anchorage, and equipment location as required.
 2. Indicate elevator system capacities, sizes, performances, safety features, finishes and other pertinent information.
 3. Show floors served, existing travel distances, maximum loads imposed on the building structure at points of support and all similar considerations of the elevator work.
 4. Indicate electrical power requirements and branch circuit protection device recommendations and locations.
- C. Certificates: Inspection and acceptance certificates of elevator system installation.
- D. Operation and maintenance data. Include the following:
 1. Operation and maintenance instructions.
 2. Parts list, with recommended parts inventory.
 3. Wiring diagrams for control system including any in field modifications.
 4. Copy of field pull sheet wiring as built notes. Pull sheets to include wire numbers and colors.

1.6 QUALITY ASSURANCE

A. Elevator Contractor Qualifications:

1. Elevator Contractor shall provide pre-engineered elevator system components by manufacturer(s) regularly engaged in the manufacture of elevator systems.
 - a. Compliance with ASME A17.1 Safety Code for Elevators and Escalators, Florida Statutes, Chapter 399, Florida Administrative Code 61C-5, all applicable sections of the Florida Building Code, and additional requirements specified herein.
 - b. The elevator contractor shall have a documented, on-going quality assurance program.
 - c. Contractor shall have a mechanical or electrical engineer on staff for County critical elevators.
2. Installer Qualifications: The manufacturer or an authorized agent of the manufacturer with not less than ten years of satisfactory experience installing elevators equal in character and performance to the project elevators.
 - a. All mechanics employed to work onsite must have a valid Certificate of Competency issued by State of Florida Bureau of Elevator Safety.
 - b. There shall not be allowed onsite more than one helper or unlicensed assistant per onsite licensed mechanic.
3. Permits and Inspections: Apply, secure and pay for all required State of Florida and Miami-Dade County Office of Elevator Safety and applicable building code permits, tests and fees as required by Florida Administrative Code 61C-5 for Alteration Permits, and local jurisdiction permits.
 - a. Elevator contractor is responsible for proper posting of all required licenses, permits and safety documentation.
4. Regulatory Requirements:
 - a. ASME A17.1-2016 or more stringent edition adopted by the State of Florida
 - b. Florida Building Code, latest edition adopted by the State of Florida
 - c. Current Florida Statute 399 and 553
 - d. NFPA 13 Standard for the Installation of Sprinkler Systems, latest edition adopted by the State of Florida
 - e. NFPA 70 National Electrical Code, latest edition adopted by the State of Florida
 - f. NFPA 72 National Fire Alarm Code, latest edition adopted by the State of Florida
 - g. Americans with Disabilities Act - Accessibility Guidelines (ADAAG)
 - 1) Florida Building Code: Accessibility, latest edition adopted by the State of Florida

- h. Any changes or updates as required by Florida Building Code or Florida Statute 399 by time of permit application.
 - i. Any and all onsite workmen and receiving of products to site are required to follow security and safety procedures as per Miami-Dade County Department of Transportation and Public Works policies and facility regulations including the Miami-Dade Transit Construction Safety Manual and Attachments and the Miami-Dade County Department of Transportation and Public Works (DTPW) Adjacent Construction Manual.
5. Miami-Dade County Department of Transit and Public Works has designated the Miami-Dade County Office of Elevator Safety Elevator Contracts Administrator, as the elevator consultant on this project.
- a. The Miami-Dade County Office of Elevator Safety Elevator Contracts Administrator, in accordance with ASME A17.1 Safety Code for Elevators and Escalators, Inspection and Test Requirements, may be present for and review all acceptance inspections for these elevators.
 - b. Elevator Installer in accordance with ASME A17.1 Safety Code for Elevators and Escalators, Inspection and Test Requirements, will schedule and coordinate all acceptance tests and arrange for inspection for all elevators with the Miami-Dade County Office of Elevator Safety.
 - c. Elevator contractor must notify the General Contractor, building owner and elevator consultant at least five (5) days prior to inspection advising of the date and time of all inspections and tests.
 - d. Elevator contractor shall be solely responsible for the application, securing, maintaining, completion and posting of elevator permits as per Florida Statute 399, the State of Florida Bureau of Elevator Safety /and Miami-Dade County.
 - 1) Delivery to the Owner upon completion and acceptance of elevator work, the certificate of operation.
6. All signage as required by Florida Building Code, latest applicable edition of ASME A17.1 Safety Code for Elevators and Escalators, NFPA 70 National Electrical Code and NFPA 72 Fire Alarm Code to be posted in elevator lobbies, fire alarm panels, disconnects, machine rooms and machine room doors.
7. Execute and Notarize Non-Proprietary Equipment Affidavit attachment provided.
- a. Provide letter of guarantee that any and all equipment installed shall be completely non-proprietary and shall not require the need for specialized testing or programming tools currently or in the future.
 - b. Future information for trouble shooting or adjusting shall be available to any licensed elevator maintenance contractor by the supplier of the control system at a reasonable cost comparable to cost of competitive parts within marketplace.

- c. Contractor shall provide complete schematics and wiring diagrams for control systems including information for change of program, on board diagnostics or mnemonics, or other on board switches or settings.
 - d. Any controller by a manufacturer other than specified must be approved prior to bid.
 - e. Letter stating agreement to the above compliance shall be signed by an officer of elevator contractor and shall be notarized.
 - f. Any equipment that is provided for installation which would require any specialized tool, devices, manuals, source codes, access codes, objects, passwords and/or software to input parameters, make adjustments, troubleshoot, perform diagnostics, perform testing functions or required for any other type of maintenance or repair function shall be included with the installation cost of this bid document and will become the property of the building owner.
 - 1) At the time of bid submission, this shall be identified as such on the bid document.
8. Elevator contractor is responsible for all protection both inside and outside of hoistway to all personnel inside or outside of hoistway areas.
- a. Includes providing and maintaining of protective barricades at hall entrances.
 - b. Screening of each hoistway during work
 - c. Protection from trip hazards due to storage, use of materials or drop cords.
9. Elevator contractor is to provide due care to protect building flooring and walls from excessive debris, dirt or damage due to workmen onsite.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver elevator materials, components and equipment in manufacturer's protective packaging.
- B. Protect and handle materials in accordance with manufacturer's recommendations to prevent damage, soiling, or deterioration.
- C. Elevator contractor shall be responsible for the material handling of all elevator equipment to site storage area.
 - 1. Elevator contractor will be responsible for keeping all stored materials inside storage area with lock and key.
- D. Locked and protected storage for elevator contractor's tools or materials at site is contractor's responsibility.
- E. Elevator equipment disassembled for replacement shall be stored in a dry, protected area for utilization as replacement parts, such as pump motors, drive machines and controllers, to maintain existing elevator(s) which are not yet in the modernization phase of the project.

- F. Elevator contractor shall be responsible for crane services for the placement of the equipment in the machine rooms.

1.8 PROJECT CONDITIONS

- A. Authorized elevator personnel only are responsible for temporary installed barrier panels as may be required during construction to protect the openings at elevators at each floor.
 - 1. Panels may be removed only while the authorized elevator personnel are to perform work in the immediate area of the unprotected opening.
 - 2. Authorized elevator personnel shall re-install all barriers as required to maintain the original solid and safe protection to the opening prior to leaving immediate work area of the opening.
- B. Security: Any and all onsite workmen and receiving of products to site are required to follow security and safety procedures as per OSHA and Miami-Dade County Department of Transit and Public Works facility policies.
- C. Painting:
 - 1. Except as otherwise specified, paint all metal work provided by the elevator manufacturer and installer.
 - 2. Clean and paint machine room floors.
 - 3. Provide all ferrous metals installed in the hoistway shop primed with a rust inhibitive primer.
 - 4. Remove rust, clean, degrease and paint all installed parts or components accumulated during the construction phase.

1.9 Warranty

- A. The elevator contractor's acceptance is conditional on the understanding that their warranty covers defective material and workmanship.
 - 1. The warranty period shall extend to one (1) year from the date of completion or acceptance thereof by beneficial use; whichever is earlier, of each elevator.
 - 2. The warranty excludes ordinary wear and tear or improper use, vandalism, abuse, misuse, or neglect or any other causes beyond the control of the elevator contractor and this express warranty is in lieu of all other warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose.
 - 3. Any defective condition or workmanship not mutually agreeable as satisfactory to building owner and elevator contractor shall be determined by the independent elevator consultant as final for the replacement, repair or continued use or product or part in question.

- B. Maintenance service consisting of a minimum of bi-weekly examinations, adjustments and lubrication of the elevator equipment shall be provided by the elevator contractor for a period of twelve (12) months after the elevators have been turned over for the customer's use.
1. This service shall not be subcontracted, but shall be performed by the elevator contractor.
 2. All work shall be performed by competent employees during normal working hours between 8:00AM to 5:00PM Monday through Friday and shall include emergency 24/7 callback service.
 3. All inspections and performance of periodic safety tests for witnessing by Miami-Dade County Office of Elevator Inspectors shall be included at no charge.
 4. This service shall not cover adjustments, repairs or replacement of parts due to negligence, misuse, abuse or accidents caused by persons other than the elevator contractor.
 5. Only genuine parts and supplies as used in the manufacture and installation of the original equipment shall be provided.
 - a. Obsolescence will not be allowed.
 6. Warranty maintenance service shall start upon completion of each elevator group or facility.
 - a. Warranty service starting date shall be after completion of punch-out lists and close-out documents as agreed with building management, consultant and contractor.
- C. If not currently on County maintenance contract services, provide interim monthly maintenance rates for equipment in service during the project prior to and after the installation phase, final acceptance for public utilization and warranty maintenance service.
1. The Contractor shall not invoice for monthly maintenance on equipment taken out of service for modernization or installation.
 2. Shall include all annual inspections and performance of periodic safety tests for witnessing by Miami-Dade County Office of Elevator Safety Tests during interim maintenance period.
 3. Unless identified in prior pre-maintenance survey and accepted in the agreement, obsolesce shall not be allowed.
 4. Include wiring diagrams for existing equipment.
 5. Provide billable labor rates for helpers, mechanics and adjusters inclusive of standby services, minor and major repairs for other than normal working hours weekdays and Saturdays and Sundays and Holidays (overtime).
 6. Include material cost and externally purchased subcontracted services mark-up not greater than 20% not covered in the warranty.

7. When building management requests the contractor to perform repairs or services including inspections and testing covered in the warranty during other than normal working hours, the contractor shall invoice the facility the difference between the overtime labor rate and the normal working hourly rate.

2.1 PRODUCTS

A. ACCEPTABLE MANUFACTURER

1. Only products and components produced or provided by manufacturer(s) regularly engaged in the manufacture of elevator products, and that complies with ASME A17.1 Safety Code for Elevators and Escalators, ASME A17.2, Florida Statutes, Chapter 399, Florida Administrative Code 61C-5, all applicable sections of the Florida Building Code in its entirety, and additional requirements specified herein are acceptable.
2. Basis-of-Design Product: MEI – Total Elevator Solutions, G.A.L. GALaxy Controllers and door equipment, Innovation Industries Elevator fixtures and pushbuttons, or approved equals.
 - a. Acceptable Manufacturers
 - 1) GAL/Hollister Whitney
 - 2) Motion Control Engineering
 - 3) Virginia Controls
 - 4) Elevator Controls
 - 5) Innovation Industries
 - 6) MAD Elevator
 - 7) SmarTork
 - 8) Janus
 - 9) Maxton
 - 10) Elevator Equipment Corp.
 - 11) MEI
 - 12) IDEC Elevator Products

B. MATERIALS, GENERAL

1. Colors, patterns, and finishes: As selected by the Miami-Dade County Department of Transit and Public Works from manufacturer's full range of standard colors, patterns, and finishes.
 - a. Steel:
 - 1) Shapes and bars: ASTM A 36

- 2) Sheet: ASTM A 366, cold-rolled steel sheet, commercial quality, Class 1, matte finish, stretcher leveled.
- 3) Finish: Factory-applied baked or powder coated enamel.

b. Stainless Steel:

- 1) Shapes and bars: ASTM A 276, Type 300 (18-8)
- 2) Tubing: ASTM A 269, Type 300 (18-8)

C. HOISTING EQUIPMENT

1. Car Sling and platform

a. Platform: Existing sling and frame shall be retained.

- 1) Inspect platform for integrity. If acceptable, retain existing platform.
 - a) Underside of the platform shall be verified for fire protection as required.
- 2) If replacement is required, utilize galvanized steel frame with Stainless Steel platform including stringers as manufactured by IDEC Elevator Products, Riviera Beach, FL, (954) 618-0770, or approved equal.
 - a) Engineered for application, load and tare
- 3) Existing platform guards (aprons) shall be removed.
 - a) New Platform Guards (Aprons) shall be installed.
 - b) The entrance side of the platform of each elevator shall be provided with a smooth metal guard plate of not less than 1.5 mm (0.059 in.) thick steel, or material of equivalent strength and stiffness, adequately reinforced and braced to the car platform.
 - c) The guard plate shall extend not less than the full width of the widest hoistway door opening.
 - d) The guard plate shall have a straight vertical face, extending below the floor surface of the platform no less than 525 mm (21 in.).

b. All channel stiles, gussets, braces, cable hitch plates, sill cutouts engineered and code compliant for each application as required.

- 1) Inspect for integrity. If acceptable, retain equipment.

c. Platform isolation if required.

2. Car Enclosures: Inspect for integrity. If acceptable retain enclosure.

- a. If replacement is required, utilize 14 gauge galvanized steel walls and dome, and glass panels be constructed of laminated glass that complies with the requirements

of 16 CFR Part 1201, Sections 1201.1 and 1201.2; as manufactured by IDEC Elevator Products, Riviera Beach, FL, (954) 618-0770, or approved equal.

- b. Provide code compliant emergency exit with safety switches.
3. Car Top Guard Railing: A standard railing conforming to ASME A17.1 Safety Code for Elevators and Escalators shall be provided 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.
- a. Mounted a maximum of 4 inches from the outside perimeter of the car top enclosure.
 - 1) Car top enclosure outside of railing shall be clearly marked
 - 2) Marking shall be alternating 100 mm (4 in.) diagonal red and white stripes.
 - b. Overhead clearance shall be sufficient to accommodate a 42 inch guard rail at the maximum upward movement with 4 inch clearance vertically and horizontally to any building structure and equipment.
 - c. If overhead clearance is not sufficient to accommodate a 42 inch guard rail with 4 inch clearance, provide collapsible guard rail per ASME A17.1-2016 requirements
4. Guide Rails: Existing guide rails shall be retained dry unlubricated steel, fastened to the building with steel brackets verified in alignment, secure to wall and brackets with surface planed smooth.
- a. Guide rails shall be cleaned and aligned as necessary for the proper performance of the elevators.
 - b. Replace steadying plates
5. Car Guides:
- a. Replace swivel slide type guides with roller guide assemblies, mounted on top and bottom of the car held in contact with the guide rail by adjustable devices.
6. Buffers: Inspect for integrity of existing spring buffers engineered and code compliant for each application.
- a. If acceptable, retain existing buffers.
 - 1) Existing buffers shall be cleaned and painted.
 - b. Replace if compromised
 - 1) Replacement buffers shall conform to the requirements of ASME A17.1 for the application.
7. Buffer data plates shall be maintained or replaced for code compliance with ASME 171.1.
8. Oil line: Inspect for integrity. If acceptable retain existing oil supply piping.

- a. Schedule 40 ASTM A-53 Grade B pipe shall be installed between the pumping unit and the cylinder.
 - b. Oil line fittings shall be grooved type.
 - c. Shut-off valves shall be provided in machine room.
 - d. Oil line shall be supported with an adequate number of support stands.
 - 1) Stands shall be anchored to the floor or wall and adjustable in height.
 - 2) Isolation clamps shall secure the oil line to the stand around the full 360 degree circumference.
9. Pumping unit tank: Replace
- a. The storage tank shall be constructed of steel and shall be provided with a removable cover containing a removable oil dip stick.
 - b. The pump and submersible motor shall be mounted on reinforced isolation.
 - c. The control valve shall be mounted in the discharge line above the oil level and easily accessible from the top of the tank.
10. Pumping unit: Replace
- a. The motor shall be of the submersible alternating current, squirrel cage induction type and shall be of a design adapted to electro-hydraulic requirements.
 - b. The pump shall be a positive displacement screw type to give smooth operation and shall be designed and manufactured for elevator service.
11. Pumping unit control valve, replace.
- a. Designed and manufactured by Maxton Manufacturing Company, or approved equal.
 - b. The control valve shall be manifold with up, down and check valve sections.
 - c. A control section including solenoid valves will direct the main valve and control up and down starting, transition from full speed to leveling speed, up and down stops, pressure relief and manual lowering.
 - d. Down speed and up and down leveling shall be controlled at the main valve sections.
 - e. All of these functions shall be fully adjustable for maximum smoothness and to meet contract conditions.
 - f. The manual lowering feature will permit lowering the elevator at slow speed in the event of power failure or for adjusting purposes.
12. A MEI Silencer air-bladder muffler, or approved equal, shall be provided at the control valve discharge.

13. Replace existing hydraulic fluid throughout the system including removing all debris and waste oil from old system and proper disposal from property of all waste product.
 14. Oil cooler:
 - a. Heat rejection of 18,000 BTU/hr, based on ambient temperature 40 degrees F cooler than oil out.
 - b. Mounted adjacent to pumping unit storage tank.
 - c. Single fan radiator
 - d. Adjustable thermostat control
 - e. Isolated radiator mounts
 - f. 10 micron easily changeable filter
 - g. Restriction sight glass with bypass in case of plugged filter
 - h. Hard wired 115 VAC 20 amp on separate circuit with overcurrent lockable disconnect.
 15. Provide solid state soft start starter sized as appropriate for pump motor.
- D. Automatic Terminal Limits:
1. Provide new electric terminal limits switches.
 2. Place electric limit switches in the hoistway near the terminal landings.
 3. Limit switches shall be designed to cut off the electric current and stop the car if it runs beyond either terminal landing.
- E. Automatic Self-Leveling:
1. Provide each elevator car with a self-leveling feature to automatically bring the car to the floor landings and correct for over travel or under travel.
 2. Self-leveling shall, within its zone, be automatic and independent of the operating device.
 3. The car shall be maintained level to less than 1/4" with the landing irrespective of its load.
- F. Traveling Cable:
1. Traveling cables shall terminate at numbered terminal blocks in car and machine room.
 2. Traveling cable shall be provided with separate shielded circuit wiring for communication system with coax and data cables for building security.
 - a. Coordinate requirements with security equipment installation contractor
 3. Traveling cable shall be hung to obtain proper size of loop.
 4. Traveling cable shall be hung free of all contact from hoistway or car equipment.

5. Traveling cable outer covering shall be of fire resistant and meet UL standard testing.
 6. Traveling cable shall be provided with 20 percent spare conductors for each car.
- G. Hoistway & Machine Room Wiring:
1. Provide and install wiring throughout the elevator machine room and hoistway.
 2. All wiring shall be installed in accordance with applicable NEC and latest applicable edition of ASME A17.1 codes.
 3. Hoistway door interlock wiring shall be SF-2 high heat resistance wiring.
 - a. All other new wiring shall have flame retarding and moisture resistant outer covering.
 4. Equipment grounding shall be provided.
 - a. The equipment grounding conductor will be run with the circuit conductors and shall be a copper conductor.
 - b. Ground all conductors, supports, controller enclosure, and other non-current conducting metal enclosures for electrical equipment in accordance with NEC.
 - c. The ground wires shall be solid or stranded; insulated, covered, or bare copper, sized as required by NEC.
 - 1) Individually covered or insulated equipment grounding conductors shall have a continuous outer finish that is either green or green with one or more yellow stripes.
 - 2) An insulated or covered conductor larger than 6 AWG shall be permitted, at the time of installation, to be permanently identified as an equipment grounding conductor with green marking at each end and at every point where the conductor is accessible.
 5. Hoistway travel cable and associated wiring shall be coordinated with controller manufacturer for wiring configuration requirements to match all controller wiring color coded and numbered diagrams for installation.
 6. Retain and reutilize to the maximum extent possible all ducts and conduit in machine room and hoistway.
 - a. Install new ducts and conduit as required.
- H. Pit Ladder: Pit ladder shall be compliant with latest applicable edition of ASME A17.1 code.
- I. Pit Stop Switch: Provide and install pit stop switch as required by latest applicable edition of ASME A17.1 code.
- J. Pit Light: Provide and install pit lighting as required by NEC and ASME A17.1. Installed by electrical contractor.

- K. Pit Flood Switch: Install pit flood switch assembly.

2.2 HOISTWAY ENTRANCES

A. Interlocks: Replace

1. Equip each hoistway entrance with an approved type interlock, G.A.L. or approved equal.
 - a. Tested as required by code
 - b. Including SF-2 wiring and grounding.
 - c. Interlock shall be designed to prevent operation of the car away from the landing until the doors are locked in the closed position as defined by code and shall prevent opening the doors at any landing from the corridor side unless the car is at rest at that landing or is in the leveling zone and stopping at that landing.

B. Door Hangers, Sheaves, and Tracks: Replace

1. Provide new G.A.L., or approved equal, sheave type two point yellow zinc weatherproof /galvanized suspension hangers and tracks for each hoistway sliding door.
2. Sheaves: Polyurethane tires with ball bearings properly sealed to retain grease.
3. Hangers: Provide an adjustable slide to accommodate the up-thrust of the doors.
4. Tracks: Drawn steel shapes, smooth surface and shaped to conform to the hanger sheaves.

C. Hoistway and Cab Doors:

1. Doors: Replace hoistway and cab doors.
 - a. New door close contact switch including zone locking device shall be installed.
 - b. Provide new fire rated hoistway doors and cab door for each elevator.
 - c. All hoistway and car door bottoms shall be reinforced.
 - d. Doors shall be manufactured of Stainless Steel by IDEC Elevator Products, Riviera Beach, FL, (954) 618-0770, or approved equal.
 - e. Doors shall be manufactured to include all mounting hardware requirements of the GAL door operating equipment or approved equal.
2. Hall doors finish shall be Rigidized Steel with pattern 2WL for vandalism protection.
3. Cab door finish shall be Rigidized Steel with pattern 2WL for vandalism protection.
4. Provide new SEES Enforcer door gibs, or approved equal, on all hoistway and car doors.
5. Provide fire tabs on all hoistway and car door panels

- D. Sight Guards: Replace as required. Provide sight guards as required to reduce the opening between the leading edge of the hoistway door and the car door to maintain code required clearances.
- E. Entrance Frames: Verify integrity of entrance frames.
 - 1. If entrance frames exhibit excessive corrosion, replace.
 - a. Replace all existing frames with Rigidized Steel pattern 2WL, or approved equal.
 - b. Cutting of old frames and walls not greater than 6" from existing frames for removal including installation of support sills by elevator contractor.
 - c. Blocking of new frames, and all finish masonry patching shall be by others.
 - d. Protective barriers provided and installed by elevator contractor.
 - 2. If entrance frames are retained:
 - a. Clean and remove any corrosion.
 - b. If frames are excessively scratched and dented beyond repair.
 - 1) Reclad with Rigidized Steel pattern 2WL, or approved equal.
- F. Replace missing and/or damaged bumpers on strike jambs
- G. Hoistway and car sills: Verify integrity
 - 1. If condition of sills is acceptable
 - a. Retain
 - b. Clean and polish
 - 2. If sills damaged beyond repair
 - a. Replace with polished nickel/silver sills
 - b. If cost effective, provide new hoistway aluminum "Sillskins" as manufactured by Archi-Tread, Inc., Kinnelon, NJ 07405, Phone: (973) 725-5738, or approved equal. (Optional)
- H. Signage:
 - 1. Provide all entrance jamb Braille/Number/Tactile Stainless Steel signs as required by the Florida Building Code Accessibility Requirements
 - 2. Provide the international symbol for emergency medical service (star of life) on both sides of hoistway door frame as required by code for each elevator with inside clearance for emergency ambulance stretcher.
 - 3. Identification of equipment: Each elevator shall be provided with an alpha-numeric sign 3 inches in height on every elevator entrance at the designated landing.

2.3 DOOR OPERATION

- A. Door Operator: Provide a direct current motor driven heavy-duty operator GAL MOVFRW, or approved equal.
 - 1. Provide NEMA 4 conduit and fittings to maintain NEMA rating
- B. Provide G.A.L., or approved equal, door close contacts and switches.
- C. Provide G.A.L., or approved equal, yellow zinc weatherproof LWZ car door clutch
- D. Provide G.A.L. door Fault Monitors or approved equal
- E. Provide G.A.L., or approved equal, car door zone restrictor.
- F. Closers: Provide SmarTork spirator door closers, or approved equal, manufactured by SmarTork, Inc., PO Box 1393, Boerne, Texas 78006, (866) 496-2355, contact@smartorkinc.com, www.smartorkinc.com.
- G. Door Protection (Door Safety Edge): Provide new door safety edge.
 - 1. New door safety edge shall be an infrared light curtain type with parallel or criss cross light beams. The beams shall project across the car opening detecting the presence of a passenger or object. If door movement is obstructed, the doors shall immediately reopen.
 - a. The light screen is to be totally immune to ambient light, including strobes, fluorescent, and direct sunlight (100,000 lux – 2D /60,000 lux -3D).
 - b. Light beam and receiver arrays to operate independent of the power supply, allowing the use of any 18 – 25VDC.
 - c. The power supply shall be dual voltage input (120-240Vac, 50/60Hz)
 - d. Provide LED indicators for power applied and relay operation, simulator test button for beam break, and push-to-test button for manual operation of master control relay.
 - e. Nudge feature to be field installable in standard power supply with accessory relay to operate in either the delayed nudge mode or redundant mode, switch selectable. Nudge feature also to incorporate buzzer with enable/disable switch and delay timer adjustable for nudge operation.
 - 2. Provide Panachrome 3D ultraslim manufactured by Janus, or approved equal, door protection door reopening devices.
 - a. Red and green indicators highlight door movement to reduce door and equipment damage
 - b. 3D projection into lobby to detect passengers or equipment

- c. 154 criss cross light beams
- d. Water and Dust Resistant

2.4 CONTROL AND LANDING SYSTEM

- A. Elevator control system shall be GALaxy IV, produced by GAL Manufacturing, Bronx, NY or approved equal.
- B. The GALaxy IV elevator controller is a computer-based system that offers superior performance, flexibility and reliability. It has been designed to save time in installation and troubleshooting.
 - 1. Passenger Elevators
 - a. Two (2) Simplex Selective Collective Automatic Operation car group
 - 1) Two (2) Openings, One (1) Front, One (1) Rear Entrances
 - 2. Hydraulic application
- C. Provide Solid State Soft Starter for pump motor assembly
 - 1. Starter to have built in reverse phase sensor with diagnostic monitoring.
- D. Microprocessor specifications:
 - 1. Hydraulic: 32 bit, 80586 CPU 133 MHz with built in floating point processor
- E. Controller Software
 - 1. Program in Compact Flashcard
- F. Dispatching
 - 1. No separate group controller – group functions are an integral part of the car controllers
 - 2. ETA based algorithm
 - 3. Up & Down Peak; Next Up
 - 4. AI based parking algorithm (intelligent parking)
- G. I/O Structure:
 - 1. Optically isolated
 - 2. Field replaceable
 - 3. LED status indicators on all input and output devices
- H. Serial Communication
 - 1. Controller to Car / COP

- a. To reduce the number of wires in a traveling cable, GALaxy controllers use a CAN serial communication channel to the car to accept car calls and car input and output functions.
- 2. Serial Hall Riser (Optional)
 - a. To reduce the number of hoistway wires, a serial CAN channel can be used for the hall call risers' wiring.
- I. Built in Diagnostic / Programming Interface
 - 1. LCD display provided on main CPU and safety processor boards
 - 2. Access to all parameters and diagnostics without a laptop or special tool
- J. Wire Labels
 - 1. Controllers are wired using harnesses that are color coded. Individual wires are marked, along their length, with their name. Proper termination is applied for each wire.
- K. Schematics
 - 1. Controller schematics are printed in color to show the actual wire size and colors. Hoistway (including traveling cable) schematics show actual wire numbers, and point-to-point connections.
- L. Job Program Transfer and Save
 - 1. GALaxy has the ability to upload and download the program file, job configuration file, and adjustment parameters to and from a laptop or removable medium. The job program file and configuration file is stored on compact flash medium and shall be removable from the controller to allow for easy update of the latest software version.
- M. User Activated Test Procedures
 - 1. The user interface has a built in, user activated, menu driven, buffer test procedure, over speed test procedure, and terminal limit test procedure.
- N. Standard and Optional Features:
 - 1. Built-in secure WiFi link
 - 2. Access Operation
 - 3. Door Motor Protection Timer
 - 4. Field Adjustable Parameters (Door Times, Lobby, etc.)
 - 5. Fire Service Phase I
 - 6. Fire Service Phase I Alternate Return
 - 7. Fire Service Phase II

8. Inspection Operation
9. On Board Diagnostic LEDs
10. On Board LCD Display Interface
11. Two Motor Protection Timers
12. Cross Assignment
13. Cross Cancellation
14. Emergency Power
15. Inter-Group Emergency Power
16. Auxiliary Battery Lowering
17. Lap Top Interface (GAL Com)
18. Remote Diagnostics
 - a. GALileo
 - 1) Remote Monitoring Capabilities are provided using the GALileo system to monitor each the bank of elevators.
 - 2) For remote monitoring the system needs to be connected to the internet and programmed with an IP address.
 - 3) All data collection, data storage and real - time monitoring is then provided by accessing the system with a web browser, no “special” software or licenses are required.
19. Security / Card Readers / Lock Out
20. Provide GFI duplex receptacle in controller

O. Selector System

1. Selector with Stainless Steel tape

2.5 Elevator Control, Signal Fixtures and Pushbuttons

A. All elevator control, signal fixtures and pushbuttons: Basis of Design

1. Innovation Industries, or approved equal, 3500 E. Main Street, Russellville, Arkansas 72802, (800) 843-1004.

B. Car Operating Panel (Main Front)

1. Bruiser Series, or approved equal, designed and manufactured for rugged strength and durability.
 - a. Finish: #4 brushed 304 Stainless Steel

2. Pushbuttons shall be PB 23
 - a. Finish: Copper metal finish for microbial safety protection
 - b. 1.312 inches diameter
 - c. Illuminated center jewel in red, amber, green, blue and white
 - d. Vandal resistant
 - e. Positive stop that seats on the faceplate and not a collar
 - f. Sanitary Protection: Provide touchless sensors adjacent to push buttons.
3. Multi-volt LED illumination design
4. Buttons shall illuminate to indicate call has been registered for a floor destination.
5. The panel shall consist of a series of modules, key switches or approved buttons for optimum viewing and accessibility.
6. All engraving shall be on flush mounted hairline faceplates securely mounted to the aluminum backing plate.
7. All elevator car controls shall be compliant with the latest adopted edition of the Florida Building Code: Accessibility requirements for height and location reach ranges.
8. Provide a 2" electronic segmented digital position indicator mounted in the control panel for optimum viewing.
 - a. As the car travels, its position in the hoistway shall be indicated by the illumination of the alpha/numeric character corresponding to the landing which the elevator is stopped or passing.
 - b. On one side of digital numeric indicator in the car panel will also be a matching indicator with direction of travel.
9. Audible destination signal announcing floor arrival.
10. Provide emergency lighting incorporated in Car Operating Panel
11. Emergency Communications System: Provide a two-way emergency communications device mounted in the car station panel.
 - a. Emergency communications device shall comply with Americans with Disabilities Act (ADA).
12. Special accessories in each car station panel:
 - a. Located in Locked Service Compartment Subpanel w/ Clear Certificate Window
 - 1) Light key switch.
 - 2) Fan key switch.
 - 3) Independent Operation Keyed Switch

- 4) Inspection key switch (if required)
 - 5) Access Keyed Switch (if required)
 - 6) Emergency Light Test Button
 - 7) GFI duplex receptacle
 - b. Keyed stop switch
13. Fire Fighters Phase II Service:
- a. The "FIRE OPERATION" switch, the "CALL CANCEL" button, the "STOP" switch, the door open button(s), the door close button(s), the additional visual signal, and the operating instructions shall be grouped together at the top of the main car operating panel behind a locked cover.
 - b. The firefighters' operation panel cover shall be openable by the same key that operates the "FIRE OPERATION" switch.
 - 1) The cover shall be permitted to open automatically when the car is on Phase I Emergency Recall Operation and at the recall level.
 - 2) When the key is in the "FIRE OPERATION" switch, the cover shall not be capable of being closed.
 - 3) When closed, the cover shall be self-locking.
 - 4) The front of the cover shall contain the words "FIREFIGHTERS' OPERATION" in red letters at least 0.4 in. high.
 - c. The designated fire key is: FEOK1
14. Car operating panels shall swing open with the hinged side closest to the sidewall.

C. HALL STATIONS

- 1. Bruiser Series NEMA 4X Florida Package, or approved equal, designed and manufactured for rugged strength and durability.
 - a. Finish: #4 brushed 316 Stainless Steel
 - b. Conformal coated electrical devices
 - c. Gasketed rough-in box
 - d. Self sealing screws
 - e. UL NEMA 4X rating
 - f. Provide NEMA 4 conduit and fittings to maintain NEMA rating
- 2. Pushbuttons shall be PB 46
 - a. Finish: Copper metal finish for microbial safety protection

- b. 1.302 inches diameter
 - c. Illuminated center jewel in red, amber, green, blue and white
 - d. Vandal resistant
 - e. Sealed pushbutton with neoprene gasket
 - f. Positive stop that seats on the faceplate and not a collar
 - g. Sanitary Protection: Provide touchless sensors adjacent to push buttons.
3. Multi-volt LED illumination design
 4. Buttons shall illuminate to indicate call has been registered at that floor for the indicated direction.
 5. Risers: Risers shall include 1 for elevator front
 6. Installation shall be flush surface mount.
 7. Each terminal station shall contain one illuminating push button and other applicable accessories including hoistway access switches.
 8. Each intermediate station shall consist of two illuminating push buttons, one for the up direction and one for the down position.
 9. Phase I firefighter's service key switch, with instructions, shall be incorporated into the hall station at the designated level.
 - a. Fire Service instructions as per ASME A17.1, shall be engraved in the main floor hall station panel.
 10. Phone Line Verification
 - a. An audible signal will be provided with a lighted jewel signal labeled "ELEVATOR COMMUNICATIONS FAILURE" in red letters 5mm (.25in) in height activated when the telephone line is not functional.
 - b. The visual signal with a key switch to silence the audible signal shall be incorporated in the designated level hall station.
 11. In case of fire, use stair signs shall be engraved into each hall station panel with exact signage as per the Florida Building Code.
 12. Emergency Generator:
 - a. Emergency key (Regional Fire Key & Switch Required), operated selector switches, including lighted jewel indicators shall be provided at the main floor panel with proper engraved signage as required.
 - b. If an emergency key operated selector switch is not required, a lighted jewel indicator for emergency generator elevator power shall be provided with proper engraved signage as required

D. HALL LANTERN AND POSITION INDICATOR

1. Directional Lanterns with Digital Position Indicators
2. Surface NEMA 4x Florida Package mounted above all elevator entrances
 - a. Finish: #4 brushed 316 Stainless Steel 11GA Faceplate
 - b. Conformal coated electrical devices
 - c. Gasketed rough-in box
 - d. Self sealing screws
 - e. UL NEMA 4X rating
 - f. Provide NEMA 4 conduit and fittings to maintain NEMA rating
3. Directional arrows signal travel direction upon arrival at each landing
 - a. Vandal Proof epoxy filled jewels
 - b. At terminal landings, dual arrows in the same direction of travel
4. Digital Position Indicators signal car direction of travel and location in hoistway
 - a. 2 inch alpha-numeric display
 - b. UP/Down directional arrow display

2.6 CAR TOP INSPECTION STATION

- A. Provide car top inspection stations with an "emergency stop" switch and constant pressure "up-down" direction buttons to make the normal operating devices inoperative and give the inspector complete control of the elevator.
1. "Stop switch shall be permanently located on the car top and readily accessible to a person, while standing at the hoistway entrance normally used for access to the car top."
 2. A "transfer switch shall be located on the car top and shall be so designed as to prevent accidental transfer from the "INSPECTION" to "NORMAL" position."
 3. "A separate device of the continuous-pressure type labeled "ENABLE" shall be provided adjacent to the inspection operating devices."
 4. "Inspection operating devices shall become effective only when the "ENABLE" device is activated."
 5. Include lighting and a GFI duplex receptacle fixture on the car top.
 - a. "The lighting shall be permanently connected, fixed, or portable, or a combination thereof, to provide an illumination level of not less than 100 lx (10 fc) measured at the point of any elevator part or equipment, where maintenance or inspection is to be performed from the car top. All lighting shall be equipped with guards. The light switch shall be accessible from the landing when accessing the car top."

- 6. Car Top Inspection device shall be compliant with the latest edition of ASME A17.1.
- 2.7 ELEVATOR CAB INTERIOR as manufactured and installed by IDEC Elevator Products, Riviera Beach, FL (954) 618-0770 or approved equal.
 - A. Re-clad Front, Transom and Side Returns with Rigidized Steel pattern 2WL.
 - B. Side and Rear Walls
 - 1. All wall to wall connections shall be Stainless Steel rounded radius corners for easier cleaning
 - 2. Rigidized Steel 2WL, or approved equal.
 - 3. Glass panels constructed of laminated glass that complies with the requirements of 16 CFR Part 1201, Sections 1201.1 and 1201.2.
 - C. Handrails
 - 1. Furnish and install 3/8" x 2" solid Stainless Steel handrails on side and back walls
 - a. Handrail ends returning to walls
 - D. Ceiling
 - 1. Furnish and cover ceiling with plastic laminate
 - E. Lighting
 - 1. Furnish and install LED cove lighting at the top of the side walls
 - F. Flooring
 - 1. Aluminum Diamond Plate
 - 2. Tub design with rounded radius base for floor to wall connections.
 - G. Ventilation
 - 1. Sanitary Protection: Provide sterilization and purification air intake fan distributed by ECS, Corporation, ecsparts.com, or approved equal, securely mounted in ceiling.
 - a. Fan shall include UV-C lamp and ion generator
 - 2. Provide auxiliary battery back-up ventilation fan for or observation elevator car enclosure.
 - H. Car top escape panels shall have switch assemblies including all wiring to install proper safety circuit as required by ASME A17.1
- 3.1 EXECUTION
 - A. Examination:

1. Coordinate all site conditions with General Contractor and other building trades.
 2. Inspect hoistway, hoistway openings, pits and machine room, as constructed.
 3. Verify all critical dimensions, and examine supporting structures and all other conditions under which elevator work is to be installed.
 4. Do not proceed with elevator installation until unsatisfactory conditions have been corrected in a manner acceptable to the installer.
 5. Commencement of installation constitutes acceptance of existing conditions and responsibility for satisfactory performance.
 6. Elevator contractor shall coordinate crane services for placement of the equipment in the machine rooms with General Contractor.
- B. Elevator contractor shall be responsible for screening and protection of hoistway door openings and protection between elevators in hoistway.
- C. Signage:
1. The designated project manager and the owner's representative will approve all signage in order to maintain consistent appearance for entire elevator installation.
 2. All signage as required by Florida Building Code, ASME A17.1, NFPA 70 National Electrical Code and NFPA 72 Fire Alarm Code to be posted in elevator lobbies, fire alarm panels, disconnects, machine rooms and machine room doors.
- D. Installation:
1. Install elevator systems components and coordinate repairs of hoistway wall construction.
 2. Competent licensed elevator installation personnel in accordance with Florida Statute 399 and ASME A17.1 manufacturer's installation instructions and approved shop drawings shall perform work.
 3. Comply with the National Electrical Code for electrical work required during installation.
 4. Perform work with competent, skilled workmen under the direct control and supervision of the elevator manufacturer's experienced foreman.
 5. Supply in ample time for installation by other trades, inserts, anchors, bearing plates, brackets, supports, and bracing including all setting templates and diagrams for placement.
 6. Welded construction: Provide welded connections for installation of elevator work where bolted connections are not required for subsequent removal or for normal operation, adjustment, inspection, maintenance, and replacement of worn Parts.
 - a. Comply with AWS B2.1 Standard Welding Procedure and Performance Qualification.

7. Coordination: Coordinate elevator work with the work of other trades, for proper time and sequence to avoid construction delays.
 - a. Use benchmarks, lines, and levels designated by the Contractor, to ensure dimensional coordination of the work.
 8. Install machinery, guides, controls, car and all equipment and accessories to provide a quiet, smoothly operating installation, free from side sway, oscillation or vibration.
 9. Sound isolation: Mount rotating and vibrating elevator equipment and components on vibration-absorption mounts, designed to effectively prevent the transmission of vibrations to the structure, and eliminate sources of structure-borne noise from the elevator system.
 10. Lubricate operating parts of system, including ropes, as recommended by the manufacturer.
 11. Elevator contractor shall be required to install all data plates as required by ASME A17.1 on complete elevator system including alteration and original equipment.
 - a. All data plates shall be manufactured and printed with proper data for each elevator by CodeDataPlate.com or approved equal.
- E. Field Quality Control:
1. Acceptance testing: Upon completion of the elevator modernization and before permitting use of elevator, perform acceptance tests as required by the State of Florida and recommended by Code and governing regulations or agencies.
 - a. Perform other tests, if any, as required by governing regulations or agencies.
 2. Advise Owner, Elevator Consultant, and governing authorities in advance as required of dates and times tests are to be performed on the elevator.
- F. Adjusting:
1. Make necessary adjustments of operating devices and equipment to ensure elevator operates smoothly and accurately.
 2. The elevator contractor shall be required to perform and pass all required testing of all equipment as per ASME A17.1 and ASME A17.2.
 3. Elevator contractor is to return at 30 days, 90 days and 180 days after final installation to examine and re-adjust equipment as may be required for optimum performance.
- G. Cleaning:
1. Before final acceptance, remove protection from finished surfaces and clean and polish surfaces in accordance with manufacturer's recommendations for type of material and finish provided.

2. For duration and/or completion of elevator work, remove tools, equipment, and surplus materials from site daily.
3. Clean equipment rooms and hoistway.
4. Remove trash and debris daily from premises.

H. Protection:

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

I. Demonstration:

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

J. Elevator Consultant's Punch-out List Items:

1. Complete all of the consultant's punch-out list items as may be required.
2. The elevator consultant shall provide a review and written punch list of deficiencies.
3. The elevator consultant shall verify one time that the items from the punch list are completed after notice by the elevator contractor.

END OF SECTION

ATTACHMENT I

ESCALATOR SPECIFICATIONS (CIVIC CENTER METRORAIL STATION)

1.1 SUMMARY

- A. Modernization of Escalators for the Miami-Dade County Department of Transportation and Public Works, Civic Center Metrorail Station. 1501 NW 12th AVE., MIAMI, FLORIDA 33136.
- B. Including all engineering, equipment, labor, machines, control systems, devices and accessories as required for safely operating the specified escalators.
- C. Verify existing building systems including but not limited to mechanical, electrical system and fire life safety are compatible with the new equipment being proposed, identify any necessary modifications and include modifications in bid.
- D. Commercial, high-traffic public heavy-duty transit grade escalators for outdoor applications.
 - 1. Four (4) escalators
 - a. Escalator #1 – SS# 72598
 - b. Escalator #2 – SS# 72599
 - c. Escalator #3 – SS# 72600
 - d. Escalator #4 – SS# 72601
 - 2. Installation of all truss equipment.
 - 3. Escalator car and truss signal equipment.
 - 4. Operation and control systems.
 - 5. Accessibility provisions for physically disabled persons.
- E. Delivery, staging, and hoisting of new equipment.
- F. Materials and accessories as required for completing the escalator installations.
- G. Truss, pit and machine room barricades for safety as required.
 - 1. Barricades or guards at least 48" high (1219 mm) (including protected entrances), for the convenience and protection of all workers as well as the general public, during the modernization period of the escalator, so that the modernization area can be enclosed in accordance with applicable law.
 - 2. The barricades shall be of a type to limit entrance of unauthorized personnel to the modernization area.
 - 3. The modernization area shall be of a size to permit work to proceed without delays.
- H. Required hoisting, hoisting permits and traffic coordination and/or permits with local jurisdictions and the State of Florida as required.

- I. Required permits and coordination and/or permits with local jurisdictions, Office of Elevator Safety and the State of Florida as required.
- 1.2 Related Scopes of Work by Others
 - A. Electrical Contractor shall furnish and install all electrical equipment for truss, pit and machine room including HVAC, lighting, GFCI receptacles and electrical disconnects, as required by NFPA 70 National Electrical Code and ASME A17.1 Safety Code for Elevators and Escalators.
 - 1. All Electrical work must be coordinated and scheduled with General Contractor, Elevator Contractor and Elevator Consultant.
 - 2. Escalators shall be removed from service while electrical trades are working in same or adjacent truss, pit or machine rooms.
 - 3. Electrical service to main disconnect in escalator machine room; electrical power for escalator installation and testing; electrical service for machine room; machine room and pit receptacles with ground-fault current protection; lighting in machine room and pit.
 - 4. Install lockable disconnects with overcurrent protection for elevator main line power as per NEC.
 - a. Disconnect to be verified for appropriate size and type for power requirements of escalator equipment prior to installation.
 - b. Provide surge protection.
 - 5. Provide replacement electric wiring from disconnect switches to the new escalator controllers with feeder leads for connection to terminals by the elevator contractor, inclusive of a normal 120 VAC, 15 AMP supply at each controller.
 - 6. Minimum lighting in remote machine room and equipment space shall be 10 ft-c.
 - 7. Minimum lighting at the step treads and landing plates shall be 20 ft-c.
 - 8. All electrical systems shall include proper earth grounding and bonding as required by elevator controller manufacturer and NEC.
 - a. Provide continuous earth ground to mainline disconnects and controllers.
 - 9. Provide a single non-GFCI receptacle for each sump in each escalator truss pit.
 - 10. Provide and install truss pits, overhead equipment and machine room lighting as per NEC with enclosed and protected lamps.
 - 11. Pit receptacles, with GFCI protection shall be installed in NEMA 4 devices where placed within 4'-0" of pit floor.
 - a. All electrical equipment including conduit, fitting, junction boxes, portable cabling shall be NEMA 4 rated.
 - b. Care must be taken not to place equipment in line with escalator equipment.

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12. All disconnects shall be labeled according to NFPA 70 NEC including source of power, State of Florida Serial Numbers, Elevator Number and all required warning signs.
 13. Install shunt trip breakers outside of machine rooms for feeder to each mainline disconnect for removal of power by NFPA 70 NEC and NFPA 72 if installation of sprinklers in machine rooms or hoistways is required by the Florida Building Code.
 - a. Shunt trip shall be activated by heat detectors installed by others.
- B. Fire Alarm including heat and smoke sensing devices as per NFPA 70 National Electrical Code and NFPA 72 National Fire Alarm Code.
- a. The smoke detectors or other automatic fire detection as permitted by NFPA 72, shall actuate the elevator control circuits as detailed in NFPA 72.
 2. Fire alarm contractor shall demonstrate at time of elevator inspection, compliance and testing of all alarm initiating devices as required by ASME A17.1 Safety Code for Elevators and Escalators, ASME A17.2 and NFPA 72 National Fire Alarm Code.
 3. Install heat detectors within 24" of sprinklers installed in machine rooms including wiring and conduit to shunt trip breaker as installed by electrical contractor.
 4. Installation of fire alarm system and devices shall conform to ASME A17.1 Safety Code for Elevators and Escalators and NFPA 72 including NFPA 70 NEC.
- C. Sprinklers: Any required sprinkler work must be coordinated with elevator contractor to insure non-interference with any elevator equipment and must be compliant with NFPA 13, NFPA 72 and the Florida Building Code.
1. If sprinkler head(s) are located in the machine room, it will be required to install a heat detector within 24" of each sprinkler in order to automatically disconnect the main line power supply to the affected elevator(s) upon or prior to the application of water, in accordance with ASME A17.1 Safety Code for Elevators and Escalators and NFPA 72 National Fire Alarm Code.
- D. Building general construction conditions, cleaning and painting of miscellaneous surfaces: The elevator contractor shall not be responsible for all work as detailed in this section.
1. All construction, cleaning and painting other than equipment directly supplied by the elevator contractor shall be performed by others.
 2. Provide Class ABC Fire Extinguisher in machine room permanently mounted and conveniently located to the access door as required by ASME A17.1 Safety Code for Elevators and Escalators.
 3. Provide protection of all pipes, wiring, conduit, duct and openings in machine rooms to maintain a 2 hour fire rating.
 4. All foreign pipes, wiring or conduit not in use or directly related to the elevator system shall not be installed in machine rooms.

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- a. Existing foreign piping, wiring and/or conduit not in use or directly related to elevator shall be removed or enclosed as required by code.
- 5. All holes and openings in truss cladding shall be patched and protected to maintain the fire rating of the enclosure including conduit, piping and other equipment passing through exterior walls.
- 6. Sumps and Sump Pumps: Elevators with Fire Service Operation shall have drains or sump pumps as required by ASME A17.1 Safety Code for Elevators and Escalators, including the Florida Building Code.
 - a. The pump shall be manufactured by Stancor, or approved equal.
 - b. The sump shall be a minimum of 18 inches in diameter and 24 inches in depth.
 - c. The sump cover shall be removable and flush to pit floor.
 - d. The Sump pump shall have an output of 3000 gallons per hour at the head per elevator.
 - e. The sump pump electrical cord shall be 6 foot or less.
- 7. Clean and paint machine room finished walls and floors.
 - a. All cleaning or painting work that produces any vapors or fumes shall be performed during normal business work hours or after normal business hours as requested by building manager or representative.
 - 1) Work of this nature must be scheduled and coordinated five (5) days prior to execution of work.
 - b. The procedures proposed for the accomplishment of the work shall provide for safe conduct of the work, careful removal and disposition of materials specified to be salvaged, protection of property, which is to remain undisturbed, and coordination with other work in progress.
 - 1) The work plan shall include a Safety and Health plan describing procedures for handling monitoring, and disposition of Volatile Organic Compounds "VOCs" and other hazardous and toxic materials.
 - 2) The procedures shall include a detailed description of the methods and equipment to be used for each operation, and the sequence of operations.
 - c. All paint products and application method must be approved prior to application by owner or owner's agent.
 - 1) Paint products and application methods are to be equal or better than existing product applicable with matching color as approved by owner.
 - d. All products of paint, thinners or cleaning agents must be approved prior to use for VOC's or any additional health concerns.

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

1.3 CODE AND STANDARD REFERENCES

- 1. Comply with all current applicable state statutes, administrative rules, building codes and elevator codes at the project site required at the time of permitting, including but not limited to the following:
 - a. Florida Statutes 399
 - b. Florida Administrative Code 61C-5
 - c. Florida Building Code
 - d. ASME A17.1 Safety Code for Elevators and Escalators
 - e. ASME A17.2 Guide for Inspection of Elevators and Escalators
 - f. ADAAG, Americans with Disabilities Act Accessibility Guidelines
 - g. NFPA 13, Sprinkler Systems
 - h. NFPA 70, National Electrical Code
 - i. NFPA 80, Fire Doors and Windows
 - j. ANSI/UL 10B, Fire Tests of Door Assemblies
 - k. NFPA 72, National Fire Alarm Code
 - l. NFPA 101 Florida Edition
 - m. O.S.H.A. Requirements for construction
 - n. Elevator Industry Field Employees' Safety Handbook
 - o. Miami-Dade Transit Construction Safety Manual and Attachments

- p. Miami-Dade County Department of Transportation and Public Works (DTPW)
Adjacent Construction Manual

1.4 ELEVATOR SYSTEM DESCRIPTIONS

- A. Escalator System, General: Manufacturer's standard escalator systems. Unless otherwise indicated, manufacturers' standard components shall be used, as included in standard escalator systems and as required for complete system.
- B. Escalator Arrangement
1. Escalator shall be numbered as viewed from lobby facing the escalators from left to right in main lobby with alpha-numeric designations.
 - a. Keep current elevator alpha-numeric designations.
 2. Specific requirements for the specific escalator or component shall be designated as such and shall not apply to other elevators or escalators in the building.
 3. Specifications for escalators include minimum requirements of all escalators and it shall be the responsibility of the contractor to complete all work to code compliance.
 4. Insert a different number for each group of elevators or escalators that share a group operation system
- C. Escalator System
1. Quantity: Four (4) escalators
 - a. Escalator #1 – SS# 72598 Schindler
 - b. Escalator #2 – SS# 72599 Schindler
 - c. Escalator #3 – SS# 72600 Schindler
 - d. Escalator #4 – SS# 72601 Schindler
 2. Type: Commercial heavy duty high-traffic public transport escalator
 3. Machine Location: Field verify
 4. Rated Capacity: All units 7000lbs, field verify.
 5. Rated Speed: 100FPM, field verify.
 6. Truss, Step & Escalator Enclosure: Retain interior and exterior existing dimensions
 7. Entrance Dimensions: Retain all existing refuge & clearance dimensions
 8. Main Power Supply: Existing 480 Volts + or - 5% of normal, 3 Phase, 60 Cycle with a separate equipment grounding conductor. Contractors shall field verify.

1.5 Submittals

- A. Product data: Submit product data for the following:
 - 1. Manufacturer's product data for each system proposed for use.
 - 2. Installation methodology and sequence of work.
 - 3. Operation, control, and signal systems.
 - 4. Drive, motor, machine and all major components of system.
- B. Shop drawings:
 - 1. Show equipment arrangement in the machine room, pit and truss.
 - a. Provide plans, elevations, sections and details of assembly, erection, anchorage, and equipment location as required.
 - 2. Indicate escalator system capacities, sizes, performances, safety features, finishes and other pertinent information.
 - 3. Show floors served, existing travel distances, maximum loads imposed on the building structure at points of support and all similar considerations of the elevator work.
 - 4. Indicate electrical power requirements and branch circuit protection device recommendations and locations.
- C. Certificates: Inspection and acceptance certificates of escalator system installation.
- D. Operation and maintenance data. Include the following:
 - 1. Operation and Maintenance Manuals: Provide manufacturer's standard operation and maintenance manuals.
 - 2. Parts list, with recommended parts inventory.
 - 3. Wiring diagrams for control system including any in field modifications.
 - 4. Copy of field pull sheet wiring as built notes. Pull sheets to include wire numbers and colors.

1.6 QUALITY ASSURANCE

- A. Elevator Contractor Qualifications:
 - 1. Elevator Contractor shall provide pre-engineered elevator system components by manufacturer(s) regularly engaged in the manufacture of elevator systems.
 - a. Compliance with ASME A17.1 Safety Code for Elevators and Escalators, Florida Statutes, Chapter 399, Florida Administrative Code 61C-5, all applicable sections of the Florida Building Code, and additional requirements specified herein.

- b. The elevator contractor shall have a documented, on-going quality assurance program.
 - c. Contractor shall have a mechanical or electrical engineer on staff for County critical elevators.
- 2. Installer Qualifications: The manufacturer or an authorized agent of the manufacturer with not less than ten (10) years of satisfactory experience installing elevators equal in character and performance to the project elevators.
 - a. All mechanics employed to work onsite must have a valid Certificate of Competency issued by State of Florida Bureau of Elevator Safety.
 - b. There shall not be allowed onsite more than one helper or unlicensed assistant per onsite licensed mechanic.
- 3. Permits and Inspections: Apply, secure and pay for all required State of Florida, Miami-Dade County Office of Elevator Safety and all applicable building code permits, tests and fees as required by Florida Administrative Code 61C-5 for Alteration Permits, and local jurisdiction permits.
 - a. Elevator contractor is responsible for proper posting of all required licenses, permits and safety documentation.
- 4. Regulatory Requirements:
 - a. ASME A17.1-2016 or more stringent edition adopted by the State of Florida
 - b. Florida Building Code, latest edition adopted by the State of Florida
 - c. Current Florida Statute 399 and 553
 - d. NFPA 13 Standard for the Installation of Sprinkler Systems, latest edition adopted by the State of Florida
 - e. NFPA 70 National Electrical Code, latest edition adopted by the State of Florida
 - f. NFPA 72 National Fire Alarm Code, latest edition adopted by the State of Florida
 - g. Americans with Disabilities Act - Accessibility Guidelines (ADAAG)
 - h. Any changes or updates as required by Florida Building Code or Florida Statute 399 by time of permit application.
 - i. Any and all onsite workmen and receiving of products to site are required to follow security and safety procedures as per Miami-Dade County Department of Transportation and Public Works policies and facility regulations including the Miami-Dade Transit Construction Safety Manual and Attachments and the Miami-Dade County Department of Transportation and Public Works (DTPW) Adjacent Construction Manual.

5. Miami-Dade County Department of Transportation and Public Works has designated the Miami-Dade County Office of Elevator Safety Elevator Contracts Administrator as the elevator consultant on this project.
 - a. The Miami-Dade County Office of Elevator Safety Elevator Contracts Administrator, in accordance with ASME A17.1 Safety Code for Elevators and Escalators, Inspection and Test Requirements, may be present for and review all acceptance inspections for these escalators.
 - b. Elevator Installer in accordance with ASME A17.1 Safety Code for Elevators and Escalators, Inspection and Test Requirements, will schedule and coordinate all acceptance tests and arrange for inspection for all elevators with the Miami-Dade County Office of Elevator Safety.
 - c. Elevator contractor must notify the General Contractor, building owner and elevator consultant at least five (5) days prior to inspection advising of the date and time of all inspections and tests.
 - d. Elevator contractor shall be solely responsible for the application, securing, maintaining, completion and posting of elevator permits as per Florida Statute 399, the State of Florida Bureau of Elevator Safety /and Miami-Dade County.
 - 1) Delivery to the Owner upon completion and acceptance of elevator work, the certificate of operation.
6. All signage as required by Florida Building Code, latest applicable edition of ASME A17.1 Safety Code for Elevators and Escalators, NFPA 70 National Electrical Code and NFPA 72 Fire Alarm Code to be posted in elevator lobbies, fire alarm panels, disconnects, machine rooms and machine room doors.
7. Elevator contractor is responsible for all protection both inside and outside of truss to all personnel inside or outside of truss areas.
 - a. Includes providing and maintaining of protective barricades at entrances and openings.
 - b. Protection from trip hazards due to storage, use of materials or drop cords.
8. Elevator contractor is to provide due care to protect building flooring and walls from excessive debris, dirt or damage due to workmen onsite.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver elevator materials, components and equipment in manufacturer's protective packaging.
- B. Protect and handle materials in accordance with manufacturer's recommendations to prevent damage, soiling, or deterioration.
- C. Elevator contractor shall be responsible for the material handling of all escalator equipment to site storage area.

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1. Elevator contractor will be responsible for keeping all stored materials inside storage area with lock and key.
- D. Locked and protected storage for elevator contractor's tools or materials at site is contractor's responsibility.
- E. Escalator equipment disassembled for replacement shall be stored in a dry, protected area for utilization as replacement parts, such as motor generators, drive machines and controllers, to maintain existing elevator(s) which are not yet in the modernization phase of the project.
- F. Elevator contractor shall be responsible for crane services for the placement of the equipment in the machine rooms.

1.8 PROJECT CONDITIONS

- A. Authorized elevator personnel only are responsible for temporary installed barrier panels as may be required during construction to protect the openings at escalators at each floor.
 1. Panels may be removed only while the authorized elevator personnel are to perform work in the immediate area of the unprotected opening.
 2. Authorized elevator personnel shall re-install all barriers as required to maintain the original solid and safe protection to the opening prior to leaving immediate work area of the opening.
- B. Security: Any and all onsite workmen and receiving products to site are required to follow security and safety procedures as per OSHA and the Miami-Dade County Department of Transportation and Public Works policies and facility regulations
- C. Painting:
 1. Except as otherwise specified, paint all metal work provided by the elevator manufacturer and installer.
 2. Clean and paint machine room floors.
 3. Provide all ferrous metals installed in the truss shop primed with a rust inhibitive primer.
 4. Remove rust, clean, degrease and paint all installed parts or components accumulated during the construction phase.

1.9 Warranty

- A. The elevator contractor's acceptance is conditional on the understanding that their warranty covers defective material and workmanship.
 1. The warranty period shall extend to one (1) year from the date of completion or acceptance thereof by beneficial use; whichever is earlier, of each escalator.
 2. The warranty excludes ordinary wear and tear or improper use, vandalism, abuse, misuse, or neglect or any other causes beyond the control of the elevator contractor and this

express warranty is in lieu of all other warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose.

3. Any defective condition or workmanship not mutually agreeable as satisfactory to building owner and elevator contractor shall be determined by the independent elevator consultant as final for the replacement, repair or continued use of product or part in question.
- B. Maintenance service consisting of a minimum of weekly examinations, adjustments and lubrication of the escalator equipment shall be provided by the elevator contractor for a period of twelve (12) months after the escalators have been turned over for the customer's use at no charge to the building owner.
1. This service shall not be subcontracted, but shall be performed by the elevator contractor.
 2. All work shall be performed by competent employees during normal working hours between 8:00AM to 5:00PM Monday through Friday and shall include emergency 24/7 callback service.
 3. All inspections and performance of periodic safety tests for witnessing by Miami-Dade County Office of Elevator Inspectors shall be included at no charge.
 4. This service shall not cover adjustments, repairs or replacement of parts due to negligence, misuse, abuse or accidents caused by persons other than the elevator contractor.
 5. Only genuine parts and supplies as used in the manufacture and installation of the original equipment shall be provided.
 - a. Obsolescence shall not be allowed.
 6. Warranty maintenance service shall start upon completion of each escalator group or facility.
 - a. Warranty service starting date shall be after completion of punch-out lists and close-out documents as agreed with building management, consultant and contractor.
- C. If not currently on County maintenance contract services, provide interim monthly maintenance rates for equipment in service during the project prior to and after the installation phase, final acceptance for public utilization and warranty maintenance service.
1. The Contractor shall not invoice for monthly maintenance on equipment taken out of service for modernization or installation.
 2. Shall include all annual inspections and performance of periodic safety tests for witnessing by Miami-Dade County Office of Elevator Safety Tests during interim maintenance period.
 3. Unless identified in prior pre-maintenance survey and accepted in the agreement, obsolesce shall not be allowed.

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4. Include wiring diagrams for existing equipment.
5. Provide billable labor rates for helpers, mechanics and adjusters inclusive of standby services, minor and major repairs for other than normal working hours weekdays and Saturdays and Sundays and Holidays (overtime).
6. Include material cost and externally purchased subcontracted services mark-up not greater than 20% not covered in the warranty.
7. When building management requests the contractor to perform repairs or services including inspections and testing covered in the warranty during other than normal working hours, the contractor shall invoice the facility the difference between the overtime labor rate and the normal working hourly rate.

2.1 PRODUCTS

A. ACCEPTABLE MANUFACTURER

1. Only products and components produced or provided by manufacturer(s) regularly engaged in the manufacture of elevator products, and that complies with ASME A17.1 Safety Code for Elevators and Escalators, ASME A17.2, Florida Statutes, Chapter 399, Florida Administrative Code 61C-5, all applicable sections of the Florida Building Code in its entirety, and additional requirements specified herein are acceptable.
2. Basis-of-Design Product: Schindler Elevator 9700T Escalator, or approved equals.
3. Acceptable Manufacturers
 - a. Schindler Elevator
 - b. Kone
 - c. Otis Elevator
 - d. ThyssenKrupp
4. Only Bidders deemed qualified shall be notified by Request for Quotation.

B. MATERIALS, GENERAL

1. Colors, patterns, and finishes: As selected by the Project Name from manufacturer's full range of standard colors, patterns, and finishes.
 - a. Steel:
 - 1) Shapes and bars: ASTM A 36
 - 2) Sheet: ASTM A 366, cold-rolled steel sheet, commercial quality, Class 1, matte finish, stretcher leveled.
 - 3) Finish: Factory-applied baked or powder coated enamel.
 - b. Stainless Steel:

- 1) Shapes and bars: ASTM A 276, Type 300 (18-8)
 - 2) Tubing: ASTM A 269, Type 300 (18-8)
- C. TRUSS: The Contractor may elect to retain the existing truss and end supports. The truss and end supports shall be inspected by a Structural Engineer registered in the State of Florida and a signed, sealed and dated copy of the inspection report shall be submitted to the Owner for project files. The Contractor shall be responsible for structurally re-certifying the truss and end supports for the proposed loads and provide new components as required.
1. Upper and Lower End
 - a. Remove of track and support brackets
 - b. Remove access cover support plates
 - c. Remove selected truss cross members
 - d. Remove handrail support return brackets
 2. Incline
 - a. Remove top and return track
 - b. Remove handrail return brackets
 - c. Modify truss cross members.
 3. Clean down the existing truss
 - a. Remove all remnants of oil, grease, lint, dirt and debris from the unit
 - b. Apply a protective coating of paint
 4. Inspect & evaluate existing welds, rivets and overall structure
 - a. Verification by a licensed structural engineer.
 5. Truss shall be treated to prevent corrosion in the applicable environment.
- D. Isolation Mounting: Retain and/or recondition
- E. Upper, Lower, and Incline Modules: Upper, lower, and incline modules shall be designed, fabricated and installed into the existing truss by welding.
1. Upper end module or pit shall include the drive machine, track sub-assemblies, and truss interface components.
 - a. Track sub-assemblies shall be welded steel plate construction.
 - b. The following components shall be directly mounted to the upper end module.
 - 1) Top and return curve track
 - 2) Step guidance system

- 3) Handrail guidance system
 - 4) Skirts and support brackets
 - 5) Access cover and comb plate support angles
 - 6) Safety devices and associated mounting brackets, including skirt switches, missing step detector, step out of level detector, and handrail speed sensors
- c. Drive Machine: The driving machine shall be vertical worm gear type designed for escalator service.
- 1) The worm shall be of high-grade steel integral with worm shaft and provided with a ball bearing thrust unit designed to absorb thrust of worm in both directions.
 - 2) Brake shall be permanent magnetic closed loop type or solenoid released band brake and designed to be automatically applied in the event of a power failure or actuation of any one of the safety devices.
 - a) Brake shall be designed to bring the escalator to a smooth gradual stop with load up to rated load.
 - 3) The drive unit to consists of an electric motor, a gearbox, a resilient coupling, the flywheel, the service brake, the main shaft, a safety brake and the main drive chain.
 - a) The entire drive (motor, gearbox, coupling, flywheel, service brake) is mounted on a common base plate and can be shifted longitudinally by turning the tensioning screw.
- d. Motor: The escalator(s) shall be equipped with a motor designed for escalator service.
- 1) The motor shall be of TEFC design, ball bearing type.
 - 2) Driving motor and motor switchgear shall be designed to provide a smooth start, which shall prevent undue strain on drive components.
 - 3) The motor shall be of sufficient size to operate the escalator at a minimum of Code-rated load, ascending without exceeding the rated horsepower.
 - 4) The motor is suitable for inverter duty.
 - 5) Three sets of thermistors the wiring being terminated in the motor terminal box.
 - 6) The motor shaft to have a special non-drive end (NDE) extension with a square end, and a modified motor cowl.
 - 7) The square end is to allow for manual rotation of the drive unit via a hand-winding ratchet, supplied loose with the drive unit package.

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- 8) The motor is equipped with a vibration sensor.
- e. Brake:
 - 1) Brake shall be a closed loop type or solenoid released band brake and designed to be automatically applied in the event of a power failure or actuation of any one of the safety devices.
 - 2) Brake shall be designed to bring the escalator to a smooth gradual stop with load up to rated load.
 - a) The brake shall not cause the escalator to come to an abrupt stop.
 - b) Shall be designed to meet ASME A17.1-2013 Code deceleration requirements without adjustment.
 - 3) The safety brake (disk brake) is to be mounted on the right end of the main shaft and, to be activated during downward travel.
 - a) Shall be installed together with the drive chain contact.
- f. Upper Reversing Station: The Upper Reversing Station and drive shall include a precision-machined step chain sprocket mounted on the machine output shaft and rotating on bearings.
 - 1) A water level monitor device is required below the truss in the tension station. When water rises to the tip of the ultrasonic sensor between the forks, the water level monitor activates an alarm.
2. Lower end module shall include the reversing station, track sub-assemblies, and truss interface components.
 - a. Track sub-assemblies shall be welded steel plate construction.
 - b. The following components shall be directly mounted to the lower end module or pit
 - 1) Top and return curve track
 - 2) Step guidance system
 - 3) Handrail guidance system
 - 4) Skirts and support brackets
 - 5) Access cover and comb plate support angles
 - 6) Safety devices and associated mounting brackets, including skirt switches, missing step detector, step out of level detector, and step up thrust device.
 - c. Lower Reversing Station: Shall consist of a machined floating track system designed to maintain proper tension on the step chain.

- 1) Shall be designed to maintain uniform chain tension and shall detect movement of the carriage through the activation of a safety switch.
 3. Incline Modules: Modular multi-purpose stanchion assemblies shall be installed on the incline of the existing truss.
 - a. Incline support stanchions shall be fabricated of steel and mounted to the existing truss.
 - b. Shall be designed to support all incline track sections and handrail guide components as part of the complete step band.
 - c. Stanchions shall be pre-assembled and fixtured to set track spacing, as well as step and handrail guidance components.
 4. All equipment shall be treated to prevent corrosion in the applicable environment.
- F. Step Band
1. Step Guidance: Step guidance system shall be provided to control the movement of the steps both horizontally and vertically.
 - a. Each step shall be provided with horizontal guide pads, which shall guide the steps throughout their travel, in combination with a continuous guide profile installed in the area of the escalators open to passengers.
 - 1) A17.1-2013 Code Step/Skirt Performance Index requirements shall be met without the need for skirt deflector brushes.
 2. Step Chain: Shall consist of consecutively running steps powered and spaced with a chain designed for long life and quiet operation.
 - a. Step chain shall properly mesh with the main drive sprockets and lower reversing station castings.
 - b. Chain shall be an engineering class roller chain, manufactured
 - c. Step chains shall be provided with an automatic lubrication system.
 3. Steps: Shall be formed from one-piece die cast aluminum with closely spaced tread and riser cleats.
 - a. Step rollers shall rotate on sealed ball bearings.
 - b. Step shall be connected to the chain by a pin and bushing.
 - c. Vertical curved step risers shall be furnished with vertical cleats arranged to pass between the cleats of the tread on the adjacent step to form an inter-meshing unit with minimum clearances.
 - d. Step color shall be silver powder coated.

- e. The number of level steps at each end of the escalator shall be two, wherever possible.
 - f. Step demarcation inserts shall be provided on the sides and rear of each step.
 - 1) Inserts shall be fabricated from reinforced structural plastic, shall be easily replaced and shall be approximately 1.5 inches (38mm) wide at the sides and approximately 1.5 inches (38 mm) wide at the rear.
 - 2) Inserts shall be attached to the step without the use of visible fasteners.
 - 3) The color of the demarcation inserts shall be yellow per ASME A17.1-2013.
 - 4. Tracks: Shall be designed and fabricated to support and retain the steps and running gear at the rated load and at the highest speed specified.
 - a. Shall be assembled and secured together for easy removal and replacement of sections.
 - b. Shall be properly supported on stanchions to provide correct alignment and smooth transition to return stations.
 - 1) Rolling surface of the incline track shall be a minimum thickness of 2.5 mm.
 - 2) Transition track shall be a minimum thickness of 10mm.
 - 3) Guiding surface of the wheels shall be galvanized steel profiles with smooth and even running surfaces.
 - 4) Joints shall be cut diagonally to the running direction.
 - 5) A second, continuous step guiding profile shall be provided above the step chain rollers.
 - 5. All equipment shall be treated to prevent corrosion in the applicable environment.
- G. Comb plates and Access Covers
- 1. Comb Plates: Adjustable comb plates shall be located at the top and bottom landings.
 - a. Comb plates shall support injection molded, reinforced structural aluminum or plastic comb segments which shall be designed to be removable and to mesh with the cleats on the step treads.
 - b. Skid resistant comb plates shall be designed to sense both horizontal and vertical movement of the comb segments.
 - c. Comb segments shall be yellow.
 - 2. Access Covers: Lightweight aluminum access covers shall be provided.
 - a. Design of these skid resistant access covers shall allow for ease of maintenance.

- b. Covers shall be provided at both upper and lower landings and match the pattern of the new comb plates.
- 3. All equipment shall be treated to prevent corrosion in the applicable environment.
- H. Decks/Balustrades/Front plates/Skirts/Interior Trim
 - 1. Decks: Escalator decks shall be constructed such that there shall be an inner deck and an outer deck.
 - a. Inner and outer decks shall be solid deck construction.
 - b. Inner and outer decks shall be fabricated from heavy gauge metal.
 - 1) Deck panels shall be installed without overlapping joints or requiring trim pieces to cover where two deck panels meet.
 - 2) Inner and outer decks shall be finished in stainless steel #4 satin finish 14-gauge material.
 - 2. Fall protection shall be provided outside exterior low decks for open sides greater than 30 inches above the finished floor or ground floor.
 - a. Provide guard rails 42 inches above the along escalator step tread slope of step nose the entire length of escalator.
 - b. Constructed of welded Stainless Steel tubing.
 - 1) No exposed anchors or screws.
 - 2) Mounted a minimum of four (4) inches from handrail, no more than six (6) inches from handrail.
 - c. Shall be engineered and stamped for structural integrity and approved by elevator consultant.
 - 3. Newel Ends: Upper and lower newel ends shall be designed to allow the return of the handrail without undue stress.
 - a. Newel ends shall support the handrail around the newel through the use of a multi-roller bearing system to minimize drag and maximize handrail life.
 - 4. Solid Balustrades: Solid Balustrades shall be provided between the escalator skirts and the handrails.
 - a. Panels shall provide a finished surface for the escalator interior.
 - b. Balustrade panels shall be installed without overlapping joints or requiring trim pieces to cover where two panels meet.
 - c. Balustrade shall be fabricated of sheet metal or sandwich design with stainless steel #4 finish.

5. Provide integral traffic and safety lighting along both internal sides of balustrades.
 - a. Shall provide a minimum of 20 ft-c from landing to landing measured at step tread and landing plates.
 - b. If integral lighting does not provide 20 ft-c, provide overhead lighting.
6. Front plates: shall be provided at upper and lower ends designed to include the handrail inlet device and key actuated direction-starting switch.
7. Control Station: Both the upper and lower landings, located near the handrail inlet.
 - a. Stations shall be provided which shall include a key actuated direction starting switch.
 - 1) Escalator will not restart automatically.
 - 2) Keyed station shall be restarted with the key after shut down.
8. Skirts: Skirts shall be constructed from a heavy gauge material reinforced with steel channels.
 - a. Skirts shall be fastened to the truss modules with hidden fastenings in the incline and transition areas.
 - b. Skirt panels shall be installed without overlapping joints or requiring trim pieces to cover where two skirt panels meet.
 - c. Skirt panels shall be finished in Black Teflon coated 11 gauge cold rolled steel.
9. All equipment shall be treated to prevent corrosion in the applicable environment.
- I. Handrails: Provide new escalator handrails, properly constructed and reinforced.
 1. Handrails shall be endless with a smoothly vulcanized splice and shall operate with the moving steps.
 2. U groove handrails shall move on specially formed guides and traction sheaves.
 - a. Sheaves shall be an integral part of the drive machine.
 3. Close fitting guards shall be provided by the handrail openings in the newel base.
 4. Handrail color shall be black.
 5. Provide handrail constructed to withstand handrail sanitation through LED UV-C modules.
 6. All equipment shall be treated to prevent corrosion in the applicable environment.
- J. Handrail Sanitation: Provide LED UV-C handrail sanitation modules as manufactured by EHC Global, or approved equal.
 1. Modules shall be installed internally to prevent pinch-points and passenger entrapments on brackets supplied by the elevator contractor.

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2. Modules shall be engineered to supply sufficient quantity and location of modules on each handrail to properly sanitize the handrails in consideration of the length escalator run.
3. Provide internal enclosure for power source and circuit board hard wired per manufacturer's recommendations and NEC code requirements.
4. Provide safety signage for sanitation equipment approved by the project consultant and facility management.

K. Controls and Wiring

1. Controller: The controller shall be of a heavy-duty variable frequency drive microprocessor type.
 - a. (VFD/GFU) The controller shall monitor the condition of each safety device, brake, and motor operation, and shall cause the escalator to come to a stop upon activation of any safety device, brake problem, or motor overload.
 - b. In the event of a power failure occur, the controller shall automatically remove power from the motor, and brake, and bring the escalator to a controlled stop.
 - 1) Controller shall include phase and overload protection.
2. Wiring: Pre-assembled wiring harness shall be installed, complete with modular assemblies for the upper end, incline section, and lower end of the truss.
 - a. Upper and lower end assemblies shall be constant and consistent from unit to unit.
 - b. Incline assembly shall be variable by length only.

L. Safety Devices:

1. Reversal Stop Device: Escalators shall be provided with a reversal stop device or function that is controller sensitive to stop the escalator automatically should the escalator attempt to reverse its direction while operating in the ascending direction.
2. Broken Step Chain Device: Broken step chain device, a part of the lower reversing station assembly, shall be provided for each chain.
 - a. When activated, the escalator shall come to a controlled stop.
3. Step Up thrust Device: Step up thrust device shall be located on each side of the lower curve track on the lower end of each escalator.
 - a. Escalator shall come to a controlled stop should a step be displaced against the up-thrust track.
4. Comb-Step Impact Device: Comb-step impact device shall be provided at the upper and lower comb plates.
 - a. Escalator shall come to a controlled stop should an impact occur between the comb segments and steps.

5. Skirt Obstruction Device: Skirt obstruction devices shall be provided, at both upper and lower ends, within the skirt panels.
 - a. Escalator shall come to a controlled stop should an obstruction occur between the step and skirt panel.
 - b. Switches shall be of the plunger, self-resetting type, adjustable to maintain the required position and clearance from the skirts.
6. Missing Step Device: Missing step devices shall be provided.
 - a. Missing step devices are designed to detect a missing step or steps at the upper and lower ends of the escalator.
 - b. When activated, escalator shall come to a controlled stop.
7. Step Demarcation Lights: Step demarcation lights shall be furnished at the top and bottom of each escalator.
 - a. Devices shall consist of a light fixture installed just below the track system where the step leaves or enters the comb plate.
 - b. Fixture shall be furnished with two independent green fluorescent lamps and shall be capable of lighting the entire width of the step.
 - c. Light shall be visible between the steps and the step and comb segment.
 - d. Light shall provide a reference point for entering or exiting the escalator.
8. Handrail Entry Device: Handrail entry device shall be provided at the handrail inlet in the newel.
 - a. Escalator shall come to a controlled stop should an object enter the handrail inlet area.
9. Handrail Speed Monitoring Device: Magnetic sensor shall be provided to sound the alarm when the handrail deviates from the step speed by 15% or more.
 - a. If the deviation lasts for more than 2-6 seconds, the escalator shall come to a controlled stop.
10. Emergency Stop Buttons: Emergency stop buttons shall be provided, designed so that the momentary pressure of either button shall cut off the electrical power supply to the motor and bring the escalator to rest.
 - a. One emergency stop button shall be located at each landing.
 - b. Location shall be in the existing newel upper radius quadrant, 45 degrees above horizontal, in order to provide easy access.
 - 1) Stop button shall be red in color.
 - c. Button shall be housed under a clear, high impact resistant plastic cover.

- 1) Cover shall be self-closing.
 - 2) Instructions for operating the stop button shall be imprinted on the cover in half-inch high letters.
 - 3) When the cover is lifted, an audible alarm shall sound until the cover is returned to its closed position.
11. Safety Signs: A pictorial sign meeting the requirements of the ASME A17.1 Code shall be provided at both the upper and lower landings.
 - a. Safety signs will be provided in English.
12. Stop Switch in Machinery Spaces: Each escalator shall be provided with stop switches in the upper and lower pits.
 - a. When activated, the escalator shall come to a controlled stop.
13. Step Level Devices: Step level devices shall be provided at the upper and lower ends of the escalator to detect downward displacement of the step prior to it reaching the comb plates.
 - a. When activated, the escalator shall come to a controlled stop.
14. Step Guards: Escalators in this specification are required to have step guards.
 - a. Step guards shall be provided in the upper and lower pit.
 - b. Step guard shall protect a mechanic from the step band.
15. All equipment shall be treated to prevent corrosion in the applicable environment.

3.1 EXECUTION

- A. Examination:
 1. Coordinate all site conditions with General Contractor and other building trades.
 2. Inspect truss, pits and machine room, as constructed.
 3. Verify all critical dimensions, and examine supporting structures and all other conditions under which escalator work is to be installed.
 4. Do not proceed with escalator installation until unsatisfactory conditions have been corrected in a manner acceptable to the installer.
 5. Commencement of installation constitutes acceptance of existing conditions and responsibility for satisfactory performance.
 6. Elevator contractor shall coordinate crane services for placement of the equipment with General Contractor.
- B. Elevator contractor shall be responsible for screening and protection of truss openings and protection between escalators.

C. Signage:

1. The designated project manager and the owner's representative will approve all signage in order to maintain consistent appearance for entire escalator installation.
2. All signage as required by Florida Building Code, ASME A17.1, NFPA 70 National Electrical Code and NFPA 72 Fire Alarm Code to be posted in escalator lobbies, fire alarm panels, disconnects, machine rooms and machine room doors.

D. Installation:

1. Install escalator systems components and coordinate repairs of truss construction.
2. Competent licensed elevator installation personnel in accordance with Florida Statute 399 and ASME A17.1 manufacturer's installation instructions and approved shop drawings shall perform work.
3. Comply with the National Electrical Code for electrical work required during installation.
4. Perform work with competent, skilled workmen under the direct control and supervision of the elevator manufacturer's experienced foreman.
5. Supply in ample time for installation by other trades, inserts, anchors, bearing plates, brackets, supports, and bracing including all setting templates and diagrams for placement.
6. Welded construction: Provide welded connections for installation of escalator work where bolted connections are not required for subsequent removal or for normal operation, adjustment, inspection, maintenance, and replacement of worn Parts.
 - a. Comply with AWS B2.1 Standard Welding Procedure and Performance Qualification.
7. Coordination: Coordinate escalator work with the work of other trades, for proper time and sequence to avoid construction delays.
 - a. Use benchmarks, lines, and levels designated by the Contractor, to ensure dimensional coordination of the work.
8. Install machinery, guides, controls, and all equipment and accessories to provide a quiet, smoothly operating installation, free from side sway, oscillation or vibration.
9. Sound isolation: Mount rotating and vibrating escalator equipment and components on vibration-absorption mounts, designed to effectively prevent the transmission of vibrations to the structure, and eliminate sources of structure-borne noise from the escalator system.
10. Lubricate operating parts of system as recommended by the manufacturer.
11. Elevator contractor shall be required to install all data plates as required by ASME A17.1 on complete escalator system including alteration and original equipment.

- a. All data plates shall be manufactured and printed with proper data for each escalator by CodeDataPlate.com or approved equal.
- E. Field Quality Control:
 - 1. Acceptance testing: Upon completion of the escalator modernization and before permitting use of escalator, perform acceptance tests as required by the State of Florida and recommended by Code and governing regulations or agencies.
 - a. Perform other tests, if any, as required by governing regulations or agencies.
 - 2. Advise Owner, Elevator Consultant, and governing authorities in advance as required of dates and times tests are to be performed on the elevator.
- F. Adjusting:
 - 1. Make necessary adjustments of operating devices and equipment to ensure escalator operates smoothly and accurately.
 - 2. The elevator contractor shall be required to perform and pass all required testing of all equipment as per ASME A17.1 and ASME A17.2.
 - 3. Elevator contractor is to return at 30 days, 90 days and 180 days after final installation to examine and readjust equipment as may be required for optimum performance.
- G. Cleaning:
 - 1. Before final acceptance, remove protection from finished surfaces and clean and polish surfaces in accordance with manufacturer's recommendations for type of material and finish provided.
 - 2. For duration and/or completion of escalator work, remove tools, equipment, and surplus materials from site daily.
 - 3. Clean equipment rooms and trusses.
 - 4. Remove trash and debris daily from premises.
- H. Protection:
 - 1. During all escalator work, or portion thereof, provide suitable protective coverings, barriers, devices, signs, or other such methods or procedures to protect escalator work from damage or deterioration.
 - 2. Protect all areas of work from public access or dangers including tripping or fall hazards.
 - 3. Maintain protective measures throughout remainder of construction period.
- I. Demonstration:
 - 1. The elevator contractor shall make a final check of each escalator operation with the Owner or Owner's representative present prior to turning each escalator over for use.

2. The elevator contractor shall demonstrate that control systems and operating devices are functioning properly.
 3. Instruct Owner's personnel in proper use, operations, and daily care or operation of escalators.
 4. Review emergency provisions, including emergency access and procedures to be followed at time of failure in operation and other building emergencies.
 5. Train Owner's personnel in normal procedures to be followed in checking for sources of operational failures or malfunctions.
 6. Make a final check of each escalator operation, with Owner's personnel present, immediately before date of substantial completion.
 7. Demonstrate that control systems and operating devices are functioning properly.
 8. Final Electrical Schematics and Drawings
- J. Elevator Consultant's Punch-out List Items:
1. Complete all of the consultant's punch-out list items as may be required.
 2. The elevator consultant shall provide a review and written punch list of deficiencies.
 3. The elevator consultant shall verify one time that the items from the punch list are completed after notice by the elevator contractor.

END OF SECTION

ATTACHMENT J

ESCALATOR SPECIFICATIONS (DADELAND NORTH METRORAIL STATION)

1.1 SUMMARY

- A. Modernization of Escalators for the Miami-Dade County Department of Transit and Works, Dadeland North Metrorail Station. 8320 S. DIXIE HWY, MIAMI, FLORIDA 33143.
- B. Including all engineering, equipment, labor, machines, control systems, devices and accessories as required for safely operating the specified escalators.
- C. Verify existing building systems including but not limited to mechanical, electrical system and fire life safety are compatible with the new equipment being proposed, identify any necessary modifications and include modifications in bid.
- D. Commercial, high-traffic public heavy-duty transit grade escalators.
 - 1. Two (2) escalators
 - a. Escalator #1 – SS# 72573
 - b. Escalator #2 – SS# 72574
 - 2. Installation of all truss equipment.
 - 3. Escalator car and truss signal equipment.
 - 4. Operation and control systems.
 - 5. Accessibility provisions for physically disabled persons.
- E. Delivery, staging, and hoisting of new equipment.
- F. Materials and accessories as required for completing the escalator installations.
- G. Truss, pit and machine room barricades for safety as required.
 - 1. Barricades or guards at least 48" high (1219 mm) (including protected entrances), for the convenience and protection of all workers as well as the general public, during the modernization period of the escalator, so that the modernization area can be enclosed in accordance with applicable law.
 - 2. The barricades shall be of a type to limit entrance of unauthorized personnel to the modernization area.
 - 3. The modernization area shall be of a size to permit work to proceed without delays.
- H. Required hoisting, hoisting permits and traffic coordination and/or permits with local jurisdictions and the State of Florida as required.
- I. Required permits and coordination and/or permits with local jurisdictions, Office of Elevator Safety and the State of Florida as required.

1.2 Related Scopes of Work by Others

- A. Electrical Contractor shall furnish and install all electrical equipment for truss, pit and machine room including HVAC, lighting, GFCI receptacles and electrical disconnects, as required by NFPA 70 National Electrical Code and ASME A17.1 Safety Code for Elevators and Escalators.
1. All Electrical work must be coordinated and scheduled with General Contractor, Elevator Contractor and Elevator Consultant.
 2. Escalators shall be removed from service while electrical trades are working in same or adjacent truss, pit or machine rooms.
 3. Electrical service to main disconnect in escalator machine room; electrical power for escalator installation and testing; electrical service for machine room; machine room and pit receptacles with ground-fault current protection; lighting in machine room and pit.
 4. Install lockable disconnects with overcurrent protection for elevator main line power as per NEC.
 - a. Disconnect to be verified for appropriate size and type for power requirements of escalator equipment prior to installation.
 - b. Provide surge protection.
 5. Provide replacement electric wiring from disconnect switches to the new escalator controllers with feeder leads for connection to terminals by the elevator contractor, inclusive of a normal 120 VAC, 15 AMP supply at each controller.
 6. Minimum lighting in remote machine room and equipment space shall be 10 ft-c.
 7. Minimum lighting at the step treads and landing plates shall be 20 ft-c.
 8. All electrical systems shall include proper earth grounding and bonding as required by elevator controller manufacturer and NEC.
 - a. Provide continuous earth ground to mainline disconnects and controllers.
 9. Provide a single non-GFCI receptacle for each sump in each escalator truss pit.
 10. Provide and install truss pits, overhead equipment and machine room lighting as per NEC with enclosed and protected lamps.
 11. Pit receptacles, with GFCI protection shall be installed in NEMA 4 devices where placed within 4'-0" of pit floor.
 - a. All electrical equipment including conduit, fitting, junction boxes, portable cabling shall be NEMA 4 rated.
 - b. Care must be taken not to place equipment in line with escalator equipment.
 12. All disconnects shall be labeled according to NFPA 70 NEC including source of power, State of Florida Serial Numbers, Elevator Number and all required warning signs.

13. Install shunt trip breakers outside of machine rooms for feeder to each mainline disconnect for removal of power by NFPA 70 NEC and NFPA 72 if installation of sprinklers in machine rooms or hoistways is required by the Florida Building Code.
 - a. Shunt trip shall be activated by heat detectors installed by others.
- B. Fire Alarm including heat and smoke sensing devices as per NFPA 70 National Electrical Code and NFPA 72 National Fire Alarm Code.
 - a. The smoke detectors or other automatic fire detection as permitted by NFPA 72, shall actuate the elevator control circuits as detailed in NFPA 72.
 2. Fire alarm contractor shall demonstrate at time of elevator inspection, compliance and testing of all alarm initiating devices as required by ASME A17.1 Safety Code for Elevators and Escalators, ASME A17.2 and NFPA 72 National Fire Alarm Code.
 3. Install heat detectors within 24" of sprinklers installed in machine rooms including wiring and conduit to shunt trip breaker as installed by electrical contractor.
 4. Installation of fire alarm system and devices shall conform to ASME A17.1 Safety Code for Elevators and Escalators and NFPA 72 including NFPA 70 NEC.
- C. Sprinklers: Any required sprinkler work must be coordinated with elevator contractor to insure non-interference with any elevator equipment and must be compliant with NFPA 13, NFPA 72 and the Florida Building Code.
 1. If sprinkler head(s) are located in the machine room, it will be required to install a heat detector within 24" of each sprinkler in order to automatically disconnect the main line power supply to the affected elevator(s) upon or prior to the application of water, in accordance with ASME A17.1 Safety Code for Elevators and Escalators and NFPA 72 National Fire Alarm Code.
- D. Data Lines:
 1. Provide network data line for remote monitoring to each elevator controller.
- E. Building general construction conditions, cleaning and painting of miscellaneous surfaces: The elevator contractor shall not be responsible for all work as detailed in this section.
 1. All construction, cleaning and painting other than equipment directly supplied by the elevator contractor shall be performed by others.
 2. Provide Class ABC Fire Extinguisher in machine room permanently mounted and conveniently located to the access door as required by ASME A17.1 Safety Code for Elevators and Escalators.
 3. Provide protection of all pipes, wiring, conduit, duct and openings in machine rooms to maintain a 2 hour fire rating.
 4. All foreign pipes, wiring or conduit not in use or directly related to the elevator system shall not be installed in machine rooms.

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- a. Existing foreign piping, wiring and/or conduit not in use or directly related to elevator shall be removed or enclosed as required by code.
- 5. All holes and openings in truss cladding shall be patched and protected to maintain the fire rating of the enclosure including conduit, piping and other equipment passing through exterior walls.
- 6. Sumps and Sump Pumps: Elevators with Fire Service Operation shall have drains or sump pumps as required by ASME A17.1 Safety Code for Elevators and Escalators, including the Florida Building Code.
 - a. The pump shall be manufactured by Stancor, or approved equal.
 - b. The sump shall be a minimum of 18 inches in diameter and 24 inches in depth.
 - c. The sump cover shall be removable and flush to pit floor.
 - d. The Sump pump shall have an output of 3000 gallons per hour at the head per elevator.
 - e. The sump pump electrical cord shall be 6 foot or less.
- 7. Clean and paint machine room finished walls and floors.
 - a. All cleaning or painting work that produces any vapors or fumes shall be performed during normal business work hours or after normal business hours as requested by building manager or representative.
 - 1) Work of this nature must be scheduled and coordinated five (5) days prior to execution of work.
 - b. The procedures proposed for the accomplishment of the work shall provide for safe conduct of the work, careful removal and disposition of materials specified to be salvaged, protection of property, which is to remain undisturbed, and coordination with other work in progress.
 - 1) The work plan shall include a Safety and Health plan describing procedures for handling monitoring, and disposition of Volatile Organic Compounds "VOCs" and other hazardous and toxic materials.
 - 2) The procedures shall include a detailed description of the methods and equipment to be used for each operation, and the sequence of operations.
 - c. All paint products and application method must be approved prior to application by owner or owner's agent.
 - 1) Paint products and application methods are to be equal or better than existing product applicable with matching color as approved by owner.
 - d. All products of paint, thinners or cleaning agents must be approved prior to use for VOC's or any additional health concerns.

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

1.3 CODE AND STANDARD REFERENCES

- 1. Comply with all current applicable state statutes, administrative rules, building codes and elevator codes at the project site required at the time of permitting, including but not limited to the following:
 - a. Florida Statutes 399
 - b. Florida Administrative Code 61C-5
 - c. Florida Building Code
 - d. ASME A17.1 Safety Code for Elevators and Escalators
 - e. ASME A17.2 Guide for Inspection of Elevators and Escalators
 - f. ADAAG, Americans with Disabilities Act Accessibility Guidelines
 - g. NFPA 13, Sprinkler Systems
 - h. NFPA 70, National Electrical Code
 - i. NFPA 80, Fire Doors and Windows
 - j. ANSI/UL 10B, Fire Tests of Door Assemblies
 - k. NFPA 72, National Fire Alarm Code
 - l. NFPA 101 Florida Edition
 - m. O.S.H.A. Requirements for construction
 - n. Elevator Industry Field Employees' Safety Handbook
 - o. Miami-Dade Transit Construction Safety Manual and Attachments

- p. Miami-Dade County Department of Transportation and Public Works (DTPW)
Adjacent Construction Manual

1.4 ELEVATOR SYSTEM DESCRIPTIONS

- A. Escalator System, General: Manufacturer's standard escalator systems. Unless otherwise indicated, manufacturers' standard components shall be used, as included in standard escalator systems and as required for complete system.
- B. Escalator Arrangement
1. Escalator shall be numbered as viewed from lobby facing the escalators from left to right in main lobby with alpha-numeric designations.
 - a. Keep current elevator alpha-numeric designations.
 2. Specific requirements for the specific escalator or component shall be designated as such and shall not apply to other elevators or escalators in the building.
 3. Specifications for escalators include minimum requirements of all escalators and it shall be the responsibility of the contractor to complete all work to code compliance.
 4. Insert a different number for each group of elevators or escalators that share a group operation system
- C. Escalator System
1. Quantity: Two (2) escalators
 - a. Escalator #1 – SS# 72573 Schindler
 - b. Escalator #2 – SS# 72574 Schindler
 2. Type: Commercial heavy duty high-traffic public transport escalator
 3. Machine Location: Field verify
 4. Rated Capacity:
 - a. Escalator #1 - 7000lbs, field verify.
 - b. Escalator #2 - 7000lbs, field verify.
 5. Rated Speed: 100FPM, field verify.
 6. Truss, Step & Escalator Enclosure: Retain interior and exterior existing dimensions
 7. Entrance Dimensions: Retain all existing refuge & clearance dimensions
 8. Main Power Supply: Existing 480 Volts + or - 5% of normal, 3 Phase, 60 Cycle with a separate equipment grounding conductor. Contractors shall field verify.

1.5 Submittals

- A. Product data: Submit product data for the following:
 - 1. Manufacturer's product data for each system proposed for use.
 - 2. Installation methodology and sequence of work.
 - 3. Operation, control, and signal systems.
 - 4. Drive, motor, machine and all major components of system.
- B. Shop drawings:
 - 1. Show equipment arrangement in the machine room, pit and truss.
 - a. Provide plans, elevations, sections and details of assembly, erection, anchorage, and equipment location as required.
 - 2. Indicate escalator system capacities, sizes, performances, safety features, finishes and other pertinent information.
 - 3. Show floors served, existing travel distances, maximum loads imposed on the building structure at points of support and all similar considerations of the elevator work.
 - 4. Indicate electrical power requirements and branch circuit protection device recommendations and locations.
- C. Certificates: Inspection and acceptance certificates of escalator system installation.
- D. Operation and maintenance data. Include the following:
 - 1. Operation and Maintenance Manuals: Provide manufacturer's standard operation and maintenance manuals.
 - 2. Parts list, with recommended parts inventory.
 - 3. Wiring diagrams for control system including any in field modifications.
 - 4. Copy of field pull sheet wiring as built notes. Pull sheets to include wire numbers and colors.

1.6 QUALITY ASSURANCE

- A. Elevator Contractor Qualifications:
 - 1. Elevator Contractor shall provide pre-engineered elevator system components by manufacturer(s) regularly engaged in the manufacture of elevator systems.
 - a. Compliance with ASME A17.1 Safety Code for Elevators and Escalators, Florida Statutes, Chapter 399, Florida Administrative Code 61C-5, all applicable sections of the Florida Building Code, and additional requirements specified herein.

- b. The elevator contractor shall have a documented, on-going quality assurance program.
 - c. Contractor shall have a mechanical or electrical engineer on staff for County critical elevators.
- 2. Installer Qualifications: The manufacturer or an authorized agent of the manufacturer with not less than ten (10) years of satisfactory experience installing elevators equal in character and performance to the project elevators.
 - a. All mechanics employed to work onsite must have a valid Certificate of Competency issued by State of Florida Bureau of Elevator Safety.
 - b. There shall not be allowed onsite more than one helper or unlicensed assistant per onsite licensed mechanic.
- 3. Permits and Inspections: Apply, secure and pay for all required State of Florida, Miami-Dade County Office of Elevator Safety and all applicable building code permits, tests and fees as required by Florida Administrative Code 61C-5 for Alteration Permits, and local jurisdiction permits.
 - a. Elevator contractor is responsible for proper posting of all required licenses, permits and safety documentation.
- 4. Regulatory Requirements:
 - a. ASME A17.1-2013 or more stringent edition adopted by the State of Florida
 - b. Florida Building Code, latest edition adopted by the State of Florida
 - c. Current Florida Statute 399 and 553
 - d. NFPA 13 Standard for the Installation of Sprinkler Systems, latest edition adopted by the State of Florida
 - e. NFPA 70 National Electrical Code, latest edition adopted by the State of Florida
 - f. NFPA 72 National Fire Alarm Code, latest edition adopted by the State of Florida
 - g. Americans with Disabilities Act - Accessibility Guidelines (ADAAG)
 - h. Any changes or updates as required by Florida Building Code or Florida Statute 399 by time of permit application.
 - i. Any and all onsite workmen and receiving of products to site are required to follow security and safety procedures as per Miami-Dade County Department of Transportation and Public Works policies and facility regulations including the Miami-Dade Transit Construction Safety Manual and Attachments and the Miami-Dade County Department of Transportation and Public Works (DTPW) Adjacent Construction Manual.

5. Miami-Dade County Department of Transit and Works has designated the Miami-Dade County Office of Elevator Safety Elevator Contracts Administrator, as the elevator consultant on this project.
 - a. The Miami-Dade County Office of Elevator Safety Elevator Contracts Administrator, in accordance with ASME A17.1 Safety Code for Elevators and Escalators, Inspection and Test Requirements, may be present for and review all acceptance inspections for these escalators.
 - b. Elevator Installer in accordance with ASME A17.1 Safety Code for Elevators and Escalators, Inspection and Test Requirements, will schedule and coordinate all acceptance tests and arrange for inspection for all elevators with the Miami-Dade County Office of Elevator Safety.
 - c. Elevator contractor must notify the General Contractor, building owner and elevator consultant at least five (5) days prior to inspection advising of the date and time of all inspections and tests.
 - d. Elevator contractor shall be solely responsible for the application, securing, maintaining, completion and posting of elevator permits as per Florida Statute 399, the State of Florida Bureau of Elevator Safety /and Miami-Dade County.
 - 1) Delivery to the Owner upon completion and acceptance of elevator work, the certificate of operation.
6. All signage as required by Florida Building Code, latest applicable edition of ASME A17.1 Safety Code for Elevators and Escalators, NFPA 70 National Electrical Code and NFPA 72 Fire Alarm Code to be posted in elevator lobbies, fire alarm panels, disconnects, machine rooms and machine room doors.
7. Elevator contractor is responsible for all protection both inside and outside of truss to all personnel inside or outside of truss areas.
 - a. Includes providing and maintaining of protective barricades at entrances and openings.
 - b. Protection from trip hazards due to storage, use of materials or drop cords.
8. Elevator contractor is to provide due care to protect building flooring and walls from excessive debris, dirt or damage due to workmen onsite.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver elevator materials, components and equipment in manufacturer's protective packaging.
- B. Protect and handle materials in accordance with manufacturer's recommendations to prevent damage, soiling, or deterioration.
- C. Elevator contractor shall be responsible for the material handling of all escalator equipment to site storage area.

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1. Elevator contractor will be responsible for keeping all stored materials inside storage area with lock and key.
- D. Locked and protected storage for elevator contractor's tools or materials at site is contractor's responsibility.
- E. Escalator equipment disassembled for replacement shall be stored in a dry, protected area for utilization as replacement parts, such as motor generators, drive machines and controllers, to maintain existing elevator(s) which are not yet in the modernization phase of the project.
- F. Elevator contractor shall be responsible for crane services for the placement of the equipment in the machine rooms.

1.8 PROJECT CONDITIONS

- A. Authorized elevator personnel only are responsible for temporary installed barrier panels as may be required during construction to protect the openings at escalators at each floor.
 1. Panels may be removed only while the authorized elevator personnel are to perform work in the immediate area of the unprotected opening.
 2. Authorized elevator personnel shall re-install all barriers as required to maintain the original solid and safe protection to the opening prior to leaving immediate work area of the opening.
- B. Security: Any and all onsite workmen and receiving of products to site are required to follow security and safety procedures as per OSHA and Miami-Dade County Department of Transit and Works facility policies.
- C. Painting:
 1. Except as otherwise specified, paint all metal work provided by the elevator manufacturer and installer.
 2. Clean and paint machine room floors.
 3. Provide all ferrous metals installed in the truss shop primed with a rust inhibitive primer.
 4. Remove rust, clean, degrease and paint all installed parts or components accumulated during the construction phase.

1.9 Warranty

- A. The elevator contractor's acceptance is conditional on the understanding that their warranty covers defective material and workmanship.
 1. The warranty period shall extend to one (1) year from the date of completion or acceptance thereof by beneficial use; whichever is earlier, of each escalator.
 2. The warranty excludes ordinary wear and tear or improper use, vandalism, abuse, misuse, or neglect or any other causes beyond the control of the elevator contractor and this

express warranty is in lieu of all other warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose.

3. Any defective condition or workmanship not mutually agreeable as satisfactory to building owner and elevator contractor shall be determined by the independent elevator consultant as final for the replacement, repair or continued use of product or part in question.
- B. Maintenance service consisting of a minimum of weekly examinations, adjustments and lubrication of the escalator equipment shall be provided by the elevator contractor for a period of twelve (12) months after the escalators have been turned over for the customer's use at no charge to the building owner.
1. This service shall not be subcontracted, but shall be performed by the elevator contractor.
 2. All work shall be performed by competent employees during normal working hours between 8:00AM to 5:00PM Monday through Friday and shall include emergency 24/7 callback service.
 3. All inspections and performance of periodic safety tests for witnessing by Miami-Dade County Office of Elevator Inspectors shall be included at no charge.
 4. This service shall not cover adjustments, repairs or replacement of parts due to negligence, misuse, abuse or accidents caused by persons other than the elevator contractor.
 5. Only genuine parts and supplies as used in the manufacture and installation of the original equipment shall be provided.
 - a. Obsolescence shall not be allowed.
 6. Warranty maintenance service shall start upon completion of each escalator group or facility.
 - a. Warranty service starting date shall be after completion of punch-out lists and close-out documents as agreed with building management, consultant and contractor.
- C. If not currently on County maintenance contract services, provide interim monthly maintenance rates for equipment in service during the project prior to and after the installation phase, final acceptance for public utilization and warranty maintenance service.
1. The Contractor shall not invoice for monthly maintenance on equipment taken out of service for modernization or installation.
 2. Shall include all annual inspections and performance of periodic safety tests for witnessing by Miami-Dade County Office of Elevator Safety Tests during interim maintenance period.
 3. Unless identified in prior pre-maintenance survey and accepted in the agreement, obsolesce shall not be allowed.

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4. Include wiring diagrams for existing equipment.
5. Provide billable labor rates for helpers, mechanics and adjusters inclusive of standby services, minor and major repairs for other than normal working hours weekdays and Saturdays and Sundays and Holidays (overtime).
6. Include material cost and externally purchased subcontracted services mark-up not greater than 20% not covered in the warranty.
7. When building management requests the contractor to perform repairs or services including inspections and testing covered in the warranty during other than normal working hours, the contractor shall invoice the facility the difference between the overtime labor rate and the normal working hourly rate.

2.1 PRODUCTS

A. ACCEPTABLE MANUFACTURER

1. Only products and components produced or provided by manufacturer(s) regularly engaged in the manufacture of elevator products, and that complies with ASME A17.1 Safety Code for Elevators and Escalators, ASME A17.2, Florida Statutes, Chapter 399, Florida Administrative Code 61C-5, all applicable sections of the Florida Building Code in its entirety, and additional requirements specified herein are acceptable.
2. Basis-of-Design Product: Schindler Elevator 9700T Escalator, or approved equals.
3. Acceptable Manufacturers
 - a. Schindler Elevator
 - b. Kone
 - c. Otis Elevator
 - d. ThyssenKrupp
4. Only Bidders deemed qualified shall be notified by Request for Quotation.

B. MATERIALS, GENERAL

1. Colors, patterns, and finishes: As selected by the Project Name from manufacturer's full range of standard colors, patterns, and finishes.
 - a. Steel:
 - 1) Shapes and bars: ASTM A 36
 - 2) Sheet: ASTM A 366, cold-rolled steel sheet, commercial quality, Class 1, matte finish, stretcher leveled.
 - 3) Finish: Factory-applied baked or powder coated enamel.
 - b. Stainless Steel:

- 1) Shapes and bars: ASTM A 276, Type 300 (18-8)
 - 2) Tubing: ASTM A 269, Type 300 (18-8)
- C. TRUSS: The Contractor may elect to retain the existing truss and end supports. The truss and end supports shall be inspected by a Structural Engineer registered in the State of Florida and a signed, sealed and dated copy of the inspection report shall be submitted to the Owner for project files. The Contractor shall be responsible for structurally re-certifying the truss and end supports for the proposed loads and provide new components as required.
1. Upper and Lower End
 - a. Remove of track and support brackets
 - b. Remove access cover support plates
 - c. Remove selected truss cross members
 - d. Remove handrail support return brackets
 2. Incline
 - a. Remove top and return track
 - b. Remove handrail return brackets
 - c. Modify truss cross members.
 3. Clean down the existing truss
 - a. Remove all remnants of oil, grease, lint, dirt and debris from the unit
 - b. Apply a protective coating of paint
 4. Inspect & evaluate existing welds, rivets and overall structure
 - a. Verification by a licensed structural engineer.
 5. Truss shall be treated to prevent corrosion in the applicable environment.
- D. Isolation Mounting: Retain and/or recondition
- E. Upper, Lower, and Incline Modules: Upper, lower, and incline modules shall be designed, fabricated and installed into the existing truss by welding.
1. Upper end module or pit shall include the drive machine, track sub-assemblies, and truss interface components.
 - a. Track sub-assemblies shall be welded steel plate construction.
 - b. The following components shall be directly mounted to the upper end module.
 - 1) Top and return curve track
 - 2) Step guidance system

- 3) Handrail guidance system
 - 4) Skirts and support brackets
 - 5) Access cover and comb plate support angles
 - 6) Safety devices and associated mounting brackets, including skirt switches, missing step detector, step out of level detector, and handrail speed sensors
- c. Drive Machine: The driving machine shall be vertical worm gear type designed for escalator service.
- 1) The worm shall be of high-grade steel integral with worm shaft and provided with a ball bearing thrust unit designed to absorb thrust of worm in both directions.
 - 2) Brake shall be permanent magnetic closed loop type or solenoid released band brake and designed to be automatically applied in the event of a power failure or actuation of any one of the safety devices.
 - a) Brake shall be designed to bring the escalator to a smooth gradual stop with load up to rated load.
 - 3) The drive unit to consists of an electric motor, a gearbox, a resilient coupling, the flywheel, the service brake, the main shaft, a safety brake and the main drive chain.
 - a) The entire drive (motor, gearbox, coupling, flywheel, service brake) is mounted on a common base plate and can be shifted longitudinally by turning the tensioning screw.
- d. Motor: The escalator(s) shall be equipped with a motor designed for escalator service.
- 1) The motor shall be of TEFC design, ball bearing type.
 - 2) Driving motor and motor switchgear shall be designed to provide a smooth start, which shall prevent undue strain on drive components.
 - 3) The motor shall be of sufficient size to operate the escalator at a minimum of Code-rated load, ascending without exceeding the rated horsepower.
 - 4) The motor is suitable for inverter duty.
 - 5) Three sets of thermistors the wiring being terminated in the motor terminal box.
 - 6) The motor shaft to have a special non-drive end (NDE) extension with a square end, and a modified motor cowl.
 - 7) The square end is to allow for manual rotation of the drive unit via a hand-winding ratchet, supplied loose with the drive unit package.

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- 8) The motor is equipped with a vibration sensor.
- e. Brake:
 - 1) Brake shall be a closed loop type or solenoid released band brake and designed to be automatically applied in the event of a power failure or actuation of any one of the safety devices.
 - 2) Brake shall be designed to bring the escalator to a smooth gradual stop with load up to rated load.
 - a) The brake shall not cause the escalator to come to an abrupt stop.
 - b) Shall be designed to meet ASME A17.1-2013 Code deceleration requirements without adjustment.
 - 3) The safety brake (disk brake) is to be mounted on the right end of the main shaft and, to be activated during downward travel.
 - a) Shall be installed together with the drive chain contact.
- f. Upper Reversing Station: The Upper Reversing Station and drive shall include a precision-machined step chain sprocket mounted on the machine output shaft and rotating on bearings.
 - 1) A water level monitor device is required below the truss in the tension station. When water rises to the tip of the ultrasonic sensor between the forks, the water level monitor activates an alarm.
2. Lower end module shall include the reversing station, track sub-assemblies, and truss interface components.
 - a. Track sub-assemblies shall be welded steel plate construction.
 - b. The following components shall be directly mounted to the lower end module or pit
 - 1) Top and return curve track
 - 2) Step guidance system
 - 3) Handrail guidance system
 - 4) Skirts and support brackets
 - 5) Access cover and comb plate support angles
 - 6) Safety devices and associated mounting brackets, including skirt switches, missing step detector, step out of level detector, and step up thrust device.
 - c. Lower Reversing Station: Shall consist of a machined floating track system designed to maintain proper tension on the step chain.

- 1) Shall be designed to maintain uniform chain tension and shall detect movement of the carriage through the activation of a safety switch.
 3. Incline Modules: Modular multi-purpose stanchion assemblies shall be installed on the incline of the existing truss.
 - a. Incline support stanchions shall be fabricated of steel and mounted to the existing truss.
 - b. Shall be designed to support all incline track sections and handrail guide components as part of the complete step band.
 - c. Stanchions shall be pre-assembled and fixtured to set track spacing, as well as step and handrail guidance components.
 4. All equipment shall be treated to prevent corrosion in the applicable environment.
- F. Step Band
1. Step Guidance: Step guidance system shall be provided to control the movement of the steps both horizontally and vertically.
 - a. Each step shall be provided with horizontal guide pads, which shall guide the steps throughout their travel, in combination with a continuous guide profile installed in the area of the escalators open to passengers.
 - 1) A17.1-2013 Code Step/Skirt Performance Index requirements shall be met without the need for skirt deflector brushes.
 2. Step Chain: Shall consist of consecutively running steps powered and spaced with a chain designed for long life and quiet operation.
 - a. Step chain shall properly mesh with the main drive sprockets and lower reversing station castings.
 - b. Chain shall be an engineering class roller chain, manufactured
 - c. Step chains shall be provided with an automatic lubrication system.
 3. Steps: Shall be formed from one-piece die cast aluminum with closely spaced tread and riser cleats.
 - a. Step rollers shall rotate on sealed ball bearings.
 - b. Step shall be connected to the chain by a pin and bushing.
 - c. Vertical curved step risers shall be furnished with vertical cleats arranged to pass between the cleats of the tread on the adjacent step to form an inter-meshing unit with minimum clearances.
 - d. Step color shall be silver powder coated.

- e. The number of level steps at each end of the escalator shall be two, wherever possible.
 - f. Step demarcation inserts shall be provided on the sides and rear of each step.
 - 1) Inserts shall be fabricated from reinforced structural plastic, shall be easily replaced and shall be approximately 1.5 inches (38mm) wide at the sides and approximately 1.5 inches (38 mm) wide at the rear.
 - 2) Inserts shall be attached to the step without the use of visible fasteners.
 - 3) The color of the demarcation inserts shall be yellow per ASME A17.1-2013.
 - 4. Tracks: Shall be designed and fabricated to support and retain the steps and running gear at the rated load and at the highest speed specified.
 - a. Shall be assembled and secured together for easy removal and replacement of sections.
 - b. Shall be properly supported on stanchions to provide correct alignment and smooth transition to return stations.
 - 1) Rolling surface of the incline track shall be a minimum thickness of 2.5 mm.
 - 2) Transition track shall be a minimum thickness of 10mm.
 - 3) Guiding surface of the wheels shall be galvanized steel profiles with smooth and even running surfaces.
 - 4) Joints shall be cut diagonally to the running direction.
 - 5) A second, continuous step guiding profile shall be provided above the step chain rollers.
 - 5. All equipment shall be treated to prevent corrosion in the applicable environment.
- G. Comb plates and Access Covers
- 1. Comb Plates: Adjustable comb plates shall be located at the top and bottom landings.
 - a. Comb plates shall support injection molded, reinforced structural aluminum or plastic comb segments which shall be designed to be removable and to mesh with the cleats on the step treads.
 - b. Skid resistant comb plates shall be designed to sense both horizontal and vertical movement of the comb segments.
 - c. Comb segments shall be yellow.
 - 2. Access Covers: Lightweight aluminum access covers shall be provided.
 - a. Design of these skid resistant access covers shall allow for ease of maintenance.

- b. Covers shall be provided at both upper and lower landings and match the pattern of the new comb plates.
 - 3. All equipment shall be treated to prevent corrosion in the applicable environment.
- H. Decks/Balustrades/Front plates/Skirts/Interior Trim
- 1. New Decks: Escalator decks shall be constructed such that there shall be an inner deck and an outer deck.
 - a. Inner and outer decks shall be solid deck construction.
 - b. Inner and outer decks shall be fabricated from heavy gauge metal.
 - 1) Deck panels shall be installed without overlapping joints or requiring trim pieces to cover where two deck panels meet.
 - 2) Inner and outer decks shall be finished in stainless steel #4 satin finish 14-gauge material.
 - 2. Fall protection shall be provided outside exterior low decks for open sides greater than 30 inches above the finished floor or ground floor.
 - a. Provide guard rails 42 inches above the along escalator step tread slope of step nose the entire length of escalator.
 - b. Constructed of welded Stainless Steel tubing.
 - 1) No exposed anchors or screws.
 - 2) Mounted a minimum of four (4) inches from handrail, no more than six (6) inches from handrail.
 - c. Shall be engineered and stamped for structural integrity and approved by elevator consultant.
 - 3. Newel Ends: Upper and lower newel ends shall be designed to allow the return of the handrail without undue stress.
 - a. Newel ends shall support the handrail around the newel through the use of a multi-roller bearing system to minimize drag and maximize handrail life.
 - 4. Solid Balustrades: Solid Balustrades shall be provided between the escalator skirts and the handrails.
 - a. Panels shall provide a finished surface for the escalator interior.
 - b. Balustrade panels shall be installed without overlapping joints or requiring trim pieces to cover where two panels meet.
 - c. Balustrade shall be fabricated of sheet metal or sandwich design with stainless steel #4 finish.

5. Provide integral traffic and safety lighting along both internal sides of balustrades.
 - a. Shall provide a minimum of 20 ft-c from landing to landing measured at step tread and landing plates.
 - b. If integral lighting does not provide 20 ft-c, provide overhead lighting.
6. Front plates: shall be provided at upper and lower ends designed to include the handrail inlet device and key actuated direction-starting switch.
7. Control Station: Both the upper and lower landings, located near the handrail inlet.
 - a. Stations shall be provided which shall include a key actuated direction starting switch.
 - 1) Escalator will not restart automatically.
 - 2) Keyed station shall be restarted with the key after shut down.
8. Skirts: Skirts shall be constructed from a heavy gauge material reinforced with steel channels.
 - a. Skirts shall be fastened to the truss modules with hidden fastenings in the incline and transition areas.
 - b. Skirt panels shall be installed without overlapping joints or requiring trim pieces to cover where two skirt panels meet.
 - c. Skirt panels shall be finished in Black Teflon coated 11 gauge cold rolled steel.
9. All equipment shall be treated to prevent corrosion in the applicable environment.
- I. Handrails: Provide new escalator handrails, properly constructed and reinforced.
 1. Handrails shall be endless with a smoothly vulcanized splice and shall operate with the moving steps.
 2. U groove handrails shall move on specially formed guides and traction sheaves.
 - a. Sheaves shall be an integral part of the drive machine.
 3. Close fitting guards shall be provided by the handrail openings in the newel base.
 4. Handrail color shall be black.
 5. Provide handrail constructed to withstand handrail sanitation through LED UV-C modules.
 6. All equipment shall be treated to prevent corrosion in the applicable environment.
- J. Handrail Sanitation: Provide LED UV-C handrail sanitation modules as manufactured by EHC Global, or approved equal.
 1. Modules shall be installed internally to prevent pinch-points and passenger entrapments on brackets supplied by the elevator contractor.

2. Modules shall be engineered to supply sufficient quantity and location of modules on each handrail to properly sanitize the handrails in consideration of the length escalator run.
3. Provide internal enclosure for power source and circuit board hard wired per manufacturer's recommendations and NEC code requirements.
4. Provide safety signage for sanitation equipment approved by the project consultant and facility management.

K. Controls and Wiring

1. Controller: The controller shall be of a heavy-duty variable frequency drive microprocessor type.
 - a. (VFD/GFU) The controller shall monitor the condition of each safety device, brake, and motor operation, and shall cause the escalator to come to a stop upon activation of any safety device, brake problem, or motor overload.
 - b. In the event of a power failure occur, the controller shall automatically remove power from the motor, and brake, and bring the escalator to a controlled stop.
 - 1) Controller shall include phase and overload protection.
2. Wiring: Pre-assembled wiring harness shall be installed, complete with modular assemblies for the upper end, incline section, and lower end of the truss.
 - a. Upper and lower end assemblies shall be constant and consistent from unit to unit.
 - b. Incline assembly shall be variable by length only.

L. Safety Devices:

1. Reversal Stop Device: Escalators shall be provided with a reversal stop device or function that is controller sensitive to stop the escalator automatically should the escalator attempt to reverse its direction while operating in the ascending direction.
2. Broken Step Chain Device: Broken step chain device, a part of the lower reversing station assembly, shall be provided for each chain.
 - a. When activated, the escalator shall come to a controlled stop.
3. Step Up thrust Device: Step up thrust device shall be located on each side of the lower curve track on the lower end of each escalator.
 - a. Escalator shall come to a controlled stop should a step be displaced against the up-thrust track.
4. Comb-Step Impact Device: Comb-step impact device shall be provided at the upper and lower comb plates.
 - a. Escalator shall come to a controlled stop should an impact occur between the comb segments and steps.

5. Skirt Obstruction Device: Skirt obstruction devices shall be provided, at both upper and lower ends, within the skirt panels.
 - a. Escalator shall come to a controlled stop should an obstruction occur between the step and skirt panel.
 - b. Switches shall be of the plunger, self-resetting type, adjustable to maintain the required position and clearance from the skirts.
6. Missing Step Device: Missing step devices shall be provided.
 - a. Missing step devices are designed to detect a missing step or steps at the upper and lower ends of the escalator.
 - b. When activated, escalator shall come to a controlled stop.
7. Step Demarcation Lights: Step demarcation lights shall be furnished at the top and bottom of each escalator.
 - a. Devices shall consist of a light fixture installed just below the track system where the step leaves or enters the comb plate.
 - b. Fixture shall be furnished with two independent green fluorescent lamps and shall be capable of lighting the entire width of the step.
 - c. Light shall be visible between the steps and the step and comb segment.
 - d. Light shall provide a reference point for entering or exiting the escalator.
8. Handrail Entry Device: Handrail entry device shall be provided at the handrail inlet in the newel.
 - a. Escalator shall come to a controlled stop should an object enter the handrail inlet area.
9. Handrail Speed Monitoring Device: Magnetic sensor shall be provided to sound the alarm when the handrail deviates from the step speed by 15% or more.
 - a. If the deviation lasts for more than 2-6 seconds, the escalator shall come to a controlled stop.
10. Emergency Stop Buttons: Emergency stop buttons shall be provided, designed so that the momentary pressure of either button shall cut off the electrical power supply to the motor and bring the escalator to rest.
 - a. One emergency stop button shall be located at each landing.
 - b. Location shall be in the existing newel upper radius quadrant, 45 degrees above horizontal, in order to provide easy access.
 - 1) Stop button shall be red in color.
 - c. Button shall be housed under a clear, high impact resistant plastic cover.

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- 1) Cover shall be self-closing.
 - 2) Instructions for operating the stop button shall be imprinted on the cover in half-inch high letters.
 - 3) When the cover is lifted, an audible alarm shall sound until the cover is returned to its closed position.
11. Safety Signs: A pictorial sign meeting the requirements of the ASME A17.1 Code shall be provided at both the upper and lower landings.
 - a. Safety signs will be provided in English.
 12. Stop Switch in Machinery Spaces: Each escalator shall be provided with stop switches in the upper and lower pits.
 - a. When activated, the escalator shall come to a controlled stop.
 13. Step Level Devices: Step level devices shall be provided at the upper and lower ends of the escalator to detect downward displacement of the step prior to it reaching the comb plates.
 - a. When activated, the escalator shall come to a controlled stop.
 14. Step Guards: Escalators in this specification are required to have step guards.
 - a. Step guards shall be provided in the upper and lower pit.
 - b. Step guard shall protect a mechanic from the step band.
 15. All equipment shall be treated to prevent corrosion in the applicable environment.

3.1 EXECUTION

- A. Examination:
 1. Coordinate all site conditions with General Contractor and other building trades.
 2. Inspect truss, pits and machine room, as constructed.
 3. Verify all critical dimensions, and examine supporting structures and all other conditions under which escalator work is to be installed.
 4. Do not proceed with escalator installation until unsatisfactory conditions have been corrected in a manner acceptable to the installer.
 5. Commencement of installation constitutes acceptance of existing conditions and responsibility for satisfactory performance.
 6. Elevator contractor shall coordinate crane services for placement of the equipment with General Contractor.
- B. Elevator contractor shall be responsible for screening and protection of truss openings and protection between escalators.

C. Signage:

1. The designated project manager and the owner's representative will approve all signage in order to maintain consistent appearance for entire escalator installation.
2. All signage as required by Florida Building Code, ASME A17.1, NFPA 70 National Electrical Code and NFPA 72 Fire Alarm Code to be posted in escalator lobbies, fire alarm panels, disconnects, machine rooms and machine room doors.

D. Installation:

1. Install escalator systems components and coordinate repairs of truss construction.
2. Competent licensed elevator installation personnel in accordance with Florida Statute 399 and ASME A17.1 manufacturer's installation instructions and approved shop drawings shall perform work.
3. Comply with the National Electrical Code for electrical work required during installation.
4. Perform work with competent, skilled workmen under the direct control and supervision of the elevator manufacturer's experienced foreman.
5. Supply in ample time for installation by other trades, inserts, anchors, bearing plates, brackets, supports, and bracing including all setting templates and diagrams for placement.
6. Welded construction: Provide welded connections for installation of escalator work where bolted connections are not required for subsequent removal or for normal operation, adjustment, inspection, maintenance, and replacement of worn Parts.
 - a. Comply with AWS B2.1 Standard Welding Procedure and Performance Qualification.
7. Coordination: Coordinate escalator work with the work of other trades, for proper time and sequence to avoid construction delays.
 - a. Use benchmarks, lines, and levels designated by the Contractor, to ensure dimensional coordination of the work.
8. Install machinery, guides, controls, and all equipment and accessories to provide a quiet, smoothly operating installation, free from side sway, oscillation or vibration.
9. Sound isolation: Mount rotating and vibrating escalator equipment and components on vibration-absorption mounts, designed to effectively prevent the transmission of vibrations to the structure, and eliminate sources of structure-borne noise from the escalator system.
10. Lubricate operating parts of system as recommended by the manufacturer.
11. Elevator contractor shall be required to install all data plates as required by ASME A17.1 on complete escalator system including alteration and original equipment.

- a. All data plates shall be manufactured and printed with proper data for each escalator by CodeDataPlate.com or approved equal.
- E. Field Quality Control:
 1. Acceptance testing: Upon completion of the escalator modernization and before permitting use of escalator, perform acceptance tests as required by the State of Florida and recommended by Code and governing regulations or agencies.
 - a. Perform other tests, if any, as required by governing regulations or agencies.
 2. Advise Owner, Elevator Consultant, and governing authorities in advance as required of dates and times tests are to be performed on the elevator.
- F. Adjusting:
 1. Make necessary adjustments of operating devices and equipment to ensure escalator operates smoothly and accurately.
 2. The elevator contractor shall be required to perform and pass all required testing of all equipment as per ASME A17.1 and ASME A17.2.
 3. Elevator contractor is to return at 30 days, 90 days and 180 days after final installation to examine and readjust equipment as may be required for optimum performance.
- G. Cleaning:
 1. Before final acceptance, remove protection from finished surfaces and clean and polish surfaces in accordance with manufacturer's recommendations for type of material and finish provided.
 2. For duration and/or completion of escalator work, remove tools, equipment, and surplus materials from site daily.
 3. Clean equipment rooms and trusses.
 4. Remove trash and debris daily from premises.
- H. Protection:
 1. During all escalator work, or portion thereof, provide suitable protective coverings, barriers, devices, signs, or other such methods or procedures to protect escalator work from damage or deterioration.
 2. Protect all areas of work from public access or dangers including tripping or fall hazards.
 3. Maintain protective measures throughout remainder of construction period.
- I. Demonstration:
 1. The elevator contractor shall make a final check of each escalator operation with the Owner or Owner's representative present prior to turning each escalator over for use.

2. The elevator contractor shall demonstrate that control systems and operating devices are functioning properly.
 3. Instruct Owner's personnel in proper use, operations, and daily care or operation of escalators.
 4. Review emergency provisions, including emergency access and procedures to be followed at time of failure in operation and other building emergencies.
 5. Train Owner's personnel in normal procedures to be followed in checking for sources of operational failures or malfunctions.
 6. Make a final check of each escalator operation, with Owner's personnel present, immediately before date of substantial completion.
 7. Demonstrate that control systems and operating devices are functioning properly.
 8. Final Electrical Schematics and Drawings
- J. Elevator Consultant's Punch-out List Items:
1. Complete all of the consultant's punch-out list items as may be required.
 2. The elevator consultant shall provide a review and written punch list of deficiencies.
 3. The elevator consultant shall verify one time that the items from the punch list are completed after notice by the elevator contractor.

END OF SECTION

ATTACHMENT K

ESCALATOR SPECIFICATIONS (DADELAND SOUTH METRORAIL STATION)

1.1 SUMMARY

- A. Modernization of Escalators for the Miami-Dade County Department of Transit and Works, Dadeland South Metrorail Station. 9150 Dadeland BLVD., Miami, FL 33156.
- B. Including all engineering, equipment, labor, machines, control systems, devices and accessories as required for safely operating the specified escalators.
- C. Verify existing building systems including but not limited to mechanical, electrical system and fire life safety are compatible with the new equipment being proposed, identify any necessary modifications and include modifications in bid.
- D. Commercial, high-traffic public heavy-duty transit grade escalators.
 - 1. Two (2) escalators
 - a. Escalator #1 – SS# 72576
 - b. Escalator #3 – SS# 72730
 - 2. Installation of all truss equipment.
 - 3. Escalator car and truss signal equipment.
 - 4. Operation and control systems.
 - 5. Accessibility provisions for physically disabled persons.
- E. Delivery, staging, and hoisting of new equipment.
- F. Materials and accessories as required for completing the escalator installations.
- G. Truss, pit and machine room barricades for safety as required.
 - 1. Barricades or guards at least 48" high (1219 mm) (including protected entrances), for the convenience and protection of all workers as well as the general public, during the modernization period of the escalator, so that the modernization area can be enclosed in accordance with applicable law.
 - 2. The barricades shall be of a type to limit entrance of unauthorized personnel to the modernization area.
 - 3. The modernization area shall be of a size to permit work to proceed without delays.
- H. Required hoisting, hoisting permits and traffic coordination and/or permits with local jurisdictions and the State of Florida as required.
- I. Required permits and coordination and/or permits with local jurisdictions, Office of Elevator Safety and the State of Florida as required.

1.2 Related Scopes of Work by Others

- A. Electrical Contractor shall furnish and install all electrical equipment for truss, pit and machine room including HVAC, lighting, GFCI receptacles and electrical disconnects, as required by NFPA 70 National Electrical Code and ASME A17.1 Safety Code for Elevators and Escalators.
1. All Electrical work must be coordinated and scheduled with General Contractor, Elevator Contractor and Elevator Consultant.
 2. Escalators shall be removed from service while electrical trades are working in same or adjacent truss, pit or machine rooms.
 3. Electrical service to main disconnect in escalator machine room; electrical power for escalator installation and testing; electrical service for machine room; machine room and pit receptacles with ground-fault current protection; lighting in machine room and pit.
 4. Install lockable disconnects with overcurrent protection for elevator main line power as per NEC.
 - a. Disconnect to be verified for appropriate size and type for power requirements of escalator equipment prior to installation.
 - b. Provide surge protection.
 5. Provide replacement electric wiring from disconnect switches to the new escalator controllers with feeder leads for connection to terminals by the elevator contractor, inclusive of a normal 120 VAC, 15 AMP supply at each controller.
 6. Minimum lighting in remote machine room and equipment space shall be 10 ft-c.
 7. Minimum lighting at the step treads and landing plates shall be 20 ft-c.
 8. All electrical systems shall include proper earth grounding and bonding as required by elevator controller manufacturer and NEC.
 - a. Provide continuous earth ground to mainline disconnects and controllers.
 9. Provide a single non-GFCI receptacle for each sump in each escalator truss pit.
 10. Provide and install truss pits, overhead equipment and machine room lighting as per NEC with enclosed and protected lamps.
 11. Pit receptacles, with GFCI protection shall be installed in NEMA 4 devices where placed within 4'-0" of pit floor.
 - a. All electrical equipment including conduit, fitting, junction boxes, portable cabling shall be NEMA 4 rated.
 - b. Care must be taken not to place equipment in line with escalator equipment.
 12. All disconnects shall be labeled according to NFPA 70 NEC including source of power, State of Florida Serial Numbers, Elevator Number and all required warning signs.

13. Install shunt trip breakers outside of machine rooms for feeder to each mainline disconnect for removal of power by NFPA 70 NEC and NFPA 72 if installation of sprinklers in machine rooms or hoistways is required by the Florida Building Code.
 - a. Shunt trip shall be activated by heat detectors installed by others.
- B. Fire Alarm including heat and smoke sensing devices as per NFPA 70 National Electrical Code and NFPA 72 National Fire Alarm Code.
 - a. The smoke detectors or other automatic fire detection as permitted by NFPA 72, shall actuate the elevator control circuits as detailed in NFPA 72.
 2. Fire alarm contractor shall demonstrate at time of elevator inspection, compliance and testing of all alarm initiating devices as required by ASME A17.1 Safety Code for Elevators and Escalators, ASME A17.2 and NFPA 72 National Fire Alarm Code.
 3. Install heat detectors within 24" of sprinklers installed in machine rooms including wiring and conduit to shunt trip breaker as installed by electrical contractor.
 4. Installation of fire alarm system and devices shall conform to ASME A17.1 Safety Code for Elevators and Escalators and NFPA 72 including NFPA 70 NEC.
- C. Sprinklers: Any required sprinkler work must be coordinated with elevator contractor to insure non-interference with any elevator equipment and must be compliant with NFPA 13, NFPA 72 and the Florida Building Code.
 1. If sprinkler head(s) are located in the machine room, it will be required to install a heat detector within 24" of each sprinkler in order to automatically disconnect the main line power supply to the affected elevator(s) upon or prior to the application of water, in accordance with ASME A17.1 Safety Code for Elevators and Escalators and NFPA 72 National Fire Alarm Code.
- D. Building general construction conditions, cleaning and painting of miscellaneous surfaces: The elevator contractor shall not be responsible for all work as detailed in this section.
 1. All construction, cleaning and painting other than equipment directly supplied by the elevator contractor shall be performed by others.
 2. Provide Class ABC Fire Extinguisher in machine room permanently mounted and conveniently located to the access door as required by ASME A17.1 Safety Code for Elevators and Escalators.
 3. Provide protection of all pipes, wiring, conduit, duct and openings in machine rooms to maintain a 2 hour fire rating.
 4. All foreign pipes, wiring or conduit not in use or directly related to the elevator system shall not be installed in machine rooms.
 - a. Existing foreign piping, wiring and/or conduit not in use or directly related to elevator shall be removed or enclosed as required by code.

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5. All holes and openings in truss cladding shall be patched and protected to maintain the fire rating of the enclosure including conduit, piping and other equipment passing through exterior walls.
6. Sumps and Sump Pumps: Elevators with Fire Service Operation shall have drains or sump pumps as required by ASME A17.1 Safety Code for Elevators and Escalators, including the Florida Building Code.
 - a. The pump shall be manufactured by Stancor, or approved equal.
 - b. The sump shall be a minimum of 18 inches in diameter and 24 inches in depth.
 - c. The sump cover shall be removable and flush to pit floor.
 - d. The Sump pump shall have an output of 3000 gallons per hour at the head per elevator.
 - e. The sump pump electrical cord shall be 6 foot or less.
7. Clean and paint machine room finished walls and floors.
 - a. All cleaning or painting work that produces any vapors or fumes shall be performed during normal business work hours or after normal business hours as requested by building manager or representative.
 - 1) Work of this nature must be scheduled and coordinated five (5) days prior to execution of work.
 - b. The procedures proposed for the accomplishment of the work shall provide for safe conduct of the work, careful removal and disposition of materials specified to be salvaged, protection of property, which is to remain undisturbed, and coordination with other work in progress.
 - 1) The work plan shall include a Safety and Health plan describing procedures for handling monitoring, and disposition of Volatile Organic Compounds "VOCs" and other hazardous and toxic materials.
 - 2) The procedures shall include a detailed description of the methods and equipment to be used for each operation, and the sequence of operations.
 - c. All paint products and application method must be approved prior to application by owner or owner's agent.
 - 1) Paint products and application methods are to be equal or better than existing product applicable with matching color as approved by owner.
 - d. All products of paint, thinners or cleaning agents must be approved prior to use for VOC's or any additional health concerns.
 - e. Interior work zones having a volume of 1,000 cubic feet or less shall be ventilated at a minimum of 2 air exchanges per hour.

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- 1) Ventilation in larger work zones shall be maintained by means of mechanical exhaust.
 - 2) Solvent vapors shall be exhausted outdoors, away from air intakes, building occupants and workers.
 - 3) Building air conditioning return air inlets in the work zone shall be temporarily sealed before start of work until the prepared surfaces have dried and are free of odor.
 - 4) Operators and personnel in the vicinity of paint removal processes involving chemicals or mechanical action (sanding or blasting) shall wear respirators.
- E. Each contractor will be required to provide any cutting, patching including painting to match existing finishes of building.

1.3 CODE AND STANDARD REFERENCES

1. Comply with all current applicable state statutes, administrative rules, building codes and elevator codes at the project site required at the time of permitting, including but not limited to the following:
 - a. Florida Statutes 399
 - b. Florida Administrative Code 61C-5
 - c. Florida Building Code
 - d. ASME A17.1 Safety Code for Elevators and Escalators
 - e. ASME A17.2 Guide for Inspection of Elevators and Escalators
 - f. ADAAG, Americans with Disabilities Act Accessibility Guidelines
 - g. NFPA 13, Sprinkler Systems
 - h. NFPA 70, National Electrical Code
 - i. NFPA 80, Fire Doors and Windows
 - j. ANSI/UL 10B, Fire Tests of Door Assemblies
 - k. NFPA 72, National Fire Alarm Code
 - l. NFPA 101 Florida Edition
 - m. O.S.H.A. Requirements for construction
 - n. Elevator Industry Field Employees' Safety Handbook
 - o. Miami-Dade Transit Construction Safety Manual and Attachments
 - p. Miami-Dade County Department of Transportation and Public Works (DTPW) Adjacent Construction Manual

1.4 ELEVATOR SYSTEM DESCRIPTIONS

- A. Escalator System, General: Manufacturer's standard escalator systems. Unless otherwise indicated, manufacturers' standard components shall be used, as included in standard escalator systems and as required for complete system.
- B. Escalator Arrangement
 - 1. Escalator shall be numbered as viewed from lobby facing the escalators from left to right in main lobby with alpha-numeric designations.
 - a. Keep current elevator alpha-numeric designations.
 - 2. Specific requirements for the specific escalator or component shall be designated as such and shall not apply to other elevators or escalators in the building.
 - 3. Specifications for escalators include minimum requirements of all escalators and it shall be the responsibility of the contractor to complete all work to code compliance.
 - 4. Insert a different number for each group of elevators or escalators that share a group operation system
- C. Escalator System
 - 1. Quantity: Three (3) escalators
 - a. Escalator #1 – SS# 72576 Schindler
 - b. Escalator #2 – SS# 72729 Montgomery
 - c. Escalator #3 – SS# 72730 Montgomery
 - 2. Type: Commercial heavy duty high-traffic public transport escalator
 - 3. Machine Location: Field verify
 - 4. Rated Capacity:
 - a. Escalator #1 - 5000lbs, field verify.
 - b. Escalator #2 - 5000lbs, field verify.
 - c. Escalator #2 - 9000lbs, field verify.
 - 5. Rated Speed: 100FPM, field verify.
 - 6. Truss, Step & Escalator Enclosure: Retain interior and exterior existing dimensions
 - 7. Entrance Dimensions: Retain all existing refuge & clearance dimensions
 - 8. Main Power Supply: Existing 480 Volts + or - 5% of normal, 3 Phase, 60 Cycle with a separate equipment grounding conductor. Contractors shall field verify.

1.5 Submittals

- A. Product data: Submit product data for the following:
 - 1. Manufacturer's product data for each system proposed for use.
 - 2. Installation methodology and sequence of work.
 - 3. Operation, control, and signal systems.
 - 4. Drive, motor, machine and all major components of system.
- B. Shop drawings:
 - 1. Show equipment arrangement in the machine room, pit and truss.
 - a. Provide plans, elevations, sections and details of assembly, erection, anchorage, and equipment location as required.
 - 2. Indicate escalator system capacities, sizes, performances, safety features, finishes and other pertinent information.
 - 3. Show floors served, existing travel distances, maximum loads imposed on the building structure at points of support and all similar considerations of the elevator work.
 - 4. Indicate electrical power requirements and branch circuit protection device recommendations and locations.
- C. Certificates: Inspection and acceptance certificates of escalator system installation.
- D. Operation and maintenance data. Include the following:
 - 1. Operation and Maintenance Manuals: Provide manufacturer's standard operation and maintenance manuals.
 - 2. Parts list, with recommended parts inventory.
 - 3. Wiring diagrams for control system including any in field modifications.
 - 4. Copy of field pull sheet wiring as built notes. Pull sheets to include wire numbers and colors.

1.6 QUALITY ASSURANCE

- A. Elevator Contractor Qualifications:
 - 1. Elevator Contractor shall provide pre-engineered elevator system components by manufacturer(s) regularly engaged in the manufacture of elevator systems.
 - a. Compliance with ASME A17.1 Safety Code for Elevators and Escalators, Florida Statutes, Chapter 399, Florida Administrative Code 61C-5, all applicable sections of the Florida Building Code, and additional requirements specified herein.

- b. The elevator contractor shall have a documented, on-going quality assurance program.
 - c. Contractor shall have a mechanical or electrical engineer on staff for County critical elevators.
- 2. Installer Qualifications: The manufacturer or an authorized agent of the manufacturer with not less than ten (10) years of satisfactory experience installing elevators equal in character and performance to the project elevators.
 - a. All mechanics employed to work onsite must have a valid Certificate of Competency issued by State of Florida Bureau of Elevator Safety.
 - b. There shall not be allowed onsite more than one helper or unlicensed assistant per onsite licensed mechanic.
- 3. Permits and Inspections: Apply, secure and pay for all required State of Florida, Miami-Dade County Office of Elevator Safety and all applicable building code permits, tests and fees as required by Florida Administrative Code 61C-5 for Alteration Permits, and local jurisdiction permits.
 - a. Elevator contractor is responsible for proper posting of all required licenses, permits and safety documentation.
- 4. Regulatory Requirements:
 - a. ASME A17.1-2016 or more stringent edition adopted by the State of Florida
 - b. Florida Building Code, latest edition adopted by the State of Florida
 - c. Current Florida Statute 399 and 553
 - d. NFPA 13 Standard for the Installation of Sprinkler Systems, latest edition adopted by the State of Florida
 - e. NFPA 70 National Electrical Code, latest edition adopted by the State of Florida
 - f. NFPA 72 National Fire Alarm Code, latest edition adopted by the State of Florida
 - g. Americans with Disabilities Act - Accessibility Guidelines (ADAAG)
 - h. Any changes or updates as required by Florida Building Code or Florida Statute 399 by time of permit application.
 - i. Any and all onsite workmen and receiving of products to site are required to follow security and safety procedures as per Miami-Dade County Department of Transportation and Public Works policies and facility regulations including the Miami-Dade Transit Construction Safety Manual and Attachments and the Miami-Dade County Department of Transportation and Public Works (DTPW) Adjacent Construction Manual.

5. Miami-Dade County Department of Transit and Works has designated the Miami-Dade County Office of Elevator Safety Elevator Contracts Administrator, as the elevator consultant on this project.
 - a. The Miami-Dade County Office of Elevator Safety Elevator Contracts Administrator, in accordance with ASME A17.1 Safety Code for Elevators and Escalators, Inspection and Test Requirements, may be present for and review all acceptance inspections for these escalators.
 - b. Elevator Installer in accordance with ASME A17.1 Safety Code for Elevators and Escalators, Inspection and Test Requirements, will schedule and coordinate all acceptance tests and arrange for inspection for all elevators with the Miami-Dade County Office of Elevator Safety.
 - c. Elevator contractor must notify the General Contractor, building owner and elevator consultant at least five (5) days prior to inspection advising of the date and time of all inspections and tests.
 - d. Elevator contractor shall be solely responsible for the application, securing, maintaining, completion and posting of elevator permits as per Florida Statute 399, the State of Florida Bureau of Elevator Safety /and Miami-Dade County.
 - 1) Delivery to the Owner upon completion and acceptance of elevator work, the certificate of operation.
6. All signage as required by Florida Building Code, latest applicable edition of ASME A17.1 Safety Code for Elevators and Escalators, NFPA 70 National Electrical Code and NFPA 72 Fire Alarm Code to be posted in elevator lobbies, fire alarm panels, disconnects, machine rooms and machine room doors.
7. Elevator contractor is responsible for all protection both inside and outside of truss to all personnel inside or outside of truss areas.
 - a. Includes providing and maintaining of protective barricades at entrances and openings.
 - b. Protection from trip hazards due to storage, use of materials or drop cords.
8. Elevator contractor is to provide due care to protect building flooring and walls from excessive debris, dirt or damage due to workmen onsite.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver elevator materials, components and equipment in manufacturer's protective packaging.
- B. Protect and handle materials in accordance with manufacturer's recommendations to prevent damage, soiling, or deterioration.
- C. Elevator contractor shall be responsible for the material handling of all escalator equipment to site storage area.

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1. Elevator contractor will be responsible for keeping all stored materials inside storage area with lock and key.
- D. Locked and protected storage for elevator contractor's tools or materials at site is contractor's responsibility.
- E. Escalator equipment disassembled for replacement shall be stored in a dry, protected area for utilization as replacement parts, such as motor generators, drive machines and controllers, to maintain existing elevator(s) which are not yet in the modernization phase of the project.
- F. Elevator contractor shall be responsible for crane services for the placement of the equipment in the machine rooms.

1.8 PROJECT CONDITIONS

- A. Authorized elevator personnel only are responsible for temporary installed barrier panels as may be required during construction to protect the openings at escalators at each floor.
 1. Panels may be removed only while the authorized elevator personnel are to perform work in the immediate area of the unprotected opening.
 2. Authorized elevator personnel shall re-install all barriers as required to maintain the original solid and safe protection to the opening prior to leaving immediate work area of the opening.
- B. Security: Any and all onsite workmen and receiving of products to site are required to follow security and safety procedures as per OSHA and Miami-Dade County Department of Transit and Works facility policies.
- C. Painting:
 1. Except as otherwise specified, paint all metal work provided by the elevator manufacturer and installer.
 2. Clean and paint machine room floors.
 3. Provide all ferrous metals installed in the truss shop primed with a rust inhibitive primer.
 4. Remove rust, clean, degrease and paint all installed parts or components accumulated during the construction phase.

1.9 Warranty

- A. The elevator contractor's acceptance is conditional on the understanding that their warranty covers defective material and workmanship.
 1. The warranty period shall extend to one (1) year from the date of completion or acceptance thereof by beneficial use; whichever is earlier, of each escalator.
 2. The warranty excludes ordinary wear and tear or improper use, vandalism, abuse, misuse, or neglect or any other causes beyond the control of the elevator contractor and this

express warranty is in lieu of all other warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose.

3. Any defective condition or workmanship not mutually agreeable as satisfactory to building owner and elevator contractor shall be determined by the independent elevator consultant as final for the replacement, repair or continued use of product or part in question.
- B. Maintenance service consisting of a minimum of weekly examinations, adjustments and lubrication of the escalator equipment shall be provided by the elevator contractor for a period of twelve (12) months after the escalators have been turned over for the customer's use at no charge to the building owner.
1. This service shall not be subcontracted, but shall be performed by the elevator contractor.
 2. All work shall be performed by competent employees during normal working hours between 8:00AM to 5:00PM Monday through Friday and shall include emergency 24/7 callback service.
 3. All inspections and performance of periodic safety tests for witnessing by Miami-Dade County Office of Elevator Inspectors shall be included at no charge.
 4. This service shall not cover adjustments, repairs or replacement of parts due to negligence, misuse, abuse or accidents caused by persons other than the elevator contractor.
 5. Only genuine parts and supplies as used in the manufacture and installation of the original equipment shall be provided.
 - a. Obsolescence shall not be allowed.
 6. Warranty maintenance service shall start upon completion of each escalator group or facility.
 - a. Warranty service starting date shall be after completion of punch-out lists and close-out documents as agreed with building management, consultant and contractor.
- C. If not currently on County maintenance contract services, provide interim monthly maintenance rates for equipment in service during the project prior to and after the installation phase, final acceptance for public utilization and warranty maintenance service.
1. The Contractor shall not invoice for monthly maintenance on equipment taken out of service for modernization or installation.
 2. Shall include all annual inspections and performance of periodic safety tests for witnessing by Miami-Dade County Office of Elevator Safety Tests during interim maintenance period.
 3. Unless identified in prior pre-maintenance survey and accepted in the agreement, obsolesce shall not be allowed.

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4. Include wiring diagrams for existing equipment.
5. Provide billable labor rates for helpers, mechanics and adjusters inclusive of standby services, minor and major repairs for other than normal working hours weekdays and Saturdays and Sundays and Holidays (overtime).
6. Include material cost and externally purchased subcontracted services mark-up not greater than 20% not covered in the warranty.
7. When building management requests the contractor to perform repairs or services including inspections and testing covered in the warranty during other than normal working hours, the contractor shall invoice the facility the difference between the overtime labor rate and the normal working hourly rate.

2.1 PRODUCTS

A. ACCEPTABLE MANUFACTURER

1. Only products and components produced or provided by manufacturer(s) regularly engaged in the manufacture of elevator products, and that complies with ASME A17.1 Safety Code for Elevators and Escalators, ASME A17.2, Florida Statutes, Chapter 399, Florida Administrative Code 61C-5, all applicable sections of the Florida Building Code in its entirety, and additional requirements specified herein are acceptable.
2. Basis-of-Design Product: Schindler Elevator 9700T Escalator, or approved equals.
3. Acceptable Manufacturers
 - a. Schindler Elevator
 - b. Kone
 - c. Otis Elevator
 - d. ThyssenKrupp
4. Only Bidders deemed qualified shall be notified by Request for Quotation.

B. MATERIALS, GENERAL

1. Colors, patterns, and finishes: As selected by the Project Name from manufacturer's full range of standard colors, patterns, and finishes.
 - a. Steel:
 - 1) Shapes and bars: ASTM A 36
 - 2) Sheet: ASTM A 366, cold-rolled steel sheet, commercial quality, Class 1, matte finish, stretcher leveled.
 - 3) Finish: Factory-applied baked or powder coated enamel.
 - b. Stainless Steel:

- 1) Shapes and bars: ASTM A 276, Type 300 (18-8)
 - 2) Tubing: ASTM A 269, Type 300 (18-8)
- C. TRUSS: The Contractor may elect to retain the existing truss and end supports. The truss and end supports shall be inspected by a Structural Engineer registered in the State of Florida and a signed, sealed and dated copy of the inspection report shall be submitted to the Owner for project files. The Contractor shall be responsible for structurally re-certifying the truss and end supports for the proposed loads and provide new components as required.
1. Upper and Lower End
 - a. Remove of track and support brackets
 - b. Remove access cover support plates
 - c. Remove selected truss cross members
 - d. Remove handrail support return brackets
 2. Incline
 - a. Remove top and return track
 - b. Remove handrail return brackets
 - c. Modify truss cross members.
 3. Clean down the existing truss
 - a. Remove all remnants of oil, grease, lint, dirt and debris from the unit
 - b. Apply a protective coating of paint
 4. Inspect & evaluate existing welds, rivets and overall structure
 - a. Verification by a licensed structural engineer.
 5. Truss shall be treated to prevent corrosion in the applicable environment.
- D. Isolation Mounting: Retain and/or recondition
- E. Upper, Lower, and Incline Modules: Upper, lower, and incline modules shall be designed, fabricated and installed into the existing truss by welding.
1. Upper end module or pit shall include the drive machine, track sub-assemblies, and truss interface components.
 - a. Track sub-assemblies shall be welded steel plate construction.
 - b. The following components shall be directly mounted to the upper end module.
 - 1) Top and return curve track
 - 2) Step guidance system

- 3) Handrail guidance system
 - 4) Skirts and support brackets
 - 5) Access cover and comb plate support angles
 - 6) Safety devices and associated mounting brackets, including skirt switches, missing step detector, step out of level detector, and handrail speed sensors
- c. Drive Machine: The driving machine shall be vertical worm gear type designed for escalator service.
- 1) The worm shall be of high-grade steel integral with worm shaft and provided with a ball bearing thrust unit designed to absorb thrust of worm in both directions.
 - 2) Brake shall be permanent magnetic closed loop type or solenoid released band brake and designed to be automatically applied in the event of a power failure or actuation of any one of the safety devices.
 - a) Brake shall be designed to bring the escalator to a smooth gradual stop with load up to rated load.
 - 3) The drive unit to consists of an electric motor, a gearbox, a resilient coupling, the flywheel, the service brake, the main shaft, a safety brake and the main drive chain.
 - a) The entire drive (motor, gearbox, coupling, flywheel, service brake) is mounted on a common base plate and can be shifted longitudinally by turning the tensioning screw.
- d. Motor: The escalator(s) shall be equipped with a motor designed for escalator service.
- 1) The motor shall be of TEFC design, ball bearing type.
 - 2) Driving motor and motor switchgear shall be designed to provide a smooth start, which shall prevent undue strain on drive components.
 - 3) The motor shall be of sufficient size to operate the escalator at a minimum of Code-rated load, ascending without exceeding the rated horsepower.
 - 4) The motor is suitable for inverter duty.
 - 5) Three sets of thermistors the wiring being terminated in the motor terminal box.
 - 6) The motor shaft to have a special non-drive end (NDE) extension with a square end, and a modified motor cowl.
 - 7) The square end is to allow for manual rotation of the drive unit via a hand-winding ratchet, supplied loose with the drive unit package.

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- 8) The motor is equipped with a vibration sensor.
- e. Brake:
 - 1) Brake shall be a closed loop type or solenoid released band brake and designed to be automatically applied in the event of a power failure or actuation of any one of the safety devices.
 - 2) Brake shall be designed to bring the escalator to a smooth gradual stop with load up to rated load.
 - a) The brake shall not cause the escalator to come to an abrupt stop.
 - b) Shall be designed to meet ASME A17.1-2013 Code deceleration requirements without adjustment.
 - 3) The safety brake (disk brake) is to be mounted on the right end of the main shaft and, to be activated during downward travel.
 - a) Shall be installed together with the drive chain contact.
- f. Upper Reversing Station: The Upper Reversing Station and drive shall include a precision-machined step chain sprocket mounted on the machine output shaft and rotating on bearings.
 - 1) A water level monitor device is required below the truss in the tension station. When water rises to the tip of the ultrasonic sensor between the forks, the water level monitor activates an alarm.
2. Lower end module shall include the reversing station, track sub-assemblies, and truss interface components.
 - a. Track sub-assemblies shall be welded steel plate construction.
 - b. The following components shall be directly mounted to the lower end module or pit
 - 1) Top and return curve track
 - 2) Step guidance system
 - 3) Handrail guidance system
 - 4) Skirts and support brackets
 - 5) Access cover and comb plate support angles
 - 6) Safety devices and associated mounting brackets, including skirt switches, missing step detector, step out of level detector, and step up thrust device.
 - c. Lower Reversing Station: Shall consist of a machined floating track system designed to maintain proper tension on the step chain.

- 1) Shall be designed to maintain uniform chain tension and shall detect movement of the carriage through the activation of a safety switch.
 3. Incline Modules: Modular multi-purpose stanchion assemblies shall be installed on the incline of the existing truss.
 - a. Incline support stanchions shall be fabricated of steel and mounted to the existing truss.
 - b. Shall be designed to support all incline track sections and handrail guide components as part of the complete step band.
 - c. Stanchions shall be pre-assembled and fixtured to set track spacing, as well as step and handrail guidance components.
 4. All equipment shall be treated to prevent corrosion in the applicable environment.
- F. Step Band
1. Step Guidance: Step guidance system shall be provided to control the movement of the steps both horizontally and vertically.
 - a. Each step shall be provided with horizontal guide pads, which shall guide the steps throughout their travel, in combination with a continuous guide profile installed in the area of the escalators open to passengers.
 - 1) A17.1-2013 Code Step/Skirt Performance Index requirements shall be met without the need for skirt deflector brushes.
 2. Step Chain: Shall consist of consecutively running steps powered and spaced with a chain designed for long life and quiet operation.
 - a. Step chain shall properly mesh with the main drive sprockets and lower reversing station castings.
 - b. Chain shall be an engineering class roller chain, manufactured
 - c. Step chains shall be provided with an automatic lubrication system.
 3. Steps: Shall be formed from one-piece die cast aluminum with closely spaced tread and riser cleats.
 - a. Step rollers shall rotate on sealed ball bearings.
 - b. Step shall be connected to the chain by a pin and bushing.
 - c. Vertical curved step risers shall be furnished with vertical cleats arranged to pass between the cleats of the tread on the adjacent step to form an inter-meshing unit with minimum clearances.
 - d. Step color shall be silver powder coated.

- e. The number of level steps at each end of the escalator shall be two, wherever possible.
 - f. Step demarcation inserts shall be provided on the sides and rear of each step.
 - 1) Inserts shall be fabricated from reinforced structural plastic, shall be easily replaced and shall be approximately 1.5 inches (38mm) wide at the sides and approximately 1.5 inches (38 mm) wide at the rear.
 - 2) Inserts shall be attached to the step without the use of visible fasteners.
 - 3) The color of the demarcation inserts shall be yellow per ASME A17.1-2013.
 - 4. Tracks: Shall be designed and fabricated to support and retain the steps and running gear at the rated load and at the highest speed specified.
 - a. Shall be assembled and secured together for easy removal and replacement of sections.
 - b. Shall be properly supported on stanchions to provide correct alignment and smooth transition to return stations.
 - 1) Rolling surface of the incline track shall be a minimum thickness of 2.5 mm.
 - 2) Transition track shall be a minimum thickness of 10mm.
 - 3) Guiding surface of the wheels shall be galvanized steel profiles with smooth and even running surfaces.
 - 4) Joints shall be cut diagonally to the running direction.
 - 5) A second, continuous step guiding profile shall be provided above the step chain rollers.
 - 5. All equipment shall be treated to prevent corrosion in the applicable environment.
- G. Comb plates and Access Covers
- 1. Comb Plates: Adjustable comb plates shall be located at the top and bottom landings.
 - a. Comb plates shall support injection molded, reinforced structural aluminum or plastic comb segments which shall be designed to be removable and to mesh with the cleats on the step treads.
 - b. Skid resistant comb plates shall be designed to sense both horizontal and vertical movement of the comb segments.
 - c. Comb segments shall be yellow.
 - 2. Access Covers: Lightweight aluminum access covers shall be provided.
 - a. Design of these skid resistant access covers shall allow for ease of maintenance.

- b. Covers shall be provided at both upper and lower landings and match the pattern of the new comb plates.
- 3. All equipment shall be treated to prevent corrosion in the applicable environment.
- H. Decks/Balustrades/Front plates/Skirts/Interior Trim
 - 1. Decks: Escalator decks shall be constructed such that there shall be an inner deck and an outer deck.
 - a. Inner and outer decks shall be solid deck construction.
 - b. Inner and outer decks shall be fabricated from heavy gauge metal.
 - 1) Deck panels shall be installed without overlapping joints or requiring trim pieces to cover where two deck panels meet.
 - 2) Inner and outer decks shall be finished in stainless steel #4 satin finish 14-gauge material.
 - 2. Fall protection shall be provided outside exterior low decks for open sides greater than 30 inches above the finished floor or ground floor.
 - a. Provide guard rails 42 inches above the along escalator step tread slope of step nose the entire length of escalator.
 - b. Constructed of welded Stainless Steel tubing.
 - 1) No exposed anchors or screws.
 - 2) Mounted a minimum of four (4) inches from handrail, no more than six (6) inches from handrail.
 - c. Shall be engineered and stamped for structural integrity and approved by elevator consultant.
 - 3. Newel Ends: Upper and lower newel ends shall be designed to allow the return of the handrail without undue stress.
 - a. Newel ends shall support the handrail around the newel through the use of a multi-roller bearing system to minimize drag and maximize handrail life.
 - 4. Solid Balustrades: Solid Balustrades shall be provided between the escalator skirts and the handrails.
 - a. Panels shall provide a finished surface for the escalator interior.
 - b. Balustrade panels shall be installed without overlapping joints or requiring trim pieces to cover where two panels meet.
 - c. Balustrade shall be fabricated of sheet metal or sandwich design with stainless steel #4 finish.

5. Provide integral traffic and safety lighting along both internal sides of balustrades.
 - a. Shall provide a minimum of 20 ft-c from landing to landing measured at step tread and landing plates.
 - b. If integral lighting does not provide 20 ft-c, provide overhead lighting.
6. Front plates: shall be provided at upper and lower ends designed to include the handrail inlet device and key actuated direction-starting switch.
7. Control Station: Both the upper and lower landings, located near the handrail inlet.
 - a. Stations shall be provided which shall include a key actuated direction starting switch.
 - 1) Escalator will not restart automatically.
 - 2) Keyed station shall be restarted with the key after shut down.
8. Skirts: Skirts shall be constructed from a heavy gauge material reinforced with steel channels.
 - a. Skirts shall be fastened to the truss modules with hidden fastenings in the incline and transition areas.
 - b. Skirt panels shall be installed without overlapping joints or requiring trim pieces to cover where two skirt panels meet.
 - c. Skirt panels shall be finished in Black Teflon coated 11 gauge cold rolled steel.
9. All equipment shall be treated to prevent corrosion in the applicable environment.
- I. Handrails: Provide new escalator handrails, properly constructed and reinforced.
 1. Handrails shall be endless with a smoothly vulcanized splice and shall operate with the moving steps.
 2. U groove handrails shall move on specially formed guides and traction sheaves.
 - a. Sheaves shall be an integral part of the drive machine.
 3. Close fitting guards shall be provided by the handrail openings in the newel base.
 4. Handrail color shall be black.
 5. Provide handrail constructed to withstand handrail sanitation through LED UV-C modules.
 6. All equipment shall be treated to prevent corrosion in the applicable environment.
- J. Handrail Sanitation: Provide LED UV-C handrail sanitation modules as manufactured by EHC Global, or approved equal.
 1. Modules shall be installed internally to prevent pinch-points and passenger entrapments on brackets supplied by the elevator contractor.

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2. Modules shall be engineered to supply sufficient quantity and location of modules on each handrail to properly sanitize the handrails in consideration of the length escalator run.
3. Provide internal enclosure for power source and circuit board hard wired per manufacturer's recommendations and NEC code requirements.
4. Provide safety signage for sanitation equipment approved by the project consultant and facility management.

K. Controls and Wiring

1. Controller: The controller shall be of a heavy-duty variable frequency drive microprocessor type.
 - a. (VFD/GFU) The controller shall monitor the condition of each safety device, brake, and motor operation, and shall cause the escalator to come to a stop upon activation of any safety device, brake problem, or motor overload.
 - b. In the event of a power failure occur, the controller shall automatically remove power from the motor, and brake, and bring the escalator to a controlled stop.
 - 1) Controller shall include phase and overload protection.
2. Wiring: Pre-assembled wiring harness shall be installed, complete with modular assemblies for the upper end, incline section, and lower end of the truss.
 - a. Upper and lower end assemblies shall be constant and consistent from unit to unit.
 - b. Incline assembly shall be variable by length only.

L. Safety Devices:

1. Reversal Stop Device: Escalators shall be provided with a reversal stop device or function that is controller sensitive to stop the escalator automatically should the escalator attempt to reverse its direction while operating in the ascending direction.
2. Broken Step Chain Device: Broken step chain device, a part of the lower reversing station assembly, shall be provided for each chain.
 - a. When activated, the escalator shall come to a controlled stop.
3. Step Up thrust Device: Step up thrust device shall be located on each side of the lower curve track on the lower end of each escalator.
 - a. Escalator shall come to a controlled stop should a step be displaced against the up-thrust track.
4. Comb-Step Impact Device: Comb-step impact device shall be provided at the upper and lower comb plates.
 - a. Escalator shall come to a controlled stop should an impact occur between the comb segments and steps.

5. Skirt Obstruction Device: Skirt obstruction devices shall be provided, at both upper and lower ends, within the skirt panels.
 - a. Escalator shall come to a controlled stop should an obstruction occur between the step and skirt panel.
 - b. Switches shall be of the plunger, self-resetting type, adjustable to maintain the required position and clearance from the skirts.
6. Missing Step Device: Missing step devices shall be provided.
 - a. Missing step devices are designed to detect a missing step or steps at the upper and lower ends of the escalator.
 - b. When activated, escalator shall come to a controlled stop.
7. Step Demarcation Lights: Step demarcation lights shall be furnished at the top and bottom of each escalator.
 - a. Devices shall consist of a light fixture installed just below the track system where the step leaves or enters the comb plate.
 - b. Fixture shall be furnished with two independent green fluorescent lamps and shall be capable of lighting the entire width of the step.
 - c. Light shall be visible between the steps and the step and comb segment.
 - d. Light shall provide a reference point for entering or exiting the escalator.
8. Handrail Entry Device: Handrail entry device shall be provided at the handrail inlet in the newel.
 - a. Escalator shall come to a controlled stop should an object enter the handrail inlet area.
9. Handrail Speed Monitoring Device: Magnetic sensor shall be provided to sound the alarm when the handrail deviates from the step speed by 15% or more.
 - a. If the deviation lasts for more than 2-6 seconds, the escalator shall come to a controlled stop.
10. Emergency Stop Buttons: Emergency stop buttons shall be provided, designed so that the momentary pressure of either button shall cut off the electrical power supply to the motor and bring the escalator to rest.
 - a. One emergency stop button shall be located at each landing.
 - b. Location shall be in the existing newel upper radius quadrant, 45 degrees above horizontal, in order to provide easy access.
 - 1) Stop button shall be red in color.
 - c. Button shall be housed under a clear, high impact resistant plastic cover.

- 1) Cover shall be self-closing.
 - 2) Instructions for operating the stop button shall be imprinted on the cover in half-inch high letters.
 - 3) When the cover is lifted, an audible alarm shall sound until the cover is returned to its closed position.
11. Safety Signs: A pictorial sign meeting the requirements of the ASME A17.1 Code shall be provided at both the upper and lower landings.
 - a. Safety signs will be provided in English.
 12. Stop Switch in Machinery Spaces: Each escalator shall be provided with stop switches in the upper and lower pits.
 - a. When activated, the escalator shall come to a controlled stop.
 13. Step Level Devices: Step level devices shall be provided at the upper and lower ends of the escalator to detect downward displacement of the step prior to it reaching the comb plates.
 - a. When activated, the escalator shall come to a controlled stop.
 14. Step Guards: Escalators in this specification are required to have step guards.
 - a. Step guards shall be provided in the upper and lower pit.
 - b. Step guard shall protect a mechanic from the step band.
 15. All equipment shall be treated to prevent corrosion in the applicable environment.

3.1 EXECUTION

- A. Examination:
 1. Coordinate all site conditions with General Contractor and other building trades.
 2. Inspect truss, pits and machine room, as constructed.
 3. Verify all critical dimensions, and examine supporting structures and all other conditions under which escalator work is to be installed.
 4. Do not proceed with escalator installation until unsatisfactory conditions have been corrected in a manner acceptable to the installer.
 5. Commencement of installation constitutes acceptance of existing conditions and responsibility for satisfactory performance.
 6. Elevator contractor shall coordinate crane services for placement of the equipment with General Contractor.
- B. Elevator contractor shall be responsible for screening and protection of truss openings and protection between escalators.

C. Signage:

1. The designated project manager and the owner's representative will approve all signage in order to maintain consistent appearance for entire escalator installation.
2. All signage as required by Florida Building Code, ASME A17.1, NFPA 70 National Electrical Code and NFPA 72 Fire Alarm Code to be posted in escalator lobbies, fire alarm panels, disconnects, machine rooms and machine room doors.

D. Installation:

1. Install escalator systems components and coordinate repairs of truss construction.
2. Competent licensed elevator installation personnel in accordance with Florida Statute 399 and ASME A17.1 manufacturer's installation instructions and approved shop drawings shall perform work.
3. Comply with the National Electrical Code for electrical work required during installation.
4. Perform work with competent, skilled workmen under the direct control and supervision of the elevator manufacturer's experienced foreman.
5. Supply in ample time for installation by other trades, inserts, anchors, bearing plates, brackets, supports, and bracing including all setting templates and diagrams for placement.
6. Welded construction: Provide welded connections for installation of escalator work where bolted connections are not required for subsequent removal or for normal operation, adjustment, inspection, maintenance, and replacement of worn Parts.
 - a. Comply with AWS B2.1 Standard Welding Procedure and Performance Qualification.
7. Coordination: Coordinate escalator work with the work of other trades, for proper time and sequence to avoid construction delays.
 - a. Use benchmarks, lines, and levels designated by the Contractor, to ensure dimensional coordination of the work.
8. Install machinery, guides, controls, and all equipment and accessories to provide a quiet, smoothly operating installation, free from side sway, oscillation or vibration.
9. Sound isolation: Mount rotating and vibrating escalator equipment and components on vibration-absorption mounts, designed to effectively prevent the transmission of vibrations to the structure, and eliminate sources of structure-borne noise from the escalator system.
10. Lubricate operating parts of system as recommended by the manufacturer.
11. Elevator contractor shall be required to install all data plates as required by ASME A17.1 on complete escalator system including alteration and original equipment.

- a. All data plates shall be manufactured and printed with proper data for each escalator by CodeDataPlate.com or approved equal.
- E. Field Quality Control:
 1. Acceptance testing: Upon completion of the escalator modernization and before permitting use of escalator, perform acceptance tests as required by the State of Florida and recommended by Code and governing regulations or agencies.
 - a. Perform other tests, if any, as required by governing regulations or agencies.
 2. Advise Owner, Elevator Consultant, and governing authorities in advance as required of dates and times tests are to be performed on the elevator.
- F. Adjusting:
 1. Make necessary adjustments of operating devices and equipment to ensure escalator operates smoothly and accurately.
 2. The elevator contractor shall be required to perform and pass all required testing of all equipment as per ASME A17.1 and ASME A17.2.
 3. Elevator contractor is to return at 30 days, 90 days and 180 days after final installation to examine and readjust equipment as may be required for optimum performance.
- G. Cleaning:
 1. Before final acceptance, remove protection from finished surfaces and clean and polish surfaces in accordance with manufacturer's recommendations for type of material and finish provided.
 2. For duration and/or completion of escalator work, remove tools, equipment, and surplus materials from site daily.
 3. Clean equipment rooms and trusses.
 4. Remove trash and debris daily from premises.
- H. Protection:
 1. During all escalator work, or portion thereof, provide suitable protective coverings, barriers, devices, signs, or other such methods or procedures to protect escalator work from damage or deterioration.
 2. Protect all areas of work from public access or dangers including tripping or fall hazards.
 3. Maintain protective measures throughout remainder of construction period.
- I. Demonstration:
 1. The elevator contractor shall make a final check of each escalator operation with the Owner or Owner's representative present prior to turning each escalator over for use.

2. The elevator contractor shall demonstrate that control systems and operating devices are functioning properly.
 3. Instruct Owner's personnel in proper use, operations, and daily care or operation of escalators.
 4. Review emergency provisions, including emergency access and procedures to be followed at time of failure in operation and other building emergencies.
 5. Train Owner's personnel in normal procedures to be followed in checking for sources of operational failures or malfunctions.
 6. Make a final check of each escalator operation, with Owner's personnel present, immediately before date of substantial completion.
 7. Demonstrate that control systems and operating devices are functioning properly.
 8. Final Electrical Schematics and Drawings
- J. Elevator Consultant's Punch-out List Items:
1. Complete all of the consultant's punch-out list items as may be required.
 2. The elevator consultant shall provide a review and written punch list of deficiencies.
 3. The elevator consultant shall verify one time that the items from the punch list are completed after notice by the elevator contractor.

END OF SECTION

ATTACHMENT L

ESCALATOR SPECIFICATIONS (GOVERNMENT CENTER METRORAIL STATION)

1.1 SUMMARY

- A. Modernization of Escalators for the Miami-Dade County Department of Transit and Works Government Center Metrorail Station. 101 NW 1st ST., Miami, FL 33128.
- B. Including all engineering, equipment, labor, machines, control systems, devices and accessories as required for safely operating the specified escalators.
- C. Verify existing building systems including but not limited to mechanical, electrical system and fire life safety are compatible with the new equipment being proposed, identify any necessary modifications and include modifications in bid.
- D. Commercial, high-traffic public heavy-duty transit grade escalators.
 - 1. Five (5) escalators
 - a. Escalator #5 – SS# 72612
 - b. Escalator #6 – SS# 72613
 - c. Escalator #7 – SS# 72614
 - d. Escalator #8 – SS# 72615
 - e. Escalator #13 - SS# 72590
 - f. Escalator #14 - SS# 72591
 - 2. Installation of all truss equipment.
 - 3. Escalator car and truss signal equipment.
 - 4. Operation and control systems.
 - 5. Accessibility provisions for physically disabled persons.
- E. Delivery, staging, and hoisting of new equipment.
- F. Materials and accessories as required for completing the escalator installations.
- G. Truss, pit and machine room barricades for safety as required.
 - 1. Barricades or guards at least 48" high (1219 mm) (including protected entrances), for the convenience and protection of all workers as well as the general public, during the modernization period of the escalator, so that the modernization area can be enclosed in accordance with applicable law.
 - 2. The barricades shall be of a type to limit entrance of unauthorized personnel to the modernization area.
 - 3. The modernization area shall be of a size to permit work to proceed without delays.
- H. Required hoisting, hoisting permits and traffic coordination and/or permits with local jurisdictions and the State of Florida as required.

- I. Required permits and coordination and/or permits with local jurisdictions, Office of Elevator Safety and the State of Florida as required.

1.2 Related Scopes of Work by Others

- A. Electrical Contractor shall furnish and install all electrical equipment for truss, pit and machine room including HVAC, lighting, GFCI receptacles and electrical disconnects, as required by NFPA 70 National Electrical Code and ASME A17.1 Safety Code for Elevators and Escalators.
 1. All Electrical work must be coordinated and scheduled with General Contractor, Elevator Contractor and Elevator Consultant.
 2. Escalators shall be removed from service while electrical trades are working in same or adjacent truss, pit or machine rooms.
 3. Electrical service to main disconnect in escalator machine room; electrical power for escalator installation and testing; electrical service for machine room; machine room and pit receptacles with ground-fault current protection; lighting in machine room and pit.
 4. Install lockable disconnects with overcurrent protection for elevator main line power as per NEC.
 - a. Disconnect to be verified for appropriate size and type for power requirements of escalator equipment prior to installation.
 - b. Provide surge protection.
 5. Provide replacement electric wiring from disconnect switches to the new escalator controllers with feeder leads for connection to terminals by the elevator contractor, inclusive of a normal 120 VAC, 15 AMP supply at each controller.
 6. Minimum lighting in remote machine room and equipment space shall be 10 ft-c.
 7. Minimum lighting at the step treads and landing plates shall be 20 ft-c.
 8. All electrical systems shall include proper earth grounding and bonding as required by elevator controller manufacturer and NEC.
 - a. Provide continuous earth ground to mainline disconnects and controllers.
 9. Provide a single non-GFCI receptacle for each sump in each escalator truss pit.
 10. Provide and install truss pits, overhead equipment and machine room lighting as per NEC with enclosed and protected lamps.
 11. Pit receptacles, with GFCI protection shall be installed in NEMA 4 devices where placed within 4'-0" of pit floor.
 - a. All electrical equipment including conduit, fitting, junction boxes, portable cabling shall be NEMA 4 rated.
 - b. Care must be taken not to place equipment in line with escalator equipment.

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12. All disconnects shall be labeled according to NFPA 70 NEC including source of power, State of Florida Serial Numbers, Elevator Number and all required warning signs.
 13. Install shunt trip breakers outside of machine rooms for feeder to each mainline disconnect for removal of power by NFPA 70 NEC and NFPA 72 if installation of sprinklers in machine rooms or hoistways is required by the Florida Building Code.
 - a. Shunt trip shall be activated by heat detectors installed by others.
- B. Fire Alarm including heat and smoke sensing devices as per NFPA 70 National Electrical Code and NFPA 72 National Fire Alarm Code.
- a. The smoke detectors or other automatic fire detection as permitted by NFPA 72, shall actuate the elevator control circuits as detailed in NFPA 72.
 2. Fire alarm contractor shall demonstrate at time of elevator inspection, compliance and testing of all alarm initiating devices as required by ASME A17.1 Safety Code for Elevators and Escalators, ASME A17.2 and NFPA 72 National Fire Alarm Code.
 3. Install heat detectors within 24" of sprinklers installed in machine rooms including wiring and conduit to shunt trip breaker as installed by electrical contractor.
 4. Installation of fire alarm system and devices shall conform to ASME A17.1 Safety Code for Elevators and Escalators and NFPA 72 including NFPA 70 NEC.
- C. Sprinklers: Any required sprinkler work must be coordinated with elevator contractor to insure non-interference with any elevator equipment and must be compliant with NFPA 13, NFPA 72 and the Florida Building Code.
1. If sprinkler head(s) are located in the machine room, it will be required to install a heat detector within 24" of each sprinkler in order to automatically disconnect the main line power supply to the affected elevator(s) upon or prior to the application of water, in accordance with ASME A17.1 Safety Code for Elevators and Escalators and NFPA 72 National Fire Alarm Code.
- D. Building general construction conditions, cleaning and painting of miscellaneous surfaces: The elevator contractor shall not be responsible for all work as detailed in this section.
1. All construction, cleaning and painting other than equipment directly supplied by the elevator contractor shall be performed by others.
 2. Provide Class ABC Fire Extinguisher in machine room permanently mounted and conveniently located to the access door as required by ASME A17.1 Safety Code for Elevators and Escalators.
 3. Provide protection of all pipes, wiring, conduit, duct and openings in machine rooms to maintain a 2 hour fire rating.
 4. All foreign pipes, wiring or conduit not in use or directly related to the elevator system shall not be installed in machine rooms.

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- a. Existing foreign piping, wiring and/or conduit not in use or directly related to elevator shall be removed or enclosed as required by code.
- 5. All holes and openings in truss cladding shall be patched and protected to maintain the fire rating of the enclosure including conduit, piping and other equipment passing through exterior walls.
- 6. Sumps and Sump Pumps: Elevators with Fire Service Operation shall have drains or sump pumps as required by ASME A17.1 Safety Code for Elevators and Escalators, including the Florida Building Code.
 - a. The pump shall be manufactured by Stancor, or approved equal.
 - b. The sump shall be a minimum of 18 inches in diameter and 24 inches in depth.
 - c. The sump cover shall be removable and flush to pit floor.
 - d. The Sump pump shall have an output of 3000 gallons per hour at the head per elevator.
 - e. The sump pump electrical cord shall be 6 foot or less.
- 7. Clean and paint machine room finished walls and floors.
 - a. All cleaning or painting work that produces any vapors or fumes shall be performed during normal business work hours or after normal business hours as requested by building manager or representative.
 - 1) Work of this nature must be scheduled and coordinated five (5) days prior to execution of work.
 - b. The procedures proposed for the accomplishment of the work shall provide for safe conduct of the work, careful removal and disposition of materials specified to be salvaged, protection of property, which is to remain undisturbed, and coordination with other work in progress.
 - 1) The work plan shall include a Safety and Health plan describing procedures for handling monitoring, and disposition of Volatile Organic Compounds "VOCs" and other hazardous and toxic materials.
 - 2) The procedures shall include a detailed description of the methods and equipment to be used for each operation, and the sequence of operations.
 - c. All paint products and application method must be approved prior to application by owner or owner's agent.
 - 1) Paint products and application methods are to be equal or better than existing product applicable with matching color as approved by owner.
 - d. All products of paint, thinners or cleaning agents must be approved prior to use for VOC's or any additional health concerns.

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

1.3 CODE AND STANDARD REFERENCES

- 1. Comply with all current applicable state statutes, administrative rules, building codes and elevator codes at the project site required at the time of permitting, including but not limited to the following:
 - a. Florida Statutes 399
 - b. Florida Administrative Code 61C-5
 - c. Florida Building Code
 - d. ASME A17.1 Safety Code for Elevators and Escalators
 - e. ASME A17.2 Guide for Inspection of Elevators and Escalators
 - f. ADAAG, Americans with Disabilities Act Accessibility Guidelines
 - g. NFPA 13, Sprinkler Systems
 - h. NFPA 70, National Electrical Code
 - i. NFPA 80, Fire Doors and Windows
 - j. ANSI/UL 10B, Fire Tests of Door Assemblies
 - k. NFPA 72, National Fire Alarm Code
 - l. NFPA 101 Florida Edition
 - m. O.S.H.A. Requirements for construction
 - n. Elevator Industry Field Employees' Safety Handbook
 - o. Miami-Dade Transit Construction Safety Manual and Attachments

- p. Miami-Dade County Department of Transportation and Public Works (DTPW)
Adjacent Construction Manual

1.4 ELEVATOR SYSTEM DESCRIPTIONS

- A. Escalator System, General: Manufacturer's standard escalator systems. Unless otherwise indicated, manufacturers' standard components shall be used, as included in standard escalator systems and as required for complete system.
- B. Escalator Arrangement
1. Escalator shall be numbered as viewed from lobby facing the escalators from left to right in main lobby with alpha-numeric designations.
 - a. Keep current elevator alpha-numeric designations.
 2. Specific requirements for the specific escalator or component shall be designated as such and shall not apply to other elevators or escalators in the building.
 3. Specifications for escalators include minimum requirements of all escalators and it shall be the responsibility of the contractor to complete all work to code compliance.
 4. Insert a different number for each group of elevators or escalators that share a group operation system
- C. Escalator System
1. Quantity: Five (5) escalators
 - a. Escalator #4 – SS# 72611 Schindler
 - b. Escalator #5 – SS# 72612 Schindler
 - c. Escalator #6 – SS# 72613 Schindler
 - d. Escalator #7 – SS# 72614 Schindler
 - e. Escalator #8 – SS# 72615 Schindler
 2. Type: Commercial heavy duty high-traffic public transport escalator
 3. Machine Location: Field verify
 4. Rated Capacity: All units 7000lbs, field verify.
 5. Rated Speed: 100FPM, field verify.
 6. Truss, Step & Escalator Enclosure: Retain interior and exterior existing dimensions
 7. Entrance Dimensions: Retain all existing refuge & clearance dimensions
 8. Main Power Supply: Existing 480 Volts + or - 5% of normal, 3 Phase, 60 Cycle with a separate equipment grounding conductor. Contractors shall field verify.

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1.5 Submittals

- A. Product data: Submit product data for the following:
 - 1. Manufacturer's product data for each system proposed for use.
 - 2. Installation methodology and sequence of work.
 - 3. Operation, control, and signal systems.
 - 4. Drive, motor, machine and all major components of system.
- B. Shop drawings:
 - 1. Show equipment arrangement in the machine room, pit and truss.
 - a. Provide plans, elevations, sections and details of assembly, erection, anchorage, and equipment location as required.
 - 2. Indicate escalator system capacities, sizes, performances, safety features, finishes and other pertinent information.
 - 3. Show floors served, existing travel distances, maximum loads imposed on the building structure at points of support and all similar considerations of the elevator work.
 - 4. Indicate electrical power requirements and branch circuit protection device recommendations and locations.
- C. Certificates: Inspection and acceptance certificates of escalator system installation.
- D. Operation and maintenance data. Include the following:
 - 1. Operation and Maintenance Manuals: Provide manufacturer's standard operation and maintenance manuals.
 - 2. Parts list, with recommended parts inventory.
 - 3. Wiring diagrams for control system including any in field modifications.
 - 4. Copy of field pull sheet wiring as built notes. Pull sheets to include wire numbers and colors.

1.6 QUALITY ASSURANCE

- A. Elevator Contractor Qualifications:
 - 1. Elevator Contractor shall provide pre-engineered elevator system components by manufacturer(s) regularly engaged in the manufacture of elevator systems.
 - a. Compliance with ASME A17.1 Safety Code for Elevators and Escalators, Florida Statutes, Chapter 399, Florida Administrative Code 61C-5, all applicable sections of the Florida Building Code, and additional requirements specified herein.

- b. The elevator contractor shall have a documented, on-going quality assurance program.
 - c. Contractor shall have a mechanical or electrical engineer on staff for County critical elevators.
- 2. Installer Qualifications: The manufacturer or an authorized agent of the manufacturer with not less than ten (10) years of satisfactory experience installing elevators equal in character and performance to the project elevators.
 - a. All mechanics employed to work onsite must have a valid Certificate of Competency issued by State of Florida Bureau of Elevator Safety.
 - b. There shall not be allowed onsite more than one helper or unlicensed assistant per onsite licensed mechanic.
- 3. Permits and Inspections: Apply, secure and pay for all required State of Florida, Miami-Dade County Office of Elevator Safety and all applicable building code permits, tests and fees as required by Florida Administrative Code 61C-5 for Alteration Permits, and local jurisdiction permits.
 - a. Elevator contractor is responsible for proper posting of all required licenses, permits and safety documentation.
- 4. Regulatory Requirements:
 - a. ASME A17.1-2016 or more stringent edition adopted by the State of Florida
 - b. Florida Building Code, latest edition adopted by the State of Florida
 - c. Current Florida Statute 399 and 553
 - d. NFPA 13 Standard for the Installation of Sprinkler Systems, latest edition adopted by the State of Florida
 - e. NFPA 70 National Electrical Code, latest edition adopted by the State of Florida
 - f. NFPA 72 National Fire Alarm Code, latest edition adopted by the State of Florida
 - g. Americans with Disabilities Act - Accessibility Guidelines (ADAAG)
 - h. Any changes or updates as required by Florida Building Code or Florida Statute 399 by time of permit application.
 - i. Any and all onsite workmen and receiving of products to site are required to follow security and safety procedures as per Miami-Dade County Department of Transportation and Public Works policies and facility regulations including the Miami-Dade Transit Construction Safety Manual and Attachments and the Miami-Dade County Department of Transportation and Public Works (DTPW) Adjacent Construction Manual.

5. Miami-Dade County Department of Transit and Works has designated the Miami-Dade County Office of Elevator Safety Elevator Contracts Administrator, as the elevator consultant on this project.
 - a. The Miami-Dade County Office of Elevator Safety Elevator Contracts Administrator, in accordance with ASME A17.1 Safety Code for Elevators and Escalators, Inspection and Test Requirements, may be present for and review all acceptance inspections for these escalators.
 - b. Elevator Installer in accordance with ASME A17.1 Safety Code for Elevators and Escalators, Inspection and Test Requirements, will schedule and coordinate all acceptance tests and arrange for inspection for all elevators with the Miami-Dade County Office of Elevator Safety.
 - c. Elevator contractor must notify the General Contractor, building owner and elevator consultant at least five (5) days prior to inspection advising of the date and time of all inspections and tests.
 - d. Elevator contractor shall be solely responsible for the application, securing, maintaining, completion and posting of elevator permits as per Florida Statute 399, the State of Florida Bureau of Elevator Safety /and Miami-Dade County.
 - 1) Delivery to the Owner upon completion and acceptance of elevator work, the certificate of operation.
6. All signage as required by Florida Building Code, latest applicable edition of ASME A17.1 Safety Code for Elevators and Escalators, NFPA 70 National Electrical Code and NFPA 72 Fire Alarm Code to be posted in elevator lobbies, fire alarm panels, disconnects, machine rooms and machine room doors.
7. Elevator contractor is responsible for all protection both inside and outside of truss to all personnel inside or outside of truss areas.
 - a. Includes providing and maintaining of protective barricades at entrances and openings.
 - b. Protection from trip hazards due to storage, use of materials or drop cords.
8. Elevator contractor is to provide due care to protect building flooring and walls from excessive debris, dirt or damage due to workmen onsite.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver elevator materials, components and equipment in manufacturer's protective packaging.
- B. Protect and handle materials in accordance with manufacturer's recommendations to prevent damage, soiling, or deterioration.
- C. Elevator contractor shall be responsible for the material handling of all escalator equipment to site storage area.

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1. Elevator contractor will be responsible for keeping all stored materials inside storage area with lock and key.
- D. Locked and protected storage for elevator contractor's tools or materials at site is contractor's responsibility.
- E. Escalator equipment disassembled for replacement shall be stored in a dry, protected area for utilization as replacement parts, such as motor generators, drive machines and controllers, to maintain existing elevator(s) which are not yet in the modernization phase of the project.
- F. Elevator contractor shall be responsible for crane services for the placement of the equipment in the machine rooms.

1.8 PROJECT CONDITIONS

- A. Authorized elevator personnel only are responsible for temporary installed barrier panels as may be required during construction to protect the openings at escalators at each floor.
 1. Panels may be removed only while the authorized elevator personnel are to perform work in the immediate area of the unprotected opening.
 2. Authorized elevator personnel shall re-install all barriers as required to maintain the original solid and safe protection to the opening prior to leaving immediate work area of the opening.
- B. Security: Any and all onsite workmen and receiving of products to site are required to follow security and safety procedures as per OSHA and Miami-Dade County Department of Transit and Works facility policies.
- C. Painting:
 1. Except as otherwise specified, paint all metal work provided by the elevator manufacturer and installer.
 2. Clean and paint machine room floors.
 3. Provide all ferrous metals installed in the truss shop primed with a rust inhibitive primer.
 4. Remove rust, clean, degrease and paint all installed parts or components accumulated during the construction phase.

1.9 Warranty

- A. The elevator contractor's acceptance is conditional on the understanding that their warranty covers defective material and workmanship.
 1. The warranty period shall extend to one (1) year from the date of completion or acceptance thereof by beneficial use; whichever is earlier, of each escalator.
 2. The warranty excludes ordinary wear and tear or improper use, vandalism, abuse, misuse, or neglect or any other causes beyond the control of the elevator contractor and this

express warranty is in lieu of all other warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose.

3. Any defective condition or workmanship not mutually agreeable as satisfactory to building owner and elevator contractor shall be determined by the independent elevator consultant as final for the replacement, repair or continued use of product or part in question.
- B. Maintenance service consisting of a minimum of weekly examinations, adjustments and lubrication of the escalator equipment shall be provided by the elevator contractor for a period of twelve (12) months after the escalators have been turned over for the customer's use at no charge to the building owner.
1. This service shall not be subcontracted, but shall be performed by the elevator contractor.
 2. All work shall be performed by competent employees during normal working hours between 8:00AM to 5:00PM Monday through Friday and shall include emergency 24/7 callback service.
 3. All inspections and performance of periodic safety tests for witnessing by Miami-Dade County Office of Elevator Inspectors shall be included at no charge.
 4. This service shall not cover adjustments, repairs or replacement of parts due to negligence, misuse, abuse or accidents caused by persons other than the elevator contractor.
 5. Only genuine parts and supplies as used in the manufacture and installation of the original equipment shall be provided.
 - a. Obsolescence shall not be allowed.
 6. Warranty maintenance service shall start upon completion of each escalator group or facility.
 - a. Warranty service starting date shall be after completion of punch-out lists and close-out documents as agreed with building management, consultant and contractor.
- C. If not currently on County maintenance contract services, provide interim monthly maintenance rates for equipment in service during the project prior to and after the installation phase, final acceptance for public utilization and warranty maintenance service.
1. The Contractor shall not invoice for monthly maintenance on equipment taken out of service for modernization or installation.
 2. Shall include all annual inspections and performance of periodic safety tests for witnessing by Miami-Dade County Office of Elevator Safety Tests during interim maintenance period.
 3. Unless identified in prior pre-maintenance survey and accepted in the agreement, obsolesce shall not be allowed.

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4. Include wiring diagrams for existing equipment.
5. Provide billable labor rates for helpers, mechanics and adjusters inclusive of standby services, minor and major repairs for other than normal working hours weekdays and Saturdays and Sundays and Holidays (overtime).
6. Include material cost and externally purchased subcontracted services mark-up not greater than 20% not covered in the warranty.
7. When building management requests the contractor to perform repairs or services including inspections and testing covered in the warranty during other than normal working hours, the contractor shall invoice the facility the difference between the overtime labor rate and the normal working hourly rate.

2.1 PRODUCTS

A. ACCEPTABLE MANUFACTURER

1. Only products and components produced or provided by manufacturer(s) regularly engaged in the manufacture of elevator products, and that complies with ASME A17.1 Safety Code for Elevators and Escalators, ASME A17.2, Florida Statutes, Chapter 399, Florida Administrative Code 61C-5, all applicable sections of the Florida Building Code in its entirety, and additional requirements specified herein are acceptable.
2. Basis-of-Design Product: Schindler Elevator 9700T Escalator, or approved equals.
3. Acceptable Manufacturers
 - a. Schindler Elevator
 - b. Kone
 - c. Otis Elevator
 - d. ThyssenKrupp
4. Only Bidders deemed qualified shall be notified by Request for Quotation.

B. MATERIALS, GENERAL

1. Colors, patterns, and finishes: As selected by the Project Name from manufacturer's full range of standard colors, patterns, and finishes.
 - a. Steel:
 - 1) Shapes and bars: ASTM A 36
 - 2) Sheet: ASTM A 366, cold-rolled steel sheet, commercial quality, Class 1, matte finish, stretcher leveled.
 - 3) Finish: Factory-applied baked or powder coated enamel.
 - b. Stainless Steel:

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- 1) Shapes and bars: ASTM A 276, Type 300 (18-8)
 - 2) Tubing: ASTM A 269, Type 300 (18-8)
- C. TRUSS: The Contractor may elect to retain the existing truss and end supports. The truss and end supports shall be inspected by a Structural Engineer registered in the State of Florida and a signed, sealed and dated copy of the inspection report shall be submitted to the Owner for project files. The Contractor shall be responsible for structurally re-certifying the truss and end supports for the proposed loads and provide new components as required.
1. Upper and Lower End
 - a. Remove of track and support brackets
 - b. Remove access cover support plates
 - c. Remove selected truss cross members
 - d. Remove handrail support return brackets
 2. Incline
 - a. Remove top and return track
 - b. Remove handrail return brackets
 - c. Modify truss cross members.
 3. Clean down the existing truss
 - a. Remove all remnants of oil, grease, lint, dirt and debris from the unit
 - b. Apply a protective coating of paint
 4. Inspect & evaluate existing welds, rivets and overall structure
 - a. Verification by a licensed structural engineer.
 5. Truss shall be treated to prevent corrosion in the applicable environment.
- D. Isolation Mounting: Retain and/or recondition
- E. Upper, Lower, and Incline Modules: Upper, lower, and incline modules shall be designed, fabricated and installed into the existing truss by welding.
1. Upper end module or pit shall include the drive machine, track sub-assemblies, and truss interface components.
 - a. Track sub-assemblies shall be welded steel plate construction.
 - b. The following components shall be directly mounted to the upper end module.
 - 1) Top and return curve track
 - 2) Step guidance system

- 3) Handrail guidance system
 - 4) Skirts and support brackets
 - 5) Access cover and comb plate support angles
 - 6) Safety devices and associated mounting brackets, including skirt switches, missing step detector, step out of level detector, and handrail speed sensors
- c. Drive Machine: The driving machine shall be vertical worm gear type designed for escalator service.
- 1) The worm shall be of high-grade steel integral with worm shaft and provided with a ball bearing thrust unit designed to absorb thrust of worm in both directions.
 - 2) Brake shall be permanent magnetic closed loop type or solenoid released band brake and designed to be automatically applied in the event of a power failure or actuation of any one of the safety devices.
 - a) Brake shall be designed to bring the escalator to a smooth gradual stop with load up to rated load.
 - 3) The drive unit to consists of an electric motor, a gearbox, a resilient coupling, the flywheel, the service brake, the main shaft, a safety brake and the main drive chain.
 - a) The entire drive (motor, gearbox, coupling, flywheel, service brake) is mounted on a common base plate and can be shifted longitudinally by turning the tensioning screw.
- d. Motor: The escalator(s) shall be equipped with a motor designed for escalator service.
- 1) The motor shall be of TEFC design, ball bearing type.
 - 2) Driving motor and motor switchgear shall be designed to provide a smooth start, which shall prevent undue strain on drive components.
 - 3) The motor shall be of sufficient size to operate the escalator at a minimum of Code-rated load, ascending without exceeding the rated horsepower.
 - 4) The motor is suitable for inverter duty.
 - 5) Three sets of thermistors the wiring being terminated in the motor terminal box.
 - 6) The motor shaft to have a special non-drive end (NDE) extension with a square end, and a modified motor cowl.
 - 7) The square end is to allow for manual rotation of the drive unit via a hand-winding ratchet, supplied loose with the drive unit package.

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- 8) The motor is equipped with a vibration sensor.
- e. Brake:
 - 1) Brake shall be a closed loop type or solenoid released band brake and designed to be automatically applied in the event of a power failure or actuation of any one of the safety devices.
 - 2) Brake shall be designed to bring the escalator to a smooth gradual stop with load up to rated load.
 - a) The brake shall not cause the escalator to come to an abrupt stop.
 - b) Shall be designed to meet ASME A17.1-2013 Code deceleration requirements without adjustment.
 - 3) The safety brake (disk brake) is to be mounted on the right end of the main shaft and, to be activated during downward travel.
 - a) Shall be installed together with the drive chain contact.
- f. Upper Reversing Station: The Upper Reversing Station and drive shall include a precision-machined step chain sprocket mounted on the machine output shaft and rotating on bearings.
 - 1) A water level monitor device is required below the truss in the tension station. When water rises to the tip of the ultrasonic sensor between the forks, the water level monitor activates an alarm.
2. Lower end module shall include the reversing station, track sub-assemblies, and truss interface components.
 - a. Track sub-assemblies shall be welded steel plate construction.
 - b. The following components shall be directly mounted to the lower end module or pit
 - 1) Top and return curve track
 - 2) Step guidance system
 - 3) Handrail guidance system
 - 4) Skirts and support brackets
 - 5) Access cover and comb plate support angles
 - 6) Safety devices and associated mounting brackets, including skirt switches, missing step detector, step out of level detector, and step up thrust device.
 - c. Lower Reversing Station: Shall consist of a machined floating track system designed to maintain proper tension on the step chain.

- 1) Shall be designed to maintain uniform chain tension and shall detect movement of the carriage through the activation of a safety switch.
 3. Incline Modules: Modular multi-purpose stanchion assemblies shall be installed on the incline of the existing truss.
 - a. Incline support stanchions shall be fabricated of steel and mounted to the existing truss.
 - b. Shall be designed to support all incline track sections and handrail guide components as part of the complete step band.
 - c. Stanchions shall be pre-assembled and fixtured to set track spacing, as well as step and handrail guidance components.
 4. All equipment shall be treated to prevent corrosion in the applicable environment.
- F. Step Band
1. Step Guidance: Step guidance system shall be provided to control the movement of the steps both horizontally and vertically.
 - a. Each step shall be provided with horizontal guide pads, which shall guide the steps throughout their travel, in combination with a continuous guide profile installed in the area of the escalators open to passengers.
 - 1) A17.1-2013 Code Step/Skirt Performance Index requirements shall be met without the need for skirt deflector brushes.
 2. Step Chain: Shall consist of consecutively running steps powered and spaced with a chain designed for long life and quiet operation.
 - a. Step chain shall properly mesh with the main drive sprockets and lower reversing station castings.
 - b. Chain shall be an engineering class roller chain, manufactured
 - c. Step chains shall be provided with an automatic lubrication system.
 3. Steps: Shall be formed from one-piece die cast aluminum with closely spaced tread and riser cleats.
 - a. Step rollers shall rotate on sealed ball bearings.
 - b. Step shall be connected to the chain by a pin and bushing.
 - c. Vertical curved step risers shall be furnished with vertical cleats arranged to pass between the cleats of the tread on the adjacent step to form an inter-meshing unit with minimum clearances.
 - d. Step color shall be silver powder coated.

- e. The number of level steps at each end of the escalator shall be two, wherever possible.
 - f. Step demarcation inserts shall be provided on the sides and rear of each step.
 - 1) Inserts shall be fabricated from reinforced structural plastic, shall be easily replaced and shall be approximately 1.5 inches (38mm) wide at the sides and approximately 1.5 inches (38 mm) wide at the rear.
 - 2) Inserts shall be attached to the step without the use of visible fasteners.
 - 3) The color of the demarcation inserts shall be yellow per ASME A17.1-2013.
 - 4. Tracks: Shall be designed and fabricated to support and retain the steps and running gear at the rated load and at the highest speed specified.
 - a. Shall be assembled and secured together for easy removal and replacement of sections.
 - b. Shall be properly supported on stanchions to provide correct alignment and smooth transition to return stations.
 - 1) Rolling surface of the incline track shall be a minimum thickness of 2.5 mm.
 - 2) Transition track shall be a minimum thickness of 10mm.
 - 3) Guiding surface of the wheels shall be galvanized steel profiles with smooth and even running surfaces.
 - 4) Joints shall be cut diagonally to the running direction.
 - 5) A second, continuous step guiding profile shall be provided above the step chain rollers.
 - 5. All equipment shall be treated to prevent corrosion in the applicable environment.
- G. Comb plates and Access Covers
- 1. Comb Plates: Adjustable comb plates shall be located at the top and bottom landings.
 - a. Comb plates shall support injection molded, reinforced structural aluminum or plastic comb segments which shall be designed to be removable and to mesh with the cleats on the step treads.
 - b. Skid resistant comb plates shall be designed to sense both horizontal and vertical movement of the comb segments.
 - c. Comb segments shall be yellow.
 - 2. Access Covers: Lightweight aluminum access covers shall be provided.
 - a. Design of these skid resistant access covers shall allow for ease of maintenance.

- b. Covers shall be provided at both upper and lower landings and match the pattern of the new comb plates.
- 3. All equipment shall be treated to prevent corrosion in the applicable environment.
- H. Decks/Balustrades/Front plates/Skirts/Interior Trim
 - 1. Decks: Escalator decks shall be constructed such that there shall be an inner deck and an outer deck.
 - a. Inner and outer decks shall be solid deck construction.
 - b. Inner and outer decks shall be fabricated from heavy gauge metal.
 - 1) Deck panels shall be installed without overlapping joints or requiring trim pieces to cover where two deck panels meet.
 - 2) Inner and outer decks shall be finished in stainless steel #4 satin finish 14-gauge material.
 - 2. Fall protection shall be provided outside exterior low decks for open sides greater than 30 inches above the finished floor or ground floor.
 - a. Provide guard rails 42 inches above the along escalator step tread slope of step nose the entire length of escalator.
 - b. Constructed of welded Stainless Steel tubing.
 - 1) No exposed anchors or screws.
 - 2) Mounted a minimum of four (4) inches from handrail, no more than six (6) inches from handrail.
 - c. Shall be engineered and stamped for structural integrity and approved by elevator consultant.
 - 3. Newel Ends: Upper and lower newel ends shall be designed to allow the return of the handrail without undue stress.
 - a. Newel ends shall support the handrail around the newel through the use of a multi-roller bearing system to minimize drag and maximize handrail life.
 - 4. Balustrades:
 - a. #4, SS# 72611 - Solid Balustrades shall be provided between the escalator skirts and the handrails.
 - b. #5, 6, 7 & 8, SS# 72612, 72613, 72614 & 72615 – Glass Balustrades shall be provided between escalator skirts and the handrails.
 - c. Panels shall provide a finished surface for the escalator interior.

- d. Balustrade panels shall be installed without overlapping joints or requiring trim pieces to cover where two panels meet.
 - e. Balustrade shall be fabricated of sheet metal or sandwich design with stainless steel #4 finish or ANSI Z97.1 or 16 CFR Part 1201 code compliant tempered glass.
- 5. Provide integral traffic and safety lighting along both internal sides of balustrades.
 - a. Shall provide a minimum of 20 ft-c from landing to landing measured at step tread and landing plates.
 - b. If integral lighting does not provide 20 ft-c, provide overhead lighting.
- 6. Front plates: shall be provided at upper and lower ends designed to include the handrail inlet device and key actuated direction-starting switch.
- 7. Control Station: Both the upper and lower landings, located near the handrail inlet.
 - a. Stations shall be provided which shall include a key actuated direction starting switch.
 - 1) Escalator will not restart automatically.
 - 2) Keyed station shall be restarted with the key after shut down.
- 8. Skirts: Skirts shall be constructed from a heavy gauge material reinforced with steel channels.
 - a. Skirts shall be fastened to the truss modules with hidden fastenings in the incline and transition areas.
 - b. Skirt panels shall be installed without overlapping joints or requiring trim pieces to cover where two skirt panels meet.
 - c. Skirt panels shall be finished in Black Teflon coated 11 gauge cold rolled steel.
- 9. All equipment shall be treated to prevent corrosion in the applicable environment.
- I. Handrails: Provide new escalator handrails, properly constructed and reinforced.
 - 1. Handrails shall be endless with a smoothly vulcanized splice and shall operate with the moving steps.
 - 2. U grove handrails shall move on specially formed guides and traction sheaves.
 - a. Sheaves shall be an integral part of the drive machine.
 - 3. Close fitting guards shall be provided by the handrail openings in the newel base.
 - 4. Handrail color shall be black.
 - 5. Provide handrail constructed to withstand handrail sanitation through LED UV-C modules.
 - 6. All equipment shall be treated to prevent corrosion in the applicable environment.

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- J. Handrail Sanitation: Provide LED UV-C handrail sanitation modules as manufactured by EHC Global, or approved equal.
1. Modules shall be installed internally to prevent pinch-points and passenger entrapments on brackets supplied by the elevator contractor.
 2. Modules shall be engineered to supply sufficient quantity and location of modules on each handrail to properly sanitize the handrails in consideration of the length escalator run.
 3. Provide internal enclosure for power source and circuit board hard wired per manufacturer's recommendations and NEC code requirements.
 4. Provide safety signage for sanitation equipment approved by the project consultant and facility management.
- K. Controls and Wiring
1. Controller: The controller shall be of a heavy-duty variable frequency drive microprocessor type.
 - a. (VFD/GFU) The controller shall monitor the condition of each safety device, brake, and motor operation, and shall cause the escalator to come to a stop upon activation of any safety device, brake problem, or motor overload.
 - b. In the event of a power failure occur, the controller shall automatically remove power from the motor, and brake, and bring the escalator to a controlled stop.
 - 1) Controller shall include phase and overload protection.
 2. Wiring: Pre-assembled wiring harness shall be installed, complete with modular assemblies for the upper end, incline section, and lower end of the truss.
 - a. Upper and lower end assemblies shall be constant and consistent from unit to unit.
 - b. Incline assembly shall be variable by length only.
- L. Safety Devices:
1. Reversal Stop Device: Escalators shall be provided with a reversal stop device or function that is controller sensitive to stop the escalator automatically should the escalator attempt to reverse its direction while operating in the ascending direction.
 2. Broken Step Chain Device: Broken step chain device, a part of the lower reversing station assembly, shall be provided for each chain.
 - a. When activated, the escalator shall come to a controlled stop.
 3. Step Up thrust Device: Step up thrust device shall be located on each side of the lower curve track on the lower end of each escalator.
 - a. Escalator shall come to a controlled stop should a step be displaced against the up-thrust track.

4. Comb-Step Impact Device: Comb-step impact device shall be provided at the upper and lower comb plates.
 - a. Escalator shall come to a controlled stop should an impact occur between the comb segments and steps.
5. Skirt Obstruction Device: Skirt obstruction devices shall be provided, at both upper and lower ends, within the skirt panels.
 - a. Escalator shall come to a controlled stop should an obstruction occur between the step and skirt panel.
 - b. Switches shall be of the plunger, self-resetting type, adjustable to maintain the required position and clearance from the skirts.
6. Missing Step Device: Missing step devices shall be provided.
 - a. Missing step devices are designed to detect a missing step or steps at the upper and lower ends of the escalator.
 - b. When activated, escalator shall come to a controlled stop.
7. Step Demarcation Lights: Step demarcation lights shall be furnished at the top and bottom of each escalator.
 - a. Devices shall consist of a light fixture installed just below the track system where the step leaves or enters the comb plate.
 - b. Fixture shall be furnished with two independent green fluorescent lamps and shall be capable of lighting the entire width of the step.
 - c. Light shall be visible between the steps and the step and comb segment.
 - d. Light shall provide a reference point for entering or exiting the escalator.
8. Handrail Entry Device: Handrail entry device shall be provided at the handrail inlet in the newel.
 - a. Escalator shall come to a controlled stop should an object enter the handrail inlet area.
9. Handrail Speed Monitoring Device: Magnetic sensor shall be provided to sound the alarm when the handrail deviates from the step speed by 15% or more.
 - a. If the deviation lasts for more than 2-6 seconds, the escalator shall come to a controlled stop.
10. Emergency Stop Buttons: Emergency stop buttons shall be provided, designed so that the momentary pressure of either button shall cut off the electrical power supply to the motor and bring the escalator to rest.
 - a. One emergency stop button shall be located at each landing.

- b. Location shall be in the existing newel upper radius quadrant, 45 degrees above horizontal, in order to provide easy access.
 - 1) Stop button shall be red in color.
 - c. Button shall be housed under a clear, high impact resistant plastic cover.
 - 1) Cover shall be self-closing.
 - 2) Instructions for operating the stop button shall be imprinted on the cover in half-inch high letters.
 - 3) When the cover is lifted, an audible alarm shall sound until the cover is returned to its closed position.
- 11. Safety Signs: A pictorial sign meeting the requirements of the ASME A17.1 Code shall be provided at both the upper and lower landings.
 - a. Safety signs will be provided in English.
- 12. Stop Switch in Machinery Spaces: Each escalator shall be provided with stop switches in the upper and lower pits.
 - a. When activated, the escalator shall come to a controlled stop.
- 13. Step Level Devices: Step level devices shall be provided at the upper and lower ends of the escalator to detect downward displacement of the step prior to it reaching the comb plates.
 - a. When activated, the escalator shall come to a controlled stop.
- 14. Step Guards: Escalators in this specification are required to have step guards.
 - a. Step guards shall be provided in the upper and lower pit.
 - b. Step guard shall protect a mechanic from the step band.
- 15. All equipment shall be treated to prevent corrosion in the applicable environment.

3.1 EXECUTION

A. Examination:

- 1. Coordinate all site conditions with General Contractor and other building trades.
- 2. Inspect truss, pits and machine room, as constructed.
- 3. Verify all critical dimensions, and examine supporting structures and all other conditions under which escalator work is to be installed.
- 4. Do not proceed with escalator installation until unsatisfactory conditions have been corrected in a manner acceptable to the installer.

5. Commencement of installation constitutes acceptance of existing conditions and responsibility for satisfactory performance.
 6. Elevator contractor shall coordinate crane services for placement of the equipment with General Contractor.
- B. Elevator contractor shall be responsible for screening and protection of truss openings and protection between escalators.
- C. Signage:
1. The designated project manager and the owner's representative will approve all signage in order to maintain consistent appearance for entire escalator installation.
 2. All signage as required by Florida Building Code, ASME A17.1, NFPA 70 National Electrical Code and NFPA 72 Fire Alarm Code to be posted in escalator lobbies, fire alarm panels, disconnects, machine rooms and machine room doors.
- D. Installation:
1. Install escalator systems components and coordinate repairs of truss construction.
 2. Competent licensed elevator installation personnel in accordance with Florida Statute 399 and ASME A17.1 manufacturer's installation instructions and approved shop drawings shall perform work.
 3. Comply with the National Electrical Code for electrical work required during installation.
 4. Perform work with competent, skilled workmen under the direct control and supervision of the elevator manufacturer's experienced foreman.
 5. Supply in ample time for installation by other trades, inserts, anchors, bearing plates, brackets, supports, and bracing including all setting templates and diagrams for placement.
 6. Welded construction: Provide welded connections for installation of escalator work where bolted connections are not required for subsequent removal or for normal operation, adjustment, inspection, maintenance, and replacement of worn Parts.
 - a. Comply with AWS B2.1 Standard Welding Procedure and Performance Qualification.
 7. Coordination: Coordinate escalator work with the work of other trades, for proper time and sequence to avoid construction delays.
 - a. Use benchmarks, lines, and levels designated by the Contractor, to ensure dimensional coordination of the work.
 8. Install machinery, guides, controls, and all equipment and accessories to provide a quiet, smoothly operating installation, free from side sway, oscillation or vibration.

9. Sound isolation: Mount rotating and vibrating escalator equipment and components on vibration-absorption mounts, designed to effectively prevent the transmission of vibrations to the structure, and eliminate sources of structure-borne noise from the escalator system.
 10. Lubricate operating parts of system as recommended by the manufacturer.
 11. Elevator contractor shall be required to install all data plates as required by ASME A17.1 on complete escalator system including alteration and original equipment.
 - a. All data plates shall be manufactured and printed with proper data for each escalator by CodeDataPlate.com or approved equal.
- E. Field Quality Control:
1. Acceptance testing: Upon completion of the escalator modernization and before permitting use of escalator, perform acceptance tests as required by the State of Florida and recommended by Code and governing regulations or agencies.
 - a. Perform other tests, if any, as required by governing regulations or agencies.
 2. Advise Owner, Elevator Consultant, and governing authorities in advance as required of dates and times tests are to be performed on the elevator.
- F. Adjusting:
1. Make necessary adjustments of operating devices and equipment to ensure escalator operates smoothly and accurately.
 2. The elevator contractor shall be required to perform and pass all required testing of all equipment as per ASME A17.1 and ASME A17.2.
 3. Elevator contractor is to return at 30 days, 90 days and 180 days after final installation to examine and readjust equipment as may be required for optimum performance.
- G. Cleaning:
1. Before final acceptance, remove protection from finished surfaces and clean and polish surfaces in accordance with manufacturer's recommendations for type of material and finish provided.
 2. For duration and/or completion of escalator work, remove tools, equipment, and surplus materials from site daily.
 3. Clean equipment rooms and trusses.
 4. Remove trash and debris daily from premises.
- H. Protection:
1. During all escalator work, or portion thereof, provide suitable protective coverings, barriers, devices, signs, or other such methods or procedures to protect escalator work from damage or deterioration.

2. Protect all areas of work from public access or dangers including tripping or fall hazards.
 3. Maintain protective measures throughout remainder of construction period.
- I. Demonstration:
1. The elevator contractor shall make a final check of each escalator operation with the Owner or Owner's representative present prior to turning each escalator over for use.
 2. The elevator contractor shall demonstrate that control systems and operating devices are functioning properly.
 3. Instruct Owner's personnel in proper use, operations, and daily care or operation of escalators.
 4. Review emergency provisions, including emergency access and procedures to be followed at time of failure in operation and other building emergencies.
 5. Train Owner's personnel in normal procedures to be followed in checking for sources of operational failures or malfunctions.
 6. Make a final check of each escalator operation, with Owner's personnel present, immediately before date of substantial completion.
 7. Demonstrate that control systems and operating devices are functioning properly.
 8. Final Electrical Schematics and Drawings
- J. Elevator Consultant's Punch-out List Items:
1. Complete all of the consultant's punch-out list items as may be required.
 2. The elevator consultant shall provide a review and written punch list of deficiencies.
 3. The elevator consultant shall verify one time that the items from the punch list are completed after notice by the elevator contractor.

END OF SECTION

ATTACHMENT M

ESCALATOR SPECIFICATIONS (TRI-RAIL METRORAIL STATION)

1.1 SUMMARY

- A. Modernization of Escalators for the Miami-Dade County Department of Transit and Works Tri-Rail Metrorail Station. 1125 E 25th ST., Hialeah, FL 33147.
- B. Including all engineering, equipment, labor, machines, control systems, devices and accessories as required for safely operating the specified escalators.
- C. Verify existing building systems including but not limited to mechanical, electrical system and fire life safety are compatible with the new equipment being proposed, identify any necessary modifications and include modifications in bid.
- D. Commercial, high-traffic public heavy-duty transit grade escalators.
 - 1. Three (3) escalators
 - a. Escalator #1 – SS# 72562
 - b. Escalator #2 – SS# 72563
 - c. Escalator #3 – SS# 72564
 - 2. Installation of all truss equipment.
 - 3. Escalator car and truss signal equipment.
 - 4. Operation and control systems.
 - 5. Accessibility provisions for physically disabled persons.
- E. Delivery, staging, and hoisting of new equipment.
- F. Materials and accessories as required for completing the escalator installations.
- G. Truss, pit and machine room barricades for safety as required.
 - 1. Barricades or guards at least 48" high (1219 mm) (including protected entrances), for the convenience and protection of all workers as well as the general public, during the modernization period of the escalator, so that the modernization area can be enclosed in accordance with applicable law.
 - 2. The barricades shall be of a type to limit entrance of unauthorized personnel to the modernization area.
 - 3. The modernization area shall be of a size to permit work to proceed without delays.

- H. Required hoisting, hoisting permits and traffic coordination and/or permits with local jurisdictions and the State of Florida as required.
- I. Required permits and coordination and/or permits with local jurisdictions, Office of Elevator Safety and the State of Florida as required.

1.2 Related Scopes of Work by Others

- A. Electrical Contractor shall furnish and install all electrical equipment for truss, pit and machine room including HVAC, lighting, GFCI receptacles and electrical disconnects, as required by NFPA 70 National Electrical Code and ASME A17.1 Safety Code for Elevators and Escalators.
 - 1. All Electrical work must be coordinated and scheduled with General Contractor, Elevator Contractor and Elevator Consultant.
 - 2. Escalators shall be removed from service while electrical trades are working in same or adjacent truss, pit or machine rooms.
 - 3. Electrical service to main disconnect in escalator machine room; electrical power for escalator installation and testing; electrical service for machine room; machine room and pit receptacles with ground-fault current protection; lighting in machine room and pit.
 - 4. Install lockable disconnects with overcurrent protection for elevator main line power as per NEC.
 - a. Disconnect to be verified for appropriate size and type for power requirements of escalator equipment prior to installation.
 - b. Provide surge protection.
 - 5. Provide replacement electric wiring from disconnect switches to the new escalator controllers with feeder leads for connection to terminals by the elevator contractor, inclusive of a normal 120 VAC, 15 AMP supply at each controller.
 - 6. Minimum lighting in remote machine room and equipment space shall be 10 ft-c.
 - 7. Minimum lighting at the step treads and landing plates shall be 20 ft-c.
 - 8. All electrical systems shall include proper earth grounding and bonding as required by elevator controller manufacturer and NEC.
 - a. Provide continuous earth ground to mainline disconnects and controllers.
 - 9. Provide a single non-GFCI receptacle for each sump in each escalator truss pit.
 - 10. Provide and install truss pits, overhead equipment and machine room lighting as per NEC with enclosed and protected lamps.
 - 11. Pit receptacles, with GFCI protection shall be installed in NEMA 4 devices where placed within 4'-0" of pit floor.
 - a. All electrical equipment including conduit, fitting, junction boxes, portable cabling shall be NEMA 4 rated.
 - b. Care must be taken not to place equipment in line with escalator equipment.

12. All disconnects shall be labeled according to NFPA 70 NEC including source of power, State of Florida Serial Numbers, Elevator Number and all required warning signs.
 13. Install shunt trip breakers outside of machine rooms for feeder to each mainline disconnect for removal of power by NFPA 70 NEC and NFPA 72 if installation of sprinklers in machine rooms or hoistways is required by the Florida Building Code.
 - a. Shunt trip shall be activated by heat detectors installed by others.
- B. Fire Alarm including heat and smoke sensing devices as per NFPA 70 National Electrical Code and NFPA 72 National Fire Alarm Code.
- a. The smoke detectors or other automatic fire detection as permitted by NFPA 72, shall actuate the elevator control circuits as detailed in NFPA 72.
 2. Fire alarm contractor shall demonstrate at time of elevator inspection, compliance and testing of all alarm initiating devices as required by ASME A17.1 Safety Code for Elevators and Escalators, ASME A17.2 and NFPA 72 National Fire Alarm Code.
 3. Install heat detectors within 24" of sprinklers installed in machine rooms including wiring and conduit to shunt trip breaker as installed by electrical contractor.
 4. Installation of fire alarm system and devices shall conform to ASME A17.1 Safety Code for Elevators and Escalators and NFPA 72 including NFPA 70 NEC.
- C. Sprinklers: Any required sprinkler work must be coordinated with elevator contractor to insure non-interference with any elevator equipment and must be compliant with NFPA 13, NFPA 72 and the Florida Building Code.
1. If sprinkler head(s) are located in the machine room, it will be required to install a heat detector within 24" of each sprinkler in order to automatically disconnect the main line power supply to the affected elevator(s) upon or prior to the application of water, in accordance with ASME A17.1 Safety Code for Elevators and Escalators and NFPA 72 National Fire Alarm Code.
- D. Building general construction conditions, cleaning and painting of miscellaneous surfaces: The elevator contractor shall not be responsible for all work as detailed in this section.
1. All construction, cleaning and painting other than equipment directly supplied by the elevator contractor shall be performed by others.
 2. Provide Class ABC Fire Extinguisher in machine room permanently mounted and conveniently located to the access door as required by ASME A17.1 Safety Code for Elevators and Escalators.
 3. Provide protection of all pipes, wiring, conduit, duct and openings in machine rooms to maintain a 2 hour fire rating.
 4. All foreign pipes, wiring or conduit not in use or directly related to the elevator system shall not be installed in machine rooms.
 - a. Existing foreign piping, wiring and/or conduit not in use or directly related to elevator shall be removed or enclosed as required by code.

5. All holes and openings in truss cladding shall be patched and protected to maintain the fire rating of the enclosure including conduit, piping and other equipment passing through exterior walls.
6. Sumps and Sump Pumps: Elevators with Fire Service Operation shall have drains or sump pumps as required by ASME A17.1 Safety Code for Elevators and Escalators, including the Florida Building Code.
 - a. The pump shall be manufactured by Stancor, or approved equal.
 - b. The sump shall be a minimum of 18 inches in diameter and 24 inches in depth.
 - c. The sump cover shall be removable and flush to pit floor.
 - d. The Sump pump shall have an output of 3000 gallons per hour at the head per elevator.
 - e. The sump pump electrical cord shall be 6 foot or less.
7. Clean and paint machine room finished walls and floors.
 - a. All cleaning or painting work that produces any vapors or fumes shall be performed during normal business work hours or after normal business hours as requested by building manager or representative.
 - 1) Work of this nature must be scheduled and coordinated five (5) days prior to execution of work.
 - b. The procedures proposed for the accomplishment of the work shall provide for safe conduct of the work, careful removal and disposition of materials specified to be salvaged, protection of property, which is to remain undisturbed, and coordination with other work in progress.
 - 1) The work plan shall include a Safety and Health plan describing procedures for handling monitoring, and disposition of Volatile Organic Compounds "VOCs" and other hazardous and toxic materials.
 - 2) The procedures shall include a detailed description of the methods and equipment to be used for each operation, and the sequence of operations.
 - c. All paint products and application method must be approved prior to application by owner or owner's agent.
 - 1) Paint products and application methods are to be equal or better than existing product applicable with matching color as approved by owner.
 - d. All products of paint, thinners or cleaning agents must be approved prior to use for VOC's or any additional health concerns.
 - e. Interior work zones having a volume of 1,000 cubic feet or less shall be ventilated at a minimum of 2 air exchanges per hour.
 - 1) Ventilation in larger work zones shall be maintained by means of mechanical exhaust.

- 2) Solvent vapors shall be exhausted outdoors, away from air intakes, building occupants and workers.
 - 3) Building air conditioning return air inlets in the work zone shall be temporarily sealed before start of work until the prepared surfaces have dried and are free of odor.
 - 4) Operators and personnel in the vicinity of paint removal processes involving chemicals or mechanical action (sanding or blasting) shall wear respirators.
- E. Each contractor will be required to provide any cutting, patching including painting to match existing finishes of building.

1.3 CODE AND STANDARD REFERENCES

1. Comply with all current applicable state statutes, administrative rules, building codes and elevator codes at the project site required at the time of permitting, including but not limited to the following:
 - a. Florida Statutes 399
 - b. Florida Administrative Code 61C-5
 - c. Florida Building Code
 - d. ASME A17.1 Safety Code for Elevators and Escalators
 - e. ASME A17.2 Guide for Inspection of Elevators and Escalators
 - f. ADAAG, Americans with Disabilities Act Accessibility Guidelines
 - g. NFPA 13, Sprinkler Systems
 - h. NFPA 70, National Electrical Code
 - i. NFPA 80, Fire Doors and Windows
 - j. ANSI/UL 10B, Fire Tests of Door Assemblies
 - k. NFPA 72, National Fire Alarm Code
 - l. NFPA 101 Florida Edition
 - m. O.S.H.A. Requirements for construction
 - n. Elevator Industry Field Employees' Safety Handbook
 - o. Miami-Dade Transit Construction Safety Manual and Attachments
 - p. Miami-Dade County Department of Transportation and Public Works (DTPW) Adjacent Construction Manual

1.4 ELEVATOR SYSTEM DESCRIPTIONS

- A. Escalator System, General: Manufacturer's standard escalator systems. Unless otherwise indicated, manufacturers' standard components shall be used, as included in standard escalator systems and as required for complete system.

B. Escalator Arrangement

1. Escalator shall be numbered as viewed from lobby facing the escalators from left to right in main lobby with alpha-numeric designations.
 - a. Keep current elevator alpha-numeric designations.
2. Specific requirements for the specific escalator or component shall be designated as such and shall not apply to other elevators or escalators in the building.
3. Specifications for escalators include minimum requirements of all escalators and it shall be the responsibility of the contractor to complete all work to code compliance.
4. Insert a different number for each group of elevators or escalators that share a group operation system

C. Escalator System

1. Quantity: Three (3) escalators
 - a. Escalator #1 – SS# 72562 Otis
 - b. Escalator #2 – SS# 72563 Otis
 - c. Escalator #3 – SS# 72564 Otis
2. Type: Commercial heavy duty high-traffic public transport escalator
3. Machine Location: Field verify
4. Rated Capacity: All units 9000lbs, field verify.
5. Rated Speed: 100FPM, field verify.
6. Truss, Step & Escalator Enclosure: Retain interior and exterior existing dimensions
7. Entrance Dimensions: Retain all existing refuge & clearance dimensions
8. Main Power Supply: Existing 480 Volts + or - 5% of normal, 3 Phase, 60 Cycle with a separate equipment grounding conductor. Contractors shall field verify.

1.5 Submittals

A. Product data: Submit product data for the following:

1. Manufacturer's product data for each system proposed for use.
2. Installation methodology and sequence of work.
3. Operation, control, and signal systems.
4. Drive, motor, machine and all major components of system.

B. Shop drawings:

1. Show equipment arrangement in the machine room, pit and truss.

- a. Provide plans, elevations, sections and details of assembly, erection, anchorage, and equipment location as required.
- 2. Indicate escalator system capacities, sizes, performances, safety features, finishes and other pertinent information.
- 3. Show floors served, existing travel distances, maximum loads imposed on the building structure at points of support and all similar considerations of the elevator work.
- 4. Indicate electrical power requirements and branch circuit protection device recommendations and locations.
- C. Certificates: Inspection and acceptance certificates of escalator system installation.
- D. Operation and maintenance data. Include the following:
 - 1. Operation and Maintenance Manuals: Provide manufacturer's standard operation and maintenance manuals.
 - 2. Parts list, with recommended parts inventory.
 - 3. Wiring diagrams for control system including any in field modifications.
 - 4. Copy of field pull sheet wiring as built notes. Pull sheets to include wire numbers and colors.

1.6 QUALITY ASSURANCE

- A. Elevator Contractor Qualifications:
 - 1. Elevator Contractor shall provide pre-engineered elevator system components by manufacturer(s) regularly engaged in the manufacture of elevator systems.
 - a. Compliance with ASME A17.1 Safety Code for Elevators and Escalators, Florida Statutes, Chapter 399, Florida Administrative Code 61C-5, all applicable sections of the Florida Building Code, and additional requirements specified herein.
 - b. The elevator contractor shall have a documented, on-going quality assurance program.
 - c. Contractor shall have a mechanical or electrical engineer on staff for County critical elevators.
 - 2. Installer Qualifications: The manufacturer or an authorized agent of the manufacturer with not less than ten (10) years of satisfactory experience installing elevators equal in character and performance to the project elevators.
 - a. All mechanics employed to work onsite must have a valid Certificate of Competency issued by State of Florida Bureau of Elevator Safety.
 - b. There shall not be allowed onsite more than one helper or unlicensed assistant per onsite licensed mechanic.
 - 3. Permits and Inspections: Apply, secure and pay for all required State of Florida, Miami-Dade County Office of Elevator Safety and all applicable building code permits, tests and

fees as required by Florida Administrative Code 61C-5 for Alteration Permits, and local jurisdiction permits.

- a. Elevator contractor is responsible for proper posting of all required licenses, permits and safety documentation.

4. Regulatory Requirements:

- a. ASME A17.1-2016 or more stringent edition adopted by the State of Florida
- b. Florida Building Code, latest edition adopted by the State of Florida
- c. Current Florida Statute 399 and 553
- d. NFPA 13 Standard for the Installation of Sprinkler Systems, latest edition adopted by the State of Florida
- e. NFPA 70 National Electrical Code, latest edition adopted by the State of Florida
- f. NFPA 72 National Fire Alarm Code, latest edition adopted by the State of Florida
- g. Americans with Disabilities Act - Accessibility Guidelines (ADAAG)
- h. Any changes or updates as required by Florida Building Code or Florida Statute 399 by time of permit application.
- i. Any and all onsite workmen and receiving of products to site are required to follow security and safety procedures as per Miami-Dade County Department of Transportation and Public Works policies and facility regulations including the Miami-Dade Transit Construction Safety Manual and Attachments and the Miami-Dade County Department of Transportation and Public Works (DTPW) Adjacent Construction Manual.

5. Miami-Dade County Department of Transit and Works has designated the Miami-Dade County Office of Elevator Safety Elevator Contracts Administrator, as the elevator consultant on this project.

- a. The Miami-Dade County Office of Elevator Safety Elevator Contracts Administrator, in accordance with ASME A17.1 Safety Code for Elevators and Escalators, Inspection and Test Requirements, may be present for and review all acceptance inspections for these escalators.
- b. Elevator Installer in accordance with ASME A17.1 Safety Code for Elevators and Escalators, Inspection and Test Requirements, will schedule and coordinate all acceptance tests and arrange for inspection for all elevators with the Miami-Dade County Office of Elevator Safety.
- c. Elevator contractor must notify the General Contractor, building owner and elevator consultant at least five (5) days prior to inspection advising of the date and time of all inspections and tests.
- d. Elevator contractor shall be solely responsible for the application, securing, maintaining, completion and posting of elevator permits as per Florida Statute 399, the State of Florida Bureau of Elevator Safety /and Miami-Dade County.

- 1) Delivery to the Owner upon completion and acceptance of elevator work, the certificate of operation.
6. All signage as required by Florida Building Code, latest applicable edition of ASME A17.1 Safety Code for Elevators and Escalators, NFPA 70 National Electrical Code and NFPA 72 Fire Alarm Code to be posted in elevator lobbies, fire alarm panels, disconnects, machine rooms and machine room doors.
7. Elevator contractor is responsible for all protection both inside and outside of truss to all personnel inside or outside of truss areas.
 - a. Includes providing and maintaining of protective barricades at entrances and openings.
 - b. Protection from trip hazards due to storage, use of materials or drop cords.
8. Elevator contractor is to provide due care to protect building flooring and walls from excessive debris, dirt or damage due to workmen onsite.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Deliver elevator materials, components and equipment in manufacturer's protective packaging.
- B. Protect and handle materials in accordance with manufacturer's recommendations to prevent damage, soiling, or deterioration.
- C. Elevator contractor shall be responsible for the material handling of all escalator equipment to site storage area.
 1. Elevator contractor will be responsible for keeping all stored materials inside storage area with lock and key.
- D. Locked and protected storage for elevator contractor's tools or materials at site is contractor's responsibility.
- E. Escalator equipment disassembled for replacement shall be stored in a dry, protected area for utilization as replacement parts, such as motor generators, drive machines and controllers, to maintain existing elevator(s) which are not yet in the modernization phase of the project.
- F. Elevator contractor shall be responsible for crane services for the placement of the equipment in the machine rooms.

1.8 PROJECT CONDITIONS

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

- B. Security: Any and all onsite workmen and receiving of products to site are required to follow security and safety procedures as per OSHA and Miami-Dade County Department of Transit and Works facility policies.
- C. Painting:
 - 1. Except as otherwise specified, paint all metal work provided by the elevator manufacturer and installer.
 - 2. Clean and paint machine room floors.
 - 3. Provide all ferrous metals installed in the truss shop primed with a rust inhibitive primer.
 - 4. Remove rust, clean, degrease and paint all installed parts or components accumulated during the construction phase.

1.9 Warranty

- A. The elevator contractor's acceptance is conditional on the understanding that their warranty covers defective material and workmanship.
 - 1. The warranty period shall extend to one (1) year from the date of completion or acceptance thereof by beneficial use; whichever is earlier, of each escalator.
 - 2. The warranty excludes ordinary wear and tear or improper use, vandalism, abuse, misuse, or neglect or any other causes beyond the control of the elevator contractor and this express warranty is in lieu of all other warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose.
 - 3. Any defective condition or workmanship not mutually agreeable as satisfactory to building owner and elevator contractor shall be determined by the independent elevator consultant as final for the replacement, repair or continued use or product or part in question.
- B. Maintenance service consisting of a minimum of weekly examinations, adjustments and lubrication of the escalator equipment shall be provided by the elevator contractor for a period of twelve (12) months after the escalators have been turned over for the customer's use at no charge to the building owner.
 - 1. This service shall not be subcontracted, but shall be performed by the elevator contractor.
 - 2. All work shall be performed by competent employees during normal working hours between 8:00AM to 5:00PM Monday through Friday and shall include emergency 24/7 callback service.
 - 3. All inspections and performance of periodic safety tests for witnessing by Miami-Dade County Office of Elevator Inspectors shall be included at no charge.
 - 4. This service shall not cover adjustments, repairs or replacement of parts due to negligence, misuse, abuse or accidents caused by persons other than the elevator contractor.
 - 5. Only genuine parts and supplies as used in the manufacture and installation of the original equipment shall be provided.

- a. Obsolescence shall not be allowed.
- 6. Warranty maintenance service shall start upon completion of each escalator group or facility.
 - a. Warranty service starting date shall be after completion of punch-out lists and close-out documents as agreed with building management, consultant and contractor.
- C. If not currently on County maintenance contract services, provide interim monthly maintenance rates for equipment in service during the project prior to and after the installation phase, final acceptance for public utilization and warranty maintenance service.
 - 1. The Contractor shall not invoice for monthly maintenance on equipment taken out of service for modernization or installation.
 - 2. Shall include all annual inspections and performance of periodic safety tests for witnessing by Miami-Dade County Office of Elevator Safety Tests during interim maintenance period.
 - 3. Unless identified in prior pre-maintenance survey and accepted in the agreement, obsolesce shall not be allowed.
 - 4. Include wiring diagrams for existing equipment.
 - 5. Provide billable labor rates for helpers, mechanics and adjusters inclusive of standby services, minor and major repairs for other than normal working hours weekdays and Saturdays and Sundays and Holidays (overtime).
 - 6. Include material cost and externally purchased subcontracted services mark-up not greater than 20% not covered in the warranty.
 - 7. When building management requests the contractor to perform repairs or services including inspections and testing covered in the warranty during other than normal working hours, the contractor shall invoice the facility the difference between the overtime labor rate and the normal working hourly rate.

2.1 PRODUCTS

A. ACCEPTABLE MANUFACTURER

- 1. Only products and components produced or provided by manufacturer(s) regularly engaged in the manufacture of elevator products, and that complies with ASME A17.1 Safety Code for Elevators and Escalators, ASME A17.2, Florida Statutes, Chapter 399, Florida Administrative Code 61C-5, all applicable sections of the Florida Building Code in its entirety, and additional requirements specified herein are acceptable.
- 2. Basis-of-Design Product: Schindler Elevator 9700T Escalator, or approved equals.
- 3. Acceptable Manufacturers
 - a. Schindler Elevator
 - b. Kone

- c. Otis Elevator
 - d. ThyssenKrupp
 - 4. Only Bidders deemed qualified shall be notified by Request for Quotation.
- B. MATERIALS, GENERAL
- 1. Colors, patterns, and finishes: As selected by the Project Name from manufacturer's full range of standard colors, patterns, and finishes.
 - a. Steel:
 - 1) Shapes and bars: ASTM A 36
 - 2) Sheet: ASTM A 366, cold-rolled steel sheet, commercial quality, Class 1, matte finish, stretcher leveled.
 - 3) Finish: Factory-applied baked or powder coated enamel.
 - b. Stainless Steel:
 - 1) Shapes and bars: ASTM A 276, Type 300 (18-8)
 - 2) Tubing: ASTM A 269, Type 300 (18-8)
- C. TRUSS: The Contractor may elect to retain the existing truss and end supports. The truss and end supports shall be inspected by a Structural Engineer registered in the State of Florida and a signed, sealed and dated copy of the inspection report shall be submitted to the Owner for project files. The Contractor shall be responsible for structurally re-certifying the truss and end supports for the proposed loads and provide new components as required.
- 1. Upper and Lower End
 - a. Remove of track and support brackets
 - b. Remove access cover support plates
 - c. Remove selected truss cross members
 - d. Remove handrail support return brackets
 - 2. Incline
 - a. Remove top and return track
 - b. Remove handrail return brackets
 - c. Modify truss cross members.
 - 3. Clean down the existing truss
 - a. Remove all remnants of oil, grease, lint, dirt and debris from the unit
 - b. Apply a protective coating of paint
 - 4. Inspect & evaluate existing welds, rivets and overall structure
 - a. Verification by a licensed structural engineer.

5. Truss shall be treated to prevent corrosion in the applicable environment.
- D. Isolation Mounting: Retain and/or recondition
- E. Upper, Lower, and Incline Modules: Upper, lower, and incline modules shall be designed, fabricated and installed into the existing truss by welding.
1. Upper end module or pit shall include the drive machine, track sub-assemblies, and truss interface components.
 - a. Track sub-assemblies shall be welded steel plate construction.
 - b. The following components shall be directly mounted to the upper end module.
 - 1) Top and return curve track
 - 2) Step guidance system
 - 3) Handrail guidance system
 - 4) Skirts and support brackets
 - 5) Access cover and comb plate support angles
 - 6) Safety devices and associated mounting brackets, including skirt switches, missing step detector, step out of level detector, and handrail speed sensors
 - c. Drive Machine: The driving machine shall be vertical worm gear type designed for escalator service.
 - 1) The worm shall be of high-grade steel integral with worm shaft and provided with a ball bearing thrust unit designed to absorb thrust of worm in both directions.
 - 2) Brake shall be permanent magnetic closed loop type or solenoid released band brake and designed to be automatically applied in the event of a power failure or actuation of any one of the safety devices.
 - a) Brake shall be designed to bring the escalator to a smooth gradual stop with load up to rated load.
 - 3) The drive unit to consists of an electric motor, a gearbox, a resilient coupling, the flywheel, the service brake, the main shaft, a safety brake and the main drive chain.
 - a) The entire drive (motor, gearbox, coupling, flywheel, service brake) is mounted on a common base plate and can be shifted longitudinally by turning the tensioning screw.
 - d. Motor: The escalator(s) shall be equipped with a motor designed for escalator service.
 - 1) The motor shall be of TEFC design, ball bearing type.
 - 2) Driving motor and motor switchgear shall be designed to provide a smooth start, which shall prevent undue strain on drive components.

- 3) The motor shall be of sufficient size to operate the escalator at a minimum of Code-rated load, ascending without exceeding the rated horsepower.
 - 4) The motor is suitable for inverter duty.
 - 5) Three sets of thermistors the wiring being terminated in the motor terminal box.
 - 6) The motor shaft to have a special non-drive end (NDE) extension with a square end, and a modified motor cowl.
 - 7) The square end is to allow for manual rotation of the drive unit via a hand-winding ratchet, supplied loose with the drive unit package.
 - 8) The motor is equipped with a vibration sensor.
- e. Brake:
- 1) Brake shall be a closed loop type or solenoid released band brake and designed to be automatically applied in the event of a power failure or actuation of any one of the safety devices.
 - 2) Brake shall be designed to bring the escalator to a smooth gradual stop with load up to rated load.
 - a) The brake shall not cause the escalator to come to an abrupt stop.
 - b) Shall be designed to meet ASME A17.1-2013 Code deceleration requirements without adjustment.
 - 3) The safety brake (disk brake) is to be mounted on the right end of the main shaft and, to be activated during downward travel.
 - a) Shall be installed together with the drive chain contact.
- f. Upper Reversing Station: The Upper Reversing Station and drive shall include a precision-machined step chain sprocket mounted on the machine output shaft and rotating on bearings.
- 1) A water level monitor device is required below the truss in the tension station. When water rises to the tip of the ultrasonic sensor between the forks, the water level monitor activates an alarm.
2. Lower end module shall include the reversing station, track sub-assemblies, and truss interface components.
- a. Track sub-assemblies shall be welded steel plate construction.
 - b. The following components shall be directly mounted to the lower end module or pit
 - 1) Top and return curve track
 - 2) Step guidance system
 - 3) Handrail guidance system

- 4) Skirts and support brackets
- 5) Access cover and comb plate support angles
- 6) Safety devices and associated mounting brackets, including skirt switches, missing step detector, step out of level detector, and step up thrust device.
- c. Lower Reversing Station: Shall consist of a machined floating track system designed to maintain proper tension on the step chain.
 - 1) Shall be designed to maintain uniform chain tension and shall detect movement of the carriage through the activation of a safety switch.
3. Incline Modules: Modular multi-purpose stanchion assemblies shall be installed on the incline of the existing truss.
 - a. Incline support stanchions shall be fabricated of steel and mounted to the existing truss.
 - b. Shall be designed to support all incline track sections and handrail guide components as part of the complete step band.
 - c. Stanchions shall be pre-assembled and fixtured to set track spacing, as well as step and handrail guidance components.
4. All equipment shall be treated to prevent corrosion in the applicable environment.

F. Step Band

1. Step Guidance: Step guidance system shall be provided to control the movement of the steps both horizontally and vertically.
 - a. Each step shall be provided with horizontal guide pads, which shall guide the steps throughout their travel, in combination with a continuous guide profile installed in the area of the escalators open to passengers.
 - 1) A17.1-2013 Code Step/Skirt Performance Index requirements shall be met without the need for skirt deflector brushes.
2. Step Chain: Shall consist of consecutively running steps powered and spaced with a chain designed for long life and quiet operation.
 - a. Step chain shall properly mesh with the main drive sprockets and lower reversing station castings.
 - b. Chain shall be an engineering class roller chain, manufactured
 - c. Step chains shall be provided with an automatic lubrication system.
3. Steps: Shall be formed from one-piece die cast aluminum with closely spaced tread and riser cleats.
 - a. Step rollers shall rotate on sealed ball bearings.
 - b. Step shall be connected to the chain by a pin and bushing.

- c. Vertical curved step risers shall be furnished with vertical cleats arranged to pass between the cleats of the tread on the adjacent step to form an inter-meshing unit with minimum clearances.
- d. Step color shall be silver powder coated.
- e. The number of level steps at each end of the escalator shall be two, wherever possible.
- f. Step demarcation inserts shall be provided on the sides and rear of each step.
 - 1) Inserts shall be fabricated from reinforced structural plastic, shall be easily replaced and shall be approximately 1.5 inches (38mm) wide at the sides and approximately 1.5 inches (38 mm) wide at the rear.
 - 2) Inserts shall be attached to the step without the use of visible fasteners.
 - 3) The color of the demarcation inserts shall be yellow per ASME A17.1-2013.
- 4. Tracks: Shall be designed and fabricated to support and retain the steps and running gear at the rated load and at the highest speed specified.
 - a. Shall be assembled and secured together for easy removal and replacement of sections.
 - b. Shall be properly supported on stanchions to provide correct alignment and smooth transition to return stations.
 - 1) Rolling surface of the incline track shall be a minimum thickness of 2.5 mm.
 - 2) Transition track shall be a minimum thickness of 10mm.
 - 3) Guiding surface of the wheels shall be galvanized steel profiles with smooth and even running surfaces.
 - 4) Joints shall be cut diagonally to the running direction.
 - 5) A second, continuous step guiding profile shall be provided above the step chain rollers.
- 5. All equipment shall be treated to prevent corrosion in the applicable environment.

G. Comb plates and Access Covers

- 1. Comb Plates: Adjustable comb plates shall be located at the top and bottom landings.
 - a. Comb plates shall support injection molded, reinforced structural aluminum or plastic comb segments which shall be designed to be removable and to mesh with the cleats on the step treads.
 - b. Skid resistant comb plates shall be designed to sense both horizontal and vertical movement of the comb segments.
 - c. Comb segments shall be yellow.
- 2. Access Covers: Lightweight aluminum access covers shall be provided.

- a. Design of these skid resistant access covers shall allow for ease of maintenance.
- b. Covers shall be provided at both upper and lower landings and match the pattern of the new comb plates.

H. Decks/Balustrades/Front plates/Skirts/Interior Trim

1. Decks: Escalator decks shall be constructed such that there shall be an inner deck and an outer deck.
 - a. Inner and outer decks shall be solid deck construction.
 - b. Inner and outer decks shall be fabricated from heavy gauge metal.
 - 1) Deck panels shall be installed without overlapping joints or requiring trim pieces to cover where two deck panels meet.
 - 2) Inner and outer decks shall be finished in stainless steel #4 satin finish 14-gauge material.
2. Fall protection shall be provided outside exterior low decks for open sides greater than 30 inches above the finished floor or ground floor.
 - a. Provide guard rails 42 inches above the along escalator step tread slope of step nose the entire length of escalator.
 - b. Constructed of welded Stainless Steel tubing.
 - 1) No exposed anchors or screws.
 - 2) Mounted a minimum of four (4) inches from handrail, no more than six (6) inches from handrail.
 - c. Shall be engineered and stamped for structural integrity and approved by elevator consultant.
3. Newel Ends: Upper and lower newel ends shall be designed to allow the return of the handrail without undue stress.
 - a. Newel ends shall support the handrail around the newel through the use of a multi-roller bearing system to minimize drag and maximize handrail life.
4. Solid Balustrades: Solid Balustrades shall be provided between the escalator skirts and the handrails.
 - a. Panels shall provide a finished surface for the escalator interior.
 - b. Balustrade panels shall be installed without overlapping joints or requiring trim pieces to cover where two panels meet.
 - c. Balustrade shall be fabricated of sheet metal or sandwich design with stainless steel #4 finish.
5. Provide integral traffic and safety lighting along both internal sides of balustrades.
 - a. Shall provide a minimum of 20 ft-c from landing to landing measured at step tread and landing plates.

- b. If integral lighting does not provide 20 ft-c, provide overhead lighting.
- 6. Front plates: shall be provided at upper and lower ends designed to include the handrail inlet device and key actuated direction-starting switch.
- 7. Control Station: Both the upper and lower landings, located near the handrail inlet.
 - a. Stations shall be provided which shall include a key actuated direction starting switch.
 - 1) Escalator will not restart automatically.
 - 2) Keyed station shall be restarted with the key after shut down.
- 8. Skirts: Skirts shall be constructed from a heavy gauge material reinforced with steel channels.
 - a. Skirts shall be fastened to the truss modules with hidden fastenings in the incline and transition areas.
 - b. Skirt panels shall be installed without overlapping joints or requiring trim pieces to cover where two skirt panels meet.
 - c. Skirt panels shall be finished in Black Teflon coated 11 gauge cold rolled steel.
- 9. All equipment shall be treated to prevent corrosion in the applicable environment.
- I. Handrails: Provide new escalator handrails, properly constructed and reinforced.
 - 1. Handrails shall be endless with a smoothly vulcanized splice and shall operate with the moving steps.
 - 2. U grove handrails shall move on specially formed guides and traction sheaves.
 - a. Sheaves shall be an integral part of the drive machine.
 - 3. Close fitting guards shall be provided by the handrail openings in the newel base.
 - 4. Handrail color shall be black.
 - 5. Provide handrail constructed to withstand handrail sanitation through LED UV-C modules.
 - 6. All equipment shall be treated to prevent corrosion in the applicable environment.
- J. Handrail Sanitation: Provide LED UV-C handrail sanitation modules as manufactured by EHC Global, or approved equal.
 - 1. Modules shall be installed internally to prevent pinch-points and passenger entrapments on brackets supplied by the elevator contractor.
 - 2. Modules shall be engineered to supply sufficient quantity and location of modules on each handrail to properly sanitize the handrails in consideration of the length escalator run.
 - 3. Provide internal enclosure for power source and circuit board hard wired per manufacturer's recommendations and NEC code requirements.

4. Provide safety signage for sanitation equipment approved by the project consultant and facility management.

K. Controls and Wiring

1. Controller: The controller shall be of a heavy-duty variable frequency drive microprocessor type.
 - a. (VFD/GFU) The controller shall monitor the condition of each safety device, brake, and motor operation, and shall cause the escalator to come to a stop upon activation of any safety device, brake problem, or motor overload.
 - b. In the event of a power failure occur, the controller shall automatically remove power from the motor, and brake, and bring the escalator to a controlled stop.
 - 1) Controller shall include phase and overload protection.
2. Wiring: Pre-assembled wiring harness shall be installed, complete with modular assemblies for the upper end, incline section, and lower end of the truss.
 - a. Upper and lower end assemblies shall be constant and consistent from unit to unit.
 - b. Incline assembly shall be variable by length only.

L. Safety Devices:

1. Reversal Stop Device: Escalators shall be provided with a reversal stop device or function that is controller sensitive to stop the escalator automatically should the escalator attempt to reverse its direction while operating in the ascending direction.
2. Broken Step Chain Device: Broken step chain device, a part of the lower reversing station assembly, shall be provided for each chain.
 - a. When activated, the escalator shall come to a controlled stop.
3. Step Up thrust Device: Step up thrust device shall be located on each side of the lower curve track on the lower end of each escalator.
 - a. Escalator shall come to a controlled stop should a step be displaced against the up-thrust track.
4. Comb-Step Impact Device: Comb-step impact device shall be provided at the upper and lower comb plates.
 - a. Escalator shall come to a controlled stop should an impact occur between the comb segments and steps.
5. Skirt Obstruction Device: Skirt obstruction devices shall be provided, at both upper and lower ends, within the skirt panels.
 - a. Escalator shall come to a controlled stop should an obstruction occur between the step and skirt panel.
 - b. Switches shall be of the plunger, self-resetting type, adjustable to maintain the required position and clearance from the skirts.

6. Missing Step Device: Missing step devices shall be provided.
 - a. Missing step devices are designed to detect a missing step or steps at the upper and lower ends of the escalator.
 - b. When activated, escalator shall come to a controlled stop.
7. Step Demarcation Lights: Step demarcation lights shall be furnished at the top and bottom of each escalator.
 - a. Devices shall consist of a light fixture installed just below the track system where the step leaves or enters the comb plate.
 - b. Fixture shall be furnished with two independent green fluorescent lamps and shall be capable of lighting the entire width of the step.
 - c. Light shall be visible between the steps and the step and comb segment.
 - d. Light shall provide a reference point for entering or exiting the escalator.
8. Handrail Entry Device: Handrail entry device shall be provided at the handrail inlet in the newel.
 - a. Escalator shall come to a controlled stop should an object enter the handrail inlet area.
9. Handrail Speed Monitoring Device: Magnetic sensor shall be provided to sound the alarm when the handrail deviates from the step speed by 15% or more.
 - a. If the deviation lasts for more than 2-6 seconds, the escalator shall come to a controlled stop.
10. Emergency Stop Buttons: Emergency stop buttons shall be provided, designed so that the momentary pressure of either button shall cut off the electrical power supply to the motor and bring the escalator to rest.
 - a. One emergency stop button shall be located at each landing.
 - b. Location shall be in the existing newel upper radius quadrant, 45 degrees above horizontal, in order to provide easy access.
 - 1) Stop button shall be red in color.
 - c. Button shall be housed under a clear, high impact resistant plastic cover.
 - 1) Cover shall be self-closing.
 - 2) Instructions for operating the stop button shall be imprinted on the cover in half-inch high letters.
 - 3) When the cover is lifted, an audible alarm shall sound until the cover is returned to its closed position.
11. Safety Signs: A pictorial sign meeting the requirements of the ASME A17.1 Code shall be provided at both the upper and lower landings.
 - a. Safety signs will be provided in English.

12. Stop Switch in Machinery Spaces: Each escalator shall be provided with stop switches in the upper and lower pits.
 - a. When activated, the escalator shall come to a controlled stop.
13. Step Level Devices: Step level devices shall be provided at the upper and lower ends of the escalator to detect downward displacement of the step prior to it reaching the comb plates.
 - a. When activated, the escalator shall come to a controlled stop.
14. Step Guards: Escalators in this specification are required to have step guards.
 - a. Step guards shall be provided in the upper and lower pit.
 - b. Step guard shall protect a mechanic from the step band.
15. All equipment shall be treated to prevent corrosion in the applicable environment.

3.1 EXECUTION

A. Examination:

1. Coordinate all site conditions with General Contractor and other building trades.
2. Inspect truss, pits and machine room, as constructed.
3. Verify all critical dimensions, and examine supporting structures and all other conditions under which escalator work is to be installed.
4. Do not proceed with escalator installation until unsatisfactory conditions have been corrected in a manner acceptable to the installer.
5. Commencement of installation constitutes acceptance of existing conditions and responsibility for satisfactory performance.
6. Elevator contractor shall coordinate crane services for placement of the equipment with General Contractor.

B. Elevator contractor shall be responsible for screening and protection of truss openings and protection between escalators.

C. Signage:

1. The designated project manager and the owner's representative will approve all signage in order to maintain consistent appearance for entire escalator installation.
2. All signage as required by Florida Building Code, ASME A17.1, NFPA 70 National Electrical Code and NFPA 72 Fire Alarm Code to be posted in escalator lobbies, fire alarm panels, disconnects, machine rooms and machine room doors.

D. Installation:

1. Install escalator systems components and coordinate repairs of truss construction.

2. Competent licensed elevator installation personnel in accordance with Florida Statute 399 and ASME A17.1 manufacturer's installation instructions and approved shop drawings shall perform work.
3. Comply with the National Electrical Code for electrical work required during installation.
4. Perform work with competent, skilled workmen under the direct control and supervision of the elevator manufacturer's experienced foreman.
5. Supply in ample time for installation by other trades, inserts, anchors, bearing plates, brackets, supports, and bracing including all setting templates and diagrams for placement.
6. Welded construction: Provide welded connections for installation of escalator work where bolted connections are not required for subsequent removal or for normal operation, adjustment, inspection, maintenance, and replacement of worn Parts.
 - a. Comply with AWS B2.1 Standard Welding Procedure and Performance Qualification.
7. Coordination: Coordinate escalator work with the work of other trades, for proper time and sequence to avoid construction delays.
 - a. Use benchmarks, lines, and levels designated by the Contractor, to ensure dimensional coordination of the work.
8. Install machinery, guides, controls, and all equipment and accessories to provide a quiet, smoothly operating installation, free from side sway, oscillation or vibration.
9. Sound isolation: Mount rotating and vibrating escalator equipment and components on vibration-absorption mounts, designed to effectively prevent the transmission of vibrations to the structure, and eliminate sources of structure-borne noise from the escalator system.
10. Lubricate operating parts of system as recommended by the manufacturer.
11. Elevator contractor shall be required to install all data plates as required by ASME A17.1 on complete escalator system including alteration and original equipment.
 - a. All data plates shall be manufactured and printed with proper data for each escalator by CodeDataPlate.com or approved equal.

E. Field Quality Control:

1. Acceptance testing: Upon completion of the escalator modernization and before permitting use of escalator, perform acceptance tests as required by the State of Florida and recommended by Code and governing regulations or agencies.
 - a. Perform other tests, if any, as required by governing regulations or agencies.
2. Advise Owner, Elevator Consultant, and governing authorities in advance as required of dates and times tests are to be performed on the elevator.

F. Adjusting:

1. Make necessary adjustments of operating devices and equipment to ensure escalator operates smoothly and accurately.
2. The elevator contractor shall be required to perform and pass all required testing of all equipment as per ASME A17.1 and ASME A17.2.
3. Elevator contractor is to return at 30 days, 90 days and 180 days after final installation to examine and readjust equipment as may be required for optimum performance.

G. Cleaning:

1. Before final acceptance, remove protection from finished surfaces and clean and polish surfaces in accordance with manufacturer's recommendations for type of material and finish provided.
2. For duration and/or completion of escalator work, remove tools, equipment, and surplus materials from site daily.
3. Clean equipment rooms and trusses.
4. Remove trash and debris daily from premises.

H. Protection:

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

I. Demonstration:

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

J. Elevator Consultant's Punch-out List Items:

1. Complete all of the consultant's punch-out list items as may be required.
2. The elevator consultant shall provide a review and written punch list of deficiencies.
3. The elevator consultant shall verify one time that the items from the punch list are completed after notice by the elevator contractor.

END OF SECTION



Attachment 1 - Modernization Fee Schedule

REQUEST FOR PROPOSAL (RFP) NO.02030 ,MODERNIZATION, MAINTENANCE, AND REPAIR SERVICES FOR CONVEYANCE EQUIPMENT

Item No.	Unit Description/Location	# of units	Total Modernization Fee
1	Geared Electric Traction Passenger Elevator - Civic Center Metrorail Station - Elevator #3 SS#72648	1	\$ 661,755.00
2	Geared Electric Traction Passenger Elevator - Civic Center Metrorail Station - Elevator #4 SS#72649	1	\$ 619,940.00
3	Gearless Electric Traction Passenger Elevator - Government Center Metrorail Station - Elevator #5 SS#72638	1	\$ 938,635.00
4	Gearless Electric Traction Passenger Elevator - Government Center Metrorail Station - Elevator #6 SS#72639	1	\$ 938,635.00
5	Hydraulic Passenger Elevator - Civic Center Metrorail Station - Elevator #1 SS#72646	1	\$ 612,140.00
6	Hydraulic Passenger Elevator - Civic Center Metrorail Station - Elevator #2 SS#72647	1	\$ 582,545.00
7	Hydraulic Passenger Elevator - Dadeland North Metrorail Station - SS#72631	1	\$ 683,935.00
8	Hydraulic Passenger Elevator - Government Center Metrorail Station - Elevator #3 SS#72640	1	\$ 724,931.00
9	Hydraulic Passenger Elevator - Tri-Rail Metrorail Station - Elevator #1 SS#72565	1	\$ 773,021.00
10	Hydraulic Passenger Elevator - Tri-Rail Metrorail Station - Elevator #2 SS#72560	1	\$ 840,760.00
11	Escalator - Civic Center Metrorail Station - Escalator #1 SS#72598	1	\$ 722,263.00
12	Escalator - Civic Center Metrorail Station - Escalator #2 SS#72599	1	\$ 633,751.00
13	Escalator - Civic Center Metrorail Station - Escalator #3 SS#72600	1	\$ 647,021.00
14	Escalator - Civic Center Metrorail Station - Escalator #4 SS#72601	1	\$ 674,094.00
15	Escalator - Dadeland North Metrorail Station - Escalator #1 SS#72573	1	\$ 783,424.00
16	Escalator - Dadeland North Metrorail Station - Escalator #2 SS#72574	1	\$ 707,634.00
17	Escalator - Dadeland South Metrorail Station - Escalator #1 SS#72576	1	\$ 787,446.00
18	Escalator - Dadeland South Metrorail Station - Escalator #3 SS#72730	1	\$ 726,533.00
19	Escalator - Government Center Metrorail Station - Escalator #13 SS#72590	1	\$ 652,733.00
20	Escalator - Government Center Metrorail Station - Escalator #14 SS#72591	1	\$ 717,338.00
21	Escalator - Government Center Metrorail Station - Escalator #5 SS#72612	1	\$ 689,529.00
22	Escalator - Government Center Metrorail Station - Escalator #6 SS#72613	1	\$ 689,530.00
23	Escalator - Government Center Metrorail Station - Escalator #7 SS#72614	1	\$ 727,949.00
24	Escalator - Government Center Metrorail Station - Escalator #8 SS#72615	1	\$ 684,313.00
25	Escalator - Tri-Rail Metrorail Station - Escalator #1 SS#72562	1	\$ 673,332.00
26	Escalator - Tri-Rail Metrorail Station - Escalator #2 SS#72563 MDC397	1	\$ 708,737.00

Miami-Dade County

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27	Escalator - Tri-Rail Metrorail Station - Escalator #3 SS#72564	1	\$ 689,900.00
	Total Number of Elevators/Escalators:	27	\$ 19,291,824.00

Miami-Dade County

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Attachment 2 - Monthly Fee Schedule

REQUEST FOR PROPOSAL (RFP) NO.02030 ,MODERNIZATION, MAINTENANCE, AND REPAIR SERVICES FOR CONVEYANCE EQUIPMENT

Item No.	Unit Description/Location	# of units	Covered Services			Preventative Maintenance Monthly Fees (Per Unit)	Total Monthly Fees
			Covered Repairs Monthly Fee (Per Unit)	Service Calls Monthly Fee (Per Unit)			
1	Geared Electric Traction Passenger Elevator - Civic Center Metrorail Station - Elevator #3 SS#72648	1	\$ 976.79	\$ 150.28	\$	375.69	\$ 1,502.76
2	Geared Electric Traction Passenger Elevator - Civic Center Metrorail Station - Elevator #4 SS#72649	1	\$ 976.79	\$ 150.28	\$	375.69	\$ 1,502.76
3	Gearless Electric Traction Passenger Elevator - Government Center Metrorail Station - Elevator #5 SS#72638	1	\$ 976.79	\$ 150.28	\$	375.69	\$ 1,502.76
4	Gearless Electric Traction Passenger Elevator - Government Center Metrorail Station - Elevator #6 SS#72639	1	\$ 976.79	\$ 150.28	\$	375.69	\$ 1,502.76
5	Hydraulic Passenger Elevator - Civic Center Metrorail Station - Elevator #1 SS#72646	1	\$ 404.50	\$ 62.23	\$	155.58	\$ 622.31
6	Hydraulic Passenger Elevator - Civic Center Metrorail Station - Elevator #2 SS#72647	1	\$ 404.50	\$ 62.23	\$	155.58	\$ 622.31
7	Hydraulic Passenger Elevator - Dadeland North Metrorail Station - SS#72631	1	\$ 404.50	\$ 62.23	\$	155.58	\$ 622.31
8	Hydraulic Passenger Elevator - Government Center Metrorail Station - Elevator #3 SS#72640	1	\$ 404.50	\$ 62.23	\$	155.58	\$ 622.31
9	Hydraulic Passenger Elevator - Tri-Rail Metrorail Station - Elevator #1 SS#72565	1	\$ 404.50	\$ 62.23	\$	155.58	\$ 622.31
10	Hydraulic Passenger Elevator - Tri-Rail Metrorail Station - Elevator #2 SS#72560	1	\$ 404.50	\$ 62.23	\$	155.58	\$ 622.31
11	Escalator - Civic Center Metrorail Station - Escalator #1 SS#72598	1	\$ 1,394.01	\$ 214.46	\$	536.16	\$ 2,144.63
12	Escalator - Civic Center Metrorail Station - Escalator #2 SS#72599	1	\$ 1,394.01	\$ 214.46	\$	536.16	\$ 2,144.63
13	Escalator - Civic Center Metrorail Station - Escalator #3 SS#72600	1	\$ 1,394.01	\$ 214.46	\$	536.16	\$ 2,144.63

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14	Escalator - Civic Center Metrorail Station - Escalator #4 SS#72601	1	\$	1,394.01	\$	214.46	\$	536.16	\$	2,144.63
15	Escalator - Dadeland North Metrorail Station - Escalator #1 SS#72573	1	\$	1,394.01	\$	214.46	\$	536.16	\$	2,144.63
16	Escalator - Dadeland North Metrorail Station - Escalator #2 SS#72574	1	\$	1,394.01	\$	214.46	\$	536.16	\$	2,144.63
17	Escalator - Dadeland South Metrorail Station - Escalator #1 SS#72576	1	\$	1,394.01	\$	214.46	\$	536.16	\$	2,144.63
18	Escalator - Dadeland South Metrorail Station - Escalator #3 SS#72730	1	\$	1,394.01	\$	214.46	\$	536.16	\$	2,144.63
19	Escalator - Government Center Metrorail Station - Escalator #13 SS#72590	1	\$	1,394.01	\$	214.46	\$	536.16	\$	2,144.63
20	Escalator - Government Center Metrorail Station - Escalator #14 SS#72591	1	\$	1,394.01	\$	214.46	\$	536.16	\$	2,144.63
21	Escalator - Government Center Metrorail Station - Escalator #5 SS#72612	1	\$	1,394.01	\$	214.46	\$	536.16	\$	2,144.63
22	Escalator - Government Center Metrorail Station - Escalator #6 SS#72613	1	\$	1,394.01	\$	214.46	\$	536.16	\$	2,144.63
23	Escalator - Government Center Metrorail Station - Escalator #7 SS#72614	1	\$	1,394.01	\$	214.46	\$	536.16	\$	2,144.63
24	Escalator - Government Center Metrorail Station - Escalator #8 SS#72615	1	\$	1,394.01	\$	214.46	\$	536.16	\$	2,144.63
25	Escalator - Tri-Rail Metrorail Station - Escalator #1 SS#72562	1	\$	1,394.01	\$	214.46	\$	536.16	\$	2,144.63
26	Escalator - Tri-Rail Metrorail Station - Escalator #2 SS#72563	1	\$	1,394.01	\$	214.46	\$	536.16	\$	2,144.63
27	Escalator - Tri-Rail Metrorail Station - Escalator #3 SS#72564	1	\$	1,394.01	\$	214.46	\$	536.16	\$	2,144.63
	Total Number of Elevators/Escalators:	27								\$ 46,203.61

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Rates for Additional Services		
Elevator Mechanic's Helper		Hourly Rate
a) During Regular Working Hours		\$179.02
b) During other than regular working hours, and Saturdays.		\$249.11
c) During Sundays and Holidays*		\$319.15
Elevator Mechanic		Hourly Rate
d) During Regular Working Hours		\$255.87
e) During other than regular working hours, and Saturdays.		\$366.27
f) During Sundays and Holidays*		\$422.54
Elevator Foreman/Adjustor		Hourly Rate
g) During Regular Working Hours		\$259.85
h) During other than regular working hours, and Saturdays.		\$411.94
i) During Sundays and Holidays*		\$475.36
Material Rates for Additional Services		(Not to Exceed 20%)
a) Mark-Up Percentage		20%

Covered Service Rate (After Hours)		Hourly Rate
Elevator Mechanic's Helper		Hourly Rate
a) During other than regular working hours, and Saturdays.		\$177.63
b) During Sundays and Holidays*		\$207.88
Elevator Mechanic		Hourly Rate
d) During other than regular working hours, and Saturdays.		\$222.06
e) During Sundays and Holidays*		\$259.84
Elevator Foreman/Adjustor		Hourly Rate
g) During other than regular working hours, and Saturdays.		\$222.06
h) During Sundays and Holidays*		\$259.84

*Holidays are New Years Day, Memorial Day, Labor Day, Independence Day, Veterans Day, Thanksgiving Day, Day After Thanksgiving, and Christmas Day.

MDC401



Attachment 3 - Non-Proprietary Equipment Affidavit

This form is to be submitted prior to the commencement of Modernization work.

The elevator equipment proposed for the project identified below shall be Non-Proprietary. It shall comply with the following provisions and be in compliance with all known standards for universal serviceability and maintainability.

- Replacement parts for equipment must be generally available for purchase by any qualified elevator contracting business.
- Spare Parts must be available to any qualified purchaser at reasonable prices and based on a published price list.
- All equipment or tools necessary for maintenance, adjustment, or troubleshooting shall be available to any qualified elevator contracting business. Such tools shall provide access to all parameters and levels of adjustment that are necessary for the maintenance of the equipment. There shall be no expiring or degrading software that would prohibit proper maintenance.
- Factory and or on-site training for the installation, adjustment, maintenance, and troubleshooting shall be available from the manufacturer to the owner. Any training fees shall be reasonable and appropriate.
- Technical Support should be made available to the owner by the equipment manufacturer. The equipment manufacturer shall provide a toll free phone line available for technical support.
- Documentation in the form of manuals, circuitry diagrams, prints, engineering drawings, testing procedures, and parts lists shall be provided with the equipment at the time of installation. Replacement documentation shall be available to any qualified elevator contracting business and reasonable and normal cost.

Affirmed: Project Name Metrorail Elevator & Escalator Modernization

Company Schindler Elevator Corporation

Company Representative Name Phil Harty

Company Representative Signature 

Attachment 4 - METRORAIL ELEVATOR AND ESCALATOR MODERNIZATION
EQUIPMENT LOCATION PLANS

INDEX OF DRAWINGS:

Page No.	Description
1.	Key Sheet

Equipment Location Plans:

- 2. Dadeland South Station
- 3. Dadeland North Station
- 4. Government Center Station - 1 of 4
- 5. Government Center Station - 2 of 4
- 6. Government Center Station - 3 of 4
- 7. Government Center Station - 4 of 4
- 8. Civic Center Station - 1 of 2
- 9. Civic Center Station - 2 of 2
- 10. Tri-Rail Station - 1 of 2
- 11. Tri-Rail Station - 2 of 2

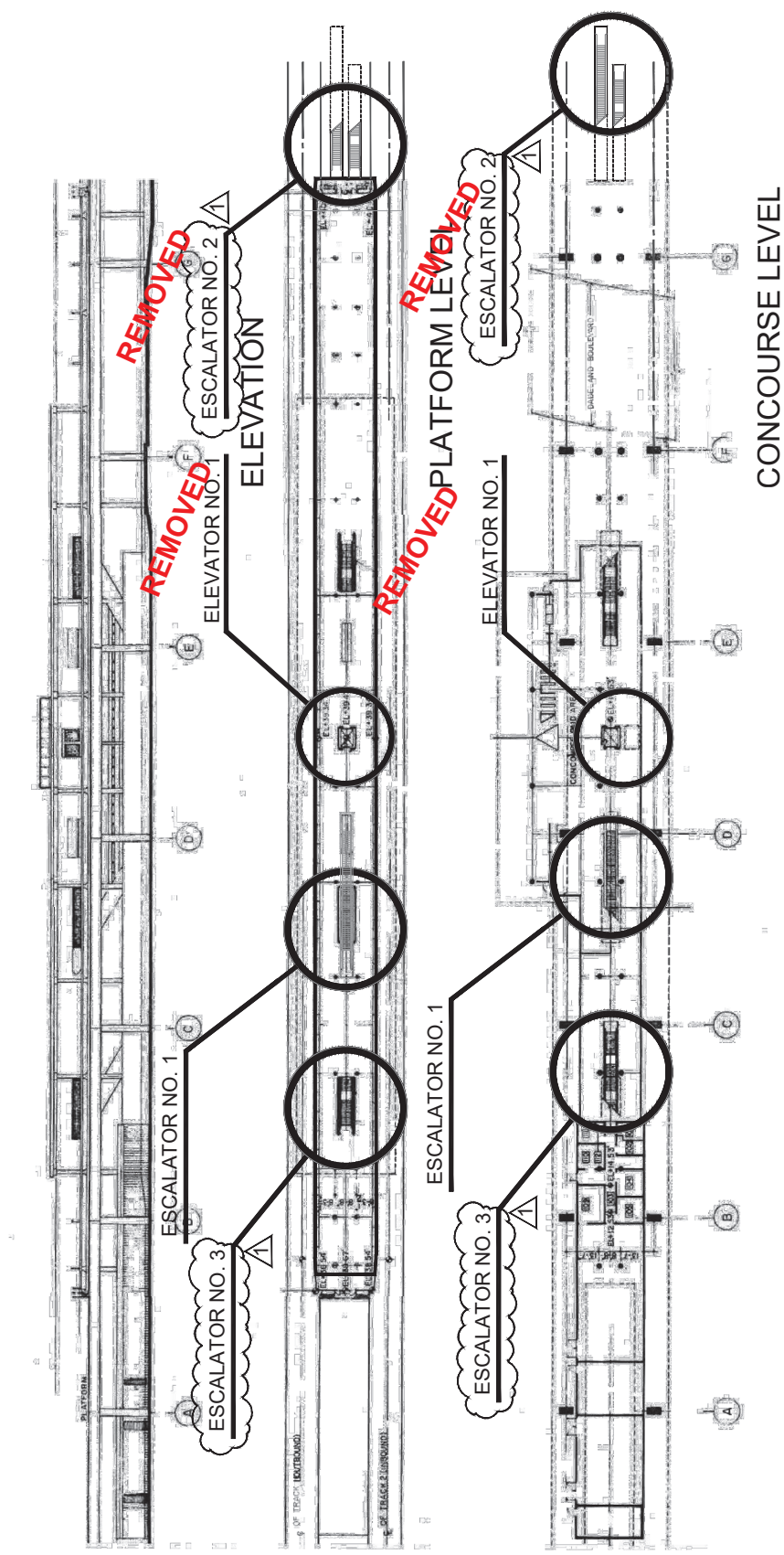
Summary of Revisions
(Please refer to the specific sheet identified for details on the revision included)

Revision #1: Dated 2/10/22 Sheets 2, 8, 9, 10, and 11



STATION KEY MAP

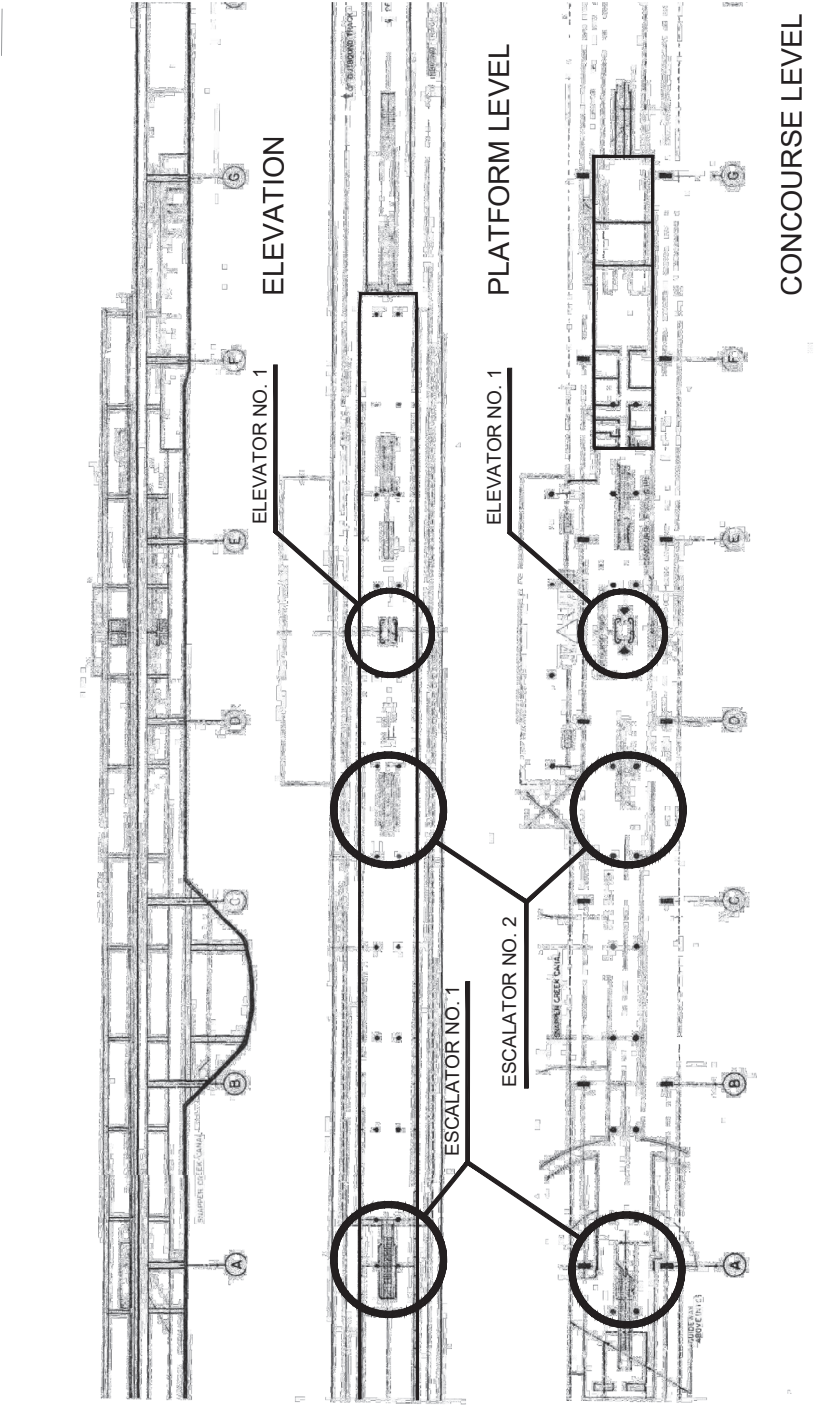
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		Drawn by GS						TYLINT [®] INTERNATIONAL 201 ALHAMBRA CIRCLE SUITE 900 CORAL GABLES FLORIDA 33134			
		Checked by JE						APPROVED		PAGE NO.	
		DRAWING SCALE: NTS						DATE		SHEET NO. 1	
No.	Date	App.	REVISIONS								



DADELAND SOUTH STATION



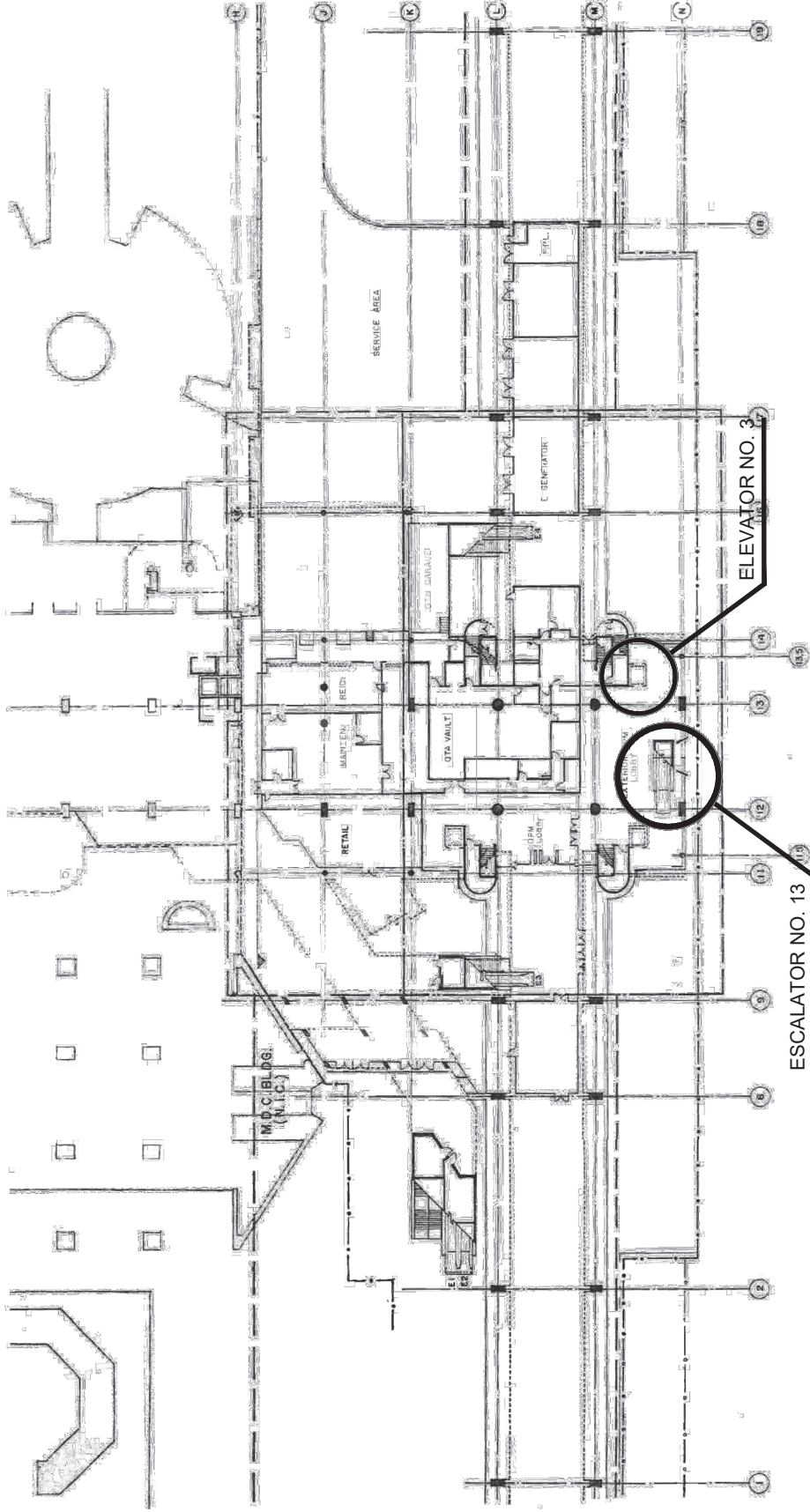
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Checked by JE		PEOPLE'S TRANSPORTATION PLAN		201 ALHAMBRA CIRCLE SUITE 900 CORAL GABLES FLORIDA 33134		SHEET NO. 2	
Drawing scales N.T.S.		APPROVED		DATE		APPROVED	
Corrected Escalator number callouts on the plans		APPROVED		DATE		APPROVED	



DADELAND NORTH STATION



		Designed by GS		 MIAMI-DADE COUNTY TRANSIT DTPW PEOPLE'S TRANSPORTATION PLAN		METRO RAIL ELEVATOR AND ESCALATOR MODERNIZATION		 201 ALHAMBRA CIRCLE SUITE 900 CORAL GABLES FLORIDA 33134		DRAWING TITLE: DADELAND NORTH STATION EQUIPMENT LOCATION PLAN		PAGE NO. 1 OF 1 SHEET NO. 3	
No.	Date	App.	DRAWING SCALE: NTS		APPROVED		DATE	APPROVED	DATE				



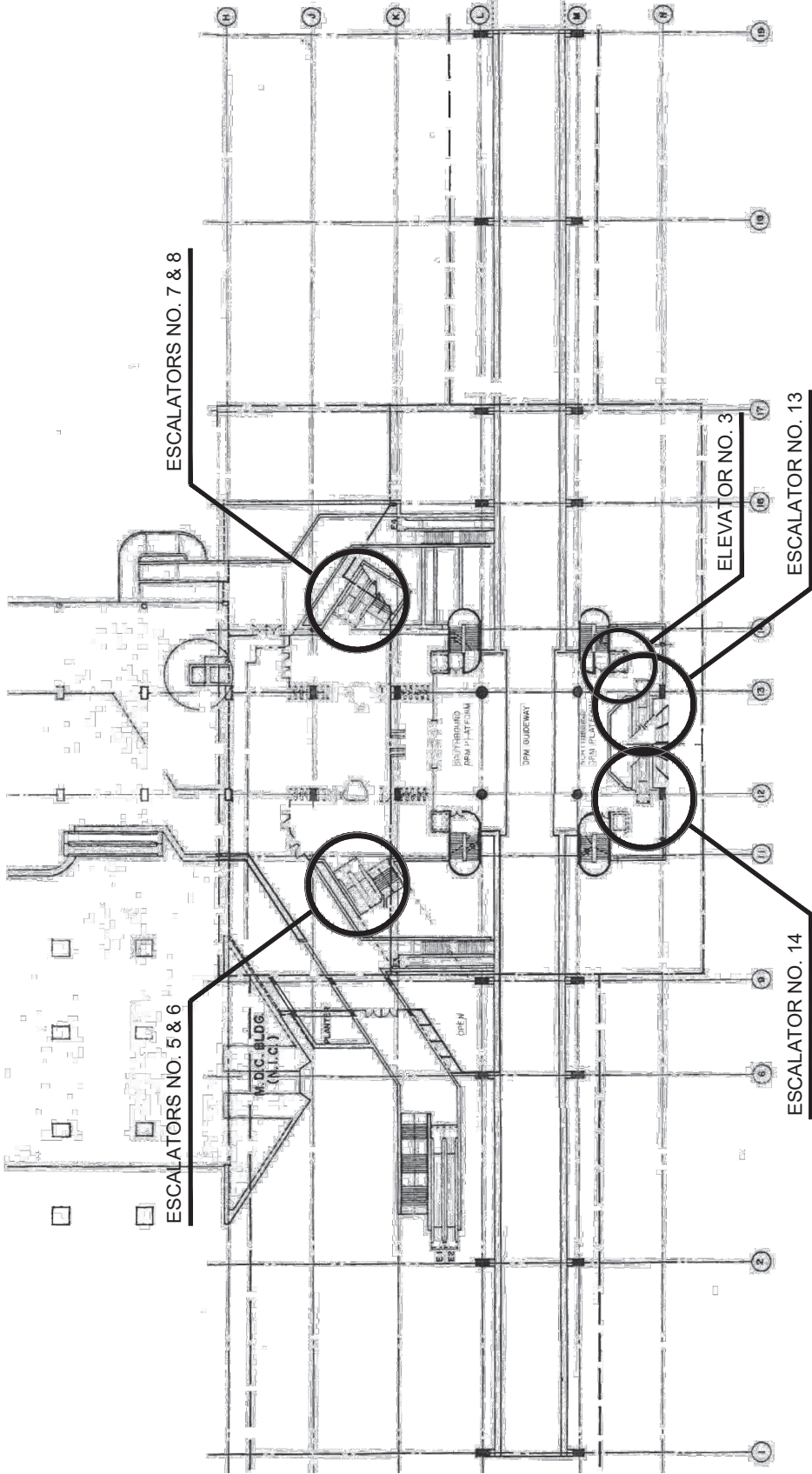
GROUND LEVEL

GOVERNMENT CENTER STATION



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Drawn by GS				MDC				TYLIN INTERNATIONAL				201 ALHAMBRA CIRCLE SUITE 900 CORAL GABLES FLORIDA 33134			
Checked by JE				PEOPLE'S TRANSPORTATION PLAN				APPROVED				APPROVED			
DRAWING SCALE N.T.S.				DATE				DATE				PAGE NO. 1 of 4			
No.				Date				APPROVED				SHEET NO. 4			

MDC406



SECOND LEVEL

GOVERNMENT CENTER STATION

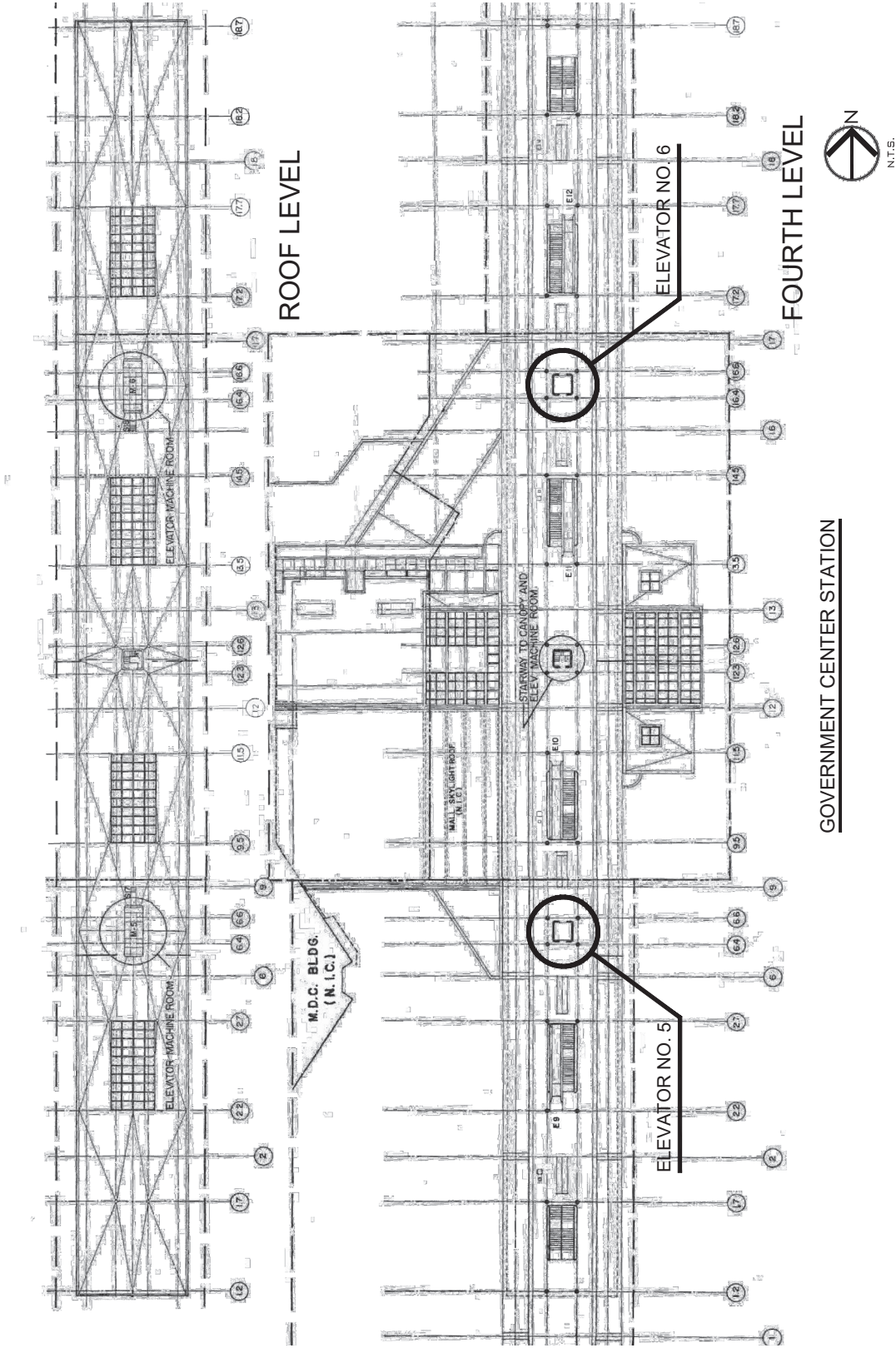


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			Checked by JE			APPROVED		DATE	PAGE NO. 2 of 4	
			DRAWING SCALE			NTS		DATE		
No.	Date	App.	PROJECT							SHEET NO. 5



THIRD LEVEL

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GOVERNMENT CENTER STATION

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MIAMI-DADE
COUNTY
TRANSIT

PEOPLE'S TRANSPORTATION PLAN

DTPW

TYLIN INTERNATIONAL

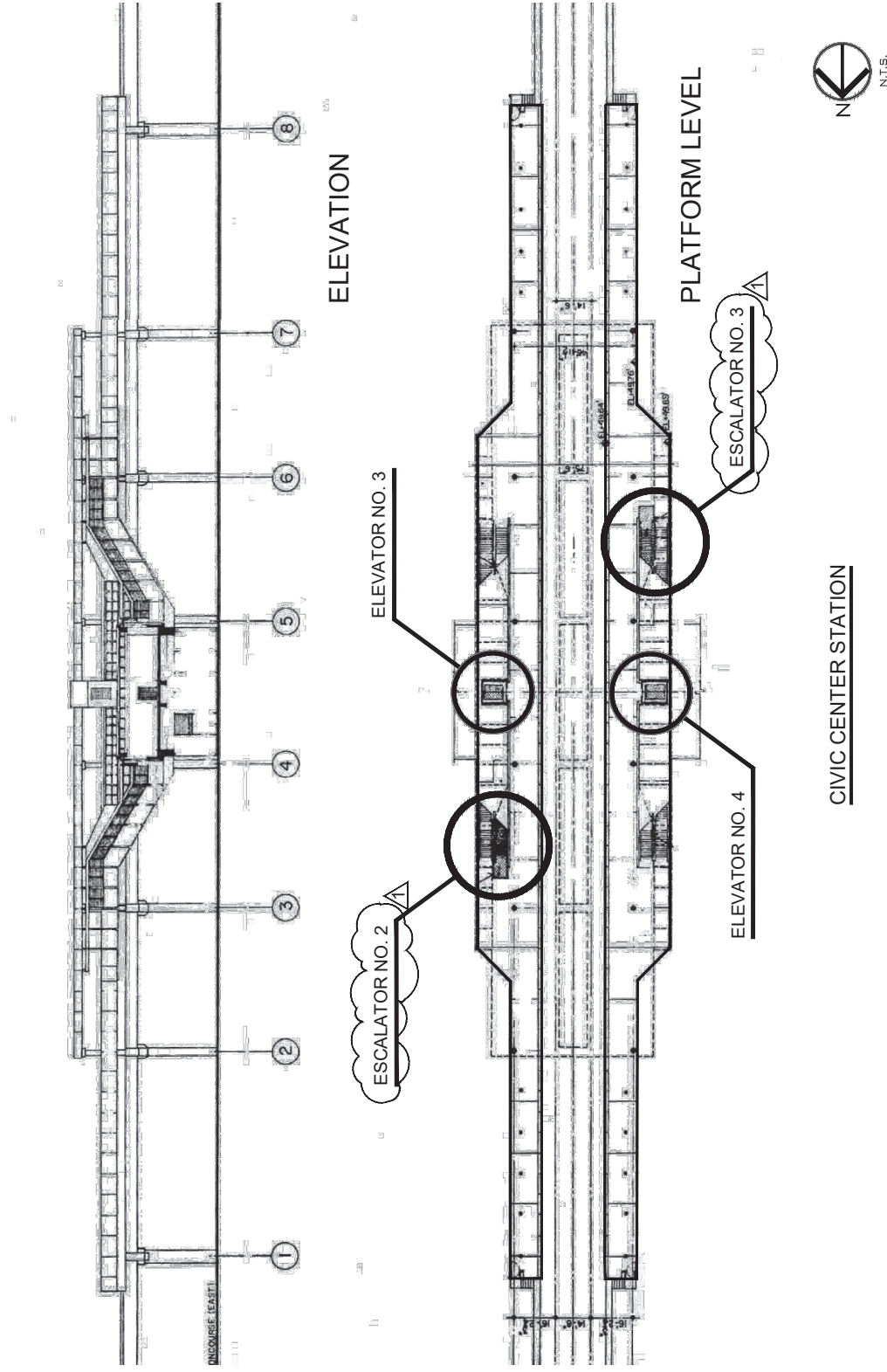
201 ALHAMBRA CIRCLE SUITE 900
CORAL GABLES FLORIDA 33134

METRO RAIL ELEVATOR AND ESCALATOR MODERNIZATION

MDC409

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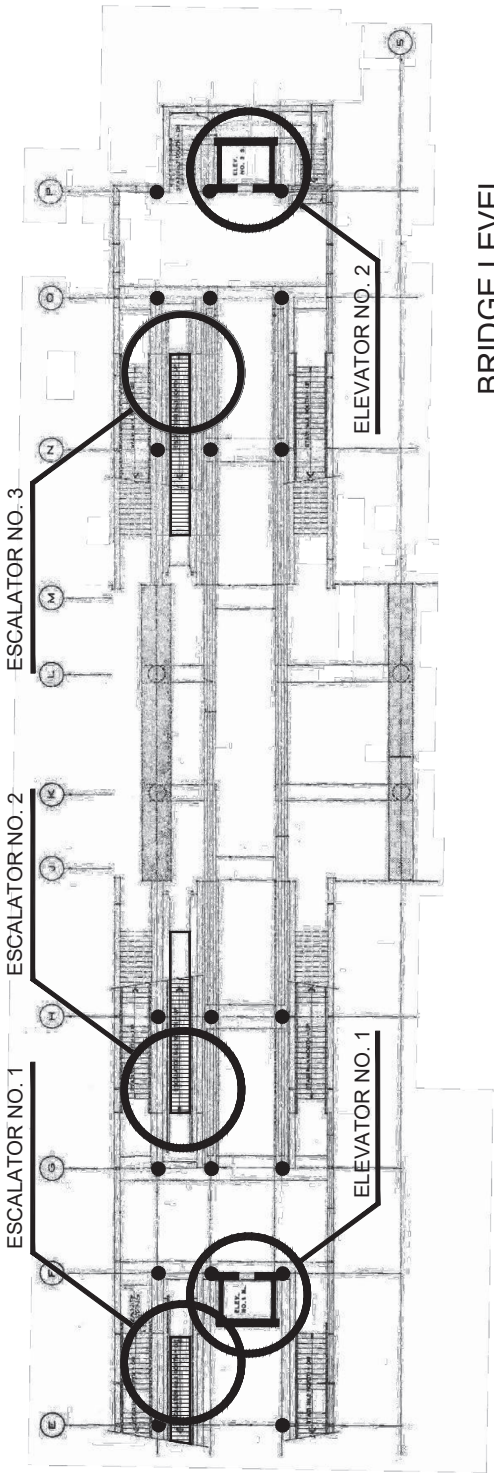
MDC410

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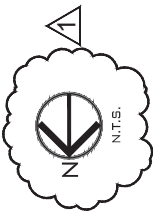
GROUND LEVEL

MDC412



BRIDGE LEVEL

TRI-RAIL STATION



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Connected North Arrow direction		DATE		DATE		DATE	
No.		Date		Date		Date	
Appr.		Appr.		Appr.		Appr.	

ATTACHMENT 5

TABLE OF CONTENTS

MODERNIZATION, MAINTENANCE and REPAIR SERVICES for CONVEYANCE EQUIPMENT

CONSTRUCTION GENERAL REQUIREMENTS – DIVISION 1 and ADDITIONAL PROJECT REQUIREMENTS.

1. GENERAL REQUIREMENTS: The division and section numbers are taken from the “Master Format 2004 Edition Numbers and Titles” published by the Construction Specifications Institute.

DIVISION 1 – GENERAL REQUIREMENTS

<u>SECTION</u>	<u>TITLE</u>
01 11 00	Summary of Work
01 14 13	Site and Work Restrictions
01 26 13	Request for Information (RFI)
01 32 16	Project Schedule
01 32 33	Construction Photographs
01 33 23	Shop Drawings, Product Data and Samples
01 33 30	Working Drawings
01 43 00	Quality Assurance Requirements
01 45 23	Testing Laboratory Services
01 52 00	Temporary Facilities
01 55 26	Maintenance of Traffic and Access
01 56 23	Temporary Barriers
01 57 15	Construction Noise Vibration and Pollution Controls

01 58 13	Project Construction Signs
01 62 00	Substitutions and Product Options
01 71 13	Mobilization
01 73 29	Cutting and Patching
01 74 00	Cleaning
01 78 00	Contract Closeout
01 78 33	Warranties and Bonds
01 78 39	Project Record Documents

ADDITIONAL PROJECT REQUIREMENTS

2. STANDARD CONSTRUCTION GENERAL CONTRACT CONDITIONS AND ATTACHMENTS
(FORMS ARE TO BE COMPLETED BY SELECTED CONTRACTOR DURING CONSTRUCTION)

3. MIAMI-DADE TRANSIT CONSTRUCTION SAFETY MANUAL AND ATTACHMENTS:

[http://transitapps.miamidade.gov/SafetyDocs/library/
Policies_and_Procedures/2012_Construction_Safety_Manual.pdf](http://transitapps.miamidade.gov/SafetyDocs/library/Policies_and_Procedures/2012_Construction_Safety_Manual.pdf)

4. DTPW ADJACENT CONSTRUCTION MANUAL:

[http://transitapps.miamidade.gov/SafetyDocs/library/
Policies_and_Procedures/2017_Adjacent_Construction_Safety_Manual.pdf](http://transitapps.miamidade.gov/SafetyDocs/library/Policies_and_Procedures/2017_Adjacent_Construction_Safety_Manual.pdf)

SECTION 01 11 00

SUMMARY OF WORK

PART 1: GENERAL

1.01 DESCRIPTION

The purpose of the Contract documents comprised of the technical specifications for the replacement/modernization of the existing conveyance equipment at designated Metrorail Stations, is to provide a minimum level of performance that must be achieved by the Contractor. The Contract documents are to be used by the Contractor to develop designs that meet the Project intent. It is the responsibility of the Contractor to expand upon the general framework of the technical specifications to a level of detail and analysis required for acquiring the permits from all Agencies Having Jurisdiction (AHJ) and for the construction of the project.

The Contractor shall perform the proposed work in the following order:

1. Dadeland South Metrorail Station
2. Dadeland North Metrorail Station
3. Government Center Metrorail Station
4. Civic Center Metrorail Station
5. Tri-Rail Metrorail Station

Refer to Attachment 4 for location plans.

The work includes but is not limited to, design, furnishing all supervision, labor, materials, equipment, tools, services and incidentals necessary for the modernization/replacement of the elevators and escalators at the five (5) above mentioned locations. The scope of work includes, but is not limited to Maintenance of Traffic (MOT), permitting, fabrication, supply, installation and construction for the modernization of the elevators and escalators. The elevator/escalator work will be phased, as one of the conveyance equipment at a station has to remain in service during the implementation of the work. The Contractor will not be allowed to work on two (2) adjacent Stations at a time.

The work includes the preparation of final design, obtaining permits from AHJ, procurement, construction, preparation and obtaining approval for the Maintenance of Traffic (MOT) Plan. The MOT plan shall include provisions for safe pedestrian and bicycle traffic and flow as well as vehicular traffic and detours. All pedestrian traffic/flow must comply with the Americans with Disabilities Act (ADA). No work shall encroach into adjoining property owners.

The work is more particularly described in the Division 1 sections and Appendices C through N.

1.02 CONTRACTOR RESPONSIBILITIES

- A. The Contractor shall examine the Contract Documents and the site of the proposed work carefully before submitting the bid and shall investigate the conditions to be encountered, as to the character, quality and quantities of work to be performed and materials to be furnished and as to the requirements of the Contract Documents. The Contractor shall be responsible for identifying and complying with, all Ordinances and Regulations affecting the project as established by Agencies Having Jurisdiction (AHJ).
- B. The Contractor shall be responsible for obtaining necessary licenses and permits for compliance with applicable Federal, State and Local building codes and regulations in connection with the prosecution of the work. Applicable permit fees must be paid by the selected Contractor.
- C. The following is a list of the main items to be provided by the Contractor. This list is intended as a guide only and is not to be all encompassing. Refer to the General Specifications for the Contractor's general work-related requirements and responsibilities.

The Contractor is required to:

- 1. Provide a full code compliant escalator.
- 2. Coordinate scheduled construction activities with the Department of Transportation and Public Works (DTPW) to minimize or eliminate disruptions.

3. Provide signed and sealed structural calculations by a Structural Engineer registered in the State of Florida, as required by code to determine integrity and capability of existing escalator components and structural components to be retained with ASME A 17.1, to withstand the weight of new escalator components.
4. Submit the Maintenance of Traffic (MOT) (including bus, trolley, cars, pedestrian and bicycle) Plan to the Engineer for review and concurrence at least five (5) working days before the start of work at each station.
5. Provide any additional work required either due to code or due to the escalator contractor's specific requirements. In the absence of such a list, it is assumed the Contractor's equipment is compatible with the existing building system and any resulting work or revisions to the building or to the escalators shall be the responsibility of the Contractor.
6. Coordinate and comply with all the requirements set forth by the Miami-Dade County Office of Elevator Safety (MDC OES) during the design and construction of the proposed work (Contact information: Mr. Nicolas Ortiz, Manager, Chief Elevator Inspector, e-mail: Nicolas.Ortiz@miamidade.gov; telephone (305) 375-3912). The Contractor shall be responsible to coordinate with the MDC OES during design and for all permits required to be issued prior to the start of the work.
7. Coordinate the work of the subcontractors and personnel to control the spread of dust, dirt and noise.
8. Maintain surveillance upon adjacent areas of the building and report immediately to the Engineer in writing any deterioration or structural defects noted upon adjacent areas, which could be construed to be caused by the work under this Contract.
9. Verify dimensions of completed work in place

before fabrication and installation of any work to be incorporated where dimensions are required for proper fabrication of any items required under this Contract.

10. Make good and/or replace existing landscaping, roads, parking areas and sidewalks where damaged due to the work of this Contract conforming to the specifications.

1.03 REFERENCE STANDARDS AND DOCUMENTS

All work included in this Contract shall be done in accordance with federal, state and local regulations and requirements. All work included in this Contract shall be done in accordance with the following:

1. The Contract Documents.
2. The Florida Building Code.
3. The Code of Miami-Dade County.
4. The Miami-Dade Transit (MDT) Construction Safety Manual.
5. DTPW Adjacent Construction Manual.
6. The 2008 Edition of the National Electrical Code and National Electrical Safety Code.
7. The Florida Trench Safety Act (Sections 553.60 - 553.64, Florida Statutes) is hereby incorporated by reference and made a part of these Special Provisions. The purpose and intention of the State of Florida "Trench safety Act" is to provide for increased worker safety by requiring compliance with sufficient standards for trench safety and providing additional specific requirements when the excavation is in excess of five (5) feet deep. By executing the Contract, the Contractor certifies that he is fully aware of the Trench Safety Act, and will comply with applicable trench safety standards.
8. Buy American Iron and Steel Procurement Act, Section 2-8.2.6.1 of the Code of Miami-Dade County, Florida.
9. Florida Department of Transportation Standard Specifications for Road and Bridge Construction.

The above referenced Standards are intended to supplement, not supersede the requirements set forth herein and, unless otherwise noted, the latest revision shall apply. Where differences occur between referenced Standards and the Contract Documents, the

more stringent shall apply unless otherwise directed by the Engineer in writing.

1.04 EXISTING PROPERTY

- A. Before commencing the Work, the Contractor shall clearly define the extent of the work and its impact on existing conditions, materials and equipment.
- B. Review and upgrade as required of existing structural, electrical and mechanical provisions for compatibility with the new components.
- C. Protect premises from damage throughout course of construction, including floors, walks, walls, thresholds, entrance frames, doors, equipment, etc. Repair or replace items damaged or marred during construction.
- D. Provide, identify and protect clear pathway, subject to Engineer's prior approval, for all staging movement and storage of equipment, material and tools, around the property and within the building.
- E. Provide guards and barricades to shield people from worksite hazards, including open pits, machinery, materials, equipment, and tools.

1.05 SETTING OUT THE WORK

- A. The correct setting of the Work shall rest solely with the Contractor who will be responsible for it and shall make good their own expense any errors caused by their negligence or workmanship.
- B. Starting the work shall be held to imply that the Contractor and/or Subcontractor has verified them and found them to be correct. Any additional costs arising out of any rectifications shall be borne by the Contractor and/or Subcontractor.
- C. Each Subcontractor shall be responsible for setting out their work and if any discrepancies are found at any time, they shall make good and/or alter it at their own expense.

- D. Each Subcontractor shall report to the Contractor in writing any defects of work prepared by other Subcontractors and any unsatisfactory site conditions. Starting work shall imply acceptance by the Subcontractor of such conditions and surfaces.

1.06 WORK AFFECTING METRORAIL ACTIVITIES and BUSINESSES IN AREA

Maintaining proper Metrorail service and safe pedestrian and bicycle flow within the contract limits is a priority for MDC and a requirement of this Contract. The Contractor shall coordinate all construction activities with DTPW to eliminate or minimize any disruption to service. The Contractor shall be responsible for maintaining safe access to all Metrorail service and bus stops by bus patrons and buses as well as pedestrian, bicycle and traffic flow within the contract limits as specified below.

For purposes of this section, affect(ing) means, disrupting, removing, impacting or otherwise preventing normal, safe use and operation of the Metrorail facility or appurtenance by the public and/or area businesses. Access to businesses and residences in the vicinity of the construction work zone shall be maintained at all times. Proper signage indicating access to businesses must be installed as part of the work in the vicinity of the construction work zone.

At a minimum, the Contractor shall comply with the following requirements:

1. Contractor shall be in full compliance with all provision of the Miami-Dade Transit Construction Safety Manual as well as all Federal, State, general industry and/or construction standards, and local safety and health regulations.
2. Contractor shall not affect the operation of Metrorail with its activities.
3. The Contractor shall provide a minimum of thirty (30) day notice to DTPW before affecting Metrorail operations or patrons. The Contractor shall notify and coordinate with DTPW the proposed work.
4. Contractor shall maintain safe pedestrian/bicycle access within the Metrorail Station and crossing of US-1 and other streets during all construction activities.

5. Contractor shall be responsible for any damage to the Metrorail facility or adjacent businesses caused by the Contractor's activities.

1.07. RETAINAGE: a five (5) percent will be held from each progress payment until final acceptance of the construction phase, refer to progress payment section.

END OF SECTION

SECTION 01 14 13

SITE AND WORK RESTRICTIONS

PART 1: GENERAL

1.01 DESCRIPTION

- A. This Section includes specifications for the general requirements and procedures for access to the various areas within the site to perform the required construction operations to complete the facilities as depicted in the Contract Documents. The Contractor is to coordinate through the Department of Transportation and Public Works (DTPW) on access and coordination issues. It is important that Contractors do not interfere with the DTPW operations. As a result, there are restrictions on access and times of work; made part of this Contract.
- B. Any work that affects the mainline operations and/or Metrorail patrons require a minimum of two weeks advance notice to DTPW; such work needs to be performed after revenue service or as directed by DTPW.

1.02 SUBMITTAL REQUIREMENTS

The construction project schedule submitted by the Contractor under Section 01 32 16 shall take the restrictions described herein into account and shall demonstrate the sequencing of the Work so as not to impact the contract duration.

The Contractor shall submit any required notice, request for access and other procedural process as contained herein or referenced herein per the minimum lead times indicated in the procedure.

Where construction impacts DTPW Station or Station parking entrances and the public, Contractor must submit plans showing temporary pedestrian and vehicular traffic circulation for the impacted areas. Barricades and signing necessary to direct the public and the vehicles through the construction zone is required as part of the submittal. Provide, erect and maintain effective barricades, danger signs or any other visual

warnings for the protection of the Work and the safety of the public throughout the area for the duration of the Contract.

1.03 RESTRICTION ON CONTRACTOR'S ACTIVITIES

- A. Contractors shall refer to the latest edition of DTPW Adjacent Construction Manual and the MDT Construction Safety Manual and Attachments made a part of this contract, for work restrictions and safety standards, guidelines and requirements.
- B. Metrorail operations shall be maintained throughout this Contract. The Contractor shall not, in any way, curtail nor handicap normal operational characteristics of the Metrorail facility except as requested and authorized by DTPW.
- C. Best efforts will be exercised by the Contractor to schedule all construction work which may have any impact on the Metrorail System during the Non-Peak Operating Hours or Non-Revenue Hours.
- D. As per the DTPW Adjacent Construction Manual, DTPW will provide escorts and/or spotters as required by the Contractor to meet the project work restriction requirements or as DTPW may deem necessary. DTPW will do its best efforts in providing the requested escorts/spotters, but the availability of escorts/spotters for different locations at the same time may be very limited.
- E. The Contractor shall coordinate all construction schedule activities with DTPW's Construction Manager to minimize or eliminate disruptions.

1) Definitions

MDC Representative - The authorized, onsite MDC representative(s) responsible for coordinating all Metrorail track related activities.

2). Authority

The safety of Metrorail patrons and property shall be a primary consideration during construction. Therefore, any

direction given by the duly designated MDC representative regarding train traffic or train safety shall be considered final and is to be followed immediately. If the Contractor has an objection to the request, the Contractor shall obey the request and subsequently seek relief under the applicable Contract Sections.

3). Delays in Vacating Premises

It is absolutely essential that MDC operations not be disrupted. All Contractor personnel (including suppliers, subcontractors, vendors, etc.) shall cease Work within (15) fifteen minutes after receipt of directions by the DTPW staff or designee or MDC authorized representative.

4). Special Events

Certain special events require extended and/or more frequent service e.g. football games, concerts, etc., and may force DTPW to revise the Revenue Service schedule and time constraints cited in this Section. The Contractor shall expect and plan for one special event per month and reflect the impact of these special events in the phasing plan and in the project schedule. This parameter does not mean that two or more special events will not actually occur during one month but that the Contractor at bid time needs to consider that, on average, there will be only one special event per month.

5). DTPW Work Conditions and Flagging Requirements

Within a zone thirty feet from the furthest outside edges of an active guideway girder, no crane booms, manlifts or other equipment, or personnel, may be above the elevation of top of the girder while the train is passing. Work may be performed at the discretion of and only after prior approval by the DTPW's Construction Manager/spotter, after the DTPW staff or designee's consultation with

MDC, in the intervals between Metrorail trains. The Contractor will be required to attend the DTPW Track Allocation weekly meeting at Lehman Center (6601 N.W. 72 Avenue, 2nd Floor Conference Room A) that takes place every Tuesday from 2:00 PM to 4:00 PM to request and obtain approval to perform Work according to this paragraph and any other special conditions. This request shall include written details, including but not limited to, placement of cranes, materials, form work, personnel, and equipment; the sequence and timing of the work, and any other factor which may be construed by the DTPW staff or designee, upon consultation with the MDC representative, to affect transit safety or revenue service.

The integrity of the existing active guideway facilities and their operations shall be maintained by the Contractor at all times.

The provisions of the latest edition of the DTPW Adjacent Construction Safety Manual shall apply without modification.

6). Special Work Protection

Any Work over and near the guideway, which could potentially cause falling objects, drip or in any way endanger the safety of the Metrorail patrons or the public, at the sole discretion of the DTPW staff or designee, shall require protection such as barriers, nets, tarps, plywood, etc. The Special Work Protection must reflect the Contractors Work activities and shall be designed by a Professional Structural Engineer registered in the State of Florida and submitted to the DTPW staff or designee, for approval. The minimum of 6 weeks prior to performing any such work, the Contractor shall present this plan for the Special Work Protection to the DTPW staff or designee, for approval.

7). Personnel Access to Controlled Areas

Contractor access to areas requiring track allocation is prohibited unless prior approval is granted by the DTPW. Contractor's personnel will be required to attend the DTPW Orientation and Guideway Safety Class and have proper ID at all times on site.

8). Corrosion & Stray Current Protection

The Contractor should be aware that since, Metrorail transit cars are powered by direct current (DC) electricity, direct current can enter the earth through unintentional leakage from the DTPW negative ground return system. The leakage or stray current may flow to the discharge from underground metallic elements (i.e. steel reinforcing, pipelines, grounding systems, etc.) which are in contact with any electrolyte, including earth, in the vicinity of the DTPW System. Because stray current may be corrosive to metal at locations where it flows into an electrolyte, the Contractor is cautioned to investigate the site for stray current and to provide the means for stray current mitigation when warranted.

9). Foreign Objects on Existing Guideway

At no time will the Contractor be allowed to throw or discard any objects, construction materials, debris, scaffolds, etc., onto the guideway. Appropriate measures will be employed by the Contractor to insure that the guideway is always kept free of foreign objects.

10). End of Day Inspections and Other Inspections of Guideway

The Contractor is required to inspect at the end of each day the Work Site and clean and secure the site and materials that may pose a danger to Metrorail trains or facilities. Prior to any hurricane or other major storms, the Contractor and the DTPW staff or designee shall inspect the Contractor's Work Site and the Contractor

shall immediately secure any materials that in the sole opinion of the DTPW staff or designee may pose a danger to Metrorail trains or facilities.

11). Emergencies

Notwithstanding any of the above, in the event of an emergency, the Contractor shall be instructed to vacate the work area by the DTPW staff or designee or the MDC representative. Any such direction shall require immediate action by the Contractor. Prior to vacating the area, the Contractor shall clear the work area of all materials, equipment, etc.

- F. Submit a complete construction staging plan within seven days after the effective date of Notice to Proceed, a layout of the proposed construction staging areas including fences, roads, parking, buildings, storage areas and equipment necessary for the timely prosecution of the Work.
- G. The construction staging plan shall be approved by the DTPW staff or designee.
- H. Contractor is required to comply with the Miami-Dade County (MDC) and Municipal ordinances in setting construction dates, times and construction noise. If required, the Contractor shall obtain Municipal and/or MDC approval of construction dates, times and construction noise outside the normal permitted by the Municipality and/or MDC.
- I. Existing utilities have been identified in the contract plans to the extent possible. The Contractor shall use special caution in all areas of excavation. If a utility is identified, the Contractor shall coordinate with DTPW staff or designee for resolution prior to any construction taking place.
- J. The Contractor shall not use private property for access, storage or any other construction activity unless the Contractor obtains specific rights from the property owner on his/her own terms, separate from the contract with MDC.

PART 2: PRODUCTS (NOT USED)

PART 3: EXECUTION (NOT USED)

PART 4: MEASUREMENT AND PAYMENT

4.01 MEASUREMENT:

Work under this Section will not be separately measured for payment.

4.02 PAYMENT:

Work under this Section will be paid for as part of the pay item unit price requiring the work specified in this section.

END OF SECTION

SECTION 01 26 13

REQUEST FOR INFORMATION (RFI)

PART 1: GENERAL

1.01 DESCRIPTION

- A. This section covers Request for Information (RFI) from the Contractor. RFI in this section is defined as: the solicitation by the Contractor for clarifications, interpretations, verifications and/or corrections of the Contract Documents. The Contractor shall carefully study and compare all drawings, Contract Specifications and other instructions; shall verify all figures on the Contract Drawings before laying out the Work; shall notify the DTPW staff or designee of all errors, inconsistencies, or omissions which he may discover; and obtain specific instructions in writing before proceeding with the Work. The Contractor shall not take advantage of any apparent error or omission which may be found in the Contract Drawings or Contract Specifications, but the DTPW staff or designee shall be entitled to make such corrections therein and interpretations thereof as he may deem necessary for the fulfillment of their intent. The Contractor shall be responsible for all errors in construction which could have been avoided by such examination and notification, and shall correct at his own expense, all work improperly constructed through failure to notify the DTPW staff or designee and to request specific instructions.
- B. The Contractor shall comply with this section for all such requests for information. All costs incurred by the Contractor in preparing these requests shall be borne by the Contractor and are part of this contract.
- C. Any delays or impacts caused by the Contractor's failure to conform to the requirements of this section shall be solely the Contractor's responsibility and shall not be cause for any time extension and/or additional compensation.

PART 2: PRODUCTS

2.01 MATERIALS:

NONE REQUIRED.

PART 3: EXECUTION

3.01 REQUEST FOR INFORMATION REQUIREMENTS:

A. The Contractor shall become familiar with the sites by conducting site visits prior to bidding. The Contractor is responsible for reviewing all Contract documents related to a particular work product well in advance of the performance of such work in accordance with Article 2: INTERPRETATIONS of the General Conditions. This review shall be planned to allow sufficient time to obtain resolution of any required RFI, as defined in this section.

B. RFI Requirements.

All RFI's shall be submitted to the DTPW staff or designee in the format with this section or in a pre-approved format equivalent to this section inclusive of the information identified on the specified form.

All RFI's shall be signed by the Contractor's Project Manager or by a designated alternate (i.e., the Quality Assurance Representative).

- a. Date submitted.
- b. Contract number and title.
- c. Contractor's name.
- d. Description of the request, including any supportive drawings, sketches or additional information.
- e. List of schedule activities which may be impacted by the request and a brief explanation as to why there would be a schedule impact and specific date constraints.
- f. Clear description of what response the Contractor is expecting.

All RFIs shall be signed by the Contractor's project manager. RFIs must not be submitted solely to gain time and justify delay.

C. RFI Processing Procedure.

1. Upon receipt of the RFI, the DTPW staff or designee shall promptly date stamp the request. The DTPW staff or designee is required to keep a

log of all RFIs including receipt date and date returned to the Contractor.

2. The DTPW staff or designee shall review the request to determine if further information is required from the Contractor, once the RFI is resubmitted by the Contractor, the RFI shall be restamped. The DTPW staff or designee will coordinate a response and transmit the answer to the RFI to the Contractor.

D. Time allowed for processing RFIs.

Although every attempt will be made to expeditiously resolve all RFIs, MDC shall have ten (10) working days to respond to an RFI, from the date the RFI is received by the DTPW staff or designee, including all necessary information needed to formulate a response. Failure by the Contractor to allow sufficient time for MDC to formulate a response to an RFI, as specified in this section, shall not constitute grounds for a delay claim from the Contractor.

PART 4: MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

Work under this Section will not be separately measured for payment.

4.02 PAYMENT

Work under this section will be paid for as part of the pay item unit price requiring the work specified in this section.

END OF SECTION



**METRO-DADE TRANSIT AGENCY
REQUEST FOR INFORMATION (RFI)**

DATE: _____

RFI No. _____

CONTRACT No. _____ CONTRACT TITLE: _____

CONTRACTOR: _____

DESCRIPTION OF REQUEST:

(ATTACH ADDITIONAL SHEETS AS REQUIRED)

DRAWING No. _____

SPEC REFERENCE: _____

CPM ACTIVITIES OF POTENTIAL IMPACT & TIME CONSTRAINTS:

END PRODUCT REQUESTED:

SUBMITTED BY: _____
(CONTRACTOR - PROJECT MANAGER)

*

DATE

REVIEWED BY: _____
TITLE

DATE

DATE RETURNED TO CONTRACTOR: _____

* BY HIS SIGNATURE, THE CONTRACTOR AFFIRMS THAT HE HAS REVIEWED THE CONTRACT DOCUMENTS AND THAT THE INFORMATION REQUESTED CANNOT BE OBTAINED FROM SUCH A REVIEW.

DC204.pm5, 7-13-95

SECTION 01 32 16

PROJECT SCHEDULE

PART 1: GENERAL

1.01 DESCRIPTION

- A. This section covers the preparation of a schedule in the form of a bar chart. The Contractor will be allowed to use his preferred scheduling system, if approved by the DTPW staff or designee. If the Contractor wishes to propose his own system, he shall so request prior to the required submittal time-tables listed in this section.
- B. Final Schedule:
 - 1. A bar chart schedule shall be used by the Contractor to control the progress and time fixed for completion of this project. This system shall be implemented by the Contractor. Prior to approval of the final construction schedule, the Contractor shall provide MDC with letters from all his subcontractors and suppliers indicating that they have reviewed the Contractor's schedule and concur with the sequence of events, activity durations and rates of production implied therein.
 - 2. All work shall be done in accordance with the schedule and all costs incurred by the Contractor to correctly implement the schedule shall be borne by the Contractor and are a part of this Contract.
 - 3. The schedule shall be updated monthly and submitted with the Contractor's pay request. No payment will be made to the Contractor unless this monthly updated schedule and progress report is submitted with the Contractor's pay request. Even if no invoice is submitted in a particular month, the Contractor shall submit monthly schedule updates and progress reports to the satisfaction of the DTPW staff or designee.

PART 2: PREPARATION

2.01 PREPARATION OF FINAL SCHEDULE:

- A. Preparation:
 - 1. Within five (5) days after the date of Notice to Proceed (NTP), the Contractor shall submit a comprehensive and detailed Final Schedule, as pre-

approved at the clarification meeting during the contract award process, hereinafter referred to as the final schedule. Work performed prior to NTP shall not be allowed under this Contract.

2. When completed, the bar chart diagram shall represent the Contractor's own plan for the project as well as the sequence of each operation and all the involved parties. The schedule shall also identify the project's critical path. It shall be the responsibility of the Contractor to ensure that all of this work is described by the diagram and that the diagram does correctly represent the sequence in which he plans to do his work and the time in which he expects to do it.
3. As a minimum, the final schedule will cover the following areas:

Shop drawing preparation, review and approval
Procurement, delivery and installation of
major equipment, material and/or long-lead
items
Permit acquisition activities
Material samples, as applicable
Material delivery
Testing
All major work elements, as approved by the
DTPW staff or designee
Substantial Completion
Punch list activities
Rates of Production

4. The final schedule will be printed on a 11" x 17" sheet suitable for reproduction. The Contractor will submit 3 copies of this schedule.
5. A written narrative on separate 8 1/2" x 11" sheets will be included with the Contractor's final schedule. This narrative will describe the Contractor's general approach for performing the work and any additional or unusual requirements not clearly represented in the schedule including, but not limited to, equipment to be used and the time equipment is to be on-site, anticipated delivery dates for material and/or equipment, crews and crew sizes, estimated quantities and rates of production. The narrative shall explain the basis for the Contractor's determination of durations for major work items and describe his approach for meeting the interim and final completion dates in his schedule. The narrative shall also address

workdays per week, hours per shift, rain days, holidays or any other non-work periods that the Contractor is assuming in the planning of the work. Activities which may be expedited by the use of overtime or additional shifts shall be identified. Sequencing and other restraints such as manpower, material or equipment shall be identified and explained. A form to be used by the Contractor to prepare his baseline narrative is included as Attachment 1 to this section.

6. When completed, the final schedule shall be submitted to the DTPW staff or designee for approval. The Contractor shall incorporate the DTPW staff or designee's schedule review comments within 10 days after receipt. The DTPW staff or designee shall be the final authority in deciding the acceptability of the schedule. Upon approval by the DTPW staff or designee, this shall become the Final Schedule for the contract (Baseline Schedule). No deviations from the final schedule will be allowed without the approval of MDC.
7. The Contractor shall identify all available float or slack time in his schedule in a format suitable to the DTPW staff or designee. Float or slack time is not for the exclusive use or benefit of either the Contractor or MDC. Float or slack time is considered project float as it is for the benefit of both parties. As such, it is not to be used exclusively by either party, but is to be used by the party that needs it first. No more than 15% to 25% of the activities in the Contractor's schedule may be on or near the critical path. ("Near the critical path" is defined as any activity having float of 10 days or less)

2.02 MONTHLY SCHEDULE UPDATES

1. The Contractor shall submit monthly schedule updates to show progress or delays against the baseline, as applicable, on all activities in progress. Such progress shall be shown in a format suitable to the DTPW staff or designee. Three 11" x 17" copies of the updated schedule shall be submitted by the Contractor.
2. The Contractor shall submit an updated narrative in the form of monthly progress reports in a format acceptable to the DTPW staff or designee. Such reports shall include sections for describing "progress this period", "planned progress for next

period", "problems and solutions" (including a listing of all delayed activities, the reasons for delay and proposed recovery actions) and "changes since last period". Any special concerns and or questions regarding the schedule should also be included in the progress report. Information included in the updated narrative will not relieve the Contractor of the notice requirements contained in Article 40 of the Contract's General Conditions. As applicable, signed material delivery tickets indicating when material was delivered on-site or to the fabrication plant will be provided with the narrative on a monthly basis. A form to be used by the Contractor to prepare his monthly update narrative is included as Attachment 2 to this section.

3. The Contractor shall submit on a weekly basis a simplified two-week look-ahead bar chart schedule showing all anticipated work scheduled to take place during the next 14 calendar days. This two-week look-ahead schedule shall be based on the approved baseline schedule.

PART 3: PAYMENT

3.01 PAY REQUESTS

1. The Contractor's pay request shall include an update of the final schedule. The Contractor will not be eligible to receive payment until his contract baseline schedule and schedule of values is approved and no payment will be made to the Contractor unless this schedule update and schedule of values is submitted with the pay request.
2. 5% of each Contractor's pay request amount will be retained in accordance with Article 9, of the General Conditions.
3. All Contractor pay requests will be submitted in a form suitable to MDC based on a County approved schedule of values.

3.02 FINAL PAYMENT

Final payment shall be made in accordance with Article 9 of the General Conditions.

PART 4: MEASUREMENT AND PAYMENT

4.01 MEASUREMENT:

Work under this Section will not be separately measured for payment.

4.02 PAYMENT

Work under this section will be paid for as part of the pay item unit price requiring the work specified in this section.

END OF SECTION

**ATTACHMENTS REFERENCED IN THIS SECTION WILL
BE PROVIDED POST AWARD**

SECTION 01 32 33

CONSTRUCTION PHOTOGRAPHS

PART 1: - GENERAL

1.01 DESCRIPTION OF WORK

- A. The Contractor shall provide still color photographs of all construction areas prior to start of work and take construction record color photographs periodically during the course of the Work.

1.02 PHOTOGRAPHY REQUIRED

- A. Progress photographs shall be submitted to the DTPW staff or designee with each Application for Payment.
- B. Photographs shall be taken at each of the major stages of construction listed below:
 - 1. Prior to commencement of any demolition /removal work.
 - 2. Of existing improvements that are to remain, prior to commencement of work adjacent thereto.
 - 3. Of existing improvements upon completion of adjacent work.
 - 4. Of existing structures that are to be relocated, both before and after relocation.
 - 5. Upon completion of foundations of new structure.
 - 6. Upon completion of structural framing of new structure.
 - 7. Upon enclosure of new structure.
 - 8. Upon completion of construction of new structure.
 - 9. Upon completion of facilities ready for installation of equipment.
 - 10. Upon completion of installation of equipment and facilities.
 - 11. Upon completion of all work and finishes.
- C. Views and Quantities Required:
 - 1. Two views of each item listed above.
 - 2. Five views of overall project sites monthly, as directed by the DTPW staff or designee.
 - 3. Provide three prints of each view.

4. Aerial views of site(s) monthly.

D. Digital Files:

1. The Contractor shall provide a CD containing the monthly progress photo digital files that shall be cataloged and indexed in chronological order and shall be accompanied by a typed table of contents with the relevant descriptions. This CD shall accompany the photographs submitted with the monthly Pay Request.
2. The Contractor shall furnish additional prints to Owner and the DTPW staff or designee at commercial rates applicable at time of purchase.

1.03 COSTS OF PHOTOGRAPHY

- A. The Contractor shall pay the cost for specified photography and prints. Parties requiring additional photography or prints will pay photography directly.

PART 2: - PRODUCTS

2.01 PRINTS

A. Color:

1. Paper: Single weight, color print paper.
2. Finish: Smooth surface, glossy.
3. Size: 8-inch x 10-inch. Mount with binder tabs.

B. Identify each print on back, listing

1. Name and number of Project
2. Orientation of view
3. Date and time of exposure

PART 3: - EXECUTION

3.01 TECHNIQUE

A. Factual Presentation.

B. Correct exposure and focus.

1. High resolution and sharpness
2. Maximum depth-of-field
3. Minimum distortion

3.02 VIEWS REQUIRED

- A. Photograph from locations to adequately illustrate condition of construction and state of progress.
 - 1. At successive periods of photography, take at least one photograph from the same overall view as previously.
 - 2. Consult with the DTPW staff or designee at each period of photography for instructions concerning views required.

3.03 DELIVERY OF PRINTS

- A. Deliver prints to the DTPW staff or designee to accompany each Application for Payment.
- B. Distribution of prints as soon as processed is anticipated to be as follows:
 - 1. DTPW staff or designee: One set
 - 2. Owner: Two sets.

PART 4: MEASUREMENT AND PAYMENT

4.01 MEASUREMENT:

Work under this Section will not be separately measured for payment.

4.02 PAYMENT:

Work under this Section will be paid for as part of the pay item unit price requiring the work specified in this section.

END OF SECTION

SECTION 01 33 23

SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

PART 1: GENERAL

1.01 DESCRIPTION:

- A. This section specifies preparing and submitting shop drawings, product data, and samples required under the contract.
- B. Dates for submission, and dates on which approved shop drawings, product data, and samples for each product will be needed, shall be designated in the Contractor's Schedule.

1.02 SHOP DRAWINGS:

Furnish all shop drawings that are necessary to complete the scope of work in compliance with the design shown on the plans. Prepare all shop drawings using the same units of measure as those used in the contract drawings. Prepare or reproduce drawings on permanent material made for that purpose, such as tracing cloth, plastic, mylar, or xerographic bond paper. Shop drawings sheet size shall be 22 by 34 inches. Shop drawings may also be submitted electronically with prior approval of the Construction Manager. Changes in products, for which shop drawings have been accepted, will not be permitted unless those changes have been accepted, in writing by the DTPW staff or designee, as provided in Section 01 62 00, SUBSTITUTIONS AND PRODUCT OPTIONS.

1.03 QUALITY ASSURANCE:

Shop drawings shall be prepared to a high standard of quality, and to the satisfaction of the County. Drawing level control shall be established and implemented to ensure documentation is controlled for specified applications on contract.

1.04 PRODUCT DATA:

- A. Provide original documents or clearly legible photographic or xerographic copies of documents other than drawings, such as trade literature, catalogue information, calculations, manuals, etc. Clearly label and number each sheet in the submittal to indicate the total number of sheets in the series (i.e., 1 of 12, 2 of 12, ...12 of 12).

Prepare all documents using the same units of measure as those used in the contract drawings. Bind and submit

all documents with a cover sheet. List on the cover sheet the complete Contract number, a title referencing the submittal item(s), the name of the firm and person(s) responsible for the preparation of the document, the contractor's approval stamp with the data and initials, and, when applicable, the signature and embossed seal of the Specialty DTPW staff or designee.

- B. Manufacturers' standard schematic drawings shall be modified to delete information which is not applicable to the project. Standard information shall be supplemented to include additional information applicable to the project.
- C. Manufacturers' standard catalog cuts, brochures, diagram, schedules, performance charts, illustrations, calculations, and other descriptive data shall be modified to delete information which is not applicable to the project. Dimensions, clearances, performance characteristics and capacities, and wiring diagrams and controls shall be shown.
- D. Certificates of Compliance shall be submitted for those products for which no samples and test results are specified. Certificates shall state that the product complies with the requirements of the respective specification section, and shall be signed by a representative of the product manufacturer. A copy of the certificate shall accompany the product for which the certificate is prepared.

1.05 SAMPLES:

- A. Samples shall be of sizes and quantities to clearly illustrate full color range and functional characteristics of products and materials, and shall clearly show attachment devices. After review and approval by the DTPW staff or designee, samples may be used in construction of the project if samples are not damaged and are properly dispositioned for use. Changes in products for which samples have been accepted will not be permitted unless those changes have been approved, in writing, by the DTPW staff or designee.
- B. Samples and sample installation shall be erected at the job site at locations acceptable to the DTPW staff or designee and shall remain in place or available until completion of the project.

1.06 DADE COUNTY PRODUCT CONTROL APPROVAL:

The Contractor shall submit all required Dade County Product Approvals, as applicable, in accordance with this section and the Florida Building Code.

1.07 CONTRACTOR RESPONSIBILITIES:

Shop drawings, product data, and samples shall be reviewed, stamped and signed as approved, by the Contractor's designated authority prior to submission to the DTPW staff or designee. Each submittal shall be coordinated with the requirements of the work. Returned marked-up submittals shall be reviewed and those requiring changes shall be changed and shall be resubmitted.

- A. Field measurements, catalog numbers, and similar data shall be verified.
- B. Work, for which submittals are required, shall not be started until submittals bearing the DTPW staff or designee's stamp and signature indicating review and approval has been received.
- C. Before submitting samples, assure that products of which samples will be submitted will be available in the quantities required by the project.
- D. The responsibility for errors and omissions in submittals shall not be relieved by the DTPW staff or designee's review and approval of submittals.
- E. Responsibility for deviations in submittals from requirements of the Contract Documents shall not be relieved by the DTPW staff or designee's review and approval of those submittals, unless the DTPW staff or designee gives written approval of specific deviations.
- F. The Contractor shall verify that the product or system submitted for review has been approved by Dade County Product Control, if applicable, prior to making the initial submittal. Products which require Dade County Product Control approval and are not so approved shall be rejected by the DTPW staff or designee. Product approval shall not be requested or initiated during the shop drawing review process, but shall be requested and obtained prior to the Contractor's bid submittal.

1.08 SUBMISSION REQUIREMENTS:

Submittals, excepting test results, shall be made in not less than 45 days before work covered by the submittals is scheduled to be performed. Allow fifteen (15) working days for review of shop drawing submittal by the DTPW staff or designee. Test results shall be submitted within five (5)

days after each test has been completed. Office samples shall be shipped prepaid. Submittals require approval of the DTPW staff or designee prior to work covered by the submittals being scheduled to be performed.

A. Quantities to be submitted shall be as follows:

1. One reproducible sepia and three prints of shop drawings at each submittal until approved by the DTPW staff or designee. If shop drawings are not approved, the marked up sepia and one marked up copy will be returned.
2. Unless otherwise indicated, after approval by the DTPW staff or designee submit one reproducible transparency and two opaque diazo prints of shop drawings.
3. Three copies of manufacturers' standard schematic drawings.
4. Three copies of manufacturers' calculations and three copies of manufacturers' standard data.
5. Three samples as specified in each of the specification sections, unless otherwise specified.
6. Three copies of each test result.
7. Three copies of each Certificate of Compliance.
8. Three copies of the Dade County Product Control Notice of Acceptance, if applicable.

B. Submittals shall be accompanied by two transmittal forms containing the following information:

1. Date submitted to the DTPW staff or designee;
2. Project title and Contract Number;
3. Supplier's, manufacturer's and subcontractor's name, address and telephone number;
4. Number and title of each shop drawing, product data, and sample submitted;
5. Notification of known deviations from the drawings and the specification sections; and
6. Dade County Product Approval number, if applicable.

7. Other pertinent data.
- C. Submittals shall include a white space, three by four inches, in the lower right corner just above the title block, in which the DTPW staff or designee may indicate the action taken. Submittals, as applicable, shall show as a minimum the following information:
1. Date and revision dates.
 2. Project title, drawing title and number and MDT Contract Number
 3. The names of the Contractor's DTPW staff or designee, Subcontractor, lower tier Subcontractor, supplier, manufacturer and the name of the detailer or person(s) responsible for the drawing.
 4. Consecutively number each sheet in the submittal series, and indicate the total number in the series (i.e., 1 of 12, 2 of 12, ... 12 of 12).
 5. Identification of product by description, model number, style number, serial number, or lot number.
 6. Location of the item(s) within the project.
 7. Relation to adjacent structure or materials.
 8. Field dimensions, clearly identified as such.
 9. Applicable specification section numbers.
 10. Applicable standards, such as ASTM number and Federal Specification number.
 11. Identification of known deviations from the drawings and specification sections.
 12. Contractor's stamp, signed, and dated certifying review of submittal, verification of field measurements, and approval for compliance with the drawings and specification sections, and, when applicable, the signature and embossed seal of the Specialty DTPW staff or designee.
 13. Include in submittals a reference to supporting Subcontract drawing.
 14. The DTPW staff or designee will request a re-submittal when any of this minimum information is not included.

1.09 RESUBMISSION REQUIREMENTS:

Resubmittals shall be submitted by the Contractor so as to avoid delays to the project.

- A. Initial Shop Drawings: Shall be revised as required and resubmitted as specified for initial submittal. Changes which are made, other than those requested by the DTPW staff or designee, shall be so indicated.
- B. New Product Data and Samples: Shall be resubmitted as specified for initial submittal.

1.10 DISTRIBUTION OF SUBMITTALS AFTER REVIEW:

Approved shop drawings and product data bearing the DTPW staff or designee's stamp and signature will be distributed by the DTPW staff or designee to the Contractor's field office. The Contractor shall distribute copies to concerned lower tier subcontractors, suppliers, and fabricators; and to concerned members of the Contractor's work force.

1.11 DTPW STAFF OR DESIGNEE'S DUTIES:

- A. Submittals will be reviewed and marked.
- B. Submittals will be reviewed for conformance to the requirements of the Drawings and Specification sections. Review will not relieve the contractor from his responsibility for the accuracy of the submittals or for the conformity of the submittals to the requirements of the drawings and specification sections.
- C. Review of a separate item will not constitute review of an assembly in which the item functions.
- D. Stamp, date and signature will be affixed, and will certify that the submittal has been reviewed.
- E. The DTPW staff or designee will return to the Contractor one sepia and one print or one copy of product data within the time frames specified in Article 1.08, SUBMISSION REQUIREMENTS.

PART 2: PRODUCTS

2.01 PRODUCTS:

No products are required except as indicated in PART I: GENERAL.

PART 3: EXECUTION

3.01 EXECUTION:

No execution is required except as indicated in PART I: GENERAL.

PART 4: MEASUREMENT AND PAYMENT

4.01 MEASUREMENT:

Work under this Section will not be separately measured for payment.

4.02 PAYMENT:

Work under this Section will be paid for as part of the pay item unit price requiring the work specified in this section.

END OF SECTION

SECTION 01 33 30
WORKING DRAWINGS
PART 1: GENERAL

1.01 DESCRIPTION:

This Section specifies the preparation and submission of working drawings and associated calculations required by the specifications sections or to erect temporary structures to facilitate construction.

1.02 WORKING DRAWINGS:

Working drawings shall be identified by reference to drawing page numbers and specification section numbers. Working drawings shall be prepared, signed, sealed and dated by the Contractor's Professional, of the involved discipline, registered in the State of Florida.

1.03 QUALITY ASSURANCE:

All working drawings shall be prepared to a high standard of quality, and to the satisfaction of the County. Drawing level control shall be established and implemented to ensure documentation is controlled for specified applications on contract.

1.04 ASSOCIATED CALCULATIONS:

Calculations shall be prepared, signed, sealed and dated by the Contractor's Professional, of the involved discipline, registered in the State of Florida. Calculations shall be identified by reference to Contract Drawing page numbers and specification section numbers.

1.05 CONTRACTOR RESPONSIBILITIES:

Working drawings and associated calculations prepared by any subcontractor, of the Contractor, shall be reviewed, signed and dated as approved by the Contractor, prior to submission. Working drawings prepared by a sub-contractor to the Contractor shall be signed, sealed and dated by the sub-contractor's Professional, of the involved discipline, registered in the State of Florida. Each submittal shall be coordinated with the requirements of the work.

A. Field measurements and field construction criteria shall be verified by the Contractor.

- B. Work, for which working drawings and associated calculations are required, shall not begin until those drawings and calculations bearing the stamp and signature, indicating Contractor DTPW staff or designee's review, have been received.
- C. Submittals shall not relieve the Contractor of the responsibility for safe and effective design of structures for which the working drawings and associated calculations are submitted. MDC and the DTPW staff or designee shall in no way be liable to the Contractor and others for any consequences arising from work described in this section and shall not review and or approve the working drawings.

1.06 SUBMISSION REQUIREMENTS:

- A. Working drawings and associated calculations shall be submitted in sufficient time and not less than 45 days before work represented by those drawings and calculations is scheduled to be performed.
- B. Submittals shall be accompanied by two Transmittal Forms containing the following information:
 - 1. Submittal date.
 - 2. Project title and number.
 - 3. Contractor's name and address.
 - 4. Number of each working drawing and associated calculation submitted.
 - 5. Notification of known deviations from Construction Documents.
 - 6. Other pertinent data.

PART 2: PRODUCTS

2.01 PRODUCTS:

No products are required except as indicated in PART 1: GENERAL.

PART 3: EXECUTION

3.01 EXECUTION:

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WORKING DRAWINGS

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No execution is required except as indicated in PART 1:
GENERAL.

PART 4: MEASUREMENT AND PAYMENT

4.01 MEASUREMENT:

Work under this Section will not be separately measured for
payment.

4.02 PAYMENT:

Work under this Section will be paid for as part of the pay
item unit price requiring the work specified in this section.

END OF SECTION

PROJECT QUALITY ASSURANCE PLAN

PROJECT TITLE

PROJECT/CONTRACT NUMBER

COMPANY NAME

REVISION DATE

COMPANY NAME: _____

Revision Date: mm/dd/yyyy

PROJECT QUALITY ASSURANCE PLAN

SIGNATURE SHEET

This Quality Assurance Plan dated (*input revision date identified on page 1*):
_____ was prepared or revised in accordance with the project/contract requirements.

Prepared by (Quality Representative Signature): _____ Date: _____

Approved by (Project Manager Signature): _____ Date: _____

PROJECT QUALITY ASSURANCE PLAN

REVISION LOG

Any changes to this document will be re-submitted for review and approval by Miami-Dade County (MDC).

REVISION DATE	AFFECTED PAGES	REASON FOR CHANGE
<i>SAME DATE AS IDENTIFIED ON PAGE 1:</i>	<i>ALL PAGES</i>	<i>INITIAL ISSUE</i>

COMPANY NAME: _____

Revision Date: mm/dd/yyyy

PROJECT QUALITY ASSURANCE PLAN

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PROJECT QUALITY ASSURANCE PLAN

1. MANAGEMENT RESPONSIBILITY

The successful implementation of this Quality Assurance Plan (QAP) for this project rests on the level of commitment by top management that ensures that the quality elements are understood, implemented and maintained throughout all phases of the project.

Contractor input:

STATEMENT OF COMMITMENT to QUALITY:

(Input quality statement)

_____ (Approved by highest level of management) DATE: _____

In this section, identify management's commitment to quality, and ensure that the commitment is understood, implemented, and maintained. Personnel assigned to this project shall be identified in an organizational chart format. Those personnel responsible for assuring quality must be independent of those having direct responsibility for the work being performed:

ORGANIZATIONAL CHART

(Insert the company's organizational chart)

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PROJECT QUALITY ASSURANCE PLAN

Roles & Responsibilities: Include in this section assigned personnel duties and responsibilities within this project that are identified in the organizational chart.

Contractor input:

In this section, document the roles and responsibilities of key personnel (by functional position only) assigned to the project:

Example Positions:

Project Manager:

Quality Assurance Representative:

Inspection Personnel:

PROJECT QUALITY ASSURANCE PLAN

2. Documented Quality Management System (QMS)

The Quality Assurance Plan (QAP) applies to all quality activities performed under the contract. In order to ensure continued adherence to the standard practices, procedures and policies established for the project, periodic reviews, revisions, and redistribution of this QAP shall be performed.

Documentation records testifying to the satisfactory execution of the required activities for the project (i.e. construction, inspections, & testing) are readily available and delivered to authorized personnel as directed. An integral part of this project is the list of instructions, procedures, drawings, specifications, inspection test reports, and quality assurance reports to be prepared, submitted, or made available for review or approval, in accordance with contract requirements.

Contractor input:

In this section, document the method of ensuring that all key documents are developed, reviewed and updated. Also, any plan or procedure should include a statement of purpose, scope, and should contain any references to applicable codes, standards, or specifications to ensure compliance to contract requirements.

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PROJECT QUALITY ASSURANCE PLAN

3. Design Control: (if applicable)

Note: If the design process does not apply, you may put “N/A” in this section.

The Contractor shall establish and maintain QA/QC procedures to control and verify the design in order to ensure that the design criteria, technical and relevant regulatory requirements are in compliance with Contract Documents and FTA guidelines for this project. Design control includes ensuring that the design requirements are understood, planned, verified, executed and that changes are reviewed and approved throughout the design process and project completion as applicable. The Final Design establishes criteria for the inspection and testing on items that affect safety, reliability, service life, and ADA requirements.

Contractor input:

In this section, document the design process, including quality control reviews for assuring design integrity is established throughout all phases of development, and what methods will be used to control the design within the key elements identified below:

Note: Key elements of the design process include, but not limited to:

- Design Planning:
- Design Input:
- Design Output:
- Design Verification:
- Design Validation:
- Design Changes:

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PROJECT QUALITY ASSURANCE PLAN

4. Document Control

Procedures shall be established and maintained for the control of project documents and data. Quality procedures shall describe methods for review and approval of project documents by authorized personnel, distribution and storage of documents, correction and deletion of documents, and control of changes to these documents. These controls are required to be implemented in order to provide project participants and organizations with access to the latest version of each document.

Contractor input:

In this section, identify which documents will be controlled and the process to ensure that they are maintained and current throughout the project:

Example of Documents:

- *Contractors Project Quality Assurance Plan (QAP)*
- *Contractors Inspection Procedures.*
- *Contract Documents.*
- *Drawings*

PROJECT QUALITY ASSURANCE PLAN

5. Purchasing (If applicable)

Note: If the purchasing process does not apply, you may put “N/A” in this section

Procedures shall be established and maintained to ensure that purchased services or products conform to specified technical requirements. Purchasing requirements apply to all Contractors and Suppliers.

Receiving Inspection

The receiving inspection of all materials will be performed by the Contractor’s QA/QC staff at their facility in accordance with approved Contractor’s QAP. The Contractor’s QAP shall provide methods to control and ensure that all materials received are properly inspected. Any nonconforming materials shall be identified.

Approved Supplier List

The Contractor shall develop and maintain an approved Supplier list available for review and approval.

Contractor input:

In this section, document the purchasing process and how all products are received, inspected and maintained.

Important Note: *The Contractor shall comply with all requirements of the Miami Dade County Code Section 2-8.2.6.1, Buy American Iron and Steel Products Procurement Program. This section shall also identify the verification and control of purchased materials to ensure that these requirements are met.*

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6. Product Identification and Traceability (If applicable)

Note: If the product identification and traceability process does not apply, you may put “N/A” in this section.

The purpose of product identification and traceability is to ensure the control of materials, parts, components, equipment, and products, and the identification and traceability of these materials to prevent the use of incorrect or defective items. They also ensure that only correct and acceptable items are used or installed. These requirements apply to all materials, parts, components, equipment, and products, including partially fabricated or assembled components, produced for incorporation into the project.

Identification

All materials, supplies, and components that are intended for use in this Project shall be identified from the time of initial fabrication, or receipt, up to and including installation or end use. Items shall be identified by positive markings and/or certifications. They shall be segregated and/or stored with identification data to ensure control and proper identification as applicable.

Item identification methods include use of physical markings. If physical markings are either impractical or insufficient, other appropriate means of identification such as physical separation, container labels, barcodes or tags shall be employed.

Traceability

Item identification methods ensure that traceability is established and maintained in a manner that allows an item to be traced to applicable drawings, specifications, or other documents during all stages of production, delivery, and installation or end use.

Contractor input:

In this section, document how materials, components, equipment, and products will be identified:

Important Note: The Contractor shall comply with all requirements of the Miami Dade County Code Section 2-8.2.6.1, Buy American Iron and Steel Products Procurement Program. This section shall also identify the verification and control of purchased materials to ensure that these requirements are met.

PROJECT QUALITY ASSURANCE PLAN

7. Process Control

The Contractor shall identify and plan the installation and/or construction processes that directly affect quality and ensure these processes are performed under controlled conditions. Controlled conditions shall include the following:

- Qualifications requirements for personnel.
- Implementing documents defining the manner of design and/or construction process.
- Use of suitable products for design and/or construction equipment, and a suitable working environment.
- Compliance with reference standards/codes, quality plans, and/or documented procedures.
- Monitoring and control of suitable process parameters and product characteristics.

A major issue in process control is to ensure that work is performed in the proper sequence.

Contractor input:

In this section, document how the process will be controlled:

PROJECT QUALITY ASSURANCE PLAN

8. Inspection and Testing

Activities affecting quality shall be inspected and documented by experienced personnel who are independent of those performing the work. Inspections and tests shall be performed in accordance with approved documents to determine that contract activities meet the established requirements of the specifications.

Contractor input:

In this section, identify the types of inspections/testing to be performed and the procedures/forms to be used to perform the inspections and/or testing:

PROJECT QUALITY ASSURANCE PLAN

9 Inspection, Measuring, and Test Equipment

All equipment used in the inspection or testing process shall be identified, calibrated, and maintained under controlled conditions. Provisions shall be established for scheduled re-calibration. Such equipment shall meet the National Institute of Standards and Technology (NIST) standards of accuracy for the measurements and tests required.

Contractor input:

In this section, document which inspection and test equipment will be identified, calibrated and maintained to ensure accuracy of the inspections and testing as required. Also, identify the calibration intervals or frequency for each equipment that is subject to calibration:

PROJECT QUALITY ASSURANCE PLAN

10 Inspection and Test Status

A means should be provided for identifying the inspection and test status of the work during the installation process. The purpose of this is to ensure that only work that has passed the required inspections and tests is accepted.

The test and inspection status should be identified by means of markings, stamps, tags, labels, routing cards, inspection records, test software, physical location, or other suitable means.

Contractor input:

In this section, document the method to be used to identify the inspection and testing status on the work to be performed:

PROJECT QUALITY ASSURANCE PLAN

11 Nonconformance

Where practicable, nonconforming items should be segregated. When segregation is not possible, nonconforming items should be clearly identified as such. Those activities affected by the nonconforming work should be notified. Nonconforming work should be identified, documented, and evaluated to determine appropriate disposition.

Contractor input:

In this section, document the method to be used to identify, document, evaluate and address nonconforming products. It is highly recommended that a “log of nonconformances” is kept and that it includes the corrective actions to address the nonconformances:

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12 Corrective Action

The corrective action plans should include the investigation of the root cause of any nonconforming work and the preventive action needed to prevent recurrence.

Contractor input:

In this section, document the method to be used to implement a corrective action plan to address all nonconformances. It's highly recommended that a log be kept to track all nonconformances and the proposed corrective action plans as necessary:

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PROJECT QUALITY ASSURANCE PLAN

13 Quality Records

Procedures should be established and maintained for all quality records. These procedures should identify which records should be kept, responsibility for production and collection, and responsibility for indexing, filing, storage, maintenance, and disposition of all quality records.

Contractor input:

In this section, identify which quality records will be controlled and the process to ensure that they are maintained, stored and dispositions appropriately:

Example of Quality Records:

- *Inspection Reports*
- *Test Data*
- *Calibration Records*
- *Nonconformance Reports*
- *Corrective Action Reports*
- *Audit Reports*
- *Training Records*
- *Product Certification*

PROJECT QUALITY ASSURANCE PLAN

14 Quality Audits (if applicable)

Note: If quality audits does not apply, you may put “N/A” in this section

Quality audits are not the same as financial audits. A quality audit program should be established to ensure that the elements of the contractor’s quality program are functioning as intended.

Quality audits should be performed by the Contractor’s qualified quality personnel, and should be independent, scheduled, and performed to standards and/or checklists. A final report that identifies the audit results should be generated, distributed, and a log developed to track both the findings and corrective action plans.

Contractor input:

In this section, document the audit program that should include an audit schedule, the activities to be audited and how the contractor will address the audit findings:

PROJECT QUALITY ASSURANCE PLAN

15 TRAINING

The contractor should establish and maintain procedures for identifying the training needs and provide for the training of all personnel performing the activities affecting quality.

Records of the training and evaluations should be maintained. A training matrix can be used as an effective tool for determining which personnel require what type of training.

Contractor input:

In this section, document the training program, personnel qualification and any certification needed as necessary:

PROJECT QUALITY ASSURANCE PLAN

APPENDICES

Contractor input:

In this section, the Contractor may include any references, procedures, process flow charts, forms and acronyms/definitions that apply to this project:

SECTION 01 43 00**QUALITY ASSURANCE REQUIREMENTS****1.0: QUALITY ASSURANCE**

The Contractor shall develop an effective Quality Assurance Plan (QAP) for the METRORAIL ESCALATORS REPLACEMENT/ELEVATORS REFURBISHMENT PROJECT to assure adequate quality throughout all phases of the Contract Work and shall describe the methods used and means employed for the implementation of the plan. The Contractor's QAP shall ensure compliance with the requirements of the contract documents within the Contractor's, subcontractor's and supplier's organizations. In addition, a QAP template shall be attached to the contract documents for further guidance in the development of the Contractor's QAP. The QAP template contains the fifteen (15) quality elements as described in FTA Quality Management System (QMS) Guidelines (FTA-PA-27-5194-12.1).

2.0: ORGANIZATION

2.1 Personnel performing Quality Assurance/Quality Control (QA/QC) functions shall have sufficient, well-defined responsibility, authority and the organizational freedom to identify and evaluate quality problems, and to initiate, recommend or provide solutions.

2.2 The Contractor's QAP shall be subject to DTPW's verification at any time. Verification may include but not be limited to:

1. Surveillance of the operations.
2. Auditing of records and activities.
3. Inspection to measure quality of items and/or works to ensure compliance with requirements.
4. Review of Quality Records to ensure proper records keeping of activities affecting quality. These records shall be available for review by DTPW at any time.

2.3 The Contractor shall designate a Quality Assurance Representative (QAR) experienced in the

quality requirements of the Contract. The QAR shall be a Quality Assurance professional with experience in quality systems and programs.

- 2.4 The QAR shall be given sufficient authority to ensure that the quality is consistently maintained. The QAR shall not be replaced by the Contractor without prior approval of DTPW Quality Assurance Division.

3.0: APPLICABILITY

The responsibility for providing Quality Assurance oversight on the work performed under this contract rest with the Contractor. The Contractor's QAP shall apply to the control of quality throughout all areas of work performed as specified in this section.

4.0: REQUIREMENTS

The Contractor's QAP shall be in accordance with this section and shall also include:

- 4.1 An organizational chart indicating lines of authority and reporting relationship including QA/QC personnel.
- 4.2 Detailed Quality Procedures and Inspection Forms.
1. The QAP and associated quality procedures and Inspection Forms should be submitted to DTPW five (5) days after Notice to Proceed (NTP) for review and approval.
 2. Additional information may be required by DTPW to assure acceptability of the Contractor's QAP.
 3. All work undertaken by the Contractor before the approval of the Contractor's QAP by DTPW Quality Assurance Division will be at the Contractor's risk and expense.
- 4.3 Records for all material tests, audits, and inspections performed, including data on conforming as well as nonconforming items shall be maintained by the Contractor at the job site current, up to date, and available for DTPW inspection at any time throughout the contract work.

4.4 The Contractor's Daily Inspection Reports (IDR) is required by this Section and shall be available for review by DTPW.

4.5 Test Records and Calibration Identification status of testing equipment required for the project shall be maintained by the Contractor and available for inspection by DTPW at any time throughout the contract work.

5.0: NONCONFORMANCE AND REPAIR ACTION

5.1 The Contractor shall maintain an effective system for controlling nonconforming material, including procedures for its identification, segregation, and disposition.

5.2 All nonconforming material shall be positively identified to prevent unauthorized use, shipment, or intermingling with conforming material.

5.3 In addition, the Contractor shall ensure compliance with requirements for nonconformance and repair in accordance with the contract documents.

6.0: MATERIALS TESTING SERVICE

Testing will be in accordance with the contract documents, if applicable.

7.0: MEASUREMENT AND PAYMENT

7.01 MEASUREMENT

Work under this section will not be separately measured for payment.

7.02 PAYMENT

Work under this section will be paid as part of the pay item unit price requiring the work specified in this section.

END OF SECTION

SECTION 01 45 23

TESTING LABORATORY SERVICES

PART 1: GENERAL

1.01 REQUIREMENTS INCLUDED: "All tests required to be performed by the Contractor, shall be made at the expense of the Contractor." It is the responsibility of the Contractor to pay for DTPW's independent Testing Laboratory to perform the required testing. The Contractor will ensure all material test reports supplied by the Testing Laboratory are complete, accurate, and document acceptable test results for all material samples selected and tested.

- A. The Contractor shall cooperate with the laboratory to facilitate the execution of the Laboratory required services.
- B. Employment of a laboratory by MDC shall in no way relieve the Contractor of its obligation to perform the Work.

1.02 SCOPE OF WORK:

The Independent Testing Laboratory shall perform all tests required by the Contract Documents, applicable codes, Manufacture's recommendations, governing laws, rules and regulations and those tests required for approvals by public agencies and authorities.

1.03 LIMITATIONS OF AUTHORITY OF TESTING LABORATORY:

- A. The Laboratory is not authorized to:
 - (1) Release, revoke, alter or enlarge on the requirements of the Contract Documents.
 - (2) Approve or accept any portion of the Work.
 - (3) Perform any duties of the Contractor.

1.04 CONTRACTOR'S RESPONSIBILITIES:

- A. Notify laboratory sufficiently in advance of operations to allow for laboratory assignment of personnel and scheduling of tests.
 - (1) When tests or inspections cannot be performed after such notice, reimburse Owner for laboratory personnel and travel expenses incurred due to Contractor's negligence.

- B. Cooperate with laboratory personnel; provide access to Work, and to Manufacturer's operations.
- C. Secure and deliver to laboratory adequate quantities of representational samples of materials proposed to be used and which require testing.
- D. Provide to the DTPW staff or designee a preliminary design mix proposed to be used for concrete, and other materials mixes which require control by testing laboratory as specified in the Contract.
- E. Furnish incidental labor and facilities:
 - (1) To provide access to Work to be tested.
 - (2) To obtain and handle samples at Project site or at source of product to be tested.
 - (3) To facilitate inspections and tests.
 - (4) For storage and curing of test samples.
- F. The Contractor shall review all material test reports received from the Testing Laboratory for completion of testing data with acceptable test results for material samples selected and tested. Ensure that any failures recorded in the test reports are resolved by appropriate methods to assure testing compliance with the contract documents.
- G. The Contractor shall maintain at the job site and throughout the construction project, records for all material samples selected with results by the Testing Laboratory for quality control verification of final test results received from the laboratory. A record control system shall be established for the review, maintenance and filing of all Testing Laboratory Reports received during the construction phase.
- H. Employ and pay for services of a separate, equally qualified independent testing laboratory (approved by MDT) to perform additional inspections, sampling and testing required:
 - (1) For Contractor's convenience.
 - (2) When initial tests by MDC's testing Laboratory indicate Work does not comply with Contract Documents and the Contractor wants a second opinion.

- I. Make arrangements with laboratory and pay for additional samples and tests required for Contractor's convenience.
- J. Pay for removal costs of rejected materials, reinstallation of new materials and the costs of other corrective action.

PART 2: PRODUCTS

No Product required.

PART 3: EXECUTION

See PART 1.

PART 4: MEASUREMENT AND PAYMENT

The work of DTPW's Testing Laboratory will be paid by Contractor unless additional costs are incurred by the Laboratory due to the DTPW's request.

END OF SECTION

SECTION 01 52 00

TEMPORARY FACILITIES

PART 1: GENERAL

1.01 DESCRIPTION: This Section specifies furnishing, installing, operating, maintaining and removing temporary facilities required for the prosecution of the work.

1.02 QUALITY ASSURANCE:

- A. Temporary electrical power and lighting shall be provided in accordance with the applicable requirements of OSHA, Part 1926, Safety and health Regulations for Construction and installed in accordance with the NEC and all other applicable local and National Codes.
- B. Temporary Sanitary Facilities, first aid services and fire protection shall be provided in accordance with the applicable requirements of OSHA, Part 1926, Safety and Health Regulations for Construction.

PART 2: PRODUCTS

2.01 ELECTRICAL MATERIALS: As required, UL listed.

2.02 SANITARY FACILITIES: As required.

2.03 FIRST AID SERVICES:

- A. Supplies: Not less than one 16-unit first aid kit for each 50 persons, or fraction thereof, employed at the Work site.
- B. Personnel: Not less than one certified person for each 50 persons, or fraction thereof, employed at the Work site. Provide each member of the first aid staff with a hard hat with the first aid emblem affixed to the rear of the hat. First aid personnel may be assigned other duties not interfering with their duties as first aid personnel.

2.04 FIRE PROTECTION MATERIALS: As required.

2.05 PROJECT SIGN

Refer to Section 01 58 13 - Project Construction Signs

PART 3: EXECUTION

3.01 ELECTRICAL POWER AND LIGHTING:

- A. Locate and arrange electrical components so that they will not interfere with operations. Adequately support and protect from damage.
- B. Maintain system in an operable condition. Promptly replace burned-out lamps, damaged conduits, defective wiring and other nonoperating or defective components.
- C. Remove temporary electrical power and lighting systems when the permanent electrical power and lighting systems have been approved for use in place of the temporary systems.

3.02 SANITARY FACILITIES:

- A. Locate the facilities in a manner and at locations to remain accessible, functional and secluded from public observation, insofar as practicable to do so. Relocate portions of the facilities as required as the activity center of the construction advances.
- B. Anchor portable facilities to prevent dislocation.
- C. Service toilet facilities as often as necessary to prevent accumulation of wastes and unsanitary conditions. In no event shall toilet facilities be serviced less frequently than twice each seven days.
- D. Permanent sanitary facilities constructed as a part of the Work shall not be used as temporary facilities. Evidence of use of permanent sanitary facilities by construction personnel shall constitute reason for rejection of such facilities.

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01 52 00-2

3.03 FIRST AID FACILITIES:

- A. Instruct construction personnel as to the location of the first aid facilities.
- B. Check first aid kits at least weekly and replace expended items.

3.04 FIRE PROTECTION: Locate the system in a manner and at locations to remain accessible, functional and readily identifiable during the entire period of construction. Relocate portions of the system as required when the activity center of the construction advances. Instruct construction personnel as to the location and proper use of each item of the temporary fire protection system.

3.05 PROJECT SIGNS:

- A. Install, maintain and remove temporary project signs as indicated by the DTPW staff or designee.
- B. Anchor signs in a manner so as to prevent destruction and overturning due to high winds.
- C. Install temporary project signs at the locations indicated by the DTPW staff or designee. Maintain signs in a neat and clean condition. Remove and replace damaged or deteriorated signs.

3.06 STAGING AREA PLAN:

- A. Contractor is responsible to submit a full proposed staging plan as required by the RFP. Staging area(s) identified by the Contractor is at no additional cost to MDC.

PART 4: MEASUREMENT AND PAYMENT

4.01 MEASUREMENT:

IRP 144
TEMPORARY FACILITIES

Contract No. RFP-0000
01 52 00-3

Work under this Section will not be separately measured for payment.

4.02 PAYMENT:

Work under this Section will be paid for as part of the pay item unit price requiring the work specified in this section.

END OF SECTION

SECTION 01 55 26
MAINTENANCE OF TRAFFIC, PUBLIC STREETS AND METRORAIL CUSTOMERS

PART 1: GENERAL

1.01 SCOPE OF WORK

The Contractor shall be responsible for the maintenance of traffic and detour of traffic of public, state and municipal streets and traffic control as specified hereinafter. The Contractor shall be responsible for obtaining an approved Maintenance of Traffic (MOT) Plan from the appropriate Agency Having Jurisdiction (AHJ), depending on the roadway jurisdiction. The MOT plan, provided by the Contractor, shall include provisions for pedestrian and bicycle traffic and flow as well as vehicular traffic.

This section includes furnishing all necessary labor, materials, tools, and equipment including, but not limited, to signs, barricades, traffic drums, cones, flashers, construction fending, flag persons, warning devices, temporary pavement markings, delineators, etc. to control vehicular, pedestrian and bicycle traffic through and adjacent to the Project area. The cost of Traffic Control including the cost of any required uniformed Off Duty Police Officers shall be included under the appropriate bid item in the Bid Form.

1.02 REGULATIONS

As used herein, any reference to Miami-Dade County, its departments, or its published regulations, permits and data, shall be synonymous and interchangeable with other recognized governing bodies over particular areas or streets, or their departments, published regulations, permit or data. The Contractor shall abide by all applicable laws, regulations, and codes thereof pertaining to Maintenance of Traffic (MOT) on public streets, detour or traffic, traffic control and other provisions as may be required for this project. The Contractor is responsible for securing the required approvals/permits for the MOT plan.

1.03 MAINTENANCE OF TRAFFIC PLAN - Minimum Requirements

- A. Traffic shall be maintained in accordance with the requirements of the above noted standards and requirements set forth by the AHJ over the roadway. No street shall be completely blocked, nor blocked more than one-half at any time, keeping the other one-half open for traffic, without specific approval. Detouring shall be limited to construction hours and normal traffic patterns shall be re-established at the end of each workday.
- B. The MOT plan shall be signed and sealed by a Professional Engineer registered in the State of Florida.
- C. The Contractor shall incorporate safe pedestrian and bicycle flow/movements in the streets impacted by the Project in the MOT plan. A safe walk/bike route within the vicinity of the construction zone shall be maintained at all times. If the current walking surface cannot be maintained, then a temporary walkable surface shall be created. The safe walk route shall be separated from the construction activity during the entire length of the Project with proper pedestrian openings at designated crossings in compliance with the Design Standards as set forth by the AHJ as well as meeting all the Americans with Disabilities Act (ADA) requirements.
- D. The Contractor shall prepare for the DTPW staff or designee's approval a safe pedestrian and bicycle flow/movement inside the Station during the construction duration. The plan shall be presented to DTPW for approval at a minimum of 15 working days in advance of the work. The Contractor will be responsible to place proper signage at least 7 days prior to initiating the work to notify Metrorail customers of upcoming work.
- E. The Contractor shall ensure all personnel involved in traffic control are trained and capable of communicating with the public during closures and detours.
- F. All construction equipment activity adjacent to a designated walk/bike route shall cease operating unless satisfactorily barricaded from the walk/bike route. Contractor is responsible for the control of water runoff, dust and any other special requirements for safe movement of pedestrians and bicyclists and vehicular traffic.

- G. It shall be the Contractor's responsibility to install any necessary pavement, road rock, pavement markings and signage and/or any pedestrian signalization and/or signal modification to accommodate an existing or alternate walk/bike route throughout the entire length of the Project.
- H. It shall be the Contractor's responsibility to provide uniformed Off Duty Police Officers, as deemed required, to maintain and regulate the flow of traffic through the construction area and/or to cross pedestrians and bicyclists. Locations and conditions requiring uniformed Off Duty Police Officers and/or flag persons shall be as required by the project and/or as directed by the AHJ and the County. The number of hours on duty necessary for the maintenance of regulation of traffic flow shall be subject to Police approval as well as AHJ and the County. The cost of such Off Duty Police Officers shall be paid from the bid item established for this purpose.
- I. If required by traffic control permits or agencies, the Contractor shall work odd or night hours, as required for traffic control reasons and the cost of such work shall be considered as incidental to the construction and no extra compensation will be allowed.
- J. Planning, maintenance and control of traffic shall be provided at the Contractor's expense. All costs of maintaining the vehicle, pedestrian and bicycle traffic throughout the work area shall be the Contractor's responsibility.
- K. The MOT plan shall take into account maintaining access to businesses and residences in the vicinity of the construction work zone and shall include, if necessary, proposed temporary commercial and industrial loading and unloading zones. The Contractor shall provide necessary access to all affected properties during construction.
- L. It shall be the Contractor's responsibility to notify DTPW through the DTPW staff or designee, if construction will impact any bus route. If deemed necessary, a meeting will be held to determine all bus routes and to make any necessary arrangements for rerouting.

- M. The Contractor shall provide and maintain in a safe condition access to streets, businesses, parking lots, and residences. The Contractor shall provide the signs to advise motorists, pedestrian and bicyclists of the proper access to streets, businesses, parking lots and residences.
- N. The Contractor shall provide emergency access to all residences and businesses at all times. Residential and business access will be restored and maintained at all times outside the Contractor's normal working hours.
- O. Excavated or other materials stored adjacent to or partially upon a roadway pavement shall be adequately marked for traffic safety at all times.
- P. The Contractor shall be responsible for the provision, installation and Maintenance of all traffic control and safety devices, in accordance with specifications outlined in the permit(s). In addition, the Contractor shall be responsible for providing the DTPW staff or designee with all approved MOT plans for lane closures and/or detours for acceptance. These M.O.T. plans shall be produced by an individual employed by the Contractor and certified as "Work Zone Traffic Safety supervisor" by the International Municipal Signal Association.
- Q. The Contractor shall notify FDOT's, Maintenance of Traffic DTPW staff or designee, for the Florida Department of Transportation (FDOT), District Six (6) and Miami-Dade County Transportation and Public Works (DTPW) in advance of the construction date and minimum of fourteen (14) days in advance of any lane closures and/or detours affecting their respective right of way.
- R. Temporary pavement shall be required over all cuts in pavement areas, and where traffic is to be routed over the swale or median areas. When the temporary pavement for routing traffic over the swale or median is no longer necessary, it shall be removed and the swale or median areas restored to their previous condition.
- S. Pavement markings damaged during construction shall be repaired promptly by the Contractor, as required, by the

AHJ. In addition, the Contractor shall be responsible for the resetting of all traffic control and informative signing removed during construction.

1.04 MAINTENANCE OF TRAFFIC FOR BYPASS PUMPING (NOT USED)

1.05 LANE CLOSURES

A. Where construction of the project shall involve lane closures of public streets, the following shall apply:

1. Lane closures shall be in accordance with Agreements executed with AHJ.

1.06 SUBMITTALS

A. The Contractor shall submit to the DTPW staff or designee and to AHJ, Maintenance of Traffic (MOT) plans for review and approval, in order for Lane Closure Permit to be issued.

1.07 NOTIFICATIONS

A. The Contractor is responsible for notifying the Miami-Dade County Fire and Rescue Department whenever roads are impassable.

B. The Contractor will immediately notify the DTPW staff or designee of any vehicular or pedestrian/bicycle safety problem incurred as a result of the construction of the Project.

C. The Contractor will notify individual owners, owner's agents and tenants of buildings adjacent to worksite in writing at least seventy-two (72) hours in advance of any disruption to their access and/or use of public ways adjacent to the buildings or prohibiting the stopping and parking of vehicles.

PART 2: PRODUCTS (Not Used)

PART 3: EXECUTION (Not Used)

PART4: MEASUREMENT AND PAYMENT

4.01 MEASUREMENT:

Work under this Section will not be separately measured for payment.

4.02 PAYMENT:

Work under this Section will be paid for as part of the pay item unit price requiring the work specified in this section.

END OF SECTION

SECTION 01 56 23

TEMPORARY BARRIERS

PART 1: GENERAL

1.01 DESCRIPTION

This Section specifies furnishing, installation, maintenance, relocation and removal of temporary pedestrian barricades.

PART 2: PRODUCTS

2.01 MATERIALS

Temporary pedestrian barricades, as approved by the DTPW staff or designee.

Temporary electrical power and lighting shall be provided in accordance with the applicable requirements of OSHA, Part 1926, Safety and health Regulations for Construction and installed in accordance with the NEC and all other applicable local and National Codes.

PART 3: EXECUTION

3.01 Submit plan showing number and location of the pedestrian barricades for approval by the DTPW staff or designee.

3.02 Contractor is to assure no public access inside of traffic barricades

PART 4 MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

Work under this Section will not be separately measured for payment

4.02 PAYMENT

Work under this Section will be paid for as part of the pay item unit price requiring the work specified in this section.

END OF SECTION

SECTION 01 57 15

CONSTRUCTION NOISE VIBRATION AND POLLUTION CONTROLS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. This Section specifies the project controls to be observed to eliminate or minimize environmental impact caused by construction activities.

1.02 NOISE POLLUTION QUALITY ASSURANCE

- A. Contractor shall comply with the Municipal and Miami-Dade County Noise Pollution Ordinance(s).
- B. Daytime refers to the period from 7:00 A.M. to 10:00 P.M. local time, daily, except Sundays and legal holidays. Nighttime refers to the period from 10:00 P.M. to 7:00 A.M. local time, daily, all day Sunday, and all day on legal holidays.
- C. Public exposure to sound levels due to construction noise will be measured at the closest point adjacent to the site of Work in normal use by the public while construction work is in progress.
- D. Sound levels for construction noise affecting building structures and their occupants will be measured at a point five feet from the face of the building structure adjacent to the Contractor's operations.

TABLE 1: Continuous Noise
Maximum Allowable Continuous Noise Level, (dBA)

<u>Affected Structure</u>	<u>Day time</u>	<u>Nighttime</u>
Residential: Quiet Residential Areas	75	65
Arterial or Multi-Family Residential Areas	75	65
Primarily Residential, some Commercial	85	65
	<u>At All Times</u>	
Primarily Commercial, some Residential	80	
Commercial Areas	80	
Industrial Areas	9	

TABLE 2: Intermittent Noise
Maximum Allowable Intermittent Noise Level, (dBA)

<u>Affected Structure</u>	<u>Day time</u>	<u>Nighttime</u>
Residential: Quiet Residential Areas	80	70
Arterial or Multi-Family	80	70
Residential Areas	80	70
Primarily Residential, some Commercial	85	75
	<u>At All Times</u>	
Primarily Commercial, some Residential	90	
Commercial Areas	105	
Industrial Areas	110	

TABLE 3: Equipment Noise Emission Restrictions

<u>Location</u>	<u>Noise Limit</u>
Equipment other than highway Trucks including hand tools, Heavy equipment and pile drivers.	115 dBA.

PART 2 - PRODUCTS

- 2.01 No products are required other than those necessary to establish and maintain the environmental impact controls. The noise monitoring equipment shall be supplied by the Contractor and approved by the DTPW staff or designee.

PART 3 - EXECUTION

3.01 NOISE POLLUTION:

A. General

1. Eliminate or minimize noise caused by construction activities. Provide construction machinery and equipment with efficient noise suppression devices for the protection of employees and the public. Schedule operations to maintain the noise levels and the schedule for implementation of those actions.
2. The Contractor shall perform noise measurements prior to beginning any work on the site to define the noise level baseline.

B. Monitoring

1. Monitor noise levels of construction activities to assure compliance with the limits indicated. Inform the DTPW staff or designee of the proposed actions and equipment for monitoring noise levels within the limits indicated.
2. Perform noise measurements using the A-scale of a standard sound level meter at slow response.
3. Noise restrictions:
 - a. Prevent noise emanating from construction activities, measured at the points as specified in Article 1.02. C from exceeding the impact noise levels indicated in Tables 1, 2, and 3.
 - b. Prevent noise levels at the affected structures from exceeding those specified in Tables 1 and 2.

- c. In areas as specified in Article 1.02 C prevent noises from stationary sources, parked, mobile sources, or combination of any sources producing repetitively scheduled or long-term noise lasting more than a few hours from exceeding the limits specified in Table 1.
- d. Prevent noises from non-stationary mobile equipment or from sources of non-scheduled, intermittent, non-repetitive, short-term noises not lasting more than a few hours, from exceeding the limits specified in Table 2.

C. Noise Abatement Measures

- 1. Utilize noise abatement measures listed below to minimize the noise levels in areas outside the construction limits:
 - a. Utilize shields, impervious fences, and sound barriers to inhibit transmission of noise.
 - b. Utilize sound retardant housings or enclosures around noise producing equipment.
 - c. Utilize effective intake and exhaust mufflers on internal combustion engines and compressors.
 - d. Line or cover hoppers, storage bins, and chutes with sound deadening material.
 - e. Minimize use of air or gasoline driven saws.
 - f. Conduct truck loading, unloading, and hauling operations so that noise is kept to a minimum.
 - g. Route construction equipment and vehicles carrying spoil, concrete, or other materials over streets that will cause the least disturbance to residents in the vicinity of the Work. Advise the DTPW staff or designee in writing of the proposed haul routes prior

to securing a permit from the local authority.

- h. Locate stationary equipment to minimize noise impact on community, subject to approval of the DTPW staff or designee.
- i. The Contractor may propose other effective noise abatement measures.

3.02 WATER POLLUTION

- A. Comply with the pollution control ordinance of the Miami-Dade County Environmental Resources Management (DERM), the water pollution rules of the South Florida Water Management District (SFWMD), and State of Florida Department of Environmental Protection (DEP).
- B. Provide grease traps, dikes, curb walls, sumps, and pipes to prevent harmful runoffs to natural or man-made streams, ponds, or water impoundments.
- C. Demolish preventive measures when no longer required. Remove debris and restore site to original condition.

3.03 AIR POLLUTION

- A. Motor Emissions
 - 1. Use emission control devices on gasoline or diesel construction equipment and prohibit idling and unnecessary operation of equipment to prevent and control air pollution in accordance with criteria issued by the Environmental Protection Agency.
- B. Dust Control
 - 1. Maintain Work and access areas free from dust. Use covered loaded trucks, sprinkled calcium chloride, water or light bitumen application on dust generating surfaces. Have sufficient equipment on site to accomplish dust control as Work proceeds.
 - 2. Control clearing, grubbing, and demolition Work to minimize dust.
 - 3. Where demolition of existing structures containing

asbestos material is necessary, take precautions in accordance with federal, state, and local regulations.

C. Burning

1. Conduct burning of trees, shrubs, rubbish or other material in accordance with the State of Florida and Dade County laws, ordinances, and regulations to minimize air pollution.
2. Inform the DTPW staff or designee how governing air pollution criteria will be met.
3. If unsatisfactory construction procedures and operations pertaining to air pollution are followed, the DTPW staff or designee may suspend the performance of construction until unsatisfactory conditions have been corrected.

3.04 SPILLAGES

- A. Store petroleum and by-products used during construction at a safe distance from streams and canals. Collect and dispose of spilled material to prevent dispersion.

3.05 CLEANING

- A. Maintain Work Site in accordance with local ordinances and antipollution laws applicable to Work Site cleanliness, and in a neat, orderly and hazard-free condition until final acceptance of the Work. Areas adjacent to the Work Site shall be kept free from waste material, debris and rubbish caused by construction activities.
- B. Artificially ventilate spaces that are not naturally ventilated when volatile and noxious substances are being used in those spaces.
- B. Rubbish, volatile wastes, and other construction wastes shall be neither burned nor buried on the Work Site, and shall not be disposed of into storm drains, sanitary drains, streams or other waterways. Store volatile wastes in covered metal containers, and remove from Work Site daily or as directed by the DTPW staff or designee.

- D. Perform cleaning every workday for duration of the Work. Structures, grounds, and areas of the Work Site, public, and adjacent private properties shall be maintained free of waste materials and rubbish gathered by construction operations. Place waste materials and rubbish in on-site containers.
- E. Remove or secure loose material on exposed surfaces at the end of each day's Work or more often to maintain Work Site in hazard-free condition. Prevent dislodgement of materials due to wind and other forces.
- F. Wet down dry materials and rubbish to lay dust and prevent blowing dust.
- G. Empty on-site waste containers whenever necessary to avoid trash overflow. Dispose of contents at either public or private dumping areas.
- H. Control the handling of materials, debris and rubbish; do not drop or throw from heights. Immediately remove spillages of construction-related materials from hauling routes.
- J. Remove grease, dust, dirt, stains and other foreign materials from exposed finished surfaces.
- K. Continue cleaning operations until final project acceptance.

PART 4 - MEASUREMENT AND PAYMENT

4.01 MEASUREMENT

Work under this Section will not be separately measured for payment.

4.02 PAYMENT

Work under this Section will be paid for as part of the pay item unit price requiring the work specified in this section.

END OF SECTION

SECTION 01 58 13
PROJECT CONSTRUCTION SIGNS

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. Project Signs will be provided by Miami-Dade County Internal Services Department (ISD) at no cost to the Contractor.
- B. The type, location, and number of signs required per each work site shall be at the discretion of the DTPW staff or designee.

1.2 JOB CONDITIONS

- A. No work shall commence until the Project Signs are secured in place, as directed by the DTPW staff or designee.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 MAINTAIN AND RELOCATE PROJECT SIGNS

- A. The Contractor shall maintain and relocate Project Signs throughout the duration of the Contract, as directed by the DTPW staff or designee and at no additional cost to MDC.
- B. The Contractor shall install relocated Project Signs as required by the DTPW staff or designee. All materials and work necessary to secure, brace, mount, place and maintain the Project Signs will be provided at Contractor's expense.
- C. The Contractor shall notify the DTPW staff or designee immediately if at any time, during the Contract Duration, a Project Sign becomes damaged, defaced, or unreadable. If the DTPW staff or designee determines that a replacement sign is

required, the DTPW staff or designee will request it from ISD.

PART 4 - MEASUREMENT AND PAYMENT

4.01 Measurement :

Work under this Section will not be separately measured for payment.

4.02 Payment :

Work under this Section will be paid for as part of the pay item unit price requiring the work specified in this section.

END OF SECTION

SECTION 01 62 00

SUBSTITUTIONS AND PRODUCT OPTIONS

PART 1: GENERAL

1.01 DESCRIPTION:

This Section specifies the procedures to be followed for preparing, submitting, amending and updating of lists of products proposed to be incorporated in the work.

1.02 SELECTED PRODUCTS:

Within 30 days after the effective date of Notice to Proceed, submit five copies of the list of selected products. Arrange the list in the order of each Section's appearance in the specification.

- A. For products specified only by reference standards, any product satisfying those standards may be selected. Show name and address of manufacturer; trade name, model number or catalog designation of the product; manufacturer's reference standards and pertinent performance and test data.
- B. For products specified by naming one product or by naming several products, this establishes a product standard. Any other product, which is equal in the opinion of the DTPW staff or designee may be furnished. A request must be submitted to the DTPW staff or designee as required for substitutions, for acceptance of products not specifically named.
- C. Amend and update list as changes concerning the information become known.

1.03 LIST OF SUBSTITUTE PRODUCTS AND METHODS:

Formal requests from the Contractor will be considered by the DTPW staff or designee for substitution of products and methods in place of those specified, but only if these requests are submitted within 60 days after effective date of Notice To Proceed. No substitutions request will be considered after 60 days. Acceptance of substitute products and methods shall be only for the characteristics and use named in the acceptance, and shall be interpreted neither as a modification to the Specification and Drawing requirements nor to establish acceptance of products and methods for other portions of the Transit System. The DTPW staff or designee shall judge the

quality and suitability of the substitute product and method and his decision shall be final. Where use of a substitute product and method involves redesign of other parts of the Work, the cost and time required to affect that redesign will be considered in evaluating the suitability of the substitute product and method.

A. Submit five copies of list of substitute products and methods, including the following information:

1. Complete data substantiating compliance of the proposed substitution with the requirements of the Specifications and Drawings.
2. For products:
 - a. Product identification, including manufacturer's name and address.
 - b. Manufacturer's literature, including product description, performance and test data and pertinent reference standards.
3. For construction methods:
 - a. Detailed description of proposed method.
 - b. Working drawings illustrating methods.
4. Itemized comparison of proposed substitution with product specified. Comparison shall include cost, differences in estimated life, estimated maintenance, availability of spare parts and repair services, energy consumption, performance capacity, salvageability, manufacturer's warranties and other material differences.
5. Data relating to changes in construction schedule.
6. Accurate cost data on proposed substitution in comparison with product and method specified except that cost data will not be required on substitutes proposed as equal, equivalent or superior to specified brand names and for which no request is made for price adjustment to the Subcontract.
7. Equitable adjustment and credit that the Contractor proposes to offer MDC if the substitutions are not equal, equivalent or superior to specified brand names.

- B. In making request for substitution, Contractor shall verify:
1. That he has personally investigated the proposed product and method and that to the best of his knowledge, information and belief, the product and method is either equivalent or superior to that product and method specified and that he will update information as new or different data become known to him.
 2. That he will furnish the same guarantee for substitution as he would for the product and method specified.
 3. That he will coordinate installation of the accepted substitution into the Work and will make those changes required for the Work to be complete and operable.
 4. That cost data is complete and includes related costs and excludes cost of DTPW staff or designeeing redesign.
 5. That he waives claims for additional time and costs related to the substitution, which becomes apparent.
- C. Amend and update list as changes concerning information on the list become known to him.
- D. Substitutions will not be considered, if indicated or implied on Shop Drawings or Product Data submittal for which no formal request for substitution has been submitted. Requests for substitutions will not be considered if acceptance will require substantial revisions of drawings and specifications or both.

PART 2: PRODUCTS

2.01 PRODUCTS:

No products are required except as indicated in PART 1: GENERAL.

PART 3: EXECUTION

3.01 EXECUTION:

No execution is required except as indicated in PART 1:
GENERAL.

PART 4: MEASUREMENT AND PAYMENT

4.01 MEASUREMENT:

Work under this Section will not be separately measured for
payment.

4.02 PAYMENT:

Work under this Section will be paid for as part of the pay
item unit price requiring the work specified in this section.

END OF SECTION

SECTION 01 71 13

MOBILIZATION

PART 1: GENERAL

1.01 DESCRIPTION: This Section specifies the mobilization of the construction equipment at the worksites for material and supplies necessary for the prosecution of the Work, but not to be incorporated in the work; for temporary storage of equipment and material at the site and for demobilization of the construction equipment. Mobilization also includes the following:

A. Costs of bonds and insurance required by the Contract Documents.

1.02 SUBMITTALS: Submit within seven (7) days after the effective date of Notice to Proceed, a layout of the proposed construction plan site including fences, roads, parking, buildings and storage areas.

PART 2: PRODUCTS

2.01 EQUIPMENT: Construction equipment, shall be of the capacity, type, quality, function and in the quantity necessary for the timely prosecution of the Work.

PART 3: EXECUTION

3.01 GENERAL: Construction equipment, material, supplies, temporary building facilities and other items necessary for mobilization shall be available at the Work site at the times they are to be built, used, installed or operated.

PART 4: MEASUREMENT AND PAYMENT

4.01 MEASUREMENT:

Work under this Section will be separately measured for payment.

4.02 PAYMENT:

Work under this Section will be paid for as part of the pay item unit price requiring the work specified in this section.

END OF SECTION

SECTION 01 73 29

CUTTING AND PATCHING

PART 1: GENERAL

1.01 REQUIREMENTS INCLUDED

- A. Contractor responsibility: All cutting, fitting and patching, including attendant excavation and backfill, required to complete the work to:
 - 1. Make its several parts fit together properly.
 - 2. Uncover portions for the work to provide for the installation of ill-timed work.
 - 3. Remove and replace defective work.
 - 4. Remove and replace work not conforming to requirements of Contract Documents.
 - 5. Remove samples of installed work as specified for testing.
 - 6. Remove routine penetrations of non-structural surfaces for installation of piping and electrical conduits.

1.02 SUBMITALS

- A. Submit a written request to the Engineer well in advance of executing any cutting or alteration which affects:
 - 1. Work of the Owner or any separate contractor.
 - 2. Structural value or integrity of any element of the Project.

3. Integrity or effectiveness of weather-exposed or moisture resistant elements or systems.
4. Efficiency, operational life, maintenance or safety of operational elements.
5. Visual qualities of sight-exposed elements.

B. Include with each request:

1. Identification of the Project.
2. Description of affected work.
3. The necessity for cutting alteration or excavation.
4. Effect on work of Owner or any separate contractor, or on structural or weatherproof integrity of Project.
5. Description of proposed work:
 - a. Scope of cutting, patching, alteration, or excavation.
 - b. Trades who will execute the work.
 - c. Products proposed to be used
 - d. Extent of refinishing to be done.
6. Alternatives to cutting and patching.
7. Cost proposal, when applicable.
8. Written permission of any separate contractor whose work will be affected.
9. Should conditions of Work or the schedule indicate a change of Products from original installation, submit request for substitution.

- C. Submit written notice to the Engineer designating the date the time the work will be uncovered.

PART 2: PRODUCTS

2.01 MATERIALS

- A. Comply with specifications and standards for each specific products involved.

PART 3: EXECUTION

3.01 INSPECTION

- A. Inspection existing conditions of Project, including elements subject to damage or movement during cutting or patching.
- B. After uncovering work, inspect conditions affecting installation of Products, or performance of work.
- C. Report unsatisfactory or questionable conditions to Architect in Writing; do not proceed with work until the Engineer has provided further instruction.

3.02 PREPARATION

- A. Provide adequate temporary support as necessary to assure structural value or integrity of affected portion of work.
- B. Provide devices and methods to protect other portions of Project from damage.
- C. Provide protection from elements for that portion of the Project which may be exposed by cutting and patching work, and maintain excavations far from water.

3.05 PERFORMANCE

- A. Executive cutting and demolition by methods which will prevent damage to other work, and which will provide proper surfaces to receive installation of repairs.
- B. Execute excavating and backfilling by methods which will prevent settlement or damage to other work.
- C. Employ original Installer or Fabricator to perform cutting and patching for:
 - 1. Weather-exposed or moisture-resistant elements.
 - 2. Sight-exposed finished surfaces.
- D. Execute fitting and adjustment of products to provide a finished installation to comply with specified products, functions, tolerances and finishes.
- E. Restore work which has been cut or removed, install new products to provide complete work in accord with requirements of Contract Documents.
- F. Fit work airtight to pipes, sleeves, ducts, conduit and other penetration through surfaces.
- G. Refinish entire surfaces as necessary to provide an even finish to match adjacent finishes:
 - 1. For continuous surfaces, refinish to nearest intersection.
 - 2. For an assembly, refinish entire unit

PART 4 - MEASUREMENT AND PAYMENT

4.01 Measurement :

Work under this Section will not be separately measured for payment.

4.02 Payment :

Work under this Section will be paid for as part of the pay item unit price requiring the work specified in this section.

END OF SECTION

SECTION 01 74 00

CLEANING

PART 1: GENERAL

1.01 DESCRIPTION: This Section specifies the maintenance of the work site in a clean, orderly hazard-free condition.

1.02 QUALITY ASSURANCE:

- A. Conduct cleaning and disposal operations in accordance with local ordinances and anti-pollution laws. Rubbish, volatile wastes, and other construction wastes shall be neither burned nor buried on the work site, and shall not be disposed of into storm drains, sanitary drains, streams or other waterways.
- B. Final cleaning shall be accomplished either by workmen experienced in cleaning operations or by professional cleansers.

PART 2: PRODUCTS

2.01 CLEANING MATERIALS: Cleaning materials shall be as recommended by the manufacturer of the surface to be cleaned.

PART 3: EXECUTION

3.01 SAFETY REQUIREMENTS:

- A. Maintain work site in accordance with local ordinances and anti-pollution laws applicable to work site cleanliness, and in a neat, orderly and hazard-free condition until final acceptance of the work. Catwalks, accessible underground structures, work site sidewalks and walkways adjacent to the work site shall be kept free from hazards caused by construction activities.
- B. No volatile substances are to be used on the job site.
- C. Prevent accumulation of waste, which creates hazardous conditions.
- D. Artificially ventilate spaces, which are not naturally ventilated when noxious substances are being used in those spaces.

3.02 INTERIM CLEANING:

- A. Perform cleaning every workday for duration of the work. Structures, ground, and areas of the work site and public and private properties shall be maintained free from accumulations of waste materials and rubbish caused by construction operations on the work site. Waste material will be removed from the work site daily.
- B. Remove or secure loose material on open decks and on other exposed surfaces at end of each day's work or more often to maintain work site in hazard-free condition. Prevent dislodgment of materials due to wind and other forces.
- C. Empty on-site waste containers whenever necessary so that trash overflow does not occur. Legally dispose of contents at either public or private dumping areas.
- D. Control the handling of materials, debris and rubbish; do not drop or throw from heights.
- E. Immediately remove spillage's of construction-related materials from hauling routes.
- F. Perform cleaning operations in order for dust and other contaminants resulting from cleaning processes will not fall on structures or pedestrian traffic below.

3.03 FINAL CLEANING:

- A. In preparation for substantial completion, conduct final inspection of exposed interior and exterior surfaces and of concealed spaces.
- B. Remove grease, dust, dirt, stains, labels, fingerprints and other foreign materials from finished surfaces.
- C. Maintain cleaning operations until project has been finally accepted.
- D. All skylights shall be professionally cleaned on both interior and exterior.

3.04 DAMAGE TO EXISTING FINISHES:

- A. Repair any concrete damaged.

- B. Repaint to match existing areas of damaged paint due to Contractors operation.

PART 4: MEASUREMENT AND PAYMENT

4.01 MEASUREMENT:

Work under this Section will not be separately measured for payment.

4.02 PAYMENT:

Work under this Section will be paid for as part of the pay item unit price requiring the work specified in this section.

END OF SECTION

SECTION 01 78 00

CONTRACT CLOSE-OUT

PART 1: GENERAL

1.01 SUBSTANTIAL COMPLETION

- A. Substantial Completion shall be determined in accordance with the contract documents and this Section. Should a conflict arise between the General Conditions and this Section, the General Conditions shall take precedence.

1.02 FINAL CONSTRUCTION REVIEW

- A. When Contractor considers work is complete, he shall submit a written certification that work is acceptable and that:
 - 1. Contract Documents have been reviewed.
 - 2. Work has been reviewed for compliance with Contract Documents.
 - 3. Work has been completed in accordance with Contract Documents.
 - 4. Equipment and systems have been tested in the presence of the DTPW staff or designee and are operational.
 - 5. Work is completed and ready for final Construction Review.
- B. The DTPW staff or designee will make a Construction Review to verify status of completion with reasonable promptness after receipt of such certification.
- C. Failure of the DTPW staff or designee to Reject Work During Construction: If, during construction operations or during inspections for substantial or final completion, the DTPW staff or designee should fail to reject defective Work or materials, whether from lack of discovery of such defect or for any other reason, such initial failure to reject shall in no way prevent his later rejection when such defect is discovered, or obligate the Owner to final acceptance, and the Contractor shall make no claim for losses suffered due to any necessary removals or repairs of such defects.

1.03 CONTRACTOR'S CLOSE-OUT SUBMITTALS

- A. Upon receipt of notice of acceptability from the DTPW staff or designee, the Contractor shall furnish evidence of compliance with requirements of governing authorities and Contract Documents to the DTPW staff or designee, as follows:
1. As-built drawings and other project record Documents: As specified in Section 01 78 39.
 2. Operating and Maintenance Data, Instructions to Owners Personnel: As specified and in accordance with the requirements of the individual Sections of the Specifications.
 3. Warranties and Bonds: As specified in Section 01 78 33 and in accordance with the requirements of the individual Sections of the Specifications.
 4. Spare parts and Maintenance Materials: To requirements of various Sections.
 5. Evidence of Payment to subcontractors, material men and equipment suppliers and releases of liens.

1.04 FINAL ADJUSTMENTS OF ACCOUNTS

- A. Final Payment shall be determined in accordance with Article 35 of the General Conditions.

1.05 FINAL CHANGE ORDER

- A. The DTPW staff or designee will prepare a final Change Order, reflecting approved adjustments to the Contract Sum which were not previously made by Change Orders.

PART 2: PRODUCTS

2.01 PRODUCTS:

No products are required except as indicated in PART 1: GENERAL.

PART 3: EXECUTION

3.01 EXECUTION:

Prior to final payment, the Contractor shall complete and execute the Close-Out forms in Attachment "B" to the General Conditions.

PART 4: MEASUREMENT AND PAYMENT

4.01 MEASUREMENT:

Work under this Section will not be separately measured for payment.

4.02 PAYMENT:

Work under this Section will be paid for as part of the pay item unit price requiring the work specified in this section.

END OF SECTION

SECTION 01 78 33

WARRANTIES AND BONDS

PART 1: GENERAL

1.01 DESCRIPTION OF WORK

- A. The warranties provided by the Contractor shall be for the longest period, starting on the date of final acceptance, of those specified on paragraphs 1-01 A., 1 through 3 below:
1. One year from final acceptance on all the work as specified in the General Conditions, or;
 2. Warranty period(s) as specified by the approved material or equipment manufacturers, or;
 3. Longer warranty period(s) as specified in the Technical Specifications or other Sections of this RFP.
- B. The Contractor shall provide certifications and other commitments, extended warranties and agreements for continuing services as specified elsewhere in the Contract Documents.
- C. Reinstated warranty as applicable, see 1-04, B.

1.02 DISCLAIMERS AND LIMITATIONS

Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the work that incorporates the products, nor does it relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

1.03 DEFINITIONS

Standard product warranties are reprinted written warranties published by the individual manufacturers for particular products and are specially endorsed by the manufacturer to the Owner.

1.04 WARRANTY REQUIREMENTS

- A. Related Damages and Losses: When correcting warranted Work that has failed, remove and replace other Work that has been damaged as a result of such failure or

that must be removed and replaced to provide access for correction of warranted Work.

- B. Reinstatement of Warranty: When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.
- C. Replacement Cost: Upon determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of Contract Documents. The Contractor is responsible for the cost of replacing or rebuilding defective work regardless of whether the Owner has benefited from use of the Work through a portion of its anticipated useful service life.
- D. Owner Recourse: Written warranties made to the owner are in addition to implied warranties, and shall not limit the duties, obligations, rights and remedies otherwise available under the law, nor shall warranty periods be interpreted as limitations on time in which the Owner can enforce such other duties, obligations, rights or remedies.
- E. Rejection of Warranties: The COUNTY reserves the right to reject warranties and to limit selections to products with acceptable warranties and to limit selections to products with warranties not in conflict with requirements of the contract Documents.
- F. The Owner reserves the right to refuse to accept Work for the Project where a special warranty, certification, or similar commitment is required on such Work or part of the work, until evidence is presented that entities required to countersign such commitments are willing to do so.
- G. All warranties, shall start at date of substantial completion of the Contract, or when work of an area is substantially completed, accepted and taken over for use by the Owner. Ensure that all warranties comply with this stipulation prior to submission of same.
- H. The Owner will give prompt notice in writing to the Contractor of any defects noted during the warranty periods requesting him to promptly remedy such defects.

- I. Prior to final acceptance, the Contractor shall formally assign to the Owner all extended warranties given by subcontractors for their work on the project, and such subcontractor shall be formally advised of the assignment.

1.05 SUBMITTALS

- A. Submit written warranties to the DTPW staff or designee prior to the date of the final acceptance inspection
- B. When a special warranty is required to be executed by the Contractor, or the Contractor and a subcontractor, supplier or manufacturer, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties. Submit a draft to the DTPW staff or designee for approval prior to final execution.
- C. Submit a list of all warranty items within 90 days after notice to proceed Refer to individual Sections of Division 2 through 16 for specific content requirements, and particular requirements for submittal of specific warranties.
- D. Prior to final acceptance compile two copies of each required warranty, and bond properly executed by the Contractor, or by the Contractor, subcontractor, supplier or manufacturer. Organize the warranty documents into an orderly sequence based on the table of contents of the Project Manual, and submit under Section 01 78 39 - Project Record Documents.
- E. Bind warranties and bonds in heavy-duty, commercial quality, durable 3-ring vinyl covered loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2 inch by 11 inch paper.
- F. Provide heavy paper dividers with celluloid covered tabs for each separate warranty Mark the tab to identify the product or installation Provide a typed description of the product or installation, including the name of the product, and the name, address and telephone number of the installer.
- G. Identify each binder on the front and the spine with the typed or printed title, "WARRANTIES AND BONDS", the project title or name, and the name of the Contractor.

- H. When operating and maintenance manuals are required for warranted construction, provide additional copies of each required warranty, as necessary, for inclusion in each required manual.

PART 2: PRODUCTS

2.01 PRODUCTS:

No products are required except as indicated in PART 1: GENERAL.

PART 3: EXECUTION

3.01 EXECUTION:

No execution is required except as indicated in PART 1: GENERAL.

PART 4: MEASUREMENT AND PAYMENT

4.01 MEASUREMENT:

Work under this Section will not be separately measured for payment.

4.02 PAYMENT:

Work under this Section will be paid for as part of the Contract lump sum price for Pay Item No. 1, General Requirements.

END OF SECTION

SECTION 01 78 39

PROJECT RECORD DOCUMENTS

PART 1: GENERAL

1.01 DESCRIPTION

This Section specifies the maintaining, marking, recording and submitting of project record documents.

A. DEFINITIONS:

Conformed Contract Documents: The conformed documents provided to the Contractor at the time the construction contract was executed, prior to the start of construction.

Contractor Document Transmittal (CDT): Drawings, catalog cuts, samples or other documents submitted by the contractor for County and consultant review and approval showing in detail how the contractor proposes to carry out the work.

As-Builts: During construction, a set of blue line conformed drawings and specifications, kept current by marking in red all "as-built" construction conditions and changes arising out of RFIs, clarifications, directed field changes and sketches. At the conclusion of construction activities, the information contained in these blue lines and specifications shall be incorporated into the Compact Disk (CD) containing the latest conformed drawings including revisions made by the Engineer of Record during construction. Prior to Contract completion, MDC will provide the Contractor with a CD containing the latest conformed drawings. (Changes to specifications are typically only effected through change orders. However, in some occasions clarifications may require a modification to the specifications). The revised CADD drawings which include the information incorporated from the blue lines and specifications become As-Builts.

Shop Drawings: See Contractor Document Transmittals.

1.02 SUBMITTALS

Upon completion of the work, the Contractor shall submit the As-Builts to the DTPW staff or designee in time to be used for the final inspection and acceptance and for verification by

the DTPW staff or designee. Availability of As-Builts shall be prerequisite to scheduling a final inspection of this Contract. Non-availability of As-Builts or inaccuracies therein may be grounds for cancellation and postponement of any scheduled final inspection by the DTPW staff or designee until such time as the discrepancy has been corrected. Upon completion of the work, the As-Builts shall become the property of MDC. The Contractor will transmit the As-Builts to the Resident DTPW staff or designee with an attached Project Records "As-Built" Drawings Index Form uniquely identifying and describing each document.

Specifically, the following documents shall be submitted by the Contractor after construction is completed, but prior to submitting the request for final inspection:

- A. The Contractor shall submit two CDs labeled "As-Builts," one in PDF format and the other in CADD format. The Contractor shall date and mark each drawing as "As-Built" using the revision block, and each drawing should be electronically signed by the Contractor certifying the accuracy and validity of the information contained therein. The Contractor shall also submit two printouts from the CD containing the As-Builts, and one set of blue lines and specifications to reflect change notices, change orders, requests for information and field changes in red. The information regarding field conditions/changes is to be maintained in the set of blue line record drawings and a set of specifications during construction. Prior to Contract completion, MDC will provide the Contractor with a CD containing the latest conformed drawings, including revisions made by the Engineer of Record. At the end of construction the "as-built" conditions are incorporated into the latest conformed drawings provided by MDC. These final CADD drawings become As-Builts.
- B. The Contractor shall sign each blue line drawing certifying the accuracy and validity of the as-built information contained therein.

1.03 QUALITY ASSURANCE

Project record documents shall conform to a high standard of quality, similar to that set forth in the National CADD Standard ANSI and ISO, or other relevant lower tier specification defining drafting quality and electronic file formatting.

PART 2: PRODUCTS

2.01 PRODUCTS:

No products are required except as indicated in PART 1: GENERAL.

PART 3: EXECUTION

3.01 MAINTENANCE OF DOCUMENTS:

The Contractor shall maintain at field office, one copy of each of the following:

A. Contract Documents

1. Conformed Contract Drawings and Conformed Specifications.
2. Construction Safety Manual.
3. Change Orders, Change Notices and other modifications to the Contract.
4. DTPW staff or designee Field Order or written instruction.
5. Approved shop drawings, product data and samples.
6. Field test reports/records.
7. Updated set of record drawings (blue lines) marked in red to show field changes.
8. Request for information (RFI).
9. All directed Field Changes and sketches.

B. Equal Employment and Affirmative Action Records.

3.02 RECORDING "AS-BUILT" DRAWINGS

A flowchart explaining this process is included with this section.

- #### A.
- Record information concurrently with construction progress on a conformed set of blue lines and specifications. During construction, this set of blue lines and specifications are known as "As-Built" drawings.

- B. Do not conceal any work until the required information is recorded.
- C. Drawings: legibly mark in red to record actual construction depicting the as-constructed configurations resulting from field and/or design changes:
 - 1. Horizontal and vertical location of underground utilities and appurtenances, referenced by dimensions to permanent, visible and accessible features of the structure.
 - 2. Location of internal utilities, electrical conduits and appurtenances, referenced by dimensions to permanent, visible and accessible features of the structure.
 - 3. Field changes of dimension and detail.
 - 4. Details not on original conformed Contract Drawings.
 - 5. Changes made by Change Notice or by Change Order.
- D. Legibly mark up each section of specifications to record:
 - 1. Manufacturer, trade name, catalogue number, and supplier of each product and item of equipment actually installed.
 - 2. Changes made by Change Notice or by Change Order.
- E. Any changes due to RFIs, clarifications and field sketches shall be incorporated into the record drawings by affixing sketches and other 8 1/2" x 11" sheets to the blue lines. This information will be incorporated into the CD containing the latest conformed drawings once construction is complete.
- F. Do not use the record drawing set for construction progress purposes.

3.03 DOCUMENT MAINTENANCE:

- A. Provide files and racks for storage of documents to maintain in clean, dry and legible condition.
- B. Do not use record documents for construction purposes.

- C. Make documents available for inspection by the DTPW staff or designee, MDC, Federal Government and State Government.

PART 4: MEASUREMENT AND PAYMENT

4.01 MEASUREMENT:

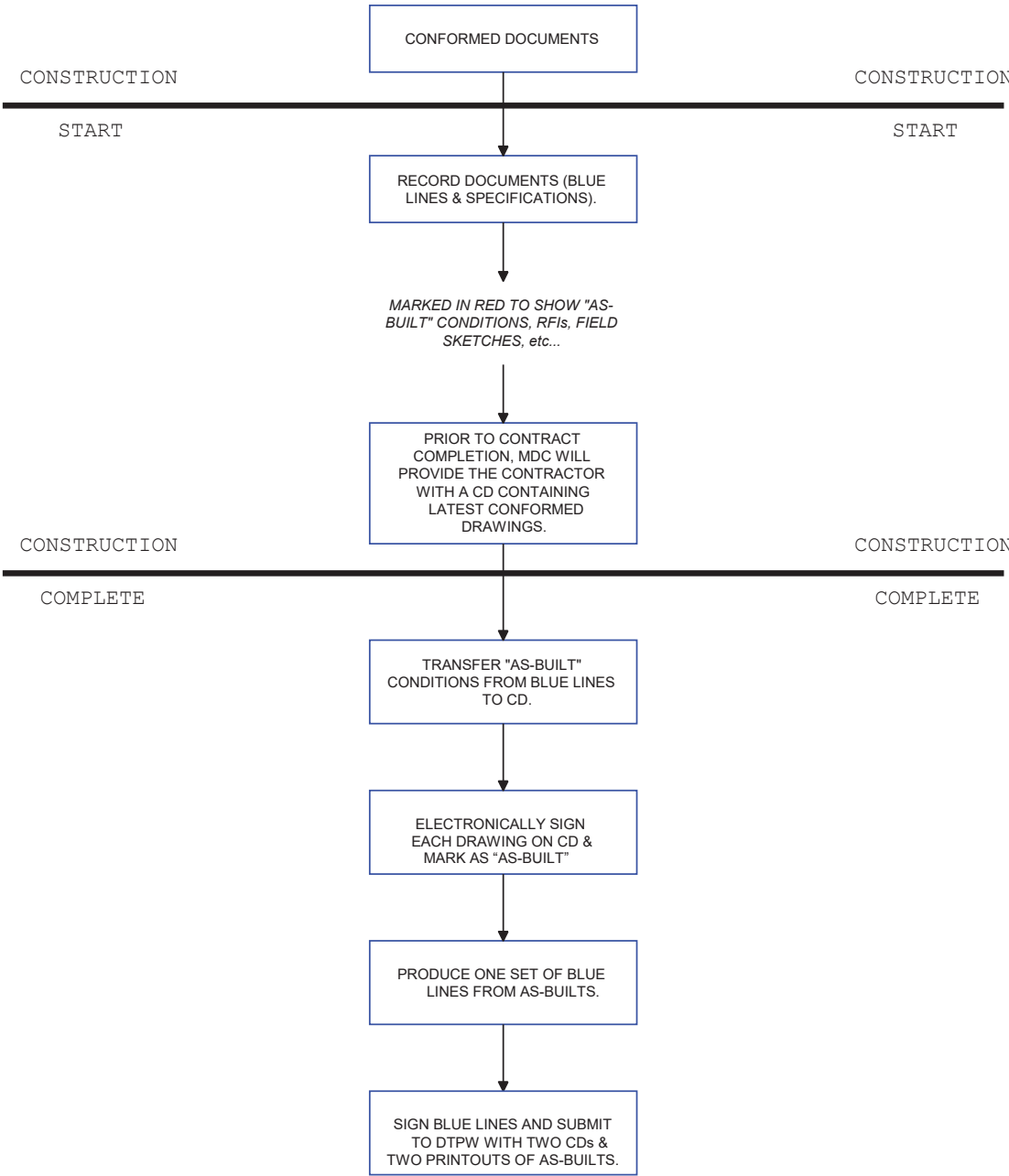
Work under this Section will not be separately measured for payment.

4.02 PAYMENT:

Work under this Section will be paid for as part of the Contract lump sum price for Pay Item No. 1, General Requirements.

END OF SECTION

PROJECT RECORD DOCUMENTS



01720R2.vsd, 6-20-95



Memorandum



To: Honorable Chairman Oliver G. Gilbert, III
and Members, Board of County Commissioners

From: Javier A. Betancourt, Executive Director 

Date: September 29, 2023

Re: **CITT AGENDA ITEM 7A:**
RESOLUTION BY THE CITIZENS' INDEPENDENT TRANSPORTATION TRUST
RECOMMENDING THE BOARD OF COUNTY COMMISSIONERS (BCC) AUTHORIZE
REJECTION OF ALL PROPOSALS RECEIVED IN RESPONSE TO A COMPETITIVE
REQUEST FOR PROPOSALS AND DESIGNATED PURCHASE PURSUANT TO
SECTION 2-8.1(B)(3) OF THE COUNTY CODE BY A TWO-THIRDS VOTE OF THE
BOARD MEMBERS PRESENT; AUTHORIZE AWARD OF CONTRACT NO. RFP-02030
IN AN AMOUNT NOT TO EXCEED \$28,008,986.00 FOR THE INITIAL FIVE-YEAR
TERM AND ONE, FIVE-YEAR OPTION TO RENEW FOR THE PURCHASE OF
MODERNIZATION, MAINTENANCE, AND REPAIR SERVICES FOR CONVEYANCE
EQUIPMENT FOR THE DEPARTMENT OF TRANSPORTATION AND PUBLIC WORKS;
AUTHORIZE THE USE OF **\$19,291,824.00** OF CHARTER COUNTY
TRANSPORTATION SURTAX FUNDS FOR THIS PROJECT WHICH WAS ADDED TO
THE PEOPLE'S TRANSPORTATION PLAN IN OCTOBER 2003; AND AUTHORIZE THE
COUNTY MAYOR OR COUNTY MAYOR'S DESIGNEE TO EXECUTE SAME FOR AND
ON BEHALF OF MIAMI-DADE COUNTY AND TO EXERCISE ALL PROVISIONS OF
THE CONTRACT, INCLUDING ANY RENEWAL, CANCELLATION AND EXTENSION
PROVISIONS PURSUANT TO SECTION 2-8.1 OF THE CODE OF MIAMI-DADE
COUNTY, FLORIDA AND IMPLEMENTING ORDER 3-38 (DTPW/SPD - BCC
LEGISLATIVE FILE NO. 231628) SURTAX FUNDS ARE REQUESTED

On September 27, 2023, the CITT voted (7-0) to forward a favorable recommendation to the Board of County Commissioners (BCC) for the approval of the above referenced item, CITT Resolution No. 23-018. The vote was as follows:

Oscar J. Braynon, Chairperson – Aye
Robert Wolfarth, 1st Vice-Chairperson – Aye
Paul J. Schwiep, Esq. – Absent

Hon. Peggy Bell – Absent
Joseph Curbelo – Aye
Qjuezari Harvey – Aye
Mary Street, Esq. – Aye

Omar K. Bradford, Esq. – Aye
Meg Daly – Absent
Robert Ruano – Aye

c: Jimmy Morales, Chief Operations Officer
Bruce Libhaber, Assistant County Attorney